DHL Analytical, Inc.

Date: *27-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU084(4-6)-C
Project:	Laredo SGR	**Lab ID:**	1605074-11
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 10:55 AM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	36.2	0.0870	0.261	0.130		mg/Kg-dry	5	05/18/16 05:29 PM
IS: Bismuth	78.7	0	30-120	0		%REC	5	05/18/16 05:29 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/17/16 04:28 AM
Acenaphthylene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/17/16 04:28 AM
Anthracene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/17/16 04:28 AM
Benzo[a]anthracene	0.0983	0.0498	0.0996	0.0747	J	mg/Kg-dry	10	05/17/16 04:28 AM
Benzo[a]pyrene	0.138	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/17/16 04:28 AM
Benzo[b]fluoranthene	0.131	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/17/16 04:28 AM
Benzo[e]pyrene	0.108	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/17/16 04:28 AM
Benzo[g,h,i]perylene	0.137	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/17/16 04:28 AM
Benzo[j]fluoranthene	0.0785	0.0498	0.0996	0.0747	JN	mg/Kg-dry	10	05/17/16 04:28 AM
Benzo[k]fluoranthene	0.0820	0.0498	0.0996	0.0747	J	mg/Kg-dry	10	05/17/16 04:28 AM
Chrysene	0.125	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/17/16 04:28 AM
Dibenz[a,h]anthracene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/17/16 04:28 AM
Fluoranthene	0.133	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/17/16 04:28 AM
Fluorene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/17/16 04:28 AM
Indeno[1,2,3-cd]pyrene	0.111	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/17/16 04:28 AM
Phenanthrene	0.0604	0.0498	0.0996	0.0747	J	mg/Kg-dry	10	05/17/16 04:28 AM
Pyrene	0.127	0.0996	0.199	0.149	J	mg/Kg-dry	20	05/16/16 03:48 AM
IS: Acenaphthene-d10	129	0	50-200	0		%REC	10	05/17/16 04:28 AM
IS: Acenaphthene-d10	79.1	0	50-200	0		%REC	20	05/16/16 03:48 AM
IS: Chrysene-d12	82.6	0	50-200	0		%REC	10	05/17/16 04:28 AM
IS: Chrysene-d12	84.3	0	50-200	0		%REC	20	05/16/16 03:48 AM
IS: Naphthalene-d8	127	0	50-200	0		%REC	20	05/16/16 03:48 AM
IS: Naphthalene-d8	107	0	50-200	0		%REC	10	05/17/16 04:28 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU084(4-6)-C
Project:	Laredo SGR	**Lab ID:**	1605074-11
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 10:55 AM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
IS: Perylene-d12	86.5	0	50-200	0		%REC	20	05/16/16 03:48 AM
IS: Perylene-d12	88.9	0	50-200	0		%REC	10	05/17/16 04:28 AM
IS: Phenanthrene-d10	81.9	0	50-200	0		%REC	20	05/16/16 03:48 AM
IS: Phenanthrene-d10	92.2	0	50-200	0		%REC	10	05/17/16 04:28 AM
Surr: 2-Fluorobiphenyl	88.9	0	46-115	0		%REC	10	05/17/16 04:28 AM
Surr: 2-Fluorobiphenyl	77.1	0	46-115	0		%REC	20	05/16/16 03:48 AM
Surr: 4-Terphenyl-d14	78.2	0	58-133	0		%REC	10	05/17/16 04:28 AM
Surr: 4-Terphenyl-d14	66.1	0	58-133	0		%REC	20	05/16/16 03:48 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *27-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU084(6-8)-C
Project:	Laredo SGR	**Lab ID:**	1605074-12
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 10:58 AM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	6.66	0.0935	0.280	0.140		mg/Kg-dry	5	05/18/16 05:35 PM
IS: Bismuth	78.0	0	30-120	0		%REC	5	05/18/16 05:35 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0691	0.0461	0.0922	0.0691	U	mg/Kg-dry	10	05/16/16 04:28 AM
Acenaphthylene	0.0691	0.0461	0.0922	0.0691	U	mg/Kg-dry	10	05/16/16 04:28 AM
Anthracene	0.0691	0.0461	0.0922	0.0691	U	mg/Kg-dry	10	05/16/16 04:28 AM
Benzo[a]anthracene	0.0691	0.0461	0.0922	0.0691	U	mg/Kg-dry	10	05/16/16 04:28 AM
Benzo[a]pyrene	0.0691	0.0461	0.0922	0.0691	U	mg/Kg-dry	10	05/16/16 04:28 AM
Benzo[b]fluoranthene	0.0691	0.0461	0.0922	0.0691	U	mg/Kg-dry	10	05/16/16 04:28 AM
Benzo[e]pyrene	0.0691	0.0461	0.0922	0.0691	U	mg/Kg-dry	10	05/16/16 04:28 AM
Benzo[g,h,i]perylene	0.0691	0.0461	0.0922	0.0691	U	mg/Kg-dry	10	05/16/16 04:28 AM
Benzo[j]fluoranthene	0.0691	0.0461	0.0922	0.0691	NU	mg/Kg-dry	10	05/16/16 04:28 AM
Benzo[k]fluoranthene	0.0691	0.0461	0.0922	0.0691	U	mg/Kg-dry	10	05/16/16 04:28 AM
Chrysene	0.0691	0.0461	0.0922	0.0691	U	mg/Kg-dry	10	05/16/16 04:28 AM
Dibenz[a,h]anthracene	0.0691	0.0461	0.0922	0.0691	U	mg/Kg-dry	10	05/16/16 04:28 AM
Fluoranthene	0.0691	0.0461	0.0922	0.0691	U	mg/Kg-dry	10	05/16/16 04:28 AM
Fluorene	0.0691	0.0461	0.0922	0.0691	U	mg/Kg-dry	10	05/16/16 04:28 AM
Indeno[1,2,3-cd]pyrene	0.0691	0.0461	0.0922	0.0691	U	mg/Kg-dry	10	05/17/16 05:05 AM
Phenanthrene	0.0691	0.0461	0.0922	0.0691	U	mg/Kg-dry	10	05/16/16 04:28 AM
Pyrene	0.0691	0.0461	0.0922	0.0691	U	mg/Kg-dry	10	05/16/16 04:28 AM
IS: Acenaphthene-d10	131	0	50-200	0		%REC	10	05/17/16 05:05 AM
IS: Acenaphthene-d10	79.3	0	50-200	0		%REC	10	05/16/16 04:28 AM
IS: Chrysene-d12	87.9	0	50-200	0		%REC	10	05/16/16 04:28 AM
IS: Chrysene-d12	80.0	0	50-200	0		%REC	10	05/17/16 05:05 AM
IS: Naphthalene-d8	126	0	50-200	0		%REC	10	05/16/16 04:28 AM
IS: Naphthalene-d8	107	0	50-200	0		%REC	10	05/17/16 05:05 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU084(6-8)-C
Project:	Laredo SGR	**Lab ID:**	1605074-12
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 10:58 AM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
IS: Perylene-d12	91.2	0	50-200	0		%REC	10	05/16/16 04:28 AM
IS: Perylene-d12	88.1	0	50-200	0		%REC	10	05/17/16 05:05 AM
IS: Phenanthrene-d10	85.7	0	50-200	0		%REC	10	05/16/16 04:28 AM
IS: Phenanthrene-d10	92.4	0	50-200	0		%REC	10	05/17/16 05:05 AM
Surr: 2-Fluorobiphenyl	74.0	0	46-115	0		%REC	10	05/16/16 04:28 AM
Surr: 2-Fluorobiphenyl	91.9	0	46-115	0		%REC	10	05/17/16 05:05 AM
Surr: 4-Terphenyl-d14	63.1	0	58-133	0		%REC	10	05/16/16 04:28 AM
Surr: 4-Terphenyl-d14	77.4	0	58-133	0		%REC	10	05/17/16 05:05 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU044(0-2)-A
Project:	Laredo SGR	**Lab ID:**	1605074-13
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 01:53 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	78.4	0.0847	0.254	0.127		mg/Kg-dry	5	05/18/16 04:42 PM
IS: Bismuth	84.7	0	30-120	0		%REC	5	05/18/16 04:42 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.463	0.0956	0.191	0.143		mg/Kg-dry	20	05/15/16 08:22 PM
Acenaphthylene	0.143	0.0956	0.191	0.143	U	mg/Kg-dry	20	05/15/16 08:22 PM
Anthracene	1.32	0.0956	0.191	0.143		mg/Kg-dry	20	05/15/16 08:22 PM
Benzo[a]anthracene	10.2	0.0956	0.191	0.143		mg/Kg-dry	20	05/15/16 08:22 PM
Benzo[a]pyrene	12.9	0.0956	0.191	0.143		mg/Kg-dry	20	05/15/16 08:22 PM
Benzo[b]fluoranthene	12.3	0.0956	0.191	0.143		mg/Kg-dry	20	05/15/16 08:22 PM
Benzo[e]pyrene	9.21	0.0956	0.191	0.143		mg/Kg-dry	20	05/15/16 08:22 PM
Benzo[g,h,i]perylene	9.23	0.0956	0.191	0.143		mg/Kg-dry	20	05/15/16 08:22 PM
Benzo[j]fluoranthene	6.62	0.0956	0.191	0.143	N	mg/Kg-dry	20	05/15/16 08:22 PM
Benzo[k]fluoranthene	6.89	0.0956	0.191	0.143		mg/Kg-dry	20	05/15/16 08:22 PM
Chrysene	12.8	0.0956	0.191	0.143		mg/Kg-dry	20	05/15/16 08:22 PM
Dibenz[a,h]anthracene	2.17	0.0956	0.191	0.143		mg/Kg-dry	20	05/15/16 08:22 PM
Fluoranthene	15.6	0.0956	0.191	0.143		mg/Kg-dry	20	05/15/16 08:22 PM
Fluorene	0.240	0.0956	0.191	0.143		mg/Kg-dry	20	05/15/16 08:22 PM
Indeno[1,2,3-cd]pyrene	8.03	0.0956	0.191	0.143		mg/Kg-dry	20	05/15/16 08:22 PM
Phenanthrene	6.89	0.0956	0.191	0.143		mg/Kg-dry	20	05/15/16 08:22 PM
Pyrene	13.6	0.0956	0.191	0.143		mg/Kg-dry	20	05/15/16 08:22 PM
IS: Acenaphthene-d10	104	0	50-200	0		%REC	20	05/15/16 08:22 PM
IS: Chrysene-d12	87.6	0	50-200	0		%REC	20	05/15/16 08:22 PM
IS: Naphthalene-d8	105	0	50-200	0		%REC	20	05/15/16 08:22 PM
IS: Perylene-d12	89.6	0	50-200	0		%REC	20	05/15/16 08:22 PM
IS: Phenanthrene-d10	84.1	0	50-200	0		%REC	20	05/15/16 08:22 PM
Surr: 2-Fluorobiphenyl	74.6	0	46-115	0		%REC	20	05/15/16 08:22 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU044(0-2)-A
Project:	Laredo SGR	**Lab ID:**	1605074-13
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 01:53 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	76.7	0	58-133	0		%REC	20	05/15/16 08:22 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU044(2-4)-A
Project:	Laredo SGR	**Lab ID:**	1605074-14
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 01:55 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	14.4	0.0943	0.283	0.142		mg/Kg-dry	5	05/18/16 05:41 PM
IS: Bismuth	77.5	0	30-120	0		%REC	5	05/18/16 05:41 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 05:07 AM
Acenaphthylene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 05:07 AM
Anthracene	0.0881	0.0495	0.0989	0.0742	J	mg/Kg-dry	10	05/16/16 05:07 AM
Benzo[a]anthracene	0.673	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 05:07 AM
Benzo[a]pyrene	0.833	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 05:07 AM
Benzo[b]fluoranthene	0.770	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 05:07 AM
Benzo[e]pyrene	0.627	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 05:07 AM
Benzo[g,h,i]perylene	0.586	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 05:07 AM
Benzo[j]fluoranthene	0.408	0.0495	0.0989	0.0742	N	mg/Kg-dry	10	05/16/16 05:07 AM
Benzo[k]fluoranthene	0.382	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 05:07 AM
Chrysene	0.814	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 05:07 AM
Dibenz[a,h]anthracene	0.124	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 05:07 AM
Fluoranthene	1.22	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 05:07 AM
Fluorene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 05:07 AM
Indeno[1,2,3-cd]pyrene	0.758	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/17/16 05:42 AM
Phenanthrene	0.439	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 05:07 AM
Pyrene	1.06	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 05:07 AM
IS: Acenaphthene-d10	105	0	50-200	0		%REC	10	05/17/16 05:42 AM
IS: Acenaphthene-d10	80.7	0	50-200	0		%REC	10	05/16/16 05:07 AM
IS: Chrysene-d12	89.8	0	50-200	0		%REC	10	05/16/16 05:07 AM
IS: Chrysene-d12	72.2	0	50-200	0		%REC	10	05/17/16 05:42 AM
IS: Naphthalene-d8	131	0	50-200	0		%REC	10	05/16/16 05:07 AM
IS: Naphthalene-d8	94.4	0	50-200	0		%REC	10	05/17/16 05:42 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU044(2-4)-A
Project:	Laredo SGR	**Lab ID:**	1605074-14
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 01:55 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
IS: Perylene-d12	92.0	0	50-200	0		%REC	10	05/16/16 05:07 AM
IS: Perylene-d12	77.9	0	50-200	0		%REC	10	05/17/16 05:42 AM
IS: Phenanthrene-d10	87.4	0	50-200	0		%REC	10	05/16/16 05:07 AM
IS: Phenanthrene-d10	84.1	0	50-200	0		%REC	10	05/17/16 05:42 AM
Surr: 2-Fluorobiphenyl	70.8	0	46-115	0		%REC	10	05/16/16 05:07 AM
Surr: 2-Fluorobiphenyl	86.1	0	46-115	0		%REC	10	05/17/16 05:42 AM
Surr: 4-Terphenyl-d14	61.8	0	58-133	0		%REC	10	05/16/16 05:07 AM
Surr: 4-Terphenyl-d14	80.8	0	58-133	0		%REC	10	05/17/16 05:42 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *27-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU044(4-6)-A
Project:	Laredo SGR	**Lab ID:**	1605074-15
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 01:57 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	5.21	0.0870	0.261	0.130		mg/Kg-dry	5	05/18/16 06:29 PM
IS: Bismuth	80.1	0	30-120	0		%REC	5	05/18/16 06:29 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/16/16 05:46 AM
Acenaphthylene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/16/16 05:46 AM
Anthracene	0.0709	0.0499	0.0998	0.0749	J	mg/Kg-dry	10	05/16/16 05:46 AM
Benzo[a]anthracene	0.267	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 05:46 AM
Benzo[a]pyrene	0.297	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 05:46 AM
Benzo[b]fluoranthene	0.290	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 05:46 AM
Benzo[e]pyrene	0.232	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 05:46 AM
Benzo[g,h,i]perylene	0.209	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 05:46 AM
Benzo[j]fluoranthene	0.150	0.0499	0.0998	0.0749	N	mg/Kg-dry	10	05/16/16 05:46 AM
Benzo[k]fluoranthene	0.142	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 05:46 AM
Chrysene	0.316	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 05:46 AM
Dibenz[a,h]anthracene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/16/16 05:46 AM
Fluoranthene	0.591	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 05:46 AM
Fluorene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/16/16 05:46 AM
Indeno[1,2,3-cd]pyrene	0.260	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/17/16 06:18 AM
Phenanthrene	0.362	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 05:46 AM
Pyrene	0.468	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 05:46 AM
IS: Acenaphthene-d10	130	0	50-200	0		%REC	10	05/17/16 06:18 AM
IS: Acenaphthene-d10	79.0	0	50-200	0		%REC	10	05/16/16 05:46 AM
IS: Chrysene-d12	86.9	0	50-200	0		%REC	10	05/16/16 05:46 AM
IS: Chrysene-d12	78.6	0	50-200	0		%REC	10	05/17/16 06:18 AM
IS: Naphthalene-d8	123	0	50-200	0		%REC	10	05/16/16 05:46 AM
IS: Naphthalene-d8	107	0	50-200	0		%REC	10	05/17/16 06:18 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU044(4-6)-A
Project:	Laredo SGR	**Lab ID:**	1605074-15
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 01:57 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
IS: Perylene-d12	88.9	0	50-200	0		%REC	10	05/16/16 05:46 AM
IS: Perylene-d12	84.6	0	50-200	0		%REC	10	05/17/16 06:18 AM
IS: Phenanthrene-d10	85.8	0	50-200	0		%REC	10	05/16/16 05:46 AM
IS: Phenanthrene-d10	93.3	0	50-200	0		%REC	10	05/17/16 06:18 AM
Surr: 2-Fluorobiphenyl	76.8	0	46-115	0		%REC	10	05/16/16 05:46 AM
Surr: 2-Fluorobiphenyl	93.2	0	46-115	0		%REC	10	05/17/16 06:18 AM
Surr: 4-Terphenyl-d14	65.0	0	58-133	0		%REC	10	05/16/16 05:46 AM
Surr: 4-Terphenyl-d14	80.6	0	58-133	0		%REC	10	05/17/16 06:18 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *27-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU044(6-8)-A
Project:	Laredo SGR	**Lab ID:**	1605074-16
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 02:00 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	5.15	0.0980	0.294	0.147		mg/Kg-dry	5	05/18/16 06:35 PM
IS: Bismuth	76.4	0	30-120	0		%REC	5	05/18/16 06:35 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/16/16 06:26 AM
Acenaphthylene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/16/16 06:26 AM
Anthracene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/16/16 06:26 AM
Benzo[a]anthracene	0.0541	0.0497	0.0994	0.0746	J	mg/Kg-dry	10	05/16/16 06:26 AM
Benzo[a]pyrene	0.0745	0.0497	0.0994	0.0746	J	mg/Kg-dry	10	05/16/16 06:26 AM
Benzo[b]fluoranthene	0.0701	0.0497	0.0994	0.0746	J	mg/Kg-dry	10	05/16/16 06:26 AM
Benzo[e]pyrene	0.0583	0.0497	0.0994	0.0746	J	mg/Kg-dry	10	05/16/16 06:26 AM
Benzo[g,h,i]perylene	0.0579	0.0497	0.0994	0.0746	J	mg/Kg-dry	10	05/16/16 06:26 AM
Benzo[j]fluoranthene	0.0746	0.0497	0.0994	0.0746	NU	mg/Kg-dry	10	05/16/16 06:26 AM
Benzo[k]fluoranthene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/16/16 06:26 AM
Chrysene	0.0660	0.0497	0.0994	0.0746	J	mg/Kg-dry	10	05/16/16 06:26 AM
Dibenz[a,h]anthracene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/16/16 06:26 AM
Fluoranthene	0.0855	0.0497	0.0994	0.0746	J	mg/Kg-dry	10	05/16/16 06:26 AM
Fluorene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/16/16 06:26 AM
Indeno[1,2,3-cd]pyrene	0.0859	0.0497	0.0994	0.0746	J	mg/Kg-dry	10	05/17/16 06:55 AM
Phenanthrene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/16/16 06:26 AM
Pyrene	0.0799	0.0497	0.0994	0.0746	J	mg/Kg-dry	10	05/16/16 06:26 AM
IS: Acenaphthene-d10	130	0	50-200	0		%REC	10	05/17/16 06:55 AM
IS: Acenaphthene-d10	87.0	0	50-200	0		%REC	10	05/16/16 06:26 AM
IS: Chrysene-d12	93.1	0	50-200	0		%REC	10	05/16/16 06:26 AM
IS: Chrysene-d12	78.6	0	50-200	0		%REC	10	05/17/16 06:55 AM
IS: Naphthalene-d8	140	0	50-200	0		%REC	10	05/16/16 06:26 AM
IS: Naphthalene-d8	106	0	50-200	0		%REC	10	05/17/16 06:55 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *27-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU044(6-8)-A
Project:	Laredo SGR	**Lab ID:**	1605074-16
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 02:00 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
IS: Perylene-d12	96.6	0	50-200	0		%REC	10	05/16/16 06:26 AM
IS: Perylene-d12	84.1	0	50-200	0		%REC	10	05/17/16 06:55 AM
IS: Phenanthrene-d10	91.2	0	50-200	0		%REC	10	05/16/16 06:26 AM
IS: Phenanthrene-d10	92.8	0	50-200	0		%REC	10	05/17/16 06:55 AM
Surr: 2-Fluorobiphenyl	68.2	0	46-115	0		%REC	10	05/16/16 06:26 AM
Surr: 2-Fluorobiphenyl	94.2	0	46-115	0		%REC	10	05/17/16 06:55 AM
Surr: 4-Terphenyl-d14	58.5	0	58-133	0		%REC	10	05/16/16 06:26 AM
Surr: 4-Terphenyl-d14	80.1	0	58-133	0		%REC	10	05/17/16 06:55 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU044(8-10)-A
Project:	Laredo SGR	**Lab ID:**	1605074-17
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 02:01 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	7.82	0.0909	0.273	0.136		mg/Kg-dry	5	05/18/16 06:41 PM
IS: Bismuth	80.4	0	30-120	0		%REC	5	05/18/16 06:41 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/15/16 08:59 PM
Acenaphthylene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/15/16 08:59 PM
Anthracene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/15/16 08:59 PM
Benzo[a]anthracene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/15/16 08:59 PM
Benzo[a]pyrene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/15/16 08:59 PM
Benzo[b]fluoranthene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/15/16 08:59 PM
Benzo[e]pyrene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/15/16 08:59 PM
Benzo[g,h,i]perylene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/15/16 08:59 PM
Benzo[j]fluoranthene	0.0742	0.0495	0.0989	0.0742	NU	mg/Kg-dry	10	05/15/16 08:59 PM
Benzo[k]fluoranthene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/15/16 08:59 PM
Chrysene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/15/16 08:59 PM
Dibenz[a,h]anthracene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/15/16 08:59 PM
Fluoranthene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/15/16 08:59 PM
Fluorene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/15/16 08:59 PM
Indeno[1,2,3-cd]pyrene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/15/16 08:59 PM
Phenanthrene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/15/16 08:59 PM
Pyrene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/15/16 08:59 PM
IS: Acenaphthene-d10	93.4	0	50-200	0		%REC	10	05/15/16 08:59 PM
IS: Chrysene-d12	87.2	0	50-200	0		%REC	10	05/15/16 08:59 PM
IS: Naphthalene-d8	99.2	0	50-200	0		%REC	10	05/15/16 08:59 PM
IS: Perylene-d12	88.1	0	50-200	0		%REC	10	05/15/16 08:59 PM
IS: Phenanthrene-d10	73.4	0	50-200	0		%REC	10	05/15/16 08:59 PM
Surr: 2-Fluorobiphenyl	70.5	0	46-115	0		%REC	10	05/15/16 08:59 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU044(8-10)-A
Project:	Laredo SGR	**Lab ID:**	1605074-17
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 02:01 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	72.7	0	58-133	0		%REC	10	05/15/16 08:59 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *27-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU044(0-2)-B
Project:	Laredo SGR	**Lab ID:**	1605074-18
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 02:08 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	188	0.0952	0.286	0.143		mg/Kg-dry	5	05/18/16 06:47 PM
IS: Bismuth	85.4	0	30-120	0		%REC	5	05/18/16 06:47 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.433	0.0983	0.197	0.147		mg/Kg-dry	20	05/15/16 09:36 PM
Acenaphthylene	0.147	0.0983	0.197	0.147	U	mg/Kg-dry	20	05/15/16 09:36 PM
Anthracene	0.878	0.0983	0.197	0.147		mg/Kg-dry	20	05/15/16 09:36 PM
Benzo[a]anthracene	7.68	0.0983	0.197	0.147		mg/Kg-dry	20	05/15/16 09:36 PM
Benzo[a]pyrene	10.8	0.0983	0.197	0.147		mg/Kg-dry	20	05/15/16 09:36 PM
Benzo[b]fluoranthene	10.1	0.0983	0.197	0.147		mg/Kg-dry	20	05/15/16 09:36 PM
Benzo[e]pyrene	7.72	0.0983	0.197	0.147		mg/Kg-dry	20	05/15/16 09:36 PM
Benzo[g,h,i]perylene	7.96	0.0983	0.197	0.147		mg/Kg-dry	20	05/15/16 09:36 PM
Benzo[j]fluoranthene	5.38	0.0983	0.197	0.147	N	mg/Kg-dry	20	05/15/16 09:36 PM
Benzo[k]fluoranthene	5.48	0.0983	0.197	0.147		mg/Kg-dry	20	05/15/16 09:36 PM
Chrysene	9.99	0.0983	0.197	0.147		mg/Kg-dry	20	05/15/16 09:36 PM
Dibenz[a,h]anthracene	1.80	0.0983	0.197	0.147		mg/Kg-dry	20	05/15/16 09:36 PM
Fluoranthene	11.7	0.0983	0.197	0.147		mg/Kg-dry	20	05/15/16 09:36 PM
Fluorene	0.261	0.0983	0.197	0.147		mg/Kg-dry	20	05/15/16 09:36 PM
Indeno[1,2,3-cd]pyrene	6.75	0.0983	0.197	0.147		mg/Kg-dry	20	05/15/16 09:36 PM
Phenanthrene	5.09	0.0983	0.197	0.147		mg/Kg-dry	20	05/15/16 09:36 PM
Pyrene	10.6	0.0983	0.197	0.147		mg/Kg-dry	20	05/15/16 09:36 PM
IS: Acenaphthene-d10	98.5	0	50-200	0		%REC	20	05/15/16 09:36 PM
IS: Chrysene-d12	84.1	0	50-200	0		%REC	20	05/15/16 09:36 PM
IS: Naphthalene-d8	101	0	50-200	0		%REC	20	05/15/16 09:36 PM
IS: Perylene-d12	85.0	0	50-200	0		%REC	20	05/15/16 09:36 PM
IS: Phenanthrene-d10	81.2	0	50-200	0		%REC	20	05/15/16 09:36 PM
Surr: 2-Fluorobiphenyl	78.9	0	46-115	0		%REC	20	05/15/16 09:36 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU044(0-2)-B
Project:	Laredo SGR	**Lab ID:**	1605074-18
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 02:08 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	81.1	0	58-133	0		%REC	20	05/15/16 09:36 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *27-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU044(2-4)-B
Project:	Laredo SGR	**Lab ID:**	1605074-19
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 02:10 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	9.07	0.0980	0.294	0.147		mg/Kg-dry	5	05/18/16 06:53 PM
IS: Bismuth	82.5	0	30-120	0		%REC	5	05/18/16 06:53 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0721	0.0498	0.0996	0.0747	J	mg/Kg-dry	10	05/15/16 10:13 PM
Acenaphthylene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/15/16 10:13 PM
Anthracene	0.127	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/15/16 10:13 PM
Benzo[a]anthracene	0.819	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/15/16 10:13 PM
Benzo[a]pyrene	1.19	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/15/16 10:13 PM
Benzo[b]fluoranthene	1.11	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/15/16 10:13 PM
Benzo[e]pyrene	0.847	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/15/16 10:13 PM
Benzo[g,h,i]perylene	0.915	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/15/16 10:13 PM
Benzo[j]fluoranthene	0.566	0.0498	0.0996	0.0747	N	mg/Kg-dry	10	05/15/16 10:13 PM
Benzo[k]fluoranthene	0.589	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/15/16 10:13 PM
Chrysene	1.09	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/15/16 10:13 PM
Dibenz[a,h]anthracene	0.228	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/15/16 10:13 PM
Fluoranthene	1.40	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/15/16 10:13 PM
Fluorene	0.0696	0.0498	0.0996	0.0747	J	mg/Kg-dry	10	05/15/16 10:13 PM
Indeno[1,2,3-cd]pyrene	0.761	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/15/16 10:13 PM
Phenanthrene	0.707	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/15/16 10:13 PM
Pyrene	1.21	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/15/16 10:13 PM
IS: Acenaphthene-d10	102	0	50-200	0		%REC	10	05/15/16 10:13 PM
IS: Chrysene-d12	87.0	0	50-200	0		%REC	10	05/15/16 10:13 PM
IS: Naphthalene-d8	103	0	50-200	0		%REC	10	05/15/16 10:13 PM
IS: Perylene-d12	88.9	0	50-200	0		%REC	10	05/15/16 10:13 PM
IS: Phenanthrene-d10	81.2	0	50-200	0		%REC	10	05/15/16 10:13 PM
Surr: 2-Fluorobiphenyl	76.0	0	46-115	0		%REC	10	05/15/16 10:13 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU044(2-4)-B
Project:	Laredo SGR	**Lab ID:**	1605074-19
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 02:10 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	74.2	0	58-133	0		%REC	10	05/15/16 10:13 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *27-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU044(4-6)-B
Project:	Laredo SGR	**Lab ID:**	1605074-20
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 02:12 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	5.66	0.0901	0.270	0.135		mg/Kg-dry	5	05/18/16 06:59 PM
IS: Bismuth	75.8	0	30-120	0		%REC	5	05/18/16 06:59 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0720	0.0480	0.0960	0.0720	U	mg/Kg-dry	10	05/15/16 10:50 PM
Acenaphthylene	0.0720	0.0480	0.0960	0.0720	U	mg/Kg-dry	10	05/15/16 10:50 PM
Anthracene	0.0720	0.0480	0.0960	0.0720	U	mg/Kg-dry	10	05/15/16 10:50 PM
Benzo[a]anthracene	0.0536	0.0480	0.0960	0.0720	J	mg/Kg-dry	10	05/15/16 10:50 PM
Benzo[a]pyrene	0.0768	0.0480	0.0960	0.0720	J	mg/Kg-dry	10	05/15/16 10:50 PM
Benzo[b]fluoranthene	0.0733	0.0480	0.0960	0.0720	J	mg/Kg-dry	10	05/15/16 10:50 PM
Benzo[e]pyrene	0.0549	0.0480	0.0960	0.0720	J	mg/Kg-dry	10	05/15/16 10:50 PM
Benzo[g,h,i]perylene	0.0670	0.0480	0.0960	0.0720	J	mg/Kg-dry	10	05/15/16 10:50 PM
Benzo[j]fluoranthene	0.0720	0.0480	0.0960	0.0720	NU	mg/Kg-dry	10	05/15/16 10:50 PM
Benzo[k]fluoranthene	0.0720	0.0480	0.0960	0.0720	U	mg/Kg-dry	10	05/15/16 10:50 PM
Chrysene	0.0719	0.0480	0.0960	0.0720	J	mg/Kg-dry	10	05/15/16 10:50 PM
Dibenz[a,h]anthracene	0.0720	0.0480	0.0960	0.0720	U	mg/Kg-dry	10	05/15/16 10:50 PM
Fluoranthene	0.0835	0.0480	0.0960	0.0720	J	mg/Kg-dry	10	05/15/16 10:50 PM
Fluorene	0.0720	0.0480	0.0960	0.0720	U	mg/Kg-dry	10	05/15/16 10:50 PM
Indeno[1,2,3-cd]pyrene	0.0543	0.0480	0.0960	0.0720	J	mg/Kg-dry	10	05/15/16 10:50 PM
Phenanthrene	0.0720	0.0480	0.0960	0.0720	U	mg/Kg-dry	10	05/15/16 10:50 PM
Pyrene	0.0747	0.0480	0.0960	0.0720	J	mg/Kg-dry	10	05/15/16 10:50 PM
IS: Acenaphthene-d10	102	0	50-200	0		%REC	10	05/15/16 10:50 PM
IS: Chrysene-d12	88.1	0	50-200	0		%REC	10	05/15/16 10:50 PM
IS: Naphthalene-d8	103	0	50-200	0		%REC	10	05/15/16 10:50 PM
IS: Perylene-d12	88.7	0	50-200	0		%REC	10	05/15/16 10:50 PM
IS: Phenanthrene-d10	82.5	0	50-200	0		%REC	10	05/15/16 10:50 PM
Surr: 2-Fluorobiphenyl	73.6	0	46-115	0		%REC	10	05/15/16 10:50 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU044(4-6)-B
Project:	Laredo SGR	**Lab ID:**	1605074-20
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 02:12 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	73.0	0	58-133	0		%REC	10	05/15/16 10:50 PM

Qualifiers:				
	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *27-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU044(6-8)-B
Project:	Laredo SGR	**Lab ID:**	1605074-21
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 02:15 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	4.81	0.0926	0.278	0.139		mg/Kg-dry	5	05/18/16 07:05 PM
IS: Bismuth	83.1	0	30-120	0		%REC	5	05/18/16 07:05 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.106	0.0706	0.141	0.106	U	mg/Kg-dry	10	05/15/16 11:27 PM
Acenaphthylene	0.106	0.0706	0.141	0.106	U	mg/Kg-dry	10	05/15/16 11:27 PM
Anthracene	0.106	0.0706	0.141	0.106	U	mg/Kg-dry	10	05/15/16 11:27 PM
Benzo[a]anthracene	0.106	0.0706	0.141	0.106	U	mg/Kg-dry	10	05/15/16 11:27 PM
Benzo[a]pyrene	0.106	0.0706	0.141	0.106	U	mg/Kg-dry	10	05/15/16 11:27 PM
Benzo[b]fluoranthene	0.106	0.0706	0.141	0.106	U	mg/Kg-dry	10	05/15/16 11:27 PM
Benzo[e]pyrene	0.106	0.0706	0.141	0.106	U	mg/Kg-dry	10	05/15/16 11:27 PM
Benzo[g,h,i]perylene	0.106	0.0706	0.141	0.106	U	mg/Kg-dry	10	05/15/16 11:27 PM
Benzo[j]fluoranthene	0.106	0.0706	0.141	0.106	NU	mg/Kg-dry	10	05/15/16 11:27 PM
Benzo[k]fluoranthene	0.106	0.0706	0.141	0.106	U	mg/Kg-dry	10	05/15/16 11:27 PM
Chrysene	0.106	0.0706	0.141	0.106	U	mg/Kg-dry	10	05/15/16 11:27 PM
Dibenz[a,h]anthracene	0.106	0.0706	0.141	0.106	U	mg/Kg-dry	10	05/15/16 11:27 PM
Fluoranthene	0.106	0.0706	0.141	0.106	U	mg/Kg-dry	10	05/15/16 11:27 PM
Fluorene	0.106	0.0706	0.141	0.106	U	mg/Kg-dry	10	05/15/16 11:27 PM
Indeno[1,2,3-cd]pyrene	0.106	0.0706	0.141	0.106	U	mg/Kg-dry	10	05/15/16 11:27 PM
Phenanthrene	0.106	0.0706	0.141	0.106	U	mg/Kg-dry	10	05/15/16 11:27 PM
Pyrene	0.106	0.0706	0.141	0.106	U	mg/Kg-dry	10	05/15/16 11:27 PM
IS: Acenaphthene-d10	101	0	50-200	0		%REC	10	05/15/16 11:27 PM
IS: Chrysene-d12	86.2	0	50-200	0		%REC	10	05/15/16 11:27 PM
IS: Naphthalene-d8	102	0	50-200	0		%REC	10	05/15/16 11:27 PM
IS: Perylene-d12	88.1	0	50-200	0		%REC	10	05/15/16 11:27 PM
IS: Phenanthrene-d10	81.0	0	50-200	0		%REC	10	05/15/16 11:27 PM
Surr: 2-Fluorobiphenyl	78.0	0	46-115	0		%REC	10	05/15/16 11:27 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU044(6-8)-B
Project:	Laredo SGR	**Lab ID:**	1605074-21
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 02:15 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	76.2	0	58-133	0		%REC	10	05/15/16 11:27 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *27-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU044(8-10)-B
Project:	Laredo SGR	**Lab ID:**	1605074-22
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 02:16 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	8.23	0.0971	0.291	0.146		mg/Kg-dry	5	05/18/16 07:11 PM
IS: Bismuth	81.0	0	30-120	0		%REC	5	05/18/16 07:11 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/16/16 12:04 AM
Acenaphthylene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/16/16 12:04 AM
Anthracene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/16/16 12:04 AM
Benzo[a]anthracene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/16/16 12:04 AM
Benzo[a]pyrene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/16/16 12:04 AM
Benzo[b]fluoranthene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/16/16 12:04 AM
Benzo[e]pyrene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/16/16 12:04 AM
Benzo[g,h,i]perylene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/16/16 12:04 AM
Benzo[j]fluoranthene	0.0749	0.0499	0.0998	0.0749	NU	mg/Kg-dry	10	05/16/16 12:04 AM
Benzo[k]fluoranthene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/16/16 12:04 AM
Chrysene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/16/16 12:04 AM
Dibenz[a,h]anthracene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/16/16 12:04 AM
Fluoranthene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/16/16 12:04 AM
Fluorene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/16/16 12:04 AM
Indeno[1,2,3-cd]pyrene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/16/16 12:04 AM
Phenanthrene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/16/16 12:04 AM
Pyrene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/16/16 12:04 AM
IS: Acenaphthene-d10	99.9	0	50-200	0		%REC	10	05/16/16 12:04 AM
IS: Chrysene-d12	85.9	0	50-200	0		%REC	10	05/16/16 12:04 AM
IS: Naphthalene-d8	102	0	50-200	0		%REC	10	05/16/16 12:04 AM
IS: Perylene-d12	88.9	0	50-200	0		%REC	10	05/16/16 12:04 AM
IS: Phenanthrene-d10	81.2	0	50-200	0		%REC	10	05/16/16 12:04 AM
Surr: 2-Fluorobiphenyl	78.2	0	46-115	0		%REC	10	05/16/16 12:04 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU044(8-10)-B
Project:	Laredo SGR	**Lab ID:**	1605074-22
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 02:16 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	75.9	0	58-133	0		%REC	10	05/16/16 12:04 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU044(0-2)-C
Project:	Laredo SGR	**Lab ID:**	1605074-23
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 02:18 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	86.6	0.0980	0.294	0.147		mg/Kg-dry	5	05/18/16 07:17 PM
IS: Bismuth	86.0	0	30-120	0		%REC	5	05/18/16 07:17 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.623	0.0982	0.196	0.147		mg/Kg-dry	20	05/16/16 12:41 AM
Acenaphthylene	0.147	0.0982	0.196	0.147	U	mg/Kg-dry	20	05/16/16 12:41 AM
Anthracene	2.61	0.0982	0.196	0.147		mg/Kg-dry	20	05/16/16 12:41 AM
Benzo[a]anthracene	15.3	0.0982	0.196	0.147		mg/Kg-dry	20	05/16/16 12:41 AM
Benzo[a]pyrene	18.1	0.0982	0.196	0.147		mg/Kg-dry	20	05/16/16 12:41 AM
Benzo[b]fluoranthene	16.9	0.0982	0.196	0.147		mg/Kg-dry	20	05/16/16 12:41 AM
Benzo[e]pyrene	12.7	0.0982	0.196	0.147		mg/Kg-dry	20	05/16/16 12:41 AM
Benzo[g,h,i]perylene	12.6	0.0982	0.196	0.147		mg/Kg-dry	20	05/16/16 12:41 AM
Benzo[j]fluoranthene	9.30	0.0982	0.196	0.147	N	mg/Kg-dry	20	05/16/16 12:41 AM
Benzo[k]fluoranthene	9.51	0.0982	0.196	0.147		mg/Kg-dry	20	05/16/16 12:41 AM
Chrysene	18.6	0.0982	0.196	0.147		mg/Kg-dry	20	05/16/16 12:41 AM
Dibenz[a,h]anthracene	3.02	0.0982	0.196	0.147		mg/Kg-dry	20	05/16/16 12:41 AM
Fluoranthene	24.3	0.0982	0.196	0.147		mg/Kg-dry	20	05/16/16 12:41 AM
Fluorene	0.435	0.0982	0.196	0.147		mg/Kg-dry	20	05/16/16 12:41 AM
Indeno[1,2,3-cd]pyrene	10.9	0.0982	0.196	0.147		mg/Kg-dry	20	05/16/16 12:41 AM
Phenanthrene	12.5	0.0982	0.196	0.147		mg/Kg-dry	20	05/16/16 12:41 AM
Pyrene	20.8	0.0982	0.196	0.147		mg/Kg-dry	20	05/16/16 12:41 AM
IS: Acenaphthene-d10	100	0	50-200	0		%REC	20	05/16/16 12:41 AM
IS: Chrysene-d12	80.7	0	50-200	0		%REC	20	05/16/16 12:41 AM
IS: Naphthalene-d8	102	0	50-200	0		%REC	20	05/16/16 12:41 AM
IS: Perylene-d12	83.6	0	50-200	0		%REC	20	05/16/16 12:41 AM
IS: Phenanthrene-d10	81.1	0	50-200	0		%REC	20	05/16/16 12:41 AM
Surr: 2-Fluorobiphenyl	79.7	0	46-115	0		%REC	20	05/16/16 12:41 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU044(0-2)-C
Project:	Laredo SGR	**Lab ID:**	1605074-23
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 02:18 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	79.9	0	58-133	0		%REC	20	05/16/16 12:41 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *27-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU044(2-4)-C
Project:	Laredo SGR	**Lab ID:**	1605074-24
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 02:20 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	9.23	0.0943	0.283	0.142		mg/Kg-dry	5	05/18/16 07:23 PM
IS: Bismuth	82.3	0	30-120	0		%REC	5	05/18/16 07:23 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.278	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/16/16 01:18 AM
Acenaphthylene	0.0748	0.0499	0.0997	0.0748	U	mg/Kg-dry	10	05/16/16 01:18 AM
Anthracene	1.55	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/16/16 01:18 AM
Benzo[a]anthracene	6.97	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/16/16 01:18 AM
Benzo[a]pyrene	7.58	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/16/16 01:18 AM
Benzo[b]fluoranthene	6.88	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/16/16 01:18 AM
Benzo[e]pyrene	5.10	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/16/16 01:18 AM
Benzo[g,h,i]perylene	4.99	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/16/16 01:18 AM
Benzo[j]fluoranthene	3.88	0.0499	0.0997	0.0748	N	mg/Kg-dry	10	05/16/16 01:18 AM
Benzo[k]fluoranthene	4.03	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/16/16 01:18 AM
Chrysene	8.14	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/16/16 01:18 AM
Dibenz[a,h]anthracene	1.12	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/16/16 01:18 AM
Fluoranthene	11.6	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/16/16 01:18 AM
Fluorene	0.272	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/16/16 01:18 AM
Indeno[1,2,3-cd]pyrene	4.34	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/16/16 01:18 AM
Phenanthrene	6.70	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/16/16 01:18 AM
Pyrene	9.58	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/16/16 01:18 AM
IS: Acenaphthene-d10	102	0	50-200	0		%REC	10	05/16/16 01:18 AM
IS: Chrysene-d12	82.5	0	50-200	0		%REC	10	05/16/16 01:18 AM
IS: Naphthalene-d8	100	0	50-200	0		%REC	10	05/16/16 01:18 AM
IS: Perylene-d12	85.9	0	50-200	0		%REC	10	05/16/16 01:18 AM
IS: Phenanthrene-d10	82.0	0	50-200	0		%REC	10	05/16/16 01:18 AM
Surr: 2-Fluorobiphenyl	76.5	0	46-115	0		%REC	10	05/16/16 01:18 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU044(2-4)-C
Project:	Laredo SGR	**Lab ID:**	1605074-24
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 02:20 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	78.3	0	58-133	0		%REC	10	05/16/16 01:18 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *27-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU044(4-6)-C
Project:	Laredo SGR	**Lab ID:**	1605074-25
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 02:23 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	7.43	0.0901	0.270	0.135		mg/Kg-dry	5	05/19/16 02:05 PM
IS: Bismuth	77.6	0	30-120	0		%REC	5	05/19/16 02:05 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0712	0.0474	0.0949	0.0712	U	mg/Kg-dry	10	05/16/16 01:55 AM
Acenaphthylene	0.0712	0.0474	0.0949	0.0712	U	mg/Kg-dry	10	05/16/16 01:55 AM
Anthracene	0.168	0.0474	0.0949	0.0712		mg/Kg-dry	10	05/16/16 01:55 AM
Benzo[a]anthracene	0.618	0.0474	0.0949	0.0712		mg/Kg-dry	10	05/16/16 01:55 AM
Benzo[a]pyrene	0.627	0.0474	0.0949	0.0712		mg/Kg-dry	10	05/16/16 01:55 AM
Benzo[b]fluoranthene	0.551	0.0474	0.0949	0.0712		mg/Kg-dry	10	05/16/16 01:55 AM
Benzo[e]pyrene	0.421	0.0474	0.0949	0.0712		mg/Kg-dry	10	05/16/16 01:55 AM
Benzo[g,h,i]perylene	0.419	0.0474	0.0949	0.0712		mg/Kg-dry	10	05/16/16 01:55 AM
Benzo[j]fluoranthene	0.328	0.0474	0.0949	0.0712	N	mg/Kg-dry	10	05/16/16 01:55 AM
Benzo[k]fluoranthene	0.333	0.0474	0.0949	0.0712		mg/Kg-dry	10	05/16/16 01:55 AM
Chrysene	0.700	0.0474	0.0949	0.0712		mg/Kg-dry	10	05/16/16 01:55 AM
Dibenz[a,h]anthracene	0.0970	0.0474	0.0949	0.0712		mg/Kg-dry	10	05/16/16 01:55 AM
Fluoranthene	1.21	0.0474	0.0949	0.0712		mg/Kg-dry	10	05/16/16 01:55 AM
Fluorene	0.0712	0.0474	0.0949	0.0712	U	mg/Kg-dry	10	05/16/16 01:55 AM
Indeno[1,2,3-cd]pyrene	0.354	0.0474	0.0949	0.0712		mg/Kg-dry	10	05/16/16 01:55 AM
Phenanthrene	0.711	0.0474	0.0949	0.0712		mg/Kg-dry	10	05/16/16 01:55 AM
Pyrene	0.976	0.0474	0.0949	0.0712		mg/Kg-dry	10	05/16/16 01:55 AM
IS: Acenaphthene-d10	104	0	50-200	0		%REC	10	05/16/16 01:55 AM
IS: Chrysene-d12	85.3	0	50-200	0		%REC	10	05/16/16 01:55 AM
IS: Naphthalene-d8	104	0	50-200	0		%REC	10	05/16/16 01:55 AM
IS: Perylene-d12	87.7	0	50-200	0		%REC	10	05/16/16 01:55 AM
IS: Phenanthrene-d10	83.6	0	50-200	0		%REC	10	05/16/16 01:55 AM
Surr: 2-Fluorobiphenyl	79.4	0	46-115	0		%REC	10	05/16/16 01:55 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU044(4-6)-C
Project:	Laredo SGR	**Lab ID:**	1605074-25
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 02:23 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	78.0	0	58-133	0		%REC	10	05/16/16 01:55 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *27-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU044(6-8)-C
Project:	Laredo SGR	**Lab ID:**	1605074-26
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 02:25 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	4.48	0.0893	0.268	0.134		mg/Kg-dry	5	05/19/16 02:11 PM
IS: Bismuth	79.9	0	30-120	0		%REC	5	05/19/16 02:11 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/16/16 02:32 AM
Acenaphthylene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/16/16 02:32 AM
Anthracene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/16/16 02:32 AM
Benzo[a]anthracene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/16/16 02:32 AM
Benzo[a]pyrene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/16/16 02:32 AM
Benzo[b]fluoranthene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/16/16 02:32 AM
Benzo[e]pyrene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/16/16 02:32 AM
Benzo[g,h,i]perylene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/16/16 02:32 AM
Benzo[j]fluoranthene	0.0746	0.0498	0.0995	0.0746	NU	mg/Kg-dry	10	05/16/16 02:32 AM
Benzo[k]fluoranthene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/16/16 02:32 AM
Chrysene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/16/16 02:32 AM
Dibenz[a,h]anthracene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/16/16 02:32 AM
Fluoranthene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/16/16 02:32 AM
Fluorene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/16/16 02:32 AM
Indeno[1,2,3-cd]pyrene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/16/16 02:32 AM
Phenanthrene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/16/16 02:32 AM
Pyrene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/16/16 02:32 AM
IS: Acenaphthene-d10	100	0	50-200	0		%REC	10	05/16/16 02:32 AM
IS: Chrysene-d12	82.3	0	50-200	0		%REC	10	05/16/16 02:32 AM
IS: Naphthalene-d8	99.4	0	50-200	0		%REC	10	05/16/16 02:32 AM
IS: Perylene-d12	84.6	0	50-200	0		%REC	10	05/16/16 02:32 AM
IS: Phenanthrene-d10	78.9	0	50-200	0		%REC	10	05/16/16 02:32 AM
Surr: 2-Fluorobiphenyl	82.5	0	46-115	0		%REC	10	05/16/16 02:32 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU044(6-8)-C
Project:	Laredo SGR	**Lab ID:**	1605074-26
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 02:25 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	78.4	0	58-133	0		%REC	10	05/16/16 02:32 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *27-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU044(8-10)-C
Project:	Laredo SGR	**Lab ID:**	1605074-27
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 02:30 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	7.67	0.0926	0.278	0.139		mg/Kg-dry	5	05/19/16 02:16 PM
IS: Bismuth	76.1	0	30-120	0		%REC	5	05/19/16 02:16 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0743	0.0496	0.0991	0.0743	U	mg/Kg-dry	10	05/16/16 06:48 AM
Acenaphthylene	0.0743	0.0496	0.0991	0.0743	U	mg/Kg-dry	10	05/16/16 06:48 AM
Anthracene	0.0743	0.0496	0.0991	0.0743	U	mg/Kg-dry	10	05/16/16 06:48 AM
Benzo[a]anthracene	0.0743	0.0496	0.0991	0.0743	U	mg/Kg-dry	10	05/16/16 06:48 AM
Benzo[a]pyrene	0.0573	0.0496	0.0991	0.0743	J	mg/Kg-dry	10	05/16/16 06:48 AM
Benzo[b]fluoranthene	0.0743	0.0496	0.0991	0.0743	U	mg/Kg-dry	10	05/16/16 06:48 AM
Benzo[e]pyrene	0.0743	0.0496	0.0991	0.0743	U	mg/Kg-dry	10	05/16/16 06:48 AM
Benzo[g,h,i]perylene	0.0743	0.0496	0.0991	0.0743	U	mg/Kg-dry	10	05/16/16 06:48 AM
Benzo[j]fluoranthene	0.0743	0.0496	0.0991	0.0743	NU	mg/Kg-dry	10	05/16/16 06:48 AM
Benzo[k]fluoranthene	0.0743	0.0496	0.0991	0.0743	U	mg/Kg-dry	10	05/16/16 06:48 AM
Chrysene	0.0667	0.0496	0.0991	0.0743	J	mg/Kg-dry	10	05/16/16 06:48 AM
Dibenz[a,h]anthracene	0.0743	0.0496	0.0991	0.0743	U	mg/Kg-dry	10	05/16/16 06:48 AM
Fluoranthene	0.0799	0.0496	0.0991	0.0743	J	mg/Kg-dry	10	05/16/16 06:48 AM
Fluorene	0.0743	0.0496	0.0991	0.0743	U	mg/Kg-dry	10	05/16/16 06:48 AM
Indeno[1,2,3-cd]pyrene	0.0743	0.0496	0.0991	0.0743	U	mg/Kg-dry	10	05/16/16 06:48 AM
Phenanthrene	0.0743	0.0496	0.0991	0.0743	U	mg/Kg-dry	10	05/16/16 06:48 AM
Pyrene	0.0799	0.0496	0.0991	0.0743	J	mg/Kg-dry	10	05/16/16 06:48 AM
IS: Acenaphthene-d10	101	0	50-200	0		%REC	10	05/16/16 06:48 AM
IS: Chrysene-d12	78.5	0	50-200	0		%REC	10	05/16/16 06:48 AM
IS: Naphthalene-d8	98.3	0	50-200	0		%REC	10	05/16/16 06:48 AM
IS: Perylene-d12	80.4	0	50-200	0		%REC	10	05/16/16 06:48 AM
IS: Phenanthrene-d10	80.5	0	50-200	0		%REC	10	05/16/16 06:48 AM
Surr: 2-Fluorobiphenyl	78.7	0	46-115	0		%REC	10	05/16/16 06:48 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU044(8-10)-C
Project:	Laredo SGR	**Lab ID:**	1605074-27
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 02:30 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	74.3	0	58-133	0		%REC	10	05/16/16 06:48 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU151-STRAT1
Project:	Laredo SGR	**Lab ID:**	1605074-28
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 12:05 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	52.7	0.127	0.381	0.191		mg/Kg-dry	5	05/19/16 02:22 PM
IS: Bismuth	82.0	0	30-120	0		%REC	5	05/19/16 02:22 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0920	0.0613	0.123	0.0920	U	mg/Kg-dry	10	05/16/16 07:25 AM
Acenaphthylene	0.0920	0.0613	0.123	0.0920	U	mg/Kg-dry	10	05/16/16 07:25 AM
Anthracene	0.0920	0.0613	0.123	0.0920	U	mg/Kg-dry	10	05/16/16 07:25 AM
Benzo[a]anthracene	0.166	0.0613	0.123	0.0920		mg/Kg-dry	10	05/16/16 07:25 AM
Benzo[a]pyrene	0.201	0.0613	0.123	0.0920		mg/Kg-dry	10	05/16/16 07:25 AM
Benzo[b]fluoranthene	0.193	0.0613	0.123	0.0920		mg/Kg-dry	10	05/16/16 07:25 AM
Benzo[e]pyrene	0.151	0.0613	0.123	0.0920		mg/Kg-dry	10	05/16/16 07:25 AM
Benzo[g,h,i]perylene	0.166	0.0613	0.123	0.0920		mg/Kg-dry	10	05/16/16 07:25 AM
Benzo[j]fluoranthene	0.106	0.0613	0.123	0.0920	JN	mg/Kg-dry	10	05/16/16 07:25 AM
Benzo[k]fluoranthene	0.115	0.0613	0.123	0.0920	J	mg/Kg-dry	10	05/16/16 07:25 AM
Chrysene	0.210	0.0613	0.123	0.0920		mg/Kg-dry	10	05/16/16 07:25 AM
Dibenz[a,h]anthracene	0.0920	0.0613	0.123	0.0920	U	mg/Kg-dry	10	05/16/16 07:25 AM
Fluoranthene	0.295	0.0613	0.123	0.0920		mg/Kg-dry	10	05/16/16 07:25 AM
Fluorene	0.0920	0.0613	0.123	0.0920	U	mg/Kg-dry	10	05/16/16 07:25 AM
Indeno[1,2,3-cd]pyrene	0.140	0.0613	0.123	0.0920		mg/Kg-dry	10	05/16/16 07:25 AM
Phenanthrene	0.126	0.0613	0.123	0.0920		mg/Kg-dry	10	05/16/16 07:25 AM
Pyrene	0.249	0.0613	0.123	0.0920		mg/Kg-dry	10	05/16/16 07:25 AM
IS: Acenaphthene-d10	102	0	50-200	0		%REC	10	05/16/16 07:25 AM
IS: Chrysene-d12	79.2	0	50-200	0		%REC	10	05/16/16 07:25 AM
IS: Naphthalene-d8	99.5	0	50-200	0		%REC	10	05/16/16 07:25 AM
IS: Perylene-d12	81.7	0	50-200	0		%REC	10	05/16/16 07:25 AM
IS: Phenanthrene-d10	81.4	0	50-200	0		%REC	10	05/16/16 07:25 AM
Surr: 2-Fluorobiphenyl	80.9	0	46-115	0		%REC	10	05/16/16 07:25 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *27-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU151-STRAT1
Project:	Laredo SGR	**Lab ID:**	1605074-28
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 12:05 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	78.3	0	58-133	0		%REC	10	05/16/16 07:25 AM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	24.3	0	0	0		WT%	1	05/11/16 09:30 AM

Qualifiers:				
	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU151-STRAT2
Project:	Laredo SGR	**Lab ID:**	1605074-29
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 12:10 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	29.2	0.123	0.370	0.185		mg/Kg-dry	5	05/19/16 02:28 PM
IS: Bismuth	84.1	0	30-120	0		%REC	5	05/19/16 02:28 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0887	0.0591	0.118	0.0887	U	mg/Kg-dry	10	05/16/16 08:02 AM
Acenaphthylene	0.0887	0.0591	0.118	0.0887	U	mg/Kg-dry	10	05/16/16 08:02 AM
Anthracene	0.0887	0.0591	0.118	0.0887	U	mg/Kg-dry	10	05/16/16 08:02 AM
Benzo[a]anthracene	0.385	0.0591	0.118	0.0887		mg/Kg-dry	10	05/16/16 08:02 AM
Benzo[a]pyrene	0.467	0.0591	0.118	0.0887		mg/Kg-dry	10	05/16/16 08:02 AM
Benzo[b]fluoranthene	0.431	0.0591	0.118	0.0887		mg/Kg-dry	10	05/16/16 08:02 AM
Benzo[e]pyrene	0.419	0.0591	0.118	0.0887		mg/Kg-dry	10	05/16/16 08:02 AM
Benzo[g,h,i]perylene	0.427	0.0591	0.118	0.0887		mg/Kg-dry	10	05/16/16 08:02 AM
Benzo[j]fluoranthene	0.233	0.0591	0.118	0.0887	N	mg/Kg-dry	10	05/16/16 08:02 AM
Benzo[k]fluoranthene	0.237	0.0591	0.118	0.0887		mg/Kg-dry	10	05/16/16 08:02 AM
Chrysene	0.493	0.0591	0.118	0.0887		mg/Kg-dry	10	05/16/16 08:02 AM
Dibenz[a,h]anthracene	0.105	0.0591	0.118	0.0887	J	mg/Kg-dry	10	05/16/16 08:02 AM
Fluoranthene	0.565	0.0591	0.118	0.0887		mg/Kg-dry	10	05/16/16 08:02 AM
Fluorene	0.0887	0.0591	0.118	0.0887	U	mg/Kg-dry	10	05/16/16 08:02 AM
Indeno[1,2,3-cd]pyrene	0.304	0.0591	0.118	0.0887		mg/Kg-dry	10	05/16/16 08:02 AM
Phenanthrene	0.260	0.0591	0.118	0.0887		mg/Kg-dry	10	05/16/16 08:02 AM
Pyrene	0.526	0.0591	0.118	0.0887		mg/Kg-dry	10	05/16/16 08:02 AM
IS: Acenaphthene-d10	102	0	50-200	0		%REC	10	05/16/16 08:02 AM
IS: Chrysene-d12	77.0	0	50-200	0		%REC	10	05/16/16 08:02 AM
IS: Naphthalene-d8	98.4	0	50-200	0		%REC	10	05/16/16 08:02 AM
IS: Perylene-d12	80.4	0	50-200	0		%REC	10	05/16/16 08:02 AM
IS: Phenanthrene-d10	81.8	0	50-200	0		%REC	10	05/16/16 08:02 AM
Surr: 2-Fluorobiphenyl	82.8	0	46-115	0		%REC	10	05/16/16 08:02 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *27-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU151-STRAT2
Project:	Laredo SGR	**Lab ID:**	1605074-29
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 12:10 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	79.0	0	58-133	0		%REC	10	05/16/16 08:02 AM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	22.0	0	0	0		WT%	1	05/11/16 09:30 AM

Qualifiers:					
	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *27-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU151-STRAT3
Project:	Laredo SGR	**Lab ID:**	1605074-30
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 12:15 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	40.0	0.122	0.365	0.182		mg/Kg-dry	5	05/19/16 02:34 PM
IS: Bismuth	84.2	0	30-120	0		%REC	5	05/19/16 02:34 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.101	0.0675	0.135	0.101	U	mg/Kg-dry	10	05/16/16 08:49 AM
Acenaphthylene	0.101	0.0675	0.135	0.101	U	mg/Kg-dry	10	05/16/16 08:49 AM
Anthracene	0.101	0.0675	0.135	0.101	U	mg/Kg-dry	10	05/16/16 08:49 AM
Benzo[a]anthracene	0.164	0.0675	0.135	0.101		mg/Kg-dry	10	05/16/16 08:49 AM
Benzo[a]pyrene	0.225	0.0675	0.135	0.101		mg/Kg-dry	10	05/16/16 08:49 AM
Benzo[b]fluoranthene	0.233	0.0675	0.135	0.101		mg/Kg-dry	10	05/16/16 08:49 AM
Benzo[e]pyrene	0.183	0.0675	0.135	0.101		mg/Kg-dry	10	05/16/16 08:49 AM
Benzo[g,h,i]perylene	0.214	0.0675	0.135	0.101		mg/Kg-dry	10	05/16/16 08:49 AM
Benzo[j]fluoranthene	0.121	0.0675	0.135	0.101	JN	mg/Kg-dry	10	05/16/16 08:49 AM
Benzo[k]fluoranthene	0.129	0.0675	0.135	0.101	J	mg/Kg-dry	10	05/16/16 08:49 AM
Chrysene	0.239	0.0675	0.135	0.101		mg/Kg-dry	10	05/16/16 08:49 AM
Dibenz[a,h]anthracene	0.101	0.0675	0.135	0.101	U	mg/Kg-dry	10	05/16/16 08:49 AM
Fluoranthene	0.293	0.0675	0.135	0.101		mg/Kg-dry	10	05/16/16 08:49 AM
Fluorene	0.101	0.0675	0.135	0.101	U	mg/Kg-dry	10	05/16/16 08:49 AM
Indeno[1,2,3-cd]pyrene	0.176	0.0675	0.135	0.101		mg/Kg-dry	10	05/16/16 08:49 AM
Phenanthrene	0.154	0.0675	0.135	0.101		mg/Kg-dry	10	05/16/16 08:49 AM
Pyrene	0.246	0.0675	0.135	0.101		mg/Kg-dry	10	05/16/16 08:49 AM
IS: Acenaphthene-d10	117	0	50-200	0		%REC	10	05/16/16 08:49 AM
IS: Chrysene-d12	76.5	0	50-200	0		%REC	10	05/16/16 08:49 AM
IS: Naphthalene-d8	111	0	50-200	0		%REC	10	05/16/16 08:49 AM
IS: Perylene-d12	85.2	0	50-200	0		%REC	10	05/16/16 08:49 AM
IS: Phenanthrene-d10	81.4	0	50-200	0		%REC	10	05/16/16 08:49 AM
Surr: 2-Fluorobiphenyl	77.8	0	46-115	0		%REC	10	05/16/16 08:49 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *27-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU151-STRAT3
Project:	Laredo SGR	**Lab ID:**	1605074-30
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 12:15 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	67.5	0	58-133	0		%REC	10	05/16/16 08:49 AM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	27.2	0	0	0		WT%	1	05/11/16 09:30 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *27-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU151-STRAT4
Project:	Laredo SGR	**Lab ID:**	1605074-31
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 12:20 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	31.2	0.115	0.345	0.172		mg/Kg-dry	5	05/19/16 02:40 PM
IS: Bismuth	83.6	0	30-120	0		%REC	5	05/19/16 02:40 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0973	0.0649	0.130	0.0973	U	mg/Kg-dry	10	05/16/16 09:26 AM
Acenaphthylene	0.0973	0.0649	0.130	0.0973	U	mg/Kg-dry	10	05/16/16 09:26 AM
Anthracene	0.0973	0.0649	0.130	0.0973	U	mg/Kg-dry	10	05/16/16 09:26 AM
Benzo[a]anthracene	0.158	0.0649	0.130	0.0973		mg/Kg-dry	10	05/16/16 09:26 AM
Benzo[a]pyrene	0.194	0.0649	0.130	0.0973		mg/Kg-dry	10	05/16/16 09:26 AM
Benzo[b]fluoranthene	0.187	0.0649	0.130	0.0973		mg/Kg-dry	10	05/16/16 09:26 AM
Benzo[e]pyrene	0.143	0.0649	0.130	0.0973		mg/Kg-dry	10	05/16/16 09:26 AM
Benzo[g,h,i]perylene	0.161	0.0649	0.130	0.0973		mg/Kg-dry	10	05/16/16 09:26 AM
Benzo[j]fluoranthene	0.0988	0.0649	0.130	0.0973	JN	mg/Kg-dry	10	05/16/16 09:26 AM
Benzo[k]fluoranthene	0.109	0.0649	0.130	0.0973	J	mg/Kg-dry	10	05/16/16 09:26 AM
Chrysene	0.193	0.0649	0.130	0.0973		mg/Kg-dry	10	05/16/16 09:26 AM
Dibenz[a,h]anthracene	0.0973	0.0649	0.130	0.0973	U	mg/Kg-dry	10	05/16/16 09:26 AM
Fluoranthene	0.255	0.0649	0.130	0.0973		mg/Kg-dry	10	05/16/16 09:26 AM
Fluorene	0.0973	0.0649	0.130	0.0973	U	mg/Kg-dry	10	05/16/16 09:26 AM
Indeno[1,2,3-cd]pyrene	0.139	0.0649	0.130	0.0973		mg/Kg-dry	10	05/16/16 09:26 AM
Phenanthrene	0.109	0.0649	0.130	0.0973	J	mg/Kg-dry	10	05/16/16 09:26 AM
Pyrene	0.220	0.0649	0.130	0.0973		mg/Kg-dry	10	05/16/16 09:26 AM
IS: Acenaphthene-d10	109	0	50-200	0		%REC	10	05/16/16 09:26 AM
IS: Chrysene-d12	82.3	0	50-200	0		%REC	10	05/16/16 09:26 AM
IS: Naphthalene-d8	104	0	50-200	0		%REC	10	05/16/16 09:26 AM
IS: Perylene-d12	85.6	0	50-200	0		%REC	10	05/16/16 09:26 AM
IS: Phenanthrene-d10	87.4	0	50-200	0		%REC	10	05/16/16 09:26 AM
Surr: 2-Fluorobiphenyl	77.4	0	46-115	0		%REC	10	05/16/16 09:26 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *27-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU151-STRAT4
Project:	Laredo SGR	**Lab ID:**	1605074-31
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 12:20 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	74.7	0	58-133	0		%REC	10	05/16/16 09:26 AM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	26.3	0	0	0		WT%	1	05/11/16 09:30 AM

Qualifiers:					
	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *27-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	DUP02(20160506)
Project:	Laredo SGR	**Lab ID:**	1605074-32
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 12:30 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	63.1	0.118	0.353	0.176		mg/Kg-dry	5	05/19/16 02:46 PM
IS: Bismuth	85.4	0	30-120	0		%REC	5	05/19/16 02:46 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0882	0.0588	0.118	0.0882	U	mg/Kg-dry	10	05/16/16 10:03 AM
Acenaphthylene	0.0882	0.0588	0.118	0.0882	U	mg/Kg-dry	10	05/16/16 10:03 AM
Anthracene	0.0882	0.0588	0.118	0.0882	U	mg/Kg-dry	10	05/16/16 10:03 AM
Benzo[a]anthracene	0.177	0.0588	0.118	0.0882		mg/Kg-dry	10	05/16/16 10:03 AM
Benzo[a]pyrene	0.251	0.0588	0.118	0.0882		mg/Kg-dry	10	05/16/16 10:03 AM
Benzo[b]fluoranthene	0.234	0.0588	0.118	0.0882		mg/Kg-dry	10	05/16/16 10:03 AM
Benzo[e]pyrene	0.182	0.0588	0.118	0.0882		mg/Kg-dry	10	05/16/16 10:03 AM
Benzo[g,h,i]perylene	0.205	0.0588	0.118	0.0882		mg/Kg-dry	10	05/16/16 10:03 AM
Benzo[j]fluoranthene	0.125	0.0588	0.118	0.0882	N	mg/Kg-dry	10	05/16/16 10:03 AM
Benzo[k]fluoranthene	0.130	0.0588	0.118	0.0882		mg/Kg-dry	10	05/16/16 10:03 AM
Chrysene	0.235	0.0588	0.118	0.0882		mg/Kg-dry	10	05/16/16 10:03 AM
Dibenz[a,h]anthracene	0.0642	0.0588	0.118	0.0882	J	mg/Kg-dry	10	05/16/16 10:03 AM
Fluoranthene	0.251	0.0588	0.118	0.0882		mg/Kg-dry	10	05/16/16 10:03 AM
Fluorene	0.0882	0.0588	0.118	0.0882	U	mg/Kg-dry	10	05/16/16 10:03 AM
Indeno[1,2,3-cd]pyrene	0.171	0.0588	0.118	0.0882		mg/Kg-dry	10	05/16/16 10:03 AM
Phenanthrene	0.0803	0.0588	0.118	0.0882	J	mg/Kg-dry	10	05/16/16 10:03 AM
Pyrene	0.224	0.0588	0.118	0.0882		mg/Kg-dry	10	05/16/16 10:03 AM
IS: Acenaphthene-d10	112	0	50-200	0		%REC	10	05/16/16 10:03 AM
IS: Chrysene-d12	82.5	0	50-200	0		%REC	10	05/16/16 10:03 AM
IS: Naphthalene-d8	105	0	50-200	0		%REC	10	05/16/16 10:03 AM
IS: Perylene-d12	86.3	0	50-200	0		%REC	10	05/16/16 10:03 AM
IS: Phenanthrene-d10	87.6	0	50-200	0		%REC	10	05/16/16 10:03 AM
Surr: 2-Fluorobiphenyl	83.4	0	46-115	0		%REC	10	05/16/16 10:03 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *27-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	DUP02(20160506)
Project:	Laredo SGR	**Lab ID:**	1605074-32
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 12:30 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	77.2	0	58-133	0		%REC	10	05/16/16 10:03 AM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	17.4	0	0	0		WT%	1	05/11/16 09:30 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *27-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	EB06(20160506)
Project:	Laredo SGR	**Lab ID:**	1605074-33
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 10:50 AM
Lab Order:	1605074	**Matrix:**	EQUIP BLANK

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER			**SW6020A**					Analyst: **RO**
Lead	0.000900	0.000300	0.00100	0.000900	U	mg/L	1	05/20/16 01:44 PM
IS: Bismuth	99.2	0	30-120	0		%REC	1	05/20/16 01:44 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0000626	0.0000391	0.0000782	0.0000626	U	mg/L	1	05/18/16 03:17 PM
Acenaphthylene	0.0000626	0.0000391	0.0000782	0.0000626	U	mg/L	1	05/18/16 03:17 PM
Anthracene	0.0000626	0.0000391	0.0000782	0.0000626	U	mg/L	1	05/18/16 03:17 PM
Benzo[a]anthracene	0.0000626	0.0000391	0.0000782	0.0000626	U	mg/L	1	05/18/16 03:17 PM
Benzo[a]pyrene	0.0000626	0.0000391	0.0000782	0.0000626	U	mg/L	1	05/18/16 03:17 PM
Benzo[b]fluoranthene	0.0000626	0.0000391	0.0000782	0.0000626	U	mg/L	1	05/18/16 03:17 PM
Benzo[e]pyrene	0.0000626	0.0000391	0.0000782	0.0000626	U	mg/L	1	05/18/16 03:17 PM
Benzo[g,h,i]perylene	0.0000626	0.0000391	0.0000782	0.0000626	U	mg/L	1	05/18/16 03:17 PM
Benzo[j]fluoranthene	0.0000626	0.0000391	0.0000782	0.0000626	NU	mg/L	1	05/18/16 03:17 PM
Benzo[k]fluoranthene	0.0000626	0.0000391	0.0000782	0.0000626	U	mg/L	1	05/18/16 03:17 PM
Chrysene	0.0000626	0.0000391	0.0000782	0.0000626	U	mg/L	1	05/18/16 03:17 PM
Dibenz[a,h]anthracene	0.0000626	0.0000391	0.0000782	0.0000626	U	mg/L	1	05/18/16 03:17 PM
Fluoranthene	0.0000626	0.0000391	0.0000782	0.0000626	U	mg/L	1	05/18/16 03:17 PM
Fluorene	0.0000626	0.0000391	0.0000782	0.0000626	U	mg/L	1	05/18/16 03:17 PM
Indeno[1,2,3-cd]pyrene	0.0000626	0.0000391	0.0000782	0.0000626	U	mg/L	1	05/18/16 03:17 PM
Phenanthrene	0.0000626	0.0000391	0.0000782	0.0000626	U	mg/L	1	05/18/16 03:17 PM
Pyrene	0.0000626	0.0000391	0.0000782	0.0000626	U	mg/L	1	05/18/16 03:17 PM
IS: Acenaphthene-d10	86.5	0	50-200	0		%REC	1	05/18/16 03:17 PM
IS: Chrysene-d12	88.8	0	50-200	0		%REC	1	05/18/16 03:17 PM
IS: Naphthalene-d8	89.5	0	50-200	0		%REC	1	05/18/16 03:17 PM
IS: Perylene-d12	87.2	0	50-200	0		%REC	1	05/18/16 03:17 PM
IS: Phenanthrene-d10	84.6	0	50-200	0		%REC	1	05/18/16 03:17 PM
Surr: 2-Fluorobiphenyl	65.4	0	53-106	0		%REC	1	05/18/16 03:17 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	EB06(20160506)
Project:	Laredo SGR	**Lab ID:**	1605074-33
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 10:50 AM
Lab Order:	1605074	**Matrix:**	EQUIP BLANK

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	74.0	0	58-132	0		%REC	1	05/18/16 03:17 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *27-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	EB07(20160506)
Project:	Laredo SGR	**Lab ID:**	1605074-34
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 02:35 PM
Lab Order:	1605074	**Matrix:**	EQUIP BLANK

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER			**SW6020A**					Analyst: **RO**
Lead	0.000900	0.000300	0.00100	0.000900	U	mg/L	1	05/20/16 01:46 PM
IS: Bismuth	98.3	0	30-120	0		%REC	1	05/20/16 01:46 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0000620	0.0000388	0.0000775	0.0000620	U	mg/L	1	05/18/16 03:53 PM
Acenaphthylene	0.0000620	0.0000388	0.0000775	0.0000620	U	mg/L	1	05/18/16 03:53 PM
Anthracene	0.0000620	0.0000388	0.0000775	0.0000620	U	mg/L	1	05/18/16 03:53 PM
Benzo[a]anthracene	0.0000620	0.0000388	0.0000775	0.0000620	U	mg/L	1	05/18/16 03:53 PM
Benzo[a]pyrene	0.0000620	0.0000388	0.0000775	0.0000620	U	mg/L	1	05/18/16 03:53 PM
Benzo[b]fluoranthene	0.0000620	0.0000388	0.0000775	0.0000620	U	mg/L	1	05/18/16 03:53 PM
Benzo[e]pyrene	0.0000620	0.0000388	0.0000775	0.0000620	U	mg/L	1	05/18/16 03:53 PM
Benzo[g,h,i]perylene	0.0000620	0.0000388	0.0000775	0.0000620	U	mg/L	1	05/18/16 03:53 PM
Benzo[j]fluoranthene	0.0000620	0.0000388	0.0000775	0.0000620	NU	mg/L	1	05/18/16 03:53 PM
Benzo[k]fluoranthene	0.0000620	0.0000388	0.0000775	0.0000620	U	mg/L	1	05/18/16 03:53 PM
Chrysene	0.0000620	0.0000388	0.0000775	0.0000620	U	mg/L	1	05/18/16 03:53 PM
Dibenz[a,h]anthracene	0.0000620	0.0000388	0.0000775	0.0000620	U	mg/L	1	05/18/16 03:53 PM
Fluoranthene	0.0000620	0.0000388	0.0000775	0.0000620	U	mg/L	1	05/18/16 03:53 PM
Fluorene	0.0000620	0.0000388	0.0000775	0.0000620	U	mg/L	1	05/18/16 03:53 PM
Indeno[1,2,3-cd]pyrene	0.0000620	0.0000388	0.0000775	0.0000620	U	mg/L	1	05/18/16 03:53 PM
Phenanthrene	0.0000620	0.0000388	0.0000775	0.0000620	U	mg/L	1	05/18/16 03:53 PM
Pyrene	0.0000620	0.0000388	0.0000775	0.0000620	U	mg/L	1	05/18/16 03:53 PM
IS: Acenaphthene-d10	85.8	0	50-200	0		%REC	1	05/18/16 03:53 PM
IS: Chrysene-d12	85.8	0	50-200	0		%REC	1	05/18/16 03:53 PM
IS: Naphthalene-d8	87.3	0	50-200	0		%REC	1	05/18/16 03:53 PM
IS: Perylene-d12	85.7	0	50-200	0		%REC	1	05/18/16 03:53 PM
IS: Phenanthrene-d10	83.7	0	50-200	0		%REC	1	05/18/16 03:53 PM
Surr: 2-Fluorobiphenyl	64.4	0	53-106	0		%REC	1	05/18/16 03:53 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	EB07(20160506)
Project:	Laredo SGR	**Lab ID:**	1605074-34
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 02:35 PM
Lab Order:	1605074	**Matrix:**	EQUIP BLANK

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	69.3	0	58-132	0		%REC	1	05/18/16 03:53 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *27-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	EB08(20160506)
Project:	Laredo SGR	**Lab ID:**	1605074-35
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 05:00 PM
Lab Order:	1605074	**Matrix:**	EQUIP BLANK

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER			**SW6020A**					Analyst: **RO**
Lead	0.000900	0.000300	0.00100	0.000900	U	mg/L	1	05/20/16 01:48 PM
IS: Bismuth	97.6	0	30-120	0		%REC	1	05/20/16 01:48 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0000618	0.0000386	0.0000773	0.0000618	U	mg/L	1	05/18/16 04:30 PM
Acenaphthylene	0.0000618	0.0000386	0.0000773	0.0000618	U	mg/L	1	05/18/16 04:30 PM
Anthracene	0.0000618	0.0000386	0.0000773	0.0000618	U	mg/L	1	05/18/16 04:30 PM
Benzo[a]anthracene	0.0000683	0.0000386	0.0000773	0.0000618	J	mg/L	1	05/18/16 04:30 PM
Benzo[a]pyrene	0.0000903	0.0000386	0.0000773	0.0000618		mg/L	1	05/18/16 04:30 PM
Benzo[b]fluoranthene	0.000101	0.0000386	0.0000773	0.0000618		mg/L	1	05/18/16 04:30 PM
Benzo[e]pyrene	0.0000672	0.0000386	0.0000773	0.0000618	J	mg/L	1	05/18/16 04:30 PM
Benzo[g,h,i]perylene	0.0000670	0.0000386	0.0000773	0.0000618	J	mg/L	1	05/18/16 04:30 PM
Benzo[j]fluoranthene	0.0000404	0.0000386	0.0000773	0.0000618	JN	mg/L	1	05/18/16 04:30 PM
Benzo[k]fluoranthene	0.0000511	0.0000386	0.0000773	0.0000618	J	mg/L	1	05/18/16 04:30 PM
Chrysene	0.0000898	0.0000386	0.0000773	0.0000618		mg/L	1	05/18/16 04:30 PM
Dibenz[a,h]anthracene	0.0000618	0.0000386	0.0000773	0.0000618	U	mg/L	1	05/18/16 04:30 PM
Fluoranthene	0.0000918	0.0000386	0.0000773	0.0000618		mg/L	1	05/18/16 04:30 PM
Fluorene	0.0000618	0.0000386	0.0000773	0.0000618	U	mg/L	1	05/18/16 04:30 PM
Indeno[1,2,3-cd]pyrene	0.0000621	0.0000386	0.0000773	0.0000618	J	mg/L	1	05/18/16 04:30 PM
Phenanthrene	0.0000618	0.0000386	0.0000773	0.0000618	U	mg/L	1	05/18/16 04:30 PM
Pyrene	0.0000835	0.0000386	0.0000773	0.0000618		mg/L	1	05/18/16 04:30 PM
IS: Acenaphthene-d10	88.3	0	50-200	0		%REC	1	05/18/16 04:30 PM
IS: Chrysene-d12	88.4	0	50-200	0		%REC	1	05/18/16 04:30 PM
IS: Naphthalene-d8	90.3	0	50-200	0		%REC	1	05/18/16 04:30 PM
IS: Perylene-d12	88.8	0	50-200	0		%REC	1	05/18/16 04:30 PM
IS: Phenanthrene-d10	85.7	0	50-200	0		%REC	1	05/18/16 04:30 PM
Surr: 2-Fluorobiphenyl	65.4	0	53-106	0		%REC	1	05/18/16 04:30 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	EB08(20160506)
Project:	Laredo SGR	**Lab ID:**	1605074-35
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 05:00 PM
Lab Order:	1605074	**Matrix:**	EQUIP BLANK

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	73.4	0	58-132	0		%REC	1	05/18/16 04:30 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *27-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU082(0-2)-A
Project:	Laredo SGR	**Lab ID:**	1605074-36
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 04:11 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	35.1	0.0855	0.256	0.128		mg/Kg-dry	5	05/19/16 02:52 PM
IS: Bismuth	83.5	0	30-120	0		%REC	5	05/19/16 02:52 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0709	0.0473	0.0945	0.0709	U	mg/Kg-dry	10	05/16/16 10:40 AM
Acenaphthylene	0.0709	0.0473	0.0945	0.0709	U	mg/Kg-dry	10	05/16/16 10:40 AM
Anthracene	0.211	0.0473	0.0945	0.0709		mg/Kg-dry	10	05/16/16 10:40 AM
Benzo[a]anthracene	1.19	0.0473	0.0945	0.0709		mg/Kg-dry	10	05/16/16 10:40 AM
Benzo[a]pyrene	1.35	0.0473	0.0945	0.0709		mg/Kg-dry	10	05/16/16 10:40 AM
Benzo[b]fluoranthene	1.28	0.0473	0.0945	0.0709		mg/Kg-dry	10	05/16/16 10:40 AM
Benzo[e]pyrene	0.955	0.0473	0.0945	0.0709		mg/Kg-dry	10	05/16/16 10:40 AM
Benzo[g,h,i]perylene	0.981	0.0473	0.0945	0.0709		mg/Kg-dry	10	05/16/16 10:40 AM
Benzo[j]fluoranthene	0.699	0.0473	0.0945	0.0709	N	mg/Kg-dry	10	05/16/16 10:40 AM
Benzo[k]fluoranthene	0.700	0.0473	0.0945	0.0709		mg/Kg-dry	10	05/16/16 10:40 AM
Chrysene	1.40	0.0473	0.0945	0.0709		mg/Kg-dry	10	05/16/16 10:40 AM
Dibenz[a,h]anthracene	0.237	0.0473	0.0945	0.0709		mg/Kg-dry	10	05/16/16 10:40 AM
Fluoranthene	2.10	0.0473	0.0945	0.0709		mg/Kg-dry	10	05/16/16 10:40 AM
Fluorene	0.0709	0.0473	0.0945	0.0709	U	mg/Kg-dry	10	05/16/16 10:40 AM
Indeno[1,2,3-cd]pyrene	0.847	0.0473	0.0945	0.0709		mg/Kg-dry	10	05/16/16 10:40 AM
Phenanthrene	1.12	0.0473	0.0945	0.0709		mg/Kg-dry	10	05/16/16 10:40 AM
Pyrene	1.72	0.0473	0.0945	0.0709		mg/Kg-dry	10	05/16/16 10:40 AM
IS: Acenaphthene-d10	111	0	50-200	0		%REC	10	05/16/16 10:40 AM
IS: Chrysene-d12	80.6	0	50-200	0		%REC	10	05/16/16 10:40 AM
IS: Naphthalene-d8	104	0	50-200	0		%REC	10	05/16/16 10:40 AM
IS: Perylene-d12	83.3	0	50-200	0		%REC	10	05/16/16 10:40 AM
IS: Phenanthrene-d10	85.0	0	50-200	0		%REC	10	05/16/16 10:40 AM
Surr: 2-Fluorobiphenyl	86.5	0	46-115	0		%REC	10	05/16/16 10:40 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU082(0-2)-A
Project:	Laredo SGR	**Lab ID:**	1605074-36
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 04:11 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	83.3	0	58-133	0		%REC	10	05/16/16 10:40 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *27-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU082(2-4)-A
Project:	Laredo SGR	**Lab ID:**	1605074-37
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 04:12 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	11.4	0.0833	0.250	0.125		mg/Kg-dry	5	05/19/16 03:34 PM
IS: Bismuth	81.6	0	30-120	0		%REC	5	05/19/16 03:34 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/16/16 11:16 AM
Acenaphthylene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/16/16 11:16 AM
Anthracene	0.0608	0.0491	0.0982	0.0737	J	mg/Kg-dry	10	05/16/16 11:16 AM
Benzo[a]anthracene	0.250	0.0491	0.0982	0.0737		mg/Kg-dry	10	05/16/16 11:16 AM
Benzo[a]pyrene	0.282	0.0491	0.0982	0.0737		mg/Kg-dry	10	05/16/16 11:16 AM
Benzo[b]fluoranthene	0.242	0.0491	0.0982	0.0737		mg/Kg-dry	10	05/16/16 11:16 AM
Benzo[e]pyrene	0.183	0.0491	0.0982	0.0737		mg/Kg-dry	10	05/16/16 11:16 AM
Benzo[g,h,i]perylene	0.203	0.0491	0.0982	0.0737		mg/Kg-dry	10	05/16/16 11:16 AM
Benzo[j]fluoranthene	0.134	0.0491	0.0982	0.0737	N	mg/Kg-dry	10	05/16/16 11:16 AM
Benzo[k]fluoranthene	0.140	0.0491	0.0982	0.0737		mg/Kg-dry	10	05/16/16 11:16 AM
Chrysene	0.284	0.0491	0.0982	0.0737		mg/Kg-dry	10	05/16/16 11:16 AM
Dibenz[a,h]anthracene	0.0694	0.0491	0.0982	0.0737	J	mg/Kg-dry	10	05/16/16 11:16 AM
Fluoranthene	0.471	0.0491	0.0982	0.0737		mg/Kg-dry	10	05/16/16 11:16 AM
Fluorene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/16/16 11:16 AM
Indeno[1,2,3-cd]pyrene	0.174	0.0491	0.0982	0.0737		mg/Kg-dry	10	05/16/16 11:16 AM
Phenanthrene	0.269	0.0491	0.0982	0.0737		mg/Kg-dry	10	05/16/16 11:16 AM
Pyrene	0.378	0.0491	0.0982	0.0737		mg/Kg-dry	10	05/16/16 11:16 AM
IS: Acenaphthene-d10	113	0	50-200	0		%REC	10	05/16/16 11:16 AM
IS: Chrysene-d12	78.9	0	50-200	0		%REC	10	05/16/16 11:16 AM
IS: Naphthalene-d8	104	0	50-200	0		%REC	10	05/16/16 11:16 AM
IS: Perylene-d12	82.7	0	50-200	0		%REC	10	05/16/16 11:16 AM
IS: Phenanthrene-d10	87.7	0	50-200	0		%REC	10	05/16/16 11:16 AM
Surr: 2-Fluorobiphenyl	86.5	0	46-115	0		%REC	10	05/16/16 11:16 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU082(2-4)-A
Project:	Laredo SGR	**Lab ID:**	1605074-37
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 04:12 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	80.5	0	58-133	0		%REC	10	05/16/16 11:16 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *27-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU082(4-6)-A
Project:	Laredo SGR	**Lab ID:**	1605074-38
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 04:14 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	9.56	0.0971	0.291	0.146		mg/Kg-dry	5	05/19/16 03:40 PM
IS: Bismuth	81.5	0	30-120	0		%REC	5	05/19/16 03:40 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/16/16 11:53 AM
Acenaphthylene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/16/16 11:53 AM
Anthracene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/16/16 11:53 AM
Benzo[a]anthracene	0.0914	0.0498	0.0995	0.0746	J	mg/Kg-dry	10	05/16/16 11:53 AM
Benzo[a]pyrene	0.107	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 11:53 AM
Benzo[b]fluoranthene	0.104	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 11:53 AM
Benzo[e]pyrene	0.0811	0.0498	0.0995	0.0746	J	mg/Kg-dry	10	05/16/16 11:53 AM
Benzo[g,h,i]perylene	0.0948	0.0498	0.0995	0.0746	J	mg/Kg-dry	10	05/16/16 11:53 AM
Benzo[j]fluoranthene	0.0536	0.0498	0.0995	0.0746	JN	mg/Kg-dry	10	05/16/16 11:53 AM
Benzo[k]fluoranthene	0.0592	0.0498	0.0995	0.0746	J	mg/Kg-dry	10	05/16/16 11:53 AM
Chrysene	0.116	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 11:53 AM
Dibenz[a,h]anthracene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/16/16 11:53 AM
Fluoranthene	0.152	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 11:53 AM
Fluorene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/16/16 11:53 AM
Indeno[1,2,3-cd]pyrene	0.0758	0.0498	0.0995	0.0746	J	mg/Kg-dry	10	05/16/16 11:53 AM
Phenanthrene	0.0809	0.0498	0.0995	0.0746	J	mg/Kg-dry	10	05/16/16 11:53 AM
Pyrene	0.127	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 11:53 AM
IS: Acenaphthene-d10	112	0	50-200	0		%REC	10	05/16/16 11:53 AM
IS: Chrysene-d12	79.5	0	50-200	0		%REC	10	05/16/16 11:53 AM
IS: Naphthalene-d8	103	0	50-200	0		%REC	10	05/16/16 11:53 AM
IS: Perylene-d12	82.7	0	50-200	0		%REC	10	05/16/16 11:53 AM
IS: Phenanthrene-d10	88.1	0	50-200	0		%REC	10	05/16/16 11:53 AM
Surr: 2-Fluorobiphenyl	79.5	0	46-115	0		%REC	10	05/16/16 11:53 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU082(4-6)-A
Project:	Laredo SGR	**Lab ID:**	1605074-38
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 04:14 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	76.5	0	58-133	0		%REC	10	05/16/16 11:53 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *27-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU082(6-8)-A
Project:	Laredo SGR	**Lab ID:**	1605074-39
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 04:16 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	4.63	0.0901	0.270	0.135		mg/Kg-dry	5	05/19/16 01:53 PM
IS: Bismuth	79.9	0	30-120	0		%REC	5	05/19/16 01:53 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/16/16 10:55 AM
Acenaphthylene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/16/16 10:55 AM
Anthracene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/16/16 10:55 AM
Benzo[a]anthracene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/16/16 10:55 AM
Benzo[a]pyrene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/16/16 10:55 AM
Benzo[b]fluoranthene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/16/16 10:55 AM
Benzo[e]pyrene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/16/16 10:55 AM
Benzo[g,h,i]perylene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/16/16 10:55 AM
Benzo[j]fluoranthene	0.0746	0.0498	0.0995	0.0746	NU	mg/Kg-dry	10	05/16/16 10:55 AM
Benzo[k]fluoranthene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/16/16 10:55 AM
Chrysene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/16/16 10:55 AM
Dibenz[a,h]anthracene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/16/16 10:55 AM
Fluoranthene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/16/16 10:55 AM
Fluorene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/16/16 10:55 AM
Indeno[1,2,3-cd]pyrene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/16/16 10:55 AM
Phenanthrene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/16/16 10:55 AM
Pyrene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/16/16 10:55 AM
IS: Acenaphthene-d10	72.1	0	50-200	0		%REC	10	05/16/16 10:55 AM
IS: Chrysene-d12	71.0	0	50-200	0		%REC	10	05/16/16 10:55 AM
IS: Naphthalene-d8	112	0	50-200	0		%REC	10	05/16/16 10:55 AM
IS: Perylene-d12	72.5	0	50-200	0		%REC	10	05/16/16 10:55 AM
IS: Phenanthrene-d10	73.1	0	50-200	0		%REC	10	05/16/16 10:55 AM
Surr: 2-Fluorobiphenyl	82.0	0	46-115	0		%REC	10	05/16/16 10:55 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU082(6-8)-A
Project:	Laredo SGR	**Lab ID:**	1605074-39
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 04:16 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	72.8	0	58-133	0		%REC	10	05/16/16 10:55 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *27-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU082(0-2)-B
Project:	Laredo SGR	**Lab ID:**	1605074-40
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 04:21 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	25.9	0.0952	0.286	0.143		mg/Kg-dry	5	05/23/16 03:59 PM
IS: Bismuth	98.4	0	30-120	0		%REC	5	05/23/16 03:59 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.109	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 11:35 AM
Acenaphthylene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/16/16 11:35 AM
Anthracene	0.689	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 11:35 AM
Benzo[a]anthracene	3.26	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 11:35 AM
Benzo[a]pyrene	3.25	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 11:35 AM
Benzo[b]fluoranthene	3.01	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 11:35 AM
Benzo[e]pyrene	2.35	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 11:35 AM
Benzo[g,h,i]perylene	2.03	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 11:35 AM
Benzo[j]fluoranthene	1.67	0.0499	0.0998	0.0749	N	mg/Kg-dry	10	05/16/16 11:35 AM
Benzo[k]fluoranthene	1.57	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 11:35 AM
Chrysene	3.58	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 11:35 AM
Dibenz[a,h]anthracene	0.498	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 11:35 AM
Fluoranthene	6.11	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 11:35 AM
Fluorene	0.0992	0.0499	0.0998	0.0749	J	mg/Kg-dry	10	05/16/16 11:35 AM
Indeno[1,2,3-cd]pyrene	1.71	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 11:35 AM
Phenanthrene	2.88	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 11:35 AM
Pyrene	4.83	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 11:35 AM
IS: Acenaphthene-d10	70.4	0	50-200	0		%REC	10	05/16/16 11:35 AM
IS: Chrysene-d12	71.2	0	50-200	0		%REC	10	05/16/16 11:35 AM
IS: Naphthalene-d8	112	0	50-200	0		%REC	10	05/16/16 11:35 AM
IS: Perylene-d12	73.5	0	50-200	0		%REC	10	05/16/16 11:35 AM
IS: Phenanthrene-d10	74.8	0	50-200	0		%REC	10	05/16/16 11:35 AM
Surr: 2-Fluorobiphenyl	70.4	0	46-115	0		%REC	10	05/16/16 11:35 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU082(0-2)-B
Project:	Laredo SGR	**Lab ID:**	1605074-40
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 04:21 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	60.7	0	58-133	0		%REC	10	05/16/16 11:35 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *27-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU082(2-4)-B
Project:	Laredo SGR	**Lab ID:**	1605074-41
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 04:22 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	10.9	0.0926	0.278	0.139		mg/Kg-dry	5	05/23/16 04:01 PM
IS: Bismuth	99.0	0	30-120	0		%REC	5	05/23/16 04:01 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0646	0.0489	0.0978	0.0734	J	mg/Kg-dry	10	05/16/16 12:14 PM
Acenaphthylene	0.0734	0.0489	0.0978	0.0734	U	mg/Kg-dry	10	05/16/16 12:14 PM
Anthracene	0.397	0.0489	0.0978	0.0734		mg/Kg-dry	10	05/16/16 12:14 PM
Benzo[a]anthracene	1.75	0.0489	0.0978	0.0734		mg/Kg-dry	10	05/16/16 12:14 PM
Benzo[a]pyrene	1.70	0.0489	0.0978	0.0734		mg/Kg-dry	10	05/16/16 12:14 PM
Benzo[b]fluoranthene	1.55	0.0489	0.0978	0.0734		mg/Kg-dry	10	05/16/16 12:14 PM
Benzo[e]pyrene	1.21	0.0489	0.0978	0.0734		mg/Kg-dry	10	05/16/16 12:14 PM
Benzo[g,h,i]perylene	1.04	0.0489	0.0978	0.0734		mg/Kg-dry	10	05/16/16 12:14 PM
Benzo[j]fluoranthene	0.859	0.0489	0.0978	0.0734	N	mg/Kg-dry	10	05/16/16 12:14 PM
Benzo[k]fluoranthene	0.832	0.0489	0.0978	0.0734		mg/Kg-dry	10	05/16/16 12:14 PM
Chrysene	1.91	0.0489	0.0978	0.0734		mg/Kg-dry	10	05/16/16 12:14 PM
Dibenz[a,h]anthracene	0.258	0.0489	0.0978	0.0734		mg/Kg-dry	10	05/16/16 12:14 PM
Fluoranthene	3.40	0.0489	0.0978	0.0734		mg/Kg-dry	10	05/16/16 12:14 PM
Fluorene	0.0576	0.0489	0.0978	0.0734	J	mg/Kg-dry	10	05/16/16 12:14 PM
Indeno[1,2,3-cd]pyrene	0.882	0.0489	0.0978	0.0734		mg/Kg-dry	10	05/16/16 12:14 PM
Phenanthrene	1.64	0.0489	0.0978	0.0734		mg/Kg-dry	10	05/16/16 12:14 PM
Pyrene	2.66	0.0489	0.0978	0.0734		mg/Kg-dry	10	05/16/16 12:14 PM
IS: Acenaphthene-d10	71.4	0	50-200	0		%REC	10	05/16/16 12:14 PM
IS: Chrysene-d12	71.5	0	50-200	0		%REC	10	05/16/16 12:14 PM
IS: Naphthalene-d8	110	0	50-200	0		%REC	10	05/16/16 12:14 PM
IS: Perylene-d12	74.4	0	50-200	0		%REC	10	05/16/16 12:14 PM
IS: Phenanthrene-d10	76.2	0	50-200	0		%REC	10	05/16/16 12:14 PM
Surr: 2-Fluorobiphenyl	66.8	0	46-115	0		%REC	10	05/16/16 12:14 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU082(2-4)-B
Project:	Laredo SGR	**Lab ID:**	1605074-41
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 04:22 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	60.9	0	58-133	0		%REC	10	05/16/16 12:14 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *27-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU082(4-6)-B
Project:	Laredo SGR	**Lab ID:**	1605074-42
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 04:24 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	6.86	0.0962	0.288	0.144		mg/Kg-dry	5	05/19/16 03:46 PM
IS: Bismuth	81.9	0	30-120	0		%REC	5	05/19/16 03:46 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/16/16 12:54 PM
Acenaphthylene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/16/16 12:54 PM
Anthracene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/16/16 12:54 PM
Benzo[a]anthracene	0.274	0.0494	0.0988	0.0741		mg/Kg-dry	10	05/16/16 12:54 PM
Benzo[a]pyrene	0.315	0.0494	0.0988	0.0741		mg/Kg-dry	10	05/16/16 12:54 PM
Benzo[b]fluoranthene	0.277	0.0494	0.0988	0.0741		mg/Kg-dry	10	05/16/16 12:54 PM
Benzo[e]pyrene	0.224	0.0494	0.0988	0.0741		mg/Kg-dry	10	05/16/16 12:54 PM
Benzo[g,h,i]perylene	0.209	0.0494	0.0988	0.0741		mg/Kg-dry	10	05/16/16 12:54 PM
Benzo[j]fluoranthene	0.149	0.0494	0.0988	0.0741	N	mg/Kg-dry	10	05/16/16 12:54 PM
Benzo[k]fluoranthene	0.149	0.0494	0.0988	0.0741		mg/Kg-dry	10	05/16/16 12:54 PM
Chrysene	0.315	0.0494	0.0988	0.0741		mg/Kg-dry	10	05/16/16 12:54 PM
Dibenz[a,h]anthracene	0.0532	0.0494	0.0988	0.0741	J	mg/Kg-dry	10	05/16/16 12:54 PM
Fluoranthene	0.445	0.0494	0.0988	0.0741		mg/Kg-dry	10	05/16/16 12:54 PM
Fluorene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/16/16 12:54 PM
Indeno[1,2,3-cd]pyrene	0.170	0.0494	0.0988	0.0741		mg/Kg-dry	10	05/16/16 12:54 PM
Phenanthrene	0.140	0.0494	0.0988	0.0741		mg/Kg-dry	10	05/16/16 12:54 PM
Pyrene	0.383	0.0494	0.0988	0.0741		mg/Kg-dry	10	05/16/16 12:54 PM
IS: Acenaphthene-d10	70.6	0	50-200	0		%REC	10	05/16/16 12:54 PM
IS: Chrysene-d12	69.5	0	50-200	0		%REC	10	05/16/16 12:54 PM
IS: Naphthalene-d8	110	0	50-200	0		%REC	10	05/16/16 12:54 PM
IS: Perylene-d12	72.6	0	50-200	0		%REC	10	05/16/16 12:54 PM
IS: Phenanthrene-d10	73.3	0	50-200	0		%REC	10	05/16/16 12:54 PM
Surr: 2-Fluorobiphenyl	74.3	0	46-115	0		%REC	10	05/16/16 12:54 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU082(4-6)-B
Project:	Laredo SGR	**Lab ID:**	1605074-42
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 04:24 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	64.2	0	58-133	0		%REC	10	05/16/16 12:54 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *27-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU082(6-8)-B
Project:	Laredo SGR	**Lab ID:**	1605074-43
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 04:26 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	5.08	0.0943	0.283	0.142		mg/Kg-dry	5	05/19/16 03:52 PM
IS: Bismuth	84.2	0	30-120	0		%REC	5	05/19/16 03:52 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/16/16 01:33 PM
Acenaphthylene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/16/16 01:33 PM
Anthracene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/16/16 01:33 PM
Benzo[a]anthracene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/16/16 01:33 PM
Benzo[a]pyrene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/16/16 01:33 PM
Benzo[b]fluoranthene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/16/16 01:33 PM
Benzo[e]pyrene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/16/16 01:33 PM
Benzo[g,h,i]perylene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/16/16 01:33 PM
Benzo[j]fluoranthene	0.0732	0.0488	0.0977	0.0732	NU	mg/Kg-dry	10	05/16/16 01:33 PM
Benzo[k]fluoranthene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/16/16 01:33 PM
Chrysene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/16/16 01:33 PM
Dibenz[a,h]anthracene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/16/16 01:33 PM
Fluoranthene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/16/16 01:33 PM
Fluorene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/16/16 01:33 PM
Indeno[1,2,3-cd]pyrene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/16/16 01:33 PM
Phenanthrene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/16/16 01:33 PM
Pyrene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/16/16 01:33 PM
IS: Acenaphthene-d10	72.6	0	50-200	0		%REC	10	05/16/16 01:33 PM
IS: Chrysene-d12	72.0	0	50-200	0		%REC	10	05/16/16 01:33 PM
IS: Naphthalene-d8	112	0	50-200	0		%REC	10	05/16/16 01:33 PM
IS: Perylene-d12	75.0	0	50-200	0		%REC	10	05/16/16 01:33 PM
IS: Phenanthrene-d10	73.6	0	50-200	0		%REC	10	05/16/16 01:33 PM
Surr: 2-Fluorobiphenyl	69.0	0	46-115	0		%REC	10	05/16/16 01:33 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU082(6-8)-B
Project:	Laredo SGR	**Lab ID:**	1605074-43
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 04:26 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	58.7	0	58-133	0		%REC	10	05/16/16 01:33 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *27-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU082(0-2)-C
Project:	Laredo SGR	**Lab ID:**	1605074-44
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 04:29 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	36.2	0.0909	0.273	0.136		mg/Kg-dry	5	05/19/16 03:58 PM
IS: Bismuth	92.1	0	30-120	0		%REC	5	05/19/16 03:58 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/16/16 02:13 PM
Acenaphthylene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/16/16 02:13 PM
Anthracene	0.0532	0.0497	0.0994	0.0746	J	mg/Kg-dry	10	05/16/16 02:13 PM
Benzo[a]anthracene	0.424	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/16/16 02:13 PM
Benzo[a]pyrene	0.525	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/16/16 02:13 PM
Benzo[b]fluoranthene	0.513	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/16/16 02:13 PM
Benzo[e]pyrene	0.425	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/16/16 02:13 PM
Benzo[g,h,i]perylene	0.408	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/16/16 02:13 PM
Benzo[j]fluoranthene	0.263	0.0497	0.0994	0.0746	N	mg/Kg-dry	10	05/16/16 02:13 PM
Benzo[k]fluoranthene	0.259	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/16/16 02:13 PM
Chrysene	0.536	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/16/16 02:13 PM
Dibenz[a,h]anthracene	0.0891	0.0497	0.0994	0.0746	J	mg/Kg-dry	10	05/16/16 02:13 PM
Fluoranthene	0.724	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/16/16 02:13 PM
Fluorene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/16/16 02:13 PM
Indeno[1,2,3-cd]pyrene	0.324	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/16/16 02:13 PM
Phenanthrene	0.285	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/16/16 02:13 PM
Pyrene	0.625	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/16/16 02:13 PM
IS: Acenaphthene-d10	70.9	0	50-200	0		%REC	10	05/16/16 02:13 PM
IS: Chrysene-d12	69.6	0	50-200	0		%REC	10	05/16/16 02:13 PM
IS: Naphthalene-d8	112	0	50-200	0		%REC	10	05/16/16 02:13 PM
IS: Perylene-d12	72.9	0	50-200	0		%REC	10	05/16/16 02:13 PM
IS: Phenanthrene-d10	73.3	0	50-200	0		%REC	10	05/16/16 02:13 PM
Surr: 2-Fluorobiphenyl	82.7	0	46-115	0		%REC	10	05/16/16 02:13 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU082(0-2)-C
Project:	Laredo SGR	**Lab ID:**	1605074-44
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 04:29 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	68.5	0	58-133	0		%REC	10	05/16/16 02:13 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *27-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU082(2-4)-C
Project:	Laredo SGR	**Lab ID:**	1605074-45
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 04:30 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	10.1	0.0847	0.254	0.127		mg/Kg-dry	5	05/19/16 04:04 PM
IS: Bismuth	89.9	0	30-120	0		%REC	5	05/19/16 04:04 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/17/16 10:51 AM
Acenaphthylene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/17/16 10:51 AM
Anthracene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/17/16 10:51 AM
Benzo[a]anthracene	0.0528	0.0494	0.0987	0.0740	J	mg/Kg-dry	10	05/17/16 10:51 AM
Benzo[a]pyrene	0.0736	0.0494	0.0987	0.0740	J	mg/Kg-dry	10	05/17/16 10:51 AM
Benzo[b]fluoranthene	0.0699	0.0494	0.0987	0.0740	J	mg/Kg-dry	10	05/17/16 10:51 AM
Benzo[e]pyrene	0.0627	0.0494	0.0987	0.0740	J	mg/Kg-dry	10	05/17/16 10:51 AM
Benzo[g,h,i]perylene	0.0694	0.0494	0.0987	0.0740	J	mg/Kg-dry	10	05/17/16 10:51 AM
Benzo[j]fluoranthene	0.0619	0.0494	0.0987	0.0740	JN	mg/Kg-dry	10	05/17/16 10:51 AM
Benzo[k]fluoranthene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/17/16 10:51 AM
Chrysene	0.0653	0.0494	0.0987	0.0740	J	mg/Kg-dry	10	05/17/16 10:51 AM
Dibenz[a,h]anthracene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/17/16 10:51 AM
Fluoranthene	0.0618	0.0494	0.0987	0.0740	J	mg/Kg-dry	10	05/17/16 10:51 AM
Fluorene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/17/16 10:51 AM
Indeno[1,2,3-cd]pyrene	0.0549	0.0494	0.0987	0.0740	J	mg/Kg-dry	10	05/17/16 10:51 AM
Phenanthrene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/17/16 10:51 AM
Pyrene	0.0616	0.0494	0.0987	0.0740	J	mg/Kg-dry	10	05/17/16 10:51 AM
IS: Acenaphthene-d10	73.3	0	50-200	0		%REC	10	05/17/16 10:51 AM
IS: Chrysene-d12	69.2	0	50-200	0		%REC	10	05/17/16 10:51 AM
IS: Naphthalene-d8	108	0	50-200	0		%REC	10	05/17/16 10:51 AM
IS: Perylene-d12	71.7	0	50-200	0		%REC	10	05/17/16 10:51 AM
IS: Phenanthrene-d10	73.2	0	50-200	0		%REC	10	05/17/16 10:51 AM
Surr: 2-Fluorobiphenyl	75.2	0	46-115	0		%REC	10	05/17/16 10:51 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU082(2-4)-C
Project:	Laredo SGR	**Lab ID:**	1605074-45
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 04:30 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	63.1	0	58-133	0		%REC	10	05/17/16 10:51 AM

Qualifiers:				
	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *27-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU082(4-6)-C
Project:	Laredo SGR	**Lab ID:**	1605074-46
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 04:31 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	6.96	0.0893	0.268	0.134		mg/Kg-dry	5	05/19/16 04:10 PM
IS: Bismuth	85.9	0	30-120	0		%REC	5	05/19/16 04:10 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/16/16 03:32 PM
Acenaphthylene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/16/16 03:32 PM
Anthracene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/16/16 03:32 PM
Benzo[a]anthracene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/16/16 03:32 PM
Benzo[a]pyrene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/16/16 03:32 PM
Benzo[b]fluoranthene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/16/16 03:32 PM
Benzo[e]pyrene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/16/16 03:32 PM
Benzo[g,h,i]perylene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/16/16 03:32 PM
Benzo[j]fluoranthene	0.0745	0.0497	0.0993	0.0745	NU	mg/Kg-dry	10	05/16/16 03:32 PM
Benzo[k]fluoranthene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/16/16 03:32 PM
Chrysene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/16/16 03:32 PM
Dibenz[a,h]anthracene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/16/16 03:32 PM
Fluoranthene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/16/16 03:32 PM
Fluorene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/16/16 03:32 PM
Indeno[1,2,3-cd]pyrene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/16/16 03:32 PM
Phenanthrene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/16/16 03:32 PM
Pyrene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/16/16 03:32 PM
IS: Acenaphthene-d10	70.3	0	50-200	0		%REC	10	05/16/16 03:32 PM
IS: Chrysene-d12	69.5	0	50-200	0		%REC	10	05/16/16 03:32 PM
IS: Naphthalene-d8	113	0	50-200	0		%REC	10	05/16/16 03:32 PM
IS: Perylene-d12	71.1	0	50-200	0		%REC	10	05/16/16 03:32 PM
IS: Phenanthrene-d10	70.4	0	50-200	0		%REC	10	05/16/16 03:32 PM
Surr: 2-Fluorobiphenyl	75.9	0	46-115	0		%REC	10	05/16/16 03:32 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU082(4-6)-C
Project:	Laredo SGR	**Lab ID:**	1605074-46
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 04:31 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	65.9	0	58-133	0		%REC	10	05/16/16 03:32 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *27-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU082(6-8)-C
Project:	Laredo SGR	**Lab ID:**	1605074-47
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 04:32 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	5.61	0.0935	0.280	0.140		mg/Kg-dry	5	05/19/16 04:16 PM
IS: Bismuth	88.8	0	30-120	0		%REC	5	05/19/16 04:16 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0748	0.0499	0.0997	0.0748	U	mg/Kg-dry	10	05/16/16 04:12 PM
Acenaphthylene	0.0748	0.0499	0.0997	0.0748	U	mg/Kg-dry	10	05/16/16 04:12 PM
Anthracene	0.0748	0.0499	0.0997	0.0748	U	mg/Kg-dry	10	05/16/16 04:12 PM
Benzo[a]anthracene	0.217	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/16/16 04:12 PM
Benzo[a]pyrene	0.192	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/16/16 04:12 PM
Benzo[b]fluoranthene	0.182	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/16/16 04:12 PM
Benzo[e]pyrene	0.136	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/16/16 04:12 PM
Benzo[g,h,i]perylene	0.119	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/16/16 04:12 PM
Benzo[j]fluoranthene	0.102	0.0499	0.0997	0.0748	N	mg/Kg-dry	10	05/16/16 04:12 PM
Benzo[k]fluoranthene	0.101	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/16/16 04:12 PM
Chrysene	0.238	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/16/16 04:12 PM
Dibenz[a,h]anthracene	0.0748	0.0499	0.0997	0.0748	U	mg/Kg-dry	10	05/16/16 04:12 PM
Fluoranthene	0.474	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/16/16 04:12 PM
Fluorene	0.0748	0.0499	0.0997	0.0748	U	mg/Kg-dry	10	05/16/16 04:12 PM
Indeno[1,2,3-cd]pyrene	0.106	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/16/16 04:12 PM
Phenanthrene	0.242	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/16/16 04:12 PM
Pyrene	0.377	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/16/16 04:12 PM
IS: Acenaphthene-d10	73.3	0	50-200	0		%REC	10	05/16/16 04:12 PM
IS: Chrysene-d12	71.7	0	50-200	0		%REC	10	05/16/16 04:12 PM
IS: Naphthalene-d8	111	0	50-200	0		%REC	10	05/16/16 04:12 PM
IS: Perylene-d12	74.7	0	50-200	0		%REC	10	05/16/16 04:12 PM
IS: Phenanthrene-d10	75.4	0	50-200	0		%REC	10	05/16/16 04:12 PM
Surr: 2-Fluorobiphenyl	79.1	0	46-115	0		%REC	10	05/16/16 04:12 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU082(6-8)-C
Project:	Laredo SGR	**Lab ID:**	1605074-47
Project No:	04285081.0000.00044	**Collection Date:**	05/06/16 04:32 PM
Lab Order:	1605074	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	67.1	0	58-133	0		%REC	10	05/16/16 04:12 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_160518A

Sample ID **DCS1-74736**	Batch ID: **74736**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **DCS**	Run ID: **ICP-MS3_160518A**	Analysis Date: **5/18/2016 2:15:00 PM**	Prep Date: **4/21/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.000552	0.00100	0.000500	0	110	80	120	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_160518B

Sample ID **DCS1-74845**	Batch ID: **74845**	TestNo: **SW6020A**	Units: **mg/Kg**
SampType: **DCS**	Run ID: **ICP-MS3_160518B**	Analysis Date: **5/18/2016 2:52:00 PM**	Prep Date: **4/28/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.289	0.300	0.2500	0	116	80	120	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_160518C

The QC data in batch 75118 applies to the following samples: 1605074-05A, 1605074-06A, 1605074-07A, 1605074-08A, 1605074-09A, 1605074-10A, 1605074-11A, 1605074-12A, 1605074-13A, 1605074-14A, 1605074-15A, 1605074-16A, 1605074-17A, 1605074-18A, 1605074-19A, 1605074-20A, 1605074-21A, 1605074-22A, 1605074-23A, 1605074-24A

Sample ID **MB-75118** Batch ID: **75118** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **MBLK** Run ID: **ICP-MS3_160518C** Analysis Date: **5/18/2016 4:18:00 PM** Prep Date: **5/13/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.150	0.300								U
IS: Bismuth	50.0		200.0		93.9	30	120			

Sample ID **LCS-75118** Batch ID: **75118** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **LCS** Run ID: **ICP-MS3_160518C** Analysis Date: **5/18/2016 4:24:00 PM** Prep Date: **5/13/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	51.2	0.300	50.00	0	102	84	118			
IS: Bismuth	50.0		200.0		91.3	30	120			

Sample ID **LCSD-75118** Batch ID: **75118** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **LCSD** Run ID: **ICP-MS3_160518C** Analysis Date: **5/18/2016 4:30:00 PM** Prep Date: **5/13/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	51.6	0.300	50.00	0	103	84	118	0.778	20	
IS: Bismuth	50.0		200.0		91.8	30	120	0	0	

Sample ID **1605074-13A SD** Batch ID: **75118** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **SD** Run ID: **ICP-MS3_160518C** Analysis Date: **5/18/2016 4:48:00 PM** Prep Date: **5/13/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	73.0	1.27	0	78.37				7.07	10	
IS: Bismuth	212		169.5		91.6	30	120	0	0	

Sample ID **1605074-13A PDS** Batch ID: **75118** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **PDS** Run ID: **ICP-MS3_160518C** Analysis Date: **5/18/2016 5:47:00 PM** Prep Date: **5/13/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	125	0.254	42.37	78.37	109	80	120			
IS: Bismuth	42.4		847.5		77.2	30	120			

Sample ID **1605074-13A MS** Batch ID: **75118** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **MS** Run ID: **ICP-MS3_160518C** Analysis Date: **5/18/2016 5:53:00 PM** Prep Date: **5/13/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	151	0.280	46.73	78.37	156	84	118			S
IS: Bismuth	46.7		186.9		77.0	30	120			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_160518C

Sample ID **1605074-13A MSD**	Batch ID: **75118**	TestNo: **SW6020A**	Units: **mg/Kg-dry**		
SampType: **MSD**	Run ID: **ICP-MS3_160518C**	Analysis Date: **5/18/2016 5:59:00 PM**	Prep Date: **5/13/2016**		

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	129	0.273	45.45	78.37	111	84	118	16.3	20	
IS: Bismuth	45.5		181.8		76.1	30	120	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_160518C

Sample ID **ICV1-160518**	Batch ID: **R85886**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **ICV**	Run ID: **ICP-MS3_160518C**	Analysis Date: **5/18/2016 3:59:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.0973	0.00100	0.100	0	97.3	90	110			
IS: Bismuth	0.200		0.200		89.9	30	120			

Sample ID **ILCVL-160518**	Batch ID: **R85886**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS3_160518C**	Analysis Date: **5/18/2016 4:11:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00101	0.00100	0.00100	0	101	80	120			
IS: Bismuth	0.200		0.200		91.3	30	120			

Sample ID **CCV1-160518**	Batch ID: **R85886**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS3_160518C**	Analysis Date: **5/18/2016 6:05:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.190	0.00100	0.200	0	94.8	90	110			
IS: Bismuth	0.200		0.200		83.3	30	120			

Sample ID **LCVL1-160518**	Batch ID: **R85886**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS3_160518C**	Analysis Date: **5/18/2016 6:17:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00298	0.00100	0.00100	0	298	80	120			S
IS: Bismuth	0.200		0.200		85.4	30	120			

Sample ID **CCV2-160518**	Batch ID: **R85886**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS3_160518C**	Analysis Date: **5/18/2016 7:29:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.194	0.00100	0.200	0	96.8	90	110			
IS: Bismuth	0.200		0.200		94.9	30	120			

Sample ID **LCVL2-160518**	Batch ID: **R85886**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS3_160518C**	Analysis Date: **5/18/2016 7:41:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00107	0.00100	0.00100	0	107	80	120			
IS: Bismuth	0.200		0.200		85.9	30	120			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_160519A

The QC data in batch 75132 applies to the following samples: 1605074-25A, 1605074-26A, 1605074-27A, 1605074-28A, 1605074-29A, 1605074-30A, 1605074-31A, 1605074-32A, 1605074-36A, 1605074-37A, 1605074-38A, 1605074-39A, 1605074-42A, 1605074-43A, 1605074-44A, 1605074-45A, 1605074-46A, 1605074-47A

Sample ID **MB-75132** Batch ID: **75132** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **MBLK** Run ID: **ICP-MS3_160519A** Analysis Date: **5/19/2016 1:28:00 PM** Prep Date: **5/12/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.150	0.300								U
IS: Bismuth	50.0		200.0		91.8	30	120			

Sample ID **LCS-75132** Batch ID: **75132** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **LCS** Run ID: **ICP-MS3_160519A** Analysis Date: **5/19/2016 1:35:00 PM** Prep Date: **5/12/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	51.4	0.300	50.00	0	103	84	118			
IS: Bismuth	50.0		200.0		88.4	30	120			

Sample ID **LCSD-75132** Batch ID: **75132** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **LCSD** Run ID: **ICP-MS3_160519A** Analysis Date: **5/19/2016 1:40:00 PM** Prep Date: **5/12/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	50.8	0.300	50.00	0	102	84	118	1.22	20	
IS: Bismuth	50.0		200.0		91.1	30	120	0	0	

Sample ID **1605074-39A SD** Batch ID: **75132** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **SD** Run ID: **ICP-MS3_160519A** Analysis Date: **5/19/2016 1:59:00 PM** Prep Date: **5/12/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	4.62	1.35	0	4.626				0.024	10	
IS: Bismuth	225		180.2		87.2	30	120	0	0	

Sample ID **1605074-39A PDS** Batch ID: **75132** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **PDS** Run ID: **ICP-MS3_160519A** Analysis Date: **5/19/2016 2:58:00 PM** Prep Date: **5/12/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	51.6	0.270	45.05	4.626	104	80	120			
IS: Bismuth	45.0		900.9		78.3	30	120			

Sample ID **1605074-39A MS** Batch ID: **75132** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **MS** Run ID: **ICP-MS3_160519A** Analysis Date: **5/19/2016 3:04:00 PM** Prep Date: **5/12/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	51.5	0.270	45.05	4.626	104	84	118			
IS: Bismuth	45.0		180.2		80.7	30	120			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_160519A

Sample ID **1605074-39A MSD**	Batch ID: **75132**	TestNo: **SW6020A**	Units: **mg/Kg-dry**
SampType: **MSD**	Run ID: **ICP-MS3_160519A**	Analysis Date: **5/19/2016 3:10:00 PM**	Prep Date: **5/12/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	49.1	0.263	43.86	4.626	101	84	118	4.74	20	
IS: Bismuth	43.9		175.4		84.4	30	120	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_160519A

Sample ID **ICV1-160519**	Batch ID: **R85905**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **ICV**	Run ID: **ICP-MS3_160519A**	Analysis Date: **5/19/2016 1:04:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.0984	0.00100	0.100	0	98.4	90	110			
IS: Bismuth	0.200		0.200		87.9	30	120			

Sample ID **ILCVL-160519**	Batch ID: **R85905**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS3_160519A**	Analysis Date: **5/19/2016 1:16:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.000993	0.00100	0.00100	0	99.3	80	120			
IS: Bismuth	0.200		0.200		90.2	30	120			

Sample ID **CCV1-160519**	Batch ID: **R85905**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS3_160519A**	Analysis Date: **5/19/2016 3:16:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.200	0.00100	0.200	0	100	90	110			
IS: Bismuth	0.200		0.200		89.2	30	120			

Sample ID **LCVL1-160519**	Batch ID: **R85905**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS3_160519A**	Analysis Date: **5/19/2016 3:28:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00108	0.00100	0.00100	0	108	80	120			
IS: Bismuth	0.200		0.200		92.6	30	120			

Sample ID **CCV2-160519**	Batch ID: **R85905**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS3_160519A**	Analysis Date: **5/19/2016 4:22:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.200	0.00100	0.200	0	99.9	90	110			
IS: Bismuth	0.200		0.200		93.6	30	120			

Sample ID **LCVL2-160519**	Batch ID: **R85905**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS3_160519A**	Analysis Date: **5/19/2016 4:34:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00101	0.00100	0.00100	0	101	80	120			
IS: Bismuth	0.200		0.200		95.5	30	120			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160427C

Sample ID **DCS1-74736**	Batch ID: **74736**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **DCS**	Run ID: **ICP-MS4_160427C**	Analysis Date: **4/27/2016 4:25:00 PM**	Prep Date: **4/21/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.000486	0.00100	0.000500	0	97.2	80	120	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160429A

Sample ID **DCS1-74845**	Batch ID: **74845**	TestNo: **SW6020A**	Units: **mg/Kg**
SampType: **DCS**	Run ID: **ICP-MS4_160429A**	Analysis Date: **4/29/2016 12:19:00 PM**	Prep Date: **4/28/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.310	0.300	0.2500	0	124	70	130	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160516B

The QC data in batch 75104 applies to the following samples: 1605074-01A, 1605074-02A, 1605074-03A, 1605074-04A

Sample ID	**MB-75104**	Batch ID:	**75104**	TestNo:	**SW6020A**	Units:	**mg/Kg-dry**
SampType:	**MBLK**	Run ID:	**ICP-MS4_160516B**	Analysis Date:	**5/16/2016 5:46:00 PM**	Prep Date:	**5/11/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.150	0.300								U
IS: Bismuth	50.0		200.0		99.6	30	120			

Sample ID	**LCS-75104**	Batch ID:	**75104**	TestNo:	**SW6020A**	Units:	**mg/Kg-dry**
SampType:	**LCS**	Run ID:	**ICP-MS4_160516B**	Analysis Date:	**5/16/2016 5:48:00 PM**	Prep Date:	**5/11/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	49.8	0.300	50.00	0	99.5	84	118			
IS: Bismuth	50.0		200.0		95.3	30	120			

Sample ID	**LCSD-75104**	Batch ID:	**75104**	TestNo:	**SW6020A**	Units:	**mg/Kg-dry**
SampType:	**LCSD**	Run ID:	**ICP-MS4_160516B**	Analysis Date:	**5/16/2016 5:50:00 PM**	Prep Date:	**5/11/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	50.0	0.300	50.00	0	100	84	118	0.449	20	
IS: Bismuth	50.0		200.0		95.7	30	120	0	0	

Sample ID	**1605071-53A SD**	Batch ID:	**75104**	TestNo:	**SW6020A**	Units:	**mg/Kg-dry**
SampType:	**SD**	Run ID:	**ICP-MS4_160516B**	Analysis Date:	**5/16/2016 5:56:00 PM**	Prep Date:	**5/11/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	4.10	1.43	0	4.177				1.74	10	
IS: Bismuth	238		190.5		94.4	30	120	0	0	

Sample ID	**1605071-53A PDS**	Batch ID:	**75104**	TestNo:	**SW6020A**	Units:	**mg/Kg-dry**
SampType:	**PDS**	Run ID:	**ICP-MS4_160516B**	Analysis Date:	**5/16/2016 6:17:00 PM**	Prep Date:	**5/11/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	49.9	0.286	47.62	4.177	96.0	80	120			
IS: Bismuth	47.6		952.4		92.1	30	120			

Sample ID	**1605071-53A MS**	Batch ID:	**75104**	TestNo:	**SW6020A**	Units:	**mg/Kg-dry**
SampType:	**MS**	Run ID:	**ICP-MS4_160516B**	Analysis Date:	**5/16/2016 6:19:00 PM**	Prep Date:	**5/11/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	50.4	0.286	47.62	4.177	97.0	84	118			
IS: Bismuth	47.6		190.5		90.9	30	120			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160516B

Sample ID **1605071-53A MSD**	Batch ID: **75104**	TestNo: **SW6020A**	Units: **mg/Kg-dry**		
SampType: **MSD**	Run ID: **ICP-MS4_160516B**	Analysis Date: **5/16/2016 6:21:00 PM**	Prep Date: **5/11/2016**		

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	48.0	0.270	45.05	4.177	97.3	84	118	4.83	20	
IS: Bismuth	45.0		180.2		88.4	30	120	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160516B

Sample ID **ICV-160516**	Batch ID: **R85839**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **ICV**	Run ID: **ICP-MS4_160516B**	Analysis Date: **5/16/2016 12:45:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.101	0.00100	0.100	0	101	90	110			
IS: Bismuth	0.200		0.200		104	30	120			

Sample ID **LCVL-160516**	Batch ID: **R85839**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS4_160516B**	Analysis Date: **5/16/2016 1:04:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.000965	0.00100	0.00100	0	96.5	80	120			
IS: Bismuth	0.200		0.200		102	30	120			

Sample ID **CCV7-160516**	Batch ID: **R85839**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS4_160516B**	Analysis Date: **5/16/2016 5:38:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.195	0.00100	0.200	0	97.6	90	110			
IS: Bismuth	0.200		0.200		92.3	30	120			

Sample ID **LCVL7-160516**	Batch ID: **R85839**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS4_160516B**	Analysis Date: **5/16/2016 5:42:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.000919	0.00100	0.00100	0	91.9	80	120			
IS: Bismuth	0.200		0.200		95.5	30	120			

Sample ID **CCV8-160516**	Batch ID: **R85839**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS4_160516B**	Analysis Date: **5/16/2016 6:22:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.194	0.00100	0.200	0	96.8	90	110			
IS: Bismuth	0.200		0.200		92.5	30	120			

Sample ID **LCVL8-160516**	Batch ID: **R85839**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS4_160516B**	Analysis Date: **5/16/2016 6:27:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00101	0.00100	0.00100	0	101	80	120			
IS: Bismuth	0.200		0.200		96.0	30	120			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160516B

Sample ID **CCV9-160516**	Batch ID: **R85839**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS4_160516B**	Analysis Date: **5/16/2016 6:51:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.194	0.00100	0.200	0	96.8	90	110			
IS: Bismuth	0.200		0.200		91.9	30	120			

Sample ID **LCVL9-160516**	Batch ID: **R85839**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS4_160516B**	Analysis Date: **5/16/2016 6:55:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.000921	0.00100	0.00100	0	92.1	80	120			
IS: Bismuth	0.200		0.200		94.3	30	120			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160520C

The QC data in batch 75180 applies to the following samples: 1605074-33A, 1605074-34A, 1605074-35A

Sample ID	**MB-75180**	Batch ID:	**75180**	TestNo:	**SW6020A**	Units:	**mg/L**
SampType:	**MBLK**	Run ID:	**ICP-MS4_160520C**	Analysis Date:	**5/20/2016 1:22:00 PM**	Prep Date:	**5/19/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.000900	0.00100								U
IS: Bismuth	0.200		0.200		100	30	120			

Sample ID	**LCS-75180**	Batch ID:	**75180**	TestNo:	**SW6020A**	Units:	**mg/L**
SampType:	**LCS**	Run ID:	**ICP-MS4_160520C**	Analysis Date:	**5/20/2016 1:24:00 PM**	Prep Date:	**5/19/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.197	0.00100	0.200	0	98.4	88	115			
IS: Bismuth	0.200		0.200		95.8	30	120			

Sample ID	**LCSD-75180**	Batch ID:	**75180**	TestNo:	**SW6020A**	Units:	**mg/L**
SampType:	**LCSD**	Run ID:	**ICP-MS4_160520C**	Analysis Date:	**5/20/2016 1:26:00 PM**	Prep Date:	**5/19/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.201	0.00100	0.200	0	100	88	115	1.93	20	
IS: Bismuth	0.200		0.200		94.8	30	120	0	0	

Sample ID	**1605097-27A SD**	Batch ID:	**75180**	TestNo:	**SW6020A**	Units:	**mg/L**
SampType:	**SD**	Run ID:	**ICP-MS4_160520C**	Analysis Date:	**5/20/2016 1:32:00 PM**	Prep Date:	**5/19/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00450	0.00500	0	0				0	10	U
IS: Bismuth	1.00		0.200		96.7	30	120	0	0	

Sample ID	**1605097-27A PDS**	Batch ID:	**75180**	TestNo:	**SW6020A**	Units:	**mg/L**
SampType:	**PDS**	Run ID:	**ICP-MS4_160520C**	Analysis Date:	**5/20/2016 1:52:00 PM**	Prep Date:	**5/19/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.200	0.00100	0.200	0	100	80	120			
IS: Bismuth	0.200		0.200		93.7	30	120			

Sample ID	**1605097-27A MS**	Batch ID:	**75180**	TestNo:	**SW6020A**	Units:	**mg/L**
SampType:	**MS**	Run ID:	**ICP-MS4_160520C**	Analysis Date:	**5/20/2016 1:54:00 PM**	Prep Date:	**5/19/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.162	0.00100	0.200	0	80.9	88	115			S
IS: Bismuth	0.200		0.200		94.8	30	120			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160520C

Sample ID **1605097-27A MSD**	Batch ID: **75180**	TestNo: **SW6020A**	Units: **mg/L**		
SampType: **MSD**	Run ID: **ICP-MS4_160520C**	Analysis Date: **5/20/2016 1:56:00 PM**	Prep Date: **5/19/2016**		

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.196	0.00100	0.200	0	97.9	88	115	19.1	20	
IS: Bismuth	0.200		0.200		96.4	30	120	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160520C

Sample ID **ICV-160520**	Batch ID: **R85935**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **ICV**	Run ID: **ICP-MS4_160520C**	Analysis Date: **5/20/2016 11:28:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.102	0.00100	0.100	0	102	90	110			
IS: Bismuth	0.200		0.200		98.5	30	120			

Sample ID **LCVL-160520**	Batch ID: **R85935**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS4_160520C**	Analysis Date: **5/20/2016 11:40:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.000967	0.00100	0.00100	0	96.7	80	120			
IS: Bismuth	0.200		0.200		96.1	30	120			

Sample ID **CCV2-160520**	Batch ID: **R85935**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS4_160520C**	Analysis Date: **5/20/2016 1:06:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.200	0.00100	0.200	0	99.9	90	110			
IS: Bismuth	0.200		0.200		93.7	30	120			

Sample ID **LCVL2-160520**	Batch ID: **R85935**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS4_160520C**	Analysis Date: **5/20/2016 1:11:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.000963	0.00100	0.00100	0	96.3	80	120			
IS: Bismuth	0.200		0.200		96.0	30	120			

Sample ID **CCV3-160520**	Batch ID: **R85935**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS4_160520C**	Analysis Date: **5/20/2016 1:58:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.198	0.00100	0.200	0	98.9	90	110			
IS: Bismuth	0.200		0.200		96.1	30	120			

Sample ID **LCVL3-160520**	Batch ID: **R85935**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS4_160520C**	Analysis Date: **5/20/2016 2:04:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.000977	0.00100	0.00100	0	97.7	80	120			
IS: Bismuth	0.200		0.200		96.8	30	120			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160523F

The QC data in batch 75166 applies to the following samples: 1605074-40A, 1605074-41A

Sample ID	**MB-75166**	Batch ID:	**75166**	TestNo:	**SW6020A**	Units:	**mg/Kg-dry**
SampType:	**MBLK**	Run ID:	**ICP-MS4_160523F**	Analysis Date:	**5/23/2016 3:47:00 PM**	Prep Date:	**5/17/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.150	0.300								U
IS: Bismuth	50.0		200.0		100	30	120			

Sample ID	**LCS-75166**	Batch ID:	**75166**	TestNo:	**SW6020A**	Units:	**mg/Kg-dry**
SampType:	**LCS**	Run ID:	**ICP-MS4_160523F**	Analysis Date:	**5/23/2016 3:49:00 PM**	Prep Date:	**5/17/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	49.2	0.300	50.00	0	98.4	84	118			
IS: Bismuth	50.0		200.0		96.6	30	120			

Sample ID	**LCSD-75166**	Batch ID:	**75166**	TestNo:	**SW6020A**	Units:	**mg/Kg-dry**
SampType:	**LCSD**	Run ID:	**ICP-MS4_160523F**	Analysis Date:	**5/23/2016 3:51:00 PM**	Prep Date:	**5/17/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	49.0	0.300	50.00	0	98.0	84	118	0.443	20	
IS: Bismuth	50.0		200.0		98.5	30	120	0	0	

Sample ID	**1605096-14A SD**	Batch ID:	**75166**	TestNo:	**SW6020A**	Units:	**mg/Kg-dry**
SampType:	**SD**	Run ID:	**ICP-MS4_160523F**	Analysis Date:	**5/23/2016 3:57:00 PM**	Prep Date:	**5/17/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	28.6	1.33	0	29.32				2.45	10	
IS: Bismuth	221		177.0		105	30	120	0	0	

Sample ID	**1605096-14A PDS**	Batch ID:	**75166**	TestNo:	**SW6020A**	Units:	**mg/Kg-dry**
SampType:	**PDS**	Run ID:	**ICP-MS4_160523F**	Analysis Date:	**5/23/2016 4:17:00 PM**	Prep Date:	**5/17/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	73.0	0.265	44.25	29.32	98.7	80	120			
IS: Bismuth	44.2		885.0		98.2	30	120			

Sample ID	**1605096-14A MS**	Batch ID:	**75166**	TestNo:	**SW6020A**	Units:	**mg/Kg-dry**
SampType:	**MS**	Run ID:	**ICP-MS4_160523F**	Analysis Date:	**5/23/2016 4:19:00 PM**	Prep Date:	**5/17/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	71.8	0.273	45.45	29.32	93.4	84	118			
IS: Bismuth	45.5		181.8		99.0	30	120			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160523F

Sample ID **1605096-14A MSD**	Batch ID: **75166**	TestNo: **SW6020A**	Units: **mg/Kg-dry**		
SampType: **MSD**	Run ID: **ICP-MS4_160523F**	Analysis Date: **5/23/2016 4:21:00 PM**	Prep Date: **5/17/2016**		

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	72.8	0.275	45.87	29.32	94.8	84	118	1.46	20	
IS: Bismuth	45.9		183.5		96.9	30	120	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160523F

Sample ID **ICV-160523**	Batch ID: **R85956**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **ICV**	Run ID: **ICP-MS4_160523F**	Analysis Date: **5/23/2016 11:13:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.0990	0.00100	0.100	0	99.0	90	110			
IS: Bismuth	0.200		0.200		102	30	120			

Sample ID **LCVL-160523**	Batch ID: **R85956**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS4_160523F**	Analysis Date: **5/23/2016 11:22:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.000970	0.00100	0.00100	0	97.0	80	120			
IS: Bismuth	0.200		0.200		99.6	30	120			

Sample ID **CCV4-160523**	Batch ID: **R85956**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS4_160523F**	Analysis Date: **5/23/2016 3:32:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.189	0.00100	0.200	0	94.6	90	110			
IS: Bismuth	0.200		0.200		99.2	30	120			

Sample ID **LCVL4-160523**	Batch ID: **R85956**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS4_160523F**	Analysis Date: **5/23/2016 3:42:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.000958	0.00100	0.00100	0	95.8	80	120			
IS: Bismuth	0.200		0.200		97.6	30	120			

Sample ID **CCV5-160523**	Batch ID: **R85956**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS4_160523F**	Analysis Date: **5/23/2016 4:23:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.190	0.00100	0.200	0	95.2	90	110			
IS: Bismuth	0.200		0.200		97.9	30	120			

Sample ID **LCVL5-160523**	Batch ID: **R85956**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS4_160523F**	Analysis Date: **5/23/2016 4:27:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00104	0.00100	0.00100	0	104	80	120			
IS: Bismuth	0.200		0.200		96.4	30	120			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS6_160502D

Sample ID **DCS-74876**	Batch ID: **74876**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **DCS**	Run ID: **GCMS6_160502D**	Analysis Date: **5/2/2016 1:24:00 PM**	Prep Date: **4/29/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.00921	0.0100	0.01000	0	92.1	20	200	0	0	
Acenaphthylene	0.00964	0.0100	0.01000	0	96.4	20	200	0	0	
Anthracene	0.00923	0.0100	0.01000	0	92.3	20	200	0	0	
Benzo[a]anthracene	0.00934	0.0100	0.01000	0	93.4	20	200	0	0	
Benzo[a]pyrene	0.00897	0.0100	0.01000	0	89.7	20	200	0	0	
Benzo[b]fluoranthene	0.00923	0.0100	0.01000	0	92.3	20	200	0	0	
Benzo[e]pyrene	0.00939	0.0100	0.01000	0	93.9	20	200	0	0	
Benzo[g,h,i]perylene	0.0109	0.0100	0.01000	0	109	20	200	0	0	
Benzo[j]fluoranthene	0.00874	0.0100	0.01000	0	87.4	20	200	0	0	N
Benzo[k]fluoranthene	0.00895	0.0100	0.01000	0	89.5	20	200	0	0	
Chrysene	0.00935	0.0100	0.01000	0	93.5	20	200	0	0	
Dibenz[a,h]anthracene	0.0102	0.0100	0.01000	0	102	20	200	0	0	
Fluoranthene	0.0109	0.0100	0.01000	0	109	20	200	0	0	
Fluorene	0.00957	0.0100	0.01000	0	95.7	20	200	0	0	
Indeno[1,2,3-cd]pyrene	0.0102	0.0100	0.01000	0	102	20	200	0	0	
Phenanthrene	0.0100	0.0100	0.01000	0	100	20	200	0	0	
Pyrene	0.0107	0.0100	0.01000	0	107	20	200	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS6_160515A

The QC data in batch 75113 applies to the following samples: 1605074-01A, 1605074-02A, 1605074-03A, 1605074-04A, 1605074-05A, 1605074-06A, 1605074-07A, 1605074-08A, 1605074-09A, 1605074-10A, 1605074-11A, 1605074-12A, 1605074-14A, 1605074-15A, 1605074-16A

Sample ID **LCS-75113** Batch ID: **75113** TestNo: **SW8270D-LL** Units: **mg/Kg-dry**
SampType: **LCS** Run ID: **GCMS6_160515A** Analysis Date: **5/15/2016 12:35:00 PM** Prep Date: **5/11/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.839	0.0100	1.000	0	83.9	44	111			
Acenaphthylene	0.897	0.0100	1.000	0	89.7	39	116			
Anthracene	0.891	0.0100	1.000	0	89.1	50	114			
Benzo[a]anthracene	0.859	0.0100	1.000	0	85.9	54	122			
Benzo[a]pyrene	0.809	0.0100	1.000	0	80.9	50	125			
Benzo[b]fluoranthene	0.865	0.0100	1.000	0	86.5	53	128			
Benzo[e]pyrene	0.858	0.0100	1.000	0	85.8	43	140			
Benzo[g,h,i]perylene	0.880	0.0100	1.000	0	88.0	49	127			
Benzo[j]fluoranthene	0.873	0.0100	1.000	0	87.3	45	125			N
Benzo[k]fluoranthene	0.865	0.0100	1.000	0	86.5	56	123			
Chrysene	0.806	0.0100	1.000	0	80.6	57	118			
Dibenz[a,h]anthracene	0.841	0.0100	1.000	0	84.1	50	129			
Fluoranthene	0.944	0.0100	1.000	0	94.4	55	119			
Fluorene	0.853	0.0100	1.000	0	85.3	47	114			
Indeno[1,2,3-cd]pyrene	0.822	0.0100	1.000	0	82.2	49	130			
Phenanthrene	0.842	0.0100	1.000	0	84.2	49	113			
Pyrene	0.912	0.0100	1.000	0	91.2	55	117			
IS: Acenaphthene-d10	4.00		4.000		56.0	50	200			
IS: Chrysene-d12	4.00		4.000		64.1	50	200			
IS: Naphthalene-d8	4.00		4.000		105	50	200			
IS: Perylene-d12	4.00		4.000		63.2	50	200			
IS: Phenanthrene-d10	4.00		4.000		56.3	50	200			
Surr: 2-Fluorobiphenyl	0.921		1.000		92.1	46	115			
Surr: 4-Terphenyl-d14	0.817		1.000		81.7	58	133			

Sample ID **MB-75113** Batch ID: **75113** TestNo: **SW8270D-LL** Units: **mg/Kg-dry**
SampType: **MBLK** Run ID: **GCMS6_160515A** Analysis Date: **5/15/2016 1:15:00 PM** Prep Date: **5/11/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.00750	0.0100								U
Acenaphthylene	0.00750	0.0100								U
Anthracene	0.00750	0.0100								U
Benzo[a]anthracene	0.00750	0.0100								U
Benzo[a]pyrene	0.00750	0.0100								U
Benzo[b]fluoranthene	0.00750	0.0100								U
Benzo[e]pyrene	0.00750	0.0100								U
Benzo[g,h,i]perylene	0.00750	0.0100								U
Benzo[j]fluoranthene	0.00750	0.0100								NU
Benzo[k]fluoranthene	0.00750	0.0100								U

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS6_160515A

Sample ID **MB-75113**	Batch ID: **75113**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **MBLK**	Run ID: **GCMS6_160515A**	Analysis Date: **5/15/2016 1:15:00 PM**	Prep Date: **5/11/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chrysene	0.00750	0.0100								U
Dibenz[a,h]anthracene	0.00750	0.0100								U
Fluoranthene	0.00750	0.0100								U
Fluorene	0.00750	0.0100								U
Indeno[1,2,3-cd]pyrene	0.00750	0.0100								U
Phenanthrene	0.00750	0.0100								U
Pyrene	0.00750	0.0100								U
IS: Acenaphthene-d10	4.00		4.000		58.5	50	200			
IS: Chrysene-d12	4.00		4.000		70.8	50	200			
IS: Naphthalene-d8	4.00		4.000		104	50	200			
IS: Perylene-d12	4.00		4.000		67.2	50	200			
IS: Phenanthrene-d10	4.00		4.000		62.9	50	200			
Surr: 2-Fluorobiphenyl	0.875		1.000		87.5	46	115			
Surr: 4-Terphenyl-d14	0.820		1.000		82.0	58	133			

Sample ID **1605071-53AMS**	Batch ID: **75113**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **MS**	Run ID: **GCMS6_160515A**	Analysis Date: **5/15/2016 9:12:00 PM**	Prep Date: **5/11/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.814	0.0992	0.9921	0	82.0	44	111			
Acenaphthylene	0.845	0.0992	0.9921	0	85.2	39	116			
Anthracene	0.885	0.0992	0.9921	0	89.3	50	114			
Benzo[a]anthracene	0.859	0.0992	0.9921	0	86.5	54	122			
Benzo[a]pyrene	0.811	0.0992	0.9921	0	81.7	50	125			
Benzo[b]fluoranthene	0.853	0.0992	0.9921	0	86.0	53	128			
Benzo[e]pyrene	0.843	0.0992	0.9921	0	85.0	43	140			
Benzo[g,h,i]perylene	0.798	0.0992	0.9921	0	80.5	49	127			
Benzo[j]fluoranthene	0.838	0.0992	0.9921	0	84.5	45	125			N
Benzo[k]fluoranthene	0.829	0.0992	0.9921	0	83.6	56	123			
Chrysene	0.842	0.0992	0.9921	0	84.9	57	118			
Dibenz[a,h]anthracene	0.736	0.0992	0.9921	0	74.2	50	129			
Fluoranthene	0.949	0.0992	0.9921	0.08164	87.5	55	119			
Fluorene	0.871	0.0992	0.9921	0	87.8	47	114			
Indeno[1,2,3-cd]pyrene	0.745	0.0992	0.9921	0	75.1	49	130			
Phenanthrene	0.892	0.0992	0.9921	0	89.9	49	113			
Pyrene	0.917	0.0992	0.9921	0.06896	85.5	55	117			
IS: Acenaphthene-d10	39.7		3.968		69.6	50	200			
IS: Chrysene-d12	39.7		3.968		75.5	50	200			
IS: Naphthalene-d8	39.7		3.968		111	50	200			
IS: Perylene-d12	39.7		3.968		76.2	50	200			
IS: Phenanthrene-d10	39.7		3.968		74.8	50	200			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS6_160515A

Sample ID **1605071-53AMS**	Batch ID: **75113**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **MS**	Run ID: **GCMS6_160515A**	Analysis Date: **5/15/2016 9:12:00 PM**	Prep Date: **5/11/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorobiphenyl	0.858		0.9921		86.5	46	115			
Surr: 4-Terphenyl-d14	0.743		0.9921		74.9	58	133			

Sample ID **1605071-53AMSD**	Batch ID: **75113**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **MSD**	Run ID: **GCMS6_160515A**	Analysis Date: **5/15/2016 9:52:00 PM**	Prep Date: **5/11/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.783	0.0998	0.9980	0	78.5	44	111	3.83	20	
Acenaphthylene	0.815	0.0998	0.9980	0	81.6	39	116	3.64	20	
Anthracene	0.839	0.0998	0.9980	0	84.0	50	114	5.43	20	
Benzo[a]anthracene	0.791	0.0998	0.9980	0	79.2	54	122	8.24	20	
Benzo[a]pyrene	0.759	0.0998	0.9980	0	76.1	50	125	6.55	20	
Benzo[b]fluoranthene	0.773	0.0998	0.9980	0	77.5	53	128	9.80	20	
Benzo[e]pyrene	0.788	0.0998	0.9980	0	78.9	43	140	6.80	20	
Benzo[g,h,i]perylene	0.756	0.0998	0.9980	0	75.8	49	127	5.39	20	
Benzo[j]fluoranthene	0.792	0.0998	0.9980	0	79.4	45	125	5.64	20	N
Benzo[k]fluoranthene	0.785	0.0998	0.9980	0	78.7	56	123	5.46	20	
Chrysene	0.775	0.0998	0.9980	0	77.7	57	118	8.32	20	
Dibenz[a,h]anthracene	0.715	0.0998	0.9980	0	71.6	50	129	2.94	20	
Fluoranthene	0.847	0.0998	0.9980	0.08164	76.7	55	119	11.4	20	
Fluorene	0.837	0.0998	0.9980	0	83.9	47	114	3.92	20	
Indeno[1,2,3-cd]pyrene	0.701	0.0998	0.9980	0	70.3	49	130	6.02	20	
Phenanthrene	0.827	0.0998	0.9980	0	82.9	49	113	7.56	20	
Pyrene	0.832	0.0998	0.9980	0.06896	76.5	55	117	9.71	20	
IS: Acenaphthene-d10	39.9		3.992		72.1	50	200	0	0	
IS: Chrysene-d12	39.9		3.992		78.1	50	200	0	0	
IS: Naphthalene-d8	39.9		3.992		118	50	200	0	0	
IS: Perylene-d12	39.9		3.992		79.6	50	200	0	0	
IS: Phenanthrene-d10	39.9		3.992		77.1	50	200	0	0	
Surr: 2-Fluorobiphenyl	0.824		0.9980		82.6	46	115	0	0	
Surr: 4-Terphenyl-d14	0.712		0.9980		71.4	58	133	0	0	

Sample ID **SB-160515**	Batch ID: **75113**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **SBLK**	Run ID: **GCMS6_160515A**	Analysis Date: **5/16/2016 12:27:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.00750	0.0100	0							U
Acenaphthylene	0.00750	0.0100	0							U
Anthracene	0.00750	0.0100	0							U
Benzo[a]anthracene	0.00750	0.0100	0							U
Benzo[a]pyrene	0.00750	0.0100	0							U

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS6_160515A

Sample ID **SB-160515** Batch ID: **75113** TestNo: **SW8270D-LL** Units: **mg/Kg-dry**
SampType: **SBLK** Run ID: **GCMS6_160515A** Analysis Date: **5/16/2016 12:27:00 AM** Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzo[b]fluoranthene	0.00750	0.0100	0							U
Benzo[e]pyrene	0.00750	0.0100	0							U
Benzo[g,h,i]perylene	0.00750	0.0100	0							U
Benzo[j]fluoranthene	0.00750	0.0100	0							NU
Benzo[k]fluoranthene	0.00750	0.0100	0							U
Chrysene	0.00750	0.0100	0							U
Dibenz[a,h]anthracene	0.00750	0.0100	0							U
Fluoranthene	0.00750	0.0100	0							U
Fluorene	0.00750	0.0100	0							U
Phenanthrene	0.00750	0.0100	0							U
Pyrene	0.00750	0.0100	0							U
IS: Acenaphthene-d10	4.00		0							
IS: Chrysene-d12	4.00		0							
IS: Naphthalene-d8	4.00		0							
IS: Perylene-d12	4.00		0							
IS: Phenanthrene-d10	4.00		0							

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS6_160515A

Sample ID **ICV-160515**	Batch ID: **R85829**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **ICV**	Run ID: **GCMS6_160515A**	Analysis Date: **5/15/2016 11:55:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.98	0.0100	2.000	0	99.2	80	120			
Acenaphthylene	2.13	0.0100	2.000	0	106	80	120			
Anthracene	1.90	0.0100	2.000	0	95.1	80	120			
Benzo[a]anthracene	1.99	0.0100	2.000	0	99.3	80	120			
Benzo[a]pyrene	1.91	0.0100	2.000	0	95.3	80	120			
Benzo[b]fluoranthene	2.04	0.0100	2.000	0	102	80	120			
Benzo[e]pyrene	1.91	0.0100	2.000	0	95.3	80	120			
Benzo[g,h,i]perylene	1.96	0.0100	2.000	0	98.2	80	120			
Benzo[j]fluoranthene	1.99	0.0100	2.000	0	99.5	80	120			N
Benzo[k]fluoranthene	1.99	0.0100	2.000	0	99.7	80	120			
Chrysene	1.83	0.0100	2.000	0	91.6	80	120			
Dibenz[a,h]anthracene	1.93	0.0100	2.000	0	96.3	80	120			
Fluoranthene	2.02	0.0100	2.000	0	101	80	120			
Fluorene	2.08	0.0100	2.000	0	104	80	120			
Indeno[1,2,3-cd]pyrene	1.88	0.0100	2.000	0	94.1	80	120			
Phenanthrene	1.93	0.0100	2.000	0	96.3	80	120			
Pyrene	1.93	0.0100	2.000	0	96.5	80	120			
IS: Acenaphthene-d10	4.00		4.000		80.9	50	200			
IS: Chrysene-d12	4.00		4.000		88.0	50	200			
IS: Naphthalene-d8	4.00		4.000		135	50	200			
IS: Perylene-d12	4.00		4.000		81.1	50	200			
IS: Phenanthrene-d10	4.00		4.000		89.8	50	200			
Surr: 2-Fluorobiphenyl	2.06		2.000		103	65	120			
Surr: 4-Terphenyl-d14	1.89		2.000		94.3	65	120			

Sample ID **ICV2-160515**	Batch ID: **R85829**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **ICV**	Run ID: **GCMS6_160515A**	Analysis Date: **5/15/2016 11:08:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.76	0.0100	2.000	0	88.0	80	120			
Acenaphthylene	1.88	0.0100	2.000	0	93.9	80	120			
Anthracene	1.84	0.0100	2.000	0	92.2	80	120			
Benzo[a]anthracene	1.81	0.0100	2.000	0	90.6	80	120			
Benzo[a]pyrene	1.75	0.0100	2.000	0	87.3	80	120			
Benzo[b]fluoranthene	1.76	0.0100	2.000	0	88.2	80	120			
Benzo[e]pyrene	1.82	0.0100	2.000	0	90.9	80	120			
Benzo[g,h,i]perylene	1.67	0.0100	2.000	0	83.5	80	120			
Benzo[j]fluoranthene	1.83	0.0100	2.000	0	91.5	80	120			N
Benzo[k]fluoranthene	1.75	0.0100	2.000	0	87.6	80	120			
Chrysene	1.72	0.0100	2.000	0	85.8	80	120			
Dibenz[a,h]anthracene	1.64	0.0100	2.000	0	82.0	80	120			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS6_160515A

Sample ID **ICV2-160515**	Batch ID: **R85829**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **ICV**	Run ID: **GCMS6_160515A**	Analysis Date: **5/15/2016 11:08:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoranthene	1.78	0.0100	2.000	0	89.1	80	120			
Fluorene	1.86	0.0100	2.000	0	92.8	80	120			
Phenanthrene	1.70	0.0100	2.000	0	85.2	80	120			
Pyrene	1.72	0.0100	2.000	0	85.8	80	120			
IS: Acenaphthene-d10	4.00		4.000		68.5	50	200			
IS: Chrysene-d12	4.00		4.000		72.0	50	200			
IS: Naphthalene-d8	4.00		4.000		105	50	200			
IS: Perylene-d12	4.00		4.000		71.3	50	200			
IS: Phenanthrene-d10	4.00		4.000		73.9	50	200			
Surr: 2-Fluorobiphenyl	1.95		2.000		97.4	65	120			
Surr: 4-Terphenyl-d14	1.71		2.000		85.7	65	120			

Sample ID **CCV1-160515**	Batch ID: **R85829**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **CCV**	Run ID: **GCMS6_160515A**	Analysis Date: **5/16/2016 7:06:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.01	0.0100	1.000	0	101	50	150			
Acenaphthylene	1.09	0.0100	1.000	0	109	50	150			
Anthracene	0.993	0.0100	1.000	0	99.3	50	150			
Benzo[a]anthracene	1.00	0.0100	1.000	0	100	50	150			
Benzo[a]pyrene	0.961	0.0100	1.000	0	96.1	50	150			
Benzo[b]fluoranthene	0.969	0.0100	1.000	0	96.9	50	150			
Benzo[e]pyrene	0.940	0.0100	1.000	0	94.0	50	150			
Benzo[g,h,i]perylene	0.896	0.0100	1.000	0	89.6	50	150			
Benzo[j]fluoranthene	0.960	0.0100	1.000	0	96.0	50	150			N
Benzo[k]fluoranthene	0.966	0.0100	1.000	0	96.6	50	150			
Chrysene	0.953	0.0100	1.000	0	95.3	50	150			
Dibenz[a,h]anthracene	0.888	0.0100	1.000	0	88.8	50	150			
Fluoranthene	1.05	0.0100	1.000	0	105	50	150			
Fluorene	1.02	0.0100	1.000	0	102	50	150			
Phenanthrene	0.981	0.0100	1.000	0	98.1	50	150			
Pyrene	1.02	0.0100	1.000	0	102	50	150			
IS: Acenaphthene-d10	4.00		4.000		76.0	50	200			
IS: Chrysene-d12	4.00		4.000		80.9	50	200			
IS: Naphthalene-d8	4.00		4.000		120	50	200			
IS: Perylene-d12	4.00		4.000		81.6	50	200			
IS: Phenanthrene-d10	4.00		4.000		78.0	50	200			
Surr: 2-Fluorobiphenyl	1.09		1.000		109	50	150			
Surr: 4-Terphenyl-d14	0.992		1.000		99.2	50	150			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS6_160516A

The QC data in batch 75127 applies to the following samples: 1605074-39A, 1605074-40A, 1605074-41A, 1605074-42A, 1605074-43A, 1605074-44A, 1605074-45A, 1605074-46A, 1605074-47A

Sample ID **LCS-75127** Batch ID: **75127** TestNo: **SW8270D-LL** Units: **mg/Kg-dry**
SampType: **LCS** Run ID: **GCMS6_160516A** Analysis Date: **5/16/2016 9:35:00 AM** Prep Date: **5/12/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.799	0.0100	1.000	0	79.9	44	111			
Acenaphthylene	0.861	0.0100	1.000	0	86.1	39	116			
Anthracene	0.864	0.0100	1.000	0	86.4	50	114			
Benzo[a]anthracene	0.873	0.0100	1.000	0	87.3	54	122			
Benzo[a]pyrene	0.824	0.0100	1.000	0	82.4	50	125			
Benzo[b]fluoranthene	0.855	0.0100	1.000	0	85.5	53	128			
Benzo[e]pyrene	0.859	0.0100	1.000	0	85.9	43	140			
Benzo[g,h,i]perylene	0.841	0.0100	1.000	0	84.1	49	127			
Benzo[j]fluoranthene	0.855	0.0100	1.000	0	85.5	45	125			N
Benzo[k]fluoranthene	0.856	0.0100	1.000	0	85.6	56	123			
Chrysene	0.843	0.0100	1.000	0	84.3	57	118			
Dibenz[a,h]anthracene	0.816	0.0100	1.000	0	81.6	50	129			
Fluoranthene	0.926	0.0100	1.000	0	92.6	55	119			
Fluorene	0.818	0.0100	1.000	0	81.8	47	114			
Indeno[1,2,3-cd]pyrene	0.793	0.0100	1.000	0	79.3	49	130			
Phenanthrene	0.825	0.0100	1.000	0	82.5	49	113			
Pyrene	0.884	0.0100	1.000	0	88.4	55	117			
IS: Acenaphthene-d10	4.00		4.000		58.0	50	200			
IS: Chrysene-d12	4.00		4.000		66.3	50	200			
IS: Naphthalene-d8	4.00		4.000		111	50	200			
IS: Perylene-d12	4.00		4.000		70.0	50	200			
IS: Phenanthrene-d10	4.00		4.000		60.5	50	200			
Surr: 2-Fluorobiphenyl	0.919		1.000		91.9	46	115			
Surr: 4-Terphenyl-d14	0.808		1.000		80.8	58	133			

Sample ID **MB-75127** Batch ID: **75127** TestNo: **SW8270D-LL** Units: **mg/Kg-dry**
SampType: **MBLK** Run ID: **GCMS6_160516A** Analysis Date: **5/16/2016 10:15:00 AM** Prep Date: **5/12/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.00750	0.0100								U
Acenaphthylene	0.00750	0.0100								U
Anthracene	0.00750	0.0100								U
Benzo[a]anthracene	0.00750	0.0100								U
Benzo[a]pyrene	0.00750	0.0100								U
Benzo[b]fluoranthene	0.00750	0.0100								U
Benzo[e]pyrene	0.00750	0.0100								U
Benzo[g,h,i]perylene	0.00750	0.0100								U
Benzo[j]fluoranthene	0.00750	0.0100								NU
Benzo[k]fluoranthene	0.00750	0.0100								U

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS6_160516A

Sample ID **MB-75127**	Batch ID: **75127**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **MBLK**	Run ID: **GCMS6_160516A**	Analysis Date: **5/16/2016 10:15:00 AM**	Prep Date: **5/12/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chrysene	0.00750	0.0100								U
Dibenz[a,h]anthracene	0.00750	0.0100								U
Fluoranthene	0.00750	0.0100								U
Fluorene	0.00750	0.0100								U
Indeno[1,2,3-cd]pyrene	0.00750	0.0100								U
Phenanthrene	0.00750	0.0100								U
Pyrene	0.00750	0.0100								U
IS: Acenaphthene-d10	4.00		4.000		57.6	50	200			
IS: Chrysene-d12	4.00		4.000		63.8	50	200			
IS: Naphthalene-d8	4.00		4.000		106	50	200			
IS: Perylene-d12	4.00		4.000		66.6	50	200			
IS: Phenanthrene-d10	4.00		4.000		58.7	50	200			
Surr: 2-Fluorobiphenyl	0.894		1.000		89.4	46	115			
Surr: 4-Terphenyl-d14	0.796		1.000		79.6	58	133			

Sample ID **1605074-44AMSD**	Batch ID: **75127**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **MSD**	Run ID: **GCMS6_160516A**	Analysis Date: **5/16/2016 6:50:00 PM**	Prep Date: **5/12/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.766	0.0996	0.9960	0	76.9	44	111	6.69	20	
Acenaphthylene	0.758	0.0996	0.9960	0	76.1	39	116	7.45	20	
Anthracene	0.865	0.0996	0.9960	0.05318	81.5	50	114	7.39	20	
Benzo[a]anthracene	1.55	0.0996	0.9960	0.4244	113	54	122	7.18	20	
Benzo[a]pyrene	1.71	0.0996	0.9960	0.5252	119	50	125	7.98	20	
Benzo[b]fluoranthene	1.69	0.0996	0.9960	0.5127	119	53	128	7.89	20	
Benzo[e]pyrene	1.53	0.0996	0.9960	0.4248	111	43	140	8.62	20	
Benzo[g,h,i]perylene	1.46	0.0996	0.9960	0.4081	106	49	127	7.66	20	
Benzo[j]fluoranthene	1.26	0.0996	0.9960	0.2629	100	45	125	12.9	20	N
Benzo[k]fluoranthene	1.23	0.0996	0.9960	0.2594	97.0	56	123	9.30	20	
Chrysene	1.71	0.0996	0.9960	0.5363	117	57	118	7.37	20	
Dibenz[a,h]anthracene	0.877	0.0996	0.9960	0.08907	79.1	50	129	9.23	20	
Fluoranthene	1.97	0.0996	0.9960	0.7240	125	55	119	5.90	20	S
Fluorene	0.813	0.0996	0.9960	0	81.6	47	114	5.65	20	
Indeno[1,2,3-cd]pyrene	1.29	0.0996	0.9960	0.3240	96.8	49	130	7.39	20	
Phenanthrene	1.14	0.0996	0.9960	0.2851	85.4	49	113	6.98	20	
Pyrene	1.82	0.0996	0.9960	0.6247	120	55	117	6.52	20	S
IS: Acenaphthene-d10	39.8		3.984		73.8	50	200	0	0	
IS: Chrysene-d12	39.8		3.984		72.5	50	200	0	0	
IS: Naphthalene-d8	39.8		3.984		112	50	200	0	0	
IS: Perylene-d12	39.8		3.984		74.7	50	200	0	0	
IS: Phenanthrene-d10	39.8		3.984		77.2	50	200	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS6_160516A

Sample ID **1605074-44AMSD**	Batch ID: **75127**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **MSD**	Run ID: **GCMS6_160516A**	Analysis Date: **5/16/2016 6:50:00 PM**	Prep Date: **5/12/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorobiphenyl	0.765		0.9960		76.8	46	115	0	0	
Surr: 4-Terphenyl-d14	0.667		0.9960		67.0	58	133	0	0	

Sample ID **1605074-44AMS**	Batch ID: **75127**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **MS**	Run ID: **GCMS6_160516A**	Analysis Date: **5/17/2016 9:31:00 AM**	Prep Date: **5/12/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.819	0.100	1.000	0	81.9	44	111			
Acenaphthylene	0.816	0.100	1.000	0	81.6	39	116			
Anthracene	0.931	0.100	1.000	0.05318	87.8	50	114			
Benzo[a]anthracene	1.66	0.100	1.000	0.4244	124	54	122			S
Benzo[a]pyrene	1.86	0.100	1.000	0.5252	133	50	125			S
Benzo[b]fluoranthene	1.83	0.100	1.000	0.5127	132	53	128			S
Benzo[e]pyrene	1.67	0.100	1.000	0.4248	125	43	140			
Benzo[g,h,i]perylene	1.58	0.100	1.000	0.4081	117	49	127			
Benzo[j]fluoranthene	1.44	0.100	1.000	0.2629	117	45	125			N
Benzo[k]fluoranthene	1.35	0.100	1.000	0.2594	109	56	123			
Chrysene	1.84	0.100	1.000	0.5363	130	57	118			S
Dibenz[a,h]anthracene	0.962	0.100	1.000	0.08907	87.3	50	129			
Fluoranthene	2.09	0.100	1.000	0.7240	137	55	119			S
Fluorene	0.860	0.100	1.000	0	86.0	47	114			
Indeno[1,2,3-cd]pyrene	1.39	0.100	1.000	0.3240	106	49	130			
Phenanthrene	1.22	0.100	1.000	0.2851	93.3	49	113			
Pyrene	1.95	0.100	1.000	0.6247	132	55	117			S
IS: Acenaphthene-d10	40.0		4.000		71.3	50	200			
IS: Chrysene-d12	40.0		4.000		68.7	50	200			
IS: Naphthalene-d8	40.0		4.000		105	50	200			
IS: Perylene-d12	40.0		4.000		70.8	50	200			
IS: Phenanthrene-d10	40.0		4.000		72.2	50	200			
Surr: 2-Fluorobiphenyl	0.819		1.000		81.9	46	115			
Surr: 4-Terphenyl-d14	0.707		1.000		70.7	58	133			

Sample ID **SB-160517**	Batch ID: **75127**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **SBLK**	Run ID: **GCMS6_160516A**	Analysis Date: **5/17/2016 10:11:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.00750	0.0100	0							U
Acenaphthylene	0.00750	0.0100	0							U
Anthracene	0.00750	0.0100	0							U
Benzo[a]anthracene	0.00750	0.0100	0							U
Benzo[a]pyrene	0.00750	0.0100	0							U

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS6_160516A

Sample ID **SB-160517**	Batch ID: **75127**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **SBLK**	Run ID: **GCMS6_160516A**	Analysis Date: **5/17/2016 10:11:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzo[b]fluoranthene	0.00750	0.0100	0							U
Benzo[e]pyrene	0.00750	0.0100	0							U
Benzo[g,h,i]perylene	0.00750	0.0100	0							U
Benzo[j]fluoranthene	0.00750	0.0100	0							NU
Benzo[k]fluoranthene	0.00750	0.0100	0							U
Chrysene	0.00750	0.0100	0							U
Dibenz[a,h]anthracene	0.00750	0.0100	0							U
Fluoranthene	0.00750	0.0100	0							U
Fluorene	0.00750	0.0100	0							U
Indeno[1,2,3-cd]pyrene	0.00750	0.0100	0							U
Phenanthrene	0.00750	0.0100	0							U
Pyrene	0.00750	0.0100	0							U
IS: Acenaphthene-d10	4.00		0							
IS: Chrysene-d12	4.00		0							
IS: Naphthalene-d8	4.00		0							
IS: Perylene-d12	4.00		0							
IS: Phenanthrene-d10	4.00		0							
Surr: 2-Fluorobiphenyl	0.000310		0							
Surr: 4-Terphenyl-d14	0.000310		0							

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS6_160516A

Sample ID **ICV-160516**	Batch ID: **R85840**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **ICV**	Run ID: **GCMS6_160516A**	Analysis Date: **5/16/2016 8:54:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.98	0.0100	2.000	0	99.2	80	120			
Acenaphthylene	2.13	0.0100	2.000	0	106	80	120			
Anthracene	1.90	0.0100	2.000	0	95.1	80	120			
Benzo[a]anthracene	1.97	0.0100	2.000	0	98.4	80	120			
Benzo[a]pyrene	1.90	0.0100	2.000	0	94.9	80	120			
Benzo[b]fluoranthene	1.95	0.0100	2.000	0	97.5	80	120			
Benzo[e]pyrene	1.87	0.0100	2.000	0	93.3	80	120			
Benzo[g,h,i]perylene	1.84	0.0100	2.000	0	92.0	80	120			
Benzo[j]fluoranthene	1.90	0.0100	2.000	0	95.1	80	120			N
Benzo[k]fluoranthene	1.91	0.0100	2.000	0	95.4	80	120			
Chrysene	1.86	0.0100	2.000	0	93.1	80	120			
Dibenz[a,h]anthracene	1.83	0.0100	2.000	0	91.7	80	120			
Fluoranthene	1.96	0.0100	2.000	0	97.9	80	120			
Fluorene	2.12	0.0100	2.000	0	106	80	120			
Indeno[1,2,3-cd]pyrene	1.79	0.0100	2.000	0	89.5	80	120			
Phenanthrene	1.90	0.0100	2.000	0	95.0	80	120			
Pyrene	1.89	0.0100	2.000	0	94.3	80	120			
IS: Acenaphthene-d10	4.00		4.000		83.3	50	200			
IS: Chrysene-d12	4.00		4.000		91.2	50	200			
IS: Naphthalene-d8	4.00		4.000		142	50	200			
IS: Perylene-d12	4.00		4.000		92.0	50	200			
IS: Phenanthrene-d10	4.00		4.000		93.0	50	200			
Surr: 2-Fluorobiphenyl	2.09		2.000		104	65	120			
Surr: 4-Terphenyl-d14	1.83		2.000		91.5	65	120			

Sample ID **ICV-160517**	Batch ID: **R85840**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **ICV**	Run ID: **GCMS6_160516A**	Analysis Date: **5/17/2016 8:49:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.98	0.0100	2.000	0	99.1	80	120			
Acenaphthylene	2.14	0.0100	2.000	0	107	80	120			
Anthracene	1.88	0.0100	2.000	0	93.9	80	120			
Benzo[a]anthracene	1.97	0.0100	2.000	0	98.7	80	120			
Benzo[a]pyrene	1.90	0.0100	2.000	0	94.9	80	120			
Benzo[b]fluoranthene	1.95	0.0100	2.000	0	97.6	80	120			
Benzo[e]pyrene	1.86	0.0100	2.000	0	93.1	80	120			
Benzo[g,h,i]perylene	1.85	0.0100	2.000	0	92.6	80	120			
Benzo[j]fluoranthene	1.90	0.0100	2.000	0	94.8	80	120			N
Benzo[k]fluoranthene	1.90	0.0100	2.000	0	95.0	80	120			
Chrysene	1.89	0.0100	2.000	0	94.4	80	120			
Dibenz[a,h]anthracene	1.84	0.0100	2.000	0	91.8	80	120			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS6_160516A

Sample ID **ICV-160517**	Batch ID: **R85840**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **ICV**	Run ID: **GCMS6_160516A**	Analysis Date: **5/17/2016 8:49:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoranthene	1.96	0.0100	2.000	0	97.9	80	120			
Fluorene	2.12	0.0100	2.000	0	106	80	120			
Indeno[1,2,3-cd]pyrene	1.79	0.0100	2.000	0	89.3	80	120			
Phenanthrene	1.92	0.0100	2.000	0	95.9	80	120			
Pyrene	1.90	0.0100	2.000	0	94.8	80	120			
IS: Acenaphthene-d10	4.00		4.000		85.6	50	200			
IS: Chrysene-d12	4.00		4.000		94.3	50	200			
IS: Naphthalene-d8	4.00		4.000		145	50	200			
IS: Perylene-d12	4.00		4.000		95.5	50	200			
IS: Phenanthrene-d10	4.00		4.000		96.0	50	200			
Surr: 2-Fluorobiphenyl	2.09		2.000		105	65	120			
Surr: 4-Terphenyl-d14	1.83		2.000		91.5	65	120			

Sample ID **CCV1-160517**	Batch ID: **R85840**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **CCV**	Run ID: **GCMS6_160516A**	Analysis Date: **5/17/2016 12:27:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	2.01	0.0100	2.000	0	100	50	150			
Acenaphthylene	2.11	0.0100	2.000	0	105	50	150			
Anthracene	1.88	0.0100	2.000	0	94.0	50	150			
Benzo[a]anthracene	1.97	0.0100	2.000	0	98.7	50	150			
Benzo[a]pyrene	1.91	0.0100	2.000	0	95.3	50	150			
Benzo[b]fluoranthene	1.93	0.0100	2.000	0	96.3	50	150			
Benzo[e]pyrene	1.87	0.0100	2.000	0	93.4	50	150			
Benzo[g,h,i]perylene	1.84	0.0100	2.000	0	92.2	50	150			
Benzo[j]fluoranthene	1.90	0.0100	2.000	0	95.0	50	150			N
Benzo[k]fluoranthene	1.90	0.0100	2.000	0	94.9	50	150			
Chrysene	1.87	0.0100	2.000	0	93.3	50	150			
Dibenz[a,h]anthracene	1.84	0.0100	2.000	0	91.8	50	150			
Fluoranthene	1.93	0.0100	2.000	0	96.7	50	150			
Fluorene	2.16	0.0100	2.000	0	108	50	150			
Indeno[1,2,3-cd]pyrene	1.79	0.0100	2.000	0	89.6	50	150			
Phenanthrene	1.90	0.0100	2.000	0	94.8	50	150			
Pyrene	1.87	0.0100	2.000	0	93.5	50	150			
IS: Acenaphthene-d10	4.00		4.000		86.4	50	200			
IS: Chrysene-d12	4.00		4.000		94.4	50	200			
IS: Naphthalene-d8	4.00		4.000		141	50	200			
IS: Perylene-d12	4.00		4.000		96.0	50	200			
IS: Phenanthrene-d10	4.00		4.000		96.3	50	200			
Surr: 2-Fluorobiphenyl	2.04		2.000		102	50	150			
Surr: 4-Terphenyl-d14	1.82		2.000		90.8	50	150			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS8_160510B

Sample ID **DCS-74876**	Batch ID: **74876**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **DCS**	Run ID: **GCMS8_160510B**	Analysis Date: **5/11/2016 4:29:00 AM**	Prep Date: **4/29/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.0113	0.0100	0.01000	0	113	20	200	0	0	
Acenaphthylene	0.0116	0.0100	0.01000	0	116	20	200	0	0	
Anthracene	0.0104	0.0100	0.01000	0	104	20	200	0	0	
Benzo[a]anthracene	0.0111	0.0100	0.01000	0	111	20	200	0	0	
Benzo[a]pyrene	0.0100	0.0100	0.01000	0	100	20	200	0	0	
Benzo[b]fluoranthene	0.0105	0.0100	0.01000	0	105	20	200	0	0	
Benzo[e]pyrene	0.0110	0.0100	0.01000	0	110	20	200	0	0	
Benzo[g,h,i]perylene	0.0110	0.0100	0.01000	0	110	20	200	0	0	
Benzo[j]fluoranthene	0.0106	0.0100	0.01000	0	106	20	200	0	0	N
Benzo[k]fluoranthene	0.0104	0.0100	0.01000	0	104	20	200	0	0	
Chrysene	0.0118	0.0100	0.01000	0	118	20	200	0	0	
Dibenz[a,h]anthracene	0.0119	0.0100	0.01000	0	119	20	200	0	0	
Fluoranthene	0.0133	0.0100	0.01000	0	133	20	200	0	0	
Fluorene	0.0102	0.0100	0.01000	0	102	20	200	0	0	
Indeno[1,2,3-cd]pyrene	0.0107	0.0100	0.01000	0	107	20	200	0	0	
Phenanthrene	0.0127	0.0100	0.01000	0	127	20	200	0	0	
Pyrene	0.0133	0.0100	0.01000	0	133	20	200	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS8_160515A

The QC data in batch 75119 applies to the following samples: 1605074-13A, 1605074-17A, 1605074-18A, 1605074-19A, 1605074-20A, 1605074-21A, 1605074-22A, 1605074-23A, 1605074-24A, 1605074-25A, 1605074-26A, 1605074-27A, 1605074-28A, 1605074-29A, 1605074-30A, 1605074-31A, 1605074-32A, 1605074-36A, 1605074-37A, 1605074-38A

Sample ID **LCS-75119** Batch ID: **75119** TestNo: **SW8270D-LL** Units: **mg/Kg-dry**
SampType: **LCS** Run ID: **GCMS8_160515A** Analysis Date: **5/15/2016 7:08:00 PM** Prep Date: **5/12/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.797	0.0100	1.000	0	79.7	44	111			
Acenaphthylene	0.830	0.0100	1.000	0	83.0	39	116			
Anthracene	0.776	0.0100	1.000	0	77.6	50	114			
Benzo[a]anthracene	0.878	0.0100	1.000	0	87.8	54	122			
Benzo[a]pyrene	0.871	0.0100	1.000	0	87.1	50	125			
Benzo[b]fluoranthene	0.896	0.0100	1.000	0	89.6	53	128			
Benzo[e]pyrene	0.863	0.0100	1.000	0	86.3	43	140			
Benzo[g,h,i]perylene	0.916	0.0100	1.000	0	91.6	49	127			
Benzo[j]fluoranthene	0.933	0.0100	1.000	0	93.3	45	125			N
Benzo[k]fluoranthene	1.02	0.0100	1.000	0	102	56	123			
Chrysene	0.892	0.0100	1.000	0	89.2	57	118			
Dibenz[a,h]anthracene	0.970	0.0100	1.000	0	97.0	50	129			
Fluoranthene	0.856	0.0100	1.000	0	85.6	55	119			
Fluorene	0.678	0.0100	1.000	0	67.8	47	114			
Indeno[1,2,3-cd]pyrene	0.949	0.0100	1.000	0	94.9	49	130			
Phenanthrene	0.833	0.0100	1.000	0	83.3	49	113			
Pyrene	0.856	0.0100	1.000	0	85.6	55	117			
IS: Acenaphthene-d10	4.00		4.000		99.6	50	200			
IS: Chrysene-d12	4.00		4.000		82.1	50	200			
IS: Naphthalene-d8	4.00		4.000		106	50	200			
IS: Perylene-d12	4.00		4.000		89.8	50	200			
IS: Phenanthrene-d10	4.00		4.000		68.3	50	200			
Surr: 2-Fluorobiphenyl	0.756		1.000		75.6	46	115			
Surr: 4-Terphenyl-d14	0.714		1.000		71.4	58	133			

Sample ID **MB-75119** Batch ID: **75119** TestNo: **SW8270D-LL** Units: **mg/Kg-dry**
SampType: **MBLK** Run ID: **GCMS8_160515A** Analysis Date: **5/15/2016 7:44:00 PM** Prep Date: **5/12/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.00750	0.0100								U
Acenaphthylene	0.00750	0.0100								U
Anthracene	0.00750	0.0100								U
Benzo[a]anthracene	0.00750	0.0100								U
Benzo[a]pyrene	0.00750	0.0100								U
Benzo[b]fluoranthene	0.00750	0.0100								U
Benzo[e]pyrene	0.00750	0.0100								U
Benzo[g,h,i]perylene	0.00750	0.0100								U
Benzo[j]fluoranthene	0.00750	0.0100								NU
Benzo[k]fluoranthene	0.00750	0.0100								U

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS8_160515A

Sample ID **MB-75119**	Batch ID: **75119**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **MBLK**	Run ID: **GCMS8_160515A**	Analysis Date: **5/15/2016 7:44:00 PM**	Prep Date: **5/12/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chrysene	0.00750	0.0100								U
Dibenz[a,h]anthracene	0.00750	0.0100								U
Fluoranthene	0.00750	0.0100								U
Fluorene	0.00750	0.0100								U
Indeno[1,2,3-cd]pyrene	0.00750	0.0100								U
Phenanthrene	0.00750	0.0100								U
Pyrene	0.00750	0.0100								U
IS: Acenaphthene-d10	4.00		4.000		90.8	50	200			
IS: Chrysene-d12	4.00		4.000		79.7	50	200			
IS: Naphthalene-d8	4.00		4.000		99.1	50	200			
IS: Perylene-d12	4.00		4.000		85.6	50	200			
IS: Phenanthrene-d10	4.00		4.000		63.9	50	200			
Surr: 2-Fluorobiphenyl	0.780		1.000		78.0	46	115			
Surr: 4-Terphenyl-d14	0.754		1.000		75.4	58	133			

Sample ID **1605074-13AMS**	Batch ID: **75119**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **MS**	Run ID: **GCMS8_160515A**	Analysis Date: **5/16/2016 3:08:00 AM**	Prep Date: **5/12/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.23	0.196	0.9785	0.4635	78.7	44	111			
Acenaphthylene	0.785	0.196	0.9785	0	80.2	39	116			
Anthracene	1.77	0.196	0.9785	1.321	45.8	50	114			S
Benzo[a]anthracene	10.1	0.196	0.9785	10.18	-7.42	54	122			S
Benzo[a]pyrene	13.4	0.196	0.9785	12.91	54.0	50	125			
Benzo[b]fluoranthene	12.6	0.196	0.9785	12.31	31.7	53	128			S
Benzo[e]pyrene	9.71	0.196	0.9785	9.209	51.0	43	140			
Benzo[g,h,i]perylene	10.1	0.196	0.9785	9.229	84.8	49	127			
Benzo[j]fluoranthene	7.21	0.196	0.9785	6.618	60.1	45	125			N
Benzo[k]fluoranthene	7.42	0.196	0.9785	6.887	54.4	56	123			S
Chrysene	13.1	0.196	0.9785	12.82	30.2	57	118			S
Dibenz[a,h]anthracene	3.02	0.196	0.9785	2.165	87.8	50	129			
Fluoranthene	14.1	0.196	0.9785	15.57	-154	55	119			S
Fluorene	0.940	0.196	0.9785	0.2400	71.5	47	114			
Indeno[1,2,3-cd]pyrene	9.00	0.196	0.9785	8.030	98.8	49	130			
Phenanthrene	6.97	0.196	0.9785	6.891	7.62	49	113			S
Pyrene	13.0	0.196	0.9785	13.64	-66.8	55	117			S
IS: Acenaphthene-d10	78.3		3.914		105	50	200			
IS: Chrysene-d12	78.3		3.914		82.9	50	200			
IS: Naphthalene-d8	78.3		3.914		103	50	200			
IS: Perylene-d12	78.3		3.914		86.3	50	200			
IS: Phenanthrene-d10	78.3		3.914		84.8	50	200			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS8_160515A

Sample ID **1605074-13AMS**	Batch ID: **75119**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **MS**	Run ID: **GCMS8_160515A**	Analysis Date: **5/16/2016 3:08:00 AM**	Prep Date: **5/12/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorobiphenyl	0.729		0.9785		74.5	46	115			
Surr: 4-Terphenyl-d14	0.727		0.9785		74.3	58	133			

Sample ID **1605074-13AMSD**	Batch ID: **75119**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **MSD**	Run ID: **GCMS8_160515A**	Analysis Date: **5/16/2016 3:45:00 AM**	Prep Date: **5/12/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.42	0.199	0.9930	0.4635	96.4	44	111	14.1	20	
Acenaphthylene	0.871	0.199	0.9930	0	87.7	39	116	10.4	20	
Anthracene	2.23	0.199	0.9930	1.321	91.7	50	114	23.2	20	R
Benzo[a]anthracene	12.6	0.199	0.9930	10.18	241	54	122	21.7	20	SR
Benzo[a]pyrene	16.3	0.199	0.9930	12.91	346	50	125	19.5	20	S
Benzo[b]fluoranthene	15.6	0.199	0.9930	12.31	334	53	128	21.3	20	SR
Benzo[e]pyrene	12.0	0.199	0.9930	9.209	280	43	140	21.0	20	SR
Benzo[g,h,i]perylene	12.4	0.199	0.9930	9.229	315	49	127	20.5	20	SR
Benzo[j]fluoranthene	8.73	0.199	0.9930	6.618	213	45	125	19.2	20	SN
Benzo[k]fluoranthene	9.00	0.199	0.9930	6.887	213	56	123	19.2	20	S
Chrysene	15.8	0.199	0.9930	12.82	302	57	118	18.7	20	S
Dibenz[a,h]anthracene	3.56	0.199	0.9930	2.165	141	50	129	16.4	20	S
Fluoranthene	18.0	0.199	0.9930	15.57	242	55	119	24.4	20	SR
Fluorene	1.12	0.199	0.9930	0.2400	88.4	47	114	17.3	20	
Indeno[1,2,3-cd]pyrene	10.9	0.199	0.9930	8.030	284	49	130	18.7	20	S
Phenanthrene	8.80	0.199	0.9930	6.891	192	49	113	23.2	20	SR
Pyrene	16.0	0.199	0.9930	13.64	240	55	117	21.0	20	SR
IS: Acenaphthene-d10	79.4		3.972		103	50	200	0	0	
IS: Chrysene-d12	79.4		3.972		80.6	50	200	0	0	
IS: Naphthalene-d8	79.4		3.972		101	50	200	0	0	
IS: Perylene-d12	79.4		3.972		83.4	50	200	0	0	
IS: Phenanthrene-d10	79.4		3.972		82.6	50	200	0	0	
Surr: 2-Fluorobiphenyl	0.821		0.9930		82.7	46	115	0	0	
Surr: 4-Terphenyl-d14	0.802		0.9930		80.7	58	133	0	0	

Sample ID **SB-160515**	Batch ID: **75119**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **SBLK**	Run ID: **GCMS8_160515A**	Analysis Date: **5/16/2016 6:12:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.00750	0.0100	0							U
Acenaphthylene	0.00750	0.0100	0							U
Anthracene	0.00750	0.0100	0							U
Benzo[a]anthracene	0.00750	0.0100	0							U
Benzo[a]pyrene	0.00750	0.0100	0							U

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS8_160515A

Sample ID **SB-160515**	Batch ID: **75119**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**		
SampType: **SBLK**	Run ID: **GCMS8_160515A**	Analysis Date: **5/16/2016 6:12:00 AM**	Prep Date:		

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzo[b]fluoranthene	0.00750	0.0100	0							U
Benzo[e]pyrene	0.00750	0.0100	0							U
Benzo[g,h,i]perylene	0.00750	0.0100	0							U
Benzo[j]fluoranthene	0.00750	0.0100	0							NU
Benzo[k]fluoranthene	0.00750	0.0100	0							U
Chrysene	0.00750	0.0100	0							U
Dibenz[a,h]anthracene	0.00750	0.0100	0							U
Fluoranthene	0.00750	0.0100	0							U
Fluorene	0.00750	0.0100	0							U
Indeno[1,2,3-cd]pyrene	0.00750	0.0100	0							U
Phenanthrene	0.00750	0.0100	0							U
Pyrene	0.00750	0.0100	0							U
IS: Acenaphthene-d10	4.00		0							
IS: Chrysene-d12	4.00		0							
IS: Naphthalene-d8	4.00		0							
IS: Perylene-d12	4.00		0							
IS: Phenanthrene-d10	4.00		0							

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS8_160515A

Sample ID **ICV-160515**	Batch ID: **R85832**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **ICV**	Run ID: **GCMS8_160515A**	Analysis Date: **5/15/2016 6:30:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.85	0.0100	2.000	0	92.6	80	120			
Acenaphthylene	1.93	0.0100	2.000	0	96.4	80	120			
Anthracene	1.75	0.0100	2.000	0	87.5	80	120			
Benzo[a]anthracene	1.89	0.0100	2.000	0	94.4	80	120			
Benzo[a]pyrene	1.92	0.0100	2.000	0	95.9	80	120			
Benzo[b]fluoranthene	1.94	0.0100	2.000	0	97.0	80	120			
Benzo[e]pyrene	1.89	0.0100	2.000	0	94.4	80	120			
Benzo[g,h,i]perylene	1.89	0.0100	2.000	0	94.5	80	120			
Benzo[j]fluoranthene	2.08	0.0100	2.000	0	104	80	120			N
Benzo[k]fluoranthene	2.18	0.0100	2.000	0	109	80	120			
Chrysene	1.89	0.0100	2.000	0	94.6	80	120			
Dibenz[a,h]anthracene	2.02	0.0100	2.000	0	101	80	120			
Fluoranthene	1.88	0.0100	2.000	0	94.2	80	120			
Fluorene	1.61	0.0100	2.000	0	80.3	80	120			
Indeno[1,2,3-cd]pyrene	1.97	0.0100	2.000	0	98.4	80	120			
Phenanthrene	1.81	0.0100	2.000	0	90.4	80	120			
Pyrene	1.89	0.0100	2.000	0	94.4	80	120			
IS: Acenaphthene-d10	4.00		4.000		91.3	50	200			
IS: Chrysene-d12	4.00		4.000		87.8	50	200			
IS: Naphthalene-d8	4.00		4.000		100	50	200			
IS: Perylene-d12	4.00		4.000		88.8	50	200			
IS: Phenanthrene-d10	4.00		4.000		77.8	50	200			
Surr: 2-Fluorobiphenyl	1.88		2.000		94.1	65	120			
Surr: 4-Terphenyl-d14	1.83		2.000		91.4	65	120			

Sample ID **ICV2-160515**	Batch ID: **R85832**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **ICV**	Run ID: **GCMS8_160515A**	Analysis Date: **5/16/2016 4:58:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.79	0.0100	2.000	0	89.5	80	120			
Acenaphthylene	1.83	0.0100	2.000	0	91.7	80	120			
Anthracene	1.67	0.0100	2.000	0	83.6	80	120			
Benzo[a]anthracene	1.81	0.0100	2.000	0	90.7	80	120			
Benzo[a]pyrene	1.86	0.0100	2.000	0	93.1	80	120			
Benzo[b]fluoranthene	1.86	0.0100	2.000	0	92.9	80	120			
Benzo[e]pyrene	1.81	0.0100	2.000	0	90.6	80	120			
Benzo[g,h,i]perylene	1.86	0.0100	2.000	0	93.1	80	120			
Benzo[j]fluoranthene	1.98	0.0100	2.000	0	99.0	80	120			N
Benzo[k]fluoranthene	2.09	0.0100	2.000	0	105	80	120			
Chrysene	1.81	0.0100	2.000	0	90.7	80	120			
Dibenz[a,h]anthracene	1.98	0.0100	2.000	0	98.8	80	120			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS8_160515A

Sample ID **ICV2-160515** Batch ID: **R85832** TestNo: **SW8270D-LL** Units: **mg/Kg-dry**
SampType: **ICV** Run ID: **GCMS8_160515A** Analysis Date: **5/16/2016 4:58:00 AM** Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoranthene	1.63	0.0100	2.000	0	81.6	80	120			
Fluorene	1.62	0.0100	2.000	0	81.2	80	120			
Indeno[1,2,3-cd]pyrene	1.92	0.0100	2.000	0	96.2	80	120			
Phenanthrene	1.72	0.0100	2.000	0	86.1	80	120			
Pyrene	1.62	0.0100	2.000	0	81.2	80	120			
IS: Acenaphthene-d10	4.00		4.000		95.3	50	200			
IS: Chrysene-d12	4.00		4.000		78.2	50	200			
IS: Naphthalene-d8	4.00		4.000		97.4	50	200			
IS: Perylene-d12	4.00		4.000		80.1	50	200			
IS: Phenanthrene-d10	4.00		4.000		79.7	50	200			
Surr: 2-Fluorobiphenyl	1.88		2.000		93.8	65	120			
Surr: 4-Terphenyl-d14	1.77		2.000		88.7	65	120			

Sample ID **CCV1-160515** Batch ID: **R85832** TestNo: **SW8270D-LL** Units: **mg/Kg-dry**
SampType: **CCV** Run ID: **GCMS8_160515A** Analysis Date: **5/16/2016 12:30:00 PM** Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.02	0.0100	1.000	0	102	50	150			
Acenaphthylene	1.05	0.0100	1.000	0	105	50	150			
Anthracene	0.940	0.0100	1.000	0	94.0	50	150			
Benzo[a]anthracene	0.987	0.0100	1.000	0	98.7	50	150			
Benzo[a]pyrene	1.00	0.0100	1.000	0	100	50	150			
Benzo[b]fluoranthene	1.01	0.0100	1.000	0	101	50	150			
Benzo[e]pyrene	0.980	0.0100	1.000	0	98.0	50	150			
Benzo[g,h,i]perylene	1.02	0.0100	1.000	0	102	50	150			
Benzo[j]fluoranthene	1.09	0.0100	1.000	0	109	50	150			N
Benzo[k]fluoranthene	1.12	0.0100	1.000	0	112	50	150			
Chrysene	0.993	0.0100	1.000	0	99.3	50	150			
Dibenz[a,h]anthracene	1.08	0.0100	1.000	0	108	50	150			
Fluoranthene	0.897	0.0100	1.000	0	89.7	50	150			
Fluorene	0.965	0.0100	1.000	0	96.5	50	150			
Indeno[1,2,3-cd]pyrene	1.05	0.0100	1.000	0	105	50	150			
Phenanthrene	0.999	0.0100	1.000	0	99.9	50	150			
Pyrene	0.882	0.0100	1.000	0	88.2	50	150			
IS: Acenaphthene-d10	4.00		4.000		113	50	200			
IS: Chrysene-d12	4.00		4.000		89.9	50	200			
IS: Naphthalene-d8	4.00		4.000		109	50	200			
IS: Perylene-d12	4.00		4.000		92.6	50	200			
IS: Phenanthrene-d10	4.00		4.000		94.2	50	200			
Surr: 2-Fluorobiphenyl	1.09		1.000		109	50	150			
Surr: 4-Terphenyl-d14	0.993		1.000		99.3	50	150			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS8_160516A

The QC data in batch 75113 applies to the following samples: 1605074-01A, 1605074-02A, 1605074-03A, 1605074-04A, 1605074-05A, 1605074-06A, 1605074-07A, 1605074-08A, 1605074-09A, 1605074-10A, 1605074-11A, 1605074-12A, 1605074-14A, 1605074-15A, 1605074-16A

Sample ID **SBLK2-160516** Batch ID: **75113** TestNo: **SW8270D-LL** Units: **mg/Kg-dry**
SampType: **SBLK** Run ID: **GCMS8_160516A** Analysis Date: **5/17/2016 1:23:00 AM** Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.00750	0.0100	0							U
Acenaphthylene	0.00750	0.0100	0							U
Anthracene	0.00750	0.0100	0							U
Benzo[a]anthracene	0.00750	0.0100	0							U
Benzo[a]pyrene	0.00750	0.0100	0							U
Benzo[b]fluoranthene	0.00750	0.0100	0							U
Benzo[e]pyrene	0.00750	0.0100	0							U
Benzo[g,h,i]perylene	0.00750	0.0100	0							U
Benzo[j]fluoranthene	0.00750	0.0100	0							NU
Benzo[k]fluoranthene	0.00750	0.0100	0							U
Chrysene	0.00750	0.0100	0							U
Dibenz[a,h]anthracene	0.00750	0.0100	0							U
Fluoranthene	0.00750	0.0100	0							U
Fluorene	0.00750	0.0100	0							U
Indeno[1,2,3-cd]pyrene	0.00750	0.0100	0							U
Phenanthrene	0.00750	0.0100	0							U
IS: Acenaphthene-d10	4.00		0							
IS: Chrysene-d12	4.00		0							
IS: Naphthalene-d8	4.00		0							
IS: Perylene-d12	4.00		0							
IS: Phenanthrene-d10	4.00		0							

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS8_160516A

Sample ID **ICV2-160516**	Batch ID: **R85841**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **ICV**	Run ID: **GCMS8_160516A**	Analysis Date: **5/17/2016 12:46:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.87	0.0100	2.000	0	93.5	80	120			
Acenaphthylene	1.92	0.0100	2.000	0	95.9	80	120			
Anthracene	1.71	0.0100	2.000	0	85.5	80	120			
Benzo[a]anthracene	1.88	0.0100	2.000	0	94.2	80	120			
Benzo[a]pyrene	1.93	0.0100	2.000	0	96.5	80	120			
Benzo[b]fluoranthene	1.94	0.0100	2.000	0	97.2	80	120			
Benzo[e]pyrene	1.88	0.0100	2.000	0	94.2	80	120			
Benzo[g,h,i]perylene	2.01	0.0100	2.000	0	100	80	120			
Benzo[j]fluoranthene	2.06	0.0100	2.000	0	103	80	120			N
Benzo[k]fluoranthene	2.19	0.0100	2.000	0	109	80	120			
Chrysene	1.88	0.0100	2.000	0	94.1	80	120			
Dibenz[a,h]anthracene	2.12	0.0100	2.000	0	106	80	120			
Fluoranthene	1.60	0.0100	2.000	0	80.0	80	120			
Fluorene	1.74	0.0100	2.000	0	87.1	80	120			
Indeno[1,2,3-cd]pyrene	2.06	0.0100	2.000	0	103	80	120			
Phenanthrene	1.81	0.0100	2.000	0	90.7	80	120			
IS: Acenaphthene-d10	4.00		4.000		110	50	200			
IS: Chrysene-d12	4.00		4.000		86.4	50	200			
IS: Naphthalene-d8	4.00		4.000		108	50	200			
IS: Perylene-d12	4.00		4.000		90.2	50	200			
IS: Phenanthrene-d10	4.00		4.000		93.9	50	200			
Surr: 2-Fluorobiphenyl	1.96		2.000		97.9	65	120			
Surr: 4-Terphenyl-d14	1.85		2.000		92.6	65	120			

Sample ID **CCV2-160516**	Batch ID: **R85841**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **CCV**	Run ID: **GCMS8_160516A**	Analysis Date: **5/17/2016 7:32:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.03	0.0100	1.000	0	103	50	150			
Acenaphthylene	1.05	0.0100	1.000	0	105	50	150			
Anthracene	0.935	0.0100	1.000	0	93.5	50	150			
Benzo[a]anthracene	0.983	0.0100	1.000	0	98.3	50	150			
Benzo[a]pyrene	0.989	0.0100	1.000	0	98.9	50	150			
Benzo[b]fluoranthene	0.993	0.0100	1.000	0	99.3	50	150			
Benzo[e]pyrene	0.970	0.0100	1.000	0	97.0	50	150			
Benzo[g,h,i]perylene	1.08	0.0100	1.000	0	108	50	150			
Benzo[j]fluoranthene	1.06	0.0100	1.000	0	106	50	150			N
Benzo[k]fluoranthene	1.11	0.0100	1.000	0	111	50	150			
Chrysene	0.991	0.0100	1.000	0	99.1	50	150			
Dibenz[a,h]anthracene	1.13	0.0100	1.000	0	113	50	150			
Fluoranthene	0.806	0.0100	1.000	0	80.6	50	150			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS8_160516A

Sample ID **CCV2-160516**	Batch ID: **R85841**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **CCV**	Run ID: **GCMS8_160516A**	Analysis Date: **5/17/2016 7:32:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluorene	0.978	0.0100	1.000	0	97.8	50	150			
Indeno[1,2,3-cd]pyrene	1.10	0.0100	1.000	0	110	50	150			
Phenanthrene	0.999	0.0100	1.000	0	99.9	50	150			
IS: Acenaphthene-d10	4.00		4.000		123	50	200			
IS: Chrysene-d12	4.00		4.000		81.6	50	200			
IS: Naphthalene-d8	4.00		4.000		111	50	200			
IS: Perylene-d12	4.00		4.000		89.3	50	200			
IS: Phenanthrene-d10	4.00		4.000		97.1	50	200			
Surr: 2-Fluorobiphenyl	1.12		1.000		112	50	150			
Surr: 4-Terphenyl-d14	1.01		1.000		101	50	150			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS8_160518A

Sample ID **DCS-75209**	Batch ID: **75209**	TestNo: **SW8270D-LL**	Units: **mg/L**
SampType: **DCS**	Run ID: **GCMS8_160518A**	Analysis Date: **5/18/2016 10:22:00 AM**	Prep Date: **5/17/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.0000307	0.0000500	0.0000400	0	76.8	20	170	0	0	
Acenaphthylene	0.0000308	0.0000500	0.0000400	0	77.0	20	170	0	0	
Anthracene	0.0000322	0.0000500	0.0000400	0	80.5	20	170	0	0	
Benzo[a]anthracene	0.0000306	0.0000500	0.0000400	0	76.4	20	170	0	0	
Benzo[a]pyrene	0.0000288	0.0000500	0.0000400	0	72.0	20	170	0	0	
Benzo[b]fluoranthene	0.0000304	0.0000500	0.0000400	0	76.0	20	170	0	0	
Benzo[e]pyrene	0.0000308	0.0000500	0.0000400	0	76.9	20	170	0	0	
Benzo[g,h,i]perylene	0.0000282	0.0000500	0.0000400	0	70.4	20	170	0	0	
Benzo[j]fluoranthene	0.0000254	0.0000500	0.0000400	0	63.6	20	170	0	0	N
Benzo[k]fluoranthene	0.0000283	0.0000500	0.0000400	0	70.8	20	170	0	0	
Chrysene	0.0000293	0.0000500	0.0000400	0	73.4	20	170	0	0	
Dibenz[a,h]anthracene	0.0000221	0.0000500	0.0000400	0	55.2	20	170	0	0	
Fluoranthene	0.0000331	0.0000500	0.0000400	0	82.7	20	170	0	0	
Fluorene	0.0000302	0.0000500	0.0000400	0	75.4	20	170	0	0	
Indeno[1,2,3-cd]pyrene	0.0000275	0.0000500	0.0000400	0	68.8	20	170	0	0	
Phenanthrene	0.0000339	0.0000500	0.0000400	0	84.6	20	170	0	0	
Pyrene	0.0000328	0.0000500	0.0000400	0	81.9	20	170	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS8_160518B

The QC data in batch 75146 applies to the following samples: 1605074-33B, 1605074-34B, 1605074-35B

Sample ID **LCS-75146** Batch ID: **75146** TestNo: **SW8270D-LL** Units: **mg/L**
SampType: **LCS** Run ID: **GCMS8_160518B** Analysis Date: **5/18/2016 2:03:00 PM** Prep Date: **5/13/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.00262	0.0000500	0.00400	0	65.5	48	114			
Acenaphthylene	0.00261	0.0000500	0.00400	0	65.4	35	121			
Anthracene	0.00247	0.0000500	0.00400	0	61.7	53	119			
Benzo[a]anthracene	0.00297	0.0000500	0.00400	0	74.3	59	120			
Benzo[a]pyrene	0.00301	0.0000500	0.00400	0	75.2	53	120			
Benzo[b]fluoranthene	0.00309	0.0000500	0.00400	0	77.3	53	126			
Benzo[e]pyrene	0.00295	0.0000500	0.00400	0	73.6	40	140			
Benzo[g,h,i]perylene	0.00300	0.0000500	0.00400	0	74.9	44	128			
Benzo[j]fluoranthene	0.00295	0.0000500	0.00400	0	73.8	45	124			N
Benzo[k]fluoranthene	0.00309	0.0000500	0.00400	0	77.1	54	125			
Chrysene	0.00298	0.0000500	0.00400	0	74.6	57	120			
Dibenz[a,h]anthracene	0.00302	0.0000500	0.00400	0	75.4	44	131			
Fluoranthene	0.00291	0.0000500	0.00400	0	72.7	58	120			
Fluorene	0.00272	0.0000500	0.00400	0	68.0	50	118			
Indeno[1,2,3-cd]pyrene	0.00300	0.0000500	0.00400	0	75.0	48	130			
Phenanthrene	0.00259	0.0000500	0.00400	0	64.8	53	115			
Pyrene	0.00292	0.0000500	0.00400	0	73.0	53	121			
IS: Acenaphthene-d10	0.00800		0.00800		78.1	50	200			
IS: Chrysene-d12	0.00800		0.00800		77.8	50	200			
IS: Naphthalene-d8	0.00800		0.00800		81.0	50	200			
IS: Perylene-d12	0.00800		0.00800		76.7	50	200			
IS: Phenanthrene-d10	0.00800		0.00800		78.1	50	200			
Surr: 2-Fluorobiphenyl	4.48		8.000		56.0	53	106			
Surr: 4-Terphenyl-d14	5.28		8.000		65.9	58	132			

Sample ID **MB-75146** Batch ID: **75146** TestNo: **SW8270D-LL** Units: **mg/L**
SampType: **MBLK** Run ID: **GCMS8_160518B** Analysis Date: **5/18/2016 2:40:00 PM** Prep Date: **5/13/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.0000400	0.0000500								U
Acenaphthylene	0.0000400	0.0000500								U
Anthracene	0.0000400	0.0000500								U
Benzo[a]anthracene	0.0000400	0.0000500								U
Benzo[a]pyrene	0.0000400	0.0000500								U
Benzo[b]fluoranthene	0.0000400	0.0000500								U
Benzo[e]pyrene	0.0000400	0.0000500								U
Benzo[g,h,i]perylene	0.0000400	0.0000500								U
Benzo[j]fluoranthene	0.0000400	0.0000500								NU
Benzo[k]fluoranthene	0.0000400	0.0000500								U
Chrysene	0.0000400	0.0000500								U

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS8_160518B

Sample ID **MB-75146**	Batch ID: **75146**	TestNo: **SW8270D-LL**	Units: **mg/L**
SampType: **MBLK**	Run ID: **GCMS8_160518B**	Analysis Date: **5/18/2016 2:40:00 PM**	Prep Date: **5/13/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Dibenz[a,h]anthracene	0.0000400	0.0000500								U
Fluoranthene	0.0000400	0.0000500								U
Fluorene	0.0000400	0.0000500								U
Indeno[1,2,3-cd]pyrene	0.0000400	0.0000500								U
Phenanthrene	0.0000400	0.0000500								U
Pyrene	0.0000400	0.0000500								U
IS: Acenaphthene-d10	0.00800		0.00800		82.7	50	200			
IS: Chrysene-d12	0.00800		0.00800		85.3	50	200			
IS: Naphthalene-d8	0.00800		0.00800		85.3	50	200			
IS: Perylene-d12	0.00800		0.00800		85.3	50	200			
IS: Phenanthrene-d10	0.00800		0.00800		84.3	50	200			
Surr: 2-Fluorobiphenyl	4.61		8.000		57.6	53	106			
Surr: 4-Terphenyl-d14	5.33		8.000		66.7	58	132			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS8_160518B

Sample ID **ICV-160518** Batch ID: **R85875** TestNo: **SW8270D-LL** Units: **mg/L**
SampType: **ICV** Run ID: **GCMS8_160518B** Analysis Date: **5/18/2016 9:35:00 AM** Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	2.01	0.0000500	2.00	0	101	80	120			
Acenaphthylene	2.01	0.0000500	2.00	0	101	80	120			
Anthracene	1.88	0.0000500	2.00	0	93.9	80	120			
Benzo[a]anthracene	2.12	0.0000500	2.00	0	106	80	120			
Benzo[a]pyrene	2.11	0.0000500	2.00	0	106	80	120			
Benzo[b]fluoranthene	2.13	0.0000500	2.00	0	106	80	120			
Benzo[e]pyrene	2.12	0.0000500	2.00	0	106	80	120			
Benzo[g,h,i]perylene	2.11	0.0000500	2.00	0	105	80	120			
Benzo[j]fluoranthene	2.12	0.0000500	2.00	0	106	80	120			N
Benzo[k]fluoranthene	2.12	0.0000500	2.00	0	106	80	120			
Chrysene	2.11	0.0000500	2.00	0	106	80	120			
Dibenz[a,h]anthracene	2.11	0.0000500	2.00	0	105	80	120			
Fluoranthene	2.14	0.0000500	2.00	0	107	80	120			
Fluorene	2.02	0.0000500	2.00	0	101	80	120			
Indeno[1,2,3-cd]pyrene	2.10	0.0000500	2.00	0	105	80	120			
Phenanthrene	1.88	0.0000500	2.00	0	94.0	80	120			
Pyrene	2.14	0.0000500	2.00	0	107	80	120			
IS: Acenaphthene-d10	4.00		4.00		87.5	50	200			
IS: Chrysene-d12	4.00		4.00		88.7	50	200			
IS: Naphthalene-d8	4.00		4.00		88.3	50	200			
IS: Perylene-d12	4.00		4.00		87.9	50	200			
IS: Phenanthrene-d10	4.00		4.00		86.7	50	200			
Surr: 2-Fluorobiphenyl	1910		2000		95.7	65	120			
Surr: 4-Terphenyl-d14	2040		2000		102	65	120			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: PMOIST_160510B

The QC data in batch 75081 applies to the following samples: 1605074-28A, 1605074-29A, 1605074-30A, 1605074-31A, 1605074-32A

Sample ID **1605090-05C-DUP** Batch ID: **75081** TestNo: **D2216** Units: **WT%**
SampType: **DUP** Run ID: **PMOIST_160510B** Analysis Date: **5/11/2016 9:30:00 AM** Prep Date: **5/10/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Percent Moisture	8.00	0	0	7.333				8.70	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605074
Project: Laredo SGR

MQL SUMMARY REPORT

TestNo: SW6020A	MDL	MQL
Analyte	**mg/Kg-dry**	**mg/Kg-dry**
Lead	0.100	0.300

TestNo: SW6020A	MDL	MQL
Analyte	**mg/L**	**mg/L**
Lead	0.000300	0.00100

TestNo: SW8270D-LL	MDL	MQL
Analyte	**mg/Kg-dry**	**mg/Kg-dry**
Acenaphthene	0.00500	0.0100
Acenaphthylene	0.00500	0.0100
Anthracene	0.00500	0.0100
Benzo[a]anthracene	0.00500	0.0100
Benzo[a]pyrene	0.00500	0.0100
Benzo[b]fluoranthene	0.00500	0.0100
Benzo[e]pyrene	0.00500	0.0100
Benzo[g,h,i]perylene	0.00500	0.0100
Benzo[j]fluoranthene	0.00500	0.0100
Benzo[k]fluoranthene	0.00500	0.0100
Chrysene	0.00500	0.0100
Dibenz[a,h]anthracene	0.00500	0.0100
Fluoranthene	0.00500	0.0100
Fluorene	0.00500	0.0100
Indeno[1,2,3-cd]pyrene	0.00500	0.0100
Phenanthrene	0.00500	0.0100
Pyrene	0.00500	0.0100

TestNo: SW8270D-LL	MDL	MQL
Analyte	**mg/L**	**mg/L**
Acenaphthene	0.0000250	0.0000500
Acenaphthylene	0.0000250	0.0000500
Anthracene	0.0000250	0.0000500
Benzo[a]anthracene	0.0000250	0.0000500
Benzo[a]pyrene	0.0000250	0.0000500
Benzo[b]fluoranthene	0.0000250	0.0000500
Benzo[e]pyrene	0.0000250	0.0000500
Benzo[g,h,i]perylene	0.0000250	0.0000500
Benzo[j]fluoranthene	0.0000250	0.0000500
Benzo[k]fluoranthene	0.0000250	0.0000500
Chrysene	0.0000250	0.0000500
Dibenz[a,h]anthracene	0.0000250	0.0000500
Fluoranthene	0.0000250	0.0000500
Fluorene	0.0000250	0.0000500
Indeno[1,2,3-cd]pyrene	0.0000250	0.0000500
Phenanthrene	0.0000250	0.0000500
Pyrene	0.0000250	0.0000500

Qualifiers: MQL -Method Quantitation Limit as defined by TRRP
MDL -Method Detection Limit as defined by TRRP

GCMS6
For

DHL Work Order
1605074

GCMS6_160515A
For

DHL Work Order
1605074

Lab Data Review Check List
EPA Method 8270 / 625 - PAH: Polynuclear Aromatic Hydrocarbons

Project Number(s): SEE RUN LOG.	**Run ID: GCMS6_160515A**
Batch Number(s): SEE RUN LOG.	**SOP:** ORGANICS-PAH-01
Matrix: SEE RUN LOG.	

Review Item	Yes	No	N/A	2nd Level Review
Data Folder Contents 1. Is the Prep Batch Report included? Check and record the following: ***Prep Start/End Dates, Sample Amounts, Bottle #s***	X			x
2. Are the reagents and spikes listed on the Prep Batch Report current with a valid expiration date? ***All standard/QC sample preparations shall be documented in LIMS***	X			
3. Is the Run Log and instrument sequence included? ***Check the Test Code, Sample Type, Batch ID, and Analysis Date/Time***	X			
4. Is the System Verification - Tune Report included? ***Date/Tme of Tune starts 12-hour analysis window***	X			
5. Is the Evaluate Continuing Calibration Report included?	X			

Daily Demonstration of Performance

QC items that do not meet method/SOP/project requirements will be described on the run log. All variances that impact data quality will be described in the Variance/Comment Section on page 2.

Review Item	Frequency	Limits	Pass	Fail (List Batch/Sample) **See Run Log**	2nd Level Review
Tune	Before ICAL Every 12 hours	See Tune Eval Report	X		x
Resolution Check - Benzo(b) and Benzo(k)phenanthrene	Before ICAL Every 12 hours	Benzo(b) and Benzo(k) Valley > 50%	X		
Initial Calibration Curve (ICAL) (minimum: 5 Standards)	Prior to samples and when ICV fails	Avg. RF - %RSD ≤ 15% Curve (COD) - R^2 ≥ 0.990	X		
SSCV - (Second Source)	After calibration (ICAL)	80-120%	X		
ICV - (Daily Initial Cal Verification)	Every 12 hours	ISTDs Area% (50-200%) Surrogates %R (See LIMS) Analytes %R (80-120%)	X		

Review Item	Frequency	Limits	Pass	Fail	N/A	Review
Method Blank (MB) System Blank (SYS Blank)	Every Batch (MB) Daily (SYS BL)	< MDL / <½ RL (DoD) or <1/10 the sample/reg limit	X			x
Lab Control Sample (LCS)	Every Batch	See LIMS	X			
Lab Control Sample Dup (LCSD)	Insufficient sample Sample Matrix	See LIMS			X	
LCSD - RPD	Every LCS/LCSD	≤ 30 (Aq/Soil/DoD)			X	
Field Samples	Up to 20 per prep batch	ISTDs Area% (50-200%) Surrogates %R (See LIMS) RRT ± 0.06 RRT Standard Q value > 70 - check for #	X			
Matrix Spike (MS)	Every Batch/20 samples	See LIMS	X			
Matrix Spike Duplicate (MSD) (MSD is N/A for Method 625)	Every Prep Batch except Method 625	See LIMS	X			
MSD - RPD (MSD is N/A for Method 625)	Every MS/MSD except Method 625	≤ 30 (Aq/Soil/DoD)	X			

Lab Data Review Check List
EPA Method 8270 / 625 - PAH: Polynuclear Aromatic Hydrocarbons

Review Item	Criteria	Yes	No	N/A	2nd Level Review
Sample Analysis 1. Are all sample hold times met?	7 days (Aq) - extraction			X	
	14 days (Soil) - extraction	X			
	40 days analysis	X			
2. Are all manual integrations signed (Before & After) and printouts included ? Put in LIMS Comment Section ***Include MI form for DoD work***	Before & After - signed Comment Section in LIMS MI Form - DoD only			X	x
3. Are all samples with concentrations > the highest standard used for calibration diluted and reanalyzed?	> highest standard	X			
Review Item #3 is N/A ONLY if all sample results are within Calibration range or NO if dilution is in different folder					
4. Is mass spectra reviewed/verified if Q value is <70 and/or # flag for results >MDL?	Q value <70 - All hits	X			x
5. Are ALL reported analytes > MDL (+ J flags) circled by the analyst?		X	**Return to analyst if NO**		
VARIANCE REPORT					
QC items that do not meet method/SOP/project requirements will be described on the run log. All variances that impact data quality will be described in this section.					
NON-CONFORMANCES / VARIANCE 1. Are all non-conformances included and noted?	All deviations from the method and SOP that affect data quality	X			x
2. Are all corrective actions included?				X	
3. Does the variance require approval by the Technical Director/General Manager/QA Manager?				X	

Approved by: Date:

Description and Corrective Actions of QC items that do not meet method/SOP/project requirements:

****INCLUDE VARIANCE ITEM / REASON / CORRECTIVE ACTION / IMPACT ON DATA****

VARIANCE ITEM	REASON	CORRECTIVE ACTION
___ Hold Time exceeded (7D/14D-Ext/40D-Analysis)	___ Sample Received out of HT	___ Reanalyze QC to confirm
___ ICV out of control (±20%)	___ Carryover from previous run	___ Recalibrate
___ MB/SYS BL out of control (> MDL / >½ RL)	___ Cross contamination	___ Reprep/Reanalyze sample
___ LCS ___ LCSD out of control (See LIMS)	___ Lab Artifact	___ Reprep/Reanalyze Batch
___ RPD out of control for LCS/LCSD (>30)	___ Prep Spike error (describe)	___ Reanalyze Batch/Sample/QC
___ MS ___ MSD out of control (See LIMS)	___ High Levels of target analytes	___ Verify H2O/reagents are clean
___ RPD out of control for MS/MSD (>30)	___ High Levels of non-targets	___ Reanalyze sample to confirm
___ Internal Standard(s) out of control	___ Insufficient sample for QC	___ Sample results ND w/ dilution
___ Multiple Surrogates out of control	___ Prep Error	___ Client notified and approved
___ No MS/MSD prepared - LCS/LCSD used instead	___ Analytical Error	___ Flag data / Case narrative
___ Missing QC (other than MS/MSD)	___ Client Request	___ Instrument Maintenance
___ QC sample(s) was mis-spiked	___ Other (describe below)	___ Accept data
___ Other (describe below)		

___ Cannot reanalyze (HT out/Lack of Sample)

General Comments and Impact on Data:

see run log.

Analyst: Karyn Lane Don Winston Date: 5/17/2016 10:16

Second-Level Review: Janice Whitt Date: 5/23/2016

REVIEWED BY
By Janice Whitt at 11:45:49 AM, 5/23/2016

DHL Analytical, Inc.

Run ID: GCMS6_160515A **Run No.:** 85829

Analytical Run Date: 5/15/2016 **InstrumentID:** GCMS6

Analyst: Don Winston **Column:** Agilent (J&W) DB-EUPAH (20m x 0.18mmI

Calibration ID: 651 **Column ID:** 0.18mm

Column Length: 20m

SampID	DF	TestCode	SampType	Batch ID	Analysis Date/Time	Q	Comments
DFTPP-160515	1	PAH_LL_SDOD1	TUNE	R85829	5/15/2016 11:18:00 AM		
ICV-160515	1	PAH_LL_SDOD1	ICV	R85829	5/15/2016 11:55:00 AM		
LCS-75113	1	PAH_LL_SDOD1	LCS	75113	5/15/2016 12:35:00 PM		
MB-75113	1	PAH_LL_SDOD1	MBLK	75113	5/15/2016 1:15:00 PM		
1605071-50A	10	PAH_LL_SDOD1	SAMP	75113	5/15/2016 1:55:00 PM		All samples in this batch run at 10x - detection limit is sufficient and is approved by project managers.
1605071-51A	10	PAH_LL_SDOD1	SAMP	75113	5/15/2016 2:35:00 PM		
1605071-52A	10	PAH_LL_SDOD1	SAMP	75113	5/15/2016 3:15:00 PM		
1605071-53A	10	PAH_LL_SDOD1	SAMP	75113	5/15/2016 3:55:00 PM		
1605071-54A	10	PAH_LL_SDOD1	SAMP	75113	5/15/2016 4:34:00 PM		
1605074-01A	10	PAH_LL_SDOD1	SAMP	75113	5/15/2016 5:13:00 PM		
1605074-02A	20	PAH_LL_SDOD1	SAMP	75113	5/15/2016 5:53:00 PM		
1605074-03A	10	PAH_LL_SDOD1	SAMP	75113	5/15/2016 6:32:00 PM		
1605074-04A	10	PAH_LL_SDOD1	SAMP	75113	5/15/2016 7:12:00 PM		
1605074-05A	10	PAH_LL_SDOD1	SAMP	75113	5/15/2016 7:52:00 PM		
1605074-06A	100	PAH_LL_SDOD1	SAMP	75113	5/15/2016 8:33:00 PM		
1605071-53AMS	10	PAH_LL_SDOD1	MS	75113	5/15/2016 9:12:00 PM		
1605071-53AMSD	10	PAH_LL_SDOD1	MSD	75113	5/15/2016 9:52:00 PM		
DFTPP2-160515	1	PAH_LL_SDOD1	TUNE	R85829	5/15/2016 10:31:00 PM		
ICV2-160515	1	PAH_LL_SDOD1	ICV	R85829	5/15/2016 11:08:00 PM		Indeno(1,2,3-cd)pyrene low. DNR this analyte from the remainder of run - see rerun on GCMS8_160516A.
SB-160515	1	PAH_LL_SDOD1	SBLK	75113	5/16/2016 12:27:00 AM		
1605074-07A	20	PAH_LL_SDOD1	SAMP	75113	5/16/2016 1:07:00 AM		Used bigger dilution due to extract color.
1605074-08A	10	PAH_LL_SDOD1	SAMP	75113	5/16/2016 1:47:00 AM		
1605074-09A	10	PAH_LL_SDOD1	SAMP	75113	5/16/2016 2:27:00 AM		
1605074-10A	50	PAH_LL_SDOD1	SAMP	75113	5/16/2016 3:08:00 AM		Used bigger dilution due to extract color.
1605074-11A	20	PAH_LL_SDOD1	SAMP	75113	5/16/2016 3:48:00 AM		Used bigger dilution due to extract color.
1605074-12A	10	PAH_LL_SDOD1	SAMP	75113	5/16/2016 4:28:00 AM		
1605074-14A	10	PAH_LL_SDOD1	SAMP	75113	5/16/2016 5:07:00 AM		
1605074-15A	10	PAH_LL_SDOD1	SAMP	75113	5/16/2016 5:46:00 AM		

Std ID	Std Name	Type	Exp. Date
DFTPP160509	2.5 PPM 525 TUNE STD.	TUNE	05/07/2017
PAHCCV-160509	1 PPM PAH CCV STANDARD	CCV	08/07/2016
PAHICV160509	2 PPM PAH ICV	ICV	08/07/2016
SVI150810-08	4000 PPM INTERNAL STANDAR	ALL	07/21/2016

DHL Analytical, Inc.

Run ID: GCMS6_160515A **Run No.:** 85829

1605074-16A	10	PAH_LL_SDOD1	SAMP	75113	5/16/2016 6:26:00 AM		
CCV1-160515	1	PAH_LL_SDOD1	CCV	R85829	5/16/2016 7:06:00 AM		

Std ID	Std Name	Type	Exp. Date
DFTPP160509	2.5 PPM 525 TUNE STD.	TUNE	05/07/2017
PAHCCV-160509	1 PPM PAH CCV STANDARD	CCV	08/07/2016
PAHICV160509	2 PPM PAH ICV	ICV	08/07/2016
SVI150810-08	4000 PPM INTERNAL STANDAR	ALL	07/21/2016

Sequence Name: C:\HPCHEM\1\SEQUENCE\160515.S
Comment:
Operator:
Data Path: C:\HPCHEM\1\DATA\160515\
Pre-Seq Cmd:
Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line	Type	Vial	DataFile	Method	Sample Name
1	Sample	1	16051501	DFTPPPAH	DFTPP-160515
2	Sample	2	16051502	PP160421	ICV-160515
3	Sample	3	16051503	PP160421	LCS-75113
4	Sample	4	16051504	PP160421	MB-75113
5	Sample	5	16051505	PP160421	1605071-50A
6	Sample	6	16051506	PP160421	1605071-51A
7	Sample	7	16051507	PP160421	1605071-52A
8	Sample	8	16051508	PP160421	1605071-53A
9	Sample	9	16051509	PP160421	1605071-54A
10	Sample	10	16051510	PP160421	1605074-01A
11	Sample	11	16051511	PP160421	1605074-02A
12	Sample	12	16051512	PP160421	1605074-03A
13	Sample	13	16051513	PP160421	1605074-04A
14	Sample	14	16051514	PP160421	1605074-05A
15	Sample	15	16051515	PP160421	1605074-06A
16	Sample	16	16051516	PP160421	1605071-53AMS
17	Sample	17	16051517	PP160421	1605071-53AMSD
18	Sample	18	16051518	DFTPPPAH	DFTPP2-160515
19	Sample	19	16051519	PP160421	ICV2-160515
20	Sample	20	16051520	PP160421	SBLK
21	Sample	21	16051521	PP160421	SB-160515
22	Sample	22	16051522	PP160421	1605074-07A
23	Sample	23	16051523	PP160421	1605074-08A
24	Sample	24	16051524	PP160421	1605074-09A
25	Sample	25	16051525	PP160421	1605074-10A
26	Sample	26	16051526	PP160421	1605074-11A
27	Sample	27	16051527	PP160421	1605074-12A
28	Sample	28	16051528	PP160421	1605074-14A
29	Sample	29	16051529	PP160421	1605074-15A
30	Sample	30	16051530	PP160421	1605074-16A
31	Sample	31	16051531	PP160421	CCV1-160515

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/11/2016 1:33:32 PM**
Digestion:
Prep End Date: **5/11/2016 4:20:00 PM**

Prep Batch **75113** Prep Code: **3550_PAHDOD** Technician: **Duston Bezner**

Prep Factor Units: **mL/g**

Equipment List

Turbo-Vap # 1,2,3
Balance # 25
Sonicators # 1,2,3,4

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605071-50A	Soil		10.11	10	0.989	1 of 1	
1605071-51A	Soil		10.3	10	0.971	1 of 1	
1605071-52A	Soil		10.05	10	0.995	1 of 1	
1605071-53A	Soil		10.02	10	0.998	3 of 3	
1605071-53AMS	Soil		10.08	10	0.992	31 of	
1605071-53AMSD	Soil		10.02	10	0.998	2 of	
1605071-54A	Soil		10.04	10	0.996	1 of 1	
1605074-01A	Soil		10.07	10	0.993	1 of 1	
1605074-02A	Soil		10	10	1.000	1 of 1	
1605074-03A	Soil		10.01	10	0.999	1 of 1	
1605074-04A	Soil		10.35	10	0.966	1 of 1	
1605074-05A	Soil		10.07	10	0.993	1 of 1	
1605074-06A	Soil		10.15	10	0.985	1 of 1	
1605074-07A	Soil		10.05	10	0.995	1 of 1	
1605074-08A	Soil		10.3	10	0.971	1 of 1	
1605074-09A	Soil		10.05	10	0.995	1 of 1	
1605074-10A	Soil		10.01	10	0.999	1 of 1	
1605074-11A	Soil		10.04	10	0.996	1 of 1	
1605074-12A	Soil		10.85	10	0.922	1 of 1	
1605074-14A	Soil		10.11	10	0.989	1 of 1	
1605074-15A	Soil		10.02	10	0.998	1 of 1	
1605074-16A	Soil		10.06	10	0.994	1 of 1	
LCS-75113	Soil		10	10	1.000	of	
MB-75113	Soil		10	10	1.000	of	

Number	Reagent Name	Amt	Units	Exp. Da
9927	purified sodium sulfate	10	g	07/04/2016
10169	Methylene Chloride	8	ml	03/15/2026
10214	Whatman 41 Filter	1	filter	03/30/2026
10343	1:1 MeCl2/Acetone	120	ml	05/09/2026

Spk ID	Spike Name	SampType	Amt (mL or g)	Exp. Date
PAHPREP160509	200 PPM PAH Spike Mix	LCS/MS/MSD	0.05	11/07/2016
SVPREP160510	40 PPM Surrogate Standard	ALL	0.25	08/08/2016

REVIEWED BY
By Janice Whitt at 11:21:40 AM, 5/23/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/11/2016 1:33:32 PM**
Digestion:
Prep End Date: 5/11/16 4:20PM

Prep Batch **75113** Prep Code: **3550_PAHDOD** Technician: **Duston Bezner**

Prep Factor Units: **mL/g**

Equipment List
Turbo-Vap # 1,2,3
Balance # 25
Sonicators # 1,2,3,4

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605071-50A	Soil		10	10 .11	1.000	1 of 1	
1605071-51A	Soil		10	10 .30	1.000	1 of 1	
1605071-52A	Soil		10	10 .05	1.000	1 of 1	
1605071-53A	Soil		10	10 .02	1.000	3 of 3	
1605071-53AMS	Soil		10	~~10 .04~~	1.000	3,1 of .08	
1605071-53AMSD	Soil		10	~~10 .65~~	1.000	~~.012~~ of .02	
1605071-54A	Soil		10	10 .04	1.000	1 of 1	
1605074-01A	Soil		10	10 .07	1.000	1 of 1	
1605074-02A	Soil		10	10 .00	1.000	1 of 1	
1605074-03A	Soil		10	10 .01	1.000	1 of 1	
1605074-04A	Soil		10	10 .35	1.000	1 of 1	
1605074-05A	Soil		10	10 .07	1.000	1 of 1	
1605074-06A	Soil		10	10 .15	1.000	1 of 1	
1605074-07A	Soil		10	10 .05	1.000	1 of 1	
1605074-08A	Soil		10	10 .30	1.000	1 of 1	
1605074-09A	Soil		10	10 .05	1.000	1 of 1	
1605074-10A	Soil		10	10 .01	1.000	1 of 1	
1605074-11A	Soil		10	10 .04	1.000	1 of 1	
1605074-12A	Soil		10	10 .55	1.000	1 of 1	
1605074-14A	Soil		10	10 .11	1.000	1 of 1	
1605074-15A	Soil		10	10 .02	1.000	1 of 1	
1605074-16A	Soil		10	10 .06	1.000	1 of 1	
LCS-75113	Soil		10	10	1.000	of	
MB-75113	Soil		10	10	1.000	of	

Number	Reagent Name	Amt	Units	Exp. Da
9927	purified sodium sulfate	10	g	07/04/2016
10169	Methylene Chloride	8	ml	03/15/2026
10214	Whatman 41 Filter	1	filter	03/30/2026
10343	1:1 MeCl2/Acetone	120	ml	05/09/2026

Spk ID	Spike Name	SampType	Amt (mL or g)	Exp. Date
PAHPREP160509	200 PPM PAH Spike Mix	LCS/MS/MSD	0.05	11/07/2016
SVPREP160510	40 PPM Surrogate Standard	ALL	0.25	08/08/2016

REVIEWED BY
By Janice Whitt at 11:21:38 AM, 5/23/2016

5/11/16 AK 5/11/16 5/11/16

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/6/2016 4:59:48 PM**
Digestion: **Start: 5/6/2016 5:30:00 PM / Stop: 5/9/2016 9:00:00 AM**
Prep End Date: **5/9/2016 5:00:00 PM**

Prep Factor Units: **mL/**

Prep Batch **74988** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker**

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605071-01A	Soil		0	0	#Num!	1 of 1	
1605071-02A	Soil		0	0	#Num!	1 of 1	
1605071-03A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605071-04A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605071-05A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605071-06A	Soil		0	0	#Num!	1 of 1	
1605071-07A	Soil		0	0	#Num!	1 of 1	
1605071-08A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605071-09A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605071-10A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605071-11A	Soil		0	0	#Num!	1 of 1	
1605071-12A	Soil		0	0	#Num!	1 of 1	
1605071-13A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605071-14A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605071-15A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605071-40A	Soil		0	0	#Num!	1 of 1	
1605071-41A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						

REVIEWED BY
By Janice Whitt at 11:21:45 AM, 5/23/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/6/2016 4:59:48 PM**
Digestion: **Start: 5/6/2016 5:30:00 PM / Stop: 5/9/2016 9:00:00 AM**
Prep End Date: **5/9/2016 5:00:00 PM**

Prep Batch **74988** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker**

Prep Factor Units: mL/

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #			Cleanup
1605071-42A	Soil		0	0	#Num!	1	of	1	
	Sieved only no subsampling - hard clay								
1605071-43A	Soil		0	0	#Num!	1	of	1	
	Sieved only no subsampling - hard clay								
1605071-44A	Soil		0	0	#Num!	1	of	1	
1605071-45A	Soil		0	0	#Num!	1	of	1	
1605071-46A	Soil		0	0	#Num!	1	of	1	
	Sieved only no subsampling - hard clay								
1605071-47A	Soil		0	0	#Num!	1	of	1	
	Sieved only no subsampling - hard clay								
1605071-48A	Soil		0	0	#Num!	1	of	1	
1605071-49A	Soil		0	0	#Num!	1	of	1	
1605071-50A	Soil		0	0	#Num!	1	of	1	
1605071-51A	Soil		0	0	#Num!	1	of	1	
	Sieved only no subsampling - hard clay								
1605071-52A	Soil		0	0	#Num!	1	of	1	
	Sieved only no subsampling - hard clay								
1605071-53A	Soil		0	0	#Num!		of	3	
	Extra sample was subsampled for MS/MSD								
1605071-54A	Soil		0	0	#Num!	1	of	1	

REVIEWED BY
By Janice Whitt at 11:21:48 AM, 5/23/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/9/2016 9:45:00 AM**
Digestion: **Start: 5/9/2016 11:00:00 AM / Stop: 5/10/2016 10:00:00 AM**
Prep End Date: **5/10/2016 7:00:00 PM**

Prep Factor Units: **mL/**

Prep Batch **75016** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker**

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605074-01A	Soil		0	0	#Num!	1 of 1	
1605074-02A	Soil		0	0	#Num!	1 of 1	
1605074-03A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subdampling - hard clay						
1605074-04A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subdampling - hard clay						
1605074-05A	Soil		0	0	#Num!	1 of 1	
1605074-06A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605074-07A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605074-08A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605074-09A	Soil		0	0	#Num!	1 of 1	
1605074-10A	Soil		0	0	#Num!	1 of 1	
1605074-11A	Soil		0	0	#Num!	1 of 1	
	Sieved only no sub sampling - hard clay						
1605074-12A	Soil		0	0	#Num!	1 of 1	
	Sieved only no sub sampling - hard clay						
1605074-13A	Soil		0	0	#Num!	of 3	
	Extra subsampled for MS/MSD						
1605074-14A	Soil		0	0	#Num!	1 of 1	
1605074-15A	Soil		0	0	#Num!	1 of 1	
1605074-16A	Soil		0	0	#Num!	1 of 1	
1605074-17A	Soil		0	0	#Num!	1 of 1	
1605074-18A	Soil		0	0	#Num!	1 of 1	
1605074-19A	Soil		0	0	#Num!	1 of 1	

REVIEWED BY
By Janice Whitt at 11:22:20 AM, 5/23/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/9/2016 9:45:00 AM**
Digestion: **Start: 5/9/2016 11:00:00 AM / Stop: 5/10/2016 10:00:00 AM**
Prep End Date: **5/10/2016 7:00:00 PM**

Prep Factor Units: mL/

Prep Batch **75016** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker**

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605074-20A	Soil		0	0	#Num!	1 of 1	
1605074-21A	Soil		0	0	#Num!	1 of 1	
1605074-22A	Soil		0	0	#Num!	1 of 1	
1605074-23A	Soil		0	0	#Num!	1 of 1	
1605074-24A	Soil		0	0	#Num!	1 of 1	
1605074-25A	Soil		0	0	#Num!	1 of 1	
1605074-26A	Soil		0	0	#Num!	of 3	
	Extra subsampled for MS/MSD						
1605074-27A	Soil		0	0	#Num!	1 of 1	
1605074-36A	Soil		0	0	#Num!	1 of 1	
1605074-37A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605074-38A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605074-39A	Soil		0	0	#Num!	1 of 1	
1605074-40A	Soil		0	0	#Num!	1 of 1	
1605074-41A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605074-42A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605074-43A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605074-44A	Soil		0	0	#Num!	of 3	
	Extra subsampled for MS/MSD						
1605074-45A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						

REVIEWED BY
By Janice Whitt at 11:22:22 AM, 5/23/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/9/2016 9:45:00 AM**
Digestion: **Start: 5/9/2016 11:00:00 AM / Stop: 5/10/2016 10:00:00 AM**
Prep End Date: **5/10/2016 7:00:00 PM**

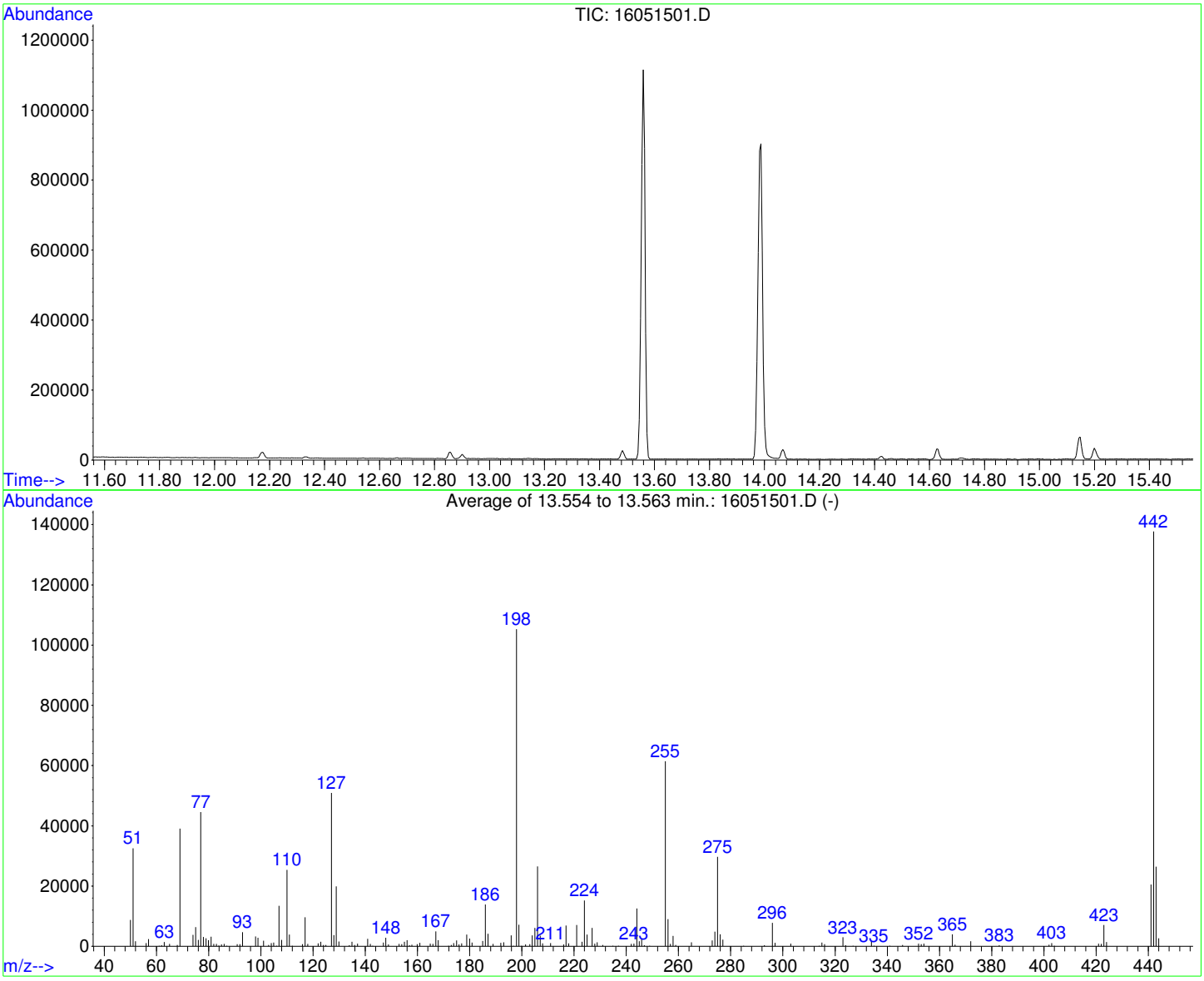
Prep Factor Units: mL/

Prep Batch **75016** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker**

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605074-46A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605074-47A	Soil		0	0	#Num!	1 of 1	

REVIEWED BY
By Janice Whitt at 11:22:23 AM, 5/23/2016

Data File : C:\HPCHEM\1\DATA\160515\16051501.D Vial: 1
Acq On : 15 May 2016 11:18 am Operator:
Sample : DFTPP-160515 Inst : GC/MS #6
Misc : TUNE Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : C:\HPCHEM\1\METHODS\DFTPPPAH.M (RTE Integrator)
Title : PAH Calibration

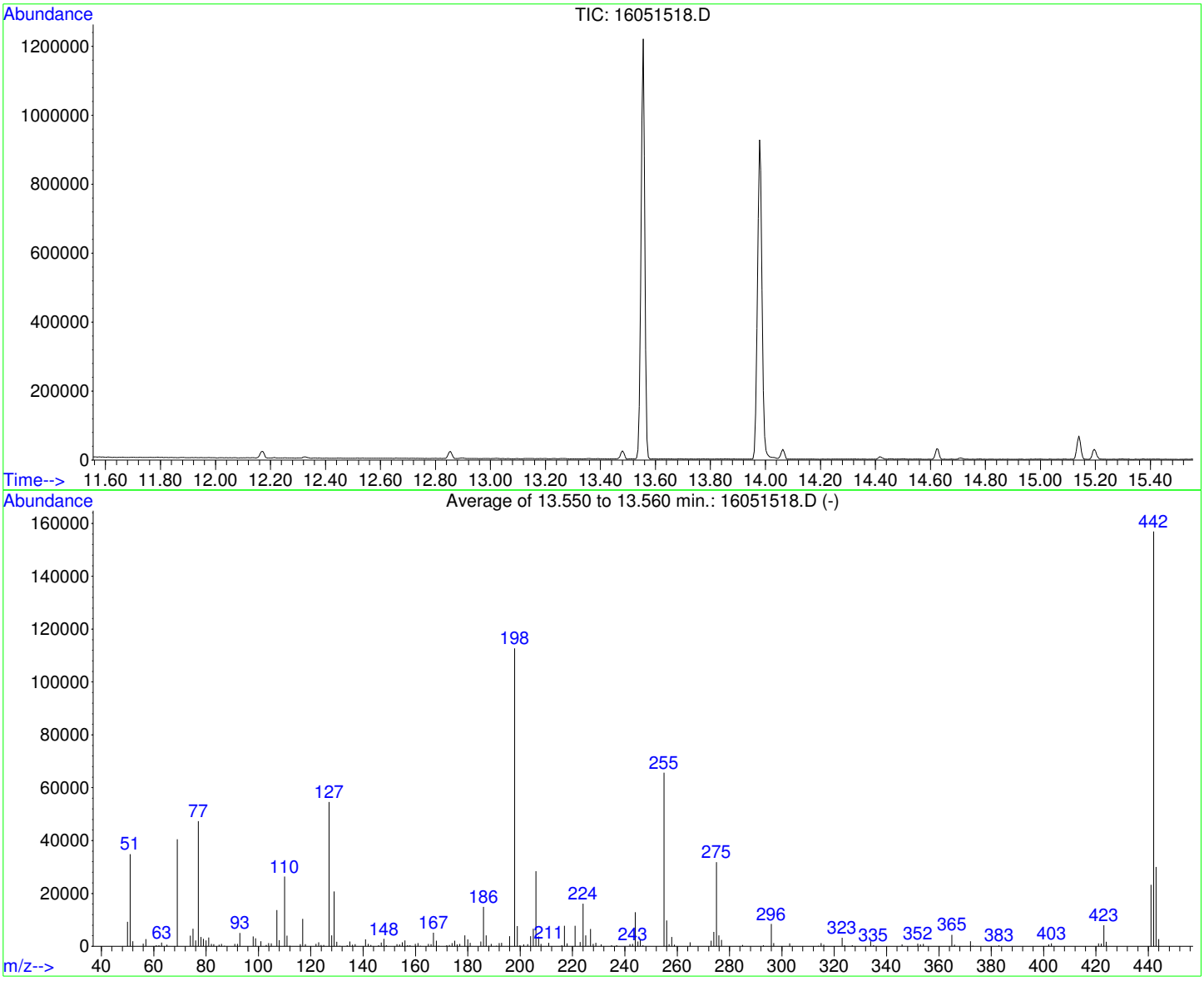


AutoFind: Scans 1587, 1588, 1589; Background Corrected with Scan 1581

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	30.9	32573	PASS
68	69	0.00	2	1.2	453	PASS
69	198	0.00	100	37.1	39056	PASS
70	69	0.00	2	0.0	0	PASS
127	198	10	80	48.4	50923	PASS
197	198	0.00	2	0.2	201	PASS
198	198	100	100	100.0	105280	PASS
199	198	5	9	6.8	7176	PASS
275	198	10	60	28.2	29683	PASS
365	198	1	200	3.8	3978	PASS
441	442	0.01	24	14.9	20502	PASS
442	198	50	400	130.8	137747	PASS
443	442	15	24	19.2	26483	PASS

REVIEWED BY
By Janice Whitt at 11:22:27 AM, 5/23/2016

Data File : C:\HPCHEM\1\DATA\160515\16051518.D Vial: 18
Acq On : 15 May 2016 10:31 pm Operator:
Sample : DFTPP2-160515 Inst : GC/MS #6
Misc : TUNE Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : C:\HPCHEM\1\METHODS\DFTPPPAH.M (RTE Integrator)
Title : PAH Calibration



AutoFind: Scans 1587, 1588, 1589; Background Corrected with Scan 1580

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	30.9	34869	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	36.0	40536	PASS
70	69	0.00	2	0.0	0	PASS
127	198	10	80	48.5	54611	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	112707	PASS
199	198	5	9	6.8	7702	PASS
275	198	10	60	28.2	31835	PASS
365	198	1	200	3.9	4390	PASS
441	442	0.01	24	14.8	23299	PASS
442	198	50	400	139.3	156976	PASS
443	442	15	24	19.1	30024	PASS

REVIEWED BY
By Janice Whitt at 11:22:29 AM, 5/23/2016

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160515\16051502.D Vial: 2
Acq On : 15 May 2016 11:55 am Operator:
Sample : ICV-160515 Inst : GC/MS #6
Misc : ICV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 16 10:27 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Initial Calibration
DataAcq Meth : PP160421

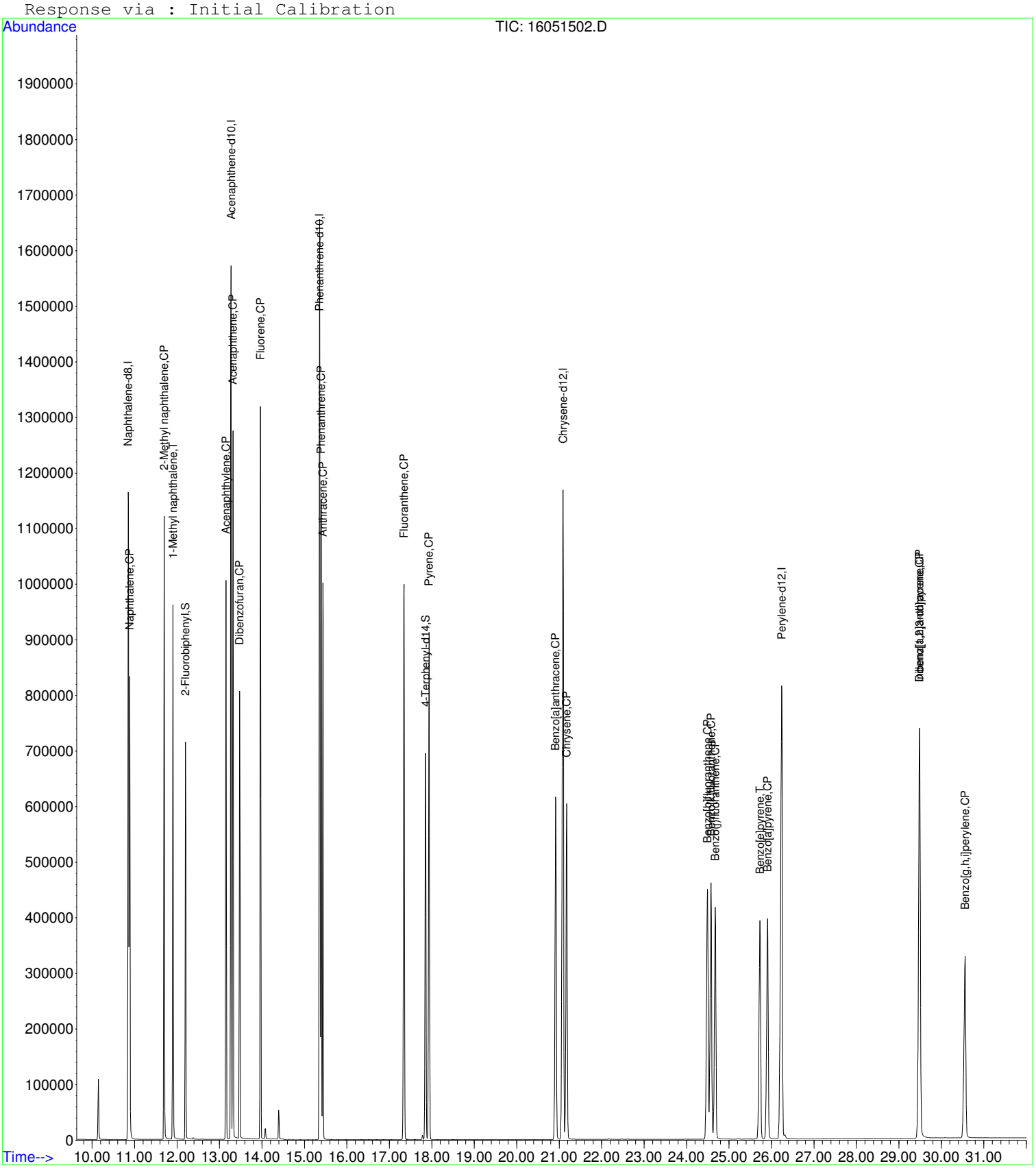
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1559906	4000.00	ug/kg	135
5) Acenaphthene-d10	13.27	164	931601	4000.00	ug/kg	81
11) Phenanthrene-d10	15.36	188	1834180	4000.00	ug/kg	90
17) Chrysene-d12	21.09	240	1997976	4000.00	ug/kg	88
20) Perylene-d12	26.24	264	1670078	4000.00	ug/kg	81
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.20	172	560852	2063.81	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	51.60%		
16) 4-Terphenyl-d14	17.85	244	894691	1885.41	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	47.14%		
Target Compounds						Qvalue
2) Naphthalene	10.89	128	769429	1971.93	ug/kg	100
3) 2-Methyl naphthalene	11.70	142	548577	1591.63	ug/kg	99
4) 1-Methyl naphthalene	11.91	142	490713	1554.53	ug/kg	99
6) Dibenzofuran	13.47	168	695741	1992.65	ug/kg	99
8) Acenaphthylene	13.15	152	852664	2125.27	ug/kg	100
9) Acenaphthene	13.32	154	493978	1983.67	ug/kg	99
10) Fluorene	13.97	166	628973	2079.76	ug/kg	100
12) Phenanthrene	15.39	178	929106	1926.17	ug/kg	100
13) Anthracene	15.43	178	868136	1901.48	ug/kg	100
14) Fluoranthene	17.35	202	1008328	2020.05	ug/kg	99
15) Pyrene	17.94	202	1000789	1930.09	ug/kg	99
18) Benzo[a]anthracene	20.91	228	929197	1985.14	ug/kg	99
19) Chrysene	21.18	228	828111	1831.07	ug/kg	100
21) Benzo[b]fluoranthene	24.49	252	899453	2043.40	ug/kg	99
22) Benzo[k]fluoranthene	24.58	252	823642	1994.65	ug/kg	99
23) Benzo(j)fluoranthene	24.68	252	732140	1990.43	ug/kg	100
24) Benzo[e]pyrene	25.73	252	751152	1905.50	ug/kg	98
25) Benzo[a]pyrene	25.91	252	767968	1906.44	ug/kg	99
26) Dibenz[a,h]anthracene	29.48	278	706306	1925.24	ug/kg	100
27) Indeno[1,2,3-cd]pyrene	29.49	276	823765	1882.21	ug/kg	95
28) Benzo[g,h,i]perylene	30.56	276	669956	1963.10	ug/kg	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160515\16051502.D Vial: 2
Acq On : 15 May 2016 11:55 am Operator:
Sample : ICV-160515 Inst : GC/MS #6
Misc : ICV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 16 10:27 2016 Quant Results File: PP160421.RES

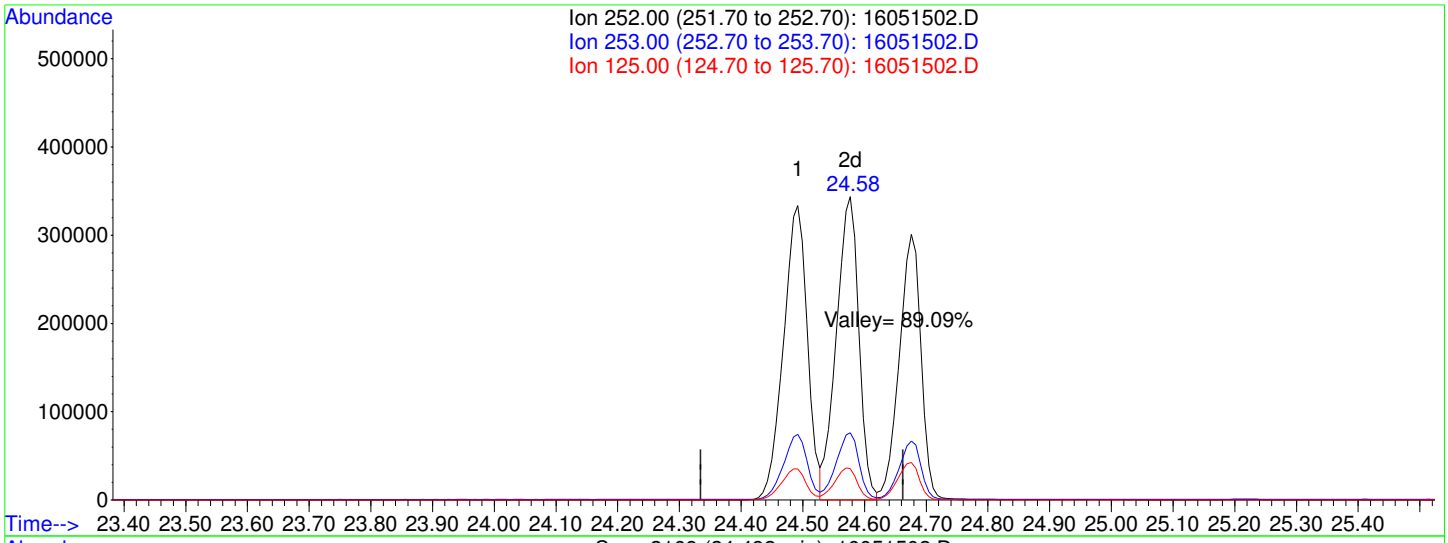
Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Initial Calibration

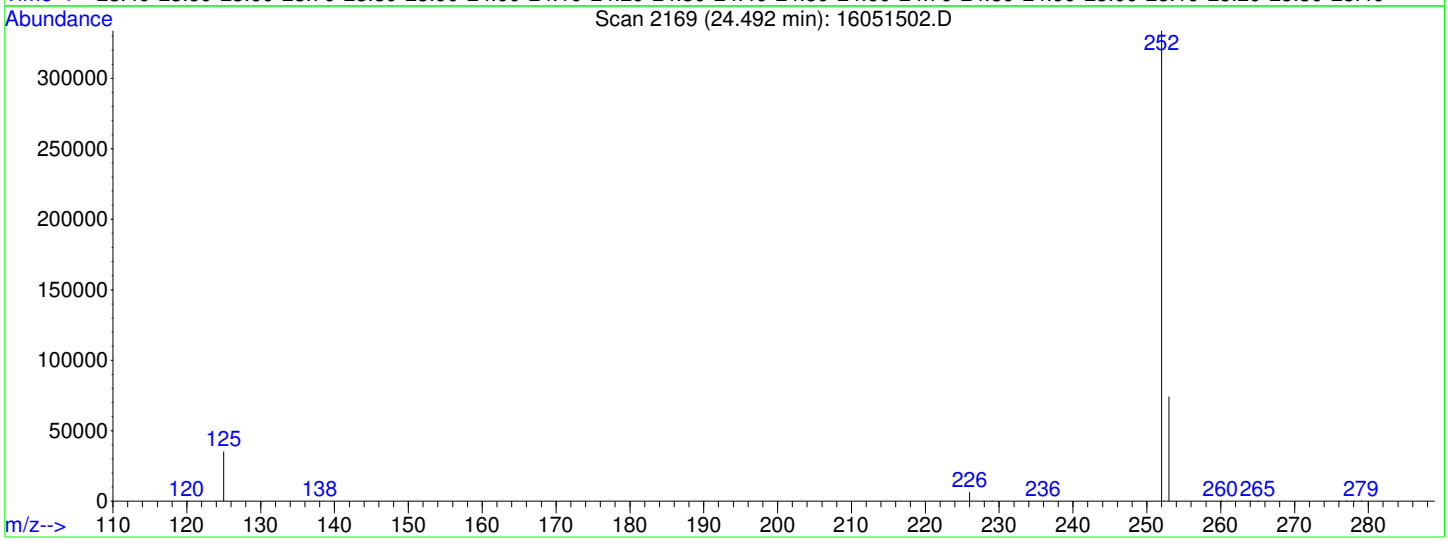


Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\160515\16051502.D Vial: 2
Acq On : 15 May 2016 11:55 am Operator:
Sample : ICV-160515 Inst : GC/MS #6
Misc : ICV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 15 12:27 2016 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Multiple Level Calibration





TIC: 16051502.D

(21) Benzo[b]fluoranthene (CP)

24.49min 2043.40ug/kg

response 899453

Ion	Exp%	Act%
252.00	100	100
253.00	22.20	22.09
125.00	11.00	10.56
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160515\16051503.D Vial: 3
Acq On : 15 May 2016 12:35 pm Operator:
Sample : LCS-75113 Inst : GC/MS #6
Misc : LCS Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 16 10:27 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Initial Calibration
DataAcq Meth : PP160421

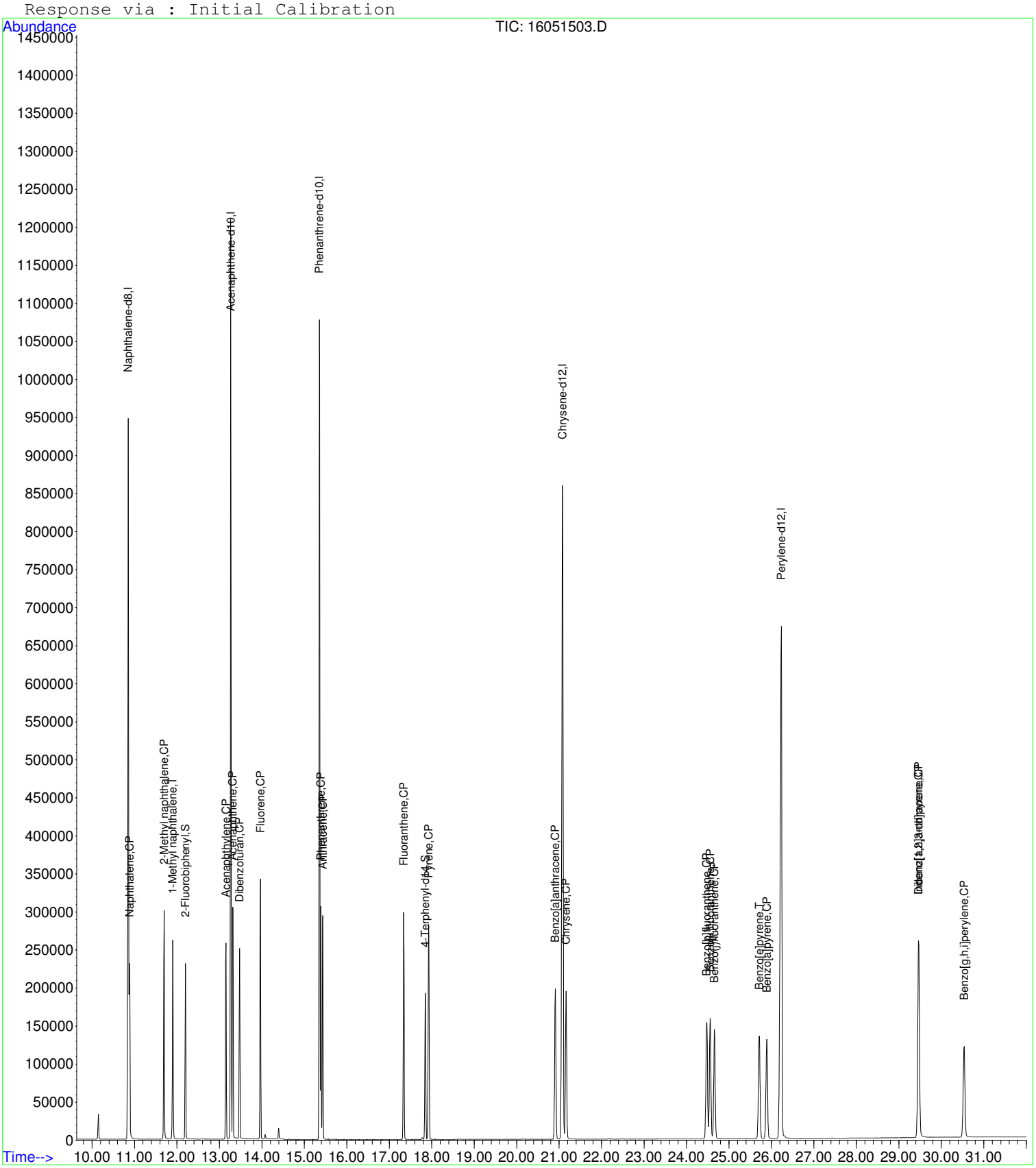
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.85	136	1214488	4000.00	ug/kg	105
5) Acenaphthene-d10	13.26	164	645100	4000.00	ug/kg	56
11) Phenanthrene-d10	15.35	188	1150135	4000.00	ug/kg	56
17) Chrysene-d12	21.08	240	1456725	4000.00	ug/kg	64
20) Perylene-d12	26.23	264	1301251	4000.00	ug/kg	63
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.20	172	173362	921.25	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	23.03%#		
16) 4-Terphenyl-d14	17.85	244	243247	817.47	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	20.44%#		
Target Compounds						Qvalue
2) Naphthalene	10.89	128	240731	792.43	ug/kg	100
3) 2-Methyl naphthalene	11.70	142	167430	623.94	ug/kg	99
4) 1-Methyl naphthalene	11.90	142	150397	611.95	ug/kg	91
6) Dibenzofuran	13.47	168	213677	883.78	ug/kg	99
8) Acenaphthylene	13.16	152	249294	897.33	ug/kg	98
9) Acenaphthene	13.32	154	144697	839.12	ug/kg	97
10) Fluorene	13.97	166	178607	852.87	ug/kg	99
12) Phenanthrene	15.39	178	254739	842.21	ug/kg	99
13) Anthracene	15.43	178	254990	890.68	ug/kg	99
14) Fluoranthene	17.34	202	295477	944.01	ug/kg	99
15) Pyrene	17.93	202	296434	911.71	ug/kg	99
18) Benzo[a]anthracene	20.91	228	293202	859.14	ug/kg	99
19) Chrysene	21.16	228	265779	806.03	ug/kg	100
21) Benzo[b]fluoranthene	24.47	252	296785	865.35	ug/kg	100
22) Benzo[k]fluoranthene	24.56	252	278236	864.80	ug/kg	99
23) Benzo(j)fluoranthene	24.66	252	250094	872.63	ug/kg	100
24) Benzo[e]pyrene	25.72	252	263644	858.37	ug/kg	98
25) Benzo[a]pyrene	25.89	252	253795	808.61	ug/kg	99
26) Dibenz[a,h]anthracene	29.46	278	240483	841.30	ug/kg	99
27) Indeno[1,2,3-cd]pyrene	29.47	276	280181	821.64	ug/kg	93
28) Benzo[g,h,i]perylene	30.54	276	234060	880.24	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160515\16051503.D Vial: 3
Acq On : 15 May 2016 12:35 pm Operator:
Sample : LCS-75113 Inst : GC/MS #6
Misc : LCS Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 16 10:27 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160515\16051504.D Vial: 4
Acq On : 15 May 2016 1:15 pm Operator:
Sample : MB-75113 Inst : GC/MS #6
Misc : MBLK Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 16 10:28 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Initial Calibration
DataAcq Meth : PP160421

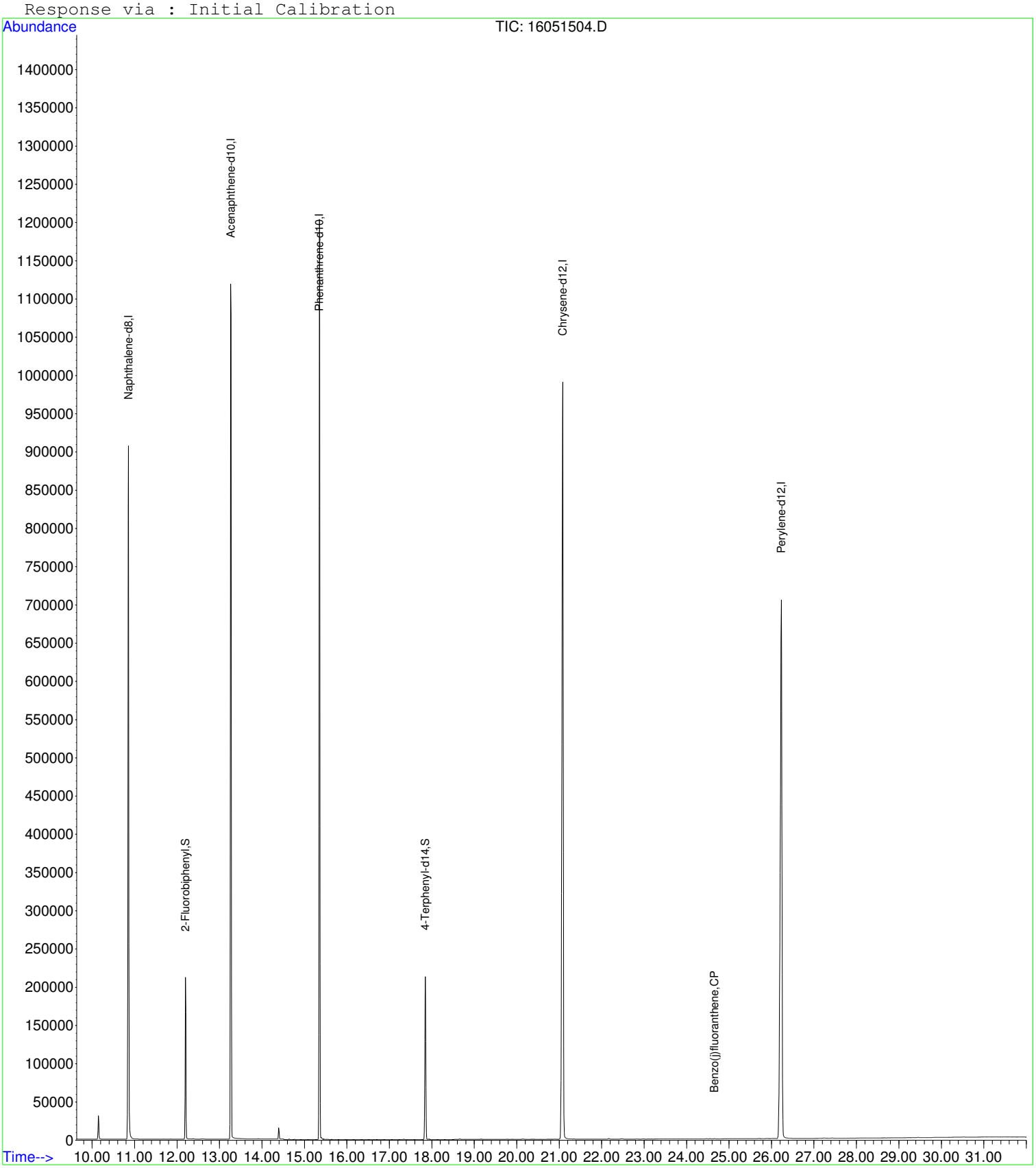
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1201488	4000.00	ug/kg	104
5) Acenaphthene-d10	13.27	164	673165	4000.00	ug/kg	58
11) Phenanthrene-d10	15.35	188	1284017	4000.00	ug/kg	63
17) Chrysene-d12	21.08	240	1608727	4000.00	ug/kg	71
20) Perylene-d12	26.23	264	1384091	4000.00	ug/kg	67
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.20	172	171746	874.61	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 21.87%#			
16) 4-Terphenyl-d14	17.85	244	272299	819.69	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 20.49%#			
Target Compounds						Qvalue
23) Benzo(j)fluoranthene	24.65	252	309	1.01	ug/kg	86

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160515\16051504.D Vial: 4
Acq On : 15 May 2016 1:15 pm Operator:
Sample : MB-75113 Inst : GC/MS #6
Misc : MBLK Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 16 10:28 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160515\16051510.D Vial: 10
Acq On : 15 May 2016 5:13 pm Operator:
Sample : 1605074-01A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 16 10:37 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Initial Calibration
DataAcq Meth : PP160421

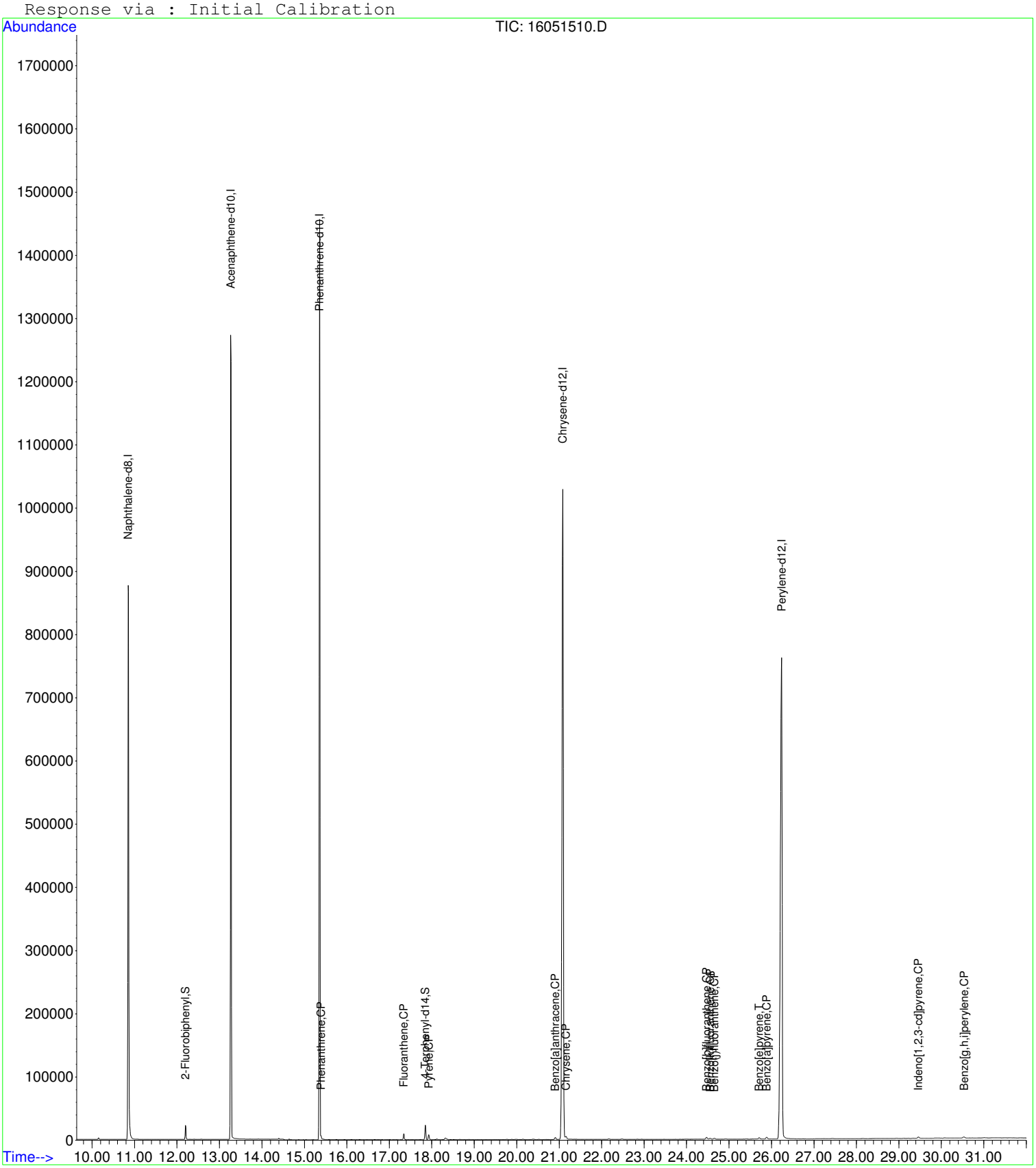
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1213647	4000.00	ug/kg	105
5) Acenaphthene-d10	13.27	164	769246	4000.00	ug/kg	67
11) Phenanthrene-d10	15.36	188	1538710	4000.00	ug/kg	75
17) Chrysene-d12	21.08	240	1711957	4000.00	ug/kg	75
20) Perylene-d12	26.24	264	1526500	4000.00	ug/kg	74
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.20	172	19206	85.59	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	2.14%#		
16) 4-Terphenyl-d14	17.85	244	29485	74.07	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.85%#		
Target Compounds						Qvalue
12) Phenanthrene	15.39	178	3533	8.73	ug/kg	99
14) Fluoranthene	17.34	202	9543	22.79	ug/kg	100
15) Pyrene	17.93	202	8553	19.66	ug/kg	98
18) Benzo[a]anthracene	20.91	228	4747	11.84	ug/kg	99
19) Chrysene	21.16	228	5519	14.24	ug/kg	97
21) Benzo[b]fluoranthene	24.47	252	5747	14.28	ug/kg	97
22) Benzo[k]fluoranthene	24.56	252	2718	7.20	ug/kg	94
23) Benzo(j)fluoranthene	24.65	252	2532	7.53	ug/kg	92
24) Benzo[e]pyrene	25.71	252	3977	11.04	ug/kg	96
25) Benzo[a]pyrene	25.88	252	5246	14.25	ug/kg	95
27) Indeno[1,2,3-cd]pyrene	29.46	276	3512	8.78	ug/kg	91
28) Benzo[g,h,i]perylene	30.54	276	3416	10.95	ug/kg	96

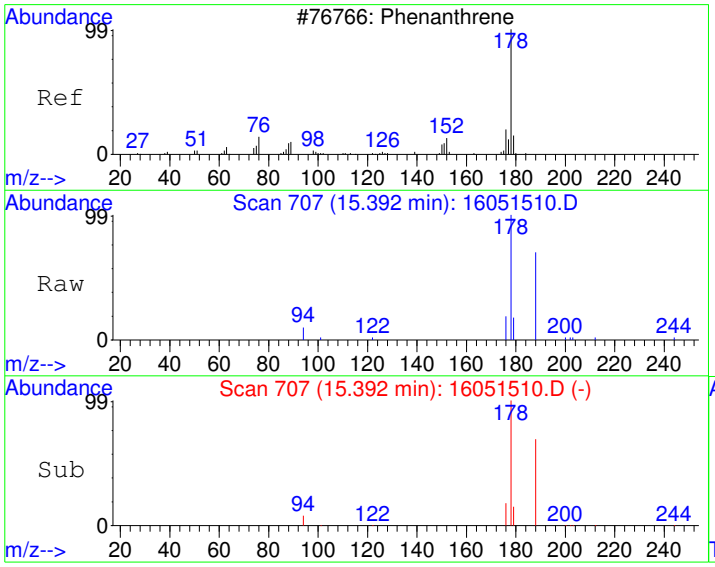
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160515\16051510.D Vial: 10
Acq On : 15 May 2016 5:13 pm Operator:
Sample : 1605074-01A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 16 10:37 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Initial Calibration

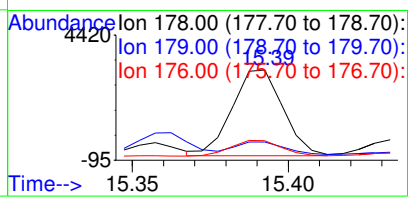


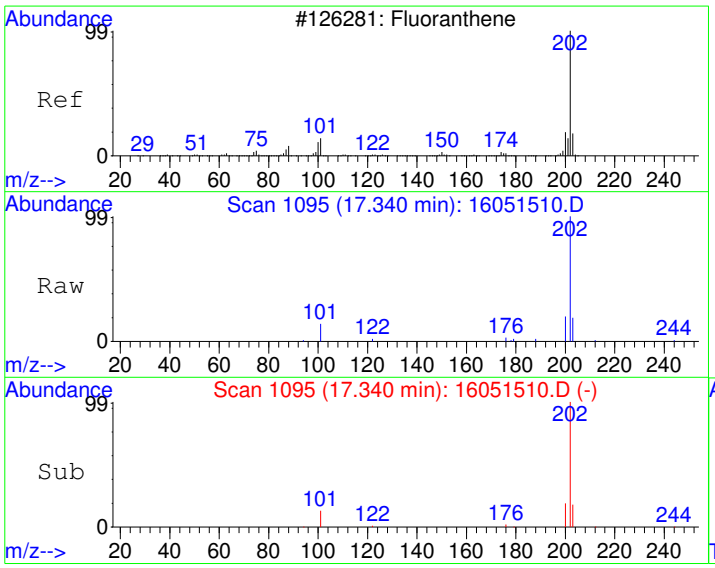


#12
Phenanthrene
Concen: 8.73 ug/kg
RT: 15.39 min Scan# 707
Delta R.T. -0.00 min
Lab File: 16051510.D
Acq: 15 May 2016 5:13 pm

Tgt Ion:178 Resp: 3533

Ion	Ratio	Lower	Upper
178	100		
179	15.0	0.0	45.9
176	18.2	0.0	48.5

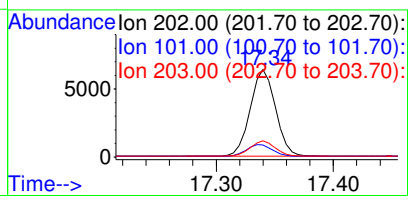


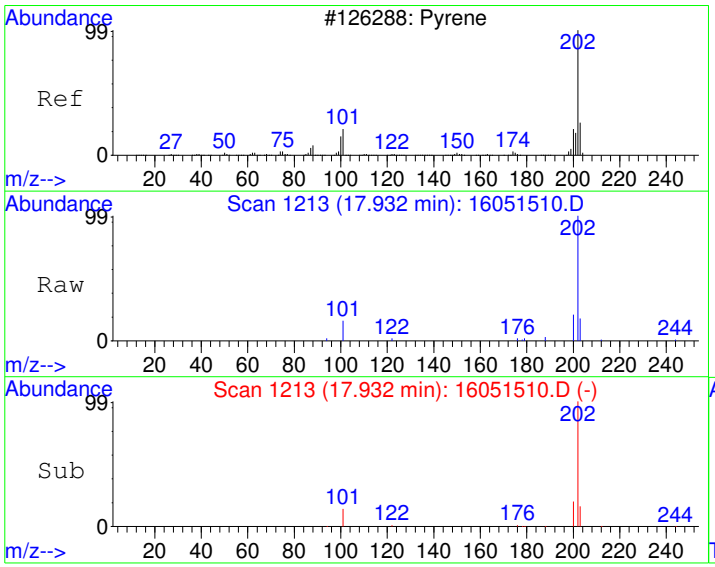


#14
Fluoranthene
Concen: 22.79 ug/kg
RT: 17.34 min Scan# 1095
Delta R.T. -0.01 min
Lab File: 16051510.D
Acq: 15 May 2016 5:13 pm

Tgt Ion:202 Resp: 9543

Ion	Ratio	Lower	Upper
202	100		
101	13.2	0.0	43.0
203	17.7	0.0	47.9

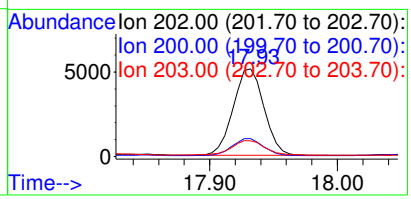


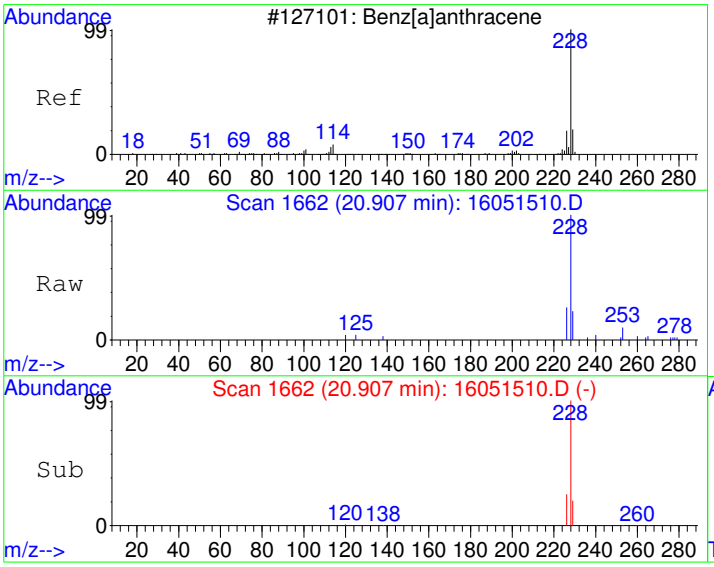


#15
Pyrene
Concen: 19.66 ug/kg
RT: 17.93 min Scan# 1213
Delta R.T. -0.01 min
Lab File: 16051510.D
Acq: 15 May 2016 5:13 pm

Tgt Ion:202 Resp: 8553

Ion	Ratio	Lower	Upper
202	100		
200	19.7	0.0	50.0
203	16.8	0.0	48.0

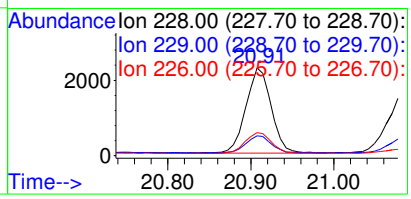


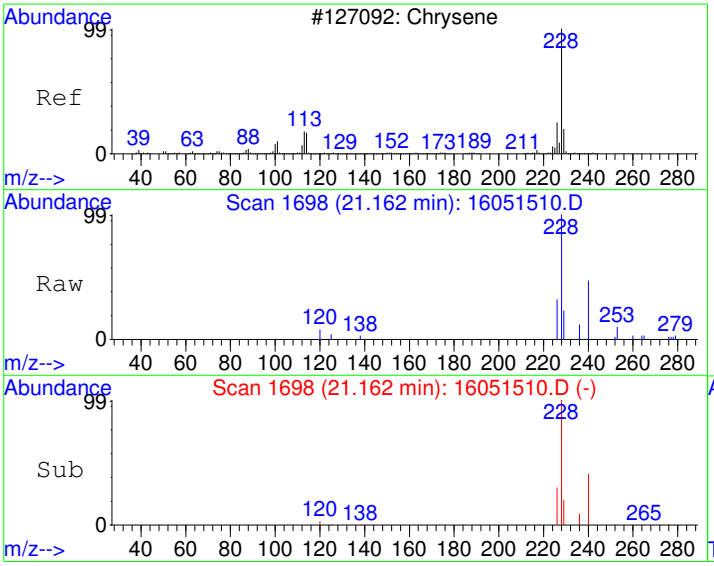


#18
Benzo[a]anthracene
Concen: 11.84 ug/kg
RT: 20.91 min Scan# 1662
Delta R.T. -0.01 min
Lab File: 16051510.D
Acq: 15 May 2016 5:13 pm

Tgt Ion:228 Resp: 4747

Ion	Ratio	Lower	Upper
228	100		
229	20.1	0.0	50.1
226	24.6	0.0	55.2

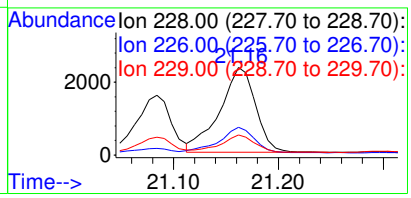


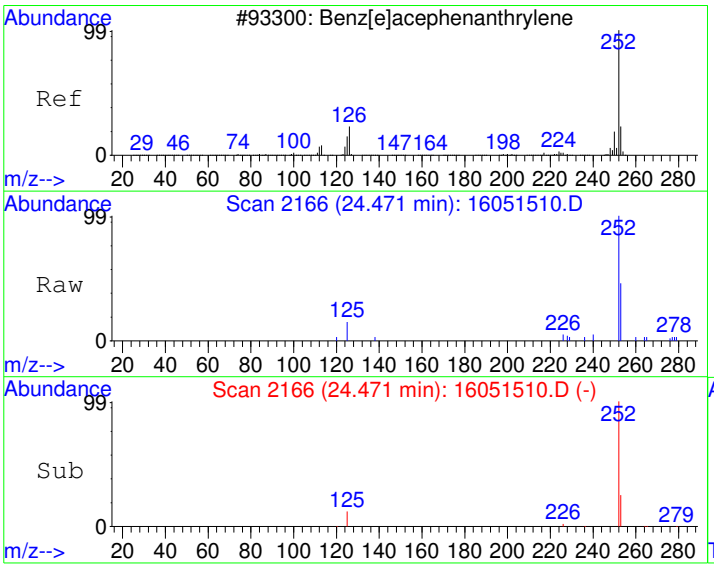


#19
Chrysene
Concen: 14.24 ug/kg
RT: 21.16 min Scan# 1698
Delta R.T. -0.01 min
Lab File: 16051510.D
Acq: 15 May 2016 5:13 pm

Tgt Ion:228 Resp: 5519

Ion	Ratio	Lower	Upper
228	100		
226	30.0	0.0	58.1
229	20.7	0.0	50.1

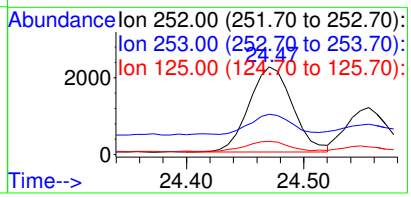


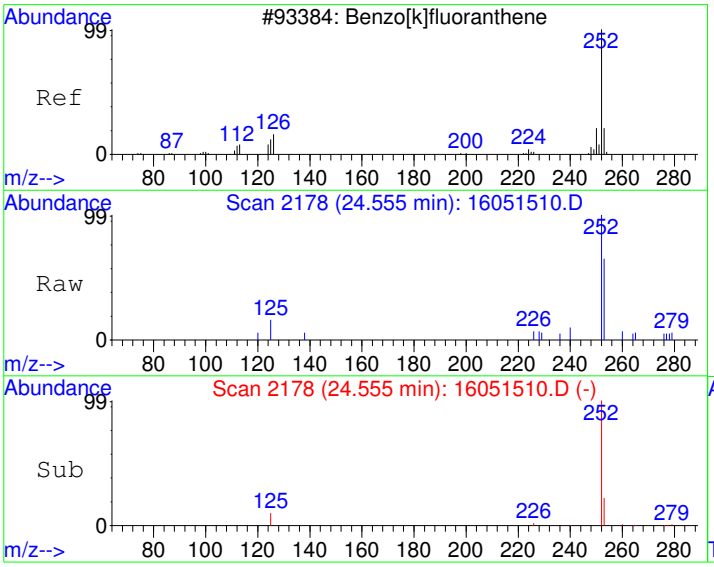


#21
Benzo[b]fluoranthene
Concen: 14.28 ug/kg
RT: 24.47 min Scan# 2166
Delta R.T. -0.03 min
Lab File: 16051510.D
Acq: 15 May 2016 5:13 pm

Tgt Ion:252 Resp: 5747

Ion	Ratio	Lower	Upper
252	100		
253	23.8	0.0	52.2
125	11.5	0.0	41.0

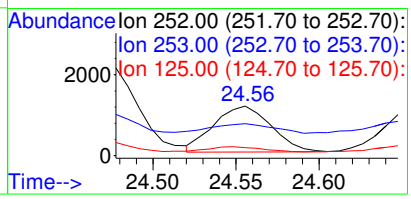


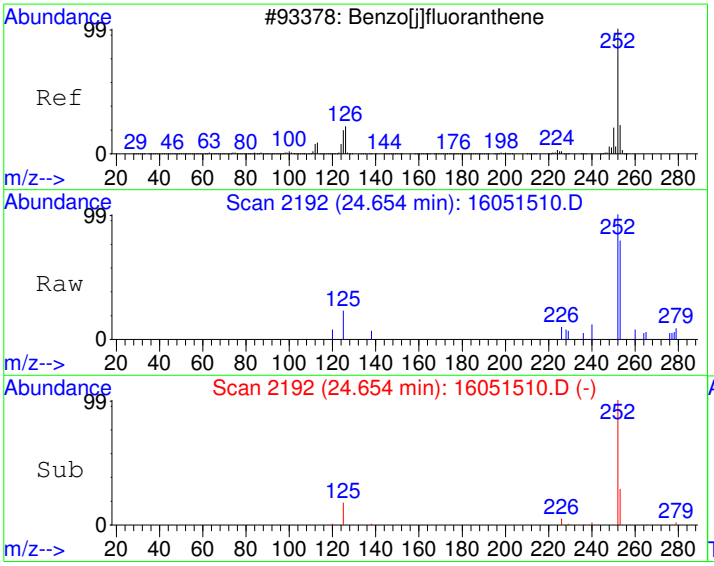


#22
Benzo[k]fluoranthene
Concen: 7.20 ug/kg
RT: 24.56 min Scan# 2178
Delta R.T. -0.02 min
Lab File: 16051510.D
Acq: 15 May 2016 5:13 pm

Tgt Ion:252 Resp: 2718

Ion	Ratio	Lower	Upper
252	100		
253	19.8	2.1	42.1
125	8.3	0.0	31.3

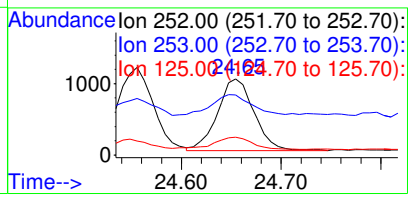


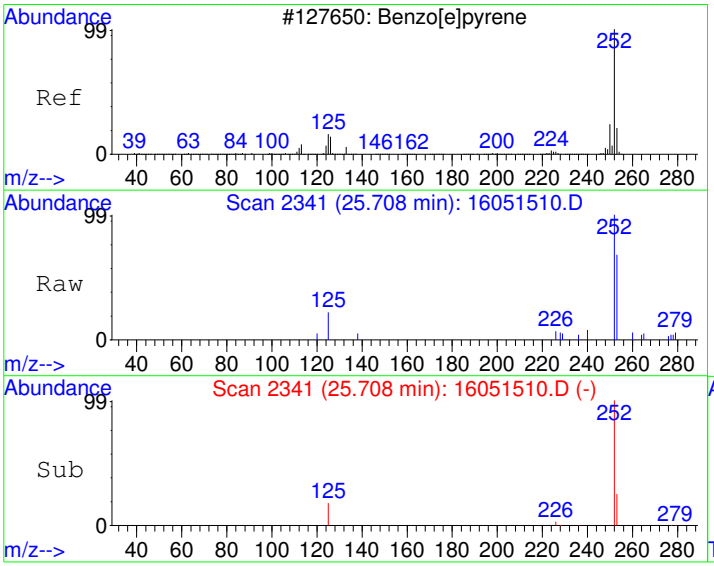


#23
Benzo(j)fluoranthene
Concen: 7.53 ug/kg
RT: 24.65 min Scan# 2192
Delta R.T. -0.03 min
Lab File: 16051510.D
Acq: 15 May 2016 5:13 pm

Tgt Ion:252 Resp: 2532

Ion	Ratio	Lower	Upper
252	100		
253	27.2	2.1	42.1
125	16.4	0.0	34.4

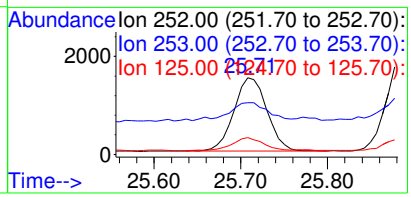


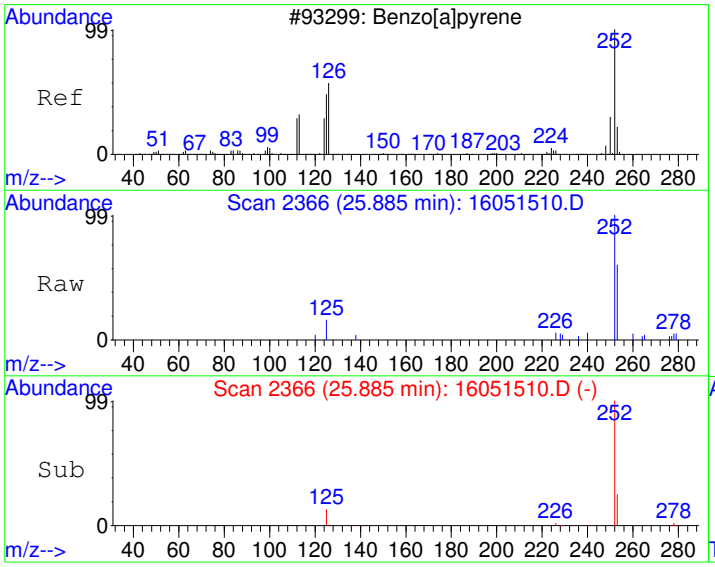


#24
Benzo[e]pyrene
Concen: 11.04 ug/kg
RT: 25.71 min Scan# 2341
Delta R.T. -0.03 min
Lab File: 16051510.D
Acq: 15 May 2016 5:13 pm

Tgt Ion:252 Resp: 3977

Ion	Ratio	Lower	Upper
252	100		
253	23.7	2.2	42.2
125	17.9	0.0	36.1

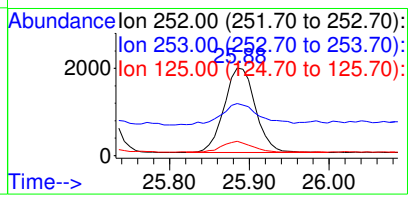


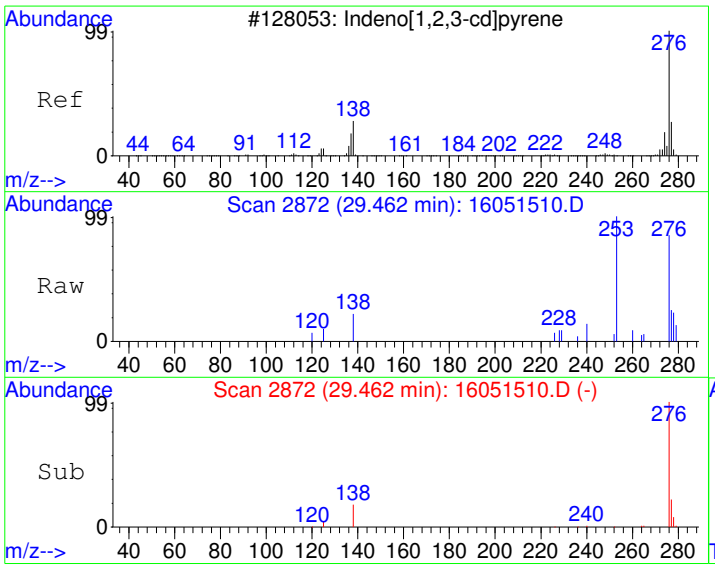


#25
Benzo[a]pyrene
Concen: 14.25 ug/kg
RT: 25.88 min Scan# 2366
Delta R.T. -0.03 min
Lab File: 16051510.D
Acq: 15 May 2016 5:13 pm

Tgt Ion:252 Resp: 5246

Ion	Ratio	Lower	Upper
252	100		
253	25.0	1.9	41.9
125	12.8	0.0	31.7

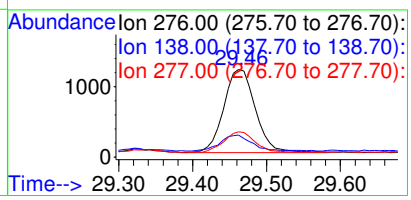


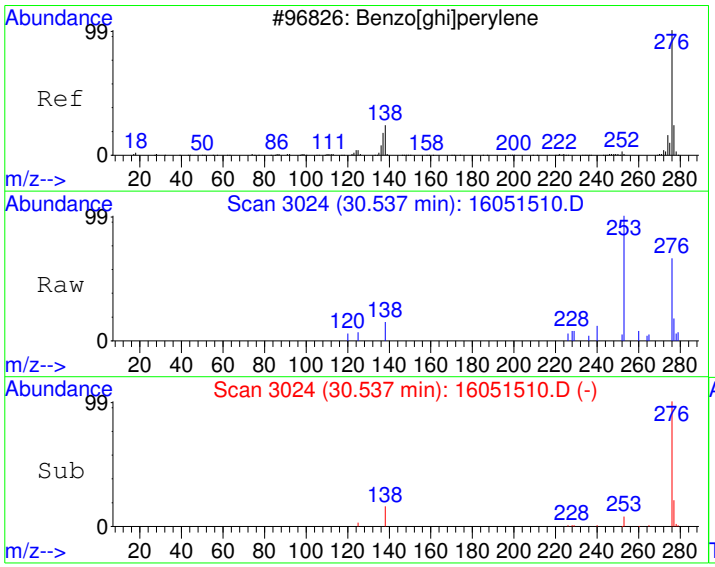


#27
Indeno[1,2,3-cd]pyrene
Concen: 8.78 ug/kg
RT: 29.46 min Scan# 2872
Delta R.T. -0.04 min
Lab File: 16051510.D
Acq: 15 May 2016 5:13 pm

Tgt Ion:276 Resp: 3512

Ion	Ratio	Lower	Upper
276	100		
138	19.3	6.7	46.7
277	24.4	5.8	45.8

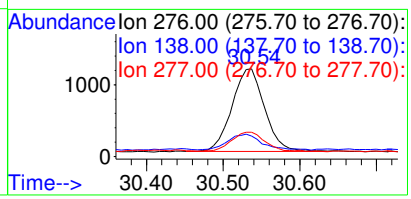




#28
Benzo[g,h,i]perylene
Concen: 10.95 ug/kg
RT: 30.54 min Scan# 3024
Delta R.T. -0.04 min
Lab File: 16051510.D
Acq: 15 May 2016 5:13 pm

Tgt Ion:276 Resp: 3416

Ion	Ratio	Lower	Upper
276	100		
138	15.6	0.0	39.1
277	23.5	4.0	44.0



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160515\16051511.D Vial: 11
Acq On : 15 May 2016 5:53 pm Operator:
Sample : 1605074-02A Inst : GC/MS #6
Misc : SAMP Multiplr: 20.00
MS Integration Params: RTEINT.P
Quant Time: May 16 10:37 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Initial Calibration
DataAcq Meth : PP160421

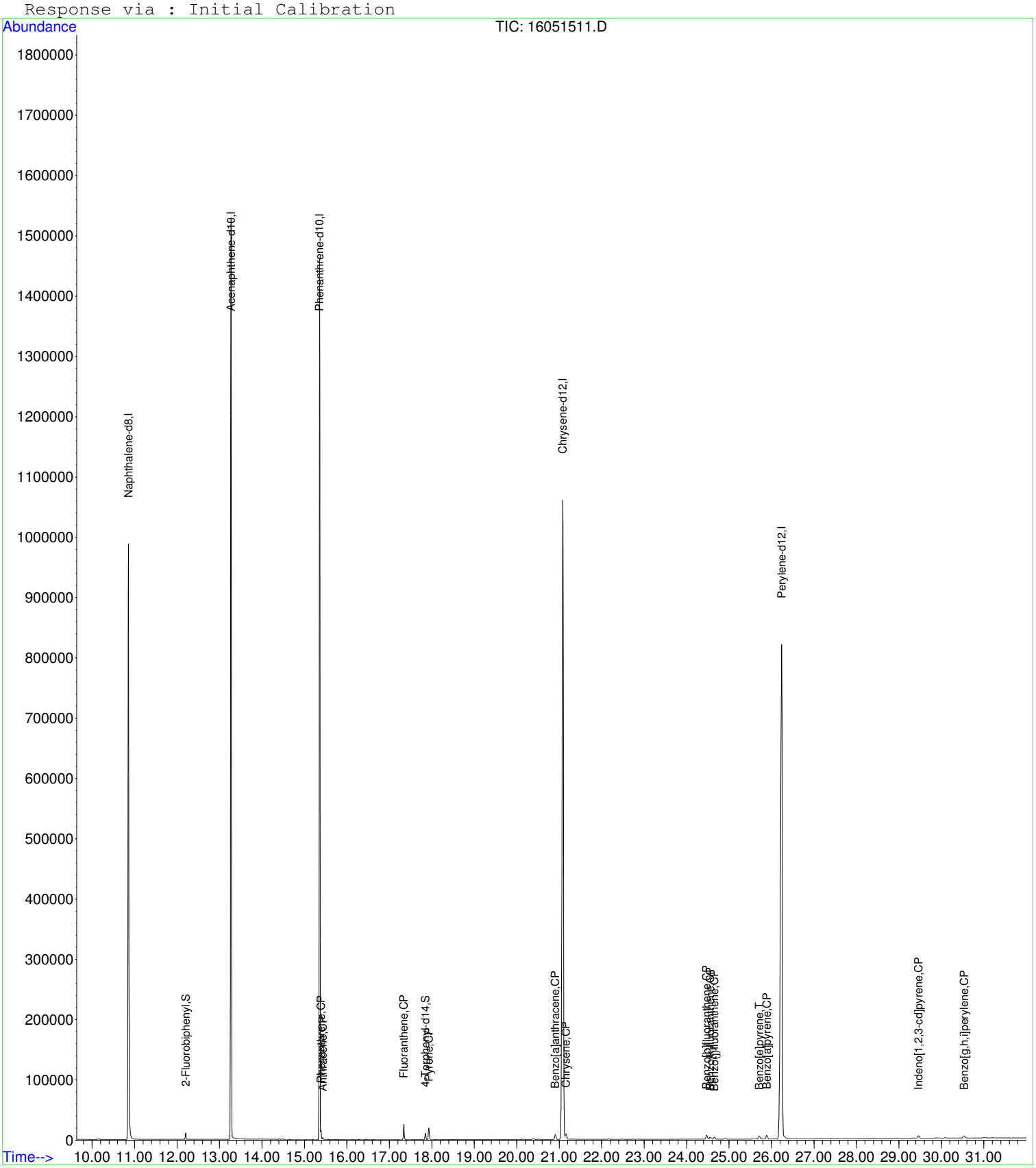
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1319587	4000.00	ug/kg	114
5) Acenaphthene-d10	13.27	164	851152	4000.00	ug/kg	74
11) Phenanthrene-d10	15.36	188	1524738	4000.00	ug/kg	75
17) Chrysene-d12	21.08	240	1777139	4000.00	ug/kg	78
20) Perylene-d12	26.24	264	1590888	4000.00	ug/kg	77
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.21	172	9801	39.47	ug/kg	0.01
Spiked Amount 4000.000	Range 40 - 140		Recovery = 0.99%#			
16) 4-Terphenyl-d14	17.85	244	13845	35.10	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 0.88%#			
Target Compounds						Qvalue
12) Phenanthrene	15.39	178	12410	30.95	ug/kg	98
13) Anthracene	15.43	178	2846	7.50	ug/kg	97
14) Fluoranthene	17.34	202	25210	60.75	ug/kg	99
15) Pyrene	17.93	202	20997	48.71	ug/kg	99
18) Benzo[a]anthracene	20.91	228	12057	28.96	ug/kg	100
19) Chrysene	21.16	228	13023	32.37	ug/kg	99
21) Benzo[b]fluoranthene	24.47	252	12389	29.55	ug/kg	99
22) Benzo[k]fluoranthene	24.56	252	6079	15.45	ug/kg	97
23) Benzo(j)fluoranthene	24.65	252	5629	16.07	ug/kg	95
24) Benzo[e]pyrene	25.71	252	8780	23.38	ug/kg	99
25) Benzo[a]pyrene	25.89	252	11700	30.49	ug/kg	99
27) Indeno[1,2,3-cd]pyrene	29.46	276	7089	17.00	ug/kg	89
28) Benzo[g,h,i]perylene	30.54	276	7135	21.95	ug/kg	96

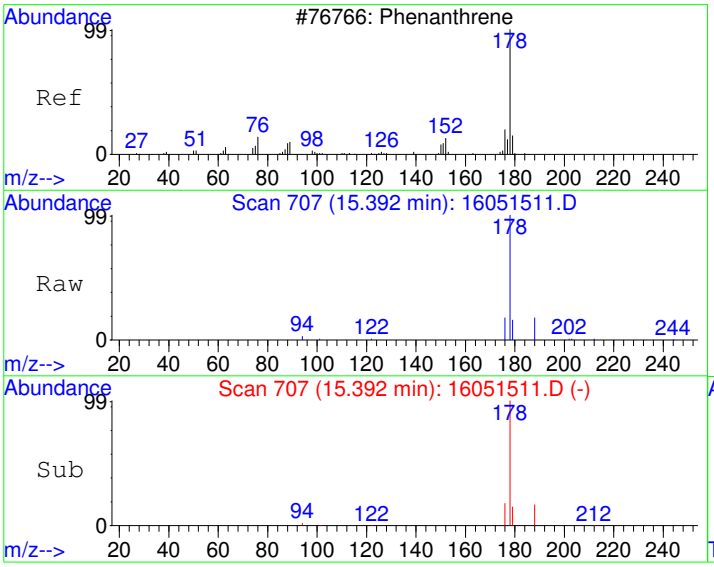
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160515\16051511.D Vial: 11
Acq On : 15 May 2016 5:53 pm Operator:
Sample : 1605074-02A Inst : GC/MS #6
Misc : SAMP Multiplr: 20.00
MS Integration Params: RTEINT.P
Quant Time: May 16 10:37 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Initial Calibration

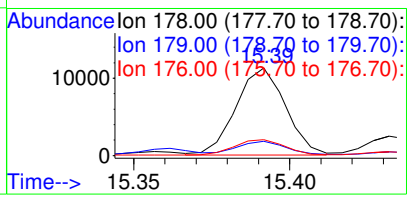


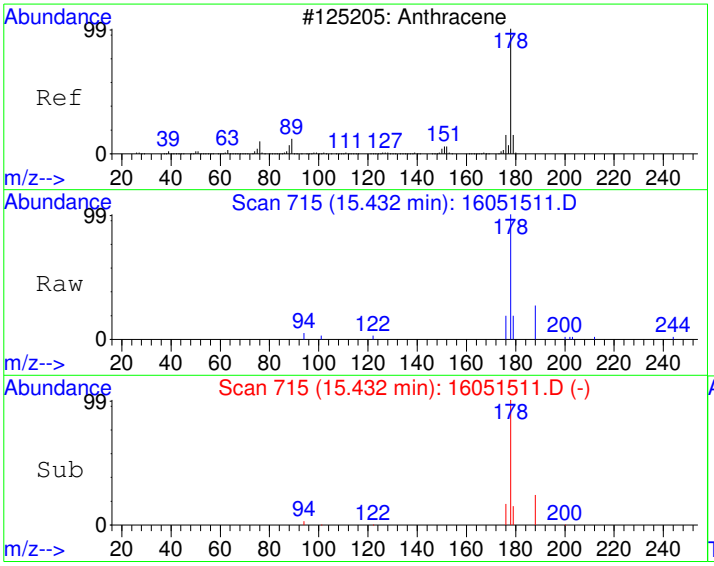


#12
Phenanthrene
Concen: 30.95 ug/kg
RT: 15.39 min Scan# 707
Delta R.T. -0.00 min
Lab File: 16051511.D
Acq: 15 May 2016 5:53 pm

Tgt Ion:178 Resp: 12410

Ion	Ratio	Lower	Upper
178	100		
179	15.2	0.0	45.9
176	17.8	0.0	48.5

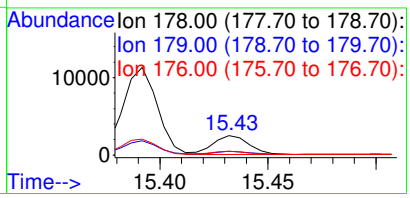


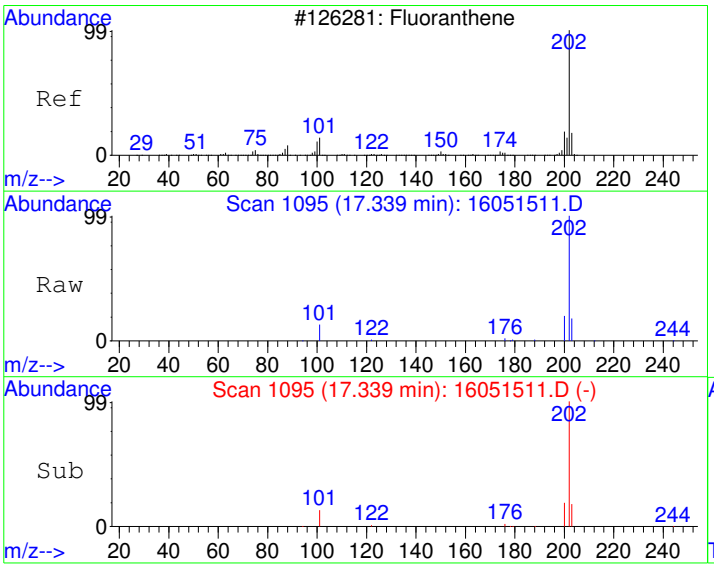


#13
Anthracene
Concen: 7.50 ug/kg
RT: 15.43 min Scan# 715
Delta R.T. -0.00 min
Lab File: 16051511.D
Acq: 15 May 2016 5:53 pm

Tgt Ion:178 Resp: 2846

Ion	Ratio	Lower	Upper
178	100		
179	14.3	0.0	45.9
176	17.4	0.0	48.2

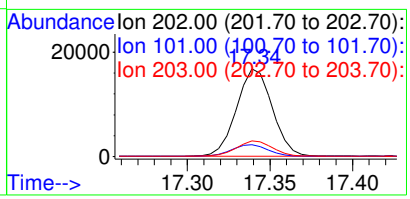


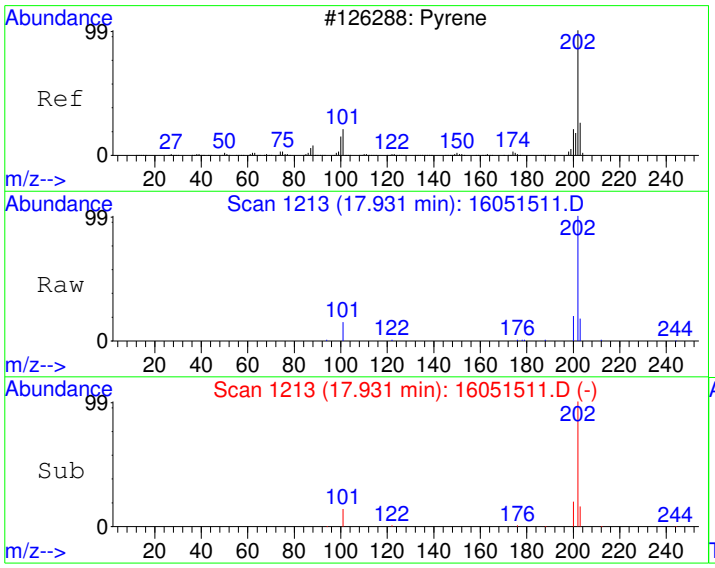


#14
Fluoranthene
Concen: 60.75 ug/kg
RT: 17.34 min Scan# 1095
Delta R.T. -0.01 min
Lab File: 16051511.D
Acq: 15 May 2016 5:53 pm

Tgt Ion:202 Resp: 25210

Ion	Ratio	Lower	Upper
202	100		
101	13.1	0.0	43.0
203	17.6	0.0	47.9

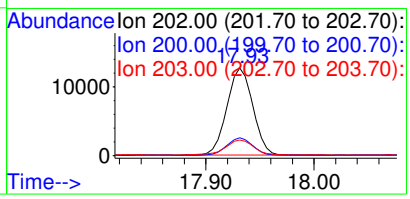


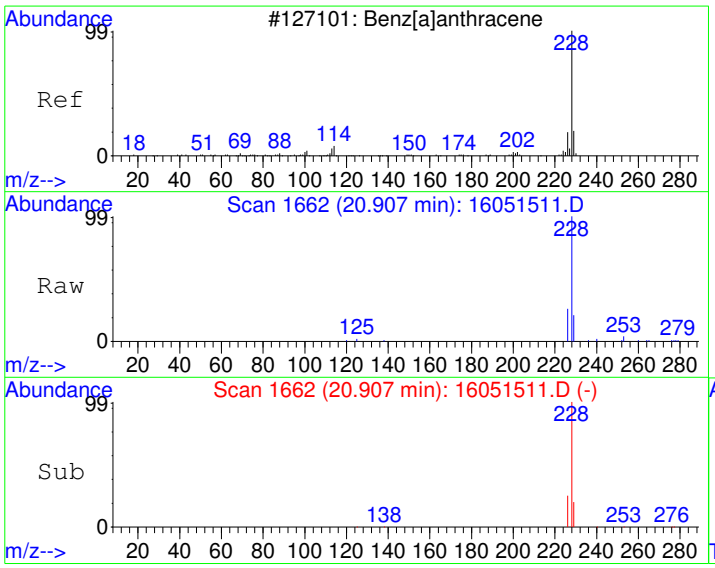


#15
Pyrene
Concen: 48.71 ug/kg
RT: 17.93 min Scan# 1213
Delta R.T. -0.01 min
Lab File: 16051511.D
Acq: 15 May 2016 5:53 pm

Tgt Ion:202 Resp: 20997

Ion	Ratio	Lower	Upper
202	100		
200	20.1	0.0	50.0
203	17.4	0.0	48.0

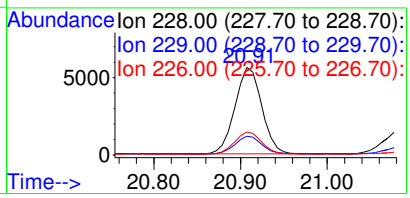


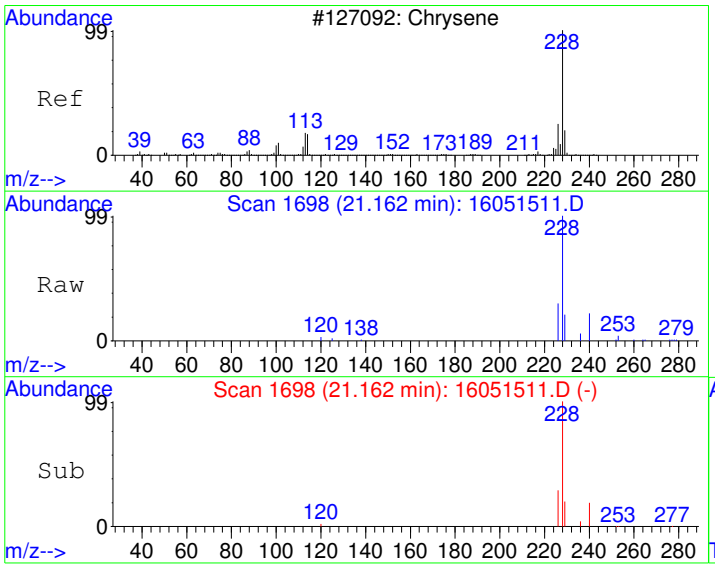


#18
Benzo[a]anthracene
Concen: 28.96 ug/kg
RT: 20.91 min Scan# 1662
Delta R.T. -0.01 min
Lab File: 16051511.D
Acq: 15 May 2016 5:53 pm

Tgt Ion:228 Resp: 12057

Ion	Ratio	Lower	Upper
228	100		
229	20.3	0.0	50.1
226	25.5	0.0	55.2

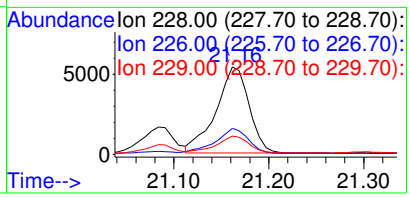


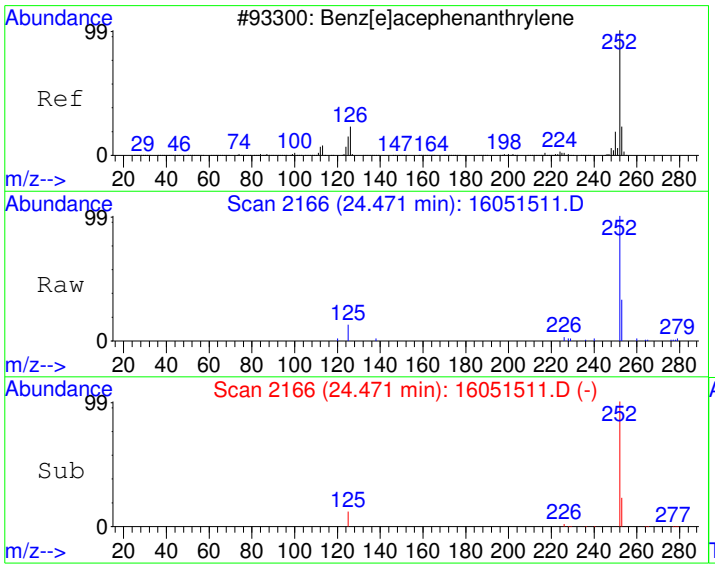


#19
Chrysene
Concen: 32.37 ug/kg
RT: 21.16 min Scan# 1698
Delta R.T. -0.01 min
Lab File: 16051511.D
Acq: 15 May 2016 5:53 pm

Tgt Ion:228 Resp: 13023

Ion	Ratio	Lower	Upper
228	100		
226	29.3	0.0	58.1
229	19.9	0.0	50.1

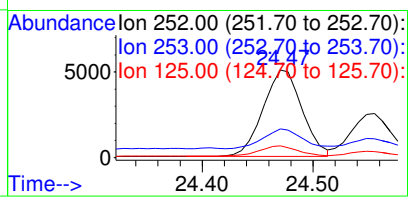


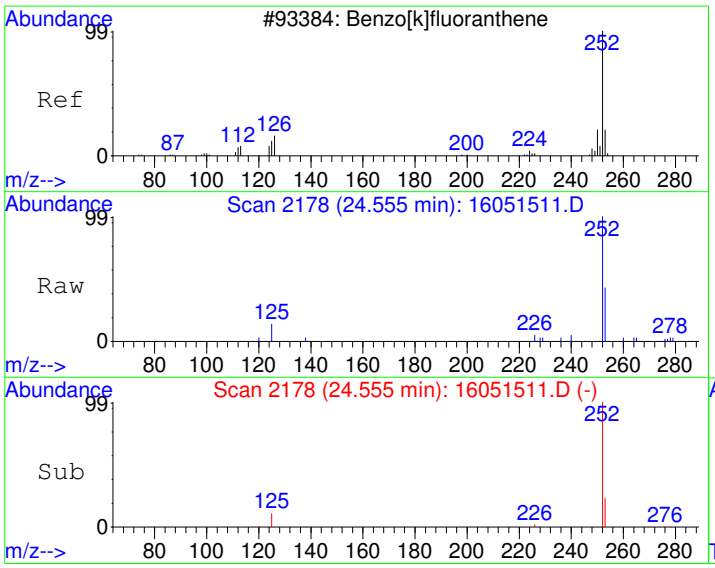


#21
Benzo[b]fluoranthene
Concen: 29.55 ug/kg
RT: 24.47 min Scan# 2166
Delta R.T. -0.03 min
Lab File: 16051511.D
Acq: 15 May 2016 5:53 pm

Tgt Ion:252 Resp: 12389

Ion	Ratio	Lower	Upper
252	100		
253	22.7	0.0	52.2
125	11.8	0.0	41.0

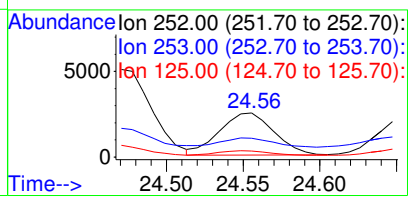


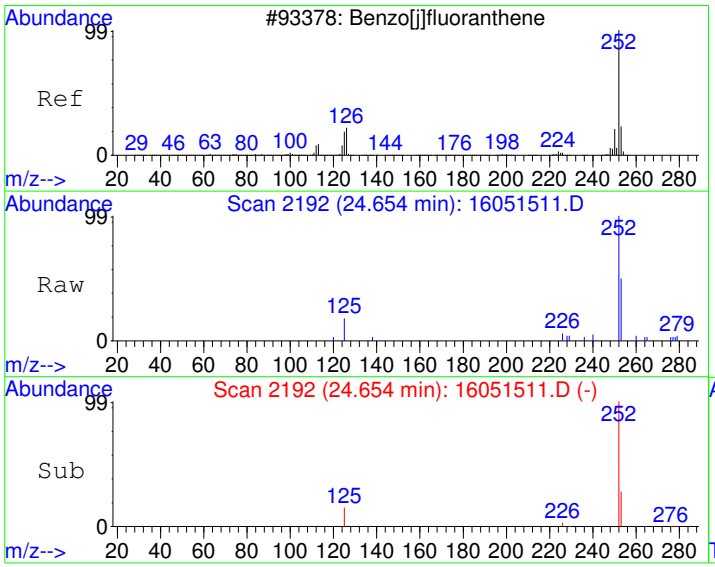


#22
Benzo[k]fluoranthene
Concen: 15.45 ug/kg
RT: 24.56 min Scan# 2178
Delta R.T. -0.02 min
Lab File: 16051511.D
Acq: 15 May 2016 5:53 pm

Tgt Ion:252 Resp: 6079

Ion	Ratio	Lower	Upper
252	100		
253	20.2	2.1	42.1
125	10.7	0.0	31.3

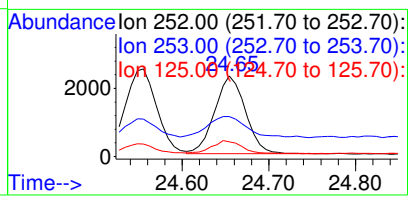


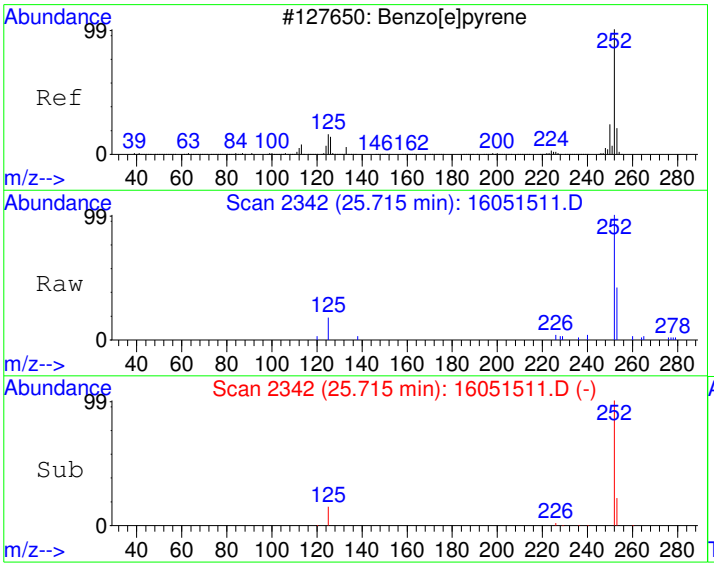


#23
Benzo(j)fluoranthene
Concen: 16.07 ug/kg
RT: 24.65 min Scan# 2192
Delta R.T. -0.03 min
Lab File: 16051511.D
Acq: 15 May 2016 5:53 pm

Tgt Ion:252 Resp: 5629

Ion	Ratio	Lower	Upper
252	100		
253	25.4	2.1	42.1
125	15.1	0.0	34.4

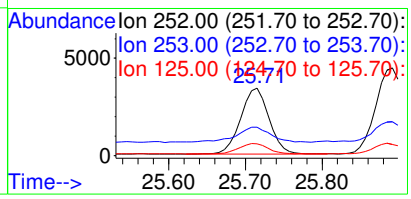


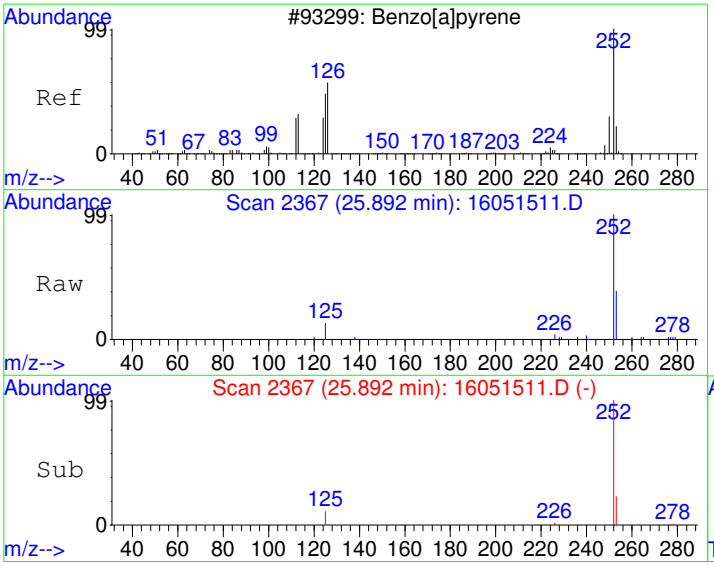


#24
Benzo[e]pyrene
Concen: 23.38 ug/kg
RT: 25.71 min Scan# 2342
Delta R.T. -0.02 min
Lab File: 16051511.D
Acq: 15 May 2016 5:53 pm

Tgt Ion:252 Resp: 8780

Ion	Ratio	Lower	Upper
252	100		
253	22.4	2.2	42.2
125	15.4	0.0	36.1

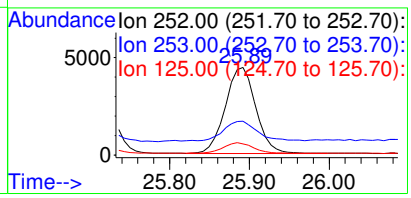


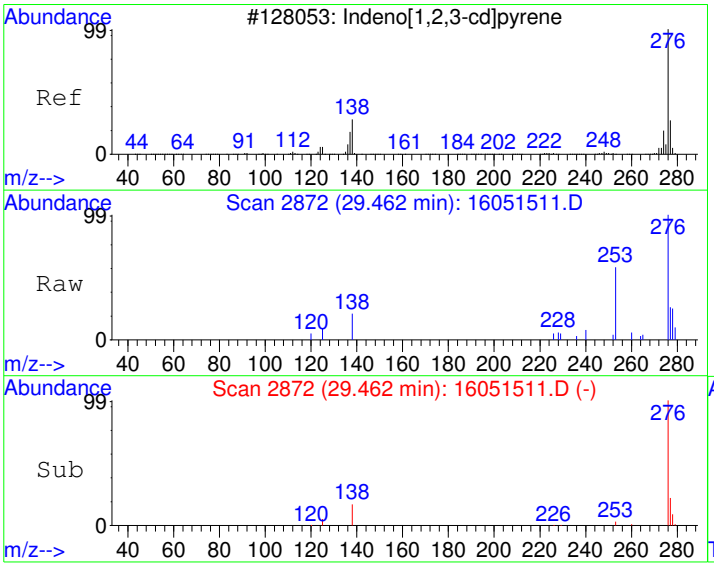


#25
Benzo[a]pyrene
Concen: 30.49 ug/kg
RT: 25.89 min Scan# 2367
Delta R.T. -0.02 min
Lab File: 16051511.D
Acq: 15 May 2016 5:53 pm

Tgt Ion:252 Resp: 11700

Ion	Ratio	Lower	Upper
252	100		
253	22.4	1.9	41.9
125	11.1	0.0	31.7

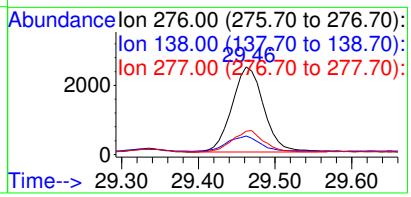


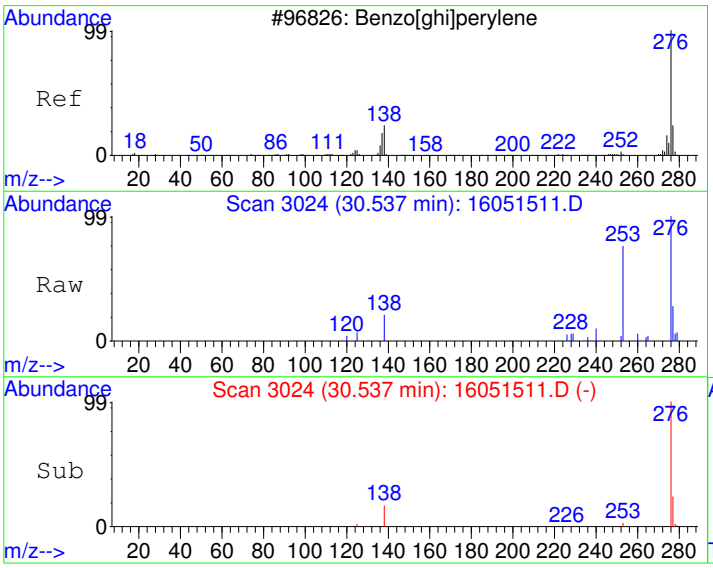


#27
Indeno[1,2,3-cd]pyrene
Concen: 17.00 ug/kg
RT: 29.46 min Scan# 2872
Delta R.T. -0.04 min
Lab File: 16051511.D
Acq: 15 May 2016 5:53 pm

Tgt Ion:276 Resp: 7089

Ion	Ratio	Lower	Upper
276	100		
138	17.5	6.7	46.7
277	23.8	5.8	45.8

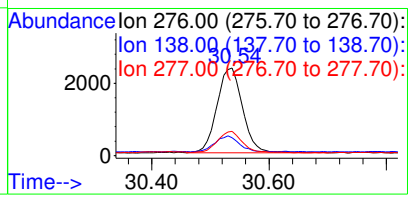




#28
Benzo[g,h,i]perylene
Concen: 21.95 ug/kg
RT: 30.54 min Scan# 3024
Delta R.T. -0.04 min
Lab File: 16051511.D
Acq: 15 May 2016 5:53 pm

Tgt Ion:276 Resp: 7135

Ion	Ratio	Lower	Upper
276	100		
138	16.7	0.0	39.1
277	25.3	4.0	44.0



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160515\16051512.D Vial: 12
Acq On : 15 May 2016 6:32 pm Operator:
Sample : 1605074-03A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 16 10:38 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Initial Calibration
DataAcq Meth : PP160421

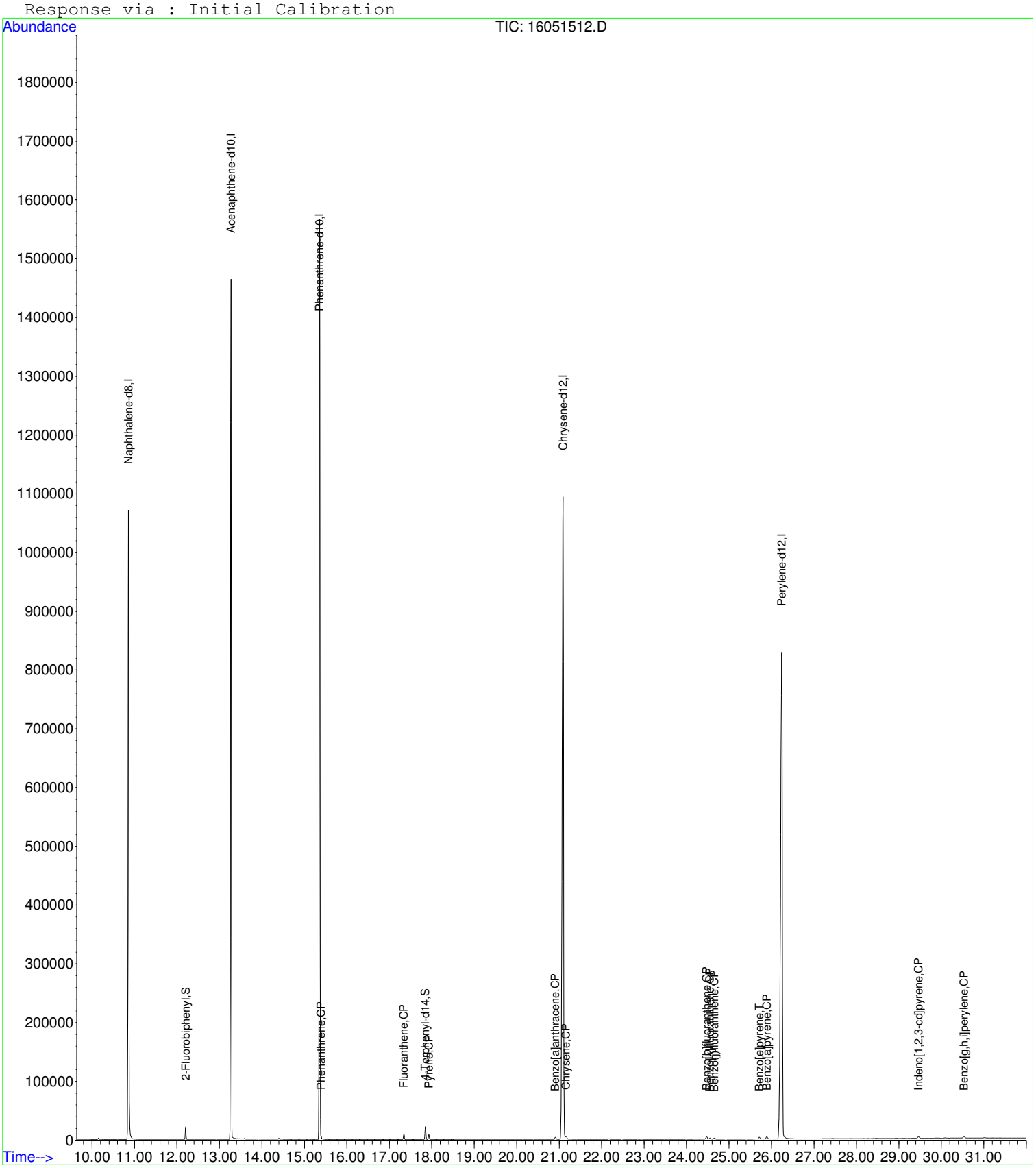
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1353870	4000.00	ug/kg	117
5) Acenaphthene-d10	13.27	164	832834	4000.00	ug/kg	72
11) Phenanthrene-d10	15.36	188	1666529	4000.00	ug/kg	82
17) Chrysene-d12	21.09	240	1847411	4000.00	ug/kg	81
20) Perylene-d12	26.24	264	1628724	4000.00	ug/kg	79
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.21	172	18904	77.81	ug/kg	0.01
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.95%#		
16) 4-Terphenyl-d14	17.85	244	28490	66.08	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.65%#		
Target Compounds						Qvalue
12) Phenanthrene	15.39	178	3283	7.49	ug/kg	97
14) Fluoranthene	17.34	202	9704	21.40	ug/kg	99
15) Pyrene	17.93	202	9247	19.63	ug/kg	99
18) Benzo[a]anthracene	20.91	228	5654	13.06	ug/kg	98
19) Chrysene	21.16	228	6887	16.47	ug/kg	100
21) Benzo[b]fluoranthene	24.47	252	8137	18.96	ug/kg	98
22) Benzo[k]fluoranthene	24.56	252	3677	9.13	ug/kg	97
23) Benzo(j)fluoranthene	24.66	252	3379	9.42	ug/kg	90
24) Benzo[e]pyrene	25.72	252	5863	15.25	ug/kg	97
25) Benzo[a]pyrene	25.89	252	7683	19.56	ug/kg	99
27) Indeno[1,2,3-cd]pyrene	29.46	276	5118	11.99	ug/kg	90
28) Benzo[g,h,i]perylene	30.53	276	5316	15.97	ug/kg	97

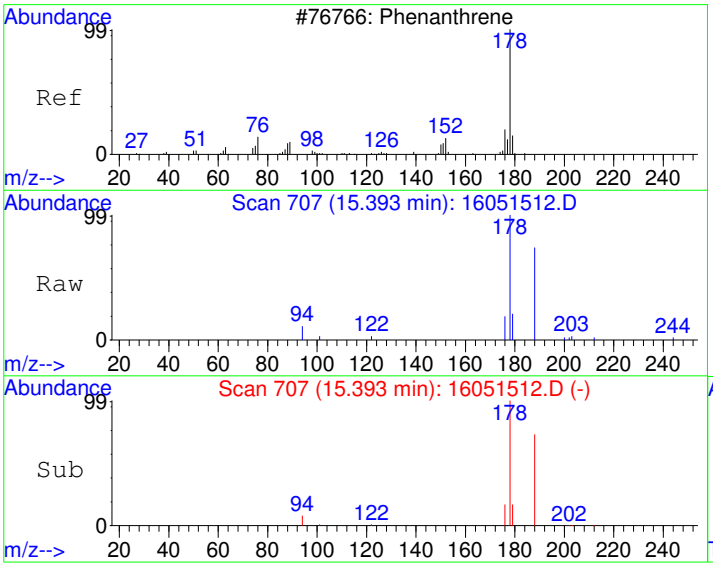
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160515\16051512.D Vial: 12
Acq On : 15 May 2016 6:32 pm Operator:
Sample : 1605074-03A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 16 10:38 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Initial Calibration

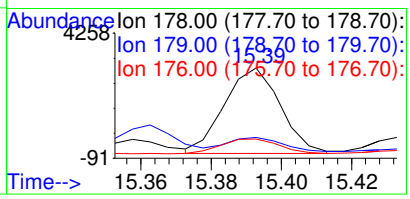


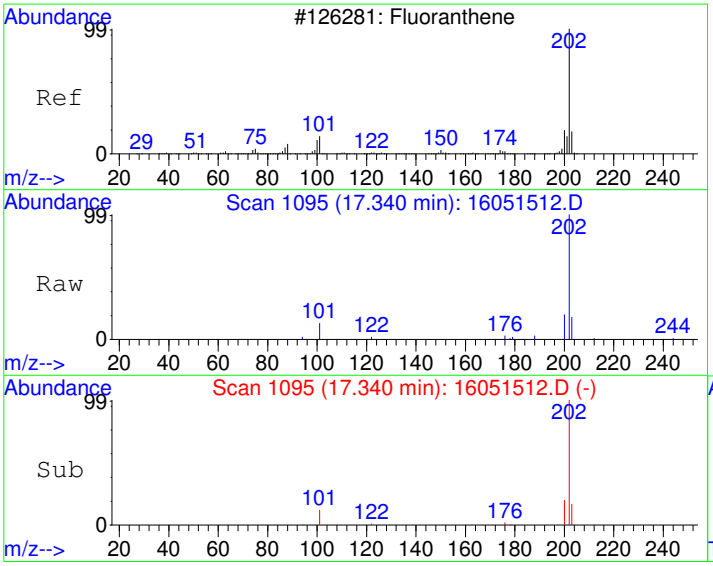


#12
Phenanthrene
Concen: 7.49 ug/kg
RT: 15.39 min Scan# 707
Delta R.T. 0.00 min
Lab File: 16051512.D
Acq: 15 May 2016 6:32 pm

Tgt Ion:178 Resp: 3283

Ion	Ratio	Lower	Upper
178	100		
179	17.2	0.0	45.9
176	17.6	0.0	48.5

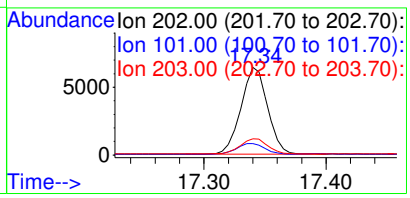


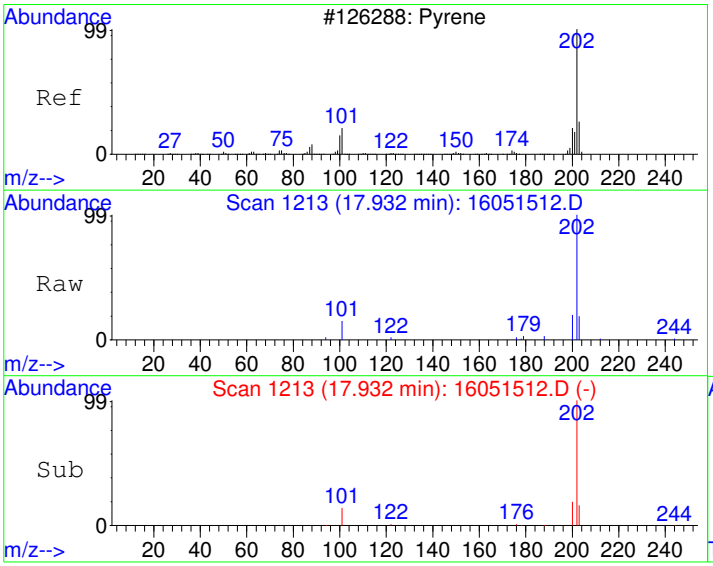


#14
Fluoranthene
Concen: 21.40 ug/kg
RT: 17.34 min Scan# 1095
Delta R.T. -0.00 min
Lab File: 16051512.D
Acq: 15 May 2016 6:32 pm

Tgt Ion:202 Resp: 9704

Ion	Ratio	Lower	Upper
202	100		
101	12.5	0.0	43.0
203	17.3	0.0	47.9

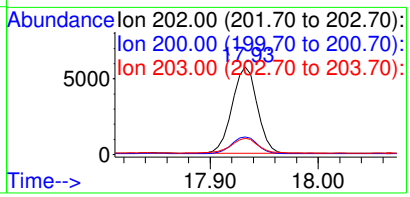


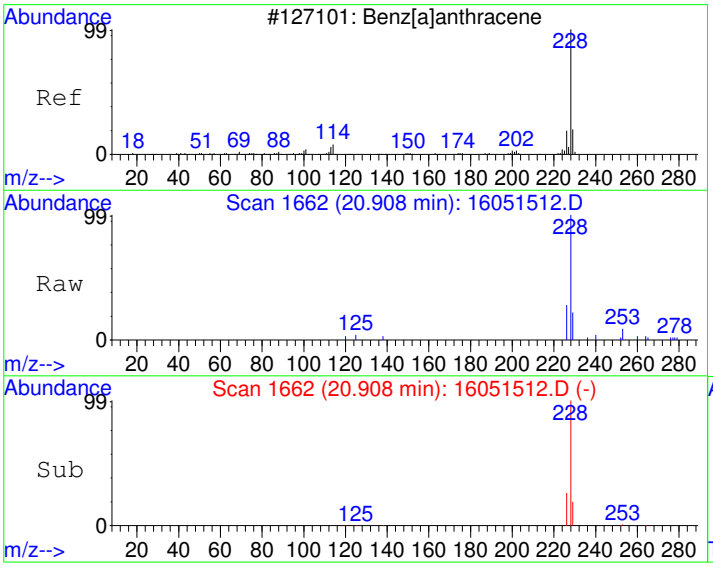


#15
Pyrene
Concen: 19.63 ug/kg
RT: 17.93 min Scan# 1213
Delta R.T. -0.00 min
Lab File: 16051512.D
Acq: 15 May 2016 6:32 pm

Tgt Ion:202 Resp: 9247

Ion	Ratio	Lower	Upper
202	100		
200	19.4	0.0	50.0
203	17.4	0.0	48.0

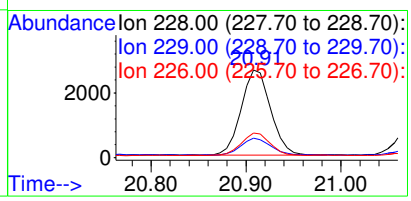


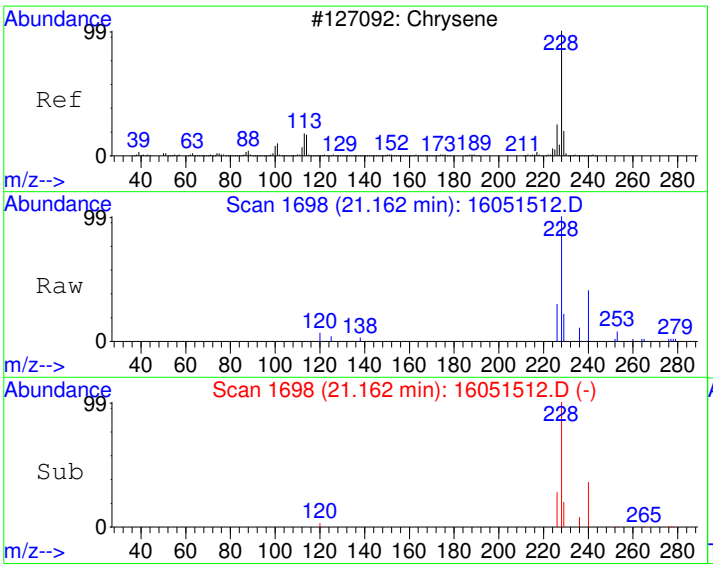


#18
Benzo[a]anthracene
Concen: 13.06 ug/kg
RT: 20.91 min Scan# 1662
Delta R.T. -0.01 min
Lab File: 16051512.D
Acq: 15 May 2016 6:32 pm

Tgt Ion:228 Resp: 5654

Ion	Ratio	Lower	Upper
228	100		
229	19.7	0.0	50.1
226	26.2	0.0	55.2

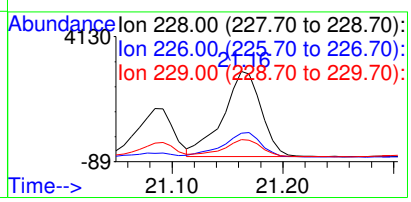


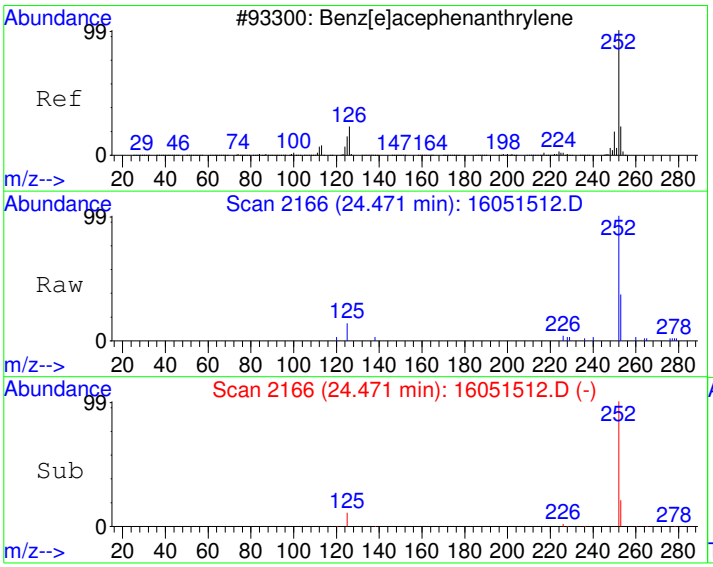


#19
Chrysene
Concen: 16.47 ug/kg
RT: 21.16 min Scan# 1698
Delta R.T. -0.01 min
Lab File: 16051512.D
Acq: 15 May 2016 6:32 pm

Tgt Ion:228 Resp: 6887

Ion	Ratio	Lower	Upper
228	100		
226	28.0	0.0	58.1
229	19.9	0.0	50.1

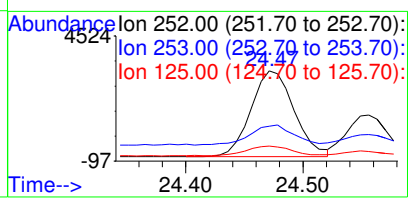


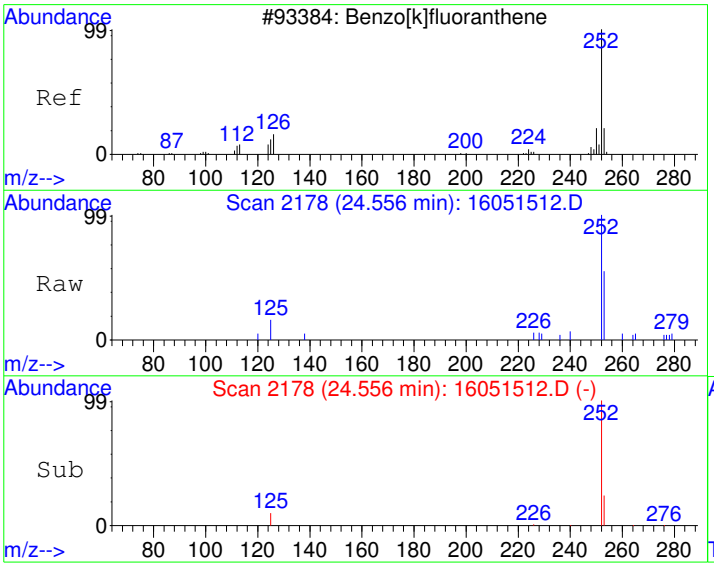


#21
Benzo[b]fluoranthene
Concen: 18.96 ug/kg
RT: 24.47 min Scan# 2166
Delta R.T. -0.03 min
Lab File: 16051512.D
Acq: 15 May 2016 6:32 pm

Tgt Ion:252 Resp: 8137

Ion	Ratio	Lower	Upper
252	100		
253	20.9	0.0	52.2
125	11.3	0.0	41.0

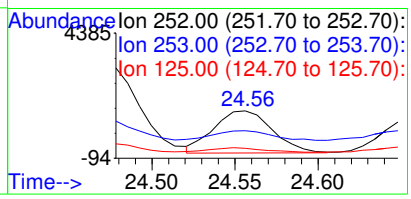


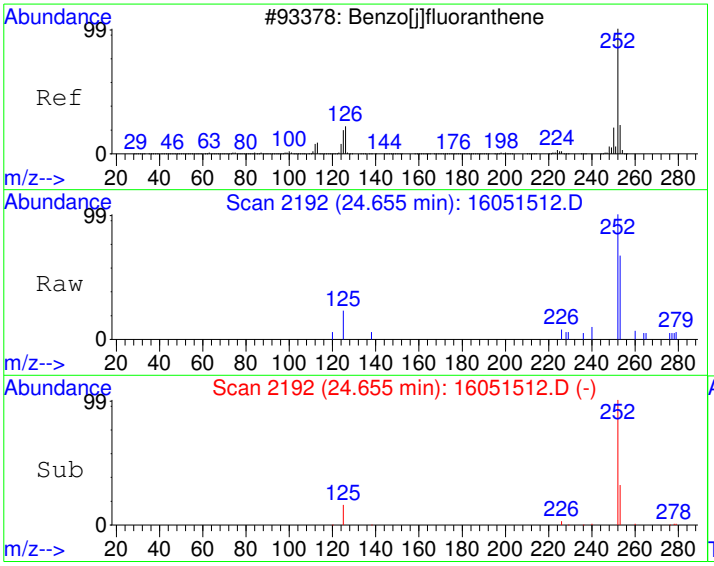


#22
Benzo[k]fluoranthene
Concen: 9.13 ug/kg
RT: 24.56 min Scan# 2178
Delta R.T. -0.02 min
Lab File: 16051512.D
Acq: 15 May 2016 6:32 pm

Tgt Ion:252 Resp: 3677

Ion	Ratio	Lower	Upper
252	100		
253	22.8	2.1	42.1
125	9.0	0.0	31.3

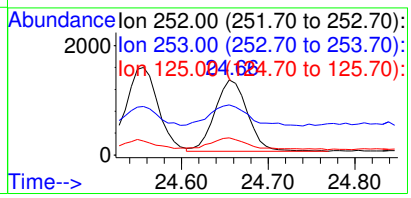


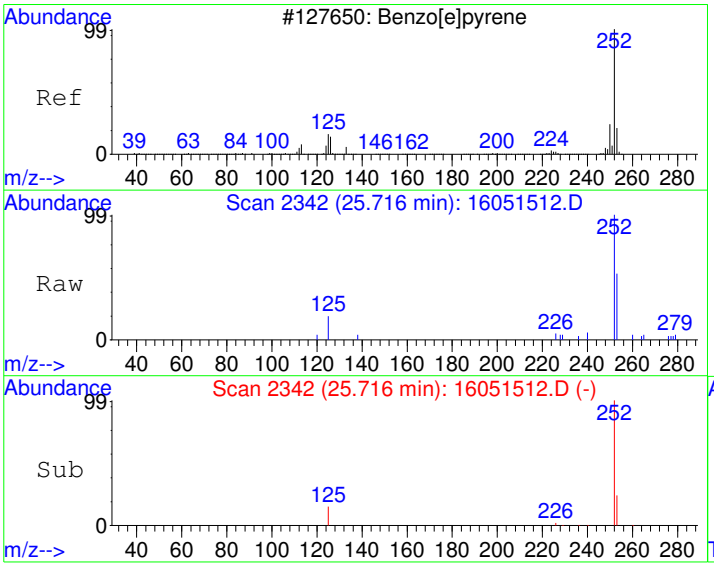


#23
Benzo(j)fluoranthene
Concen: 9.42 ug/kg
RT: 24.66 min Scan# 2192
Delta R.T. -0.03 min
Lab File: 16051512.D
Acq: 15 May 2016 6:32 pm

Tgt Ion:252 Resp: 3379

Ion	Ratio	Lower	Upper
252	100		
253	28.1	2.1	42.1
125	16.4	0.0	34.4

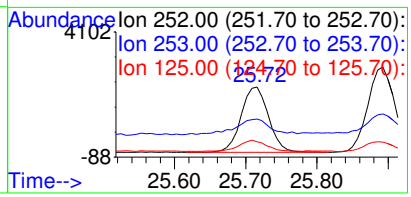


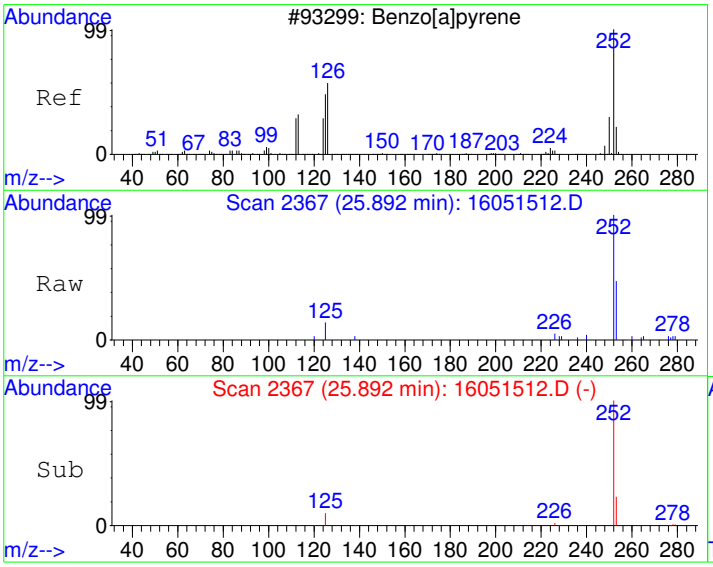


#24
Benzo[e]pyrene
Concen: 15.25 ug/kg
RT: 25.72 min Scan# 2342
Delta R.T. -0.02 min
Lab File: 16051512.D
Acq: 15 May 2016 6:32 pm

Tgt Ion:252 Resp: 5863

Ion	Ratio	Lower	Upper
252	100		
253	23.6	2.2	42.2
125	14.7	0.0	36.1

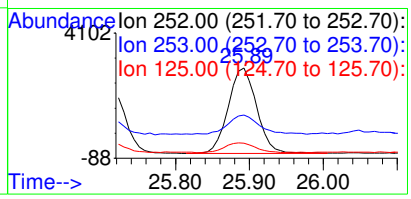


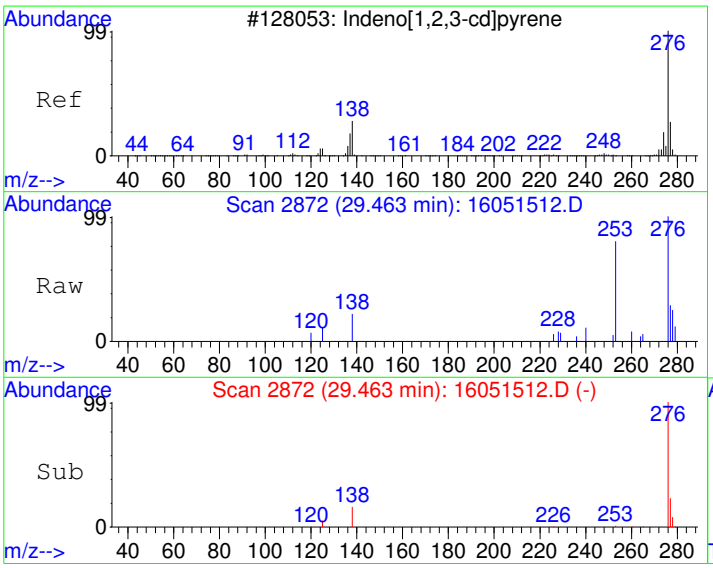


#25
Benzo[a]pyrene
Concen: 19.56 ug/kg
RT: 25.89 min Scan# 2367
Delta R.T. -0.02 min
Lab File: 16051512.D
Acq: 15 May 2016 6:32 pm

Tgt Ion:252 Resp: 7683

Ion	Ratio	Lower	Upper
252	100		
253	22.1	1.9	41.9
125	10.7	0.0	31.7

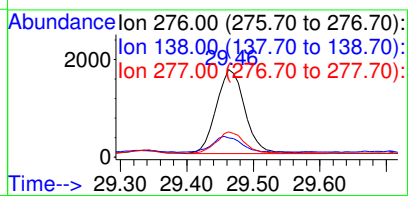


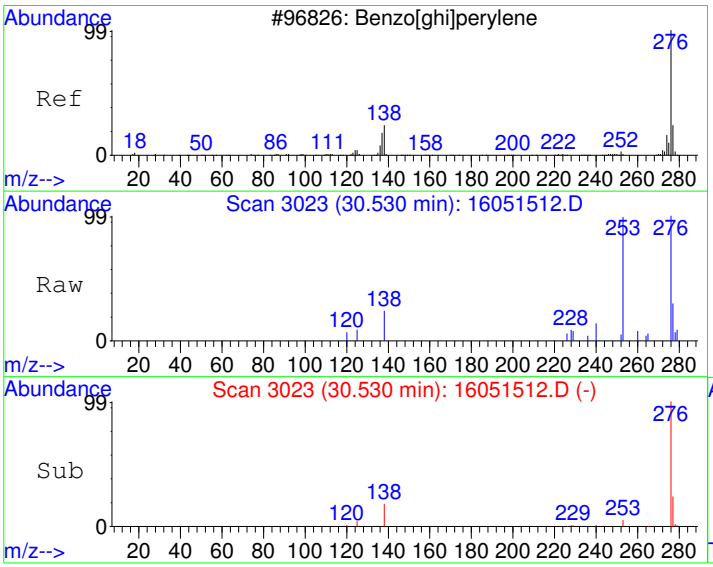


#27
Indeno[1,2,3-cd]pyrene
Concen: 11.99 ug/kg
RT: 29.46 min Scan# 2872
Delta R.T. -0.03 min
Lab File: 16051512.D
Acq: 15 May 2016 6:32 pm

Tgt Ion:276 Resp: 5118

Ion	Ratio	Lower	Upper
276	100		
138	16.7	6.7	46.7
277	25.7	5.8	45.8

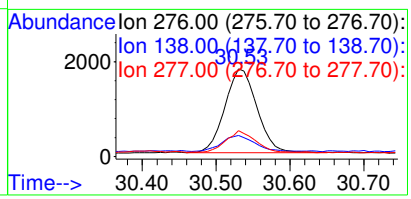




#28
Benzo[g,h,i]perylene
Concen: 15.97 ug/kg
RT: 30.53 min Scan# 3023
Delta R.T. -0.04 min
Lab File: 16051512.D
Acq: 15 May 2016 6:32 pm

Tgt Ion:276 Resp: 5316

Ion	Ratio	Lower	Upper
276	100		
138	18.7	0.0	39.1
277	26.2	4.0	44.0



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160515\16051513.D Vial: 13
Acq On : 15 May 2016 7:12 pm Operator:
Sample : 1605074-04A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 16 10:38 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Initial Calibration
DataAcq Meth : PP160421

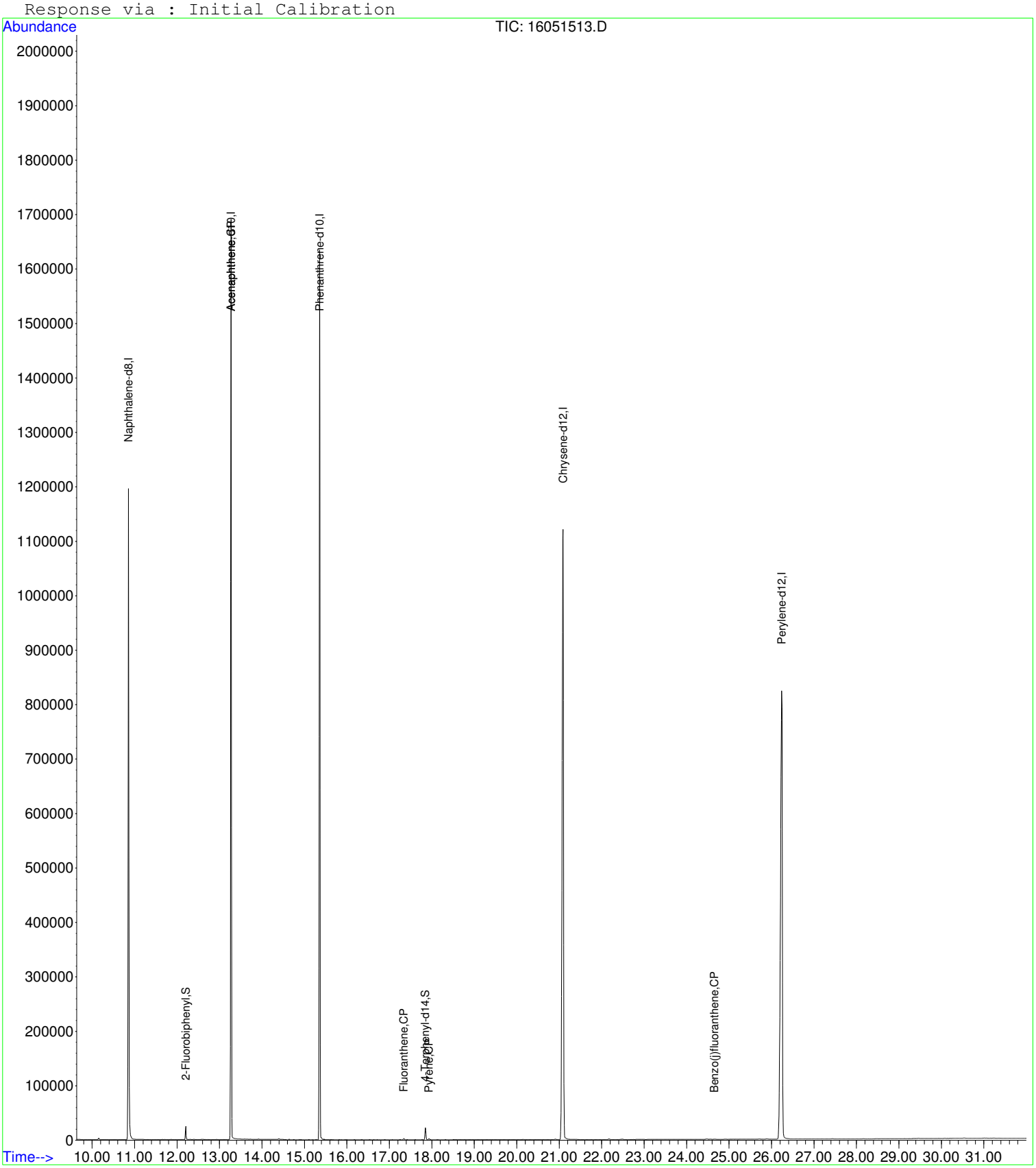
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1407570	4000.00	ug/kg	121
5) Acenaphthene-d10	13.27	164	876969	4000.00	ug/kg	76
11) Phenanthrene-d10	15.36	188	1704414	4000.00	ug/kg	83
17) Chrysene-d12	21.09	240	1910362	4000.00	ug/kg	84
20) Perylene-d12	26.24	264	1719529	4000.00	ug/kg	83
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.21	172	19482	76.16	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.90%#		
16) 4-Terphenyl-d14	17.85	244	28852	65.43	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.64%#		
Target Compounds						Qvalue
9) Acenaphthene	13.27	154	2697	11.51	ug/kg#	9
14) Fluoranthene	17.34	202	2590	5.58	ug/kg	97
15) Pyrene	17.93	202	2468	5.12	ug/kg	97
23) Benzo(j)fluoranthene	24.65	252	686	1.81	ug/kg	91

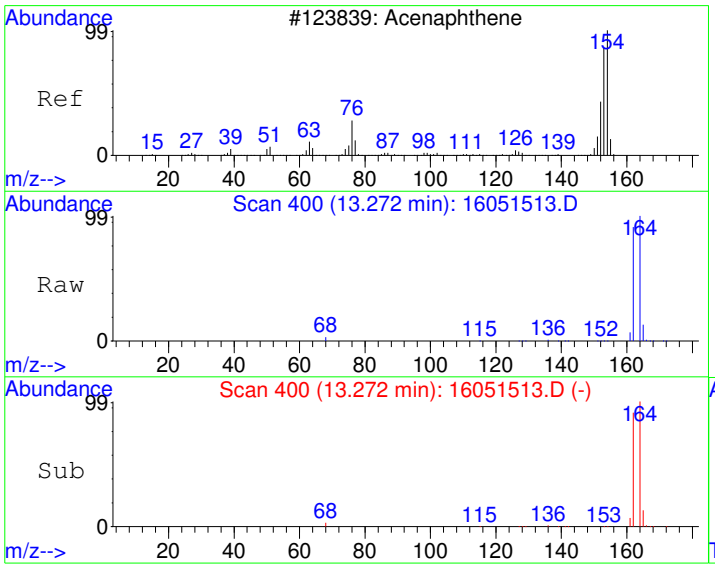
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160515\16051513.D Vial: 13
Acq On : 15 May 2016 7:12 pm Operator:
Sample : 1605074-04A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 16 10:38 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Initial Calibration

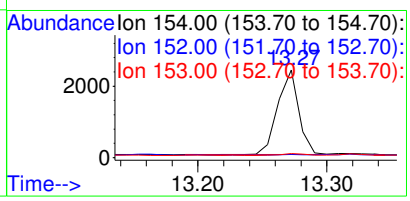


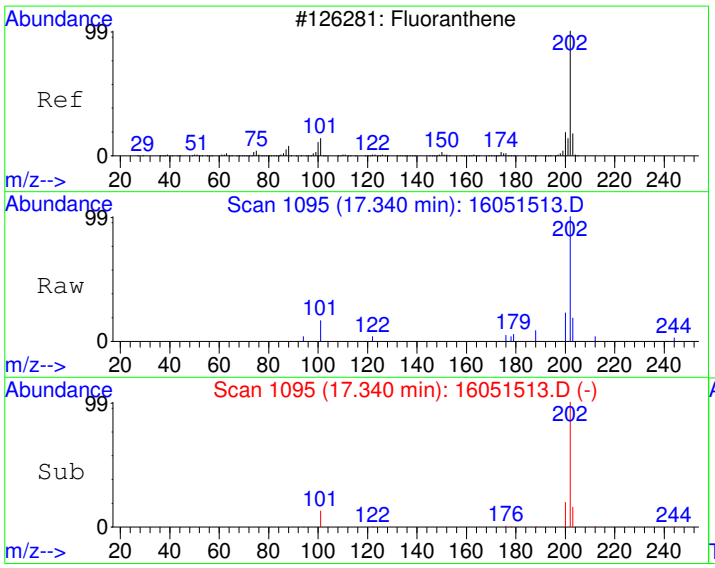


#9
Acenaphthene
Concen: 11.51 ug/kg
RT: 13.27 min Scan# 400
Delta R.T. -0.05 min
Lab File: 16051513.D
Acq: 15 May 2016 7:12 pm

Tgt Ion:154 Resp: 2697

Ion	Ratio	Lower	Upper
154	100		
152	0.5	18.9	78.9#
153	1.9	75.2	135.2#

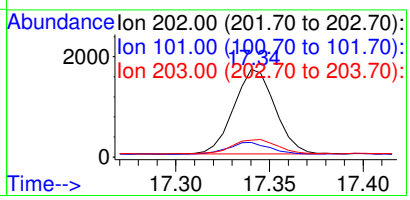


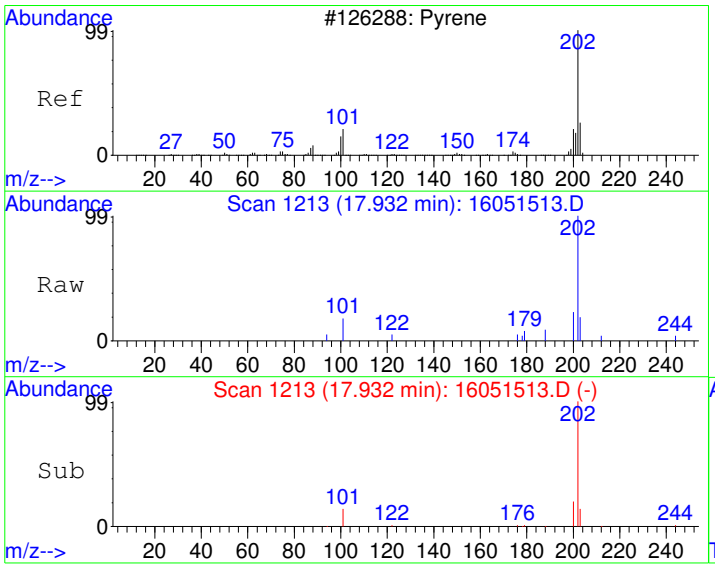


#14
Fluoranthene
Concen: 5.58 ug/kg
RT: 17.34 min Scan# 1095
Delta R.T. -0.00 min
Lab File: 16051513.D
Acq: 15 May 2016 7:12 pm

Tgt Ion:202 Resp: 2590

Ion	Ratio	Lower	Upper
202	100		
101	13.7	0.0	43.0
203	16.0	0.0	47.9

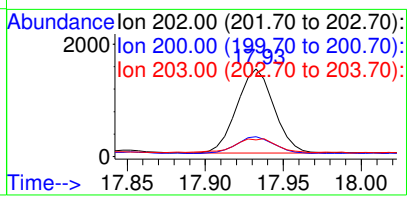


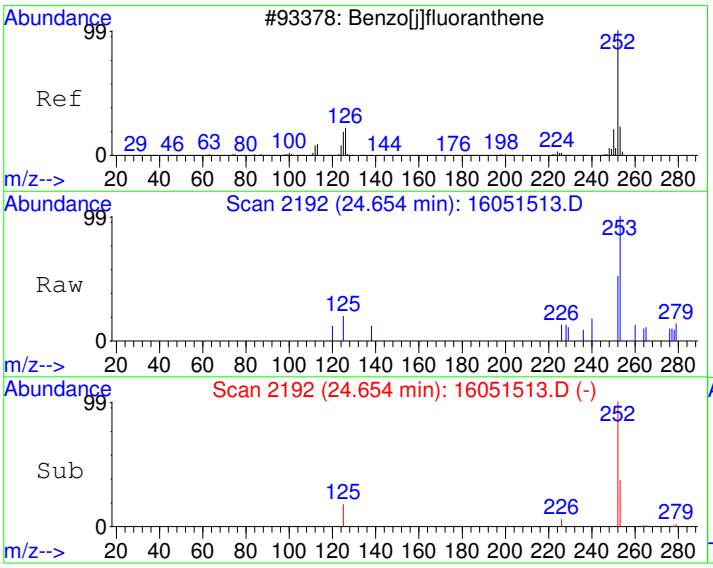


#15
Pyrene
Concen: 5.12 ug/kg
RT: 17.93 min Scan# 1213
Delta R.T. -0.00 min
Lab File: 16051513.D
Acq: 15 May 2016 7:12 pm

Tgt Ion:202 Resp: 2468

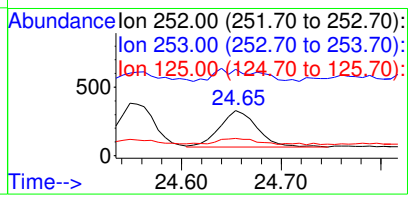
Ion	Ratio	Lower	Upper
202	100		
200	19.9	0.0	50.0
203	15.0	0.0	48.0





#23
Benzo(j)fluoranthene
Concen: 1.81 ug/kg
RT: 24.65 min Scan# 2192
Delta R.T. -0.03 min
Lab File: 16051513.D
Acq: 15 May 2016 7:12 pm

Tgt Ion:252	Resp:	686	
Ion	Ratio	Lower	Upper
252	100		
253	28.2	2.1	42.1
125	15.4	0.0	34.4



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160515\16051514.D Vial: 14
Acq On : 15 May 2016 7:52 pm Operator:
Sample : 1605074-05A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 16 10:38 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Initial Calibration
DataAcq Meth : PP160421

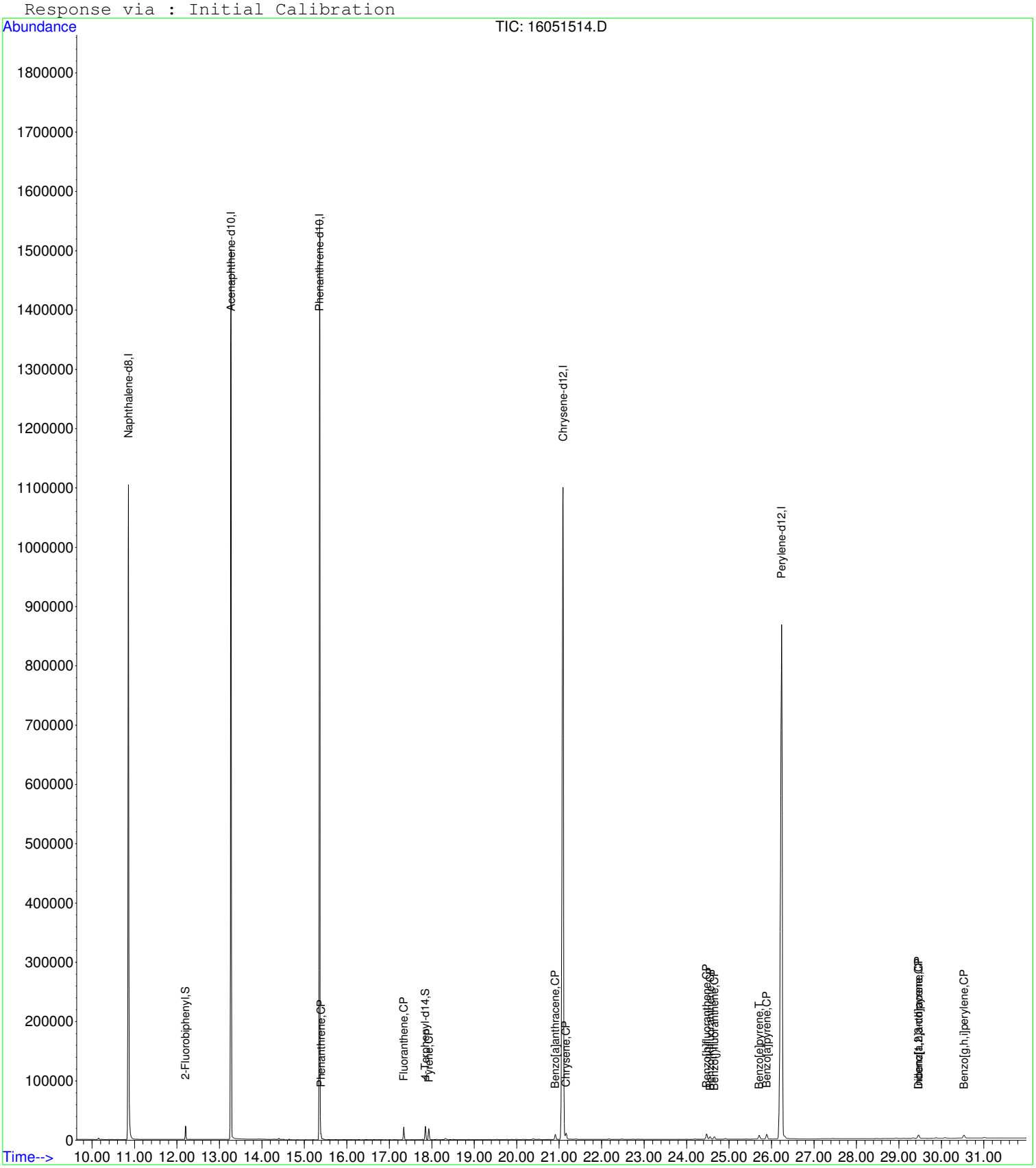
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1452397	4000.00	ug/kg	125
5) Acenaphthene-d10	13.27	164	882033	4000.00	ug/kg	77
11) Phenanthrene-d10	15.36	188	1679928	4000.00	ug/kg	82
17) Chrysene-d12	21.09	240	1903816	4000.00	ug/kg	84
20) Perylene-d12	26.24	264	1731403	4000.00	ug/kg	84
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.21	172	20166	78.38	ug/kg	0.01
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.96%#		
16) 4-Terphenyl-d14	17.85	244	29042	66.82	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.67%#		
Target Compounds						Qvalue
12) Phenanthrene	15.39	178	6393	14.47	ug/kg	98
14) Fluoranthene	17.34	202	21145	46.25	ug/kg	99
15) Pyrene	17.93	202	19567	41.20	ug/kg	99
18) Benzo[a]anthracene	20.91	228	12457	27.93	ug/kg	99
19) Chrysene	21.16	228	14893	34.56	ug/kg	98
21) Benzo[b]fluoranthene	24.47	252	16442	36.03	ug/kg	98
22) Benzo[k]fluoranthene	24.56	252	7791	18.20	ug/kg	94
23) Benzo(j)fluoranthene	24.65	252	7044	18.47	ug/kg	91
24) Benzo[e]pyrene	25.71	252	11879	29.07	ug/kg	98
25) Benzo[a]pyrene	25.88	252	14794	35.42	ug/kg	99
26) Dibenz[a,h]anthracene	29.46	278	2266	5.96	ug/kg	97
27) Indeno[1,2,3-cd]pyrene	29.46	276	9671	21.31	ug/kg	92
28) Benzo[g,h,i]perylene	30.54	276	9819	27.75	ug/kg	97

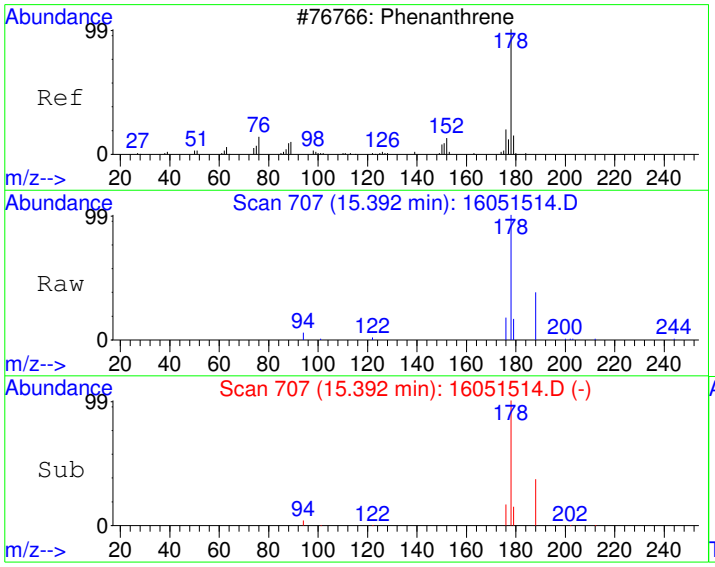
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160515\16051514.D Vial: 14
Acq On : 15 May 2016 7:52 pm Operator:
Sample : 1605074-05A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 16 10:38 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Initial Calibration

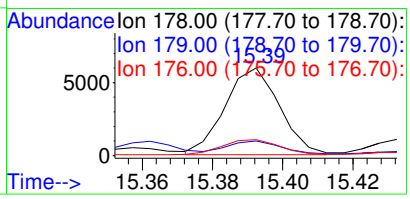


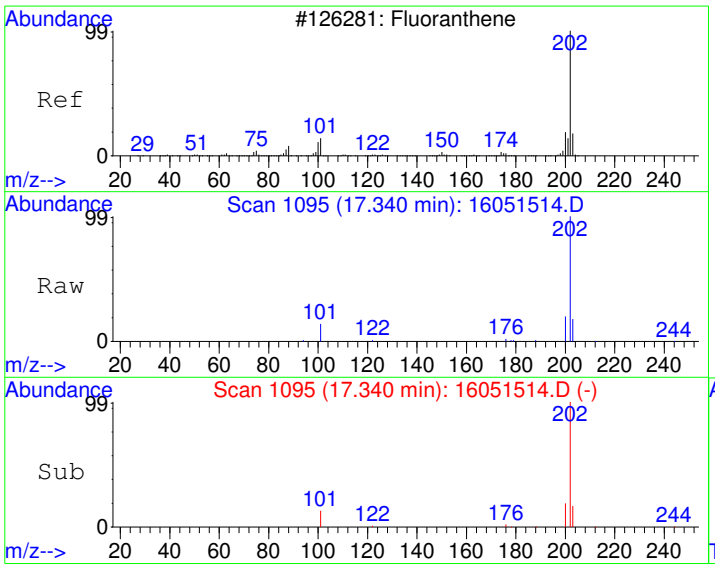


#12
Phenanthrene
Concen: 14.47 ug/kg
RT: 15.39 min Scan# 707
Delta R.T. -0.00 min
Lab File: 16051514.D
Acq: 15 May 2016 7:52 pm

Tgt Ion:178 Resp: 6393

Ion	Ratio	Lower	Upper
178	100		
179	15.1	0.0	45.9
176	17.4	0.0	48.5

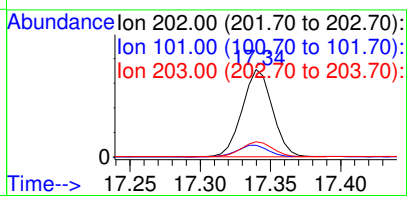


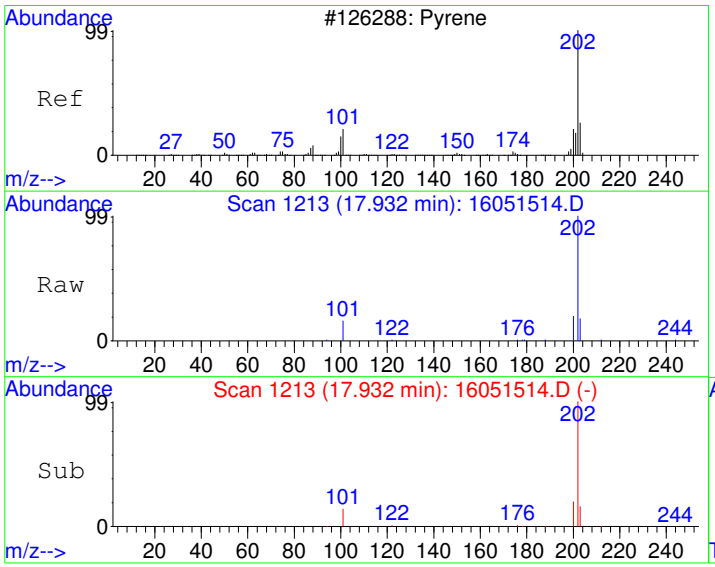


#14
Fluoranthene
Concen: 46.25 ug/kg
RT: 17.34 min Scan# 1095
Delta R.T. -0.01 min
Lab File: 16051514.D
Acq: 15 May 2016 7:52 pm

Tgt Ion:202 Resp: 21145

Ion	Ratio	Lower	Upper
202	100		
101	13.2	0.0	43.0
203	17.2	0.0	47.9

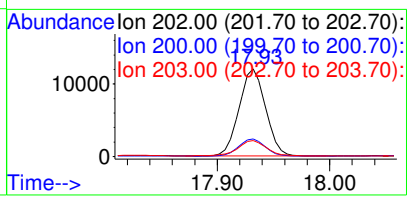


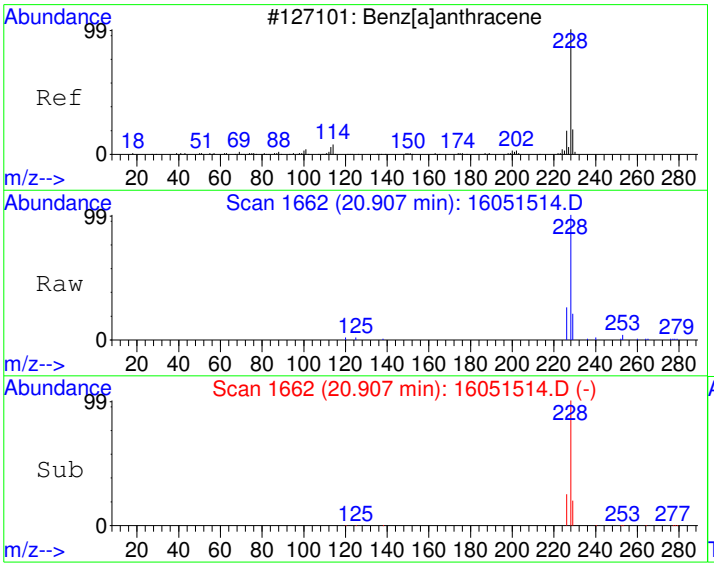


#15
Pyrene
Concen: 41.20 ug/kg
RT: 17.93 min Scan# 1213
Delta R.T. -0.01 min
Lab File: 16051514.D
Acq: 15 May 2016 7:52 pm

Tgt Ion:202 Resp: 19567

Ion	Ratio	Lower	Upper
202	100		
200	19.8	0.0	50.0
203	17.7	0.0	48.0

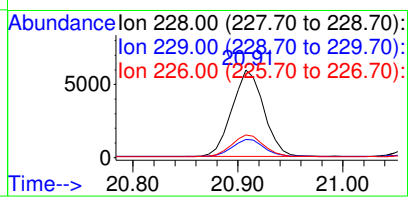


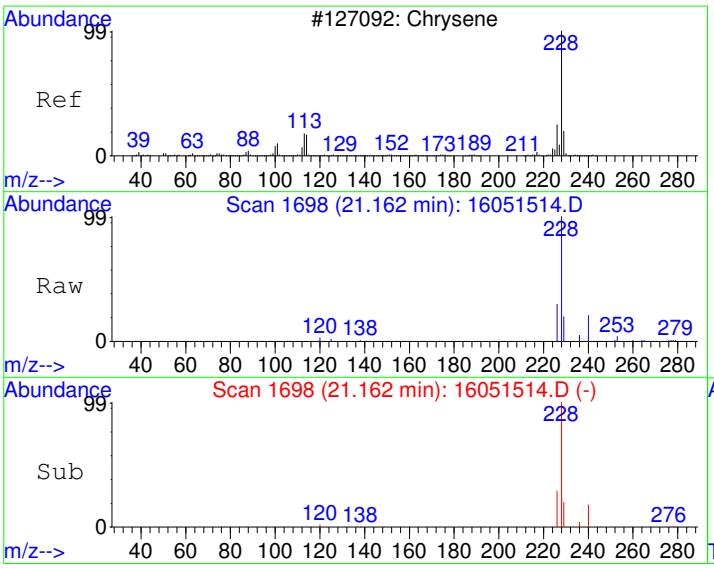


#18
Benzo[a]anthracene
Concen: 27.93 ug/kg
RT: 20.91 min Scan# 1662
Delta R.T. -0.01 min
Lab File: 16051514.D
Acq: 15 May 2016 7:52 pm

Tgt Ion:228 Resp: 12457

Ion	Ratio	Lower	Upper
228	100		
229	19.7	0.0	50.1
226	25.1	0.0	55.2

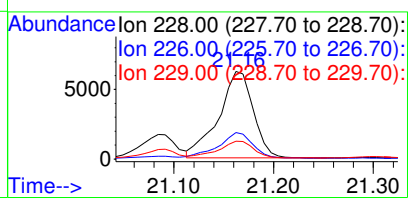


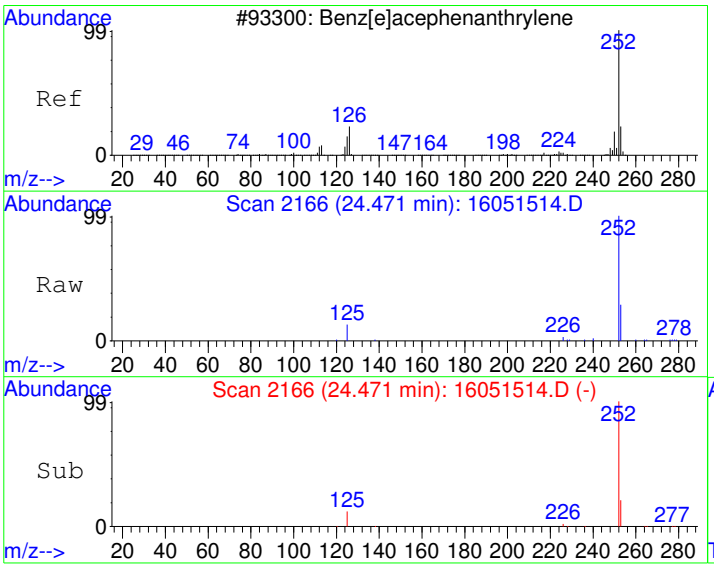


#19
Chrysene
Concen: 34.56 ug/kg
RT: 21.16 min Scan# 1698
Delta R.T. -0.01 min
Lab File: 16051514.D
Acq: 15 May 2016 7:52 pm

Tgt Ion:228 Resp: 14893

Ion	Ratio	Lower	Upper
228	100		
226	29.4	0.0	58.1
229	19.5	0.0	50.1

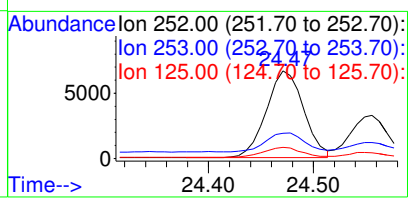


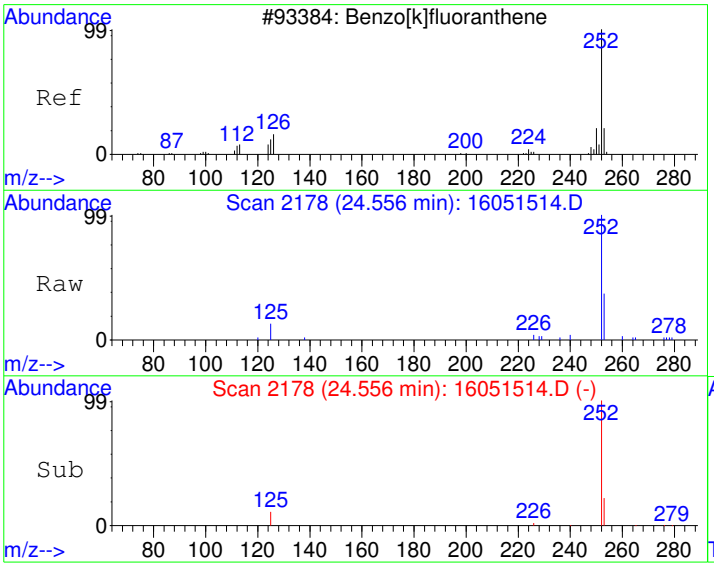


#21
Benzo[b]fluoranthene
Concen: 36.03 ug/kg
RT: 24.47 min Scan# 2166
Delta R.T. -0.03 min
Lab File: 16051514.D
Acq: 15 May 2016 7:52 pm

Tgt Ion:252 Resp: 16442

Ion	Ratio	Lower	Upper
252	100		
253	21.5	0.0	52.2
125	11.7	0.0	41.0

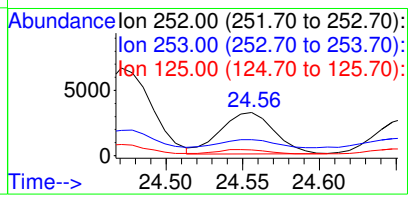


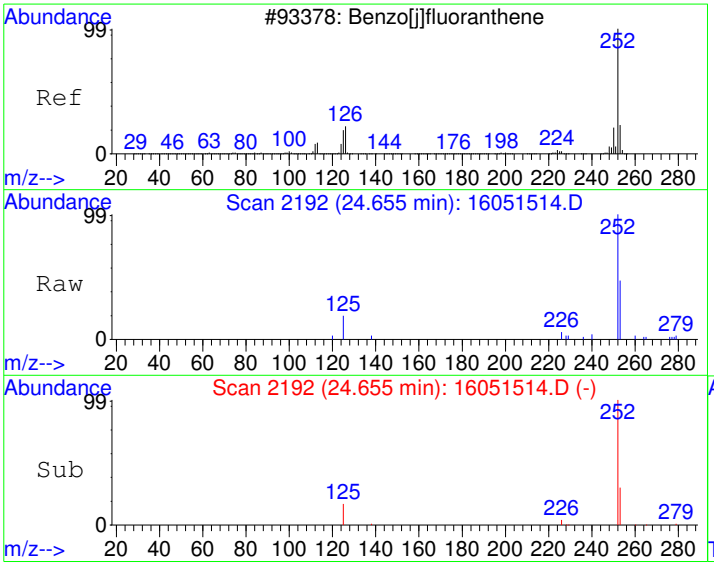


#22
Benzo[k]fluoranthene
Concen: 18.20 ug/kg
RT: 24.56 min Scan# 2178
Delta R.T. -0.02 min
Lab File: 16051514.D
Acq: 15 May 2016 7:52 pm

Tgt Ion:252 Resp: 7791

Ion	Ratio	Lower	Upper
252	100		
253	18.5	2.1	42.1
125	9.8	0.0	31.3

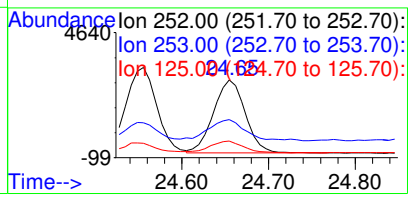


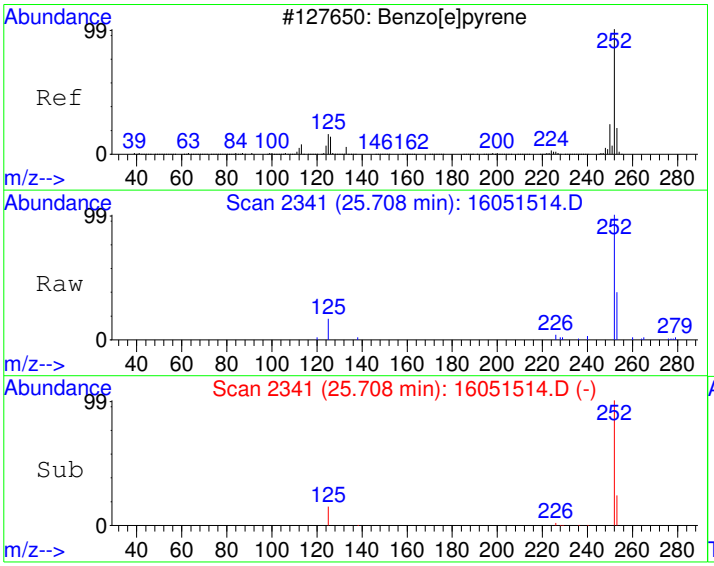


#23
Benzo(j)fluoranthene
Concen: 18.47 ug/kg
RT: 24.65 min Scan# 2192
Delta R.T. -0.03 min
Lab File: 16051514.D
Acq: 15 May 2016 7:52 pm

Tgt Ion:252 Resp: 7044

Ion	Ratio	Lower	Upper
252	100		
253	27.8	2.1	42.1
125	15.8	0.0	34.4

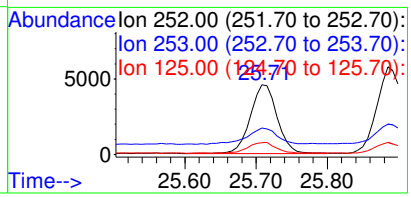


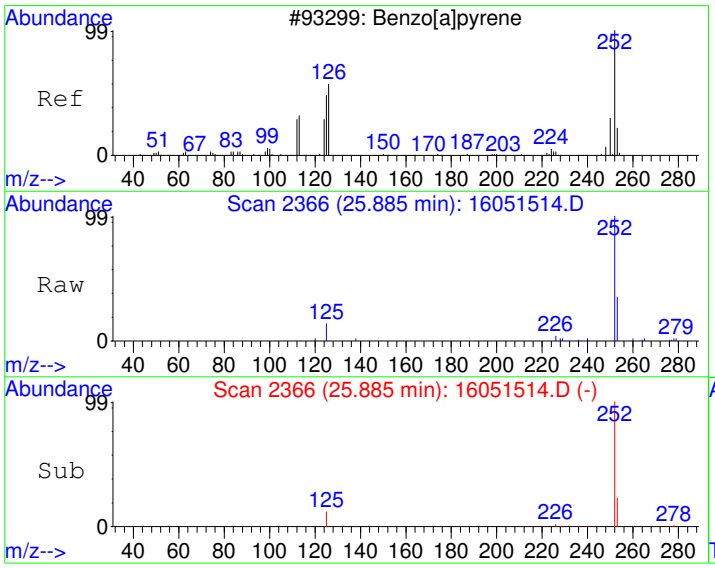


#24
Benzo[e]pyrene
Concen: 29.07 ug/kg
RT: 25.71 min Scan# 2341
Delta R.T. -0.03 min
Lab File: 16051514.D
Acq: 15 May 2016 7:52 pm

Tgt Ion:252 Resp: 11879

Ion	Ratio	Lower	Upper
252	100		
253	23.6	2.2	42.2
125	15.4	0.0	36.1

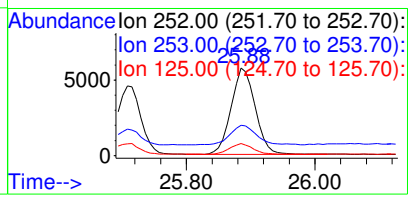


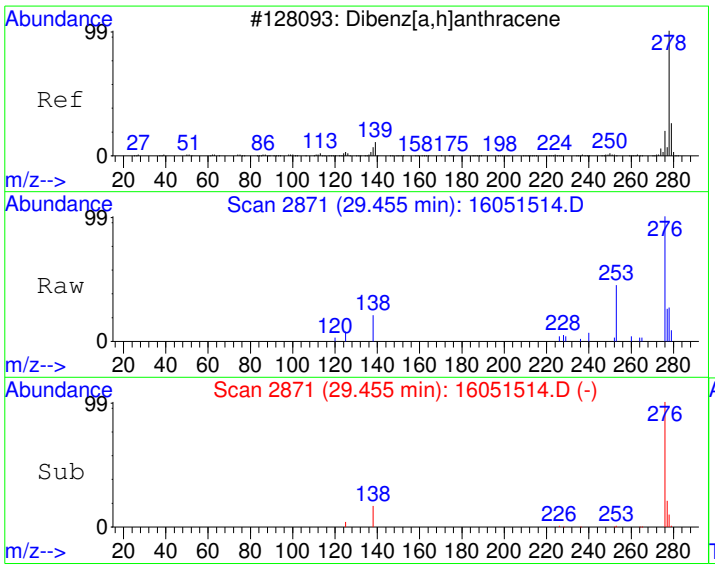


#25
Benzo[a]pyrene
Concen: 35.42 ug/kg
RT: 25.88 min Scan# 2366
Delta R.T. -0.03 min
Lab File: 16051514.D
Acq: 15 May 2016 7:52 pm

Tgt Ion:252 Resp: 14794

Ion	Ratio	Lower	Upper
252	100		
253	22.5	1.9	41.9
125	12.2	0.0	31.7

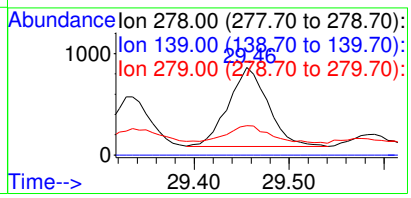


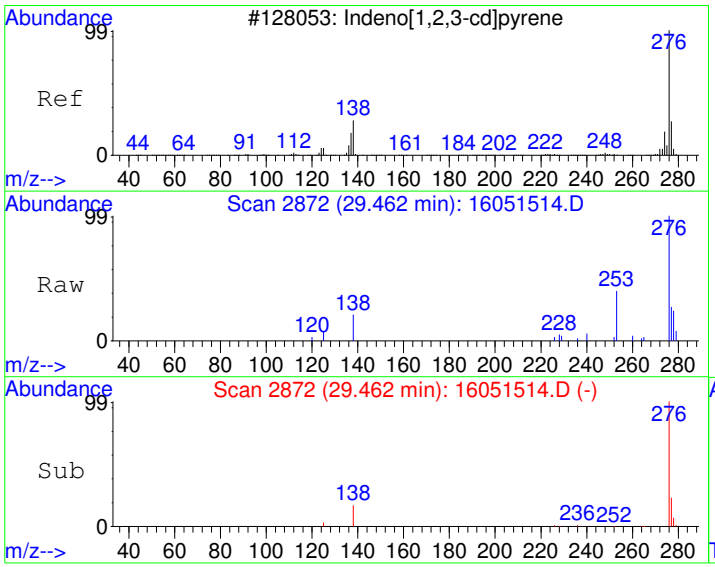


#26
Dibenz[a,h]anthracene
Concen: 5.96 ug/kg
RT: 29.46 min Scan# 2871
Delta R.T. -0.04 min
Lab File: 16051514.D
Acq: 15 May 2016 7:52 pm

Tgt Ion:278 Resp: 2266

Ion	Ratio	Lower	Upper
278	100		
139	0.0	0.0	20.0
279	22.6	4.2	44.2

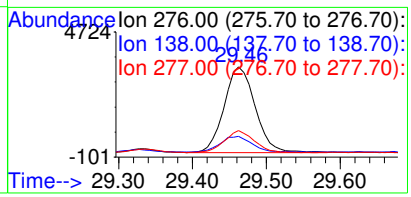


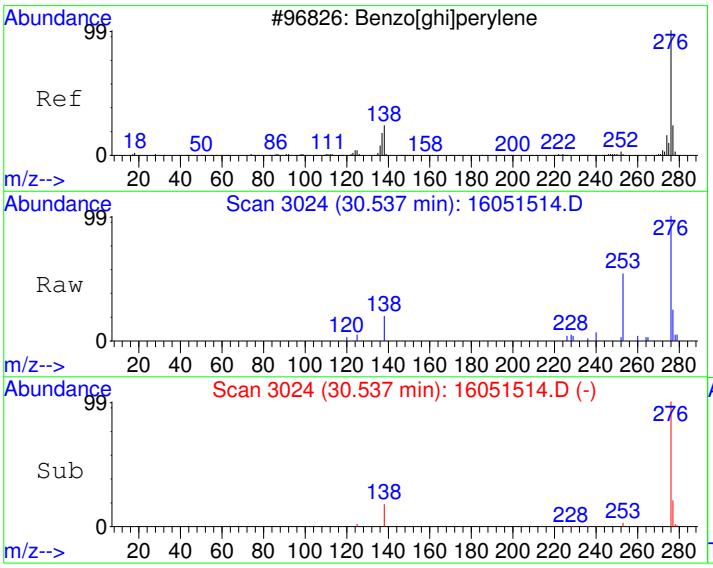


#27
Indeno[1,2,3-cd]pyrene
Concen: 21.31 ug/kg
RT: 29.46 min Scan# 2872
Delta R.T. -0.04 min
Lab File: 16051514.D
Acq: 15 May 2016 7:52 pm

Tgt Ion:276 Resp: 9671

Ion	Ratio	Lower	Upper
276	100		
138	18.4	6.7	46.7
277	25.7	5.8	45.8

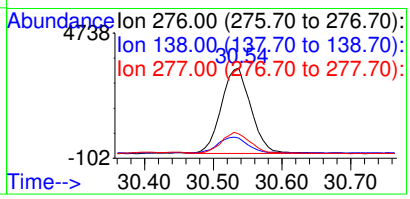




#28
Benzo[g,h,i]perylene
Concen: 27.75 ug/kg
RT: 30.54 min Scan# 3024
Delta R.T. -0.04 min
Lab File: 16051514.D
Acq: 15 May 2016 7:52 pm

Tgt Ion:276 Resp: 9819

Ion	Ratio	Lower	Upper
276	100		
138	17.6	0.0	39.1
277	22.9	4.0	44.0



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160515\16051515.D Vial: 15
Acq On : 15 May 2016 8:33 pm Operator:
Sample : 1605074-06A Inst : GC/MS #6
Misc : SAMP Multiplr: 100.00
MS Integration Params: RTEINT.P
Quant Time: May 16 10:38 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Initial Calibration
DataAcq Meth : PP160421

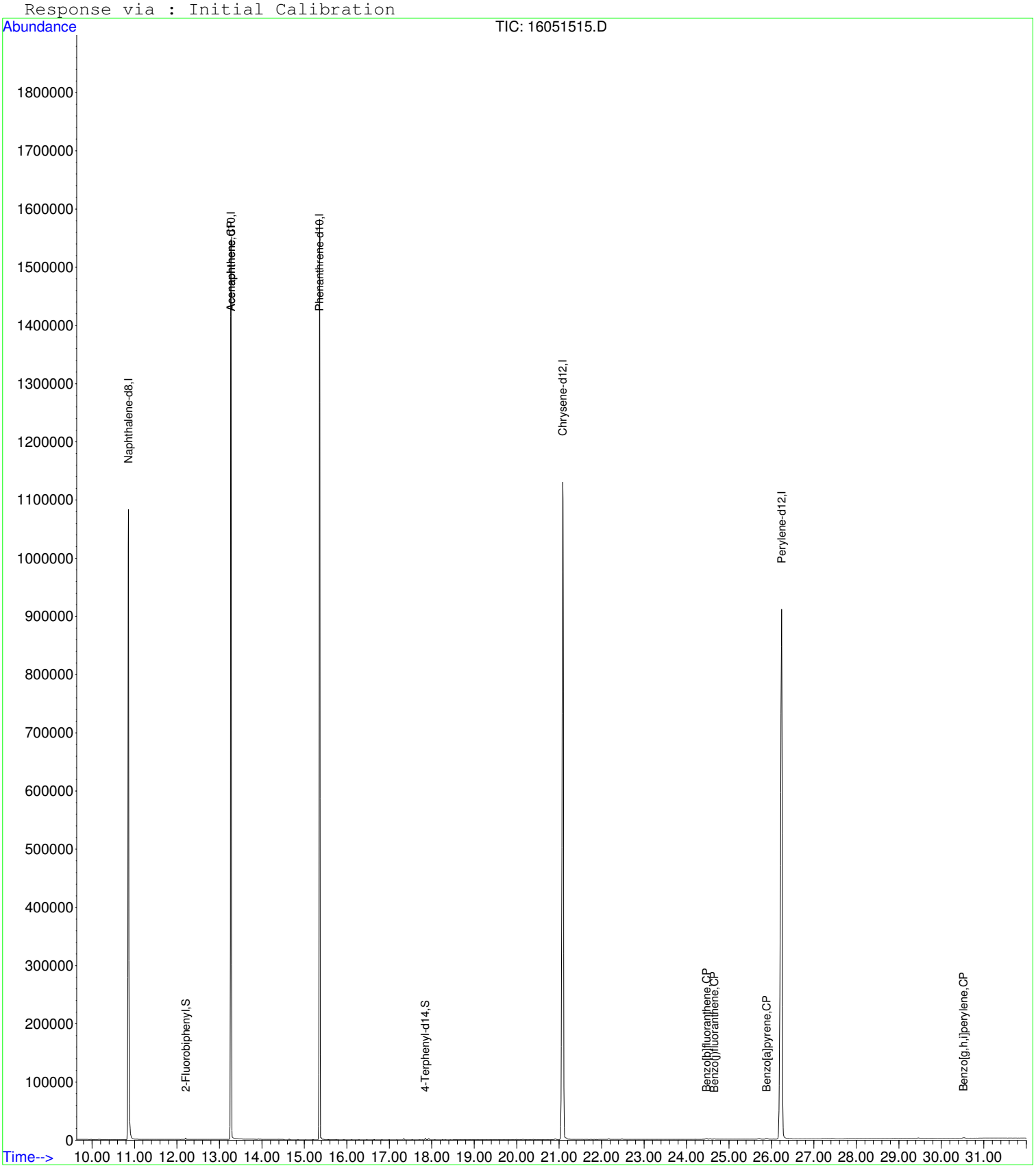
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1462394	4000.00	ug/kg	126
5) Acenaphthene-d10	13.27	164	911373	4000.00	ug/kg	79
11) Phenanthrene-d10	15.36	188	1683146	4000.00	ug/kg	82
17) Chrysene-d12	21.09	240	1952099	4000.00	ug/kg	86
20) Perylene-d12	26.24	264	1780268	4000.00	ug/kg	86
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.21	172	2130	8.01	ug/kg	0.01
Spiked Amount 4000.000	Range 40 - 140		Recovery =	0.20%#		
16) 4-Terphenyl-d14	17.85	244	3104	7.13	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	0.18%#		
Target Compounds						Qvalue
9) Acenaphthene	13.26	154	2776	11.40	ug/kg#	9
21) Benzo[b]fluoranthene	24.47	252	2807	5.98	ug/kg	97
23) Benzo(j)fluoranthene	24.66	252	1168	2.98	ug/kg	84
25) Benzo[a]pyrene	25.89	252	2731	6.36	ug/kg	97
28) Benzo[g,h,i]perylene	30.53	276	1931	5.31	ug/kg	98

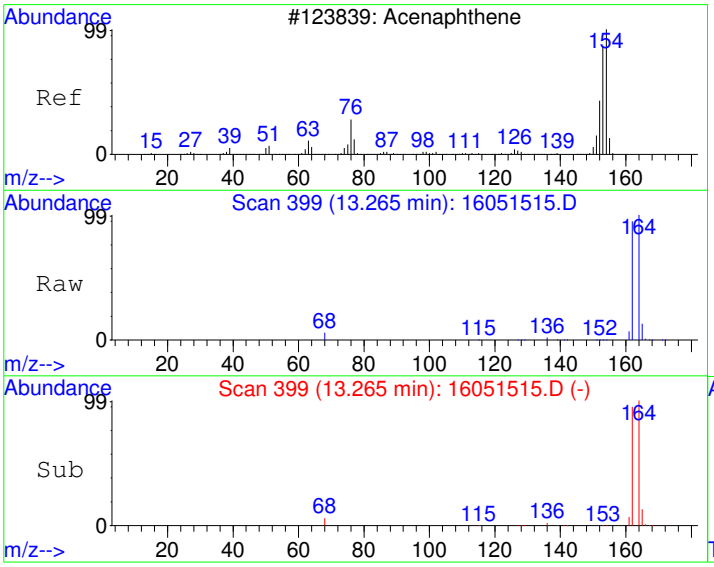
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160515\16051515.D Vial: 15
Acq On : 15 May 2016 8:33 pm Operator:
Sample : 1605074-06A Inst : GC/MS #6
Misc : SAMP Multiplr: 100.00
MS Integration Params: RTEINT.P
Quant Time: May 16 10:38 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Initial Calibration

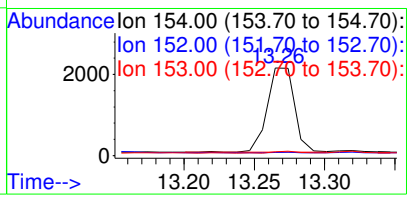


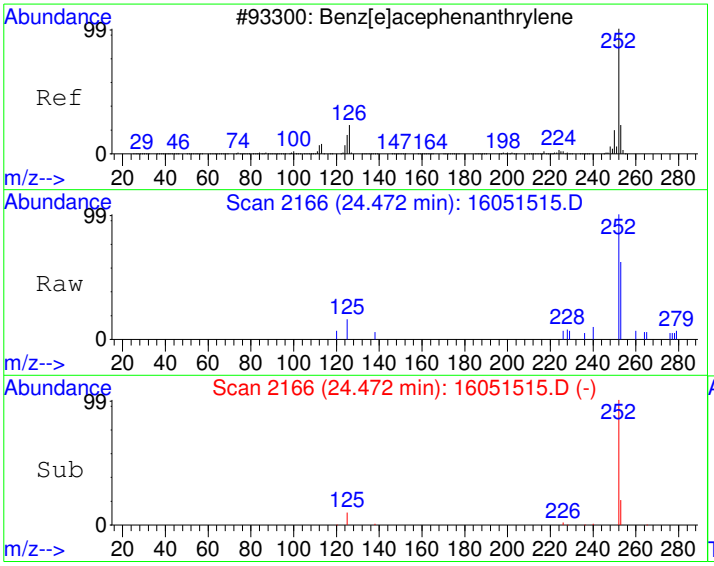


#9
Acenaphthene
Concen: 11.40 ug/kg
RT: 13.26 min Scan# 399
Delta R.T. -0.05 min
Lab File: 16051515.D
Acq: 15 May 2016 8:33 pm

Tgt Ion:154 Resp: 2776

Ion	Ratio	Lower	Upper
154	100		
152	0.6	18.9	78.9#
153	1.2	75.2	135.2#

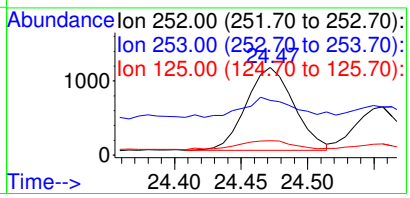


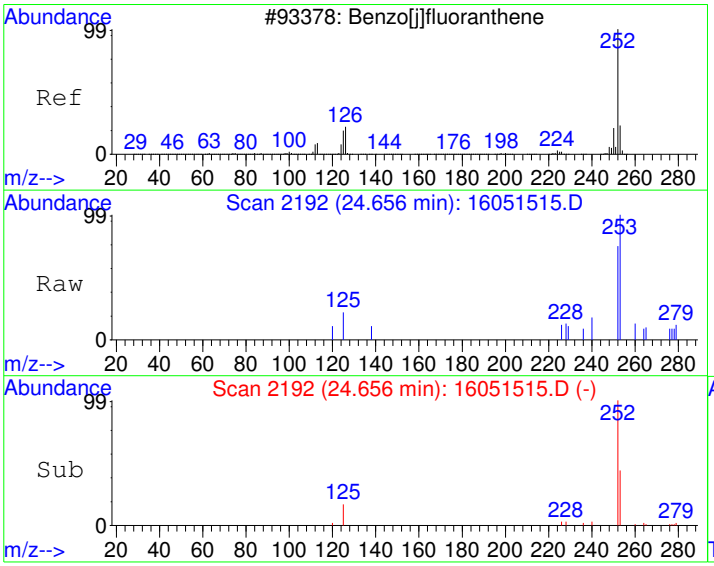


#21
Benzo[b]fluoranthene
Concen: 5.98 ug/kg
RT: 24.47 min Scan# 2166
Delta R.T. -0.03 min
Lab File: 16051515.D
Acq: 15 May 2016 8:33 pm

Tgt Ion:252 Resp: 2807

Ion	Ratio	Lower	Upper
252	100		
253	20.4	0.0	52.2
125	10.6	0.0	41.0

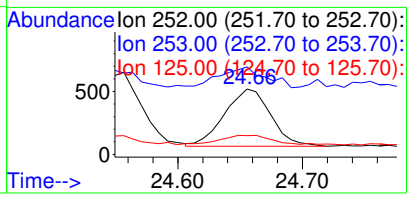


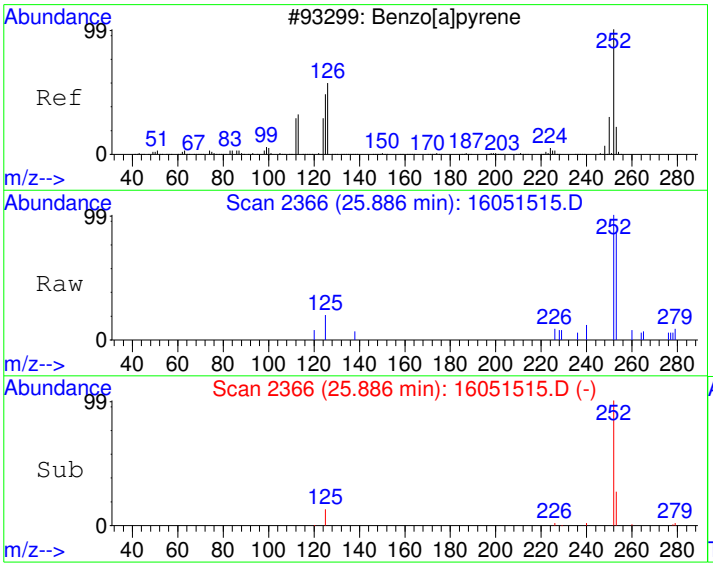


#23
Benzo(j)fluoranthene
Concen: 2.98 ug/kg
RT: 24.66 min Scan# 2192
Delta R.T. -0.03 min
Lab File: 16051515.D
Acq: 15 May 2016 8:33 pm

Tgt Ion:252 Resp: 1168

Ion	Ratio	Lower	Upper
252	100		
253	34.3	2.1	42.1
125	14.9	0.0	34.4

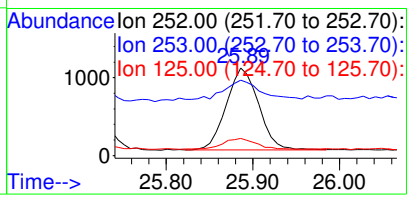


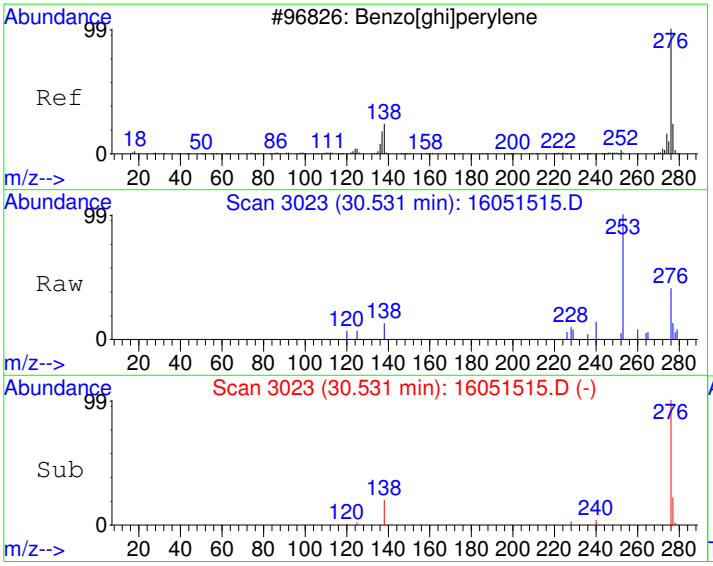


#25
Benzo[a]pyrene
Concen: 6.36 ug/kg
RT: 25.89 min Scan# 2366
Delta R.T. -0.03 min
Lab File: 16051515.D
Acq: 15 May 2016 8:33 pm

Tgt Ion:252 Resp: 2731

Ion	Ratio	Lower	Upper
252	100		
253	23.6	1.9	41.9
125	12.7	0.0	31.7

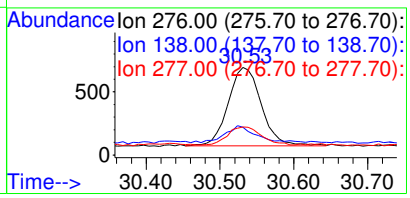




#28
Benzo[g,h,i]perylene
Concen: 5.31 ug/kg
RT: 30.53 min Scan# 3023
Delta R.T. -0.04 min
Lab File: 16051515.D
Acq: 15 May 2016 8:33 pm

Tgt Ion:276 Resp: 1931

Ion	Ratio	Lower	Upper
276	100		
138	19.2	0.0	39.1
277	22.7	4.0	44.0



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160515\16051516.D Vial: 16
Acq On : 15 May 2016 9:12 pm Operator:
Sample : 1605071-53AMS Inst : GC/MS #6
Misc : MS Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 16 10:28 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Initial Calibration
DataAcq Meth : PP160421

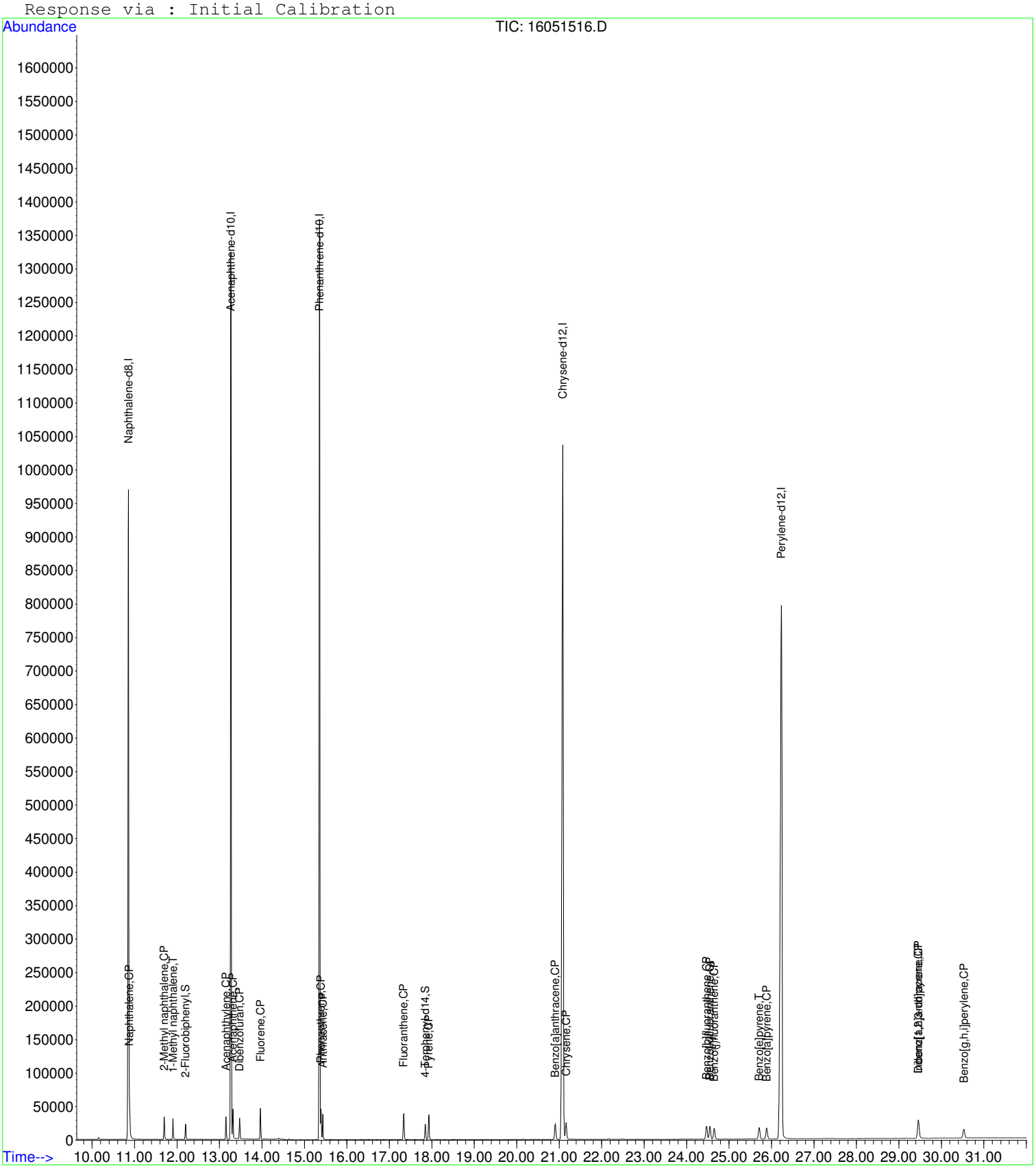
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1291276	4000.00	ug/kg	111
5) Acenaphthene-d10	13.27	164	801472	4000.00	ug/kg	70
11) Phenanthrene-d10	15.36	188	1527851	4000.00	ug/kg	75
17) Chrysene-d12	21.08	240	1715808	4000.00	ug/kg	76
20) Perylene-d12	26.23	264	1570418	4000.00	ug/kg	76
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.20	172	20216	86.47	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	2.16%#		
16) 4-Terphenyl-d14	17.85	244	29618	74.93	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.87%#		
Target Compounds						Qvalue
2) Naphthalene	10.88	128	24509	75.88	ug/kg	99
3) 2-Methyl naphthalene	11.70	142	17978	63.01	ug/kg	96
4) 1-Methyl naphthalene	11.91	142	16180	61.92	ug/kg	96
6) Dibenzofuran	13.47	168	27054	90.06	ug/kg	99
8) Acenaphthylene	13.15	152	29394	85.16	ug/kg	99
9) Acenaphthene	13.32	154	17574	82.03	ug/kg	99
10) Fluorene	13.97	166	22840	87.78	ug/kg	100
12) Phenanthrene	15.39	178	36135	89.93	ug/kg	99
13) Anthracene	15.43	178	33941	89.25	ug/kg	99
14) Fluoranthene	17.34	202	39791	95.70	ug/kg	97
15) Pyrene	17.93	202	39919	92.42	ug/kg	99
18) Benzo[a]anthracene	20.91	228	34787	86.54	ug/kg	99
19) Chrysene	21.16	228	32976	84.91	ug/kg	99
21) Benzo[b]fluoranthene	24.47	252	35596	86.00	ug/kg	99
22) Benzo[k]fluoranthene	24.55	252	32458	83.59	ug/kg	100
23) Benzo(j)fluoranthene	24.65	252	29232	84.51	ug/kg	97
24) Benzo[e]pyrene	25.71	252	31498	84.97	ug/kg	99
25) Benzo[a]pyrene	25.88	252	30946	81.70	ug/kg	100
26) Dibenz[a,h]anthracene	29.46	278	25604	74.22	ug/kg	99
27) Indeno[1,2,3-cd]pyrene	29.46	276	30895	75.07	ug/kg	94
28) Benzo[g,h,i]perylene	30.53	276	25819	80.46	ug/kg	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160515\16051516.D Vial: 16
Acq On : 15 May 2016 9:12 pm Operator:
Sample : 1605071-53AMS Inst : GC/MS #6
Misc : MS Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 16 10:28 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160515\16051517.D Vial: 17
Acq On : 15 May 2016 9:52 pm Operator:
Sample : 1605071-53AMSD Inst : GC/MS #6
Misc : MSD Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 16 10:28 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Initial Calibration
DataAcq Meth : PP160421

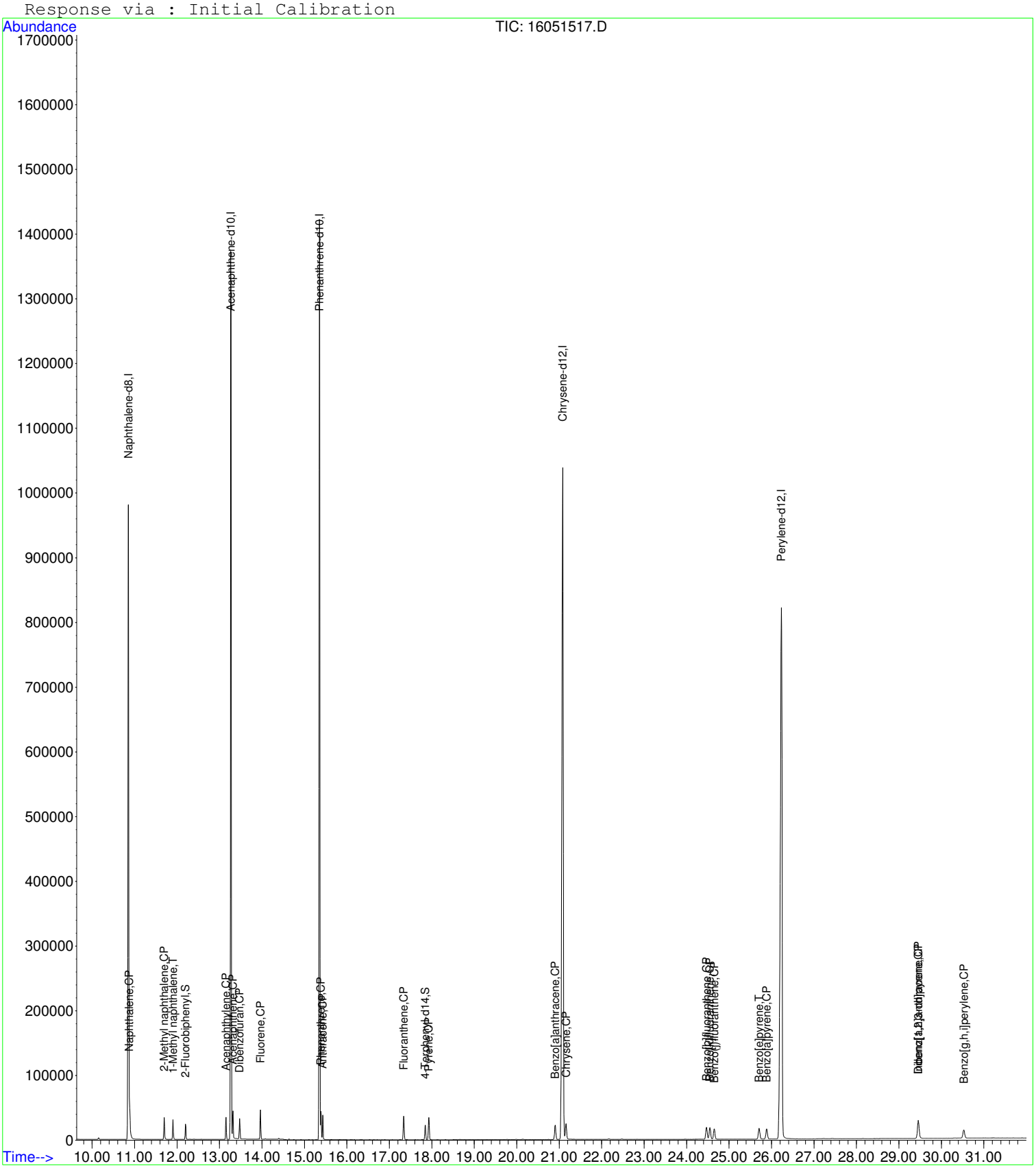
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1369136	4000.00	ug/kg	118
5) Acenaphthene-d10	13.26	164	830325	4000.00	ug/kg	72
11) Phenanthrene-d10	15.35	188	1573733	4000.00	ug/kg	77
17) Chrysene-d12	21.08	240	1774376	4000.00	ug/kg	78
20) Perylene-d12	26.23	264	1639071	4000.00	ug/kg	80
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.20	172	19997	82.56	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	2.06%#		
16) 4-Terphenyl-d14	17.85	244	29061	71.38	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.78%#		
Target Compounds						Qvalue
2) Naphthalene	10.88	128	26162	76.39	ug/kg	99
3) 2-Methyl naphthalene	11.70	142	18353	60.67	ug/kg	97
4) 1-Methyl naphthalene	11.91	142	16592	59.89	ug/kg	98
6) Dibenzofuran	13.47	168	26719	85.86	ug/kg	99
8) Acenaphthylene	13.15	152	29189	81.63	ug/kg	99
9) Acenaphthene	13.32	154	17418	78.48	ug/kg	99
10) Fluorene	13.97	166	22616	83.90	ug/kg	98
12) Phenanthrene	15.39	178	34302	82.88	ug/kg	99
13) Anthracene	15.43	178	32917	84.03	ug/kg	98
14) Fluoranthene	17.34	202	36337	84.84	ug/kg	98
15) Pyrene	17.93	202	37088	83.36	ug/kg	99
18) Benzo[a]anthracene	20.91	228	32932	79.22	ug/kg	100
19) Chrysene	21.16	228	31193	77.66	ug/kg	99
21) Benzo[b]fluoranthene	24.47	252	33480	77.50	ug/kg	99
22) Benzo[k]fluoranthene	24.55	252	31887	78.68	ug/kg	99
23) Benzo(j)fluoranthene	24.65	252	28664	79.40	ug/kg	99
24) Benzo[e]pyrene	25.71	252	30528	78.91	ug/kg	99
25) Benzo[a]pyrene	25.88	252	30072	76.06	ug/kg	99
26) Dibenz[a,h]anthracene	29.46	278	25793	71.64	ug/kg	99
27) Indeno[1,2,3-cd]pyrene	29.46	276	30178	70.26	ug/kg	96
28) Benzo[g,h,i]perylene	30.53	276	25381	75.78	ug/kg	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160515\16051517.D Vial: 17
Acq On : 15 May 2016 9:52 pm Operator:
Sample : 1605071-53AMSD Inst : GC/MS #6
Misc : MSD Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 16 10:28 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160515\16051519.D Vial: 19
Acq On : 15 May 2016 11:08 pm Operator:
Sample : ICV2-160515 Inst : GC/MS #6
Misc : ICV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 16 10:28 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Initial Calibration
DataAcq Meth : PP160421

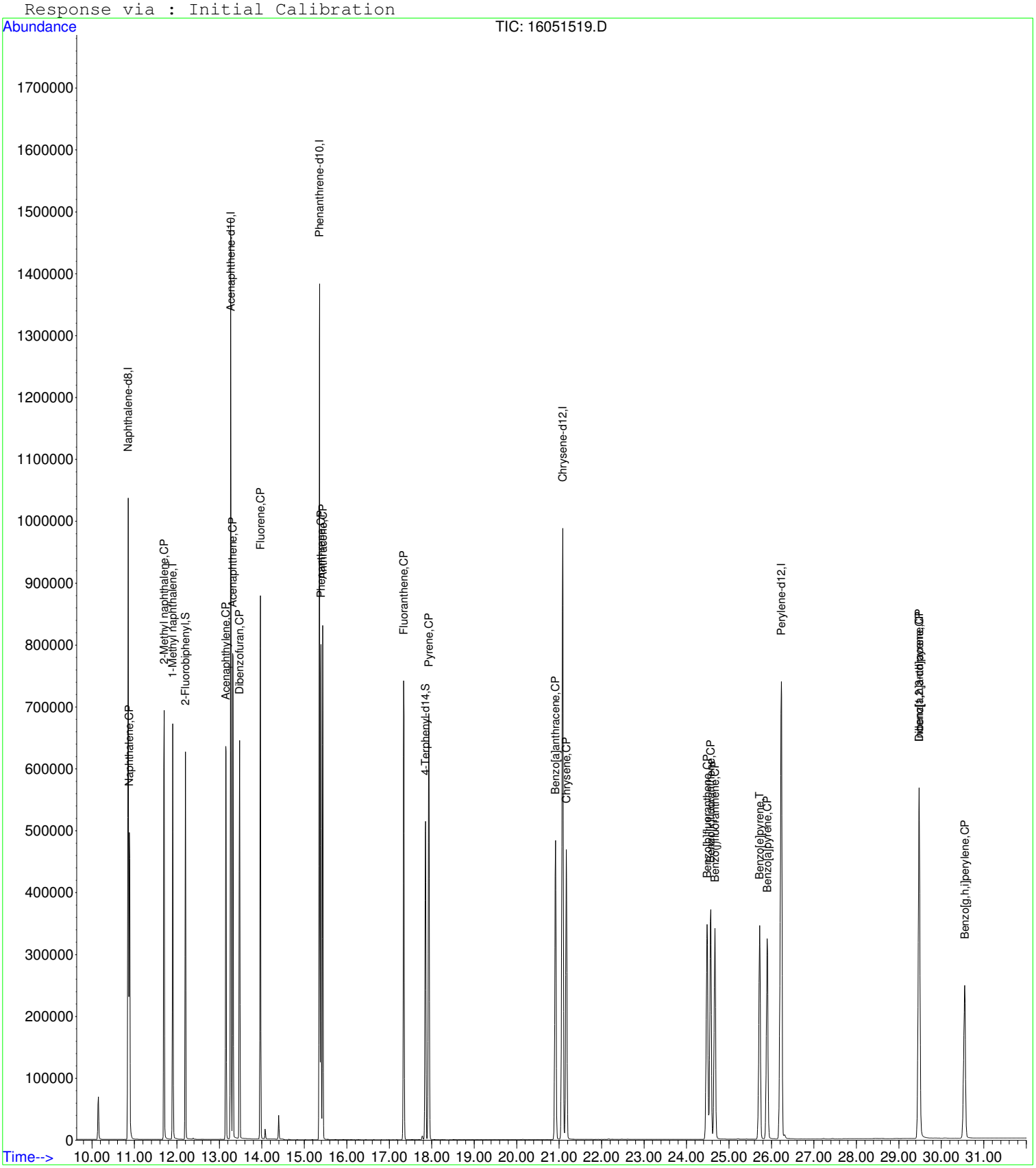
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.85	136	1219321	4000.00	ug/kg	105
5) Acenaphthene-d10	13.27	164	788106	4000.00	ug/kg	68
11) Phenanthrene-d10	15.36	188	1509544	4000.00	ug/kg	74
17) Chrysene-d12	21.08	240	1636051	4000.00	ug/kg	72
20) Perylene-d12	26.23	264	1469355	4000.00	ug/kg	71
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.20	172	447706	1947.42	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 48.69%			
16) 4-Terphenyl-d14	17.85	244	669358	1713.90	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 42.85%			
Target Compounds						Qvalue
2) Naphthalene	10.88	128	528759	1733.65	ug/kg	99
3) 2-Methyl naphthalene	11.70	142	388676	1442.68	ug/kg	98
4) 1-Methyl naphthalene	11.90	142	351598	1424.95	ug/kg	93
6) Dibenzofuran	13.48	168	559684	1894.83	ug/kg	99
8) Acenaphthylene	13.15	152	637158	1877.28	ug/kg	99
9) Acenaphthene	13.32	154	370891	1760.57	ug/kg	97
10) Fluorene	13.97	166	475081	1856.92	ug/kg	97
12) Phenanthrene	15.39	178	676456	1703.98	ug/kg	100
13) Anthracene	15.43	178	693152	1844.71	ug/kg	100
14) Fluoranthene	17.34	202	731701	1781.11	ug/kg	99
15) Pyrene	17.93	202	732175	1715.72	ug/kg	100
18) Benzo[a]anthracene	20.91	228	694616	1812.26	ug/kg	100
19) Chrysene	21.17	228	635779	1716.78	ug/kg	100
21) Benzo[b]fluoranthene	24.49	252	683492	1764.89	ug/kg	99
22) Benzo[k]fluoranthene	24.57	252	636370	1751.65	ug/kg	100
23) Benzo(j)fluoranthene	24.67	252	592086	1829.56	ug/kg	99
24) Benzo[e]pyrene	25.72	252	630781	1818.74	ug/kg	99
25) Benzo[a]pyrene	25.90	252	618833	1746.08	ug/kg	99
26) Dibenz[a,h]anthracene	29.48	278	529358	1640.03	ug/kg	99
27) Indeno[1,2,3-cd]pyrene	29.48	276	610817	1586.31	ug/kg	97
28) Benzo[g,h,i]perylene	30.55	276	501184	1669.18	ug/kg	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160515\16051519.D Vial: 19
Acq On : 15 May 2016 11:08 pm Operator:
Sample : ICV2-160515 Inst : GC/MS #6
Misc : ICV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 16 10:28 2016 Quant Results File: PP160421.RES

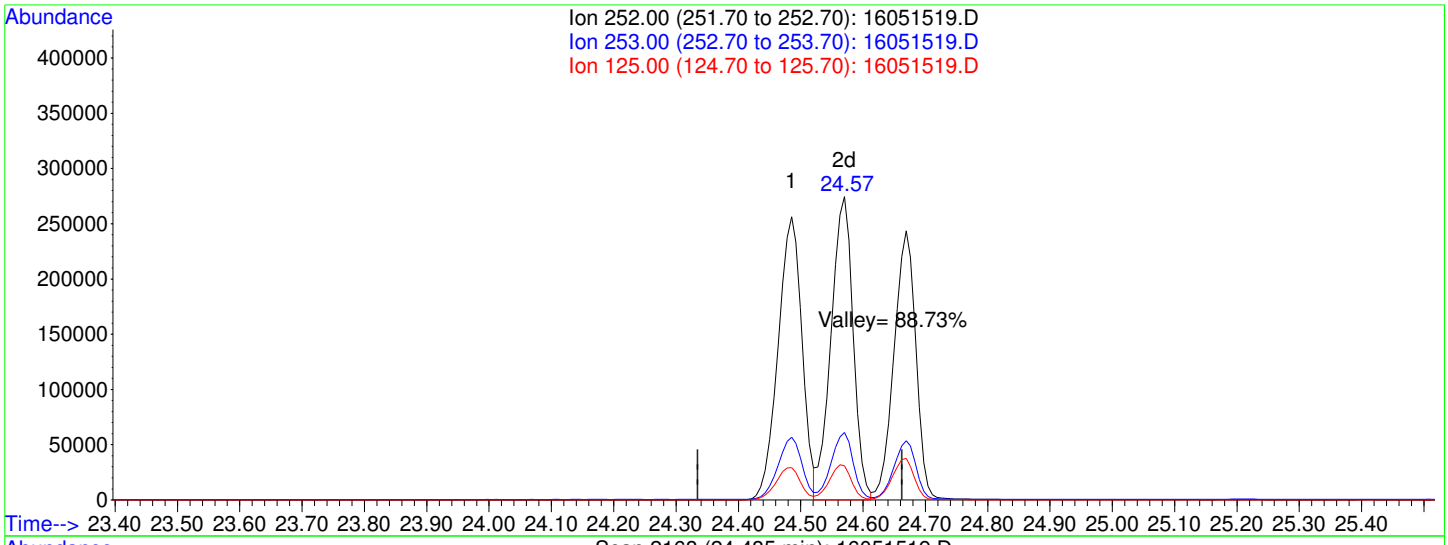
Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Initial Calibration

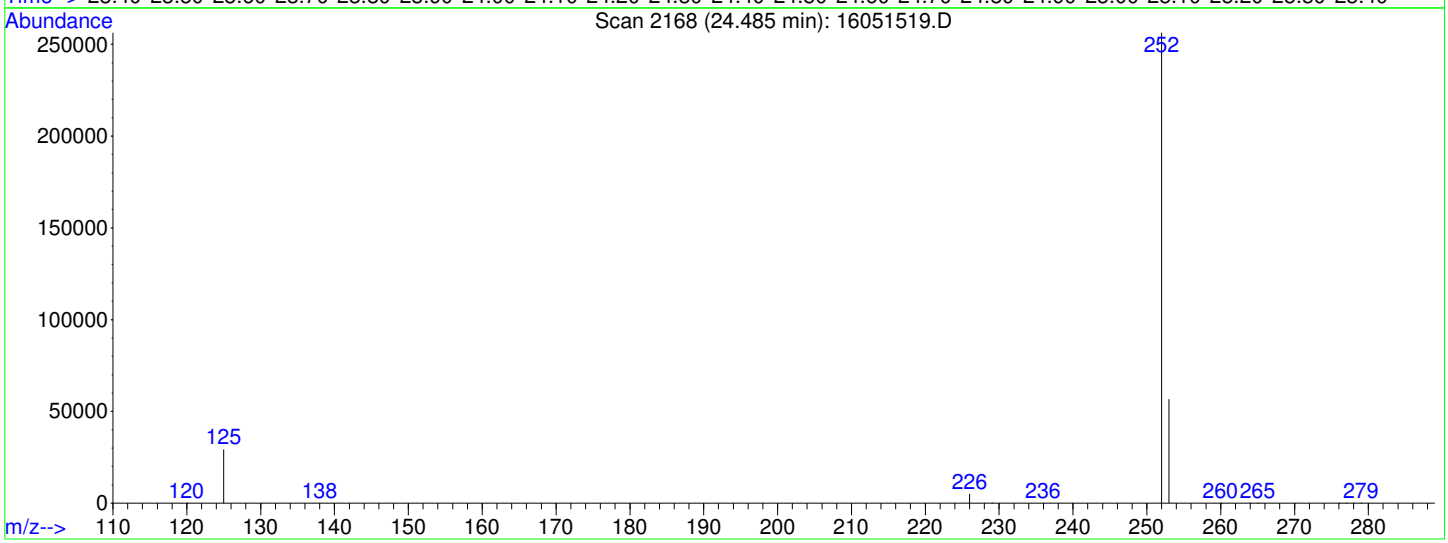


Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\160515\16051519.D Vial: 19
Acq On : 15 May 2016 11:08 pm Operator:
Sample : ICV2-160515 Inst : GC/MS #6
Misc : ICV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 15 23:41 2016 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Multiple Level Calibration





TIC: 16051519.D

(21) Benzo[b]fluoranthene (CP)

24.49min 1764.89ug/kg

response 683492

Ion	Exp%	Act%
252.00	100	100
253.00	22.20	21.95
125.00	11.00	11.42
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160515\16051521.D Vial: 21
Acq On : 16 May 2016 12:27 am Operator:
Sample : SB-160515 Inst : GC/MS #6
Misc : SBLK Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 16 10:28 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Initial Calibration
DataAcq Meth : PP160421

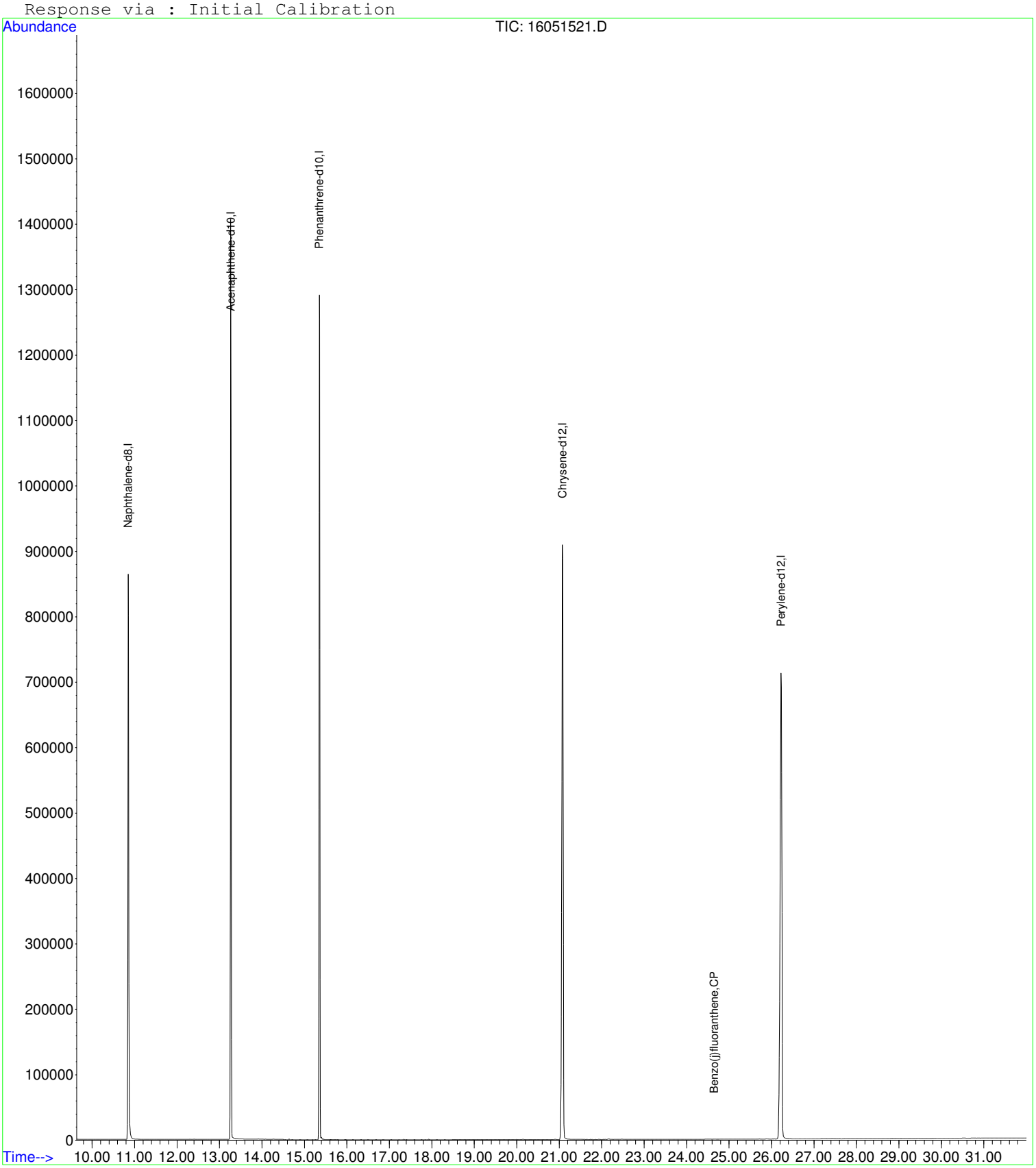
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.85	136	1190621	4000.00	ug/kg	103
5) Acenaphthene-d10	13.26	164	783067	4000.00	ug/kg	68
11) Phenanthrene-d10	15.35	188	1437641	4000.00	ug/kg	70
17) Chrysene-d12	21.08	240	1522883	4000.00	ug/kg	67
20) Perylene-d12	26.22	264	1405530	4000.00	ug/kg	68
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.21	172	42	0.18	ug/kg	0.01
Spiked Amount 4000.000	Range 40 - 140		Recovery =	0.00%#		
16) 4-Terphenyl-d14	17.85	244	176	0.47	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	0.01%#		
Target Compounds						Qvalue
23) Benzo(j)fluoranthene	24.65	252	176	0.57	ug/kg	86

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160515\16051521.D Vial: 21
Acq On : 16 May 2016 12:27 am Operator:
Sample : SB-160515 Inst : GC/MS #6
Misc : SBLK Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 16 10:28 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160515\16051522.D Vial: 22
Acq On : 16 May 2016 1:07 am Operator:
Sample : 1605074-07A Inst : GC/MS #6
Misc : SAMP Multiplr: 20.00
MS Integration Params: RTEINT.P
Quant Time: May 16 10:39 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Initial Calibration
DataAcq Meth : PP160421

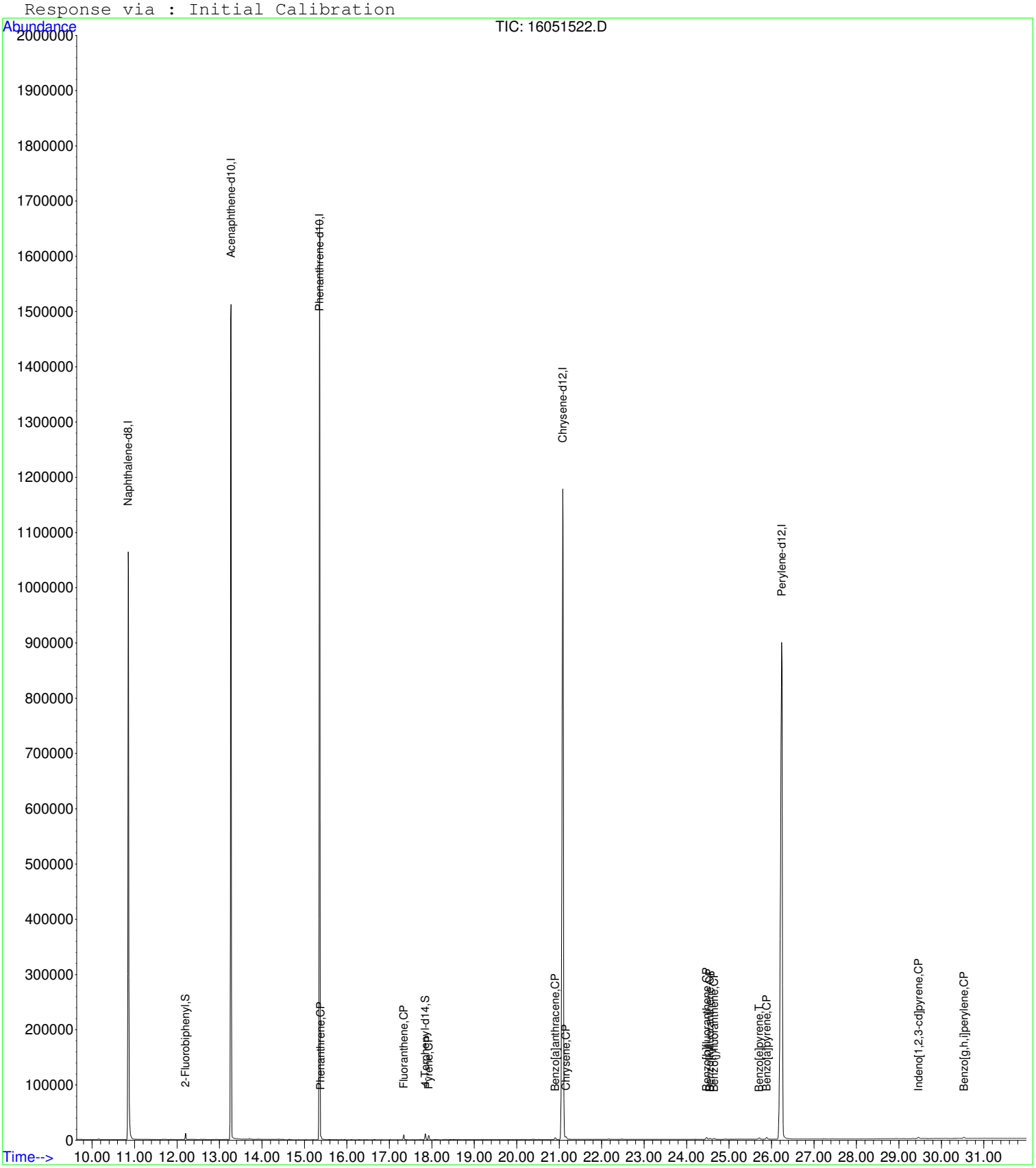
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.85	136	1468075	4000.00	ug/kg	127
5) Acenaphthene-d10	13.27	164	927932	4000.00	ug/kg	81
11) Phenanthrene-d10	15.36	188	1776368	4000.00	ug/kg	87
17) Chrysene-d12	21.08	240	1991213	4000.00	ug/kg	88
20) Perylene-d12	26.24	264	1836482	4000.00	ug/kg	89
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.20	172	10282	37.99	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	0.95%#		
16) 4-Terphenyl-d14	17.85	244	14416	31.37	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	0.78%#		
Target Compounds						Qvalue
12) Phenanthrene	15.39	178	3309	7.08	ug/kg	99
14) Fluoranthene	17.34	202	9318	19.27	ug/kg	99
15) Pyrene	17.93	202	8433	16.79	ug/kg	99
18) Benzo[a]anthracene	20.91	228	5035	10.79	ug/kg	99
19) Chrysene	21.16	228	5891	13.07	ug/kg	99
21) Benzo[b]fluoranthene	24.47	252	6283	12.98	ug/kg	97
22) Benzo[k]fluoranthene	24.55	252	3091	6.81	ug/kg	97
23) Benzo(j)fluoranthene	24.65	252	2801	6.92	ug/kg	90
24) Benzo[e]pyrene	25.71	252	4542	10.48	ug/kg	97
25) Benzo[a]pyrene	25.88	252	5816	13.13	ug/kg	96
27) Indeno[1,2,3-cd]pyrene	29.46	276	3943	8.19	ug/kg	90
28) Benzo[g,h,i]perylene	30.53	276	4017	10.70	ug/kg	96

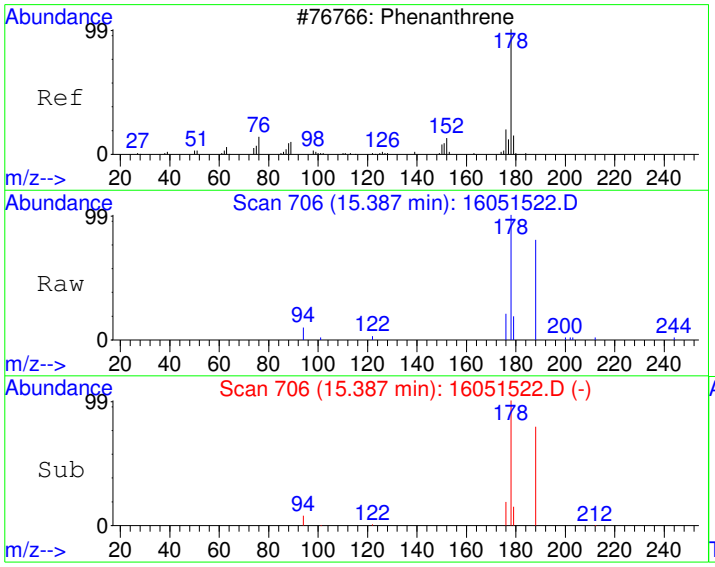
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160515\16051522.D Vial: 22
Acq On : 16 May 2016 1:07 am Operator:
Sample : 1605074-07A Inst : GC/MS #6
Misc : SAMP Multiplr: 20.00
MS Integration Params: RTEINT.P
Quant Time: May 16 10:39 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Initial Calibration

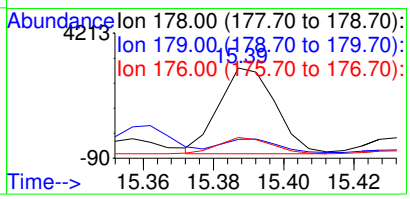


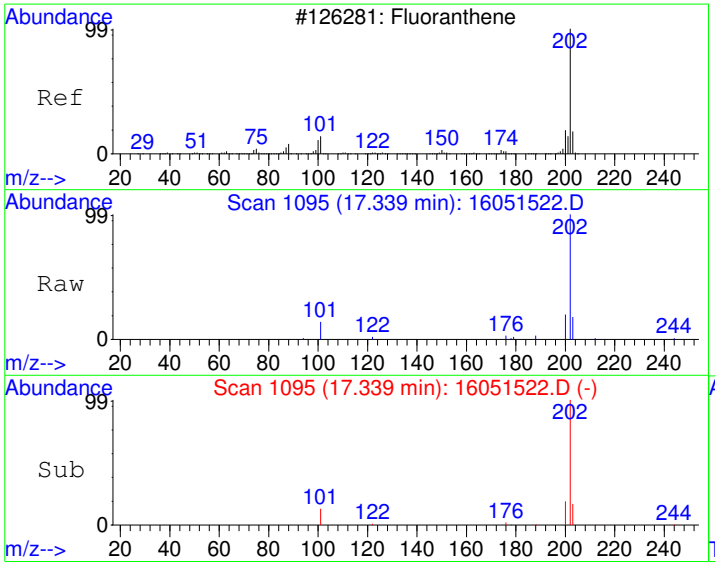


#12
Phenanthrene
Concen: 7.08 ug/kg
RT: 15.39 min Scan# 706
Delta R.T. -0.01 min
Lab File: 16051522.D
Acq: 16 May 2016 1:07 am

Tgt Ion:178 Resp: 3309

Ion	Ratio	Lower	Upper
178	100		
179	15.6	0.0	45.9
176	19.3	0.0	48.5

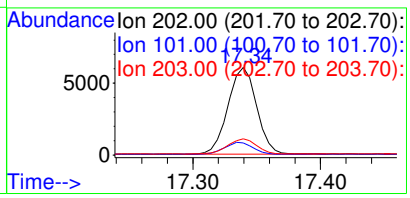


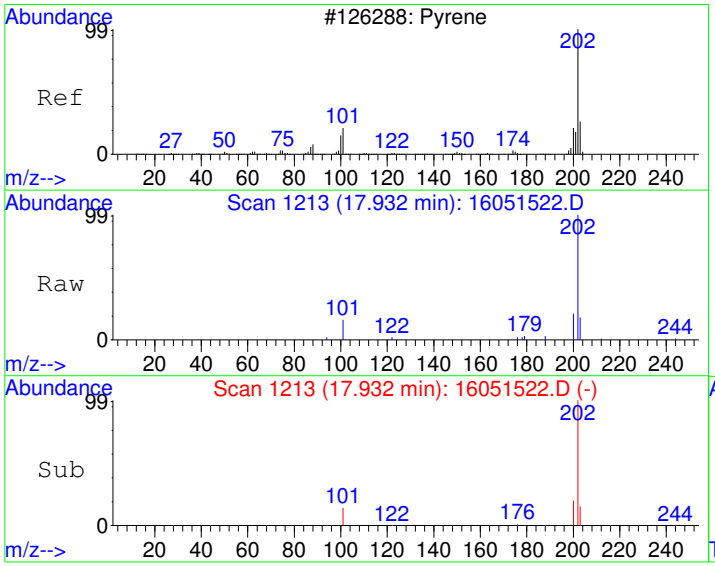


#14
Fluoranthene
Concen: 19.27 ug/kg
RT: 17.34 min Scan# 1095
Delta R.T. -0.01 min
Lab File: 16051522.D
Acq: 16 May 2016 1:07 am

Tgt Ion:202 Resp: 9318

Ion	Ratio	Lower	Upper
202	100		
101	13.1	0.0	43.0
203	17.4	0.0	47.9

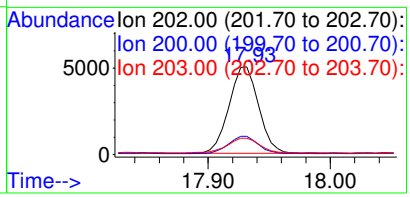


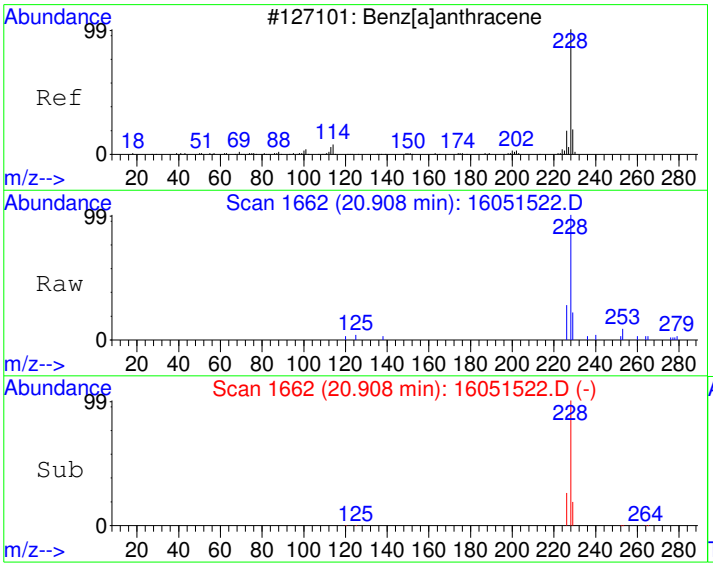


#15
Pyrene
Concen: 16.79 ug/kg
RT: 17.93 min Scan# 1213
Delta R.T. -0.01 min
Lab File: 16051522.D
Acq: 16 May 2016 1:07 am

Tgt Ion:202 Resp: 8433

Ion	Ratio	Lower	Upper
202	100		
200	20.1	0.0	50.0
203	17.1	0.0	48.0

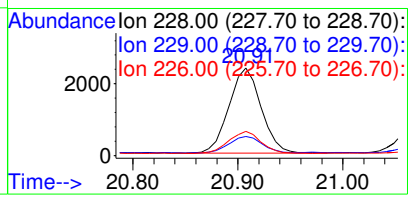


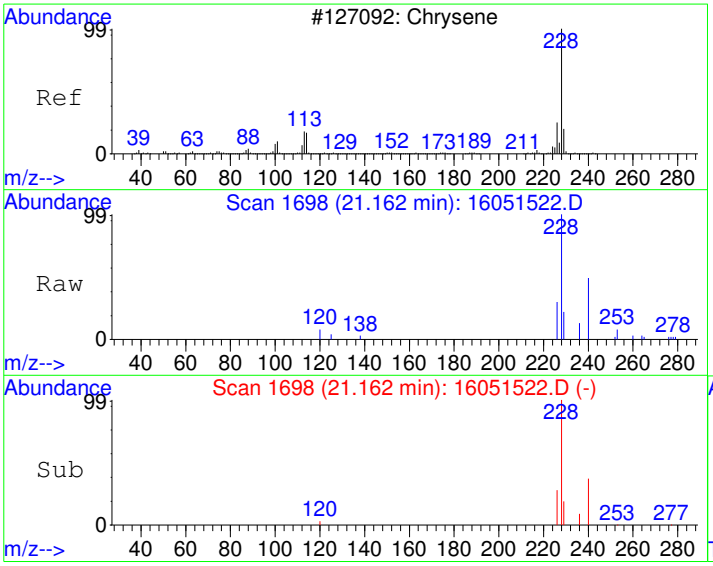


#18
Benzo[a]anthracene
Concen: 10.79 ug/kg
RT: 20.91 min Scan# 1662
Delta R.T. -0.01 min
Lab File: 16051522.D
Acq: 16 May 2016 1:07 am

Tgt Ion:228 Resp: 5035

Ion	Ratio	Lower	Upper
228	100		
229	19.7	0.0	50.1
226	25.8	0.0	55.2

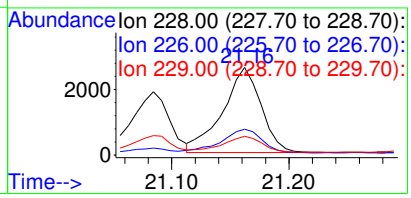


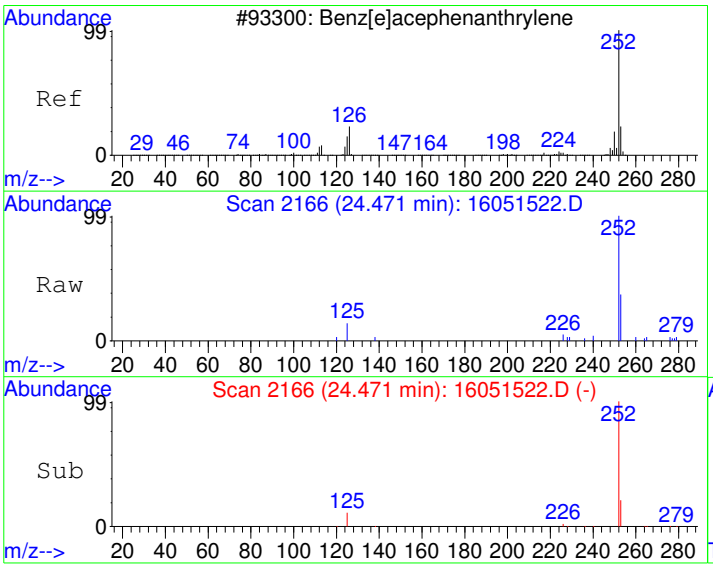


#19
Chrysene
Concen: 13.07 ug/kg
RT: 21.16 min Scan# 1698
Delta R.T. -0.01 min
Lab File: 16051522.D
Acq: 16 May 2016 1:07 am

Tgt Ion:228 Resp: 5891

Ion	Ratio	Lower	Upper
228	100		
226	27.9	0.0	58.1
229	18.9	0.0	50.1

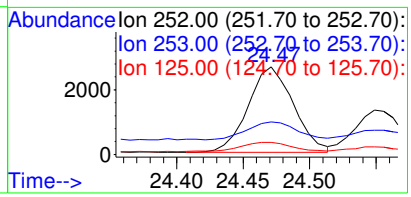


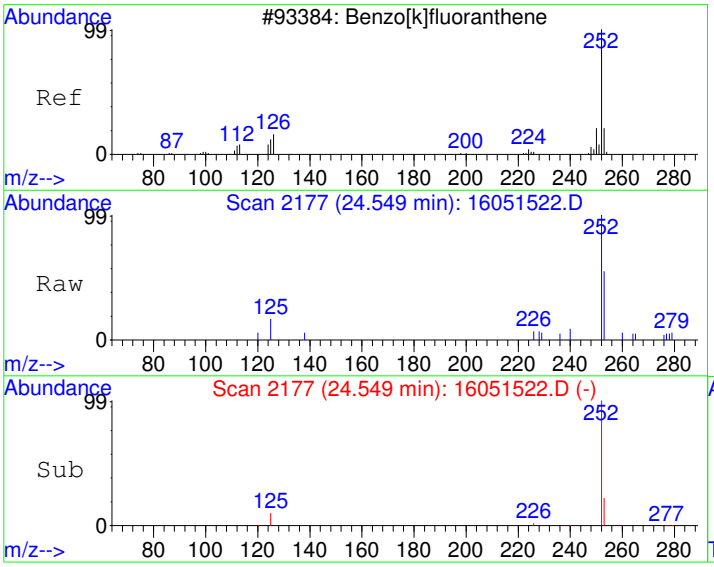


#21
Benzo[b]fluoranthene
Concen: 12.98 ug/kg
RT: 24.47 min Scan# 2166
Delta R.T. -0.03 min
Lab File: 16051522.D
Acq: 16 May 2016 1:07 am

Tgt Ion:252 Resp: 6283

Ion	Ratio	Lower	Upper
252	100		
253	20.2	0.0	52.2
125	10.3	0.0	41.0

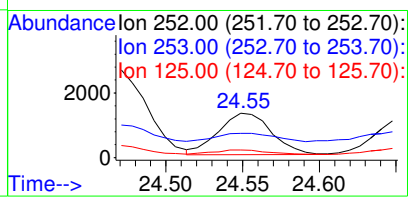


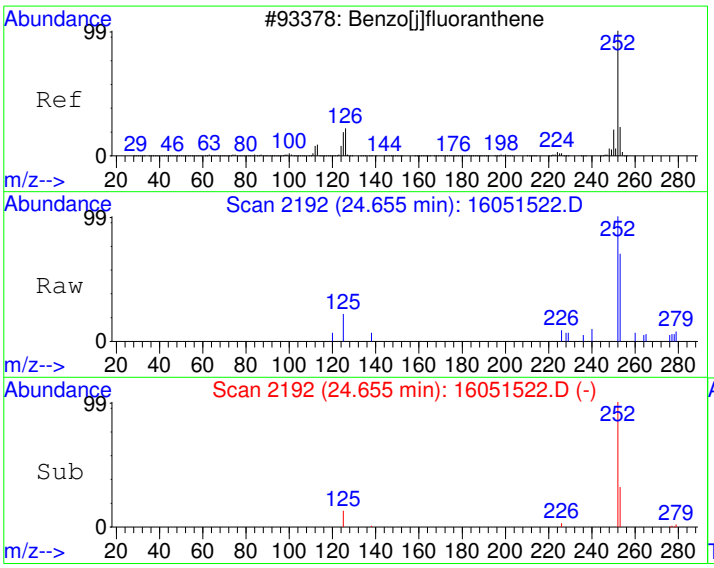


#22
Benzo[k]fluoranthene
Concen: 6.81 ug/kg
RT: 24.55 min Scan# 2177
Delta R.T. -0.03 min
Lab File: 16051522.D
Acq: 16 May 2016 1:07 am

Tgt Ion:252 Resp: 3091

Ion	Ratio	Lower	Upper
252	100		
253	19.8	2.1	42.1
125	11.0	0.0	31.3

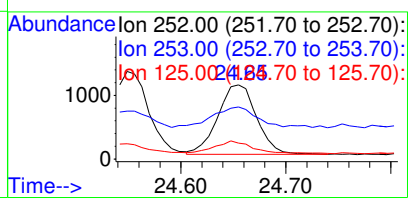


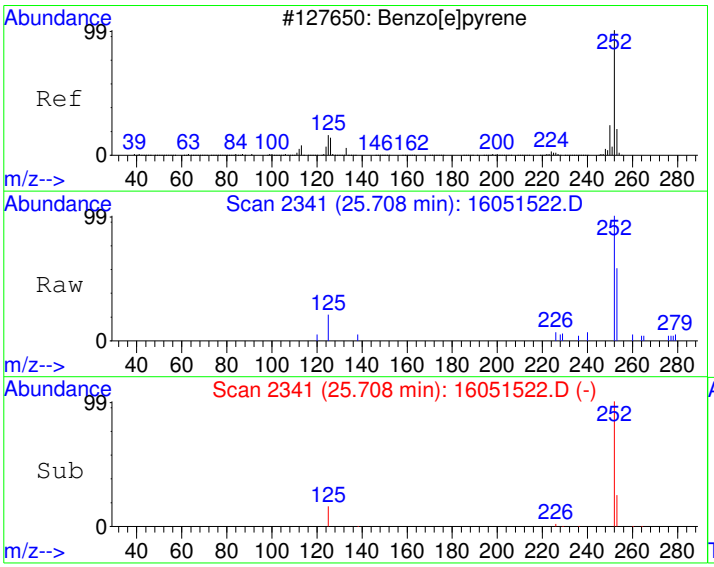


#23
Benzo(j)fluoranthene
Concen: 6.92 ug/kg
RT: 24.65 min Scan# 2192
Delta R.T. -0.03 min
Lab File: 16051522.D
Acq: 16 May 2016 1:07 am

Tgt Ion:252 Resp: 2801

Ion	Ratio	Lower	Upper
252	100		
253	30.1	2.1	42.1
125	14.8	0.0	34.4

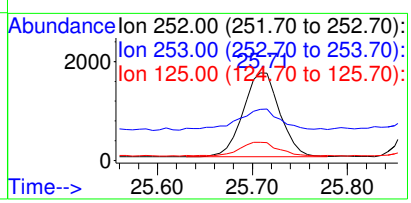


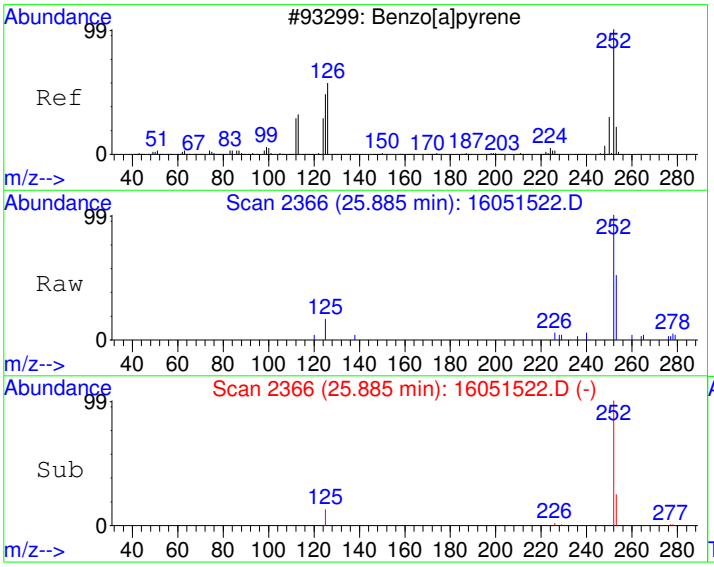


#24
Benzo[e]pyrene
Concen: 10.48 ug/kg
RT: 25.71 min Scan# 2341
Delta R.T. -0.03 min
Lab File: 16051522.D
Acq: 16 May 2016 1:07 am

Tgt Ion:252 Resp: 4542

Ion	Ratio	Lower	Upper
252	100		
253	24.2	2.2	42.2
125	15.7	0.0	36.1

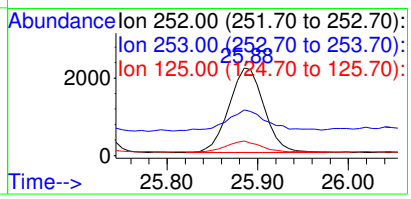


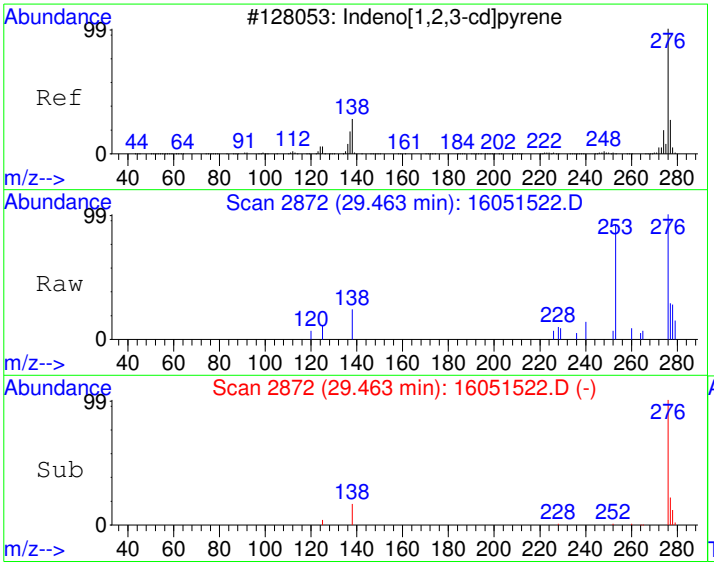


#25
Benzo[a]pyrene
Concen: 13.13 ug/kg
RT: 25.88 min Scan# 2366
Delta R.T. -0.03 min
Lab File: 16051522.D
Acq: 16 May 2016 1:07 am

Tgt Ion:252 Resp: 5816

Ion	Ratio	Lower	Upper
252	100		
253	24.1	1.9	41.9
125	13.0	0.0	31.7

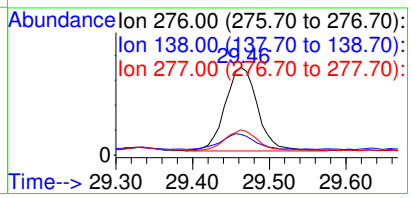


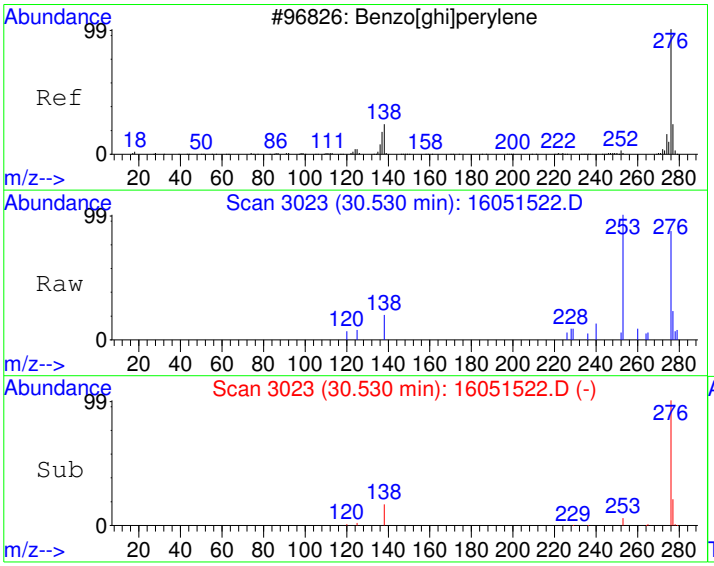


#27
Indeno[1,2,3-cd]pyrene
Concen: 8.19 ug/kg
RT: 29.46 min Scan# 2872
Delta R.T. -0.04 min
Lab File: 16051522.D
Acq: 16 May 2016 1:07 am

Tgt Ion:276 Resp: 3943

Ion	Ratio	Lower	Upper
276	100		
138	18.0	6.7	46.7
277	24.3	5.8	45.8

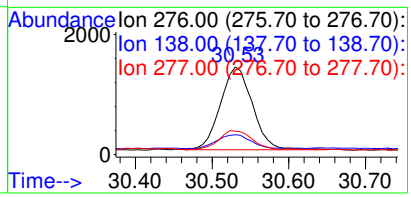




#28
Benzo[g,h,i]perylene
Concen: 10.70 ug/kg
RT: 30.53 min Scan# 3023
Delta R.T. -0.04 min
Lab File: 16051522.D
Acq: 16 May 2016 1:07 am

Tgt Ion:276 Resp: 4017

Ion	Ratio	Lower	Upper
276	100		
138	16.6	0.0	39.1
277	22.4	4.0	44.0



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160515\16051523.D Vial: 23
Acq On : 16 May 2016 1:47 am Operator:
Sample : 1605074-08A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 16 10:39 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Initial Calibration
DataAcq Meth : PP160421

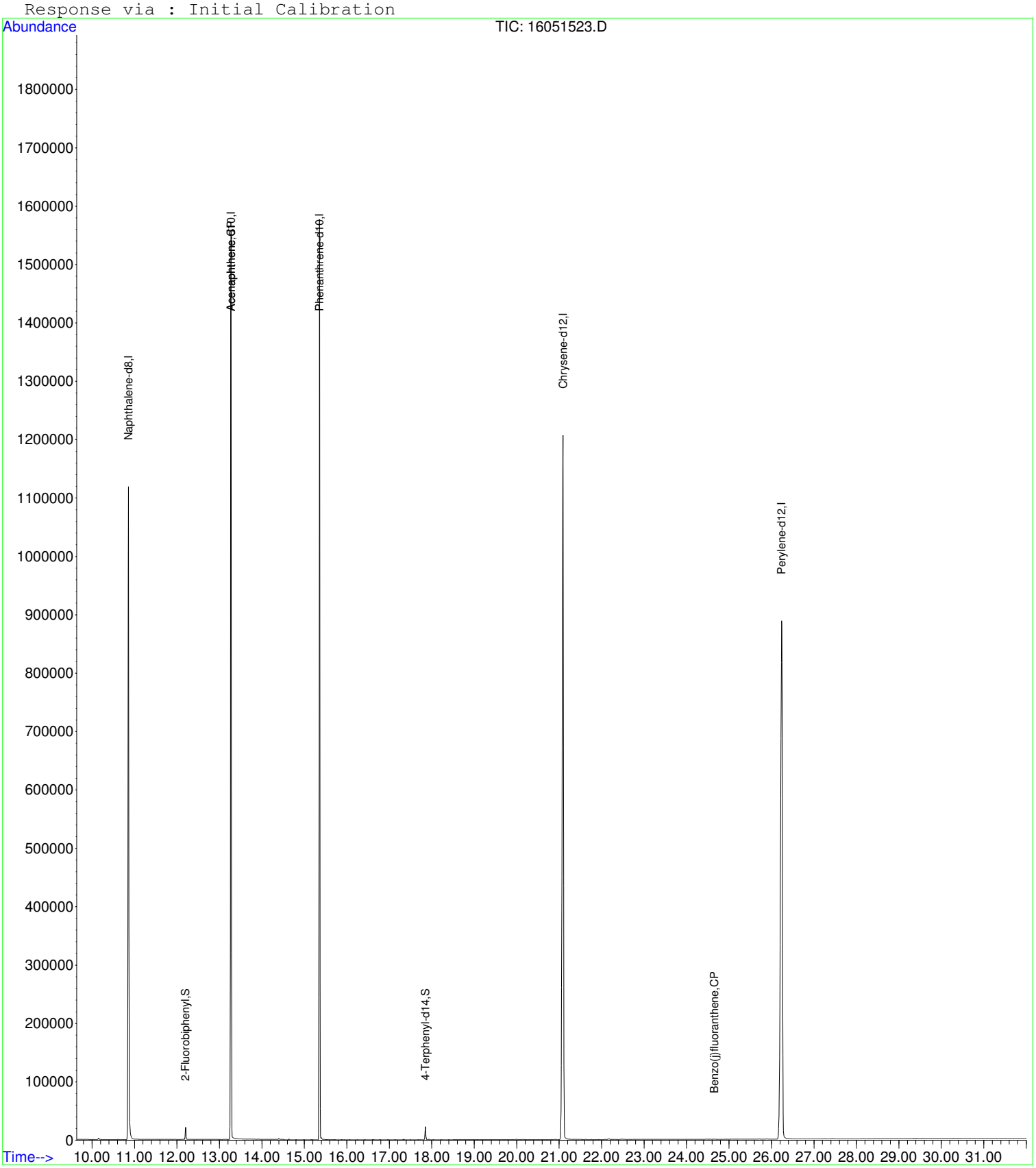
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1468958	4000.00	ug/kg	127
5) Acenaphthene-d10	13.28	164	920210	4000.00	ug/kg	80
11) Phenanthrene-d10	15.36	188	1733918	4000.00	ug/kg	85
17) Chrysene-d12	21.09	240	2005155	4000.00	ug/kg	88
20) Perylene-d12	26.24	264	1862332	4000.00	ug/kg	90
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.21	172	18933	70.53	ug/kg	0.01
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.76%#		
16) 4-Terphenyl-d14	17.85	244	28151	62.75	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.57%#		
Target Compounds						Qvalue
9) Acenaphthene	13.27	154	2787	11.33	ug/kg#	9
23) Benzo(j)fluoranthene	24.66	252	291	0.71	ug/kg	93

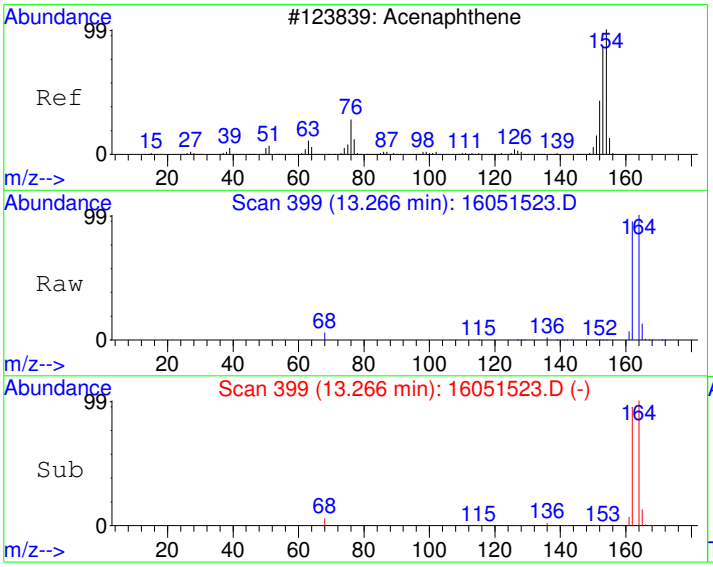
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160515\16051523.D Vial: 23
Acq On : 16 May 2016 1:47 am Operator:
Sample : 1605074-08A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 16 10:39 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Initial Calibration

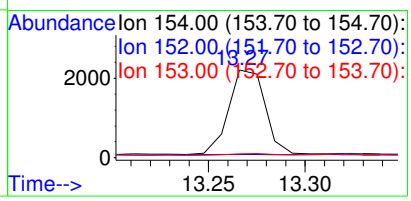


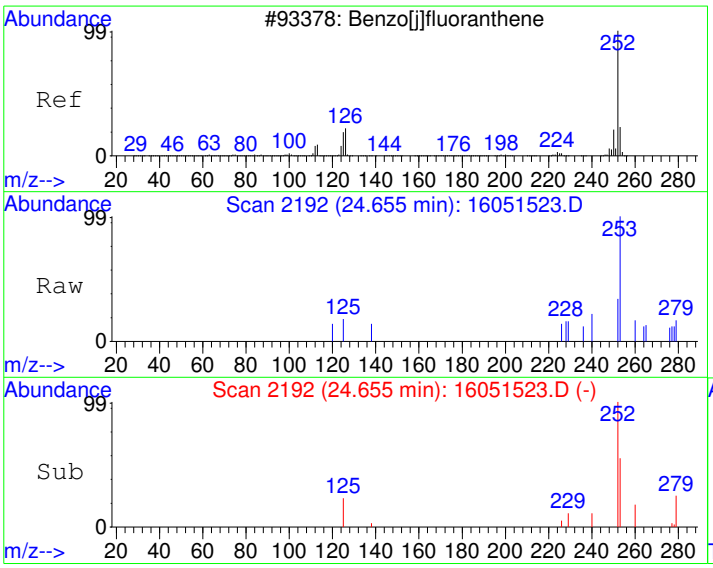


#9
Acenaphthene
Concen: 11.33 ug/kg
RT: 13.27 min Scan# 399
Delta R.T. -0.05 min
Lab File: 16051523.D
Acq: 16 May 2016 1:47 am

Tgt Ion:154 Resp: 2787

Ion	Ratio	Lower	Upper
154	100		
152	0.6	18.9	78.9#
153	1.9	75.2	135.2#

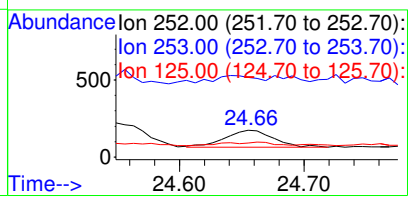




#23
Benzo(j)fluoranthene
Concen: 0.71 ug/kg
RT: 24.66 min Scan# 2192
Delta R.T. -0.03 min
Lab File: 16051523.D
Acq: 16 May 2016 1:47 am

Tgt Ion:252 Resp: 291

Ion	Ratio	Lower	Upper
252	100		
253	17.4	2.1	42.1
125	15.6	0.0	34.4



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160515\16051524.D Vial: 24
Acq On : 16 May 2016 2:27 am Operator:
Sample : 1605074-09A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 16 10:39 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Initial Calibration
DataAcq Meth : PP160421

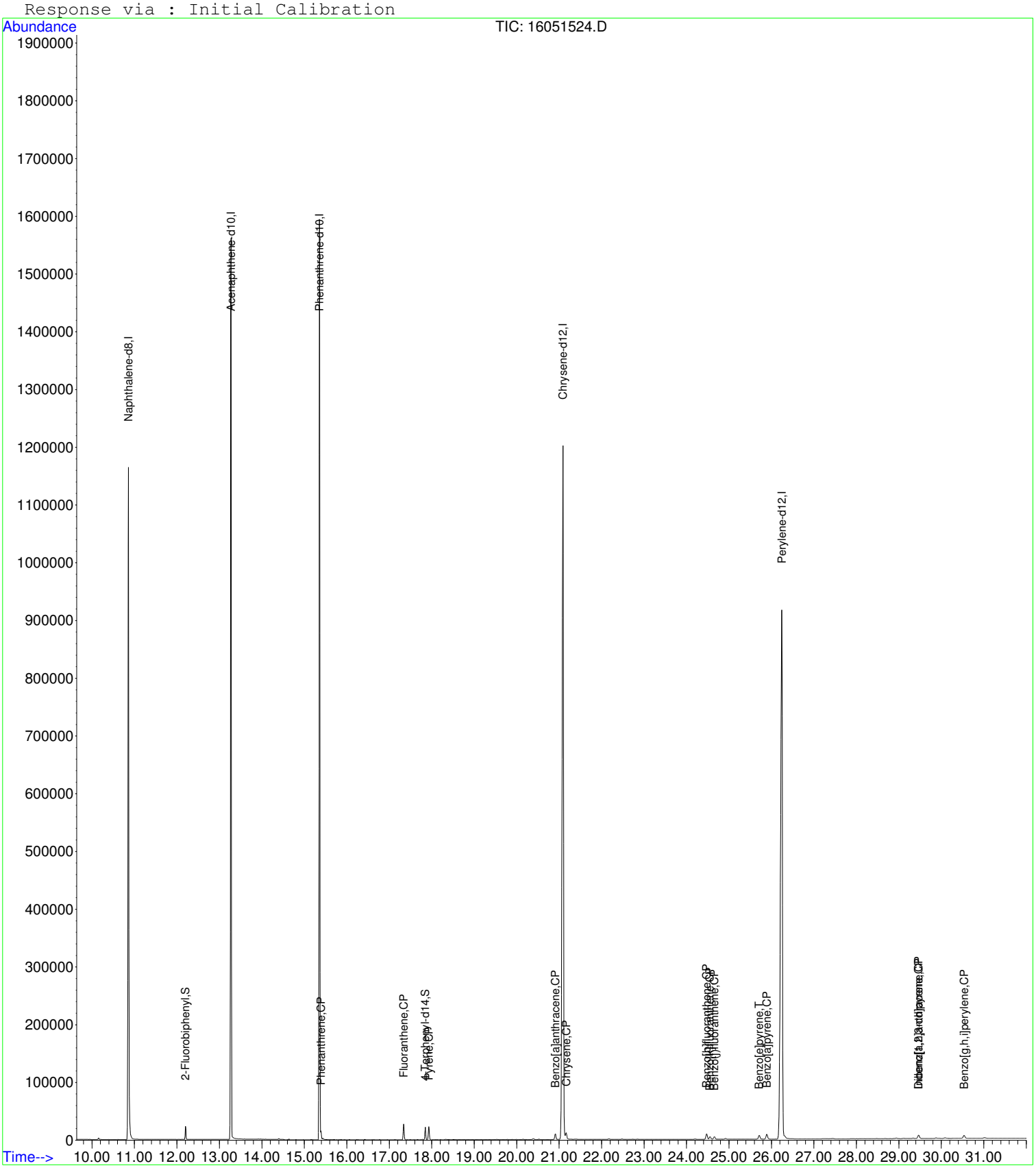
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1545493	4000.00	ug/kg	133
5) Acenaphthene-d10	13.28	164	936282	4000.00	ug/kg	81
11) Phenanthrene-d10	15.36	188	1757725	4000.00	ug/kg	86
17) Chrysene-d12	21.09	240	2042226	4000.00	ug/kg	90
20) Perylene-d12	26.25	264	1892976	4000.00	ug/kg	92
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.20	172	19619	71.83	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.80%#		
16) 4-Terphenyl-d14	17.85	244	28612	62.92	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.57%#		
Target Compounds						Qvalue
12) Phenanthrene	15.39	178	10424	22.55	ug/kg	100
14) Fluoranthene	17.34	202	27199	56.86	ug/kg	99
15) Pyrene	17.93	202	23868	48.03	ug/kg	99
18) Benzo[a]anthracene	20.91	228	14367	30.03	ug/kg	98
19) Chrysene	21.17	228	16633	35.98	ug/kg	99
21) Benzo[b]fluoranthene	24.47	252	16924	33.92	ug/kg	100
22) Benzo[k]fluoranthene	24.56	252	8189	17.50	ug/kg	98
23) Benzo(j)fluoranthene	24.65	252	7677	18.41	ug/kg	94
24) Benzo[e]pyrene	25.72	252	12449	27.86	ug/kg	99
25) Benzo[a]pyrene	25.89	252	16106	35.27	ug/kg	98
26) Dibenz[a,h]anthracene	29.46	278	2308	5.55	ug/kg	99
27) Indeno[1,2,3-cd]pyrene	29.47	276	10210	20.58	ug/kg	88
28) Benzo[g,h,i]perylene	30.54	276	10192	26.35	ug/kg	99

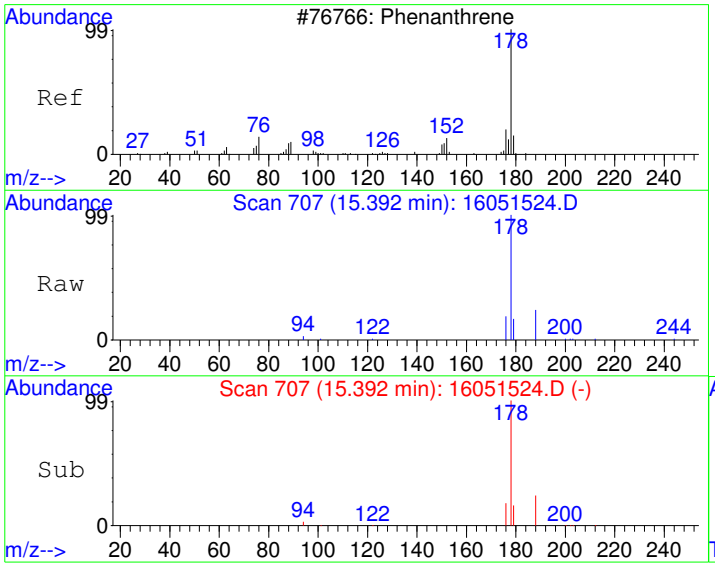
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160515\16051524.D Vial: 24
Acq On : 16 May 2016 2:27 am Operator:
Sample : 1605074-09A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 16 10:39 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Initial Calibration

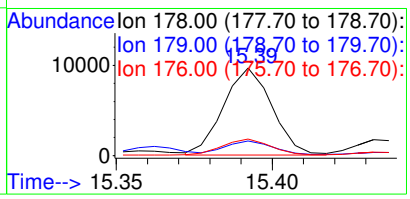


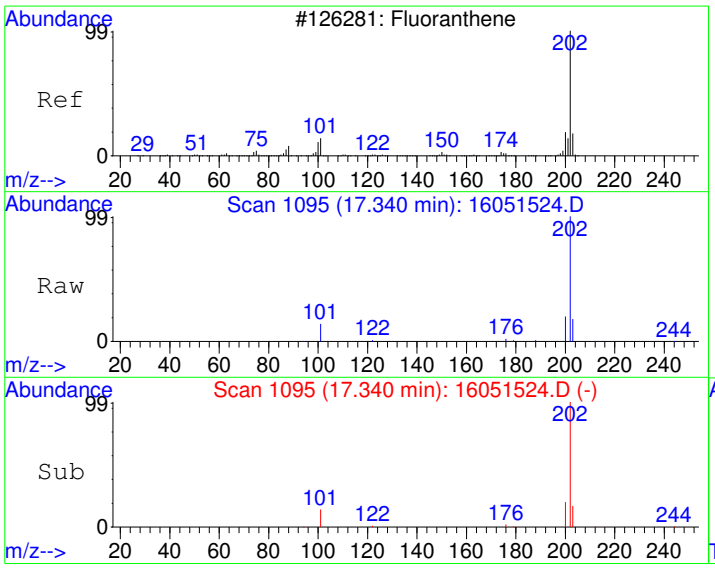


#12
Phenanthrene
Concen: 22.55 ug/kg
RT: 15.39 min Scan# 707
Delta R.T. -0.00 min
Lab File: 16051524.D
Acq: 16 May 2016 2:27 am

Tgt Ion:178 Resp: 10424

Ion	Ratio	Lower	Upper
178	100		
179	16.0	0.0	45.9
176	18.4	0.0	48.5

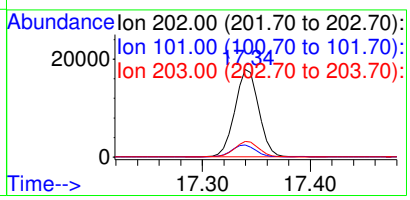


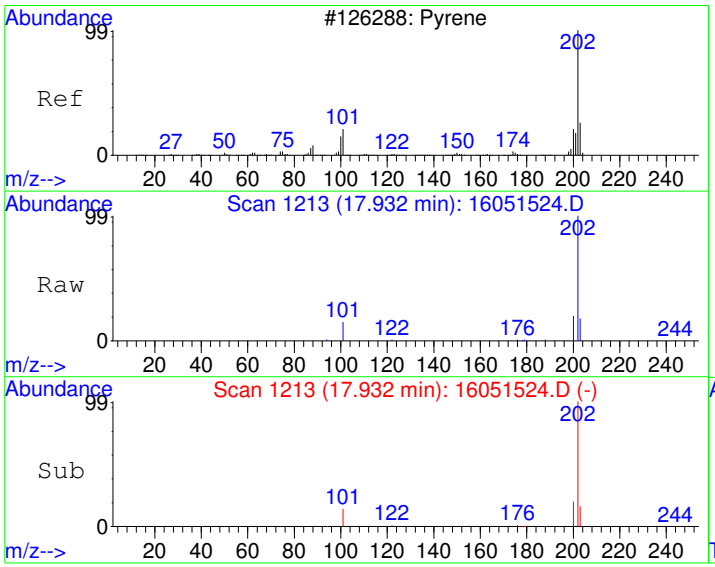


#14
Fluoranthene
Concen: 56.86 ug/kg
RT: 17.34 min Scan# 1095
Delta R.T. -0.01 min
Lab File: 16051524.D
Acq: 16 May 2016 2:27 am

Tgt Ion:202 Resp: 27199

Ion	Ratio	Lower	Upper
202	100		
101	13.6	0.0	43.0
203	17.5	0.0	47.9

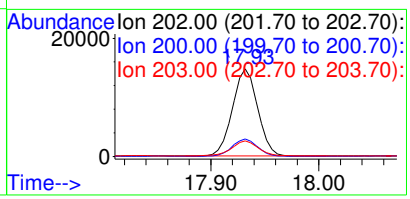


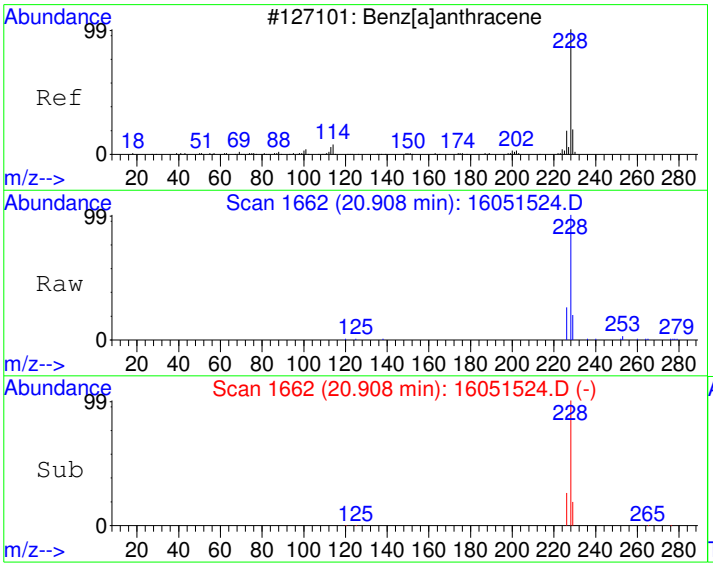


#15
Pyrene
Concen: 48.03 ug/kg
RT: 17.93 min Scan# 1213
Delta R.T. -0.01 min
Lab File: 16051524.D
Acq: 16 May 2016 2:27 am

Tgt Ion:202 Resp: 23868

Ion	Ratio	Lower	Upper
202	100		
200	19.7	0.0	50.0
203	17.3	0.0	48.0

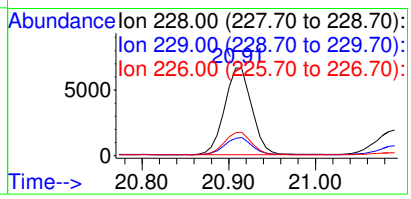


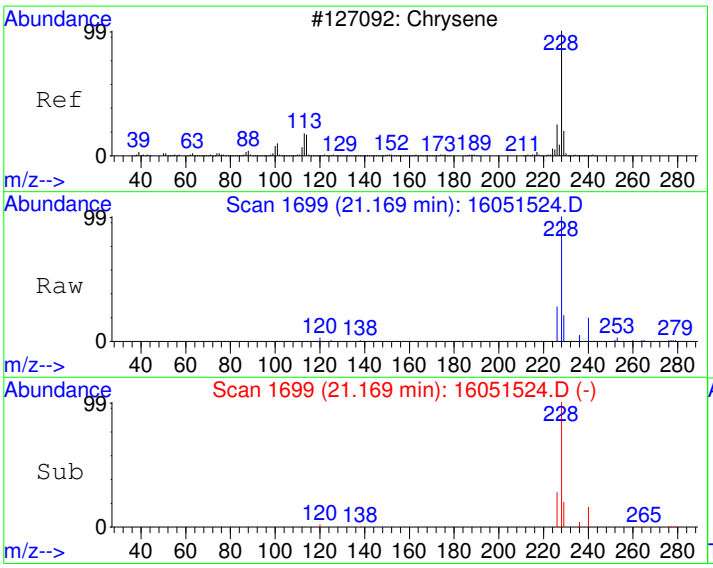


#18
Benzo[a]anthracene
Concen: 30.03 ug/kg
RT: 20.91 min Scan# 1662
Delta R.T. -0.01 min
Lab File: 16051524.D
Acq: 16 May 2016 2:27 am

Tgt Ion:228 Resp: 14367

Ion	Ratio	Lower	Upper
228	100		
229	18.8	0.0	50.1
226	25.7	0.0	55.2

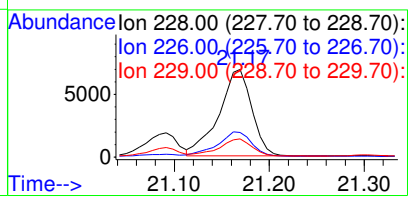


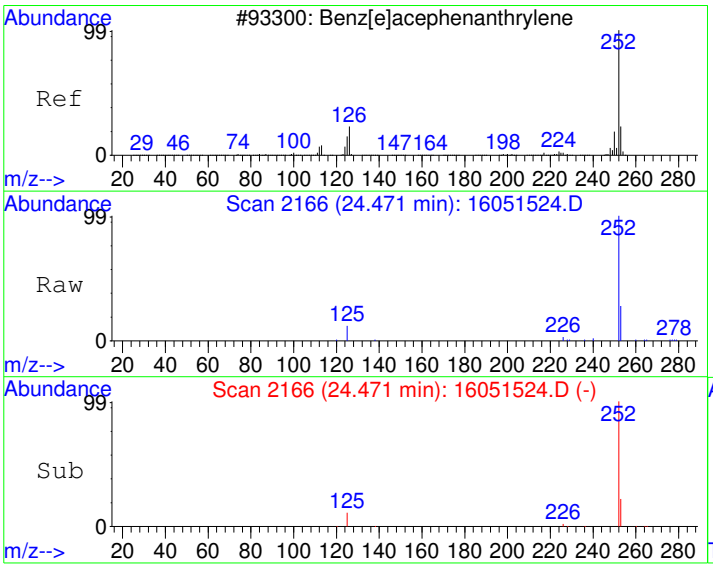


#19
Chrysene
Concen: 35.98 ug/kg
RT: 21.17 min Scan# 1699
Delta R.T. -0.01 min
Lab File: 16051524.D
Acq: 16 May 2016 2:27 am

Tgt Ion:228 Resp: 16633

Ion	Ratio	Lower	Upper
228	100		
226	27.5	0.0	58.1
229	19.8	0.0	50.1

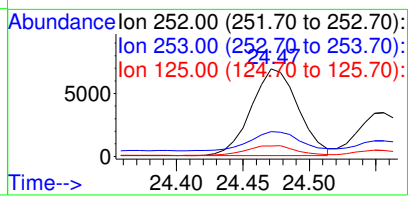


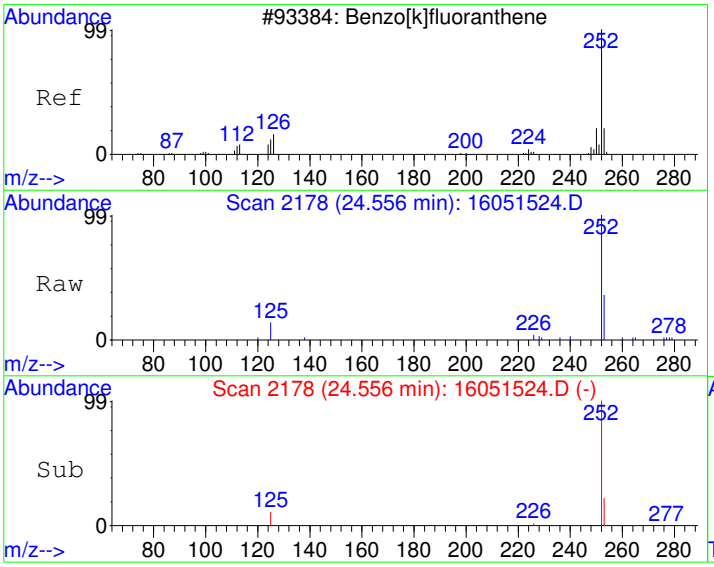


#21
Benzo[b]fluoranthene
Concen: 33.92 ug/kg
RT: 24.47 min Scan# 2166
Delta R.T. -0.03 min
Lab File: 16051524.D
Acq: 16 May 2016 2:27 am

Tgt Ion:252 Resp: 16924

Ion	Ratio	Lower	Upper
252	100		
253	22.1	0.0	52.2
125	10.9	0.0	41.0

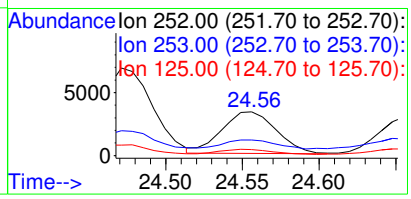


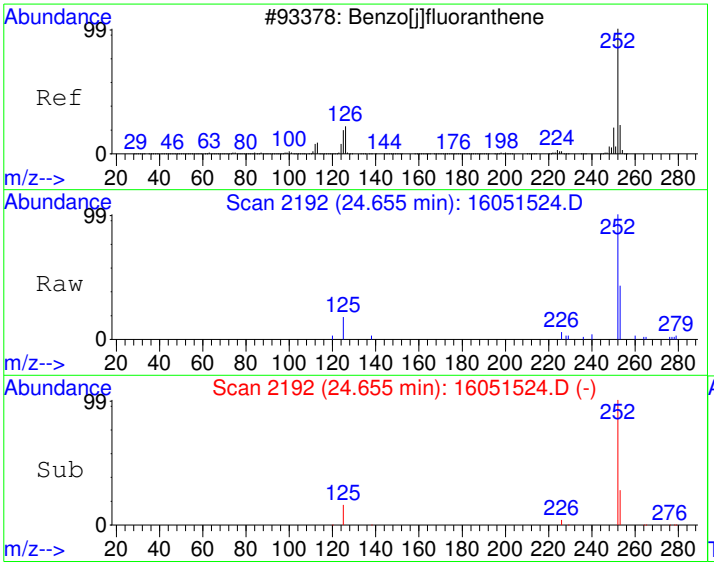


#22
Benzo[k]fluoranthene
Concen: 17.50 ug/kg
RT: 24.56 min Scan# 2178
Delta R.T. -0.02 min
Lab File: 16051524.D
Acq: 16 May 2016 2:27 am

Tgt Ion:252 Resp: 8189

Ion	Ratio	Lower	Upper
252	100		
253	20.6	2.1	42.1
125	10.8	0.0	31.3

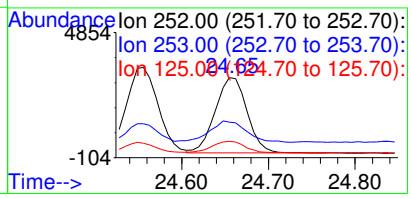


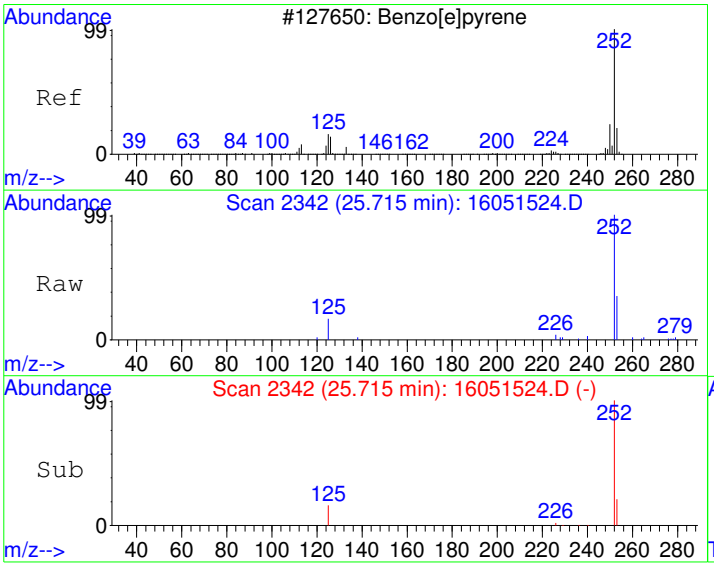


#23
Benzo(j)fluoranthene
Concen: 18.41 ug/kg
RT: 24.65 min Scan# 2192
Delta R.T. -0.03 min
Lab File: 16051524.D
Acq: 16 May 2016 2:27 am

Tgt Ion:252 Resp: 7677

Ion	Ratio	Lower	Upper
252	100		
253	26.8	2.1	42.1
125	15.0	0.0	34.4

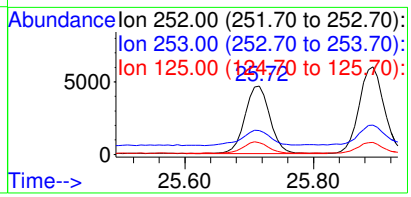


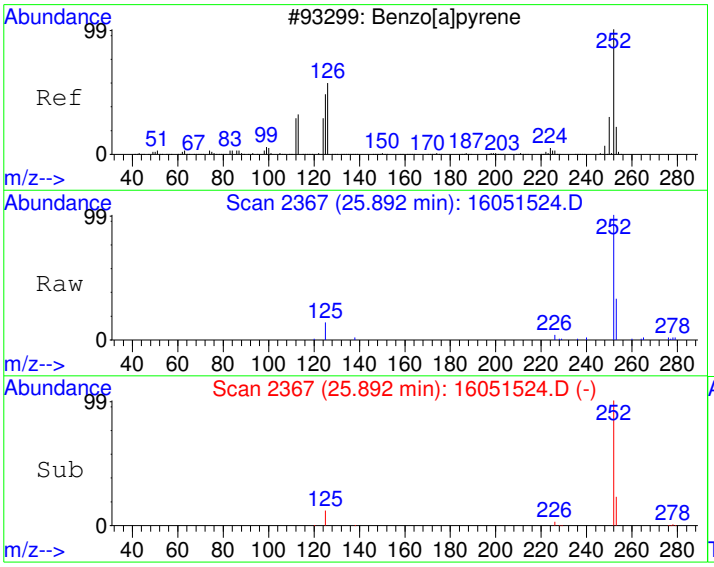


#24
Benzo[e]pyrene
Concen: 27.86 ug/kg
RT: 25.72 min Scan# 2342
Delta R.T. -0.02 min
Lab File: 16051524.D
Acq: 16 May 2016 2:27 am

Tgt Ion:252 Resp: 12449

Ion	Ratio	Lower	Upper
252	100		
253	22.1	2.2	42.2
125	15.6	0.0	36.1

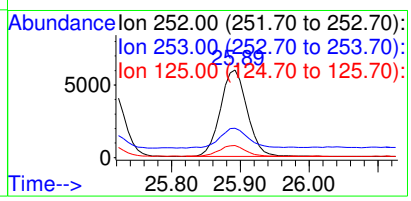


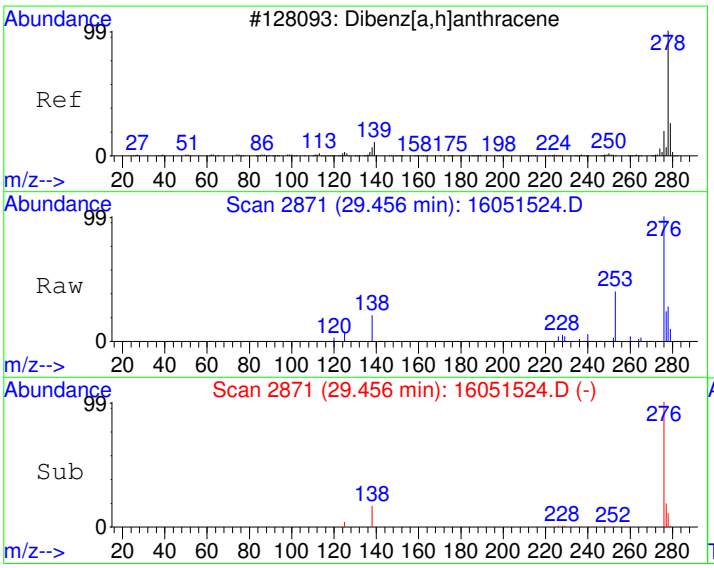


#25
Benzo[a]pyrene
Concen: 35.27 ug/kg
RT: 25.89 min Scan# 2367
Delta R.T. -0.02 min
Lab File: 16051524.D
Acq: 16 May 2016 2:27 am

Tgt Ion:252 Resp: 16106

Ion	Ratio	Lower	Upper
252	100		
253	22.7	1.9	41.9
125	12.5	0.0	31.7

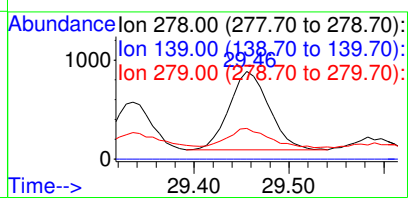


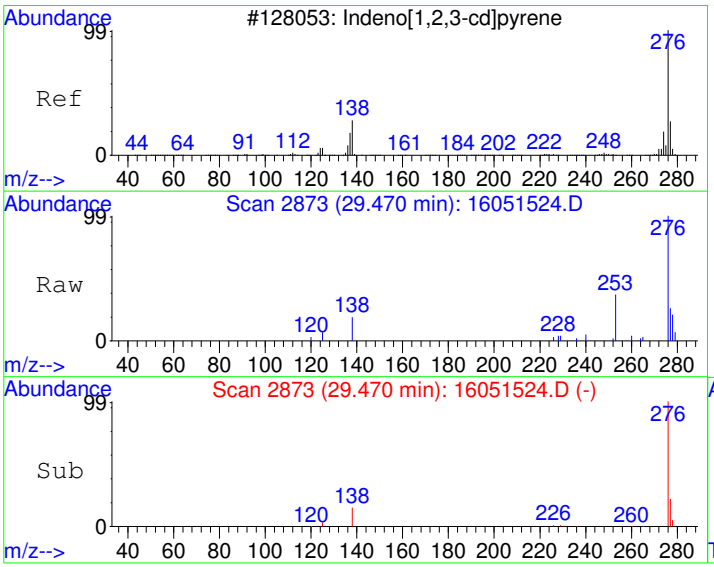


#26
Dibenz[a,h]anthracene
Concen: 5.55 ug/kg
RT: 29.46 min Scan# 2871
Delta R.T. -0.04 min
Lab File: 16051524.D
Acq: 16 May 2016 2:27 am

Tgt Ion:278 Resp: 2308

Ion	Ratio	Lower	Upper
278	100		
139	0.0	0.0	20.0
279	23.6	4.2	44.2

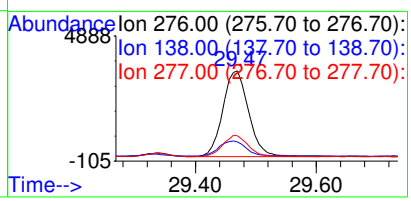


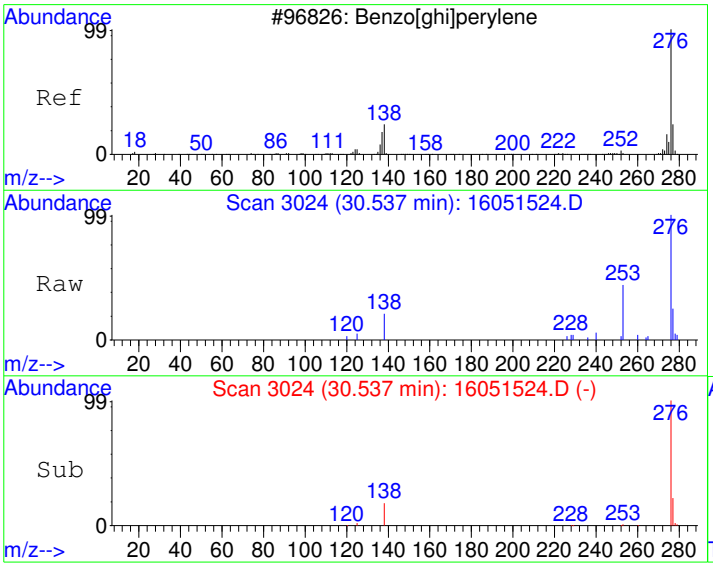


#27
Indeno[1,2,3-cd]pyrene
Concen: 20.58 ug/kg
RT: 29.47 min Scan# 2873
Delta R.T. -0.03 min
Lab File: 16051524.D
Acq: 16 May 2016 2:27 am

Tgt Ion:276 Resp: 10210

Ion	Ratio	Lower	Upper
276	100		
138	16.7	6.7	46.7
277	24.1	5.8	45.8

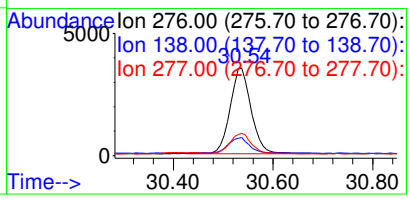




#28
Benzo[g,h,i]perylene
Concen: 26.35 ug/kg
RT: 30.54 min Scan# 3024
Delta R.T. -0.03 min
Lab File: 16051524.D
Acq: 16 May 2016 2:27 am

Tgt Ion:276 Resp: 10192

Ion	Ratio	Lower	Upper
276	100		
138	18.2	0.0	39.1
277	23.7	4.0	44.0



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160515\16051525.D Vial: 25
Acq On : 16 May 2016 3:08 am Operator:
Sample : 1605074-10A Inst : GC/MS #6
Misc : SAMP Multiplr: 50.00
MS Integration Params: RTEINT.P
Quant Time: May 16 10:39 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Initial Calibration
DataAcq Meth : PP160421

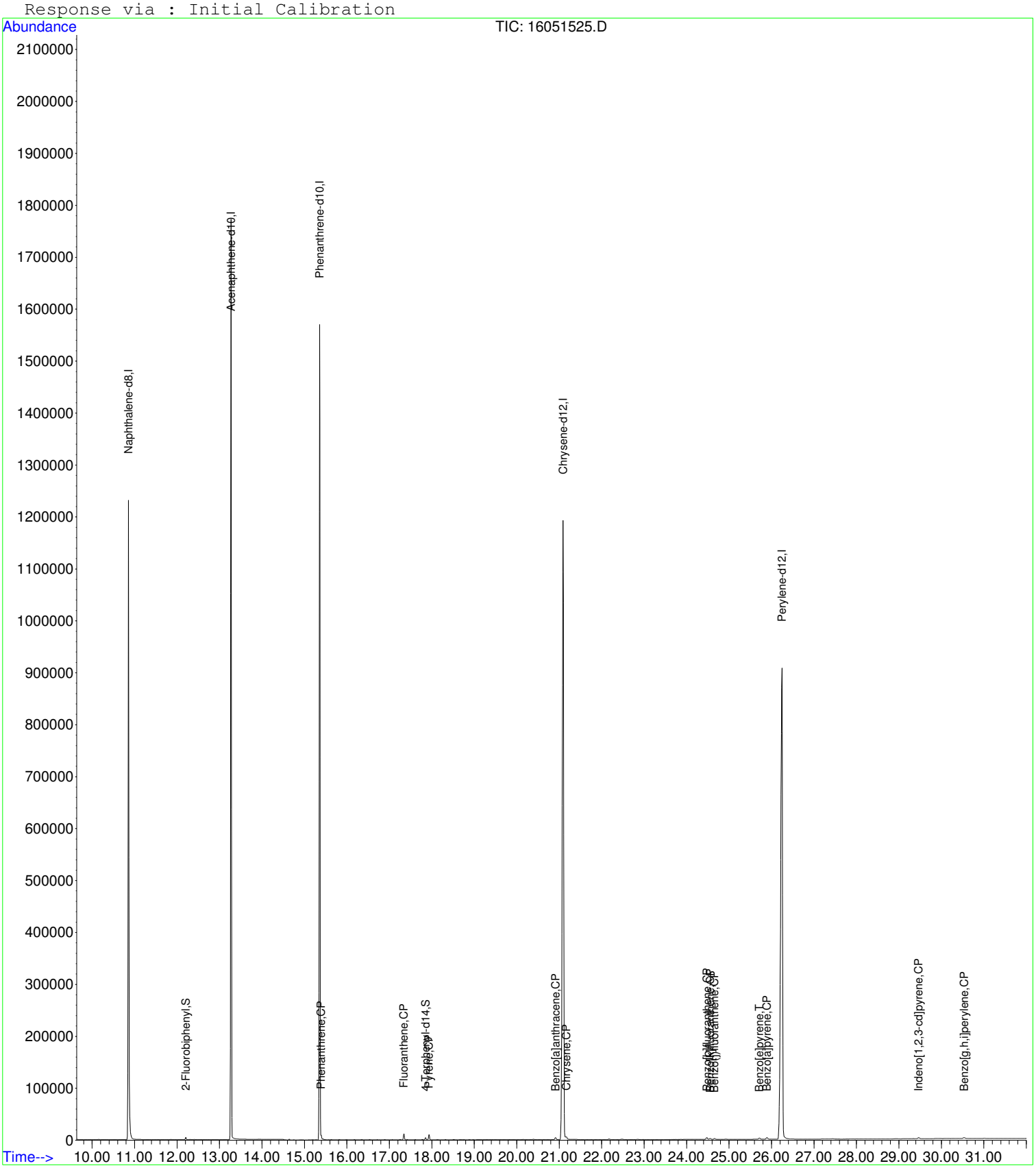
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1479807	4000.00	ug/kg	128
5) Acenaphthene-d10	13.27	164	923613	4000.00	ug/kg	80
11) Phenanthrene-d10	15.36	188	1691966	4000.00	ug/kg	83
17) Chrysene-d12	21.09	240	2032154	4000.00	ug/kg	89
20) Perylene-d12	26.25	264	1857915	4000.00	ug/kg	90
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.21	172	3754	13.93	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	0.35%#		
16) 4-Terphenyl-d14	17.85	244	5625	12.85	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	0.32%#		
Target Compounds						Qvalue
12) Phenanthrene	15.39	178	5475	12.30	ug/kg	99
14) Fluoranthene	17.34	202	12022	26.11	ug/kg	98
15) Pyrene	17.93	202	10742	22.46	ug/kg	99
18) Benzo[a]anthracene	20.91	228	5963	12.53	ug/kg	99
19) Chrysene	21.17	228	6490	14.11	ug/kg	98
21) Benzo[b]fluoranthene	24.48	252	6366	13.00	ug/kg	100
22) Benzo[k]fluoranthene	24.56	252	3115	6.78	ug/kg	97
23) Benzo(j)fluoranthene	24.66	252	2848	6.96	ug/kg	90
24) Benzo[e]pyrene	25.72	252	4583	10.45	ug/kg	97
25) Benzo[a]pyrene	25.89	252	6261	13.97	ug/kg	96
27) Indeno[1,2,3-cd]pyrene	29.47	276	3623	7.44	ug/kg	88
28) Benzo[g,h,i]perylene	30.54	276	3689	9.72	ug/kg	96

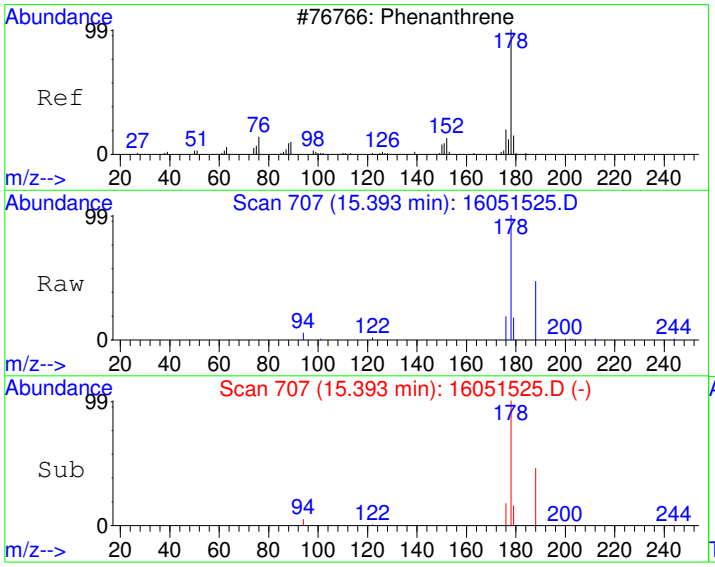
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160515\16051525.D Vial: 25
Acq On : 16 May 2016 3:08 am Operator:
Sample : 1605074-10A Inst : GC/MS #6
Misc : SAMP Multiplr: 50.00
MS Integration Params: RTEINT.P
Quant Time: May 16 10:39 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Initial Calibration

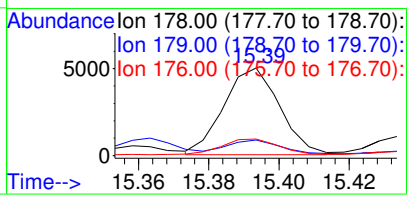


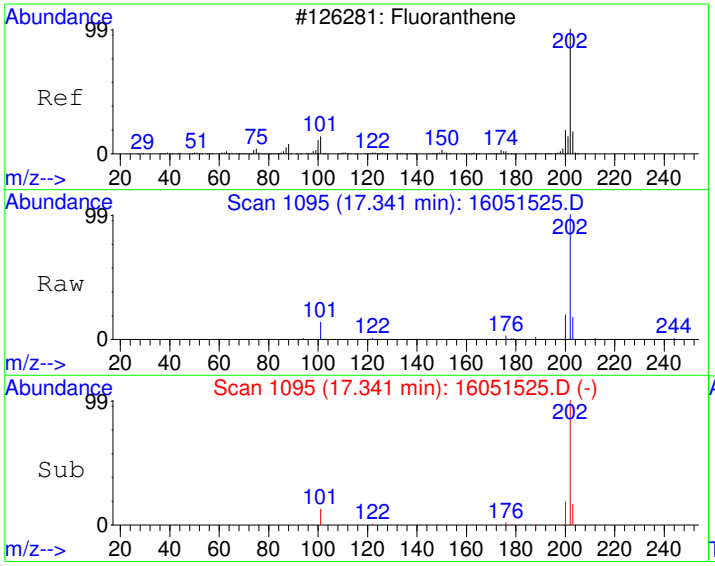


#12
Phenanthrene
Concen: 12.30 ug/kg
RT: 15.39 min Scan# 707
Delta R.T. 0.00 min
Lab File: 16051525.D
Acq: 16 May 2016 3:08 am

Tgt Ion:178 Resp: 5475

Ion	Ratio	Lower	Upper
178	100		
179	15.7	0.0	45.9
176	18.0	0.0	48.5

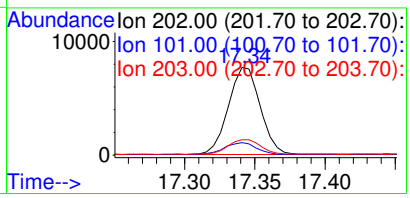


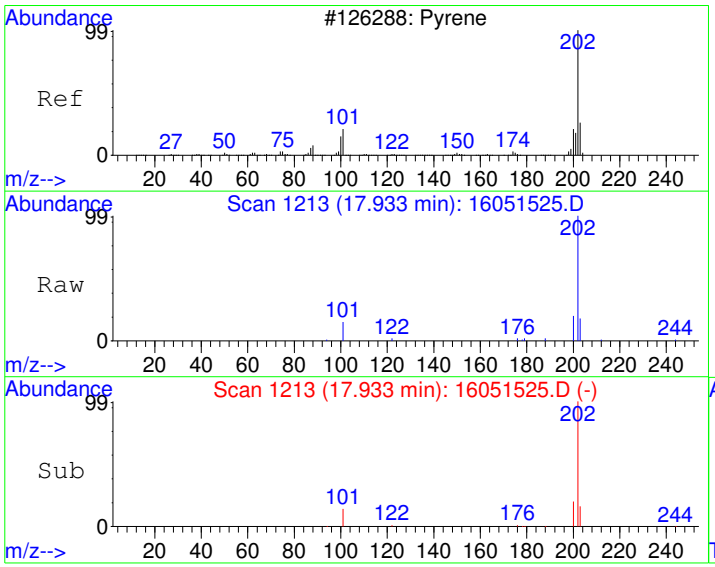


#14
Fluoranthene
Concen: 26.11 ug/kg
RT: 17.34 min Scan# 1095
Delta R.T. -0.00 min
Lab File: 16051525.D
Acq: 16 May 2016 3:08 am

Tgt Ion:202 Resp: 12022

Ion	Ratio	Lower	Upper
202	100		
101	13.4	0.0	43.0
203	16.9	0.0	47.9

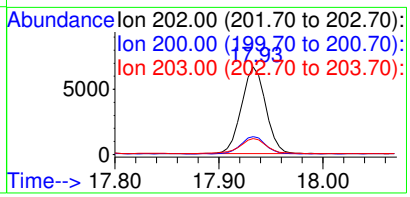


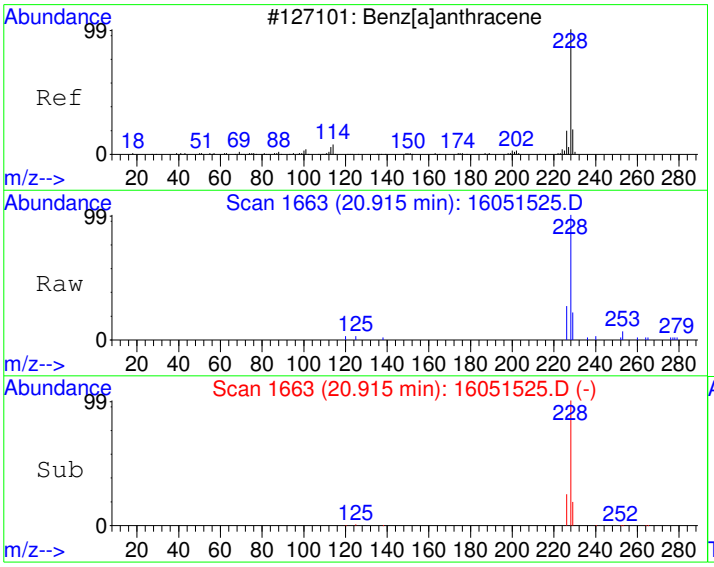


#15
Pyrene
Concen: 22.46 ug/kg
RT: 17.93 min Scan# 1213
Delta R.T. -0.00 min
Lab File: 16051525.D
Acq: 16 May 2016 3:08 am

Tgt Ion:202 Resp: 10742

Ion	Ratio	Lower	Upper
202	100		
200	19.7	0.0	50.0
203	17.5	0.0	48.0

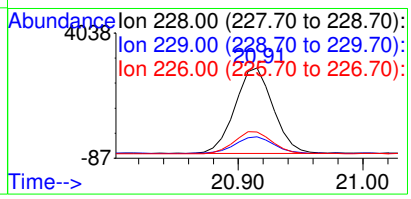


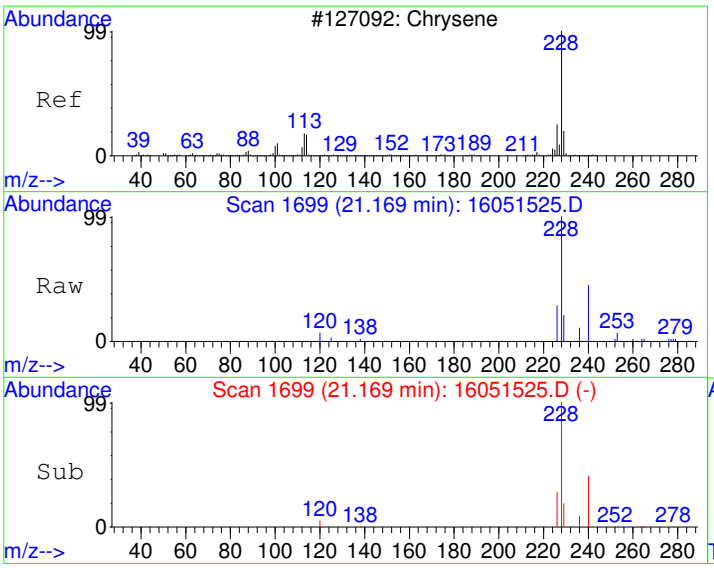


#18
Benzo[a]anthracene
Concen: 12.53 ug/kg
RT: 20.91 min Scan# 1663
Delta R.T. -0.01 min
Lab File: 16051525.D
Acq: 16 May 2016 3:08 am

Tgt Ion:228 Resp: 5963

Ion	Ratio	Lower	Upper
228	100		
229	19.6	0.0	50.1
226	25.3	0.0	55.2

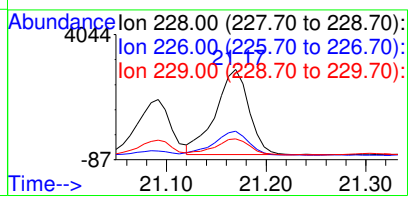


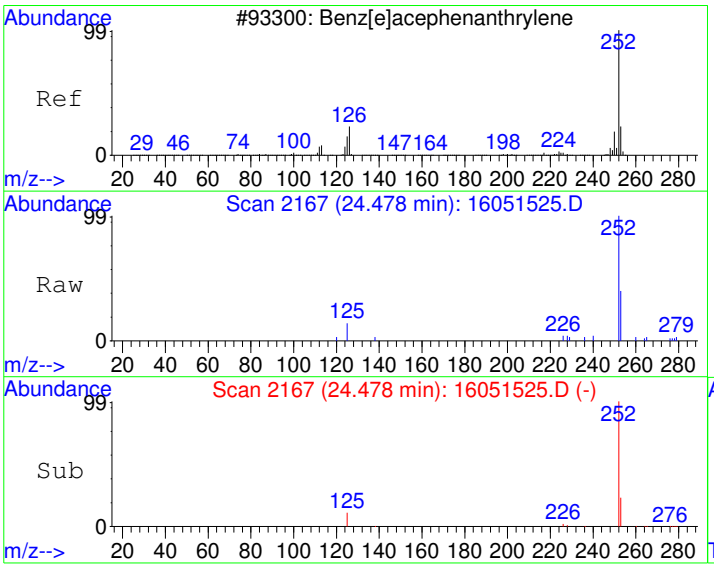


#19
Chrysene
Concen: 14.11 ug/kg
RT: 21.17 min Scan# 1699
Delta R.T. -0.01 min
Lab File: 16051525.D
Acq: 16 May 2016 3:08 am

Tgt Ion:228 Resp: 6490

Ion	Ratio	Lower	Upper
228	100		
226	27.8	0.0	58.1
229	18.7	0.0	50.1

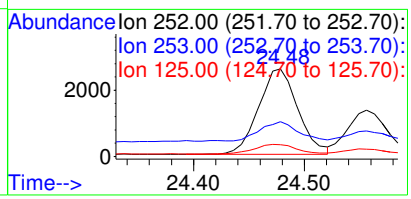


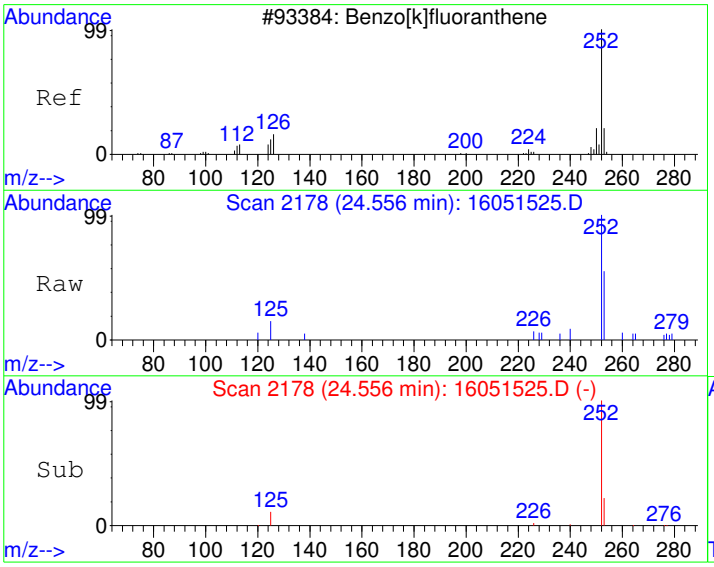


#21
Benzo[b]fluoranthene
Concen: 13.00 ug/kg
RT: 24.48 min Scan# 2167
Delta R.T. -0.02 min
Lab File: 16051525.D
Acq: 16 May 2016 3:08 am

Tgt Ion:252 Resp: 6366

Ion	Ratio	Lower	Upper
252	100		
253	22.2	0.0	52.2
125	10.8	0.0	41.0

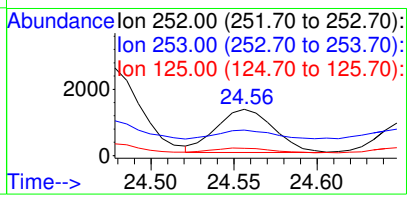


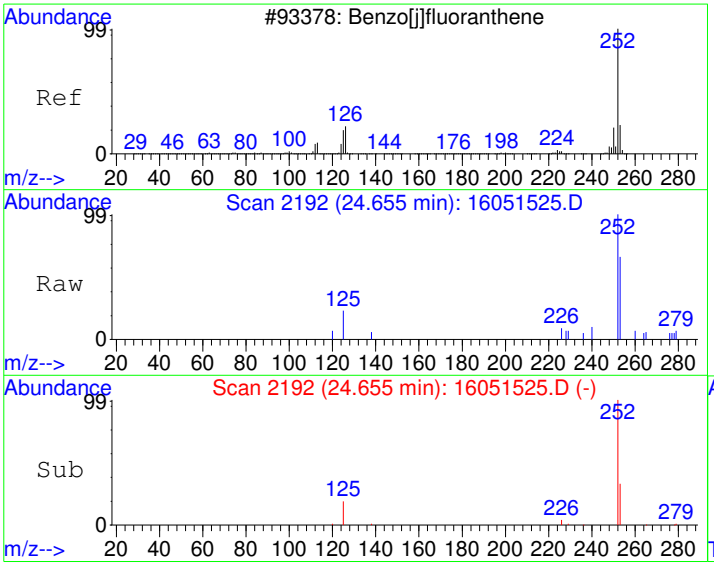


#22
Benzo[k]fluoranthene
Concen: 6.78 ug/kg
RT: 24.56 min Scan# 2178
Delta R.T. -0.02 min
Lab File: 16051525.D
Acq: 16 May 2016 3:08 am

Tgt Ion:252 Resp: 3115

Ion	Ratio	Lower	Upper
252	100		
253	20.7	2.1	42.1
125	9.6	0.0	31.3

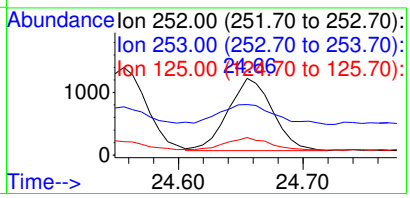


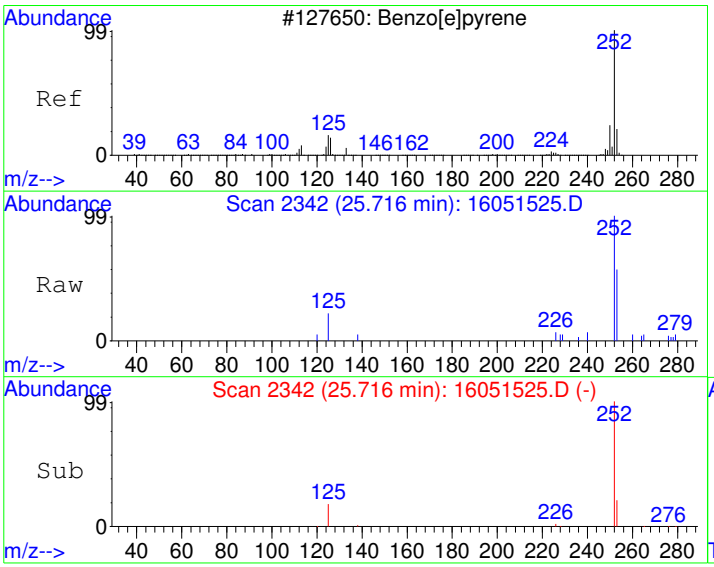


#23
Benzo(j)fluoranthene
Concen: 6.96 ug/kg
RT: 24.66 min Scan# 2192
Delta R.T. -0.03 min
Lab File: 16051525.D
Acq: 16 May 2016 3:08 am

Tgt Ion:252 Resp: 2848

Ion	Ratio	Lower	Upper
252	100		
253	27.6	2.1	42.1
125	17.3	0.0	34.4

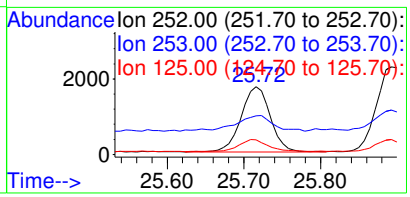


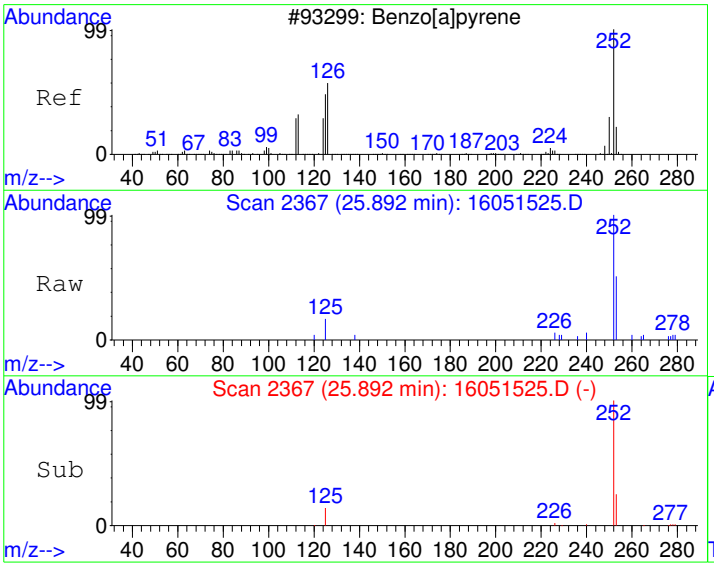


#24
Benzo[e]pyrene
Concen: 10.45 ug/kg
RT: 25.72 min Scan# 2342
Delta R.T. -0.02 min
Lab File: 16051525.D
Acq: 16 May 2016 3:08 am

Tgt Ion:252 Resp: 4583

Ion	Ratio	Lower	Upper
252	100		
253	21.5	2.2	42.2
125	18.3	0.0	36.1

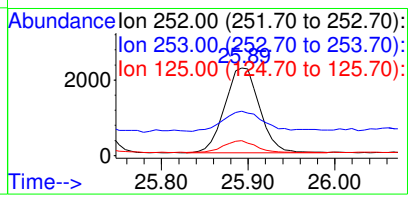


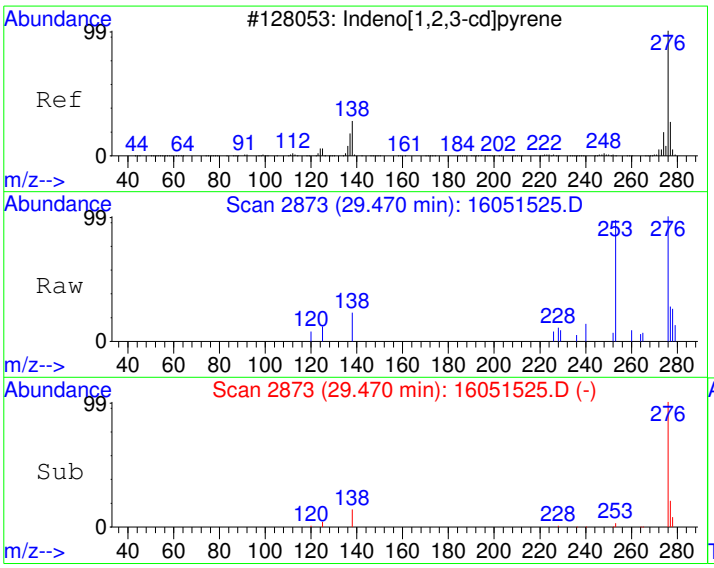


#25
Benzo[a]pyrene
Concen: 13.97 ug/kg
RT: 25.89 min Scan# 2367
Delta R.T. -0.02 min
Lab File: 16051525.D
Acq: 16 May 2016 3:08 am

Tgt Ion:252 Resp: 6261

Ion	Ratio	Lower	Upper
252	100		
253	23.4	1.9	41.9
125	14.0	0.0	31.7

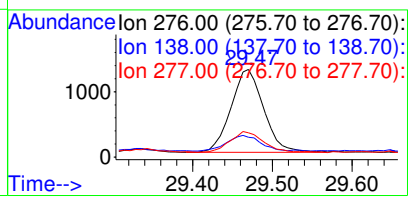


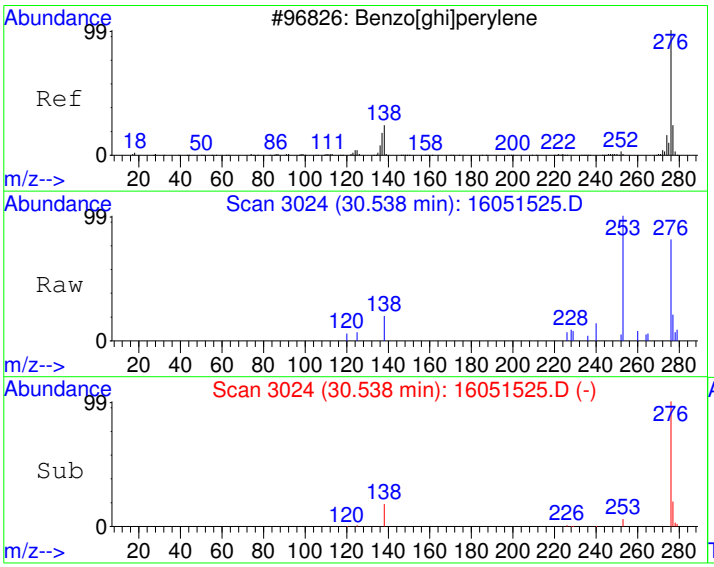


#27
Indeno[1,2,3-cd]pyrene
Concen: 7.44 ug/kg
RT: 29.47 min Scan# 2873
Delta R.T. -0.03 min
Lab File: 16051525.D
Acq: 16 May 2016 3:08 am

Tgt Ion:276 Resp: 3623

Ion	Ratio	Lower	Upper
276	100		
138	16.4	6.7	46.7
277	23.8	5.8	45.8

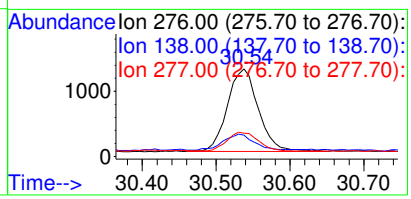




#28
Benzo[g,h,i]perylene
Concen: 9.72 ug/kg
RT: 30.54 min Scan# 3024
Delta R.T. -0.03 min
Lab File: 16051525.D
Acq: 16 May 2016 3:08 am

Tgt Ion:276 Resp: 3689

Ion	Ratio	Lower	Upper
276	100		
138	18.2	0.0	39.1
277	21.5	4.0	44.0



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160515\16051526.D Vial: 26
Acq On : 16 May 2016 3:48 am Operator:
Sample : 1605074-11A Inst : GC/MS #6
Misc : SAMP Multiplr: 20.00
MS Integration Params: RTEINT.P
Quant Time: May 16 10:40 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Initial Calibration
DataAcq Meth : PP160421

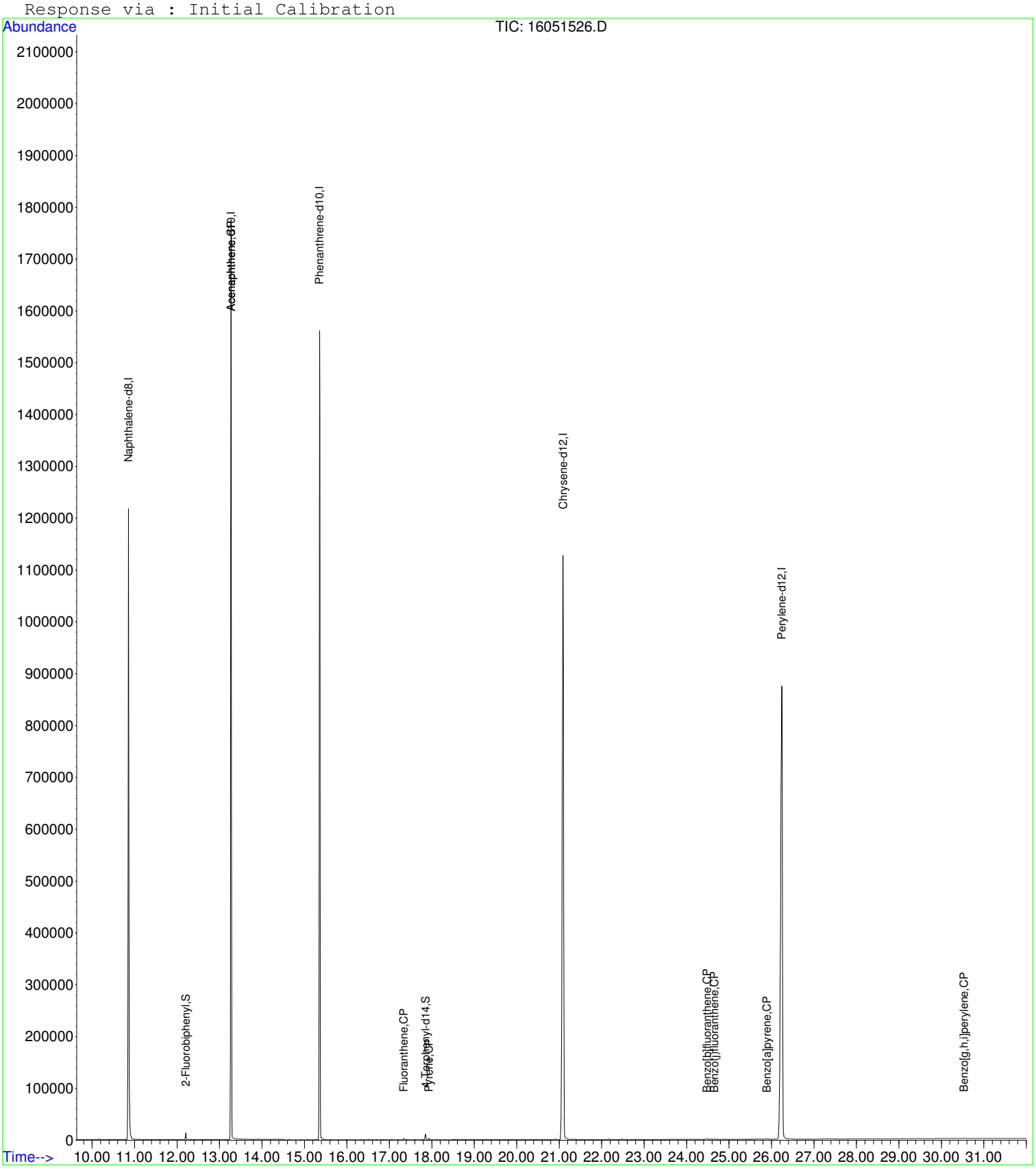
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1473380	4000.00	ug/kg	127
5) Acenaphthene-d10	13.27	164	910493	4000.00	ug/kg	79
11) Phenanthrene-d10	15.36	188	1672615	4000.00	ug/kg	82
17) Chrysene-d12	21.09	240	1914889	4000.00	ug/kg	84
20) Perylene-d12	26.24	264	1781184	4000.00	ug/kg	86
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.21	172	10238	38.55	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	0.96%#		
16) 4-Terphenyl-d14	17.85	244	14305	33.06	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	0.83%#		
Target Compounds						Qvalue
9) Acenaphthene	13.27	154	2765	11.36	ug/kg#	9
14) Fluoranthene	17.34	202	3013	6.62	ug/kg	100
15) Pyrene	17.93	202	3024	6.40	ug/kg	98
21) Benzo[b]fluoranthene	24.48	252	2529	5.39	ug/kg	99
23) Benzo(j)fluoranthene	24.66	252	1045	2.66	ug/kg	89
25) Benzo[a]pyrene	25.89	252	2343	5.45	ug/kg	95
28) Benzo[g,h,i]perylene	30.53	276	1821	5.00	ug/kg	95

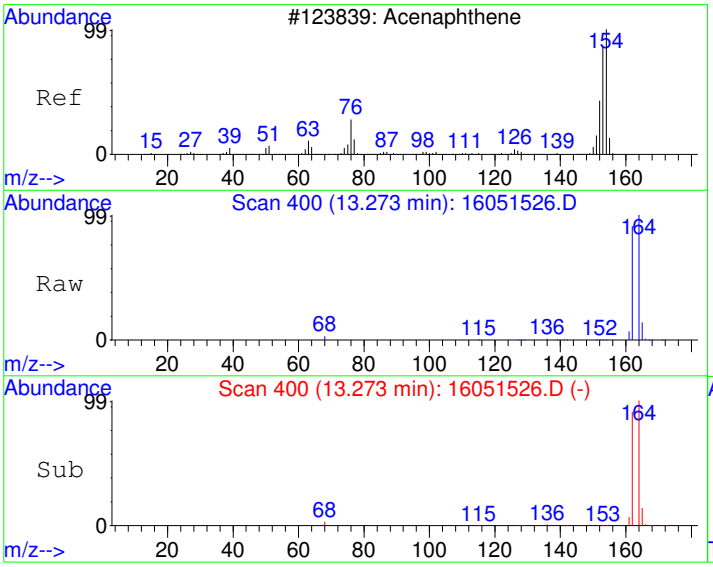
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160515\16051526.D Vial: 26
Acq On : 16 May 2016 3:48 am Operator:
Sample : 1605074-11A Inst : GC/MS #6
Misc : SAMP Multiplr: 20.00
MS Integration Params: RTEINT.P
Quant Time: May 16 10:40 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Initial Calibration

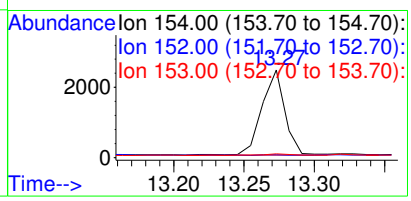


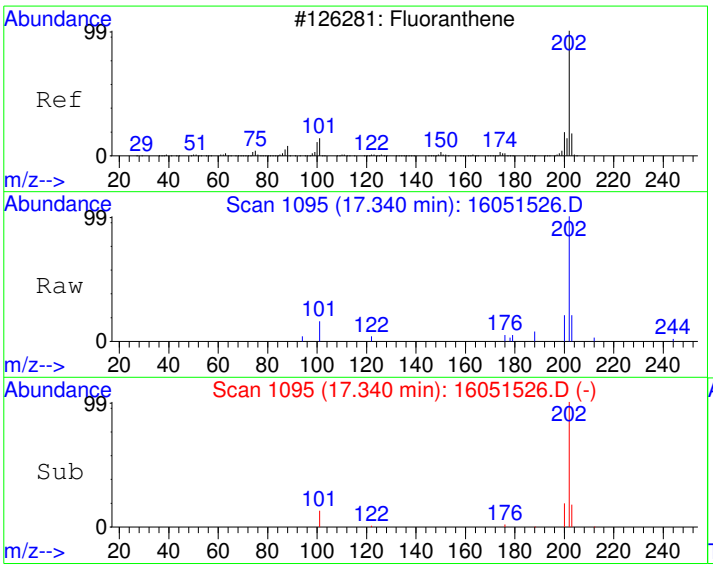


#9
Acenaphthene
Concen: 11.36 ug/kg
RT: 13.27 min Scan# 400
Delta R.T. -0.04 min
Lab File: 16051526.D
Acq: 16 May 2016 3:48 am

Tgt Ion:154 Resp: 2765

Ion	Ratio	Lower	Upper
154	100		
152	0.6	18.9	78.9#
153	1.7	75.2	135.2#

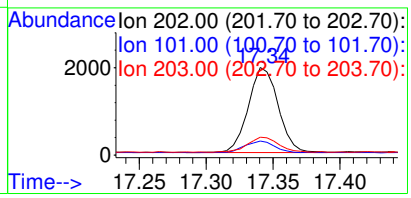


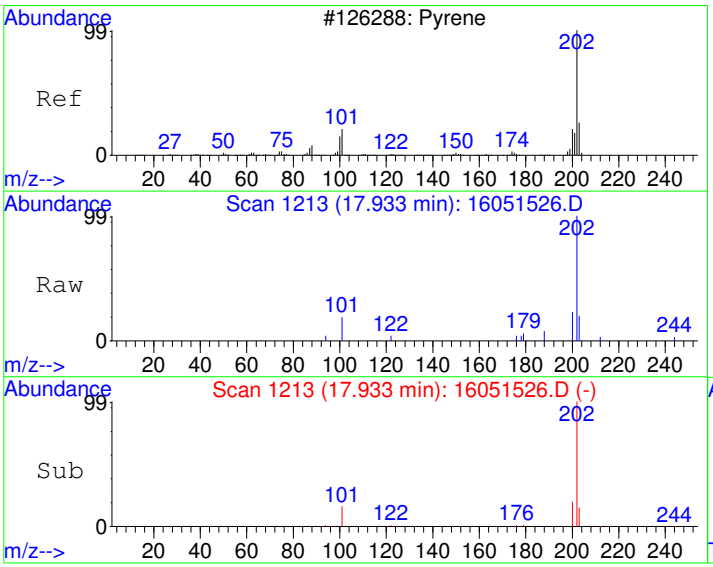


#14
Fluoranthene
Concen: 6.62 ug/kg
RT: 17.34 min Scan# 1095
Delta R.T. -0.00 min
Lab File: 16051526.D
Acq: 16 May 2016 3:48 am

Tgt Ion:202 Resp: 3013

Ion	Ratio	Lower	Upper
202	100		
101	13.4	0.0	43.0
203	17.8	0.0	47.9

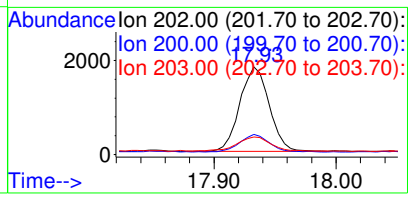


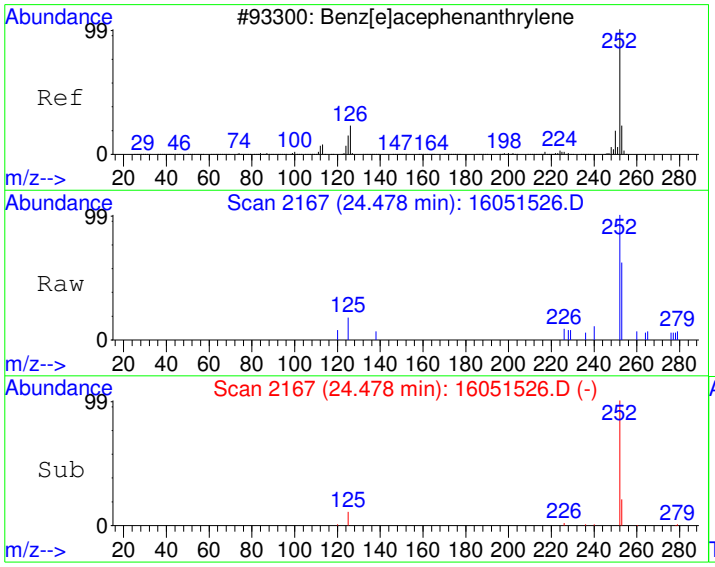


#15
Pyrene
Concen: 6.40 ug/kg
RT: 17.93 min Scan# 1213
Delta R.T. -0.00 min
Lab File: 16051526.D
Acq: 16 May 2016 3:48 am

Tgt Ion:202 Resp: 3024

Ion	Ratio	Lower	Upper
202	100		
200	20.7	0.0	50.0
203	16.6	0.0	48.0

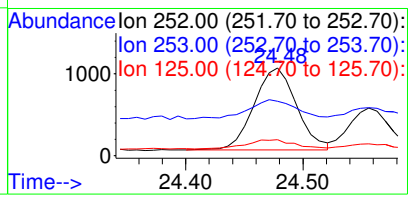


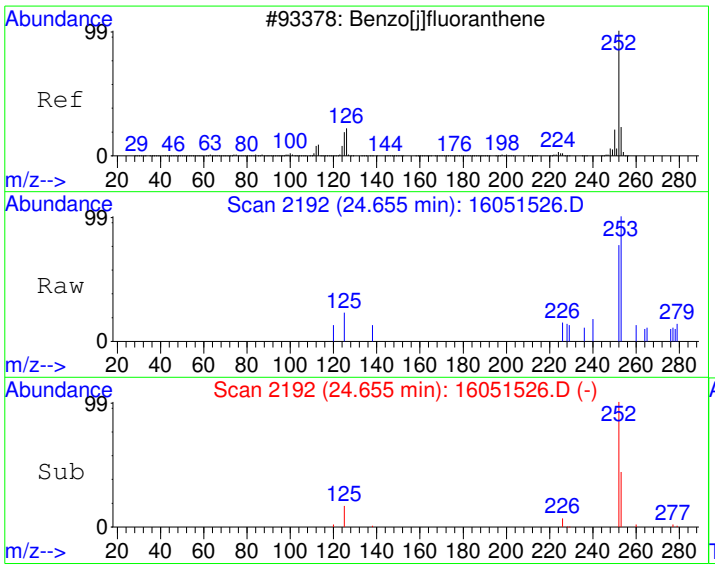


#21
Benzo[b]fluoranthene
Concen: 5.39 ug/kg
RT: 24.48 min Scan# 2167
Delta R.T. -0.02 min
Lab File: 16051526.D
Acq: 16 May 2016 3:48 am

Tgt Ion:252 Resp: 2529

Ion	Ratio	Lower	Upper
252	100		
253	21.6	0.0	52.2
125	10.7	0.0	41.0

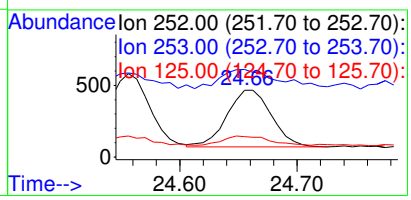


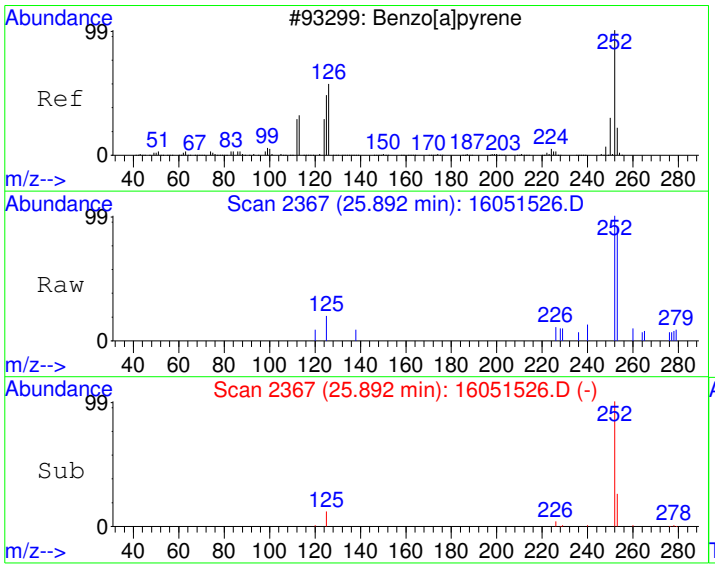


#23
Benzo(j)fluoranthene
Concen: 2.66 ug/kg
RT: 24.66 min Scan# 2192
Delta R.T. -0.03 min
Lab File: 16051526.D
Acq: 16 May 2016 3:48 am

Tgt Ion:252 Resp: 1045

Ion	Ratio	Lower	Upper
252	100		
253	30.1	2.1	42.1
125	14.9	0.0	34.4

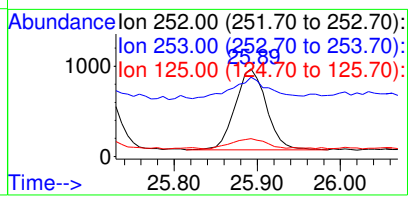


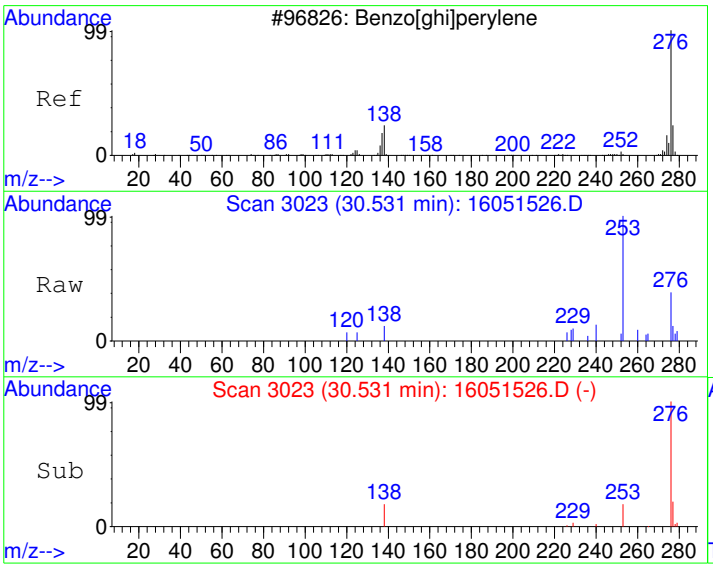


#25
Benzo[a]pyrene
Concen: 5.45 ug/kg
RT: 25.89 min Scan# 2367
Delta R.T. -0.02 min
Lab File: 16051526.D
Acq: 16 May 2016 3:48 am

Tgt Ion:252 Resp: 2343

Ion	Ratio	Lower	Upper
252	100		
253	25.2	1.9	41.9
125	12.4	0.0	31.7

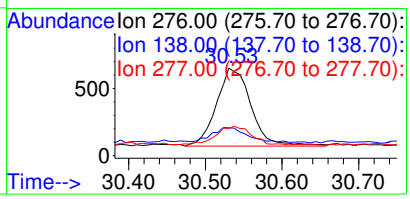




#28
Benzo[g,h,i]perylene
Concen: 5.00 ug/kg
RT: 30.53 min Scan# 3023
Delta R.T. -0.04 min
Lab File: 16051526.D
Acq: 16 May 2016 3:48 am

Tgt Ion:276 Resp: 1821

Ion	Ratio	Lower	Upper
276	100		
138	17.0	0.0	39.1
277	21.5	4.0	44.0



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160515\16051527.D Vial: 27
Acq On : 16 May 2016 4:28 am Operator:
Sample : 1605074-12A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 16 10:40 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Initial Calibration
DataAcq Meth : PP160421

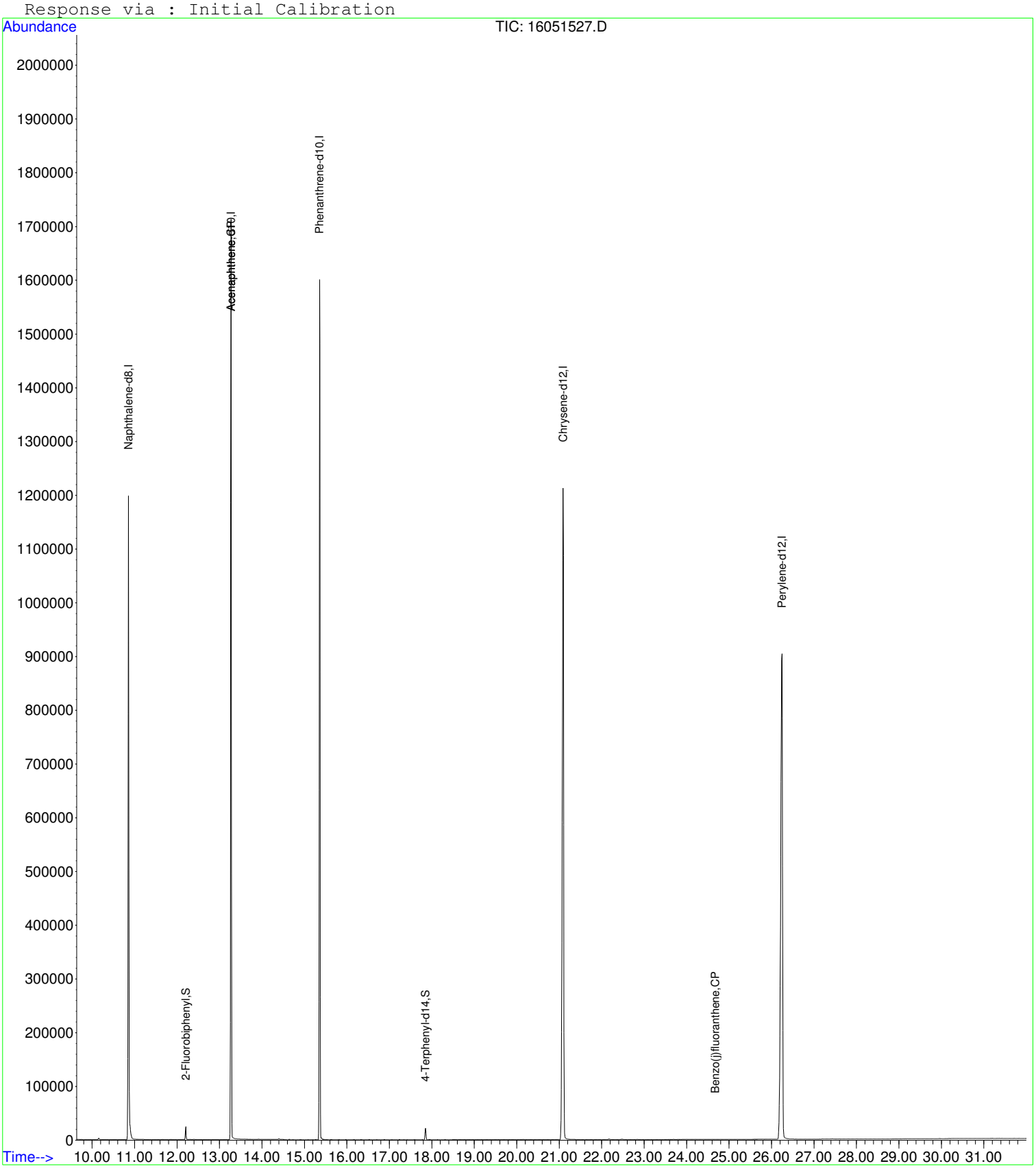
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1459141	4000.00	ug/kg	126
5) Acenaphthene-d10	13.27	164	913321	4000.00	ug/kg	79
11) Phenanthrene-d10	15.36	188	1751080	4000.00	ug/kg	86
17) Chrysene-d12	21.09	240	1996096	4000.00	ug/kg	88
20) Perylene-d12	26.25	264	1878281	4000.00	ug/kg	91
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.21	172	19706	73.97	ug/kg	0.01
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.85%#		
16) 4-Terphenyl-d14	17.85	244	28577	63.08	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.58%#		
Target Compounds						Qvalue
9) Acenaphthene	13.27	154	2827	11.58	ug/kg#	9
23) Benzo(j)fluoranthene	24.67	252	98	0.24	ug/kg	82

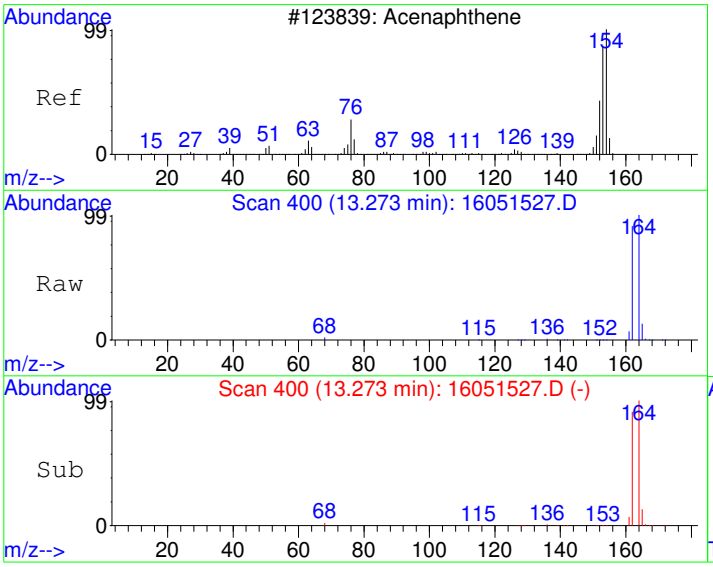
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160515\16051527.D Vial: 27
Acq On : 16 May 2016 4:28 am Operator:
Sample : 1605074-12A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 16 10:40 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Initial Calibration

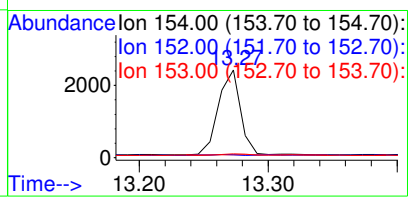


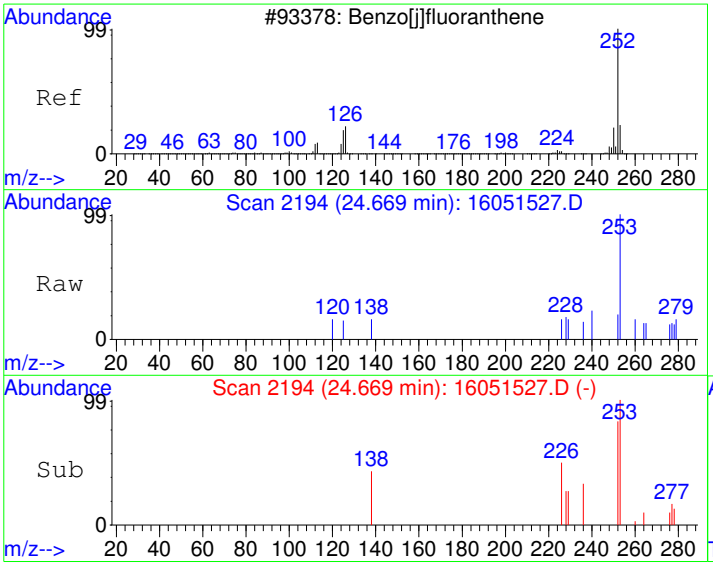


#9
Acenaphthene
Concen: 11.58 ug/kg
RT: 13.27 min Scan# 400
Delta R.T. -0.04 min
Lab File: 16051527.D
Acq: 16 May 2016 4:28 am

Tgt Ion:154 Resp: 2827

Ion	Ratio	Lower	Upper
154	100		
152	0.7	18.9	78.9#
153	1.8	75.2	135.2#

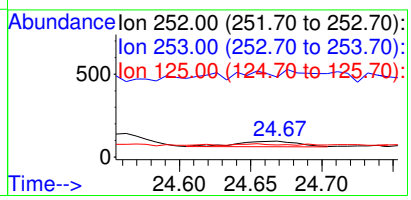




#23
Benzo(j)fluoranthene
Concen: 0.24 ug/kg
RT: 24.67 min Scan# 2194
Delta R.T. -0.01 min
Lab File: 16051527.D
Acq: 16 May 2016 4:28 am

Tgt Ion:252 Resp: 98

Ion	Ratio	Lower	Upper
252	100		
253	28.1	2.1	42.1
125	3.1	0.0	34.4



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160515\16051528.D Vial: 28
Acq On : 16 May 2016 5:07 am Operator:
Sample : 1605074-14A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 16 10:40 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Initial Calibration
DataAcq Meth : PP160421

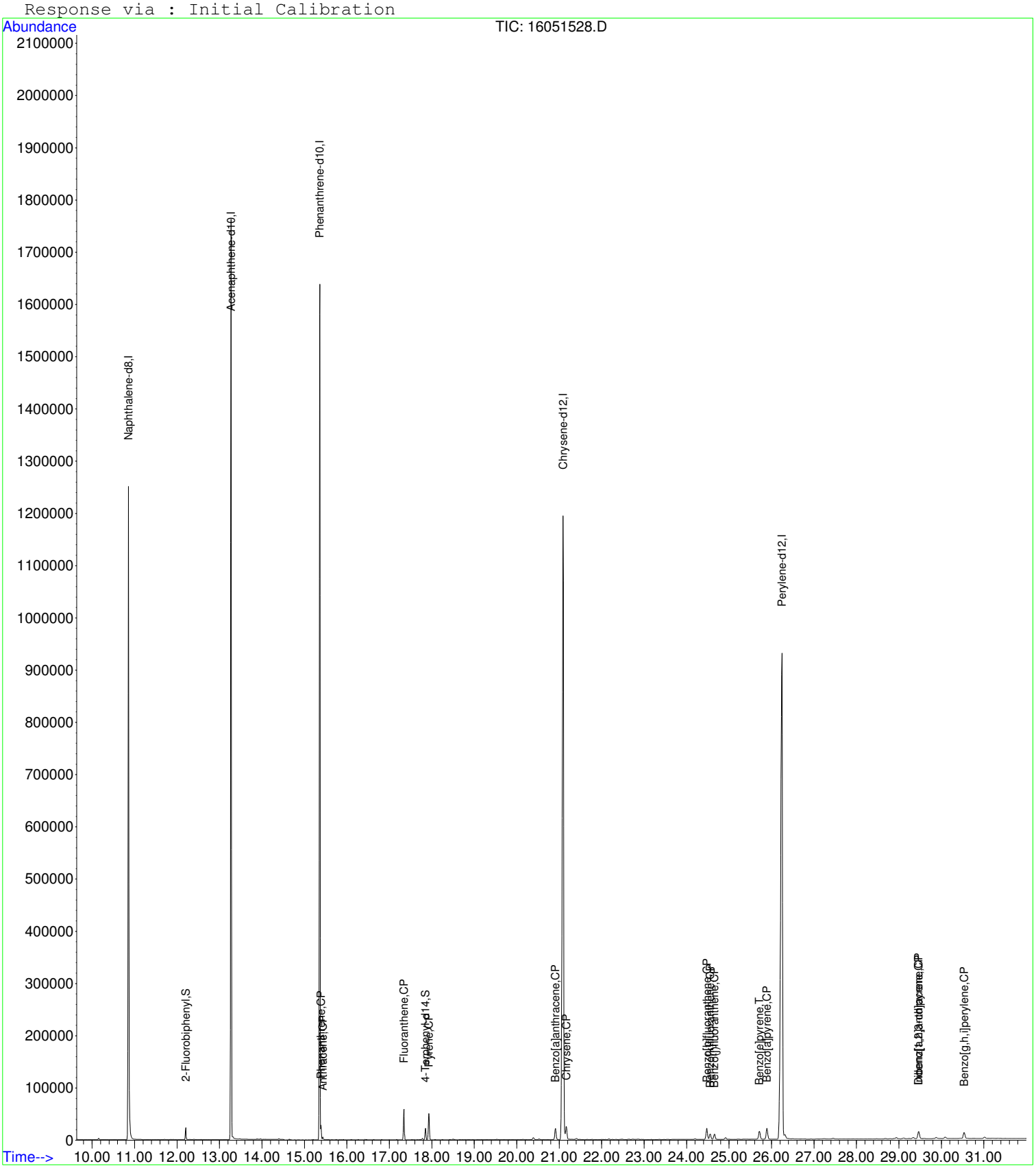
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1522846	4000.00	ug/kg	131
5) Acenaphthene-d10	13.27	164	929208	4000.00	ug/kg	81
11) Phenanthrene-d10	15.36	188	1785229	4000.00	ug/kg	87
17) Chrysene-d12	21.09	240	2038937	4000.00	ug/kg	90
20) Perylene-d12	26.25	264	1894559	4000.00	ug/kg	92
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.21	172	19186	70.78	ug/kg	0.01
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.77%#		
16) 4-Terphenyl-d14	17.85	244	28535	61.78	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.54%#		
Target Compounds						Qvalue
12) Phenanthrene	15.39	178	20841	44.39	ug/kg	99
13) Anthracene	15.43	178	3958	8.91	ug/kg	98
14) Fluoranthene	17.34	202	59751	122.99	ug/kg	98
15) Pyrene	17.93	202	53884	106.77	ug/kg	99
18) Benzo[a]anthracene	20.91	228	32525	68.09	ug/kg	99
19) Chrysene	21.17	228	37998	82.33	ug/kg	99
21) Benzo[b]fluoranthene	24.48	252	38848	77.80	ug/kg	99
22) Benzo[k]fluoranthene	24.56	252	18082	38.60	ug/kg	98
23) Benzo(j)fluoranthene	24.65	252	17228	41.29	ug/kg	91
24) Benzo[e]pyrene	25.72	252	28336	63.36	ug/kg	99
25) Benzo[a]pyrene	25.89	252	38480	84.21	ug/kg	100
26) Dibenz[a,h]anthracene	29.46	278	5220	12.54	ug/kg	96
27) Indeno[1,2,3-cd]pyrene	29.46	276	23010	46.35	ug/kg	90
28) Benzo[g,h,i]perylene	30.54	276	22925	59.22	ug/kg	99

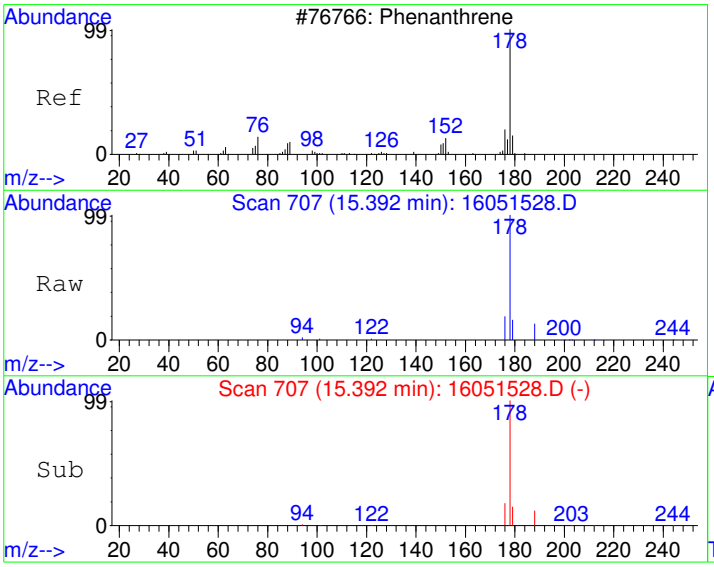
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160515\16051528.D Vial: 28
Acq On : 16 May 2016 5:07 am Operator:
Sample : 1605074-14A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 16 10:40 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Initial Calibration

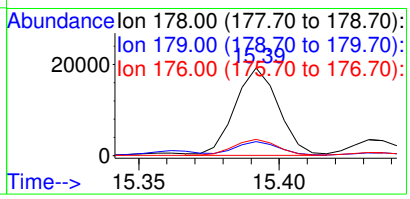


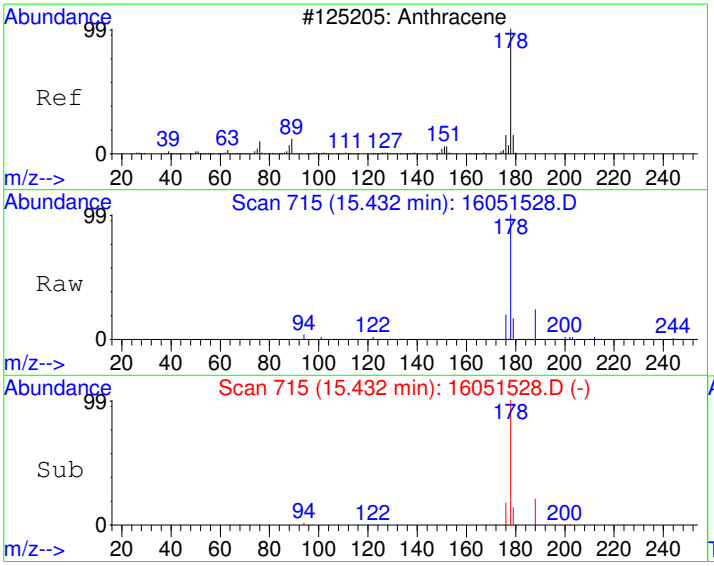


#12
Phenanthrene
Concen: 44.39 ug/kg
RT: 15.39 min Scan# 707
Delta R.T. -0.00 min
Lab File: 16051528.D
Acq: 16 May 2016 5:07 am

Tgt Ion:178 Resp: 20841

Ion	Ratio	Lower	Upper
178	100		
179	15.4	0.0	45.9
176	18.7	0.0	48.5

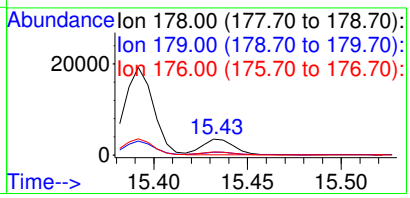


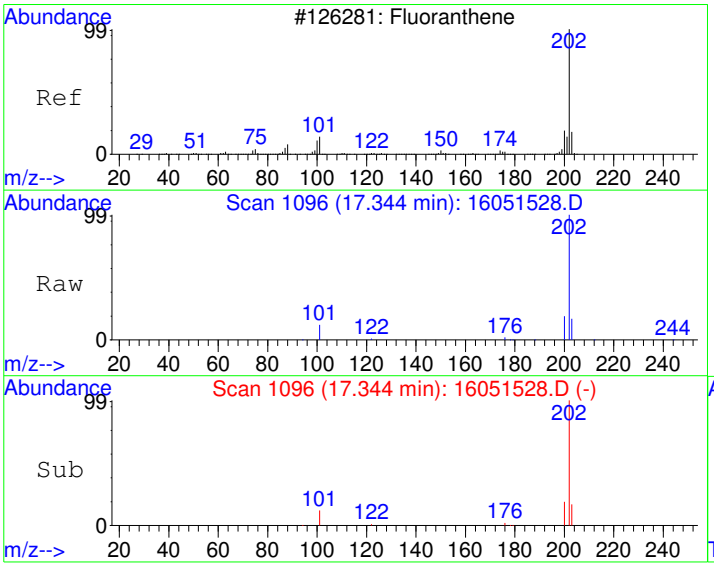


#13
Anthracene
Concen: 8.91 ug/kg
RT: 15.43 min Scan# 715
Delta R.T. -0.00 min
Lab File: 16051528.D
Acq: 16 May 2016 5:07 am

Tgt Ion:178 Resp: 3958

Ion	Ratio	Lower	Upper
178	100		
179	14.1	0.0	45.9
176	18.4	0.0	48.2

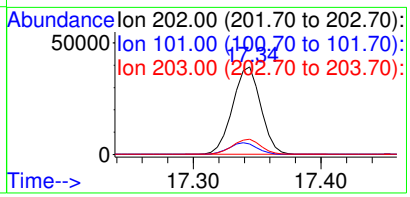


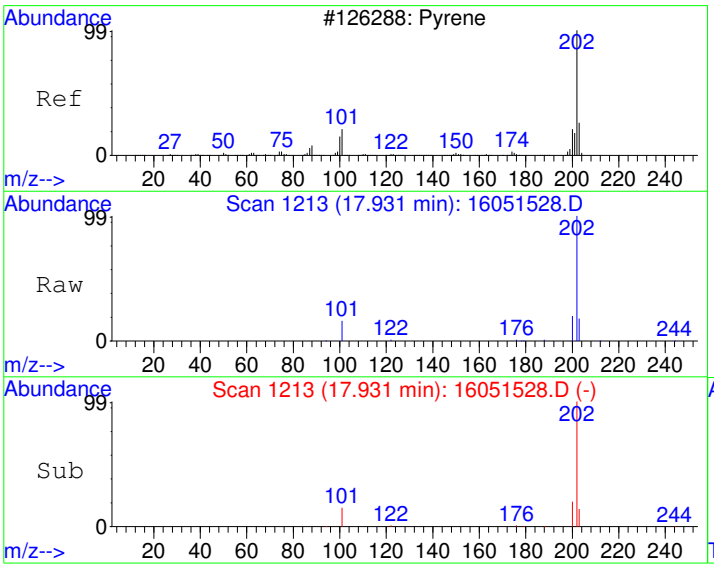


#14
Fluoranthene
Concen: 122.99 ug/kg
RT: 17.34 min Scan# 1096
Delta R.T. -0.00 min
Lab File: 16051528.D
Acq: 16 May 2016 5:07 am

Tgt Ion:202 Resp: 59751

Ion	Ratio	Lower	Upper
202	100		
101	11.7	0.0	43.0
203	17.3	0.0	47.9

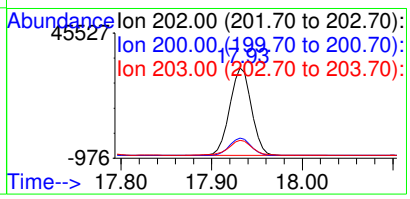


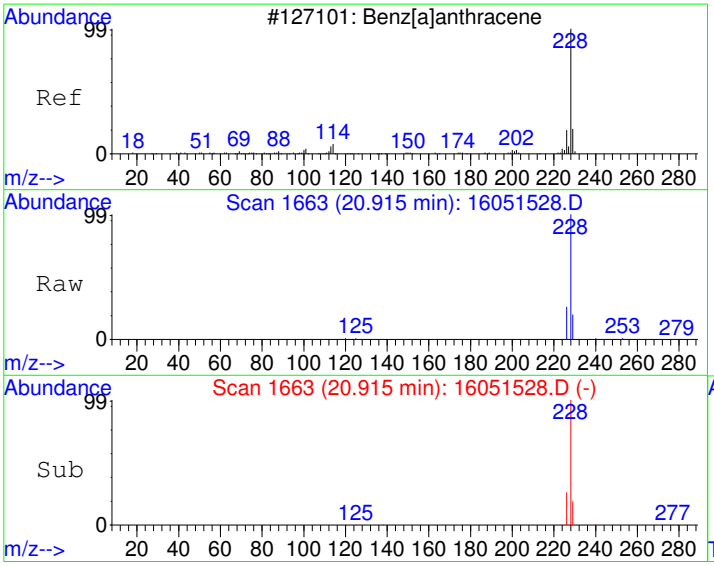


#15
Pyrene
Concen: 106.77 ug/kg
RT: 17.93 min Scan# 1213
Delta R.T. -0.01 min
Lab File: 16051528.D
Acq: 16 May 2016 5:07 am

Tgt Ion:202 Resp: 53884

Ion	Ratio	Lower	Upper
202	100		
200	20.0	0.0	50.0
203	17.3	0.0	48.0

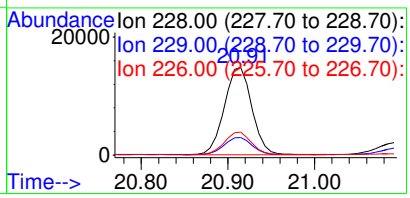


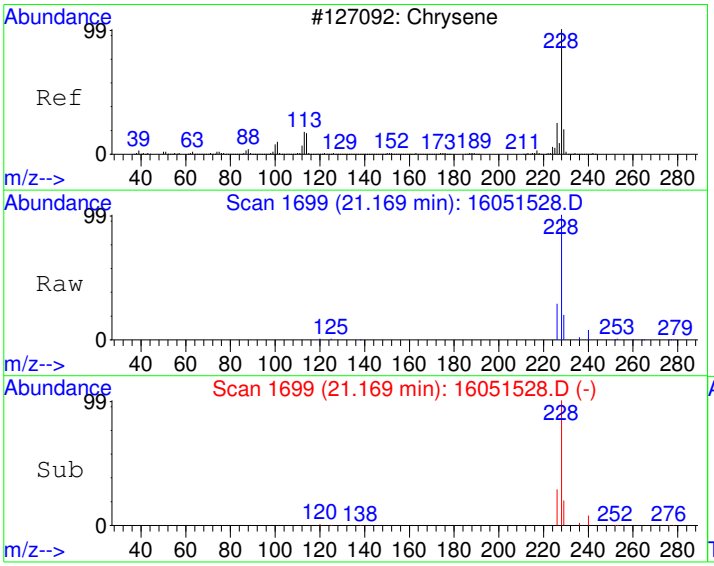


#18
Benzo[a]anthracene
Concen: 68.09 ug/kg
RT: 20.91 min Scan# 1663
Delta R.T. -0.01 min
Lab File: 16051528.D
Acq: 16 May 2016 5:07 am

Tgt Ion:228 Resp: 32525

Ion	Ratio	Lower	Upper
228	100		
229	19.6	0.0	50.1
226	25.9	0.0	55.2

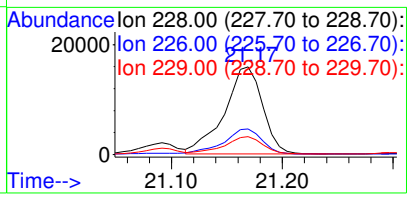


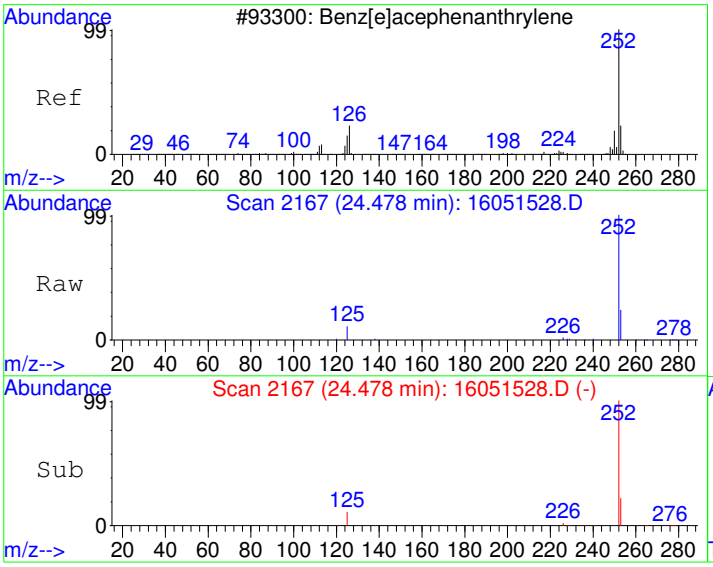


#19
Chrysene
Concen: 82.33 ug/kg
RT: 21.17 min Scan# 1699
Delta R.T. -0.01 min
Lab File: 16051528.D
Acq: 16 May 2016 5:07 am

Tgt Ion:228 Resp: 37998

Ion	Ratio	Lower	Upper
228	100		
226	29.0	0.0	58.1
229	20.0	0.0	50.1

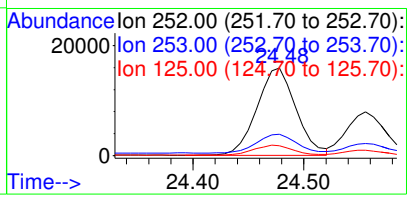


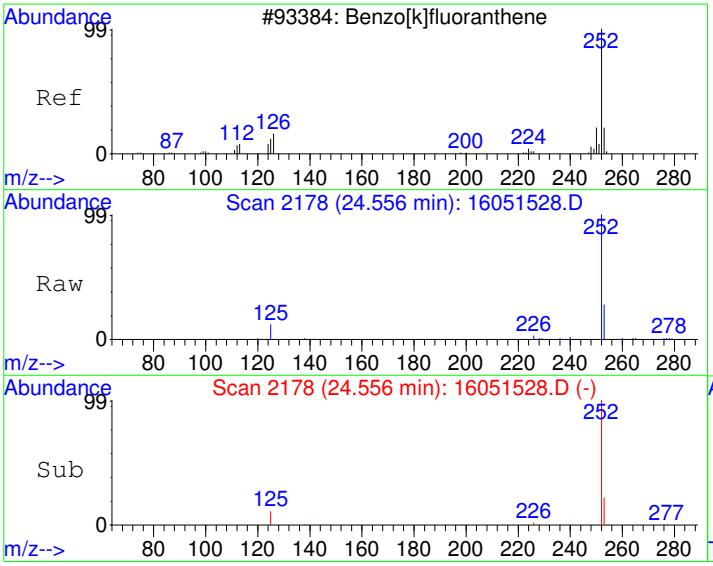


#21
Benzo[b]fluoranthene
Concen: 77.80 ug/kg
RT: 24.48 min Scan# 2167
Delta R.T. -0.02 min
Lab File: 16051528.D
Acq: 16 May 2016 5:07 am

Tgt Ion:252 Resp: 38848

Ion	Ratio	Lower	Upper
252	100		
253	21.5	0.0	52.2
125	10.7	0.0	41.0

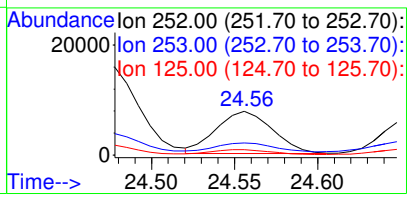


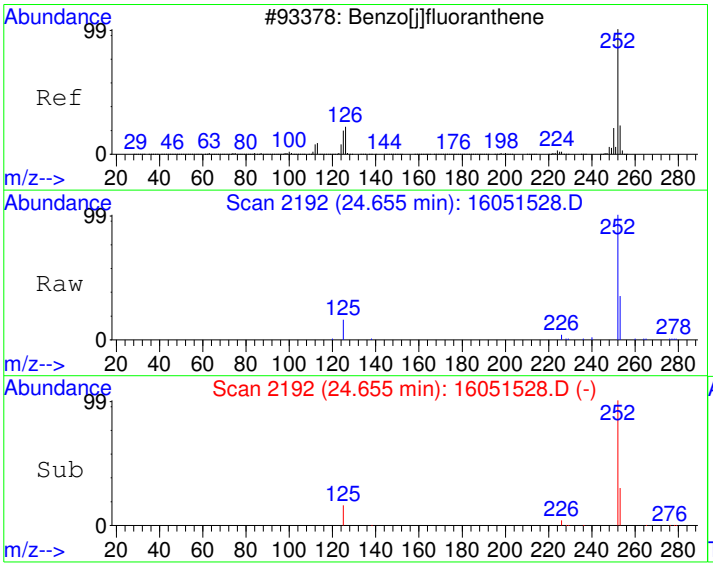


#22
Benzo[k]fluoranthene
Concen: 38.60 ug/kg
RT: 24.56 min Scan# 2178
Delta R.T. -0.02 min
Lab File: 16051528.D
Acq: 16 May 2016 5:07 am

Tgt Ion:252 Resp: 18082

Ion	Ratio	Lower	Upper
252	100		
253	21.1	2.1	42.1
125	11.0	0.0	31.3

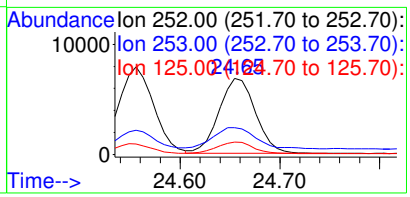


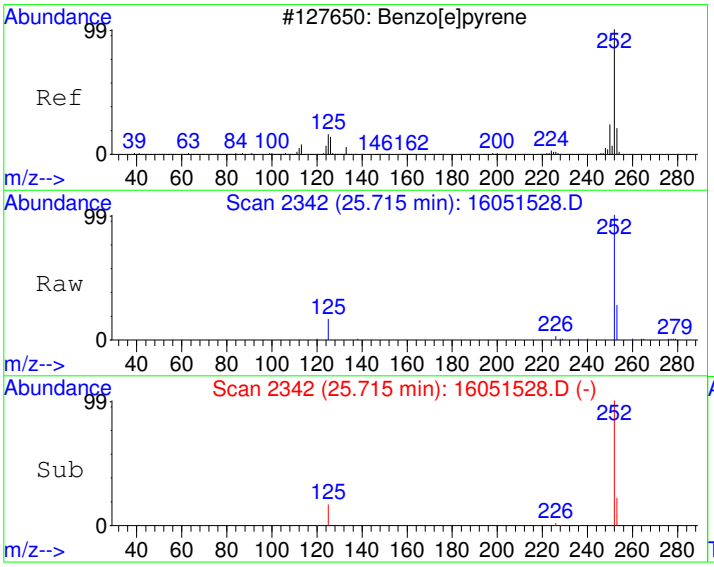


#23
Benzo(j)fluoranthene
Concen: 41.29 ug/kg
RT: 24.65 min Scan# 2192
Delta R.T. -0.03 min
Lab File: 16051528.D
Acq: 16 May 2016 5:07 am

Tgt Ion:252 Resp: 17228

Ion	Ratio	Lower	Upper
252	100		
253	28.0	2.1	42.1
125	15.4	0.0	34.4

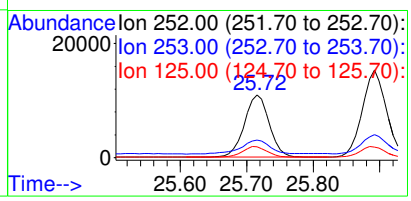


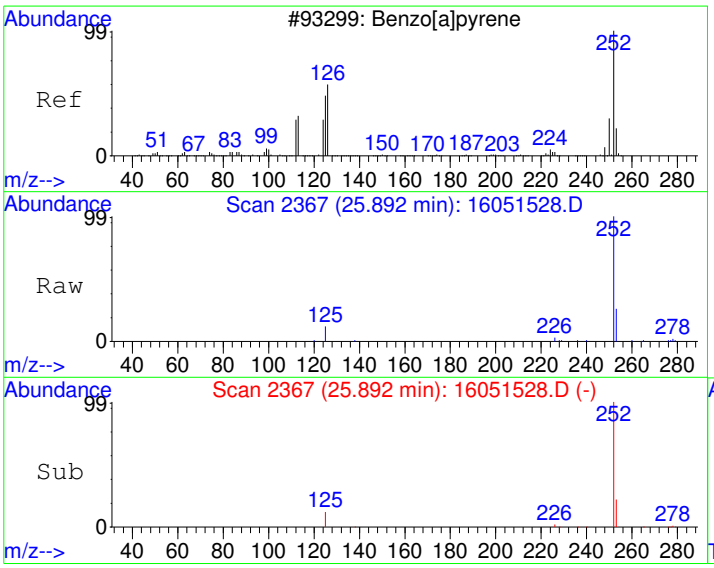


#24
Benzo[e]pyrene
Concen: 63.36 ug/kg
RT: 25.72 min Scan# 2342
Delta R.T. -0.02 min
Lab File: 16051528.D
Acq: 16 May 2016 5:07 am

Tgt Ion:252 Resp: 28336

Ion	Ratio	Lower	Upper
252	100		
253	22.3	2.2	42.2
125	16.7	0.0	36.1

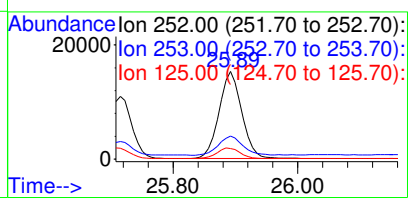


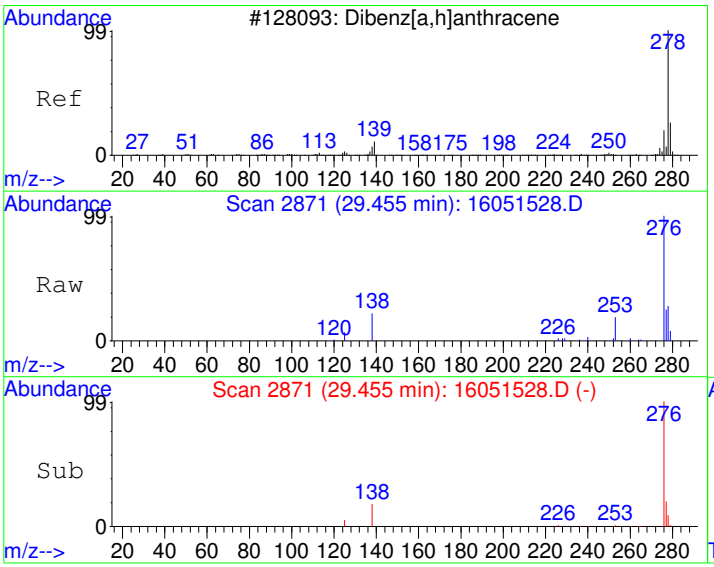


#25
Benzo[a]pyrene
Concen: 84.21 ug/kg
RT: 25.89 min Scan# 2367
Delta R.T. -0.02 min
Lab File: 16051528.D
Acq: 16 May 2016 5:07 am

Tgt Ion:252 Resp: 38480

Ion	Ratio	Lower	Upper
252	100		
253	21.7	1.9	41.9
125	11.5	0.0	31.7

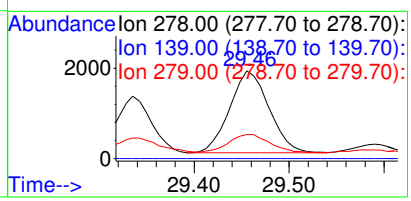


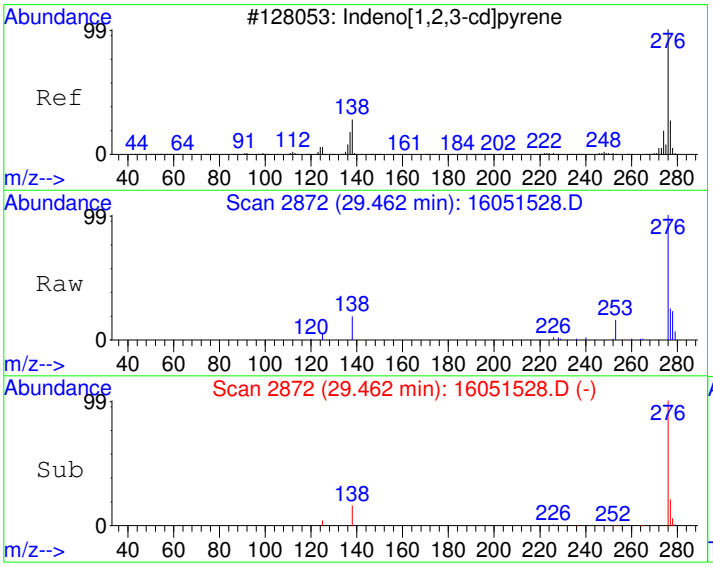


#26
Dibenz[a,h]anthracene
Concen: 12.54 ug/kg
RT: 29.46 min Scan# 2871
Delta R.T. -0.04 min
Lab File: 16051528.D
Acq: 16 May 2016 5:07 am

Tgt Ion:278 Resp: 5220

Ion	Ratio	Lower	Upper
278	100		
139	0.0	0.0	20.0
279	22.2	4.2	44.2

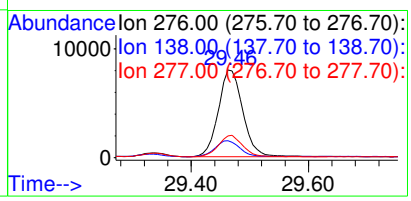


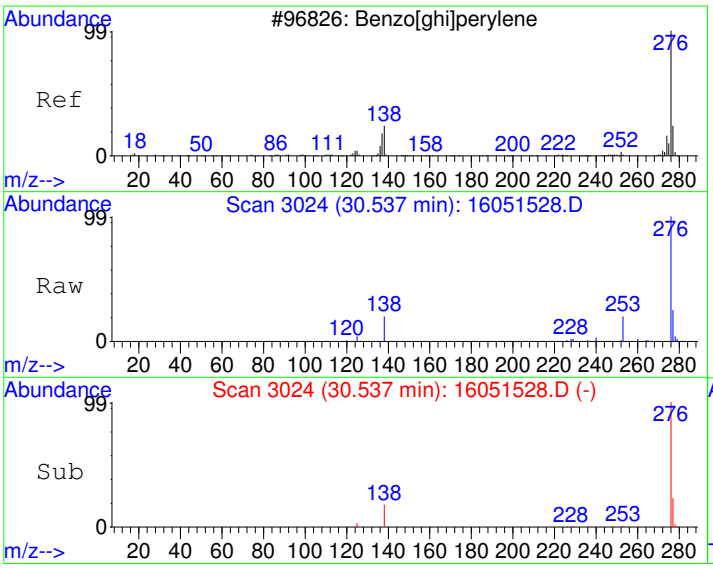


#27
Indeno[1,2,3-cd]pyrene
Concen: 46.35 ug/kg
RT: 29.46 min Scan# 2872
Delta R.T. -0.04 min
Lab File: 16051528.D
Acq: 16 May 2016 5:07 am

Tgt Ion:276 Resp: 23010

Ion	Ratio	Lower	Upper
276	100		
138	18.4	6.7	46.7
277	24.0	5.8	45.8

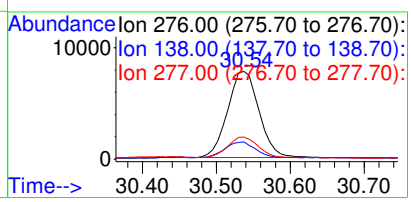




#28
Benzo[g,h,i]perylene
Concen: 59.22 ug/kg
RT: 30.54 min Scan# 3024
Delta R.T. -0.04 min
Lab File: 16051528.D
Acq: 16 May 2016 5:07 am

Tgt Ion:276 Resp: 22925

Ion	Ratio	Lower	Upper
276	100		
138	18.5	0.0	39.1
277	24.2	4.0	44.0



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160515\16051529.D Vial: 29
Acq On : 16 May 2016 5:46 am Operator:
Sample : 1605074-15A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 16 10:40 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Initial Calibration
DataAcq Meth : PP160421

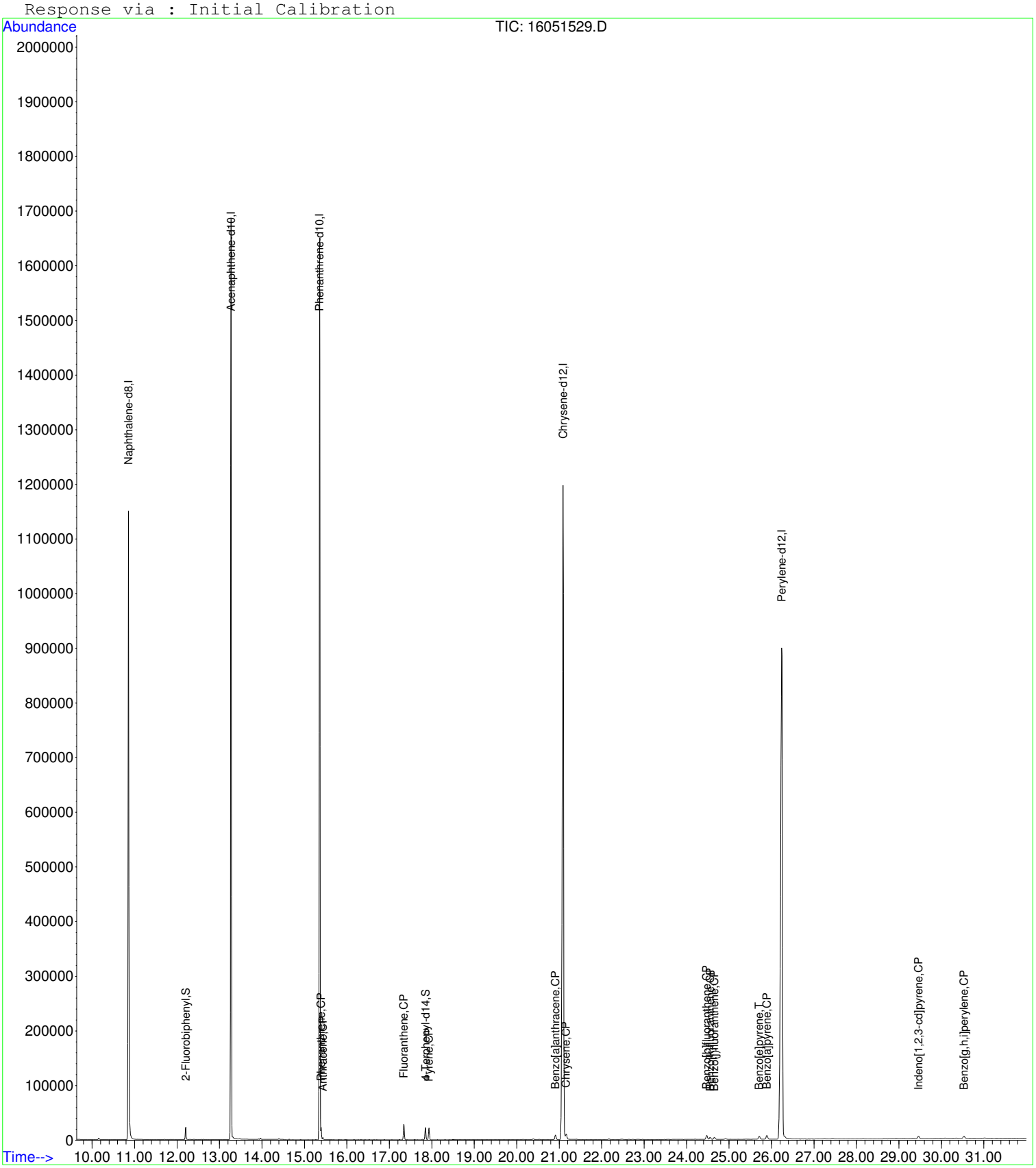
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1427522	4000.00	ug/kg	123
5) Acenaphthene-d10	13.27	164	909965	4000.00	ug/kg	79
11) Phenanthrene-d10	15.36	188	1752837	4000.00	ug/kg	86
17) Chrysene-d12	21.09	240	1975011	4000.00	ug/kg	87
20) Perylene-d12	26.24	264	1831979	4000.00	ug/kg	89
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.21	172	20378	76.77	ug/kg	0.01
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.92%#		
16) 4-Terphenyl-d14	17.85	244	29486	65.02	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.63%#		
Target Compounds						Qvalue
12) Phenanthrene	15.39	178	16744	36.32	ug/kg	99
13) Anthracene	15.43	178	3097	7.10	ug/kg	100
14) Fluoranthene	17.34	202	28267	59.26	ug/kg	99
15) Pyrene	17.93	202	23216	46.85	ug/kg	100
18) Benzo[a]anthracene	20.91	228	12373	26.74	ug/kg	99
19) Chrysene	21.16	228	14153	31.66	ug/kg	100
21) Benzo[b]fluoranthene	24.47	252	14036	29.07	ug/kg	99
22) Benzo[k]fluoranthene	24.56	252	6450	14.24	ug/kg	96
23) Benzo(j)fluoranthene	24.65	252	6076	15.06	ug/kg	94
24) Benzo[e]pyrene	25.71	252	10058	23.26	ug/kg	98
25) Benzo[a]pyrene	25.89	252	13152	29.76	ug/kg	99
27) Indeno[1,2,3-cd]pyrene	29.46	276	7842	16.33	ug/kg	90
28) Benzo[g,h,i]perylene	30.54	276	7828	20.91	ug/kg	97

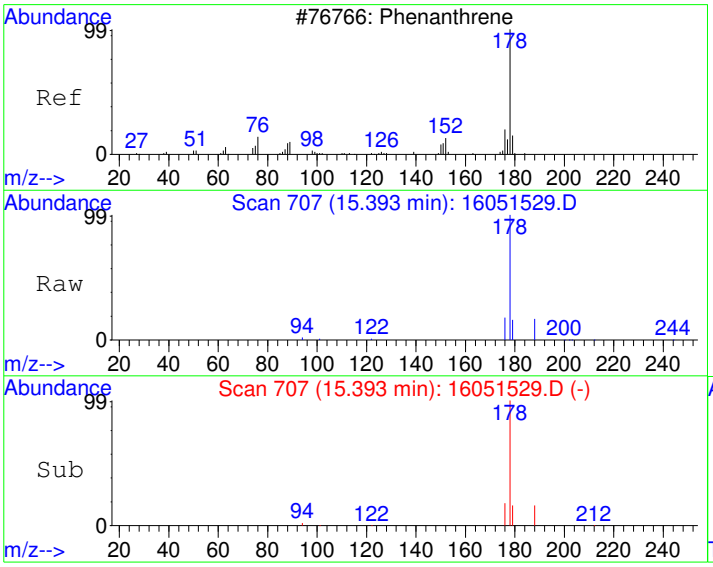
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160515\16051529.D Vial: 29
Acq On : 16 May 2016 5:46 am Operator:
Sample : 1605074-15A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 16 10:40 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Initial Calibration

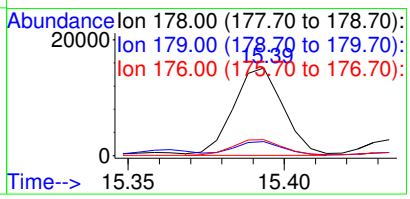


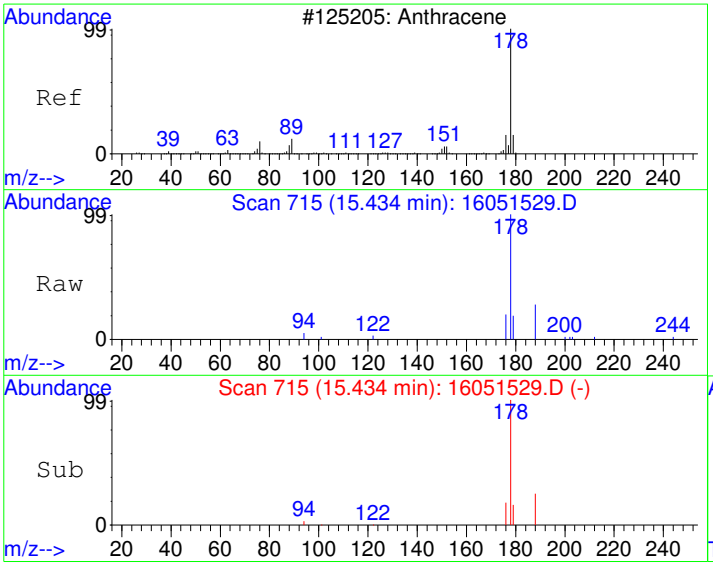


#12
Phenanthrene
Concen: 36.32 ug/kg
RT: 15.39 min Scan# 707
Delta R.T. 0.00 min
Lab File: 16051529.D
Acq: 16 May 2016 5:46 am

Tgt Ion:178 Resp: 16744

Ion	Ratio	Lower	Upper
178	100		
179	15.5	0.0	45.9
176	18.2	0.0	48.5

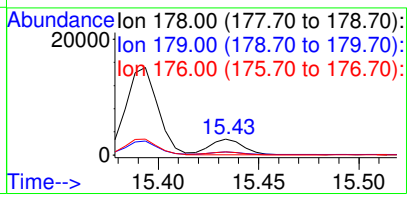


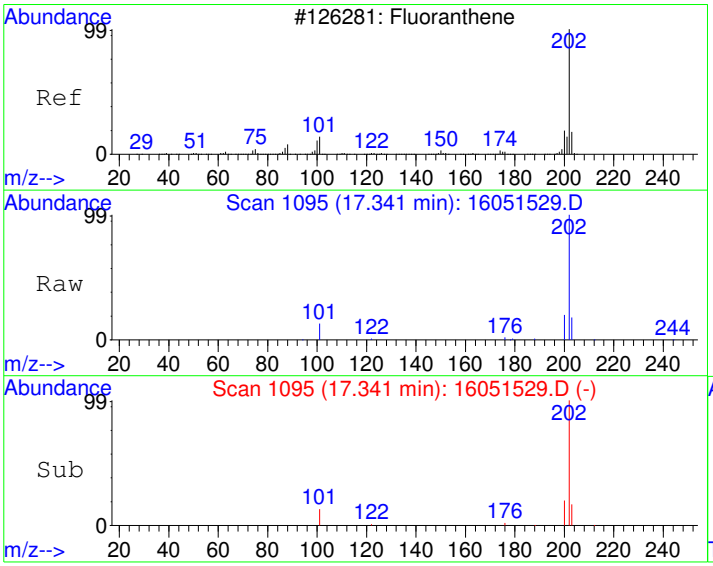


#13
Anthracene
Concen: 7.10 ug/kg
RT: 15.43 min Scan# 715
Delta R.T. 0.00 min
Lab File: 16051529.D
Acq: 16 May 2016 5:46 am

Tgt Ion:178 Resp: 3097

Ion	Ratio	Lower	Upper
178	100		
179	15.6	0.0	45.9
176	18.3	0.0	48.2

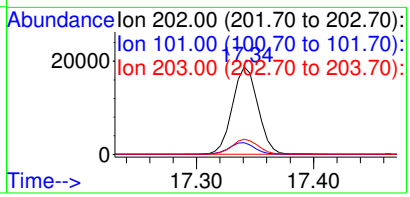


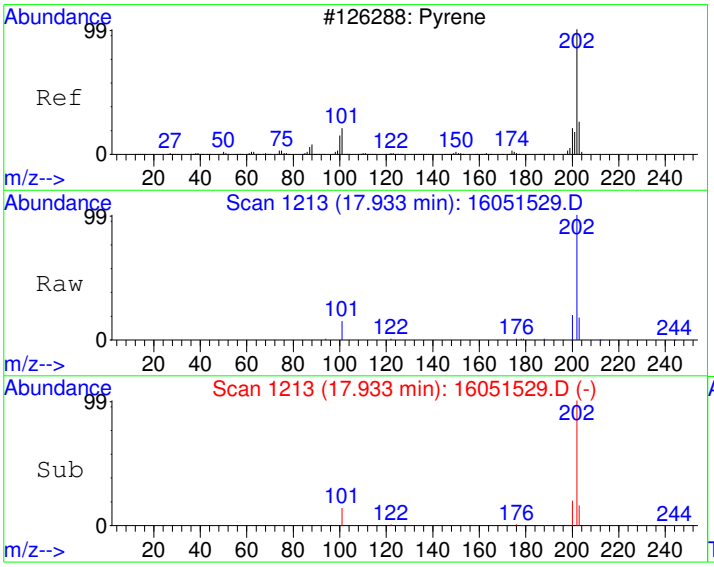


#14
Fluoranthene
Concen: 59.26 ug/kg
RT: 17.34 min Scan# 1095
Delta R.T. -0.00 min
Lab File: 16051529.D
Acq: 16 May 2016 5:46 am

Tgt Ion:202 Resp: 28267

Ion	Ratio	Lower	Upper
202	100		
101	13.0	0.0	43.0
203	17.3	0.0	47.9

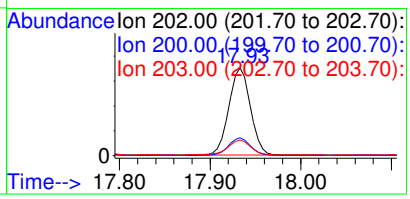


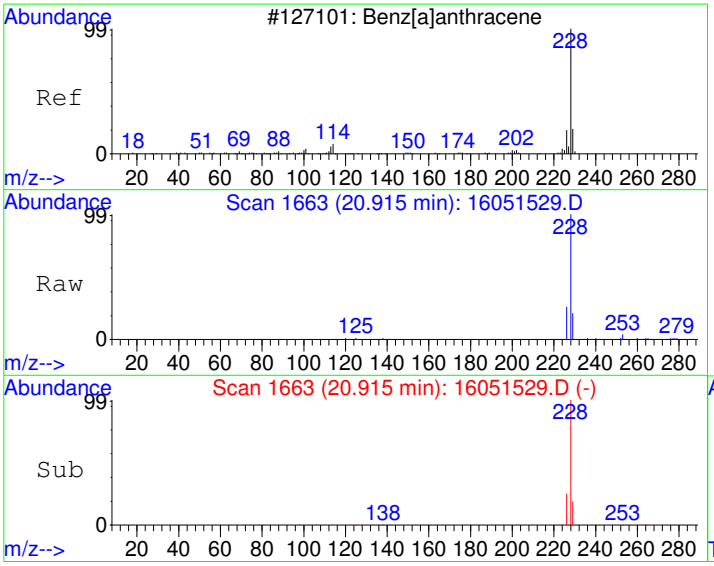


#15
Pyrene
Concen: 46.85 ug/kg
RT: 17.93 min Scan# 1213
Delta R.T. -0.00 min
Lab File: 16051529.D
Acq: 16 May 2016 5:46 am

Tgt Ion:202 Resp: 23216

Ion	Ratio	Lower	Upper
202	100		
200	20.0	0.0	50.0
203	17.6	0.0	48.0

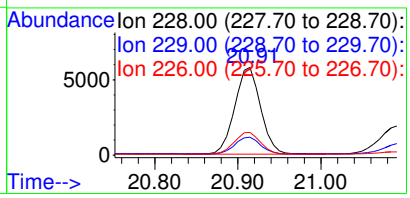


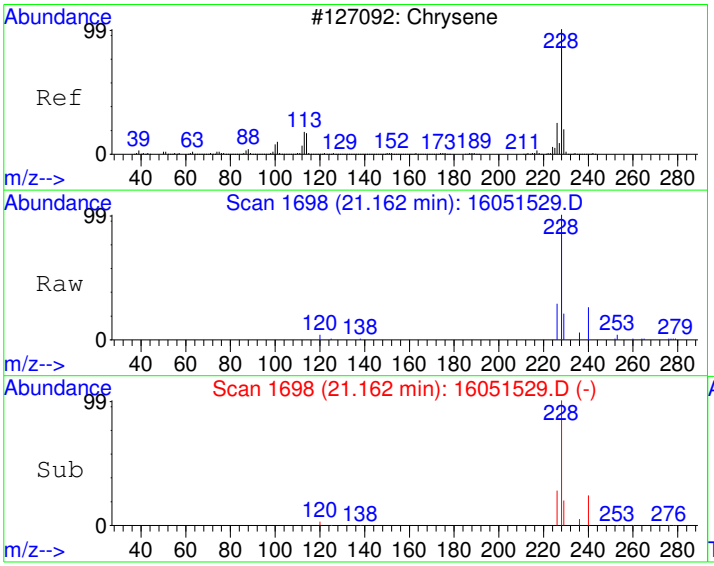


#18
Benzo[a]anthracene
Concen: 26.74 ug/kg
RT: 20.91 min Scan# 1663
Delta R.T. -0.01 min
Lab File: 16051529.D
Acq: 16 May 2016 5:46 am

Tgt Ion:228 Resp: 12373

Ion	Ratio	Lower	Upper
228	100		
229	19.5	0.0	50.1
226	24.9	0.0	55.2

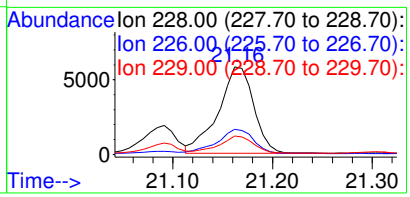


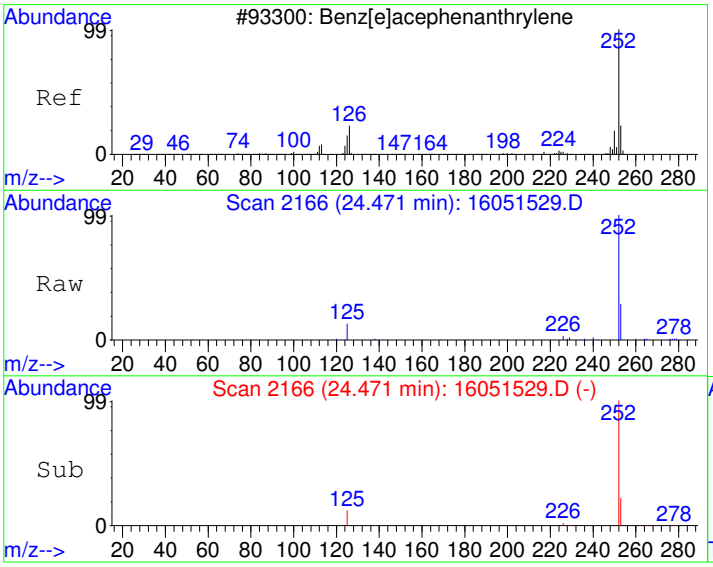


#19
Chrysene
Concen: 31.66 ug/kg
RT: 21.16 min Scan# 1698
Delta R.T. -0.01 min
Lab File: 16051529.D
Acq: 16 May 2016 5:46 am

Tgt Ion:228 Resp: 14153

Ion	Ratio	Lower	Upper
228	100		
226	28.2	0.0	58.1
229	20.1	0.0	50.1

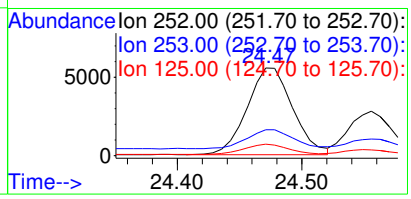


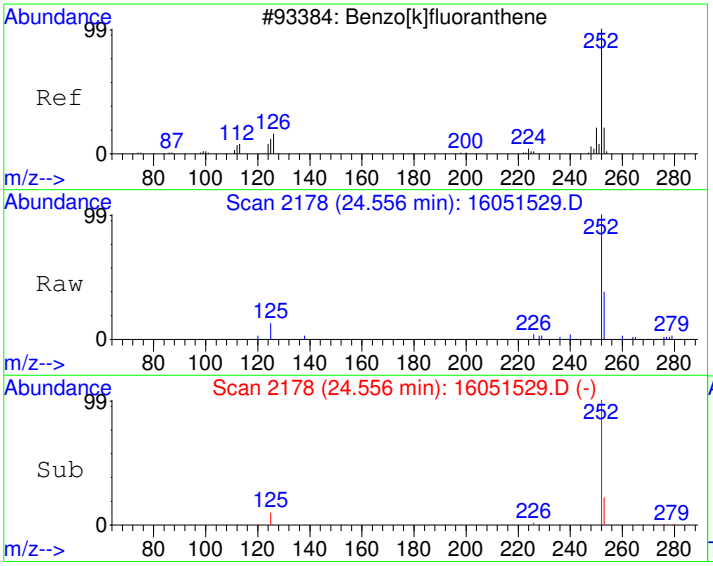


#21
Benzo[b]fluoranthene
Concen: 29.07 ug/kg
RT: 24.47 min Scan# 2166
Delta R.T. -0.03 min
Lab File: 16051529.D
Acq: 16 May 2016 5:46 am

Tgt Ion:252 Resp: 14036

Ion	Ratio	Lower	Upper
252	100		
253	21.8	0.0	52.2
125	11.9	0.0	41.0

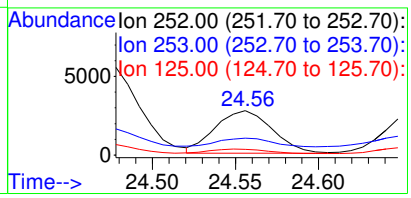


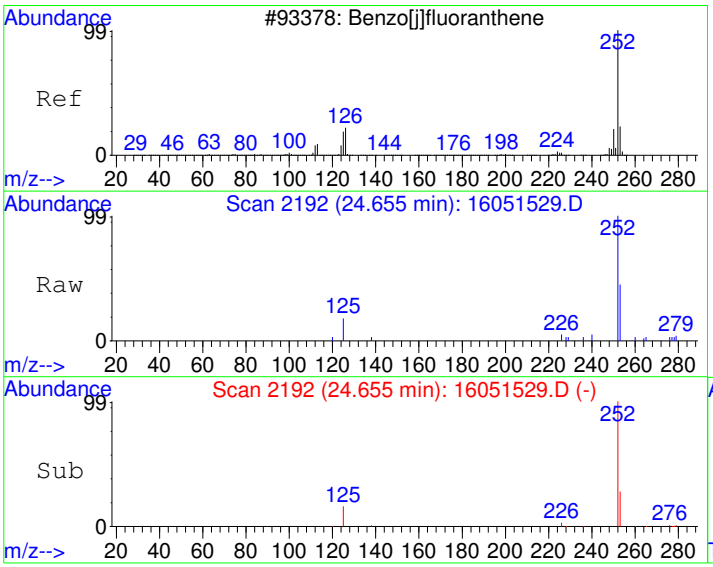


#22
Benzo[k]fluoranthene
Concen: 14.24 ug/kg
RT: 24.56 min Scan# 2178
Delta R.T. -0.02 min
Lab File: 16051529.D
Acq: 16 May 2016 5:46 am

Tgt Ion:252 Resp: 6450

Ion	Ratio	Lower	Upper
252	100		
253	19.8	2.1	42.1
125	10.4	0.0	31.3

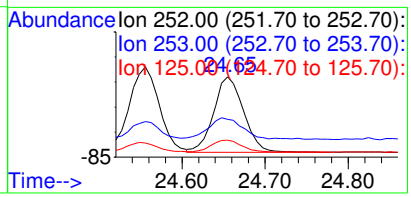


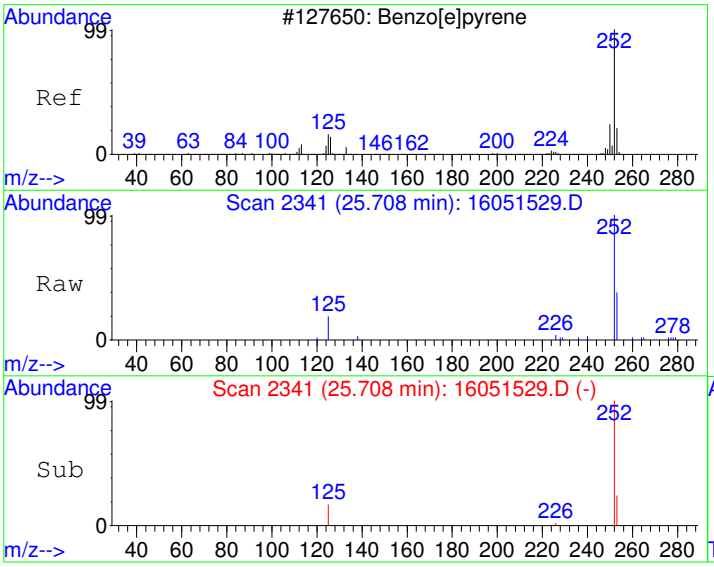


#23
Benzo(j)fluoranthene
Concen: 15.06 ug/kg
RT: 24.65 min Scan# 2192
Delta R.T. -0.03 min
Lab File: 16051529.D
Acq: 16 May 2016 5:46 am

Tgt Ion:252 Resp: 6076

Ion	Ratio	Lower	Upper
252	100		
253	26.1	2.1	42.1
125	15.7	0.0	34.4

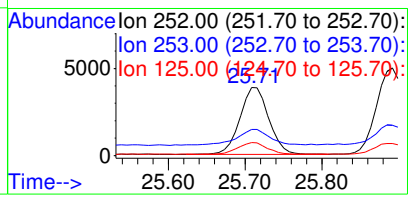


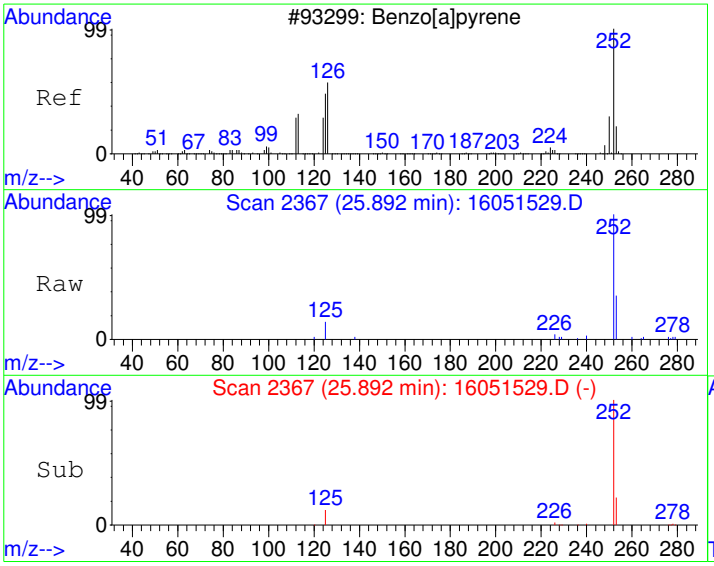


#24
Benzo[e]pyrene
Concen: 23.26 ug/kg
RT: 25.71 min Scan# 2341
Delta R.T. -0.03 min
Lab File: 16051529.D
Acq: 16 May 2016 5:46 am

Tgt Ion:252 Resp: 10058

Ion	Ratio	Lower	Upper
252	100		
253	23.0	2.2	42.2
125	17.3	0.0	36.1

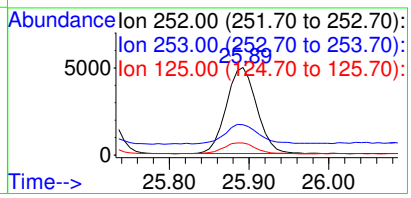


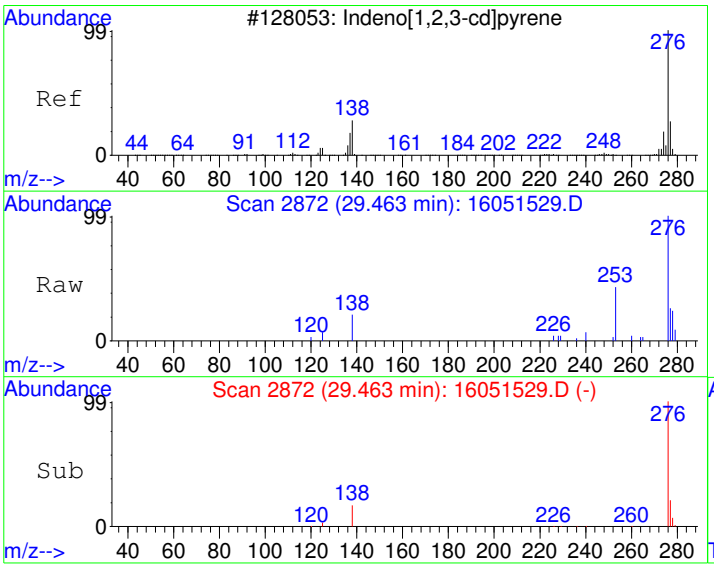


#25
Benzo[a]pyrene
Concen: 29.76 ug/kg
RT: 25.89 min Scan# 2367
Delta R.T. -0.02 min
Lab File: 16051529.D
Acq: 16 May 2016 5:46 am

Tgt Ion:252 Resp: 13152

Ion	Ratio	Lower	Upper
252	100		
253	21.7	1.9	41.9
125	12.4	0.0	31.7

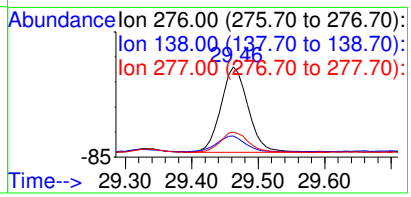


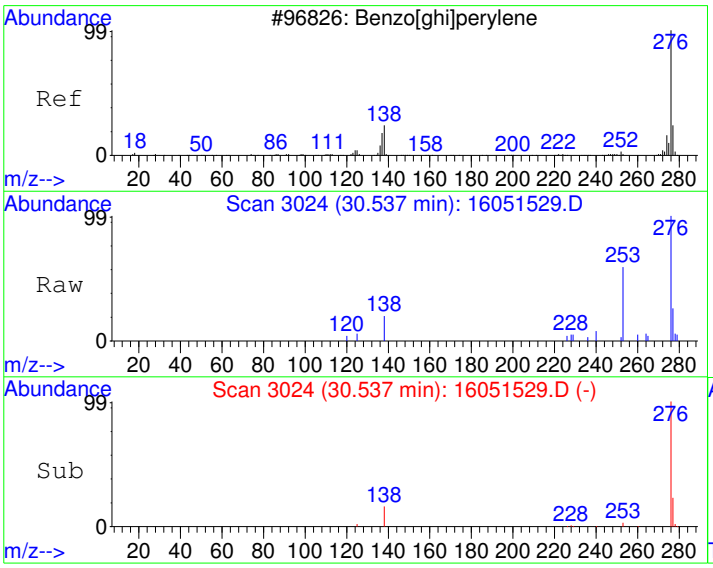


#27
Indeno[1,2,3-cd]pyrene
Concen: 16.33 ug/kg
RT: 29.46 min Scan# 2872
Delta R.T. -0.03 min
Lab File: 16051529.D
Acq: 16 May 2016 5:46 am

Tgt Ion:276 Resp: 7842

Ion	Ratio	Lower	Upper
276	100		
138	18.3	6.7	46.7
277	23.6	5.8	45.8

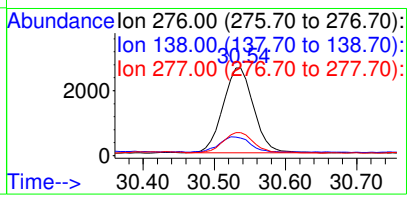




#28
Benzo[g,h,i]perylene
Concen: 20.91 ug/kg
RT: 30.54 min Scan# 3024
Delta R.T. -0.03 min
Lab File: 16051529.D
Acq: 16 May 2016 5:46 am

Tgt Ion:276 Resp: 7828

Ion	Ratio	Lower	Upper
276	100		
138	16.5	0.0	39.1
277	24.0	4.0	44.0



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160515\16051530.D Vial: 30
Acq On : 16 May 2016 6:26 am Operator:
Sample : 1605074-16A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 16 10:40 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Initial Calibration
DataAcq Meth : PP160421

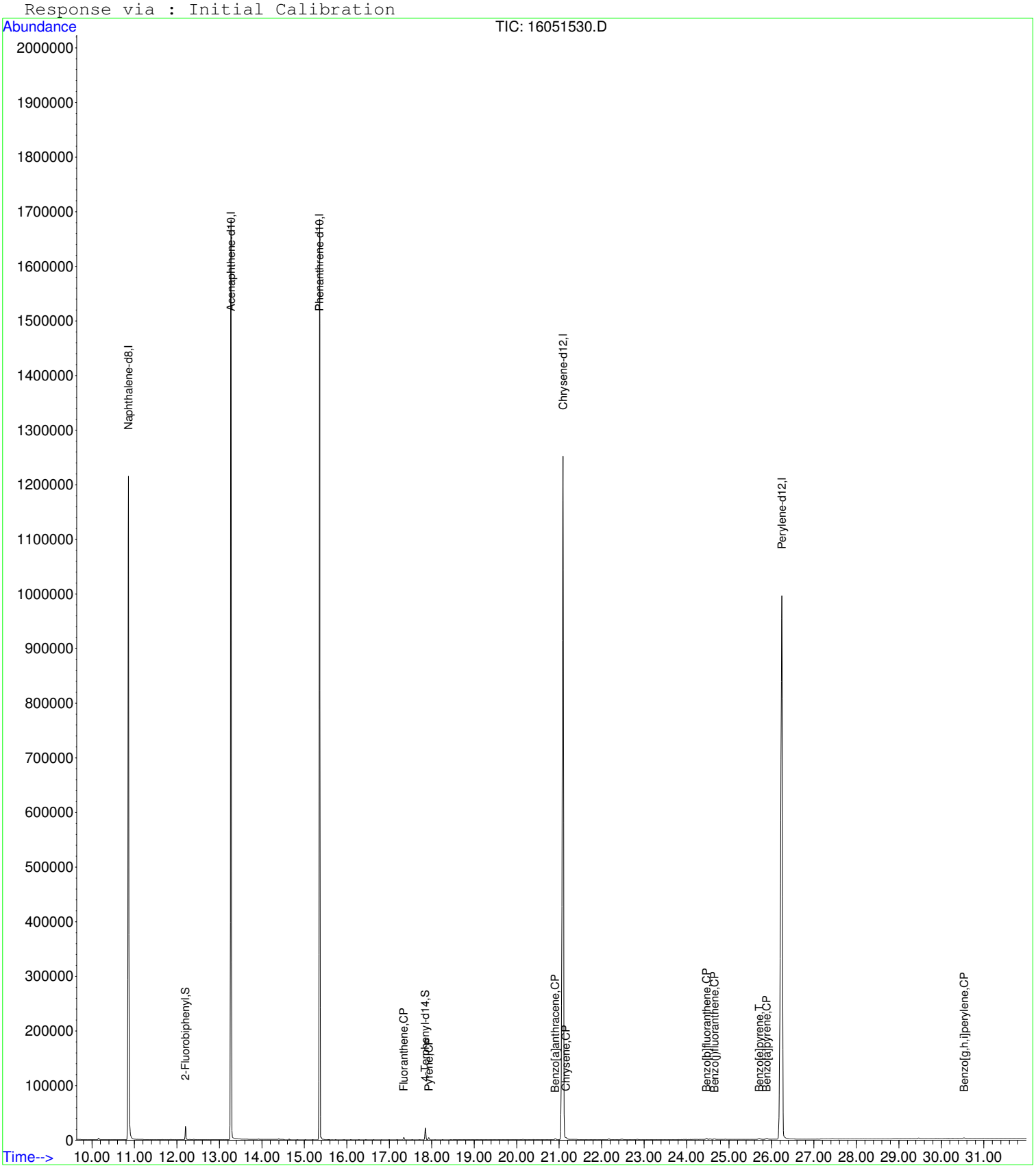
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1617395	4000.00	ug/kg	140
5) Acenaphthene-d10	13.28	164	1002004	4000.00	ug/kg	87
11) Phenanthrene-d10	15.36	188	1863285	4000.00	ug/kg	91
17) Chrysene-d12	21.09	240	2114945	4000.00	ug/kg	93
20) Perylene-d12	26.25	264	1989783	4000.00	ug/kg	97
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.20	172	19940	68.22	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.71%#		
16) 4-Terphenyl-d14	17.85	244	28208	58.51	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.46%#		
Target Compounds						Qvalue
14) Fluoranthene	17.34	202	4359	8.60	ug/kg	98
15) Pyrene	17.93	202	4236	8.04	ug/kg	98
18) Benzo[a]anthracene	20.91	228	2693	5.44	ug/kg	98
19) Chrysene	21.16	228	3178	6.64	ug/kg	99
21) Benzo[b]fluoranthene	24.47	252	3699	7.05	ug/kg	95
23) Benzo(j)fluoranthene	24.65	252	1564	3.57	ug/kg	93
24) Benzo[e]pyrene	25.71	252	2759	5.87	ug/kg	96
25) Benzo[a]pyrene	25.89	252	3595	7.49	ug/kg	97
28) Benzo[g,h,i]perylene	30.54	276	2365	5.82	ug/kg	96

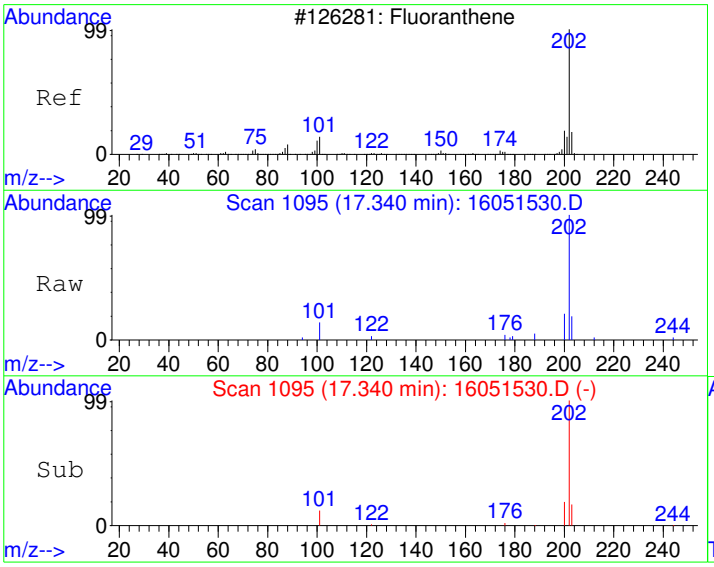
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160515\16051530.D Vial: 30
Acq On : 16 May 2016 6:26 am Operator:
Sample : 1605074-16A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 16 10:40 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Initial Calibration

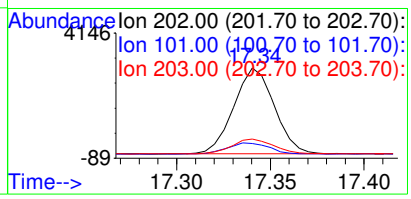


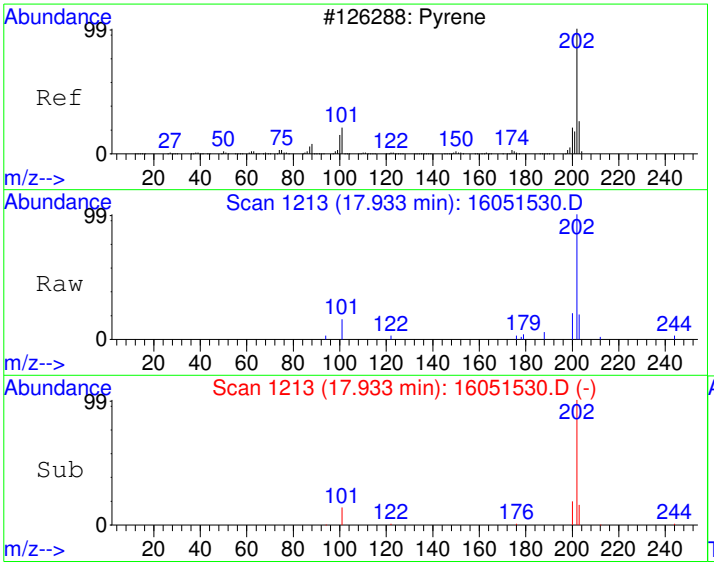


#14
Fluoranthene
Concen: 8.60 ug/kg
RT: 17.34 min Scan# 1095
Delta R.T. -0.00 min
Lab File: 16051530.D
Acq: 16 May 2016 6:26 am

Tgt Ion:202 Resp: 4359

Ion	Ratio	Lower	Upper
202	100		
101	12.3	0.0	43.0
203	17.0	0.0	47.9

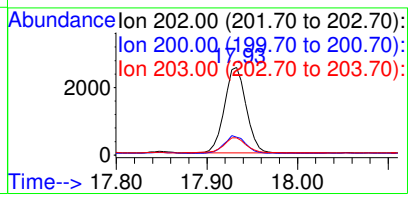


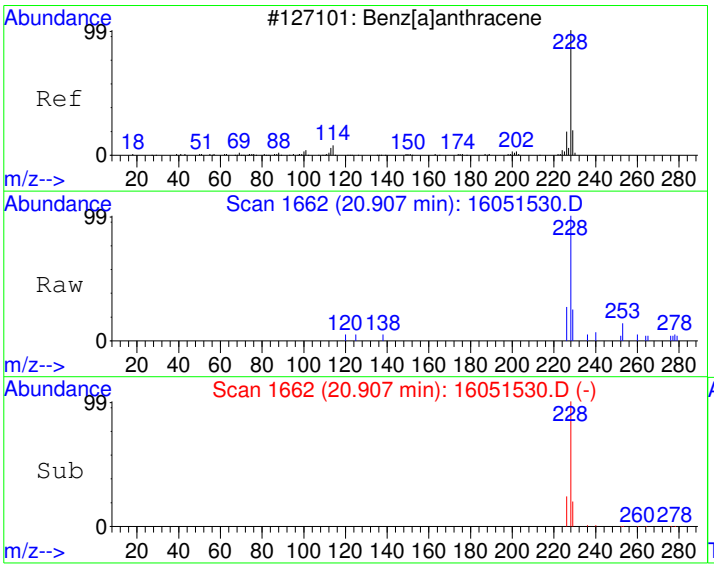


#15
Pyrene
Concen: 8.04 ug/kg
RT: 17.93 min Scan# 1213
Delta R.T. -0.00 min
Lab File: 16051530.D
Acq: 16 May 2016 6:26 am

Tgt Ion:202 Resp: 4236

Ion	Ratio	Lower	Upper
202	100		
200	19.0	0.0	50.0
203	17.4	0.0	48.0

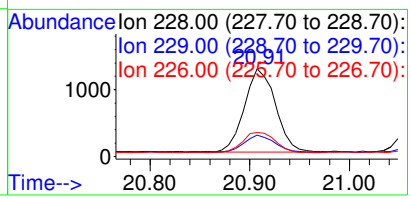


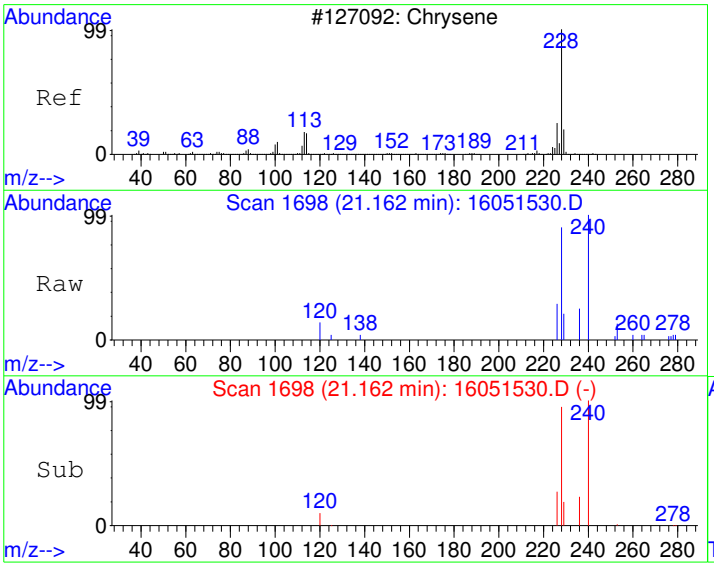


#18
Benzo[a]anthracene
Concen: 5.44 ug/kg
RT: 20.91 min Scan# 1662
Delta R.T. -0.01 min
Lab File: 16051530.D
Acq: 16 May 2016 6:26 am

Tgt Ion:228 Resp: 2693

Ion	Ratio	Lower	Upper
228	100		
229	20.6	0.0	50.1
226	24.1	0.0	55.2

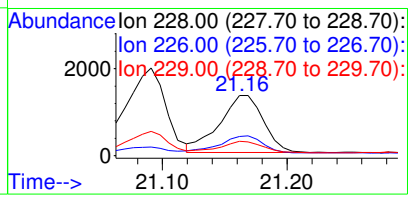


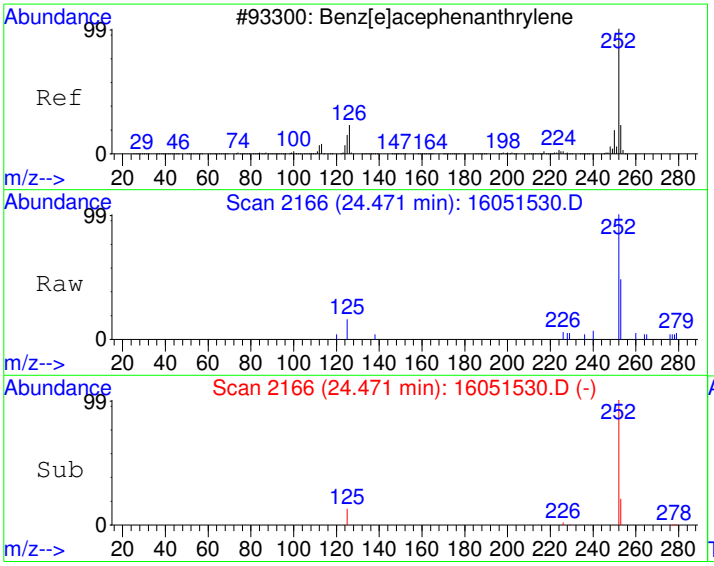


#19
Chrysene
Concen: 6.64 ug/kg
RT: 21.16 min Scan# 1698
Delta R.T. -0.01 min
Lab File: 16051530.D
Acq: 16 May 2016 6:26 am

Tgt Ion:228 Resp: 3178

Ion	Ratio	Lower	Upper
228	100		
226	28.8	0.0	58.1
229	20.0	0.0	50.1

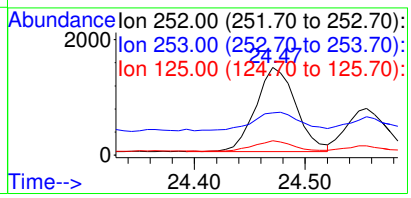


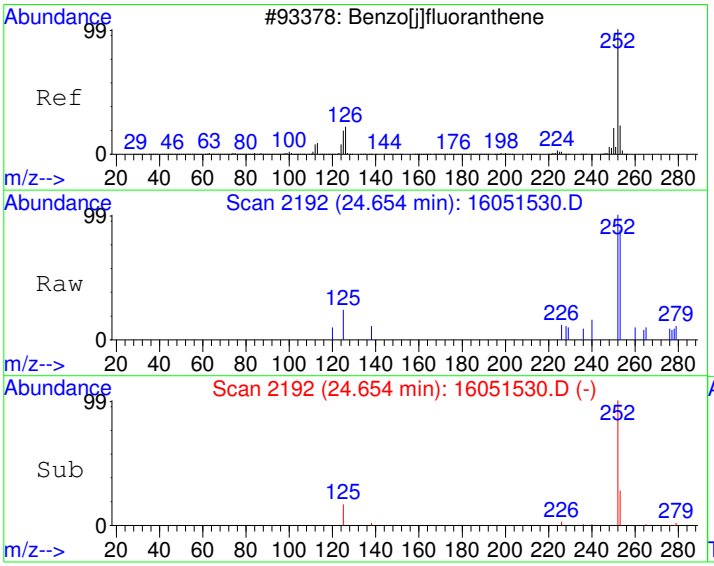


#21
Benzo[b]fluoranthene
Concen: 7.05 ug/kg
RT: 24.47 min Scan# 2166
Delta R.T. -0.03 min
Lab File: 16051530.D
Acq: 16 May 2016 6:26 am

Tgt Ion:252 Resp: 3699

Ion	Ratio	Lower	Upper
252	100		
253	19.4	0.0	52.2
125	12.1	0.0	41.0

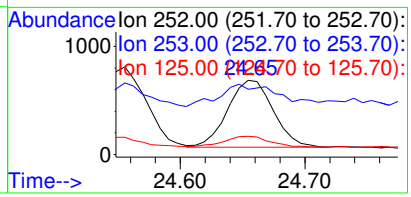


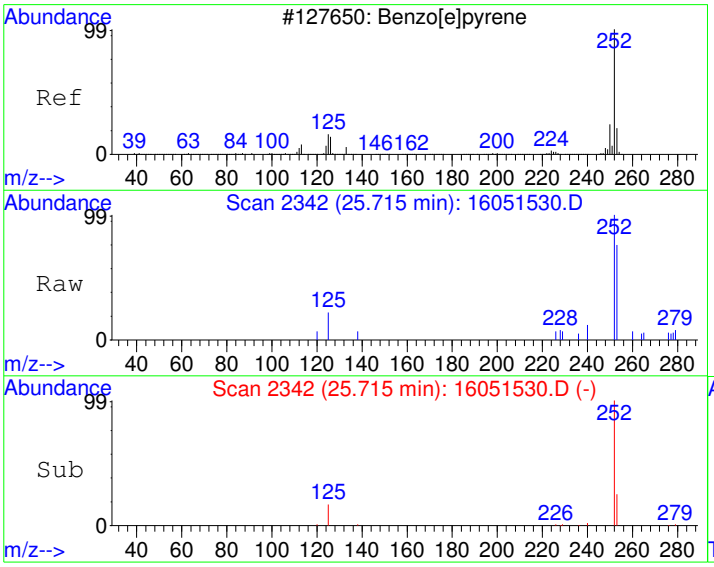


#23
Benzo(j)fluoranthene
Concen: 3.57 ug/kg
RT: 24.65 min Scan# 2192
Delta R.T. -0.03 min
Lab File: 16051530.D
Acq: 16 May 2016 6:26 am

Tgt Ion:252 Resp: 1564

Ion	Ratio	Lower	Upper
252	100		
253	26.2	2.1	42.1
125	15.9	0.0	34.4

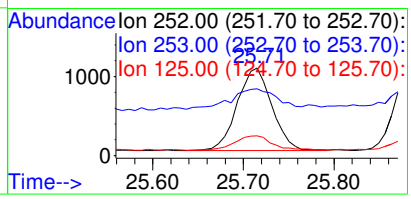


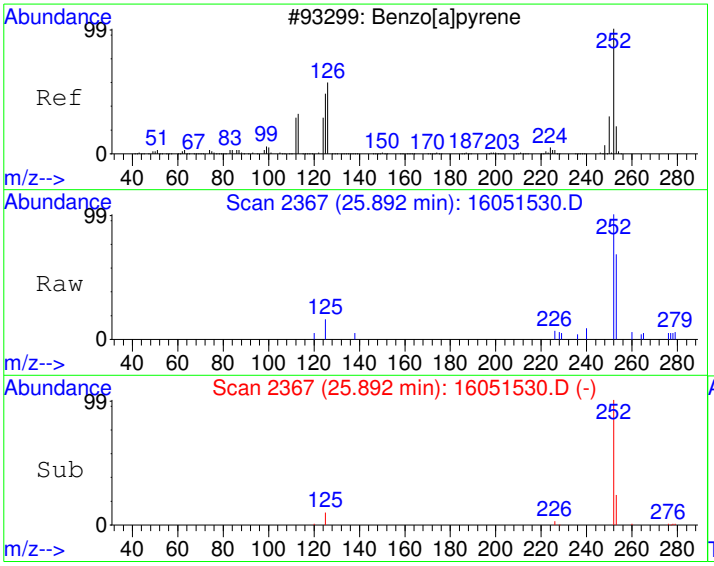


#24
Benzo[e]pyrene
Concen: 5.87 ug/kg
RT: 25.71 min Scan# 2342
Delta R.T. -0.02 min
Lab File: 16051530.D
Acq: 16 May 2016 6:26 am

Tgt Ion:252 Resp: 2759

Ion	Ratio	Lower	Upper
252	100		
253	24.8	2.2	42.2
125	17.4	0.0	36.1

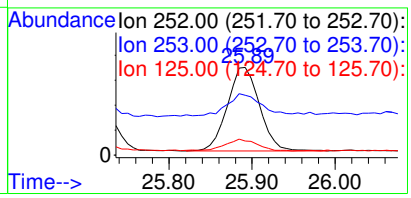


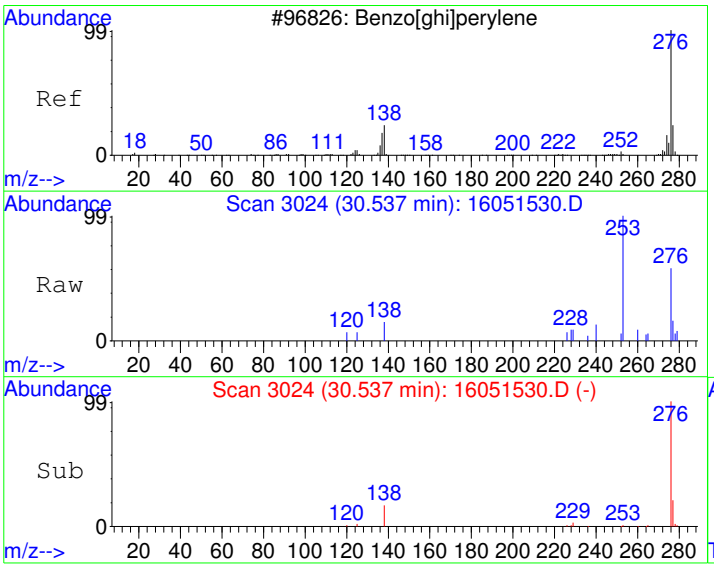


#25
Benzo[a]pyrene
Concen: 7.49 ug/kg
RT: 25.89 min Scan# 2367
Delta R.T. -0.02 min
Lab File: 16051530.D
Acq: 16 May 2016 6:26 am

Tgt Ion:252 Resp: 3595

Ion	Ratio	Lower	Upper
252	100		
253	23.7	1.9	41.9
125	10.8	0.0	31.7

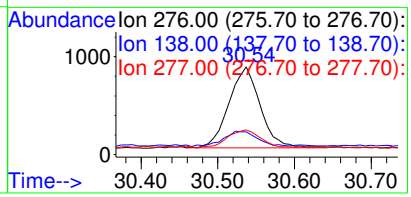




#28
Benzo[g,h,i]perylene
Concen: 5.82 ug/kg
RT: 30.54 min Scan# 3024
Delta R.T. -0.04 min
Lab File: 16051530.D
Acq: 16 May 2016 6:26 am

Tgt Ion:276 Resp: 2365

Ion	Ratio	Lower	Upper
276	100		
138	17.3	0.0	39.1
277	22.1	4.0	44.0



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160515\16051531.D Vial: 31
Acq On : 16 May 2016 7:06 am Operator:
Sample : CCV1-160515 Inst : GC/MS #6
Misc : CCV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 16 10:28 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Initial Calibration
DataAcq Meth : PP160421

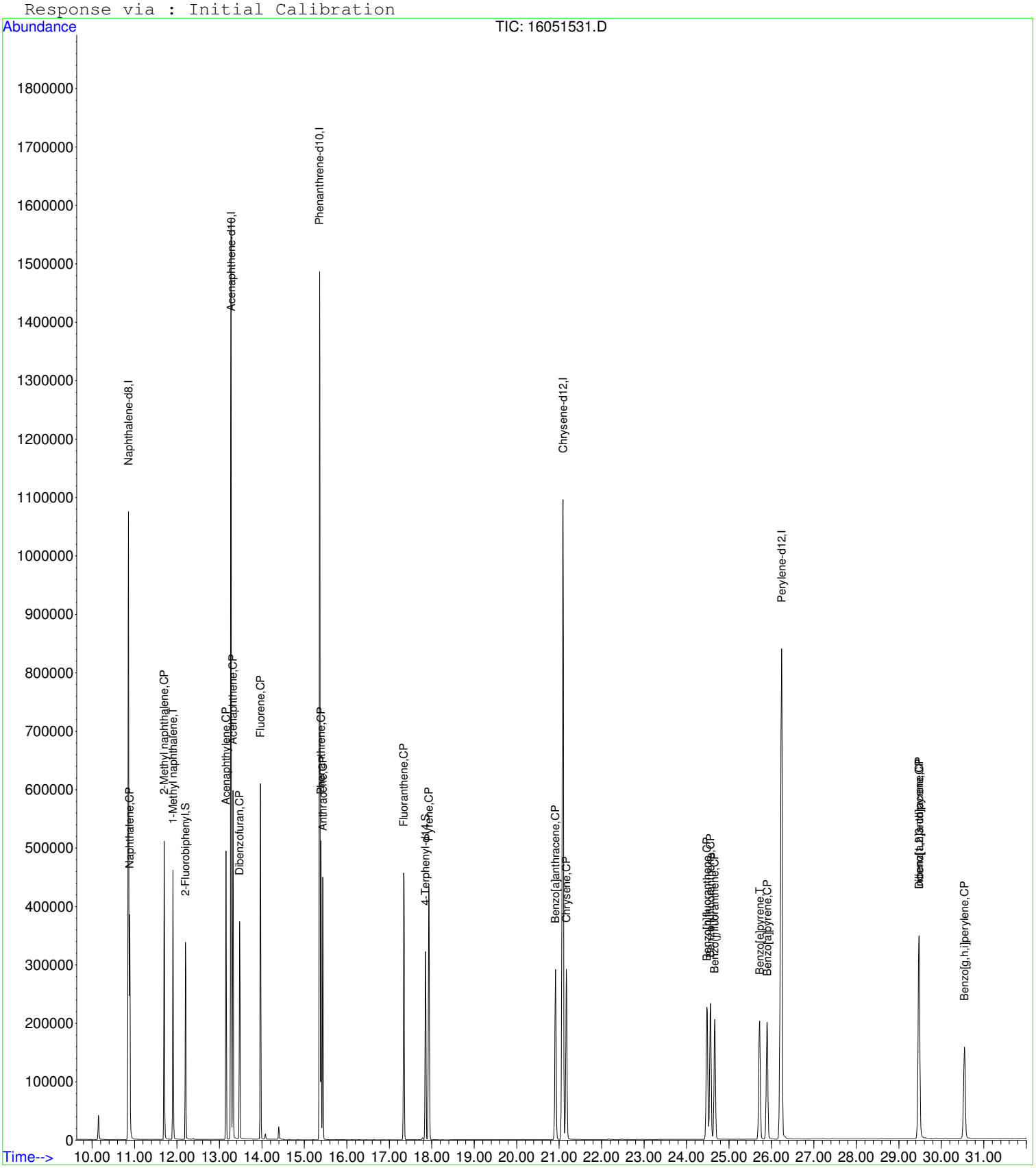
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1396807	4000.00	ug/kg	120
5) Acenaphthene-d10	13.27	164	874748	4000.00	ug/kg	76
11) Phenanthrene-d10	15.36	188	1592265	4000.00	ug/kg	78
17) Chrysene-d12	21.09	240	1837430	4000.00	ug/kg	81
20) Perylene-d12	26.24	264	1681099	4000.00	ug/kg	82
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.20	172	278249	1090.44	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 27.26%#			
16) 4-Terphenyl-d14	17.85	244	408837	992.45	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 24.81%#			
Target Compounds						Qvalue
2) Naphthalene	10.89	128	355708	1018.07	ug/kg	100
3) 2-Methyl naphthalene	11.70	142	260532	844.16	ug/kg	96
4) 1-Methyl naphthalene	11.91	142	233588	826.39	ug/kg	98
6) Dibenzofuran	13.47	168	328936	1003.32	ug/kg	99
8) Acenaphthylene	13.16	152	410335	1089.23	ug/kg	99
9) Acenaphthene	13.32	154	235207	1005.91	ug/kg	99
10) Fluorene	13.97	166	290148	1021.76	ug/kg	99
12) Phenanthrene	15.39	178	410793	981.02	ug/kg	99
13) Anthracene	15.43	178	393526	992.90	ug/kg	99
14) Fluoranthene	17.34	202	454002	1047.72	ug/kg	99
15) Pyrene	17.93	202	459461	1020.73	ug/kg	99
18) Benzo[a]anthracene	20.92	228	431020	1001.29	ug/kg	99
19) Chrysene	21.17	228	396437	953.17	ug/kg	99
21) Benzo[b]fluoranthene	24.48	252	429235	968.75	ug/kg	99
22) Benzo[k]fluoranthene	24.56	252	401643	966.30	ug/kg	100
23) Benzo(j)fluoranthene	24.66	252	355496	960.13	ug/kg	98
24) Benzo[e]pyrene	25.72	252	372927	939.83	ug/kg	99
25) Benzo[a]pyrene	25.90	252	389591	960.80	ug/kg	99
26) Dibenz[a,h]anthracene	29.47	278	327954	888.07	ug/kg	100
27) Indeno[1,2,3-cd]pyrene	29.48	276	383773	871.13	ug/kg	96
28) Benzo[g,h,i]perylene	30.55	276	307951	896.44	ug/kg	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160515\16051531.D Vial: 31
Acq On : 16 May 2016 7:06 am Operator:
Sample : CCV1-160515 Inst : GC/MS #6
Misc : CCV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 16 10:28 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri May 13 09:17:45 2016
Response via : Initial Calibration



GCMS6_160516A
For

DHL Work Order
1605074

Lab Data Review Check List
EPA Method 8270 / 625 - PAH: Polynuclear Aromatic Hydrocarbons

SEE RUN LOG FOR ALL PROJECT AND BATCH NUMBERS AND MATRICES	Run ID: GCMS6_160516A
Batch Number(s): See Run Log. Matrix: See Run Log.	SOP: ORGANICS-PAH-01

Review Item	Yes	No	N/A	2nd Level Review
Data Folder Contents 1. Is the Prep Batch Report included? Check and record the following: ***Prep Start/End Dates, Sample Amounts, Bottle #s***	X			x
2. Are the reagents and spikes listed on the Prep Batch Report current with a valid expiration date? ***All standard/QC sample preparations shall be documented in LIMS***	X			
3. Is the Run Log and instrument sequence included? ***Check the Test Code, Sample Type, Batch ID, and Analysis Date/Time***	X			
4. Is the System Verification - Tune Report included? ***Date/Tme of Tune starts 12-hour analysis window***	X			
5. Is the Evaluate Continuing Calibration Report included?	X			

Daily Demonstration of Performance

QC items that do not meet method/SOP/project requirements will be described on the run log. All variances that impact data quality will be described in the Variance/Comment Section on page 2.

Review Item	Frequency	Limits	Pass	Fail (List Batch/Sample) **See Run Log**	2nd Level Review
Tune	Before ICAL Every 12 hours	See Tune Eval Report	X		x
Resolution Check - Benzo(b) and Benzo(k)phenanthrene	Before ICAL Every 12 hours	Benzo(b) and Benzo(k) Valley > 50%	X		
Initial Calibration Curve (ICAL) (minimum: 5 Standards)	Prior to samples and when ICV fails	Avg. RF - %RSD ≤ 15% Curve (COD) - R^2 ≥ 0.990	X		
SSCV - (Second Source)	After calibration (ICAL)	80-120%	X		
ICV - (Daily Initial Cal Verification)	Every 12 hours	ISTDs Area% (50-200%) Surrogates %R (See LIMS) Analytes %R (80-120%)	X		

Review Item	Frequency	Limits	Pass	Fail	N/A	Review
Method Blank (MB) System Blank (SYS Blank)	Every Batch (MB) Daily (SYS BL)	< MDL / <½ RL (DoD) or <1/10 the sample/reg limit	X			x
Lab Control Sample (LCS)	Every Batch	See LIMS	X			
Lab Control Sample Dup (LCSD)	Insufficient sample Sample Matrix	See LIMS			X	
LCSD - RPD	Every LCS/LCSD	≤ 30 (Aq/Soil/DoD)			X	
Field Samples	Up to 20 per prep batch	ISTDs Area% (50-200%) Surrogates %R (See LIMS) RRT ± 0.06 RRT Standard Q value > 70 - check for #	X			
Matrix Spike (MS)	Every Batch/20 samples	See LIMS		X		
Matrix Spike Duplicate (MSD) (MSD is N/A for Method 625)	Every Prep Batch except Method 625	See LIMS		X		
MSD - RPD (MSD is N/A for Method 625)	Every MS/MSD except Method 625	≤ 30 (Aq/Soil/DoD)	X			

Lab Data Review Check List
EPA Method 8270 / 625 - PAH: Polynuclear Aromatic Hydrocarbons

Review Item	Criteria	Yes	No	N/A	2nd Level Review
Sample Analysis	7 days (Aq) - extraction			X	
1. Are all sample hold times met?	14 days (Soil) - extraction	X			
	40 days analysis	X			
2. Are all manual integrations signed (Before & After) and printouts included ? Put in LIMS Comment Section ***Include MI form for DoD work***	Before & After - signed Comment Section in LIMS MI Form - DoD only			X	x
3. Are all samples with concentrations > the highest standard used for calibration diluted and reanalyzed?	> highest standard			X	
Review Item #3 is N/A ONLY if all sample results are within Calibration range or NO if dilution is in different folder					
4. Is mass spectra reviewed/verified if Q value is <70 and/or # flag for results >MDL?	Q value <70 - All hits	X			x
5. Are ALL reported analytes > MDL (+ J flags) circled by the analyst?		X	**Return to analyst if NO**		
VARIANCE REPORT					
QC items that do not meet method/SOP/project requirements will be described on the run log. All variances that impact data quality will be described in this section.					
NON-CONFORMANCES / VARIANCE	All deviations from the method and SOP that affect data quality			X	x
1. Are all non-conformances included and noted?					
2. Are all corrective actions included?				X	
3. Does the variance require approval by the Technical Director/General Manager/QA Manager?				X	

Approved by: Date:

Description and Corrective Actions of QC items that do not meet method/SOP/project requirements:

****INCLUDE VARIANCE ITEM / REASON / CORRECTIVE ACTION / IMPACT ON DATA****

VARIANCE ITEM	REASON	CORRECTIVE ACTION
___ Hold Time exceeded (7D/14D-Ext/40D-Analysis)	___ Sample Received out of HT	___ Reanalyze QC to confirm
___ ICV out of control (±20%)	___ Carryover from previous run	___ Recalibrate
___ MB/SYS BL out of control (> MDL / >½ RL)	___ Cross contamination	___ Reprep/Reanalyze sample
___ LCS ___LCSD out of control (See LIMS)	___ Lab Artifact	___ Reprep/Reanalyze Batch
___ RPD out of control for LCS/LCSD (>30)	___ Prep Spike error (describe)	___ Reanalyze Batch/Sample/QC
___ MS ___ MSD out of control (See LIMS)	___ High Levels of target analytes	___ Verify H2O/reagents are clean
___ RPD out of control for MS/MSD (>30)	___ High Levels of non-targets	___ Reanalyze sample to confirm
___ Internal Standard(s) out of control	___ Insufficient sample for QC	___ Sample results ND w/ dilution
___ Multiple Surrogates out of control	___ Prep Error	___ Client notified and approved
___ No MS/MSD prepared - LCS/LCSD used instead	___ Analytical Error	___ Flag data / Case narrative
___ Missing QC (other than MS/MSD)	___ Client Request	___ Instrument Maintenance
___ QC sample(s) was mis-spiked	___ Other (describe below)	___ Accept data
___ Other (describe below)		___ Cannot reanalyze (HT out/Lack of Sample)

General Comments and Impact on Data: **See Run Log.**

Analyst: Don Winston Date: 5/18/2016

Second-Level Review: Janice Whitt Date: 5/26/2016

REVIEWED BY
By Janice Whitt at 3:44:53 PM, 5/26/2016

DHL Analytical, Inc.

Run ID: GCMS6_160516A **Run No.:** 85840

Analytical Run Date: 5/16/2016 **InstrumentID:** GCMS6

Analyst: Don Winston **Column:** Agilent (J&W) DB-EUPAH (20m x 0.18mmI

Calibration ID: 651 **Column ID:** 0.18mm

Column Length: 20m

SampID	DF	TestCode	SampType	Batch ID	Analysis Date/Time	Q	Comments
DFTPP-160516	1	PAH_LL_SDOD1	TUNE	R85840	5/16/2016 8:18:00 AM		
ICV-160516	1	PAH_LL_SDOD1	ICV	R85840	5/16/2016 8:54:00 AM		
LCS-75127	1	PAH_LL_SDOD1	LCS	75127	5/16/2016 9:35:00 AM		
MB-75127	1	PAH_LL_SDOD1	MBLK	75127	5/16/2016 10:15:00 AM		
1605074-39A	10	PAH_LL_SDOD1	SAMP	75127	5/16/2016 10:55:00 AM		
1605074-40A	10	PAH_LL_SDOD1	SAMP	75127	5/16/2016 11:35:00 AM		
1605074-41A	10	PAH_LL_SDOD1	SAMP	75127	5/16/2016 12:14:00 PM		
1605074-42A	10	PAH_LL_SDOD1	SAMP	75127	5/16/2016 12:54:00 PM		
1605074-43A	10	PAH_LL_SDOD1	SAMP	75127	5/16/2016 1:33:00 PM		
1605074-44A	10	PAH_LL_SDOD1	SAMP	75127	5/16/2016 2:13:00 PM		
1605074-45A	10	PAH_LL_SDOD1	SAMP	75127	5/16/2016 2:52:00 PM		DNR-Wrong vial placed in sequence see rerun 5-17-2016.
1605074-46A	10	PAH_LL_SDOD1	SAMP	75127	5/16/2016 3:32:00 PM		
1605074-47A	10	PAH_LL_SDOD1	SAMP	75127	5/16/2016 4:12:00 PM		
1605096-04A	10	PAH_LL_SDOD1	SAMP	75127	5/16/2016 4:52:00 PM		
1605096-05A	10	PAH_LL_SDOD1	SAMP	75127	5/16/2016 5:31:00 PM		
1605074-44AMS	10	PAH_LL_SDOD1	MS	75127	5/16/2016 6:11:00 PM		DNR-Wrong vial placed in sequence see rerun 5-17-2016.
1605074-44AMSD	10	PAH_LL_SDOD1	MSD	75127	5/16/2016 6:50:00 PM		Slightly high recovery for Fluoranthene and Pyrene. %RPD with MS is acceptable.
DFTPP2-160516	1	PAH_LL_SDOD1	TUNE	R85840	5/16/2016 7:29:00 PM		
ICV2-160516	1	PAH_LL_SDOD1	ICV	R85840	5/16/2016 8:06:00 PM		
SB-160516	1	PAH_LL_SDOD1	SBLK	75127	5/16/2016 9:26:00 PM		
1605096-06A	10	PAH_LL_SDOD1	SAMP	75127	5/16/2016 10:06:00 PM		
1605096-07A	10	PAH_LL_SDOD1	SAMP	75127	5/16/2016 10:46:00 PM		
1605096-08A	10	PAH_LL_SDOD1	SAMP	75127	5/16/2016 11:26:00 PM		
1605096-09A	10	PAH_LL_SDOD1	SAMP	75127	5/17/2016 12:05:00 AM		
1605096-10A	10	PAH_LL_SDOD1	SAMP	75127	5/17/2016 12:45:00 AM		
1605096-11A	10	PAH_LL_SDOD1	SAMP	75127	5/17/2016 1:25:00 AM		
1605096-12A	10	PAH_LL_SDOD1	SAMP	75127	5/17/2016 2:06:00 AM		
CCV1-160516	1	PAH_LL_SDOD1	CCV	R85840	5/17/2016 2:45:00 AM		

Std ID	Std Name	Type	Exp. Date
DFTPP160509	2.5 PPM 525 TUNE STD.	TUNE	05/07/2017
PAHCCV-160509	1 PPM PAH CCV STANDARD	CCV	08/07/2016
PAHICV160509	2 PPM PAH ICV	ICV	08/07/2016
SVI150810-09	4000 PPM INTERNAL STANDAR	ALL	05/13/2017

DHL Analytical, Inc.

Run ID: GCMS6_160516A **Run No.:** 85840

DFTPP-160517	1	PAH_LL_SDOD1	TUNE	R85840	5/17/2016 8:12:00 AM		
ICV-160517	1	PAH_LL_SDOD1	ICV	R85840	5/17/2016 8:49:00 AM		
1605074-44AMS	10	PAH_LL_SDOD1	MS	75127	5/17/2016 9:31:00 AM		Slightly high recovery for Benzo[a]anthracene, Benzo[a]pyrene, Benzo[b]fluoranthene, Chrysene, Fluoranthene and Pyrene.
SB-160517	1	PAH_LL_SDOD1	SBLK	75127	5/17/2016 10:11:00 AM		
1605074-45A	10	PAH_LL_SDOD1	SAMP	75127	5/17/2016 10:51:00 AM		
CCV1-160517	1	PAH_LL_SDOD1	CCV	R85840	5/17/2016 12:27:00 PM		

Std ID	Std Name	Type	Exp. Date
DFTPP160509	2.5 PPM 525 TUNE STD.	TUNE	05/07/2017
PAHCCV-160509	1 PPM PAH CCV STANDARD	CCV	08/07/2016
PAHICV160509	2 PPM PAH ICV	ICV	08/07/2016
SVI150810-09	4000 PPM INTERNAL STANDAR	ALL	05/13/2017

Sequence Name: C:\HPCHEM\1\SEQUENCE\160516.S
Comment:
Operator:
Data Path: C:\HPCHEM\1\DATA\160516\
Pre-Seq Cmd:
Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line	Type	Vial	DataFile	Method	Sample Name
1	Sample	1	16051601	DFTPPPAH	DFTPP-160516
2	Sample	2	16051602	PP160421	ICV-160516
3	Sample	3	16051603	PP160421	LCS-75127
4	Sample	4	16051604	PP160421	MB-75127
5	Sample	5	16051605	PP160421	1605074-39A
6	Sample	6	16051606	PP160421	1605074-40A
7	Sample	7	16051607	PP160421	1605074-41A
8	Sample	8	16051608	PP160421	1605074-42A
9	Sample	9	16051609	PP160421	1605074-43A
10	Sample	10	16051610	PP160421	1605074-44A
11	Sample	11	16051611	PP160421	1605074-45A
12	Sample	12	16051612	PP160421	1605074-46A
13	Sample	13	16051613	PP160421	1605074-47A
14	Sample	14	16051614	PP160421	1605096-04A
15	Sample	15	16051615	PP160421	1605096-05A
16	Sample	16	16051616	PP160421	1605074-44AMS
17	Sample	17	16051617	PP160421	1605074-44AMSD
18	Sample	18	16051618	DFTPPPAH	DFTPP2-160516
19	Sample	19	16051619	PP160421	ICV2-160516
20	Sample	20	16051620	PP160421	SBLK
21	Sample	21	16051621	PP160421	SB-160516
22	Sample	22	16051622	PP160421	1605096-06A
23	Sample	23	16051623	PP160421	1605096-07A
24	Sample	24	16051624	PP160421	1605096-08A
25	Sample	25	16051625	PP160421	1605096-09A
26	Sample	26	16051626	PP160421	1605096-10A
27	Sample	27	16051627	PP160421	1605096-11A
28	Sample	28	16051628	PP160421	1605096-12A
29	Sample	29	16051629	PP160421	CCV1-160516

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/12/2016 9:33:35 AM**
Digestion:
Prep End Date: **5/12/2016 4:00:00 PM**

Prep Batch **75127** Prep Code: **3550_PAHDOD** Technician: **Duston Bezner**

Prep Factor Units: **mL/g**

Equipment List

Turbo-Vap # 1,2,3
Balance # 25
Sonicators # 1,2,3,4

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605074-39A	Soil		10.05	10	0.995	1 of 1	
1605074-40A	Soil		10.02	10	0.998	1 of 1	
1605074-41A	Soil		10.22	10	0.978	1 of 1	
1605074-42A	Soil		10.12	10	0.988	1 of 1	
1605074-43A	Soil		10.24	10	0.977	1 of 1	
1605074-44A	Soil		10.06	10	0.994	1 of 3	
1605074-44AMS	Soil		10	10	1.000	1 of	
1605074-44AMSD	Soil		10.04	10	0.996	1 of	
1605074-45A	Soil		10.13	10	0.987	1 of 1	
1605074-46A	Soil		10.07	10	0.993	1 of 1	
1605074-47A	Soil		10.03	10	0.997	1 of 1	
1605096-04A	Soil		10.09	10	0.991	1 of 1	
1605096-05A	Soil		10.09	10	0.991	1 of 1	
1605096-06A	Soil		10.02	10	0.998	1 of 1	
1605096-07A	Soil		10.74	10	0.931	1 of 1	
1605096-08A	Soil		10.32	10	0.969	1 of 1	
1605096-09A	Soil		10.01	10	0.999	1 of 1	
1605096-10A	Soil		10.08	10	0.992	1 of 1	
1605096-11A	Soil		10.04	10	0.996	1 of 1	
1605096-12A	Soil		10.25	10	0.976	1 of 1	
LCS-75127	Soil		10	10	1.000	of	
	Shared with 75137						
MB-75127	Soil		10	10	1.000	of	
	Shared with 75137						

Number	Reagent Name	Amt	Units	Exp. Da
9927	purified sodium sulfate	10	g	07/04/2016
10169	Methylene Chloride	8	ml	03/15/2026
10214	Whatman 41 Filter	1	filter	03/30/2026
10343	1:1 MeCl2/Acetone	120	ml	05/09/2026

Spk ID	Spike Name	SampType	Amt (mL or g)	Exp. Date
PAHPREP160509	200 PPM PAH Spike Mix	LCS/MS/MSD	0.05	11/07/2016
SVPREP160510	40 PPM Surrogate Standard	ALL	0.25	08/08/2016

REVIEWED BY
By Janice Whitt at 1:44:52 PM, 5/26/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/12/2016 9:33:35 AM**
Digestion:
Prep End Date: 5/12/16 4:00 PM

Prep Batch **75127** Prep Code: **3550_PAHDOD** Technician: **Duston Bezner**

Prep Factor Units: **mL/g**

Equipment List
Turbo-Vap # 1,2,3
Balance # 25
Sonicators # 1,2,3,4

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605074-39A	Soil		10	10.05	1.000	1 of 1	
1605074-40A	Soil		10	10.02	1.000	1 of 1	
1605074-41A	Soil		10	10.22	1.000	1 of 1	
1605074-42A	Soil		10	10.12	1.000	1 of 1	
1605074-43A	Soil		10	10.24	1.000	1 of 1	
1605074-44A	Soil		10	10.06	1.000	1 of 3	
1605074-44AMS	Soil		10	10.00	1.000	1 of	
1605074-44AMSD	Soil		10	10.04	1.000	1 of	
1605074-45A	Soil		10	10.13	1.000	1 of 1	
1605074-46A	Soil		10	10.07	1.000	1 of 1	
1605074-47A	Soil		10	10.03	1.000	1 of 1	
1605096-04A	Soil		10	10.09	1.000	1 of 1	
1605096-05A	Soil		10	10.09	1.000	1 of 1	
1605096-06A	Soil		10	10.02	1.000	1 of 1	
1605096-07A	Soil		10	10.74	1.000	1 of 1	
1605096-08A	Soil		10	10.32	1.000	1 of 1	
1605096-09A	Soil		10	10.01	1.000	1 of 1	
1605096-10A	Soil		10	10.08	1.000	1 of 1	
1605096-11A	Soil		10	10.04	1.000	1 of 1	
1605096-12A	Soil		10	10.25	1.000	1 of 1	
LCS-75127	Soil		10	10	1.000	of	
MB-75127	Soil		10	10	1.000	of	

Number	Reagent Name	Amt	Units	Exp. Da
9927	purified sodium sulfate	10	g	07/04/2016
10169	Methylene Chloride	8	ml	03/15/2026
10214	Whatman 41 Filter	1	filter	03/30/2026
10343	1:1 MeCl2/Acetone	120	ml	05/09/2026

Spk ID	Spike Name	SampType	Amt (mL or g)	Exp. Date
PAHPREP160509	200 PPM PAH Spike Mix	LCS/MS/MSD	0.05	11/07/2016
SVPREP160510	40 PPM Surrogate Standard	ALL	0.25	08/08/2016

REVIEWED BY
By Janice Whitt at 1:44:51 PM, 5/26/2016

5/12/16 5/12/16 5/12/16

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/9/2016 9:45:00 AM**
Digestion: **Start: 5/9/2016 11:00:00 AM / Stop: 5/10/2016 10:00:00 AM**
Prep End Date: **5/10/2016 7:00:00 PM**

Prep Batch **75016** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker**

Prep Factor Units: **mL/**

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605074-01A	Soil		0	0	#Num!	1 of 1	
1605074-02A	Soil		0	0	#Num!	1 of 1	
1605074-03A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subdampling - hard clay						
1605074-04A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subdampling - hard clay						
1605074-05A	Soil		0	0	#Num!	1 of 1	
1605074-06A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605074-07A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605074-08A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605074-09A	Soil		0	0	#Num!	1 of 1	
1605074-10A	Soil		0	0	#Num!	1 of 1	
1605074-11A	Soil		0	0	#Num!	1 of 1	
	Sieved only no sub sampling - hard clay						
1605074-12A	Soil		0	0	#Num!	1 of 1	
	Sieved only no sub sampling - hard clay						
1605074-13A	Soil		0	0	#Num!	of 3	
	Extra subsampled for MS/MSD						
1605074-14A	Soil		0	0	#Num!	1 of 1	
1605074-15A	Soil		0	0	#Num!	1 of 1	
1605074-16A	Soil		0	0	#Num!	1 of 1	
1605074-17A	Soil		0	0	#Num!	1 of 1	
1605074-18A	Soil		0	0	#Num!	1 of 1	
1605074-19A	Soil		0	0	#Num!	1 of 1	

REVIEWED BY
By Janice Whitt at 1:43:46 PM, 5/26/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/9/2016 9:45:00 AM**
Digestion: **Start: 5/9/2016 11:00:00 AM / Stop: 5/10/2016 10:00:00 AM**
Prep End Date: **5/10/2016 7:00:00 PM**

Prep Factor Units: **mL/**

Prep Batch **75016** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker**

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #			Cleanup
1605074-20A	Soil		0	0	#Num!	1	of	1	
1605074-21A	Soil		0	0	#Num!	1	of	1	
1605074-22A	Soil		0	0	#Num!	1	of	1	
1605074-23A	Soil		0	0	#Num!	1	of	1	
1605074-24A	Soil		0	0	#Num!	1	of	1	
1605074-25A	Soil		0	0	#Num!	1	of	1	
1605074-26A	Soil		0	0	#Num!		of	3	
	Extra subsampled for MS/MSD								
1605074-27A	Soil		0	0	#Num!	1	of	1	
1605074-36A	Soil		0	0	#Num!	1	of	1	
1605074-37A	Soil		0	0	#Num!	1	of	1	
	Sieved only no subsampling - hard clay								
1605074-38A	Soil		0	0	#Num!	1	of	1	
	Sieved only no subsampling - hard clay								
1605074-39A	Soil		0	0	#Num!	1	of	1	
1605074-40A	Soil		0	0	#Num!	1	of	1	
1605074-41A	Soil		0	0	#Num!	1	of	1	
	Sieved only no subsampling - hard clay								
1605074-42A	Soil		0	0	#Num!	1	of	1	
	Sieved only no subsampling - hard clay								
1605074-43A	Soil		0	0	#Num!	1	of	1	
	Sieved only no subsampling - hard clay								
1605074-44A	Soil		0	0	#Num!		of	3	
	Extra subsampled for MS/MSD								
1605074-45A	Soil		0	0	#Num!	1	of	1	
	Sieved only no subsampling - hard clay								

REVIEWED BY
By Janice Whitt at 1:43:48 PM, 5/26/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/9/2016 9:45:00 AM**
Digestion: **Start: 5/9/2016 11:00:00 AM / Stop: 5/10/2016 10:00:00 AM**
Prep End Date: **5/10/2016 7:00:00 PM**

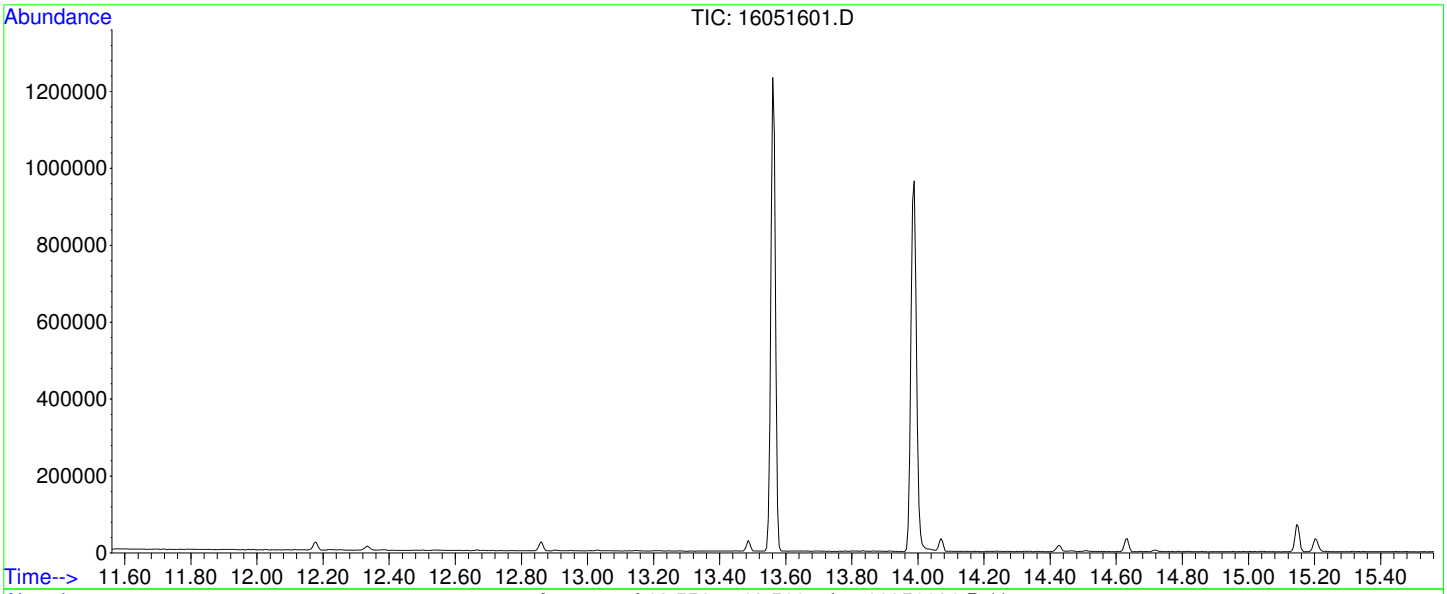
Prep Batch **75016** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker**

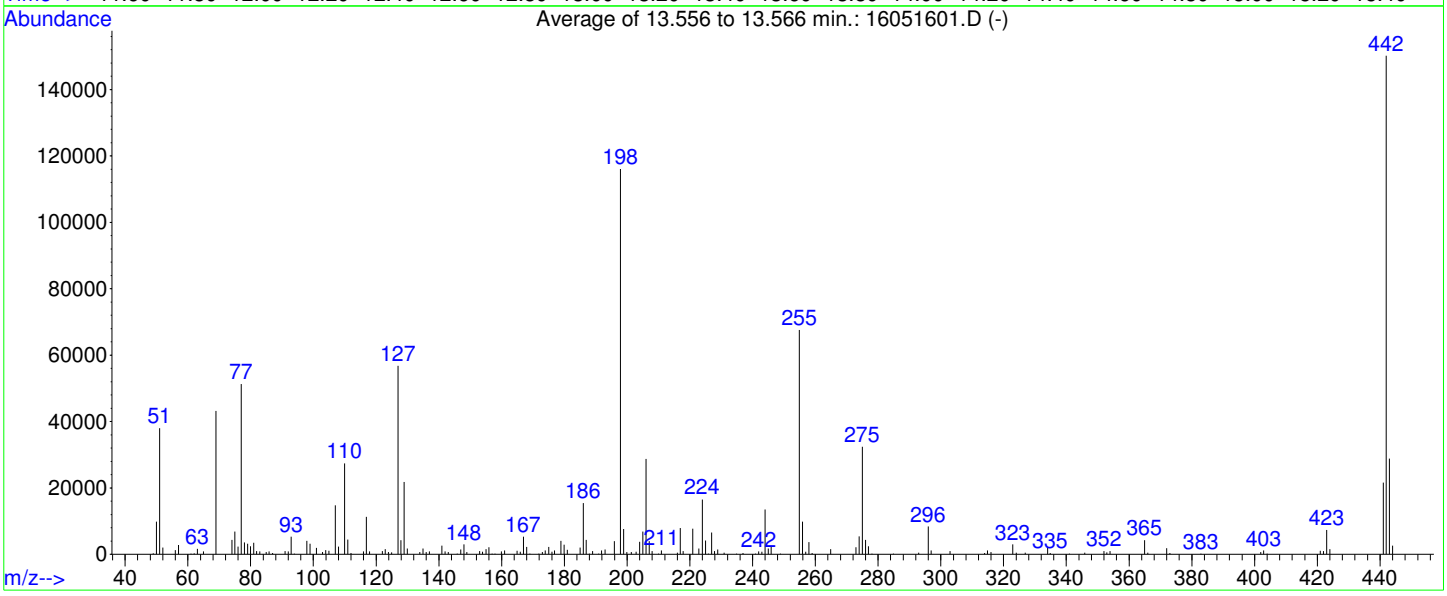
Prep Factor Units: mL/

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605074-46A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605074-47A	Soil		0	0	#Num!	1 of 1	

REVIEWED BY
By Janice Whitt at 1:43:51 PM, 5/26/2016

Data File : C:\HPCHEM\1\DATA\160516\16051601.D Vial: 1
Acq On : 16 May 2016 8:18 am Operator:
Sample : DFTPP-160516 Inst : GC/MS #6
Misc : TUNE Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : C:\HPCHEM\1\METHODS\DFTPPPAH.M (RTE Integrator)
Title : PAH Calibration



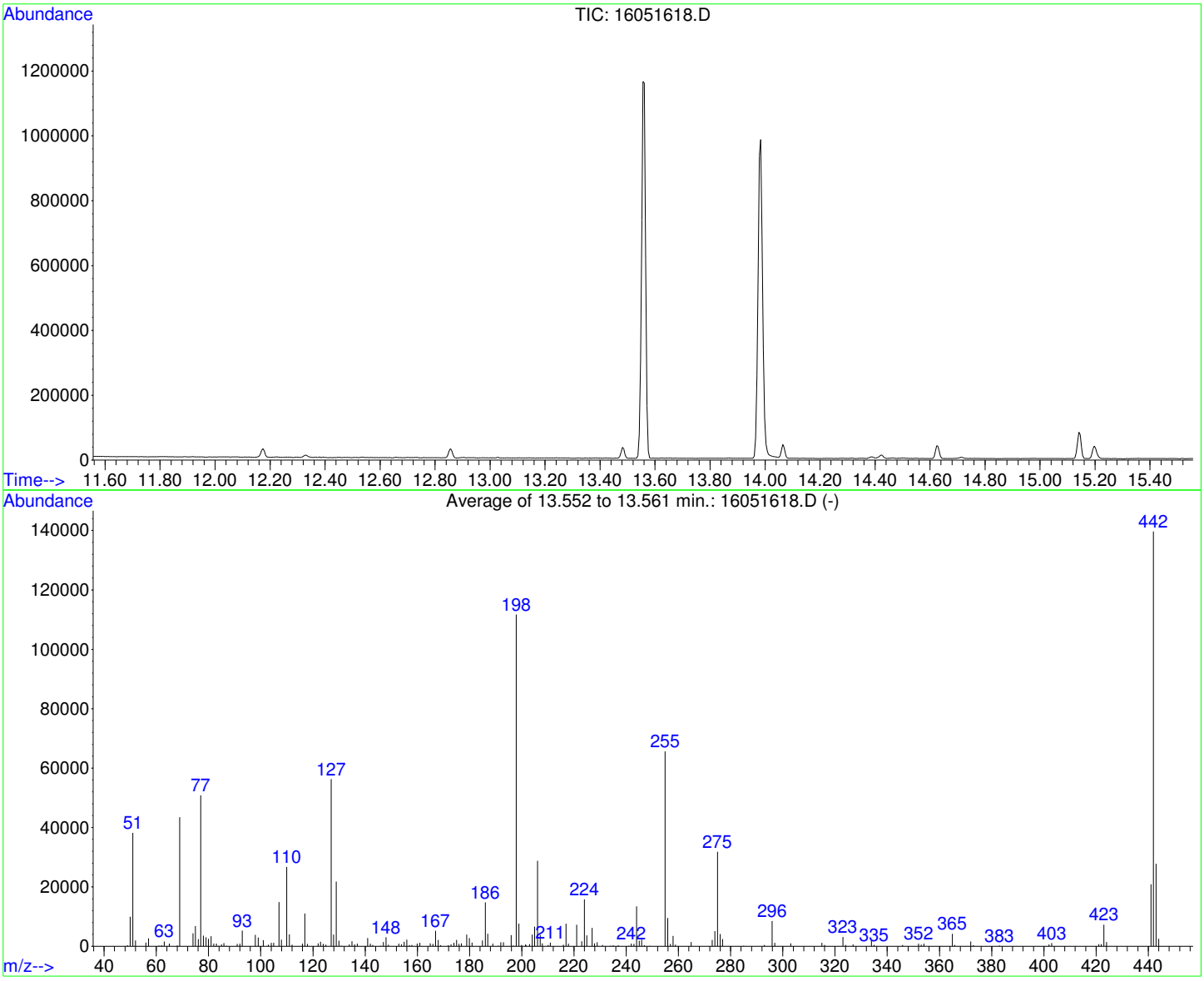


AutoFind: Scans 1588, 1589, 1590; Background Corrected with Scan 1582

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	32.8	38038	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	37.3	43237	PASS
70	69	0.00	2	0.0	0	PASS
127	198	10	80	49.0	56829	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	116045	PASS
199	198	5	9	6.6	7627	PASS
275	198	10	60	28.0	32437	PASS
365	198	1	200	3.7	4239	PASS
441	442	0.01	24	14.4	21586	PASS
442	198	50	400	129.4	150211	PASS
443	442	15	24	19.2	28853	PASS

REVIEWED BY
By Janice Whitt at 1:43:55 PM, 5/26/2016

Data File : C:\HPCHEM\1\DATA\160516\16051618.D Vial: 18
Acq On : 16 May 2016 7:29 pm Operator:
Sample : DFTPP2-160516 Inst : GC/MS #6
Misc : TUNE Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : C:\HPCHEM\1\METHODS\DFTPPPAH.M (RTE Integrator)
Title : PAH Calibration

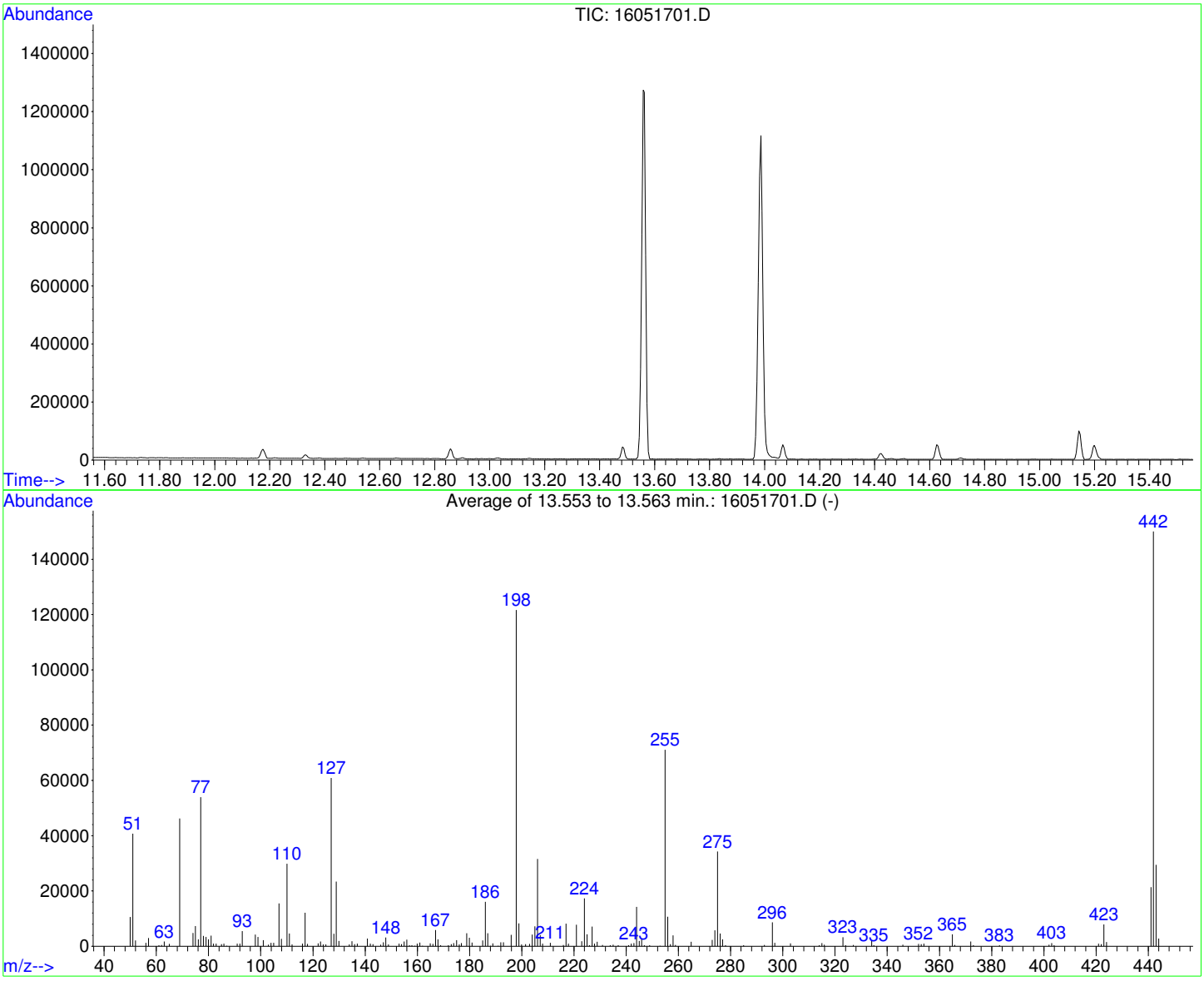


AutoFind: Scans 1587, 1588, 1589; Background Corrected with Scan 1581

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	34.2	38199	PASS
68	69	0.00	2	0.6	251	PASS
69	198	0.00	100	38.9	43485	PASS
70	69	0.00	2	0.0	0	PASS
127	198	10	80	50.4	56288	PASS
197	198	0.00	2	0.2	235	PASS
198	198	100	100	100.0	111696	PASS
199	198	5	9	6.8	7628	PASS
275	198	10	60	28.5	31853	PASS
365	198	1	200	3.8	4202	PASS
441	442	0.01	24	15.0	20923	PASS
442	198	50	400	125.1	139693	PASS
443	442	15	24	19.9	27824	PASS

REVIEWED BY
By Janice Whitt at 1:43:57 PM, 5/26/2016

Data File : C:\HPCHEM\1\DATA\160517\16051701.D Vial: 1
Acq On : 17 May 2016 8:12 am Operator:
Sample : DFTPP-160517 Inst : GC/MS #6
Misc : TUNE Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : C:\HPCHEM\1\METHODS\DFTPPPAH.M (RTE Integrator)
Title : PAH Calibration



AutoFind: Scans 1587, 1588, 1589; Background Corrected with Scan 1581

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	33.5	40717	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	38.1	46285	PASS
70	69	0.00	2	0.0	0	PASS
127	198	10	80	50.1	60893	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	121632	PASS
199	198	5	9	6.8	8256	PASS
275	198	10	60	28.2	34283	PASS
365	198	1	200	3.6	4385	PASS
441	442	0.01	24	14.2	21348	PASS
442	198	50	400	123.4	150075	PASS
443	442	15	24	19.6	29474	PASS

REVIEWED BY
By Janice Whitt at 1:44:02 PM, 5/26/2016

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160516\16051602.D Vial: 2
Acq On : 16 May 2016 8:54 am Operator:
Sample : ICV-160516 Inst : GC/MS #6
Misc : ICV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 17 8:33 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Initial Calibration
DataAcq Meth : PP160421

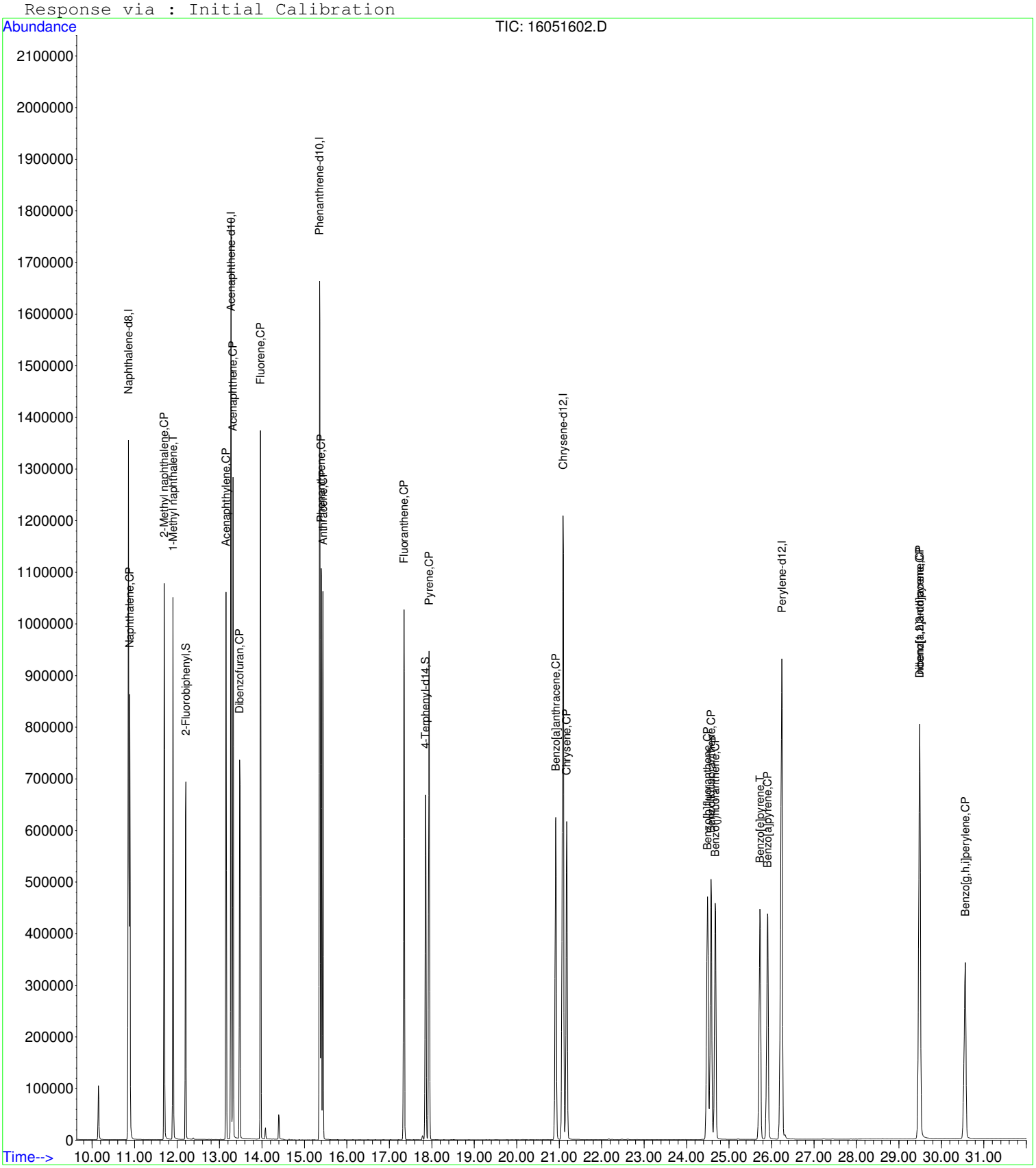
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1647079	4000.00	ug/kg	142
5) Acenaphthene-d10	13.27	164	959117	4000.00	ug/kg	83
11) Phenanthrene-d10	15.36	188	1898781	4000.00	ug/kg	93
17) Chrysene-d12	21.09	240	2070788	4000.00	ug/kg	91
20) Perylene-d12	26.25	264	1894794	4000.00	ug/kg	92
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.21	172	584296	2088.40	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 52.21%			
16) 4-Terphenyl-d14	17.86	244	898605	1829.23	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 45.73%			
Target Compounds						Qvalue
2) Naphthalene	10.89	128	805898	1956.08	ug/kg	99
3) 2-Methyl naphthalene	11.70	142	562393	1545.35	ug/kg	95
4) 1-Methyl naphthalene	11.91	142	507274	1521.95	ug/kg	98
6) Dibenzofuran	13.48	168	725047	2017.01	ug/kg	99
8) Acenaphthylene	13.15	152	878362	2126.51	ug/kg	100
9) Acenaphthene	13.32	154	508864	1984.83	ug/kg	98
10) Fluorene	13.97	166	661242	2123.73	ug/kg	99
12) Phenanthrene	15.39	178	948663	1899.80	ug/kg	99
13) Anthracene	15.44	178	899236	1902.59	ug/kg	100
14) Fluoranthene	17.35	202	1011719	1957.89	ug/kg	99
15) Pyrene	17.94	202	1011912	1885.15	ug/kg	99
18) Benzo[a]anthracene	20.92	228	954421	1967.33	ug/kg	100
19) Chrysene	21.18	228	873184	1862.84	ug/kg	100
21) Benzo[b]fluoranthene	24.49	252	974075	1950.48	ug/kg	99
22) Benzo[k]fluoranthene	24.58	252	894302	1908.92	ug/kg	100
23) Benzo(j)fluoranthene	24.68	252	793595	1901.63	ug/kg	99
24) Benzo[e]pyrene	25.73	252	834557	1866.00	ug/kg	99
25) Benzo[a]pyrene	25.91	252	867294	1897.68	ug/kg	99
26) Dibenz[a,h]anthracene	29.49	278	762992	1833.11	ug/kg	100
27) Indeno[1,2,3-cd]pyrene	29.49	276	888830	1790.02	ug/kg	98
28) Benzo[g,h,i]perylene	30.57	276	712132	1839.21	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160516\16051602.D Vial: 2
Acq On : 16 May 2016 8:54 am Operator:
Sample : ICV-160516 Inst : GC/MS #6
Misc : ICV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 17 8:33 2016 Quant Results File: PP160421.RES

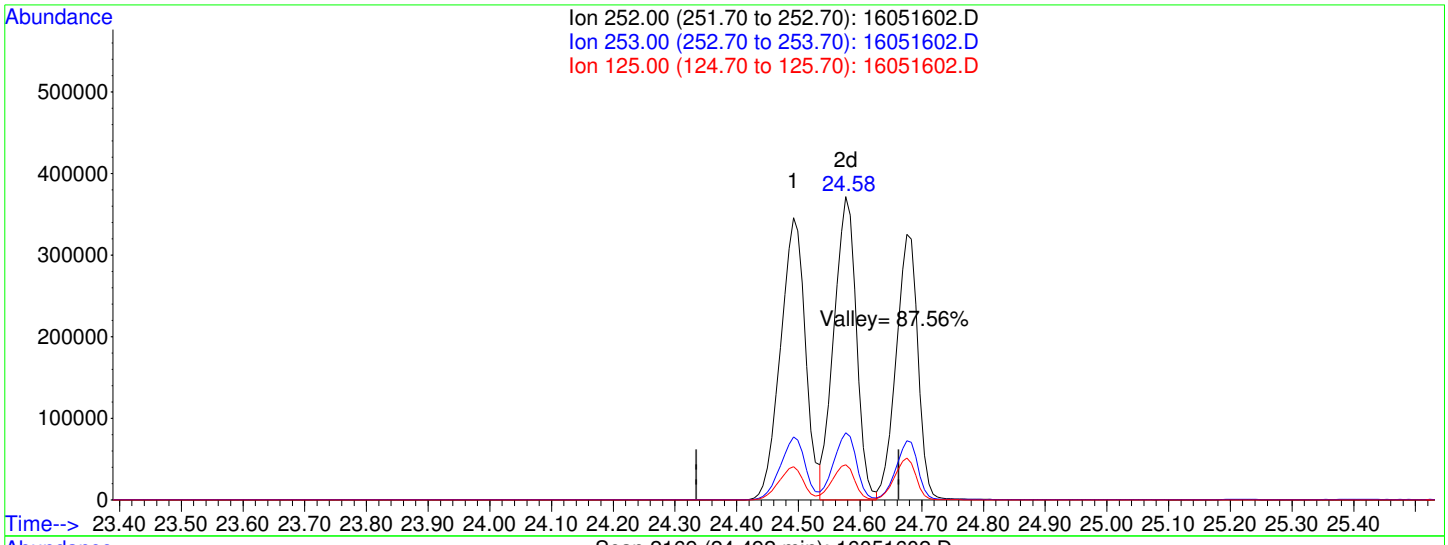
Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Initial Calibration

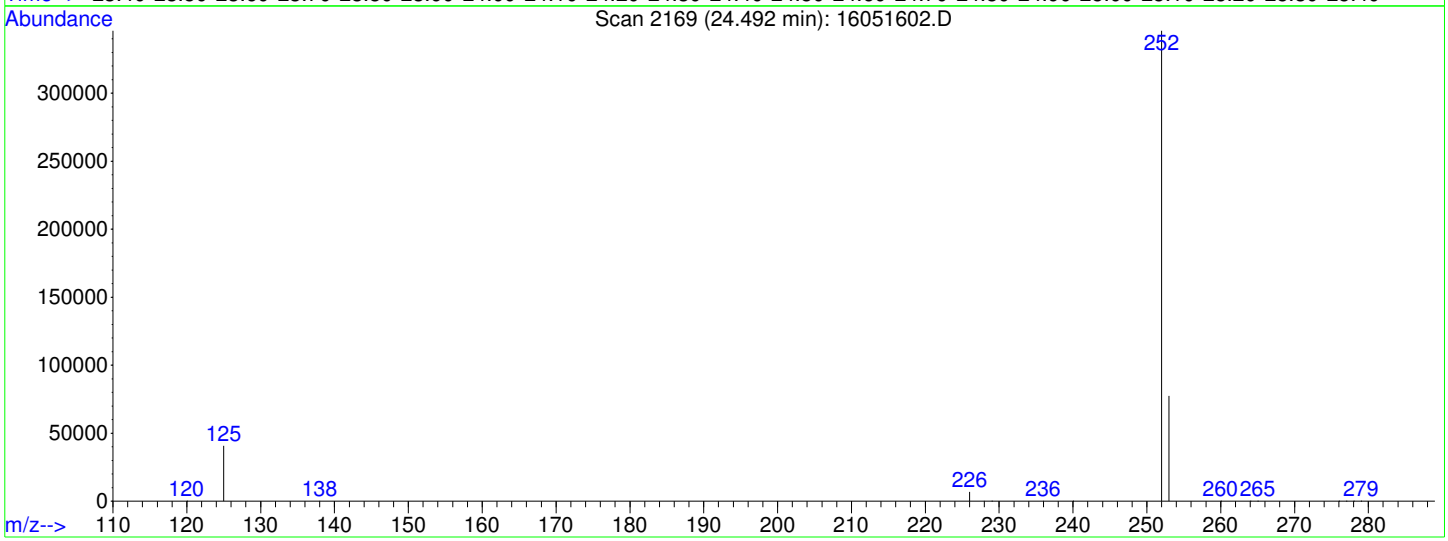


Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\160516\16051602.D Vial: 2
Acq On : 16 May 2016 8:54 am Operator:
Sample : ICV-160516 Inst : GC/MS #6
Misc : ICV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 16 9:26 2016 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Multiple Level Calibration





TIC: 16051602.D

(21) Benzo[b]fluoranthene (CP)

24.49min 1950.22ug/kg

response 974075

Ion	Exp%	Act%
252.00	100	100
253.00	22.20	22.25
125.00	11.00	11.74
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160516\16051603.D Vial: 3
Acq On : 16 May 2016 9:35 am Operator:
Sample : LCS-75127 Inst : GC/MS #6
Misc : LCS Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 17 8:33 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Initial Calibration
DataAcq Meth : PP160421

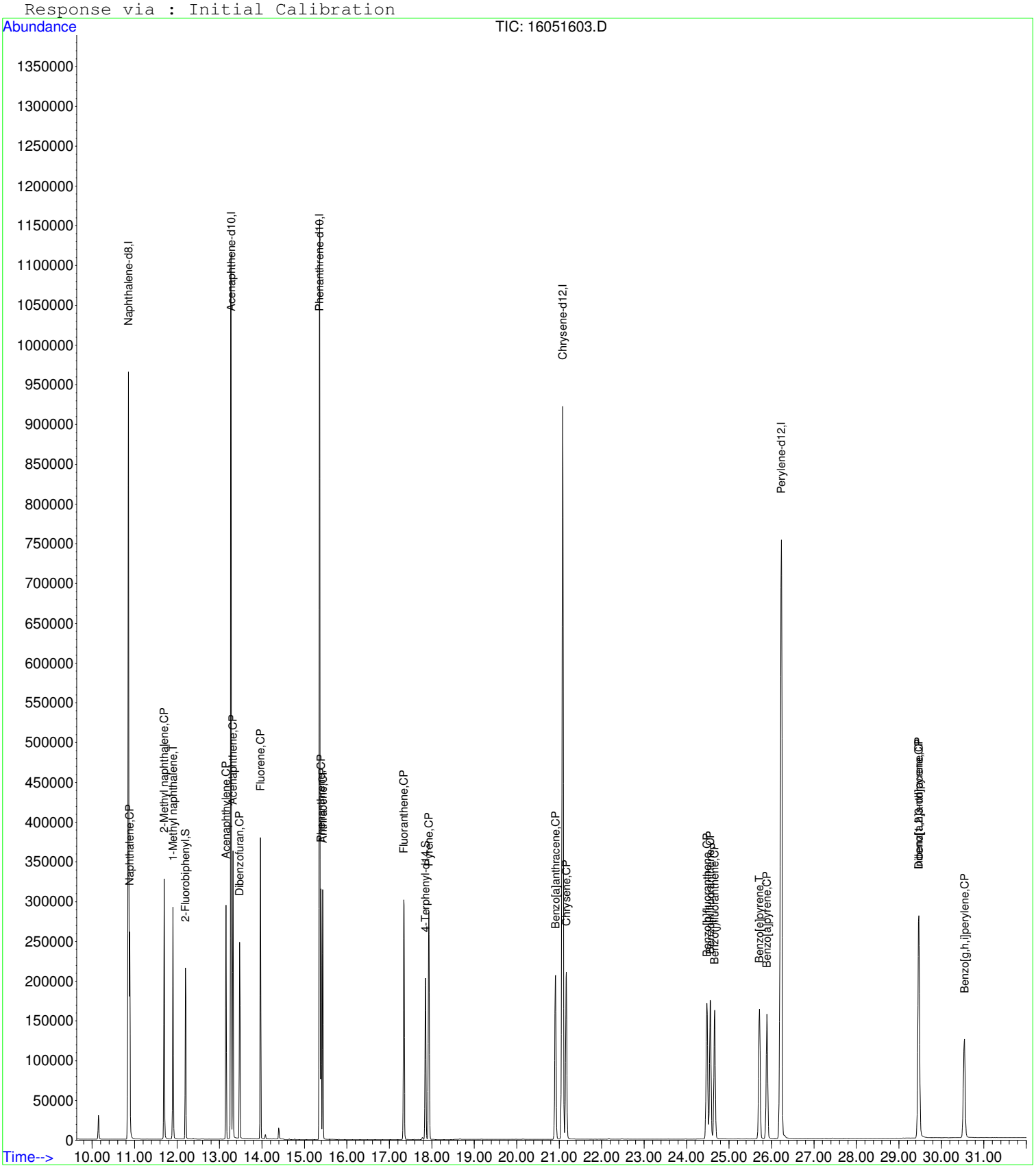
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1291866	4000.00	ug/kg	111
5) Acenaphthene-d10	13.27	164	667152	4000.00	ug/kg	58
11) Phenanthrene-d10	15.36	188	1234725	4000.00	ug/kg	60
17) Chrysene-d12	21.08	240	1505625	4000.00	ug/kg	66
20) Perylene-d12	26.23	264	1442781	4000.00	ug/kg	70
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.20	172	178929	919.41	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 22.99%#			
16) 4-Terphenyl-d14	17.85	244	257972	807.56	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 20.19%#			
Target Compounds						Qvalue
2) Naphthalene	10.89	128	248457	768.87	ug/kg	99
3) 2-Methyl naphthalene	11.70	142	169596	594.16	ug/kg	97
4) 1-Methyl naphthalene	11.91	142	152109	581.85	ug/kg	98
6) Dibenzofuran	13.47	168	216760	866.90	ug/kg	100
8) Acenaphthylene	13.15	152	247300	860.73	ug/kg	99
9) Acenaphthene	13.32	154	142414	798.58	ug/kg	99
10) Fluorene	13.97	166	177142	817.91	ug/kg	99
12) Phenanthrene	15.39	178	267990	825.32	ug/kg	99
13) Anthracene	15.43	178	265537	863.97	ug/kg	99
14) Fluoranthene	17.34	202	311188	926.10	ug/kg	99
15) Pyrene	17.93	202	308671	884.31	ug/kg	99
18) Benzo[a]anthracene	20.91	228	307887	872.87	ug/kg	99
19) Chrysene	21.17	228	287188	842.67	ug/kg	99
21) Benzo[b]fluoranthene	24.48	252	324964	854.57	ug/kg	99
22) Benzo[k]fluoranthene	24.56	252	305459	856.28	ug/kg	99
23) Benzo(j)fluoranthene	24.66	252	271755	855.20	ug/kg	99
24) Benzo[e]pyrene	25.72	252	292480	858.84	ug/kg	99
25) Benzo[a]pyrene	25.89	252	286884	824.37	ug/kg	99
26) Dibenz[a,h]anthracene	29.46	278	258618	816.00	ug/kg	99
27) Indeno[1,2,3-cd]pyrene	29.47	276	299937	793.29	ug/kg	95
28) Benzo[g,h,i]perylene	30.54	276	248008	841.20	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160516\16051603.D Vial: 3
Acq On : 16 May 2016 9:35 am Operator:
Sample : LCS-75127 Inst : GC/MS #6
Misc : LCS Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 17 8:33 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160516\16051604.D Vial: 4
Acq On : 16 May 2016 10:15 am Operator:
Sample : MB-75127 Inst : GC/MS #6
Misc : MBLK Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 17 8:33 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Initial Calibration
DataAcq Meth : PP160421

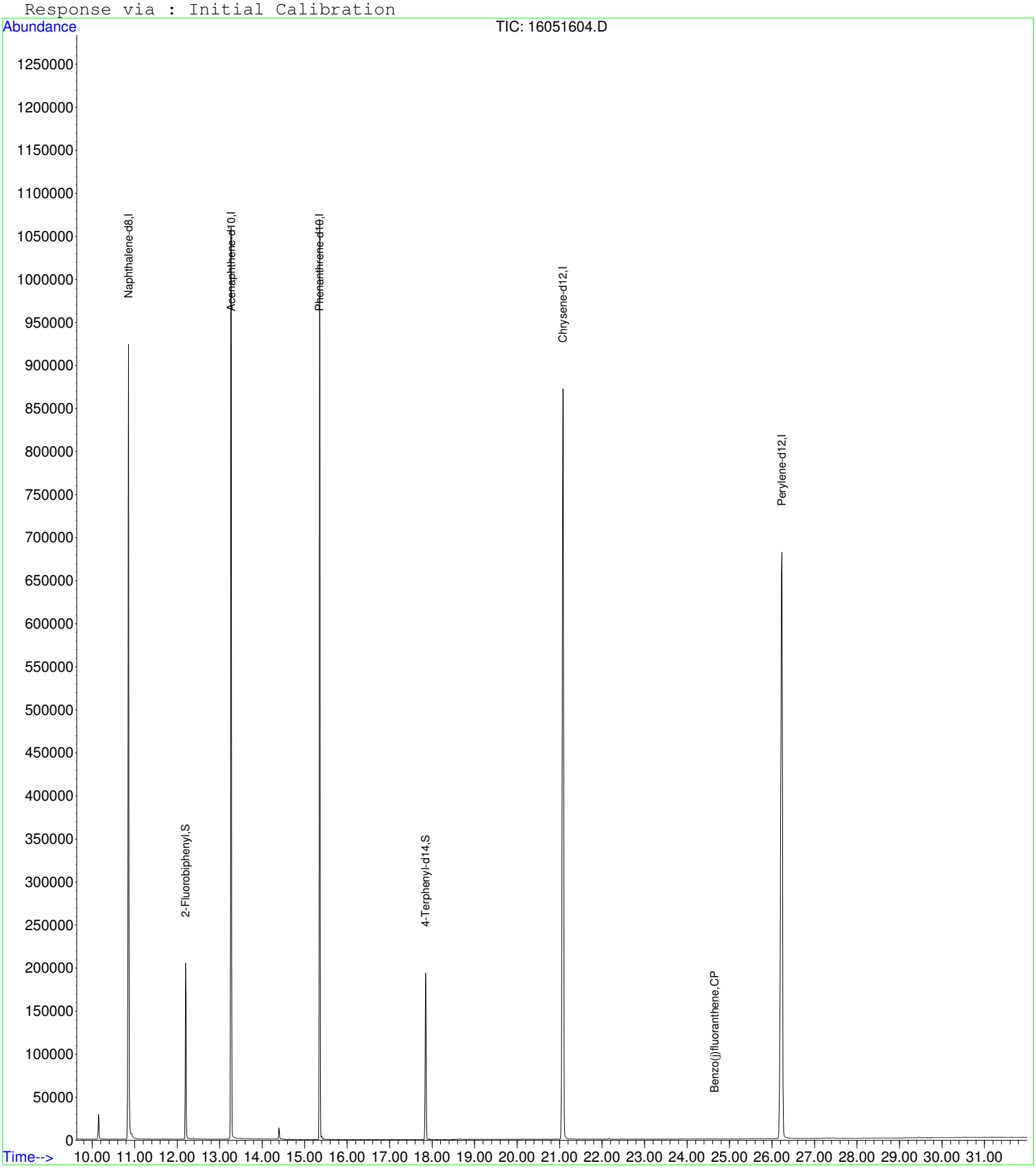
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1227816	4000.00	ug/kg	106
5) Acenaphthene-d10	13.27	164	663254	4000.00	ug/kg	58
11) Phenanthrene-d10	15.36	188	1199325	4000.00	ug/kg	59
17) Chrysene-d12	21.08	240	1449359	4000.00	ug/kg	64
20) Perylene-d12	26.23	264	1371131	4000.00	ug/kg	67
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.20	172	173049	894.42	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 22.36%#			
16) 4-Terphenyl-d14	17.85	244	246834	795.50	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 19.89%#			
Target Compounds						Qvalue
23) Benzo(j)fluoranthene	24.65	252	375	1.24	ug/kg	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160516\16051604.D Vial: 4
Acq On : 16 May 2016 10:15 am Operator:
Sample : MB-75127 Inst : GC/MS #6
Misc : MBLK Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 17 8:33 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160516\16051605.D Vial: 5
Acq On : 16 May 2016 10:55 am Operator:
Sample : 1605074-39A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 17 8:39 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Initial Calibration
DataAcq Meth : PP160421

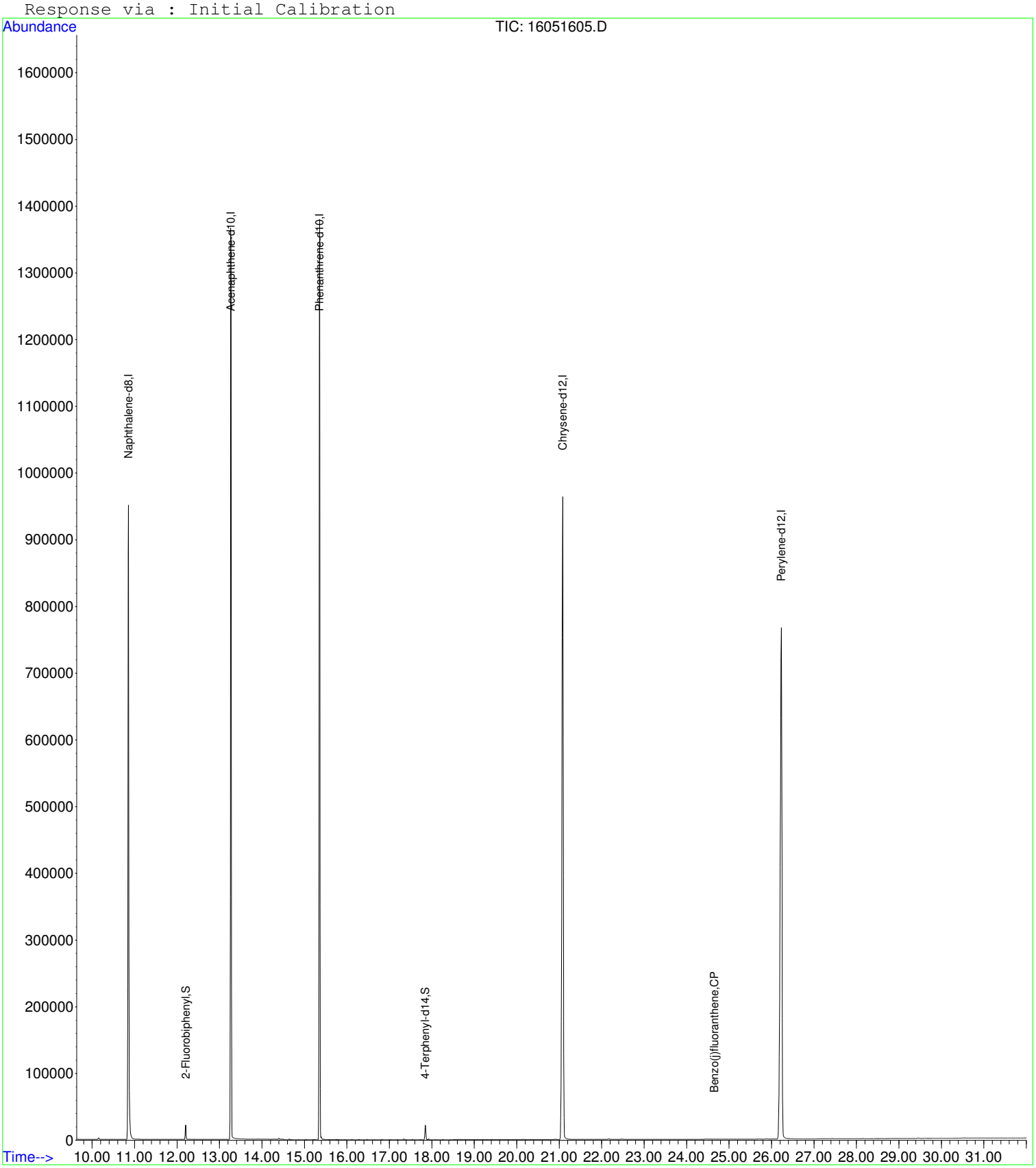
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1301267	4000.00	ug/kg	112
5) Acenaphthene-d10	13.27	164	830088	4000.00	ug/kg	72
11) Phenanthrene-d10	15.36	188	1493734	4000.00	ug/kg	73
17) Chrysene-d12	21.08	240	1612776	4000.00	ug/kg	71
20) Perylene-d12	26.23	264	1493176	4000.00	ug/kg	72
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.21	172	19861	82.02	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	2.05%#		
16) 4-Terphenyl-d14	17.85	244	28134	72.80	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.82%#		
Target Compounds						Qvalue
23) Benzo(j)fluoranthene	24.66	252	361	1.10	ug/kg	91

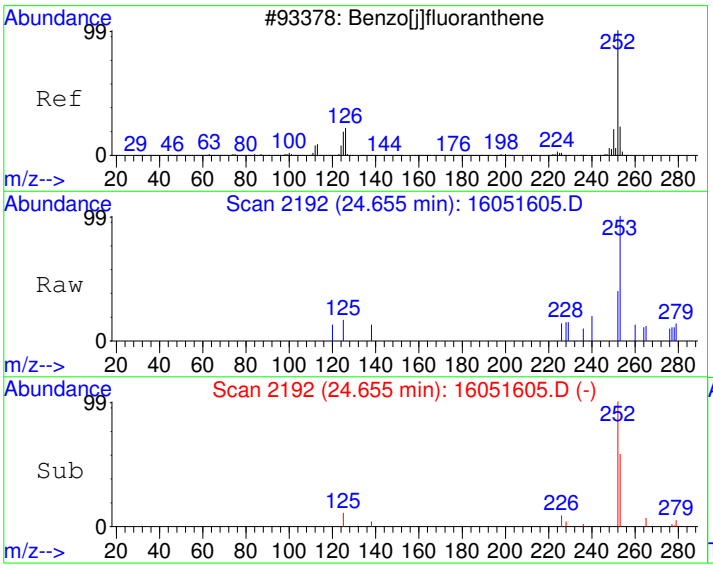
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160516\16051605.D Vial: 5
Acq On : 16 May 2016 10:55 am Operator:
Sample : 1605074-39A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 17 8:39 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Initial Calibration

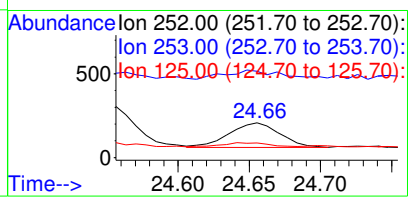




#23
Benzo(j)fluoranthene
Concen: 1.10 ug/kg
RT: 24.66 min Scan# 2192
Delta R.T. -0.01 min
Lab File: 16051605.D
Acq: 16 May 2016 10:55 am

Tgt Ion:252 Resp: 361

Ion	Ratio	Lower	Upper
252	100		
253	28.1	2.1	42.1
125	15.8	0.0	34.4



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160516\16051606.D Vial: 6
Acq On : 16 May 2016 11:35 am Operator:
Sample : 1605074-40A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 17 8:39 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Initial Calibration
DataAcq Meth : PP160421

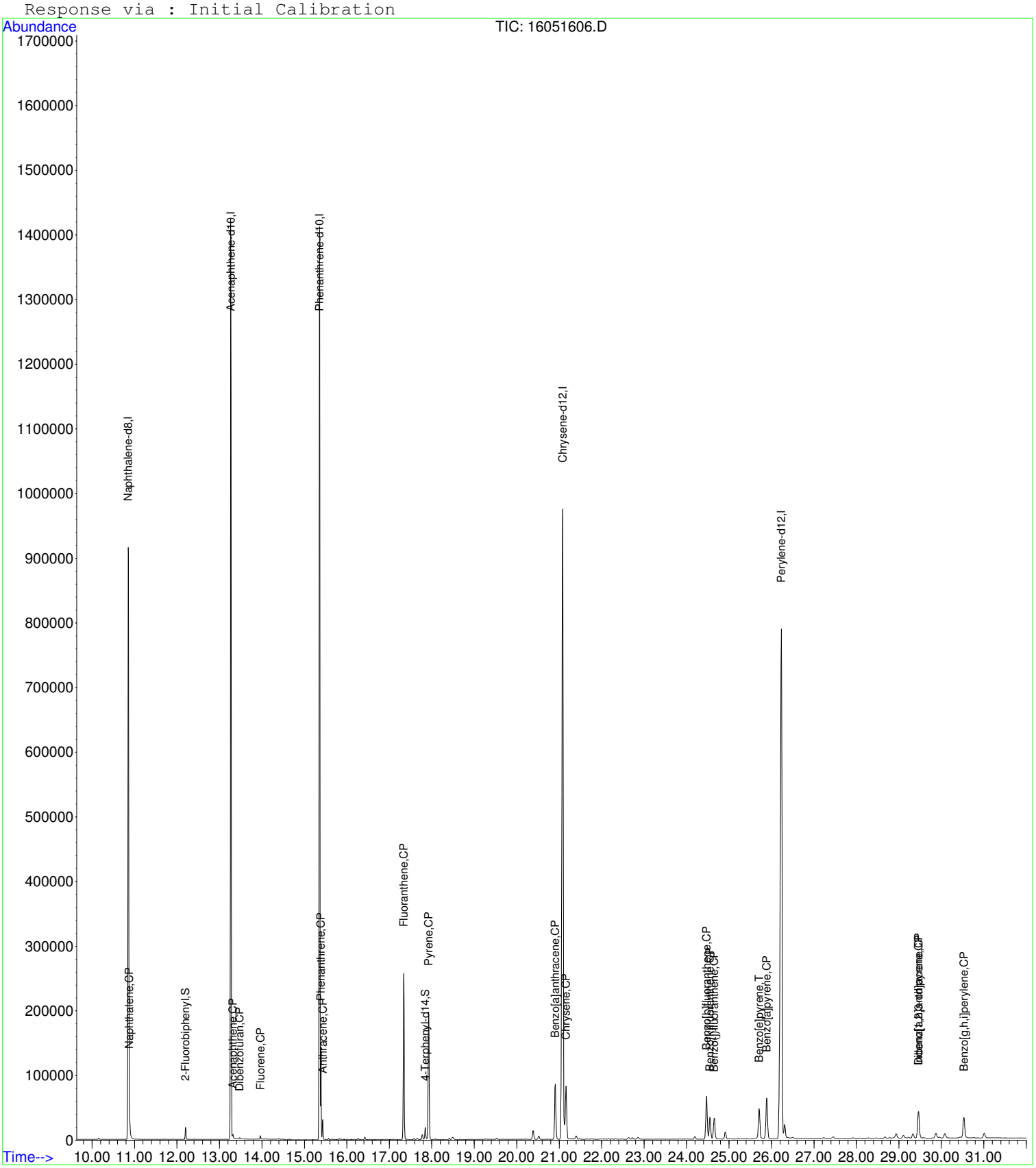
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1299623	4000.00	ug/kg	112
5) Acenaphthene-d10	13.26	164	810661	4000.00	ug/kg	70
11) Phenanthrene-d10	15.36	188	1528496	4000.00	ug/kg	75
17) Chrysene-d12	21.08	240	1617817	4000.00	ug/kg	71
20) Perylene-d12	26.23	264	1513844	4000.00	ug/kg	73
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.20	172	16647	70.40	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.76%#		
16) 4-Terphenyl-d14	17.85	244	24021	60.74	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.52%#		
Target Compounds						Qvalue
2) Naphthalene	10.89	128	1784	5.49	ug/kg	99
6) Dibenzofuran	13.47	168	1672	5.50	ug/kg	96
9) Acenaphthene	13.32	154	2361	10.90	ug/kg	96
10) Fluorene	13.97	166	2617	9.94	ug/kg	99
12) Phenanthrene	15.39	178	116143	288.94	ug/kg	99
13) Anthracene	15.43	178	26278	69.07	ug/kg	99
14) Fluoranthene	17.34	202	254806	612.56	ug/kg	99
15) Pyrene	17.93	202	209198	484.14	ug/kg	99
18) Benzo[a]anthracene	20.91	228	123980	327.11	ug/kg	99
19) Chrysene	21.16	228	131201	358.27	ug/kg	99
21) Benzo[b]fluoranthene	24.47	252	120311	301.53	ug/kg	99
22) Benzo[k]fluoranthene	24.55	252	59045	157.75	ug/kg	97
23) Benzo(j)fluoranthene	24.66	252	55648	166.90	ug/kg	93
24) Benzo[e]pyrene	25.71	252	84116	235.41	ug/kg	99
25) Benzo[a]pyrene	25.89	252	118945	325.75	ug/kg	98
26) Dibenz[a,h]anthracene	29.46	278	16589	49.88	ug/kg	97
27) Indeno[1,2,3-cd]pyrene	29.46	276	67929	171.23	ug/kg	90
28) Benzo[g,h,i]perylene	30.53	276	62862	203.21	ug/kg	99

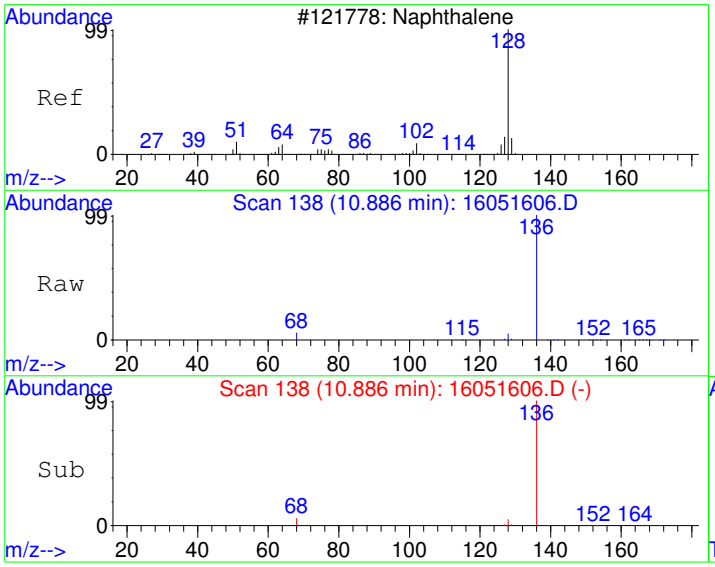
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160516\16051606.D Vial: 6
Acq On : 16 May 2016 11:35 am Operator:
Sample : 1605074-40A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 17 8:39 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Initial Calibration

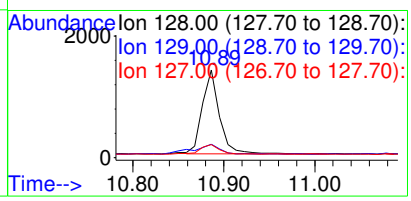


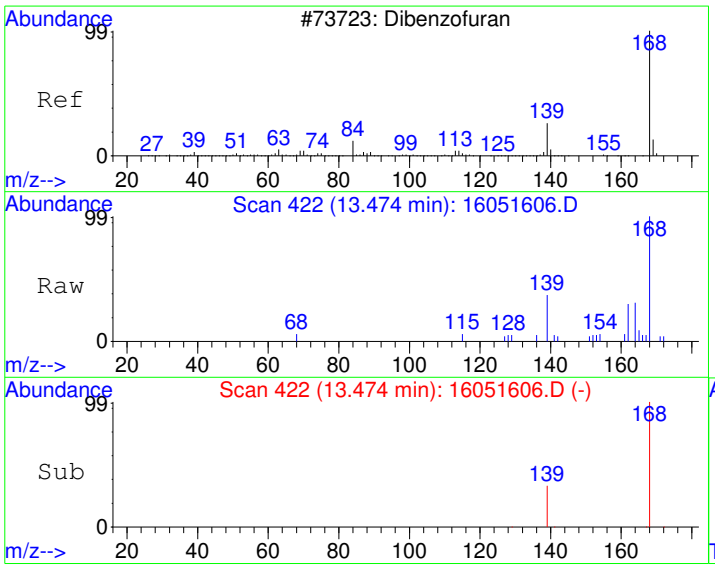


#2
Naphthalene
Concen: 5.49 ug/kg
RT: 10.89 min Scan# 138
Delta R.T. 0.01 min
Lab File: 16051606.D
Acq: 16 May 2016 11:35 am

Tgt Ion:128 Resp: 1784

Ion	Ratio	Lower	Upper
128	100		
129	11.4	0.0	41.1
127	11.6	0.0	42.4

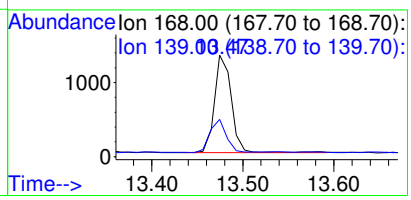


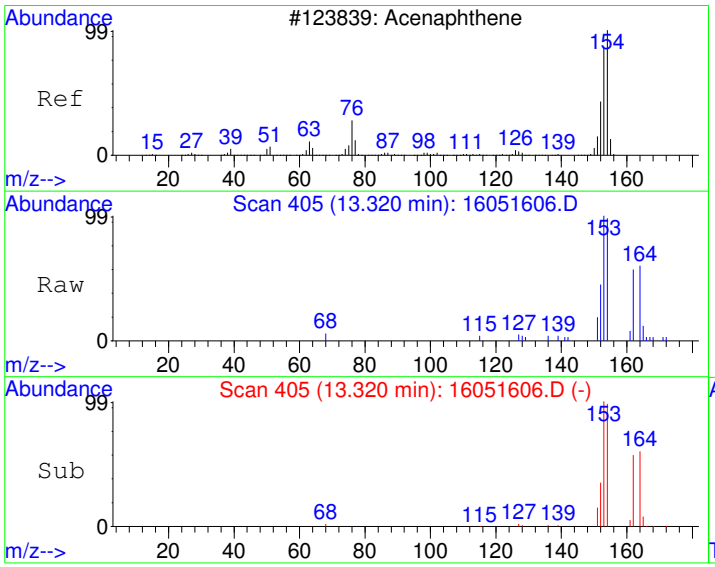


#6
Dibenzofuran
Concen: 5.50 ug/kg
RT: 13.47 min Scan# 422
Delta R.T. -0.00 min
Lab File: 16051606.D
Acq: 16 May 2016 11:35 am

Tgt Ion:168 Resp: 1672

Ion	Ratio	Lower	Upper
168	100		
139	36.1	27.0	40.4

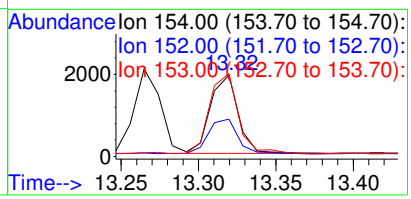


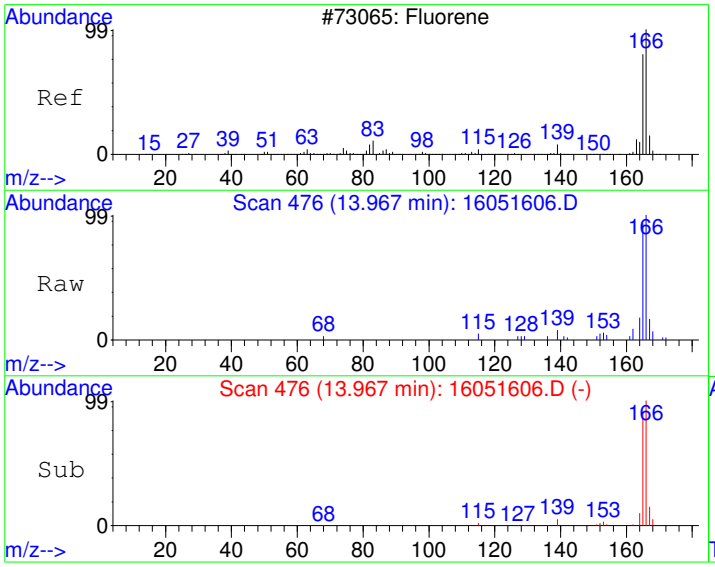


#9
Acenaphthene
Concen: 10.90 ug/kg
RT: 13.32 min Scan# 405
Delta R.T. -0.00 min
Lab File: 16051606.D
Acq: 16 May 2016 11:35 am

Tgt Ion:154 Resp: 2361

Ion	Ratio	Lower	Upper
154	100		
152	44.3	18.9	78.9
153	102.5	75.2	135.2

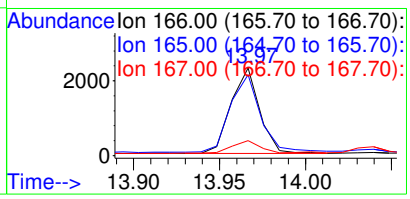


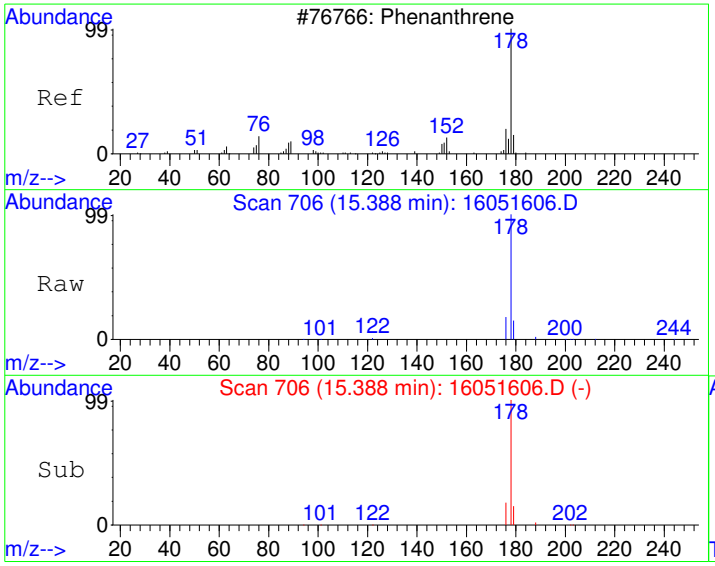


#10
Fluorene
Concen: 9.94 ug/kg
RT: 13.97 min Scan# 476
Delta R.T. -0.00 min
Lab File: 16051606.D
Acq: 16 May 2016 11:35 am

Tgt Ion:166 Resp: 2617

Ion	Ratio	Lower	Upper
166	100		
165	90.9	61.8	121.8
167	14.9	0.0	43.6

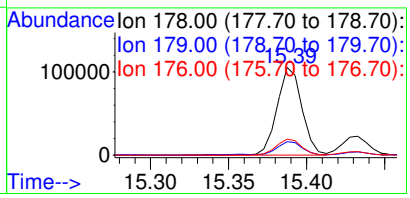


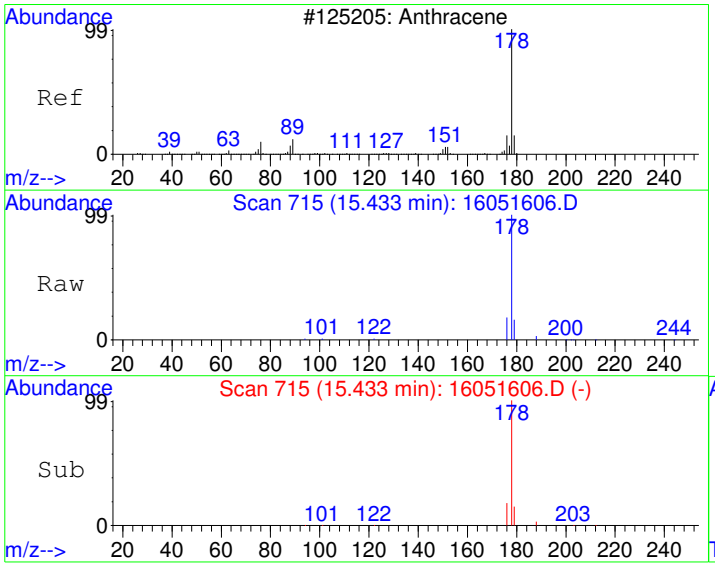


#12
Phenanthrene
Concen: 288.94 ug/kg
RT: 15.39 min Scan# 706
Delta R.T. -0.01 min
Lab File: 16051606.D
Acq: 16 May 2016 11:35 am

Tgt Ion:178 Resp: 116143

Ion	Ratio	Lower	Upper
178	100		
179	15.4	0.0	45.9
176	18.3	0.0	48.5

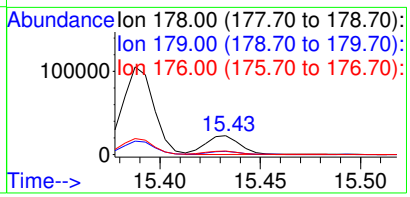


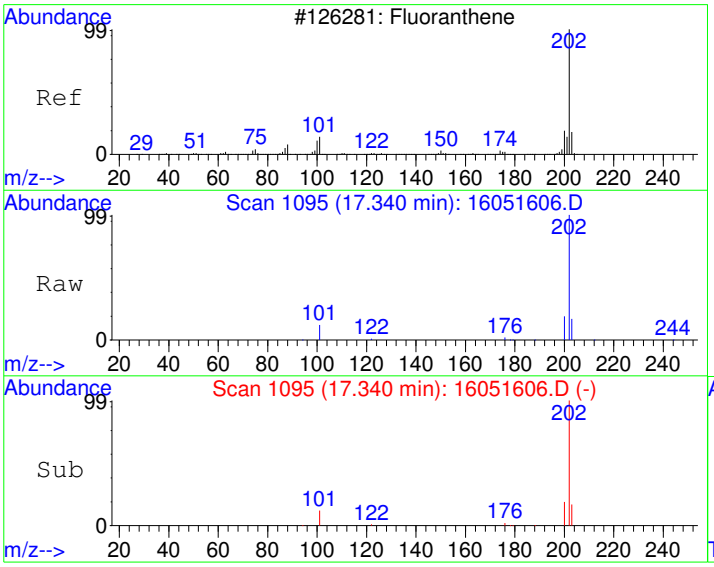


#13
Anthracene
Concen: 69.07 ug/kg
RT: 15.43 min Scan# 715
Delta R.T. -0.00 min
Lab File: 16051606.D
Acq: 16 May 2016 11:35 am

Tgt Ion:178 Resp: 26278

Ion	Ratio	Lower	Upper
178	100		
179	15.3	0.0	45.9
176	17.6	0.0	48.2

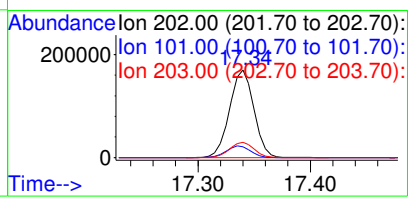


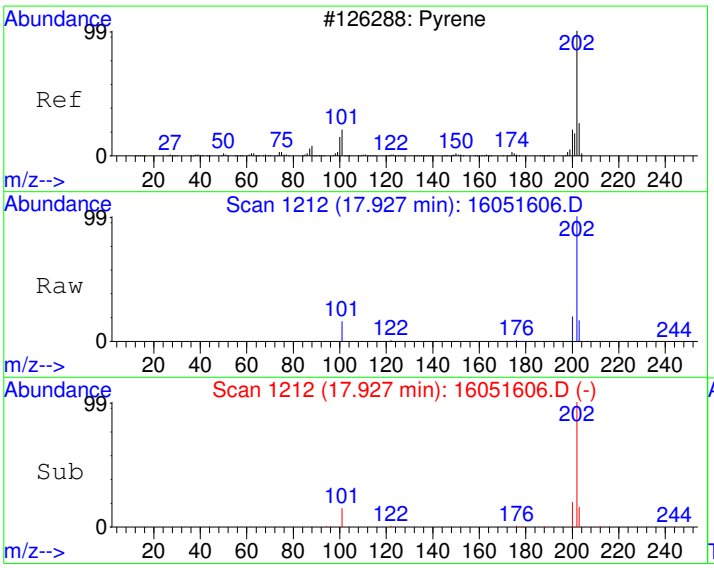


#14
Fluoranthene
Concen: 612.56 ug/kg
RT: 17.34 min Scan# 1095
Delta R.T. -0.00 min
Lab File: 16051606.D
Acq: 16 May 2016 11:35 am

Tgt Ion:202 Resp: 254806

Ion	Ratio	Lower	Upper
202	100		
101	12.5	0.0	43.0
203	17.3	0.0	47.9

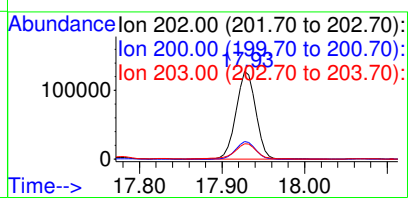


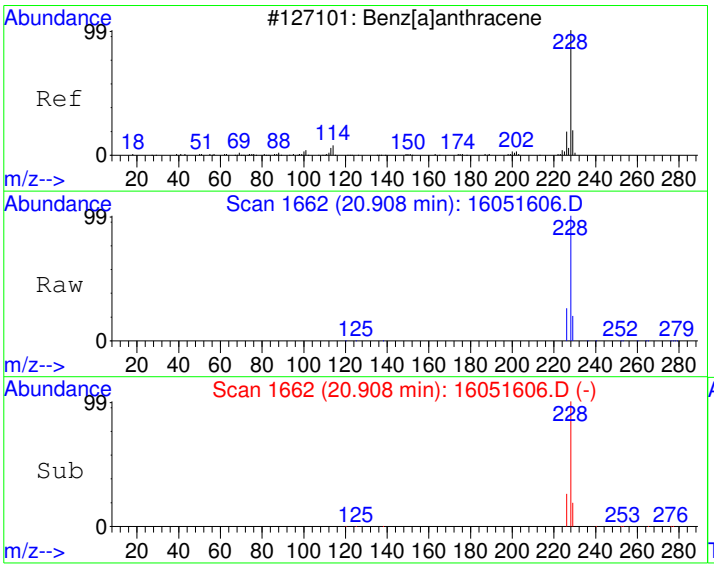


#15
Pyrene
Concen: 484.14 ug/kg
RT: 17.93 min Scan# 1212
Delta R.T. -0.01 min
Lab File: 16051606.D
Acq: 16 May 2016 11:35 am

Tgt Ion:202 Resp: 209198

Ion	Ratio	Lower	Upper
202	100		
200	20.0	0.0	50.0
203	17.4	0.0	48.0

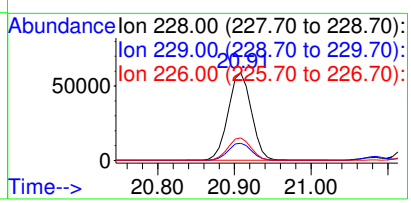


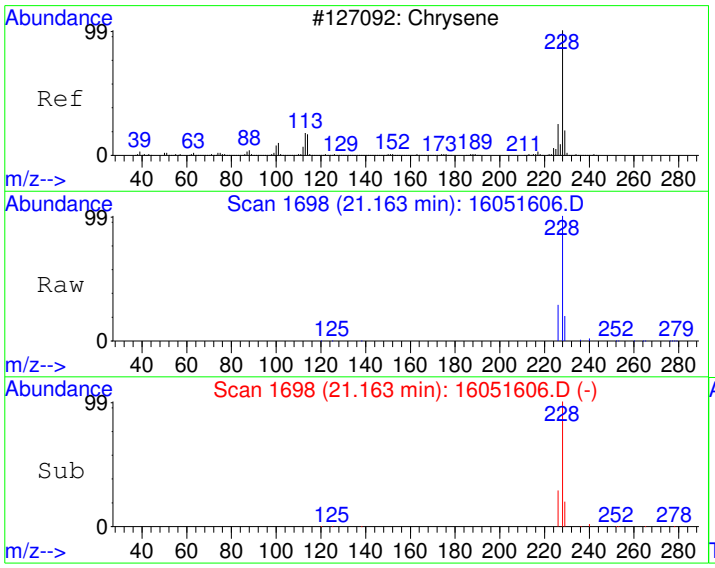


#18
Benzo[a]anthracene
Concen: 327.11 ug/kg
RT: 20.91 min Scan# 1662
Delta R.T. -0.01 min
Lab File: 16051606.D
Acq: 16 May 2016 11:35 am

Tgt Ion:228 Resp: 123980

Ion	Ratio	Lower	Upper
228	100		
229	19.5	0.0	50.1
226	25.8	0.0	55.2

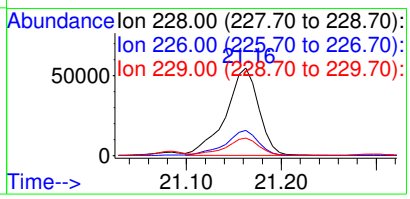


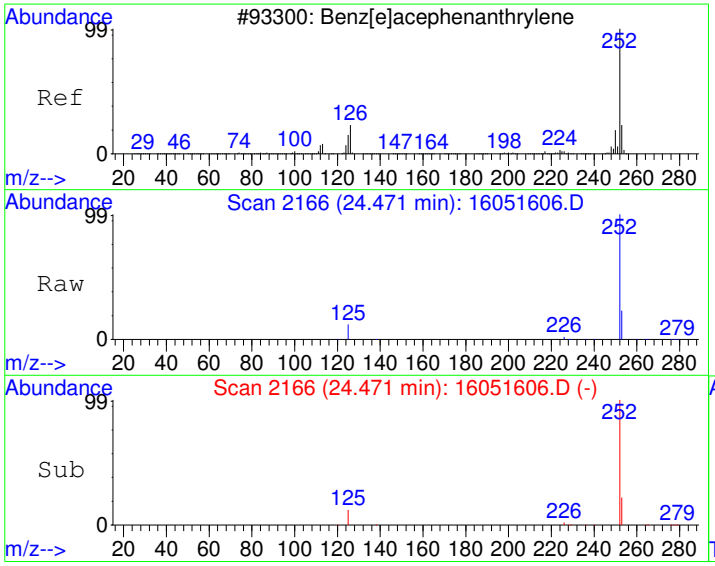


#19
Chrysene
Concen: 358.27 ug/kg
RT: 21.16 min Scan# 1698
Delta R.T. -0.01 min
Lab File: 16051606.D
Acq: 16 May 2016 11:35 am

Tgt Ion:228 Resp: 131201

Ion	Ratio	Lower	Upper
228	100		
226	28.6	0.0	58.1
229	20.0	0.0	50.1

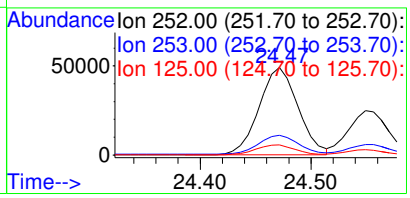


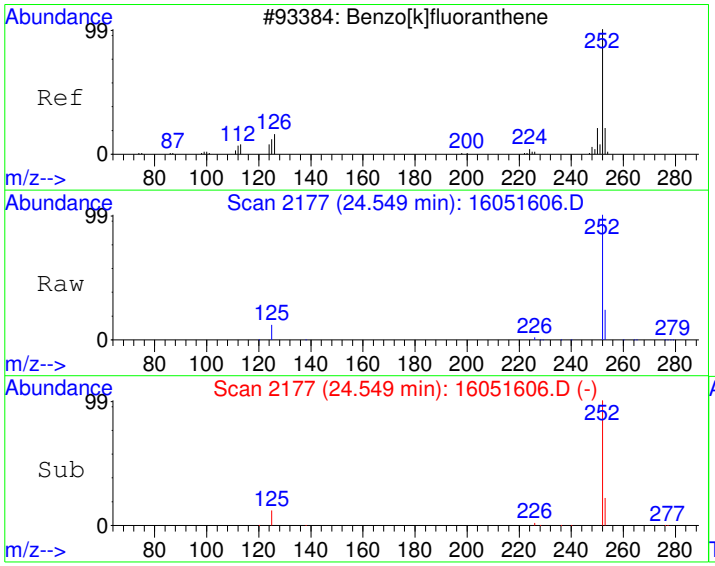


#21
Benzo[b]fluoranthene
Concen: 301.53 ug/kg
RT: 24.47 min Scan# 2166
Delta R.T. -0.01 min
Lab File: 16051606.D
Acq: 16 May 2016 11:35 am

Tgt Ion:252 Resp: 120311

Ion	Ratio	Lower	Upper
252	100		
253	21.8	0.0	52.2
125	11.5	0.0	41.0

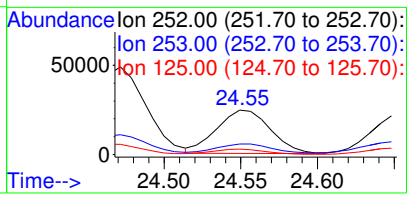


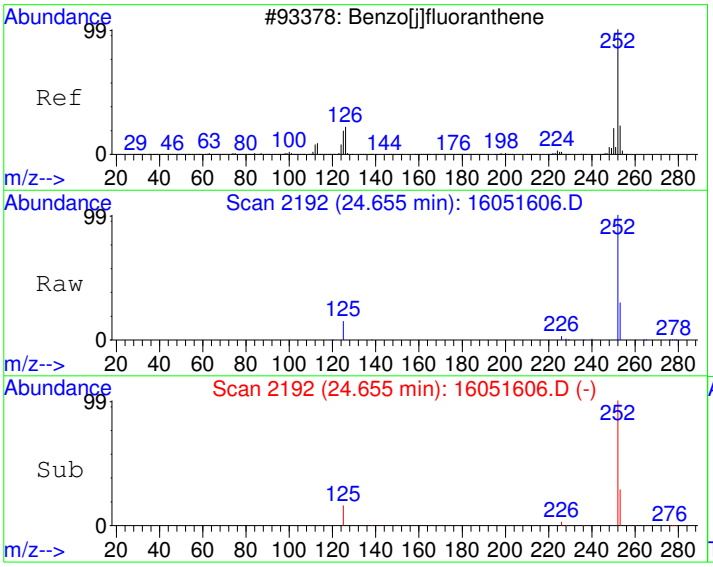


#22
Benzo[k]fluoranthene
Concen: 157.75 ug/kg
RT: 24.55 min Scan# 2177
Delta R.T. -0.02 min
Lab File: 16051606.D
Acq: 16 May 2016 11:35 am

Tgt Ion:252 Resp: 59045

Ion	Ratio	Lower	Upper
252	100		
253	20.1	2.1	42.1
125	11.8	0.0	31.3

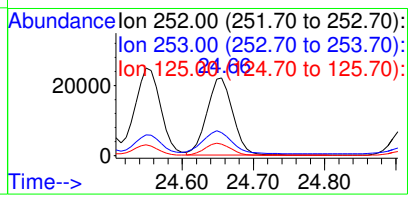


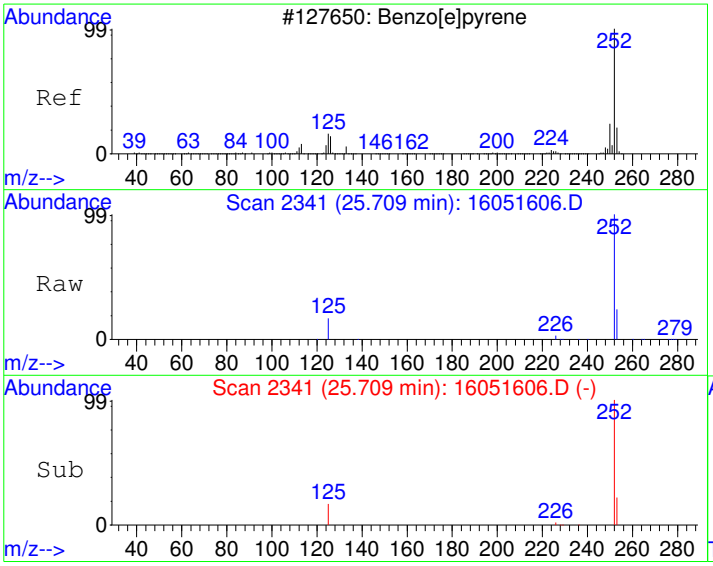


#23
Benzo(j)fluoranthene
Concen: 166.90 ug/kg
RT: 24.66 min Scan# 2192
Delta R.T. -0.01 min
Lab File: 16051606.D
Acq: 16 May 2016 11:35 am

Tgt Ion:252 Resp: 55648

Ion	Ratio	Lower	Upper
252	100		
253	27.3	2.1	42.1
125	14.7	0.0	34.4

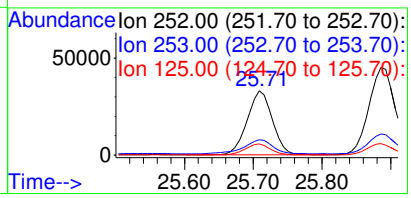


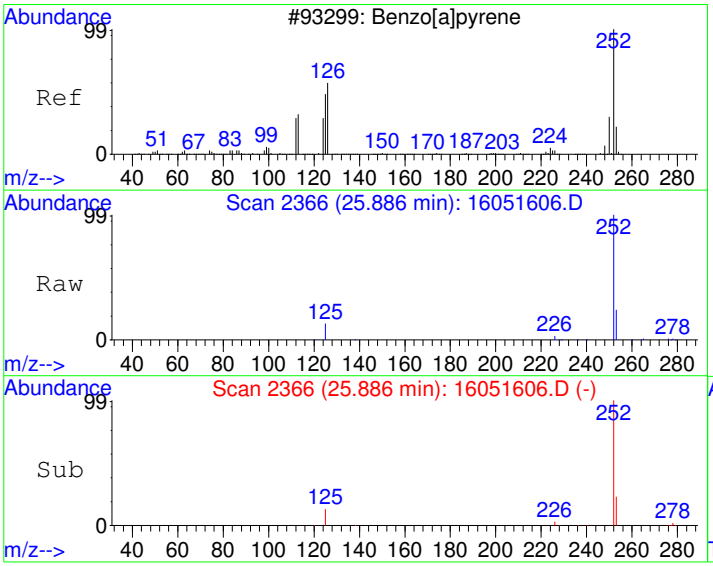


#24
Benzo[e]pyrene
Concen: 235.41 ug/kg
RT: 25.71 min Scan# 2341
Delta R.T. -0.01 min
Lab File: 16051606.D
Acq: 16 May 2016 11:35 am

Tgt Ion:252 Resp: 84116

Ion	Ratio	Lower	Upper
252	100		
253	22.0	2.2	42.2
125	16.9	0.0	36.1

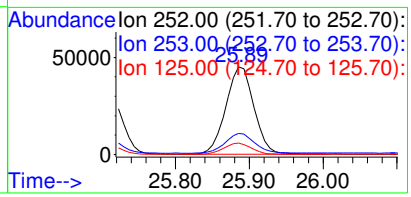


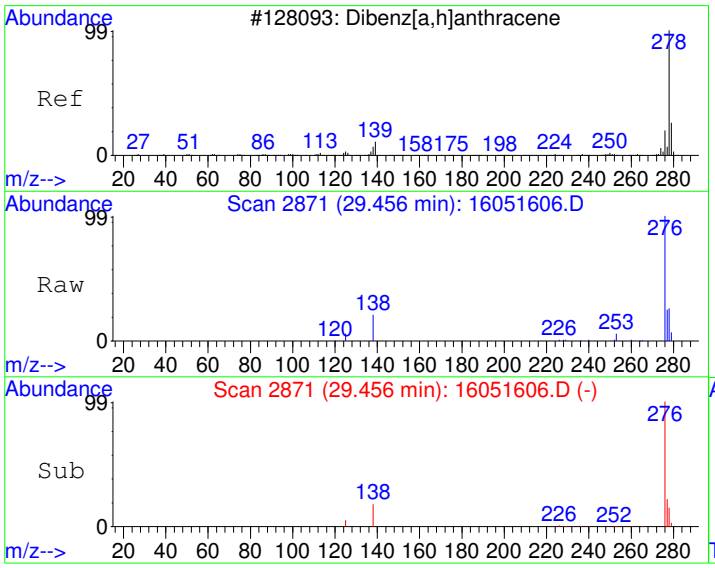


#25
Benzo[a]pyrene
Concen: 325.75 ug/kg
RT: 25.89 min Scan# 2366
Delta R.T. -0.01 min
Lab File: 16051606.D
Acq: 16 May 2016 11:35 am

Tgt Ion:252 Resp: 118945

Ion	Ratio	Lower	Upper
252	100		
253	22.5	1.9	41.9
125	12.8	0.0	31.7

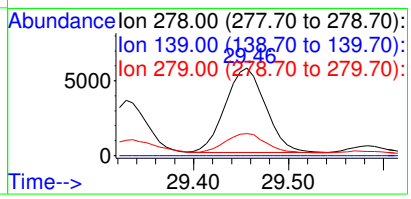


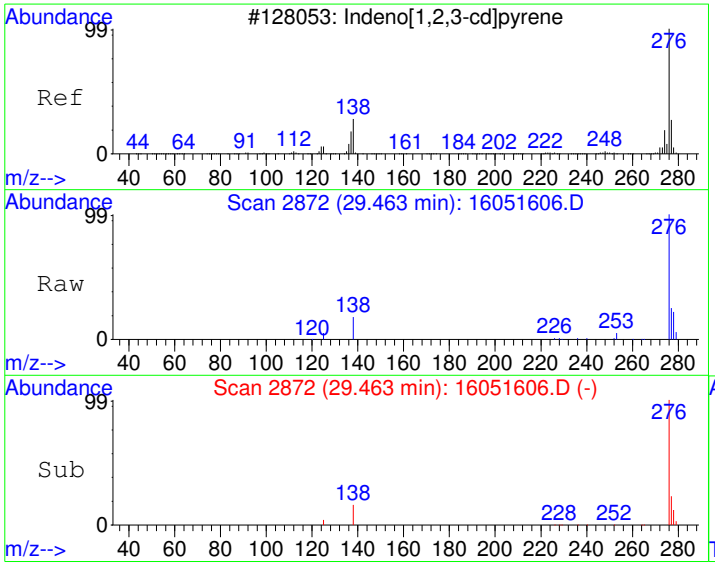


#26
Dibenz[a,h]anthracene
Concen: 49.88 ug/kg
RT: 29.46 min Scan# 2871
Delta R.T. -0.02 min
Lab File: 16051606.D
Acq: 16 May 2016 11:35 am

Tgt Ion:278 Resp: 16589

Ion	Ratio	Lower	Upper
278	100		
139	0.0	0.0	20.0
279	23.0	4.2	44.2

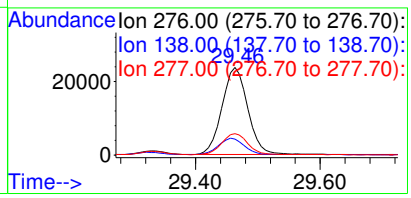


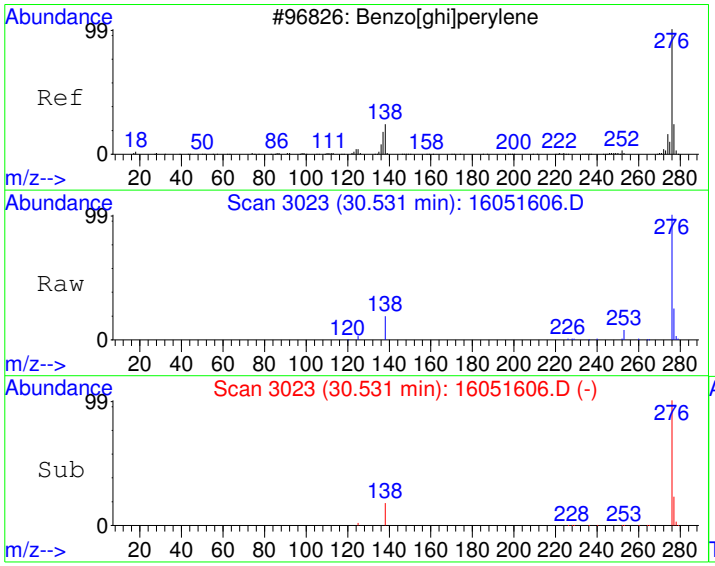


#27
Indeno[1,2,3-cd]pyrene
Concen: 171.23 ug/kg
RT: 29.46 min Scan# 2872
Delta R.T. -0.01 min
Lab File: 16051606.D
Acq: 16 May 2016 11:35 am

Tgt Ion:276 Resp: 67929

Ion	Ratio	Lower	Upper
276	100		
138	17.9	6.7	46.7
277	24.3	5.8	45.8

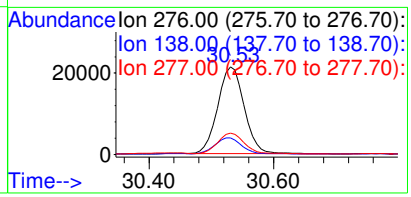




#28
Benzo[g,h,i]perylene
Concen: 203.21 ug/kg
RT: 30.53 min Scan# 3023
Delta R.T. -0.02 min
Lab File: 16051606.D
Acq: 16 May 2016 11:35 am

Tgt Ion:276 Resp: 62862

Ion	Ratio	Lower	Upper
276	100		
138	18.5	0.0	39.1
277	24.2	4.0	44.0



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160516\16051607.D Vial: 7
Acq On : 16 May 2016 12:14 pm Operator:
Sample : 1605074-41A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 17 8:39 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Initial Calibration
DataAcq Meth : PP160421

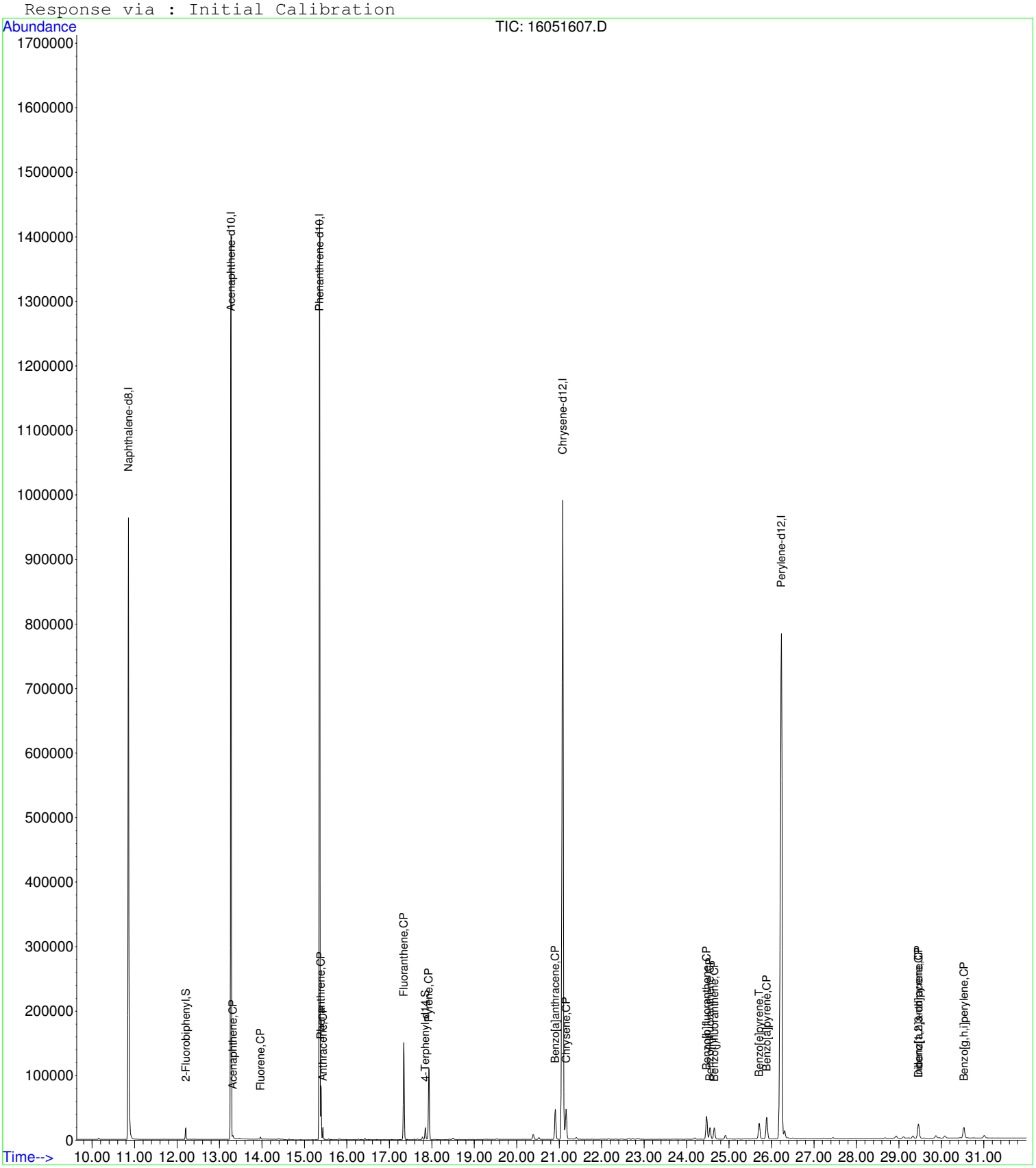
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1275338	4000.00	ug/kg	110
5) Acenaphthene-d10	13.27	164	822044	4000.00	ug/kg	71
11) Phenanthrene-d10	15.36	188	1555947	4000.00	ug/kg	76
17) Chrysene-d12	21.08	240	1624423	4000.00	ug/kg	72
20) Perylene-d12	26.23	264	1531918	4000.00	ug/kg	74
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.21	172	16018	66.80	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.67%#		
16) 4-Terphenyl-d14	17.85	244	24515	60.90	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.52%#		
Target Compounds						Qvalue
9) Acenaphthene	13.32	154	1450	6.60	ug/kg	96
10) Fluorene	13.97	166	1572	5.89	ug/kg	97
12) Phenanthrene	15.39	178	68443	167.27	ug/kg	99
13) Anthracene	15.43	178	15718	40.58	ug/kg	99
14) Fluoranthene	17.34	202	147345	347.97	ug/kg	98
15) Pyrene	17.93	202	119800	272.36	ug/kg	99
18) Benzo[a]anthracene	20.91	228	68024	178.75	ug/kg	99
19) Chrysene	21.16	228	71798	195.26	ug/kg	99
21) Benzo[b]fluoranthene	24.47	252	64072	158.69	ug/kg	99
22) Benzo[k]fluoranthene	24.55	252	32212	85.04	ug/kg	98
23) Benzo(j)fluoranthene	24.65	252	29626	87.81	ug/kg	93
24) Benzo[e]pyrene	25.71	252	44701	123.62	ug/kg	99
25) Benzo[a]pyrene	25.88	252	64374	174.22	ug/kg	98
26) Dibenz[a,h]anthracene	29.46	278	8871	26.36	ug/kg	94
27) Indeno[1,2,3-cd]pyrene	29.46	276	36165	90.09	ug/kg	89
28) Benzo[g,h,i]perylene	30.53	276	33309	106.40	ug/kg	100

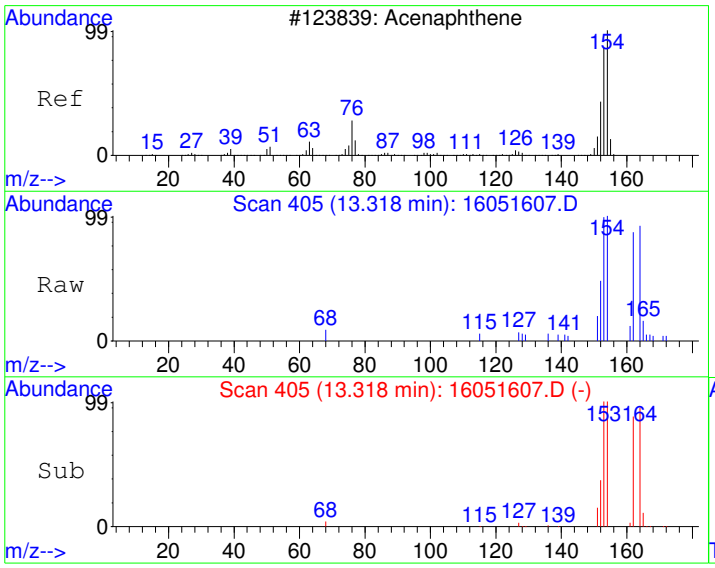
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160516\16051607.D Vial: 7
Acq On : 16 May 2016 12:14 pm Operator:
Sample : 1605074-41A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 17 8:39 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Initial Calibration

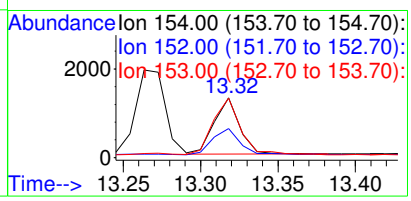


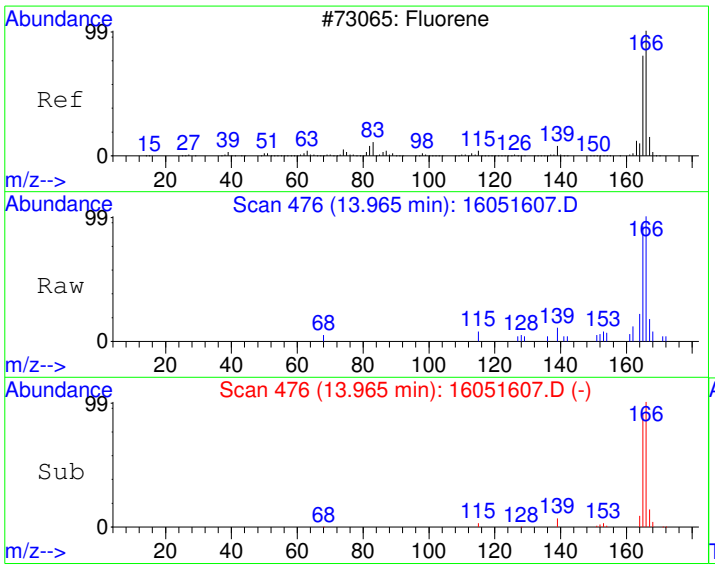


#9
Acenaphthene
Concen: 6.60 ug/kg
RT: 13.32 min Scan# 405
Delta R.T. -0.00 min
Lab File: 16051607.D
Acq: 16 May 2016 12:14 pm

Tgt Ion:154 Resp: 1450

Ion	Ratio	Lower	Upper
154	100		
152	46.2	18.9	78.9
153	100.6	75.2	135.2

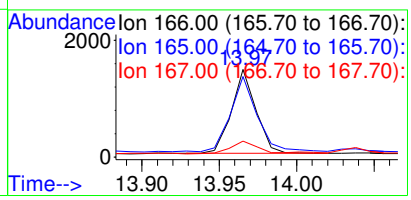


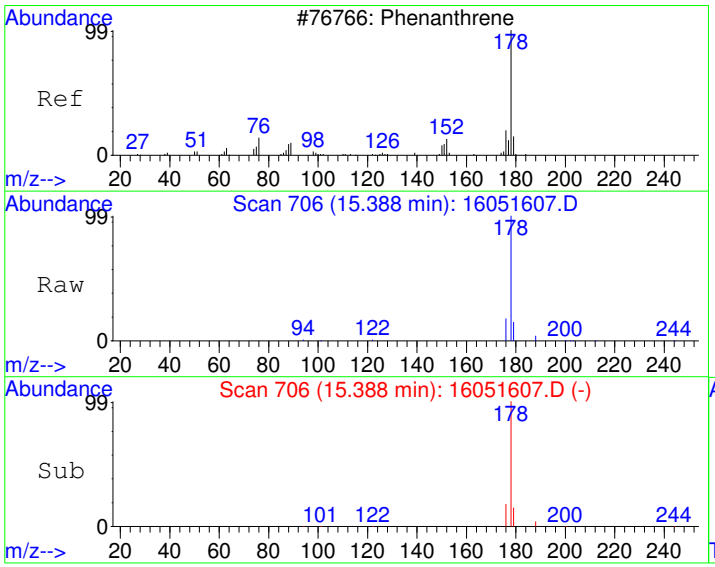


#10
Fluorene
Concen: 5.89 ug/kg
RT: 13.97 min Scan# 476
Delta R.T. -0.00 min
Lab File: 16051607.D
Acq: 16 May 2016 12:14 pm

Tgt Ion:166 Resp: 1572

Ion	Ratio	Lower	Upper
166	100		
165	89.4	61.8	121.8
167	15.0	0.0	43.6

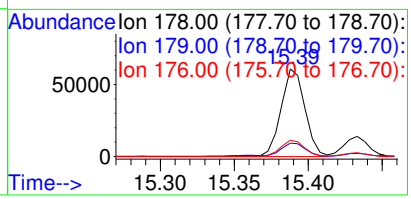


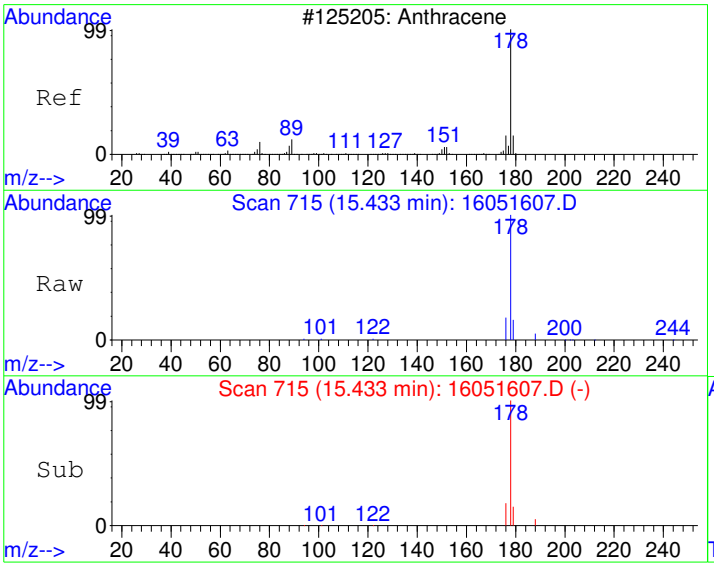


#12
Phenanthrene
Concen: 167.27 ug/kg
RT: 15.39 min Scan# 706
Delta R.T. -0.01 min
Lab File: 16051607.D
Acq: 16 May 2016 12:14 pm

Tgt Ion:178 Resp: 68443

Ion	Ratio	Lower	Upper
178	100		
179	15.3	0.0	45.9
176	18.4	0.0	48.5

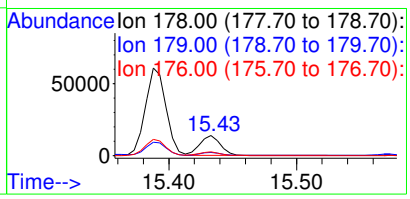


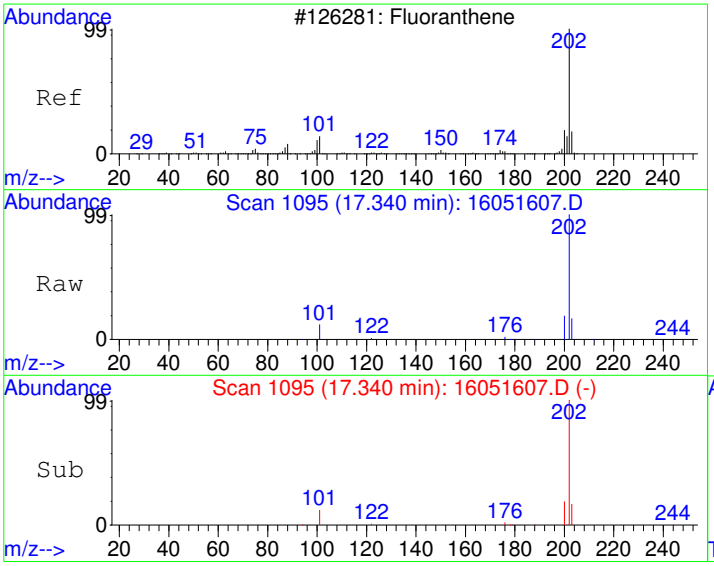


#13
Anthracene
Concen: 40.58 ug/kg
RT: 15.43 min Scan# 715
Delta R.T. -0.00 min
Lab File: 16051607.D
Acq: 16 May 2016 12:14 pm

Tgt Ion:178 Resp: 15718

Ion	Ratio	Lower	Upper
178	100		
179	15.0	0.0	45.9
176	17.9	0.0	48.2

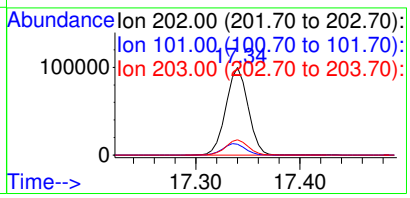


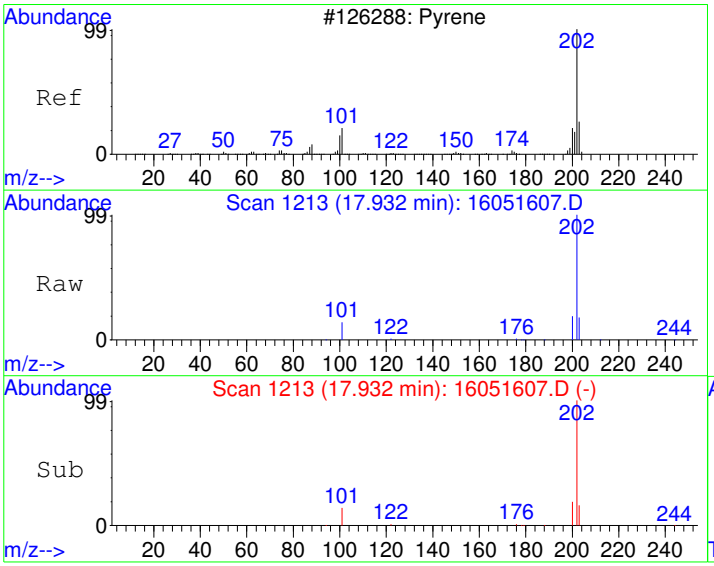


#14
Fluoranthene
Concen: 347.97 ug/kg
RT: 17.34 min Scan# 1095
Delta R.T. -0.00 min
Lab File: 16051607.D
Acq: 16 May 2016 12:14 pm

Tgt Ion:202 Resp: 147345

Ion	Ratio	Lower	Upper
202	100		
101	12.2	0.0	43.0
203	17.3	0.0	47.9

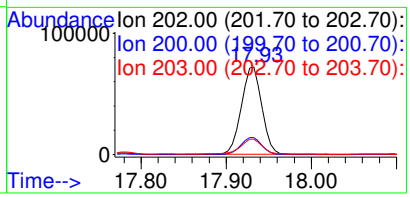


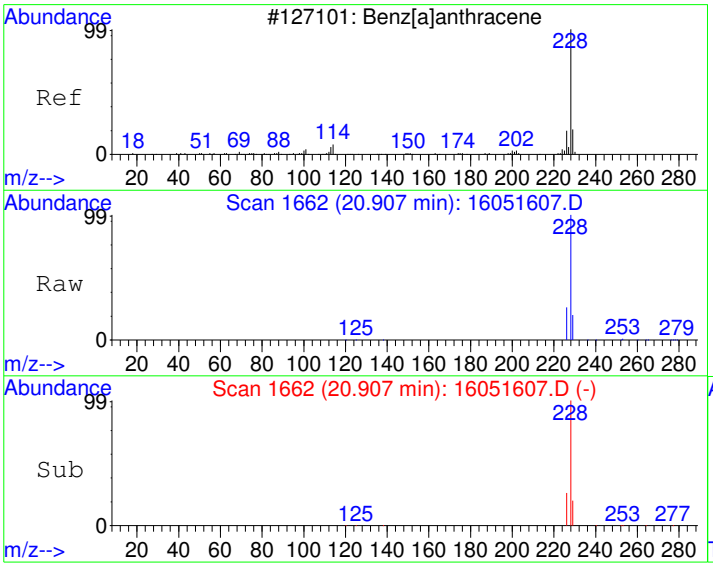


#15
Pyrene
Concen: 272.36 ug/kg
RT: 17.93 min Scan# 1213
Delta R.T. -0.00 min
Lab File: 16051607.D
Acq: 16 May 2016 12:14 pm

Tgt Ion:202 Resp: 119800

Ion	Ratio	Lower	Upper
202	100		
200	19.4	0.0	50.0
203	17.5	0.0	48.0

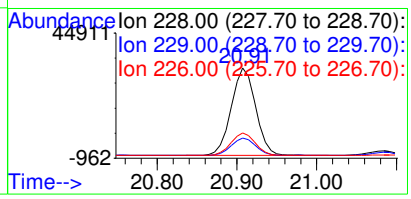


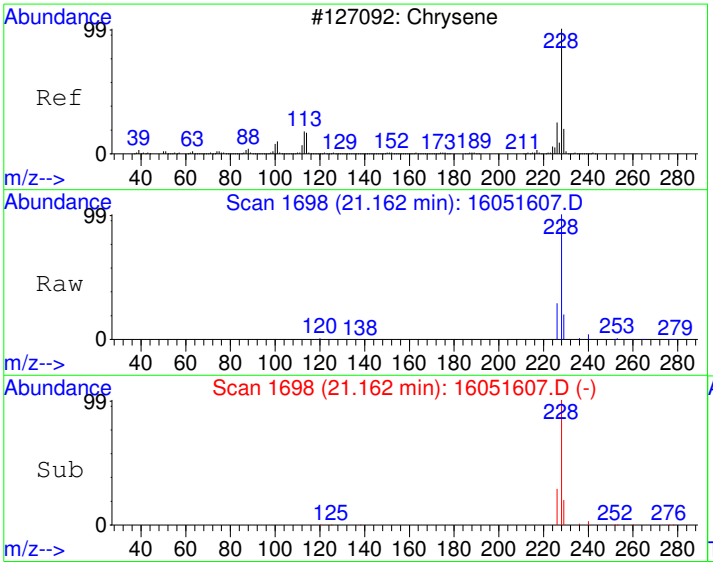


#18
Benzo[a]anthracene
Concen: 178.75 ug/kg
RT: 20.91 min Scan# 1662
Delta R.T. -0.01 min
Lab File: 16051607.D
Acq: 16 May 2016 12:14 pm

Tgt Ion:228 Resp: 68024

Ion	Ratio	Lower	Upper
228	100		
229	19.9	0.0	50.1
226	25.6	0.0	55.2

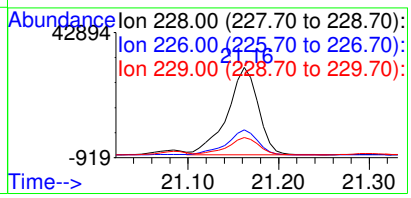


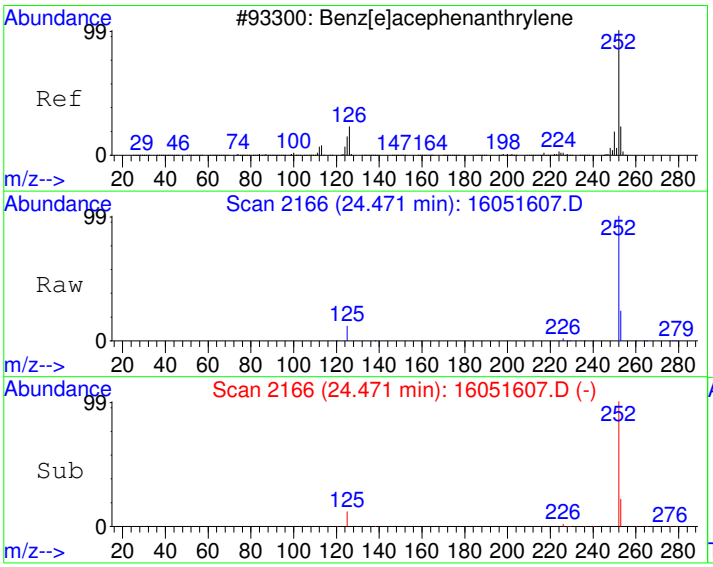


#19
Chrysene
Concen: 195.26 ug/kg
RT: 21.16 min Scan# 1698
Delta R.T. -0.01 min
Lab File: 16051607.D
Acq: 16 May 2016 12:14 pm

Tgt Ion:228 Resp: 71798

Ion	Ratio	Lower	Upper
228	100		
226	28.5	0.0	58.1
229	19.7	0.0	50.1

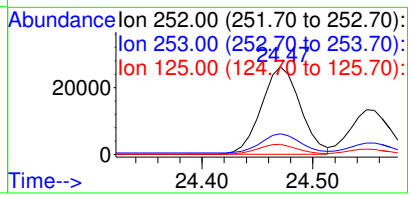


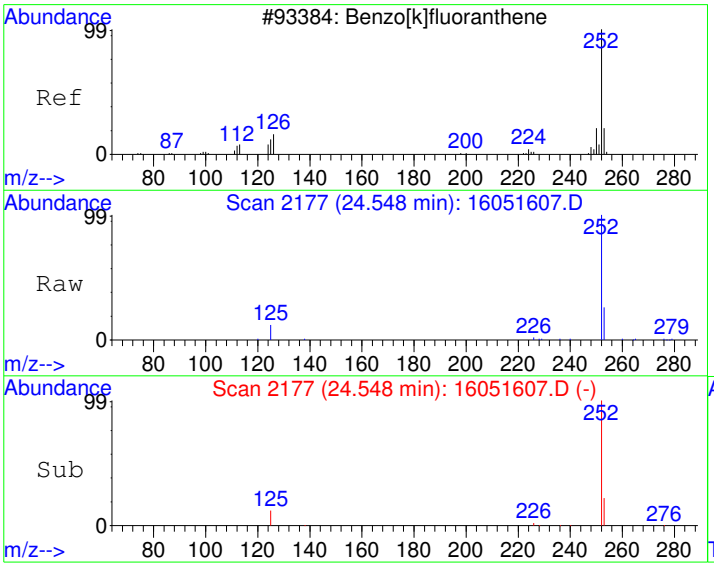


#21
Benzo[b]fluoranthene
Concen: 158.69 ug/kg
RT: 24.47 min Scan# 2166
Delta R.T. -0.01 min
Lab File: 16051607.D
Acq: 16 May 2016 12:14 pm

Tgt Ion:252 Resp: 64072

Ion	Ratio	Lower	Upper
252	100		
253	21.8	0.0	52.2
125	11.5	0.0	41.0

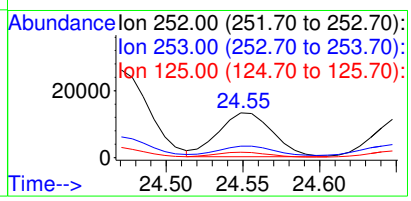


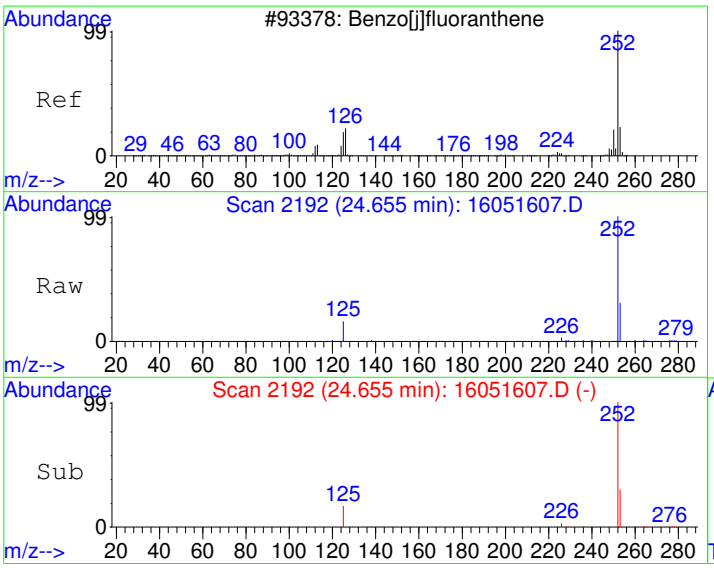


#22
Benzo[k]fluoranthene
Concen: 85.04 ug/kg
RT: 24.55 min Scan# 2177
Delta R.T. -0.02 min
Lab File: 16051607.D
Acq: 16 May 2016 12:14 pm

Tgt Ion:252 Resp: 32212

Ion	Ratio	Lower	Upper
252	100		
253	20.7	2.1	42.1
125	11.3	0.0	31.3

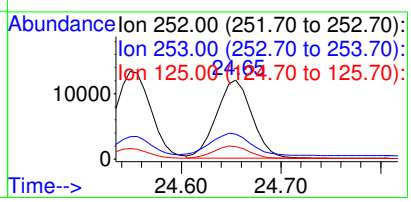


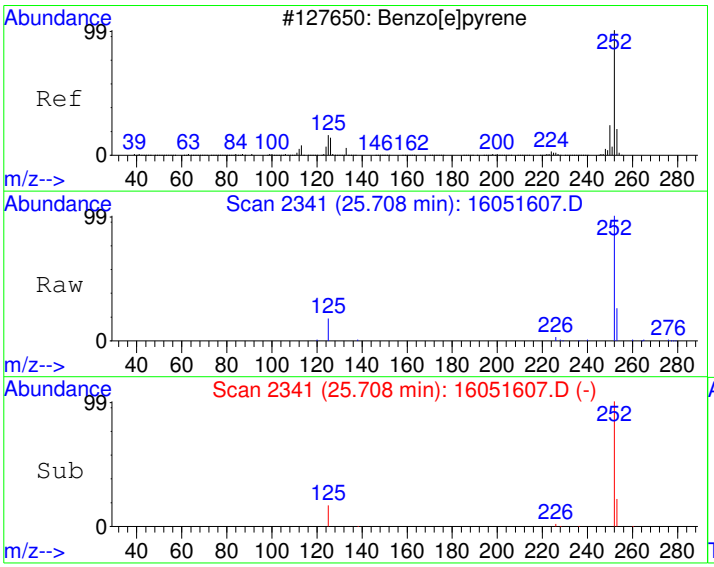


#23
Benzo(j)fluoranthene
Concen: 87.81 ug/kg
RT: 24.65 min Scan# 2192
Delta R.T. -0.01 min
Lab File: 16051607.D
Acq: 16 May 2016 12:14 pm

Tgt Ion:252 Resp: 29626

Ion	Ratio	Lower	Upper
252	100		
253	27.4	2.1	42.1
125	15.1	0.0	34.4

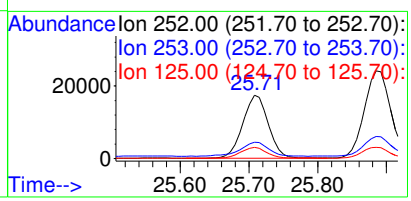


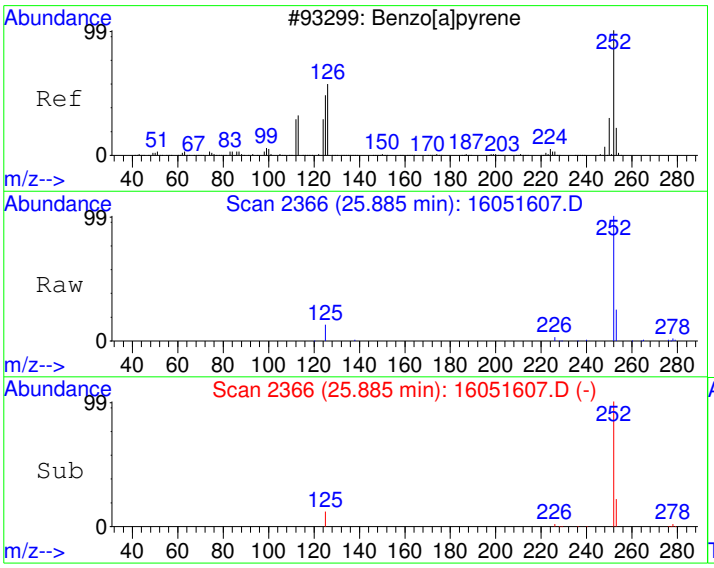


#24
Benzo[e]pyrene
Concen: 123.62 ug/kg
RT: 25.71 min Scan# 2341
Delta R.T. -0.01 min
Lab File: 16051607.D
Acq: 16 May 2016 12:14 pm

Tgt Ion:252 Resp: 44701

Ion	Ratio	Lower	Upper
252	100		
253	22.1	2.2	42.2
125	17.2	0.0	36.1

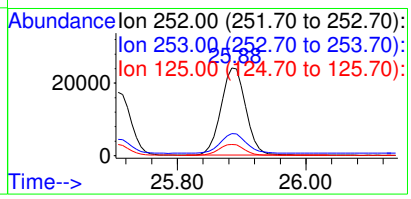


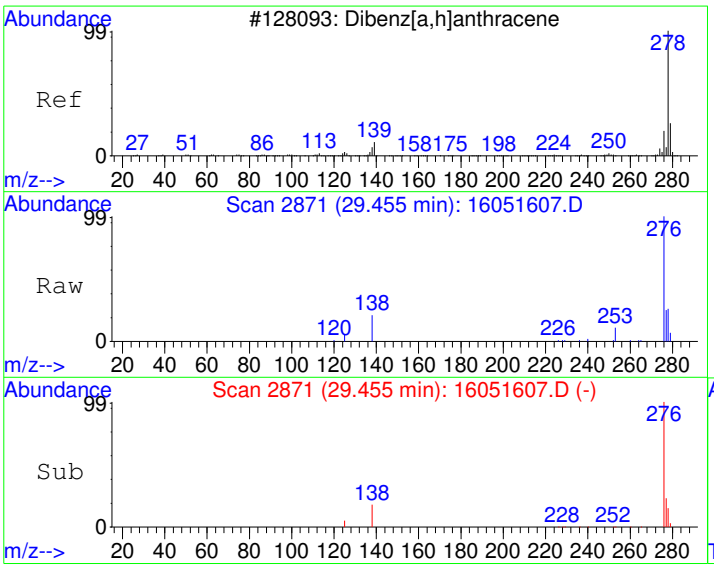


#25
Benzo[a]pyrene
Concen: 174.22 ug/kg
RT: 25.88 min Scan# 2366
Delta R.T. -0.01 min
Lab File: 16051607.D
Acq: 16 May 2016 12:14 pm

Tgt Ion:252 Resp: 64374

Ion	Ratio	Lower	Upper
252	100		
253	22.4	1.9	41.9
125	12.6	0.0	31.7

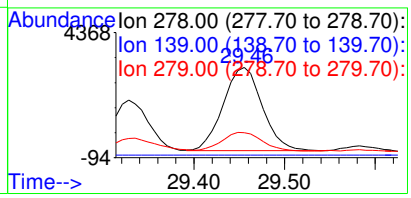


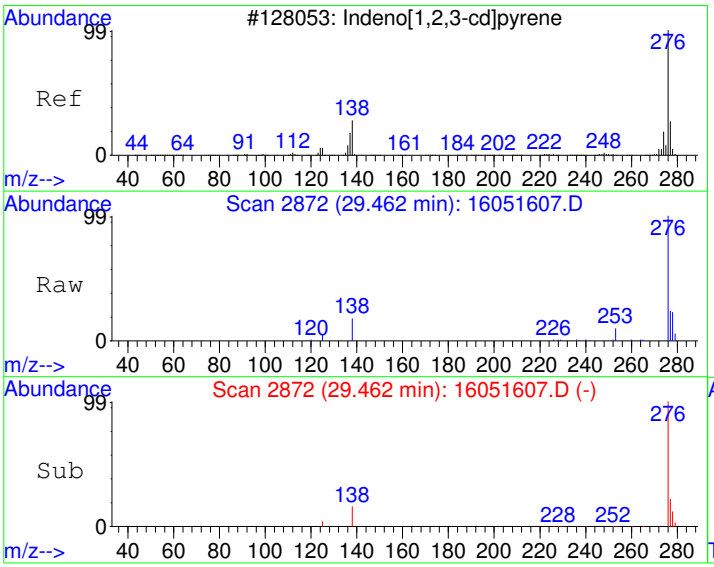


#26
Dibenz[a,h]anthracene
Concen: 26.36 ug/kg
RT: 29.46 min Scan# 2871
Delta R.T. -0.02 min
Lab File: 16051607.D
Acq: 16 May 2016 12:14 pm

Tgt Ion:278 Resp: 8871

Ion	Ratio	Lower	Upper
278	100		
139	0.0	0.0	20.0
279	21.3	4.2	44.2

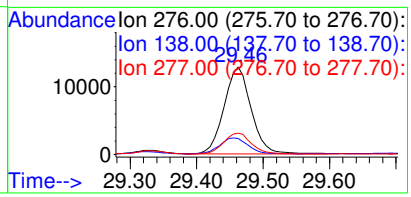


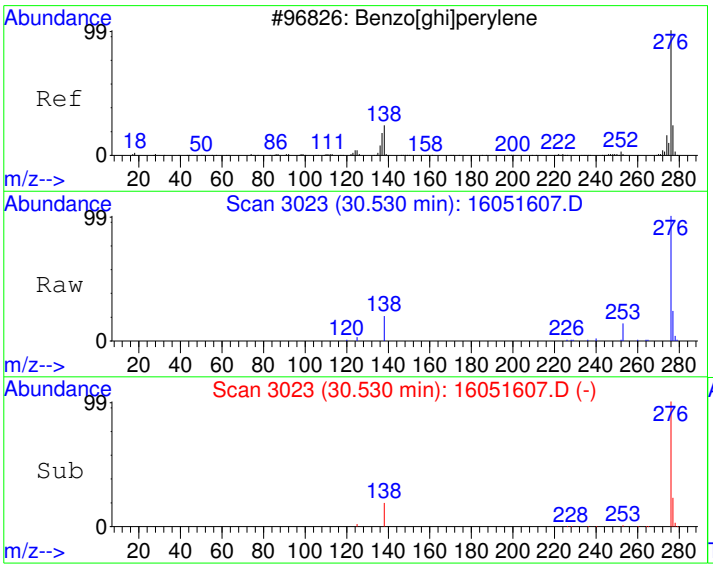


#27
Indeno[1,2,3-cd]pyrene
Concen: 90.09 ug/kg
RT: 29.46 min Scan# 2872
Delta R.T. -0.01 min
Lab File: 16051607.D
Acq: 16 May 2016 12:14 pm

Tgt Ion:276 Resp: 36165

Ion	Ratio	Lower	Upper
276	100		
138	17.7	6.7	46.7
277	23.7	5.8	45.8

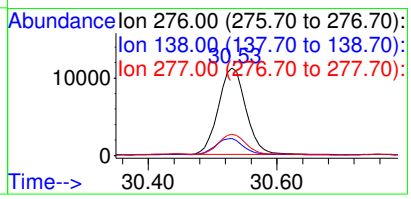




#28
Benzo[g,h,i]perylene
Concen: 106.40 ug/kg
RT: 30.53 min Scan# 3023
Delta R.T. -0.02 min
Lab File: 16051607.D
Acq: 16 May 2016 12:14 pm

Tgt Ion:276 Resp: 33309

Ion	Ratio	Lower	Upper
276	100		
138	19.0	0.0	39.1
277	23.7	4.0	44.0



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160516\16051608.D Vial: 8
Acq On : 16 May 2016 12:54 pm Operator:
Sample : 1605074-42A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 17 8:40 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Initial Calibration
DataAcq Meth : PP160421

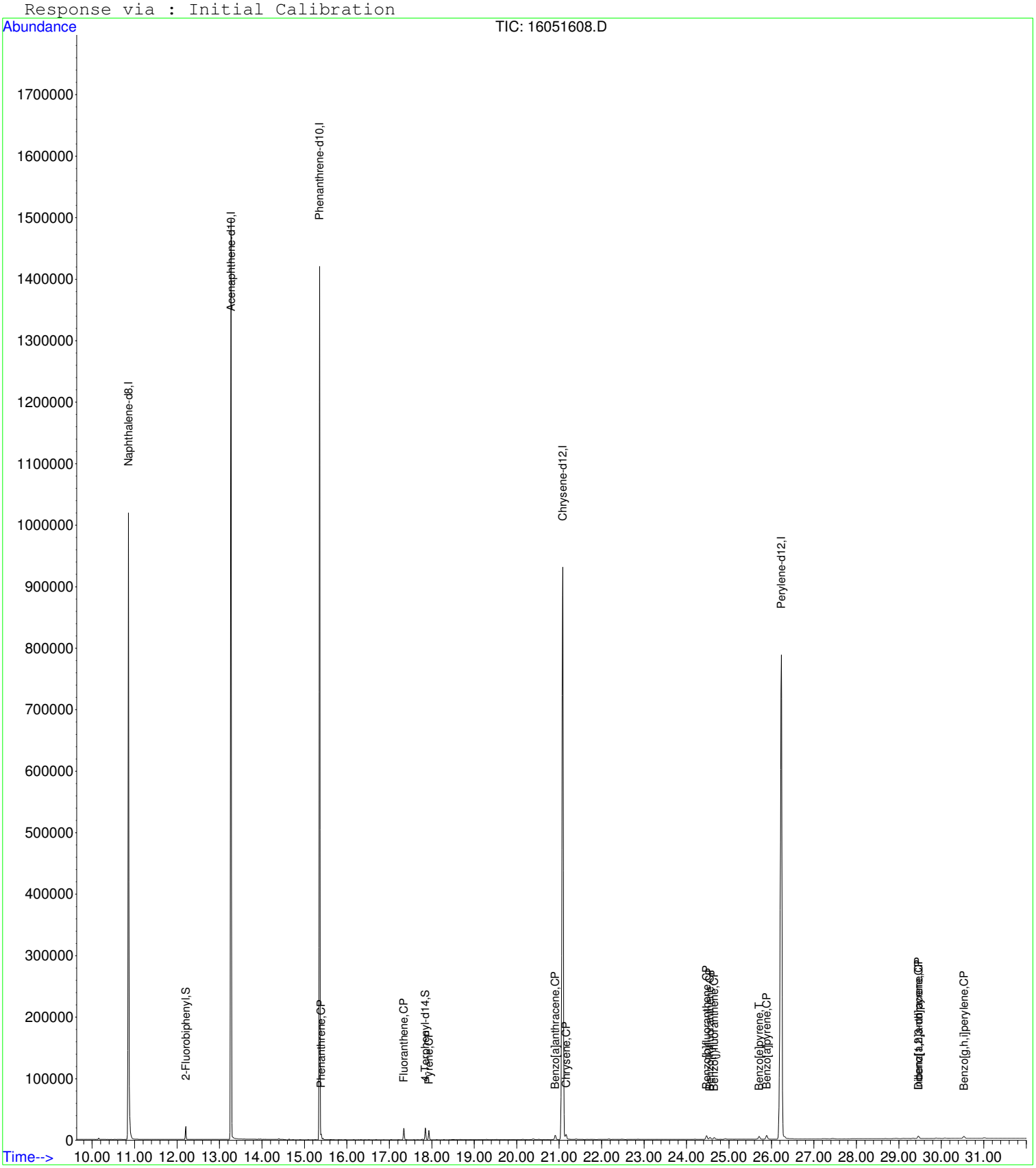
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1277080	4000.00	ug/kg	110
5) Acenaphthene-d10	13.27	164	812545	4000.00	ug/kg	71
11) Phenanthrene-d10	15.36	188	1497157	4000.00	ug/kg	73
17) Chrysene-d12	21.09	240	1579599	4000.00	ug/kg	70
20) Perylene-d12	26.23	264	1495465	4000.00	ug/kg	73
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.21	172	17618	74.33	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.86%#		
16) 4-Terphenyl-d14	17.85	244	24875	64.22	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.61%#		
Target Compounds						Qvalue
12) Phenanthrene	15.39	178	5586	14.19	ug/kg	99
14) Fluoranthene	17.34	202	18354	45.05	ug/kg	99
15) Pyrene	17.93	202	16405	38.76	ug/kg	99
18) Benzo[a]anthracene	20.91	228	10247	27.69	ug/kg	99
19) Chrysene	21.16	228	11405	31.90	ug/kg	98
21) Benzo[b]fluoranthene	24.47	252	11047	28.03	ug/kg	99
22) Benzo[k]fluoranthene	24.55	252	5579	15.09	ug/kg	96
23) Benzo(j)fluoranthene	24.66	252	4952	15.03	ug/kg	90
24) Benzo[e]pyrene	25.71	252	7993	22.64	ug/kg	97
25) Benzo[a]pyrene	25.89	252	11507	31.90	ug/kg	98
26) Dibenz[a,h]anthracene	29.46	278	1768	5.38	ug/kg	95
27) Indeno[1,2,3-cd]pyrene	29.46	276	6736	17.19	ug/kg	92
28) Benzo[g,h,i]perylene	30.53	276	6468	21.17	ug/kg	99

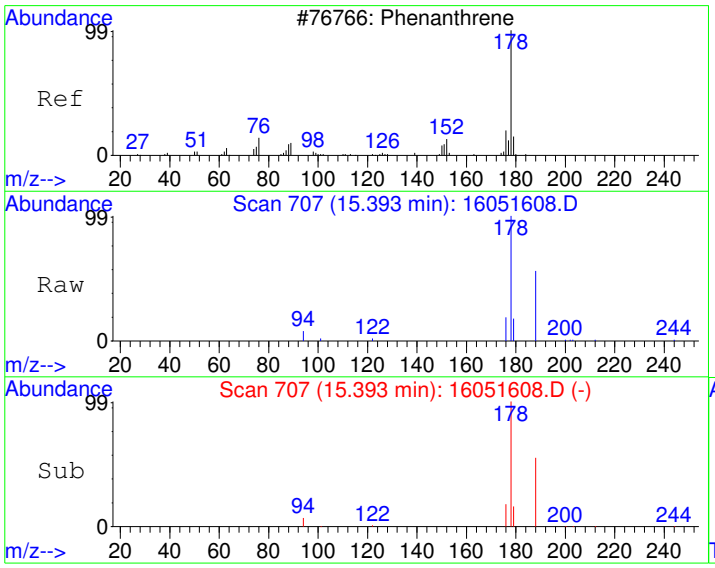
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160516\16051608.D Vial: 8
Acq On : 16 May 2016 12:54 pm Operator:
Sample : 1605074-42A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 17 8:40 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Initial Calibration

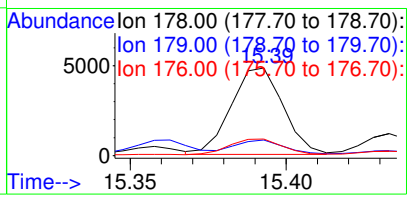


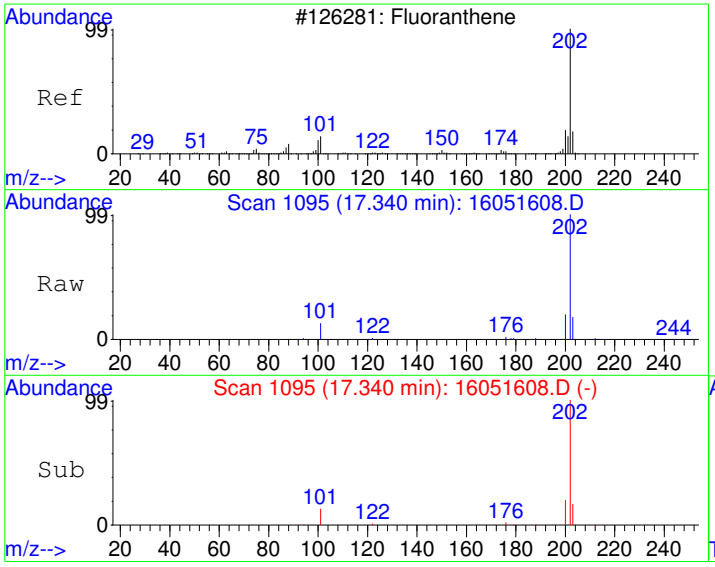


#12
Phenanthrene
Concen: 14.19 ug/kg
RT: 15.39 min Scan# 707
Delta R.T. -0.00 min
Lab File: 16051608.D
Acq: 16 May 2016 12:54 pm

Tgt Ion:178 Resp: 5586

Ion	Ratio	Lower	Upper
178	100		
179	16.1	0.0	45.9
176	18.2	0.0	48.5

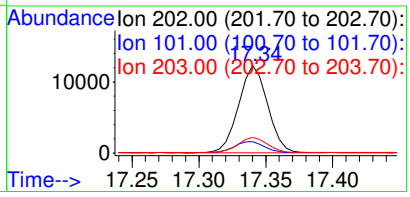


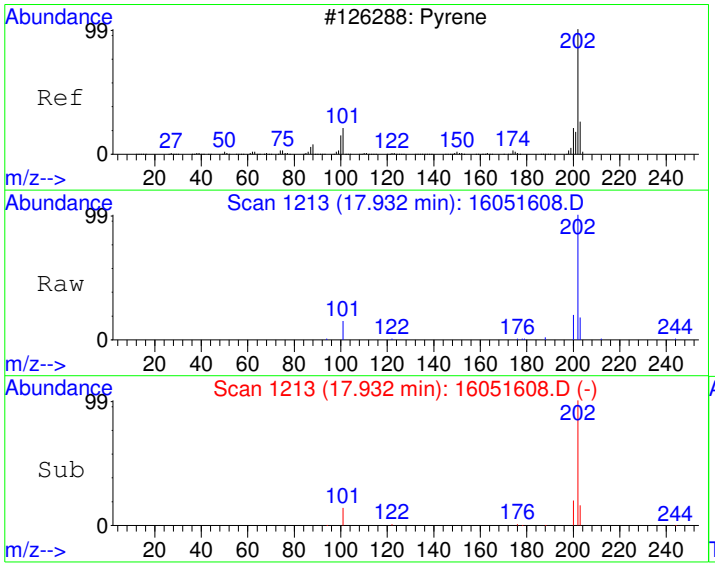


#14
Fluoranthene
Concen: 45.05 ug/kg
RT: 17.34 min Scan# 1095
Delta R.T. -0.00 min
Lab File: 16051608.D
Acq: 16 May 2016 12:54 pm

Tgt Ion:202 Resp: 18354

Ion	Ratio	Lower	Upper
202	100		
101	12.8	0.0	43.0
203	17.4	0.0	47.9

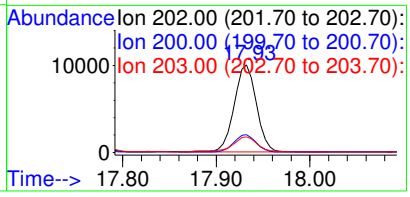


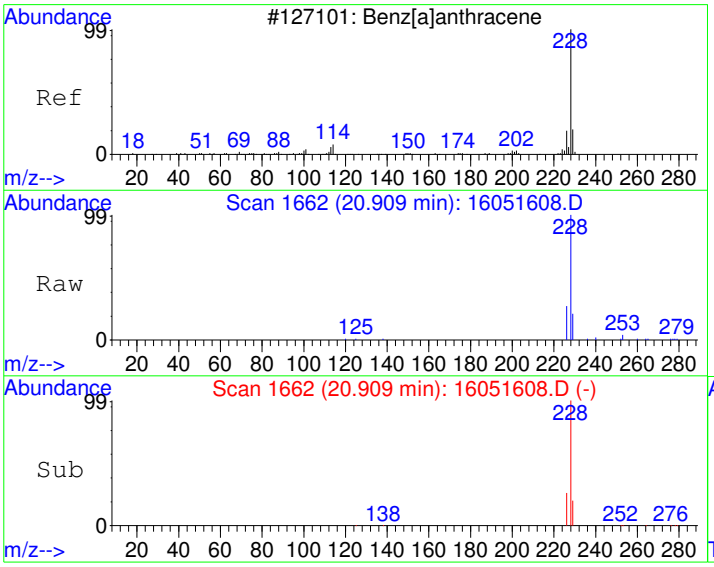


#15
Pyrene
Concen: 38.76 ug/kg
RT: 17.93 min Scan# 1213
Delta R.T. -0.00 min
Lab File: 16051608.D
Acq: 16 May 2016 12:54 pm

Tgt Ion:202 Resp: 16405

Ion	Ratio	Lower	Upper
202	100		
200	20.0	0.0	50.0
203	17.4	0.0	48.0

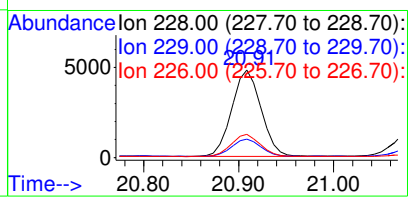


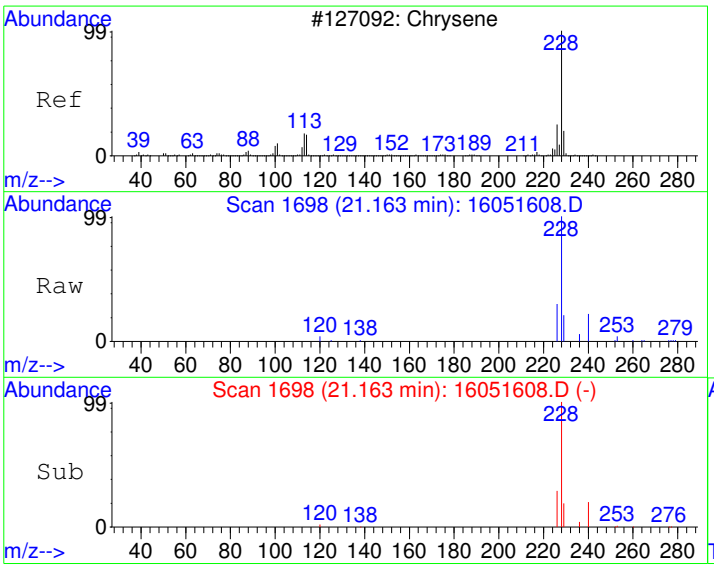


#18
Benzo[a]anthracene
Concen: 27.69 ug/kg
RT: 20.91 min Scan# 1662
Delta R.T. -0.01 min
Lab File: 16051608.D
Acq: 16 May 2016 12:54 pm

Tgt Ion:228 Resp: 10247

Ion	Ratio	Lower	Upper
228	100		
229	19.8	0.0	50.1
226	26.0	0.0	55.2

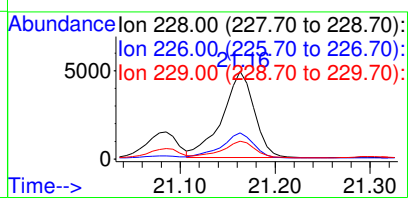


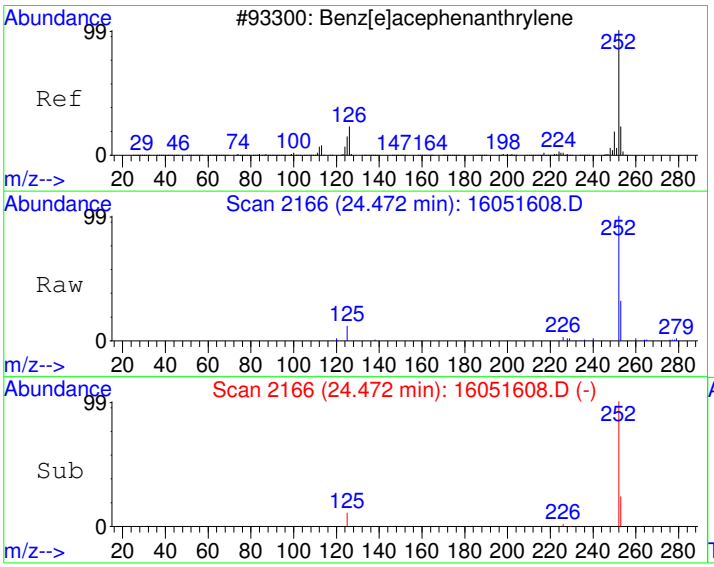


#19
Chrysene
Concen: 31.90 ug/kg
RT: 21.16 min Scan# 1698
Delta R.T. -0.01 min
Lab File: 16051608.D
Acq: 16 May 2016 12:54 pm

Tgt Ion:228 Resp: 11405

Ion	Ratio	Lower	Upper
228	100		
226	29.0	0.0	58.1
229	19.4	0.0	50.1

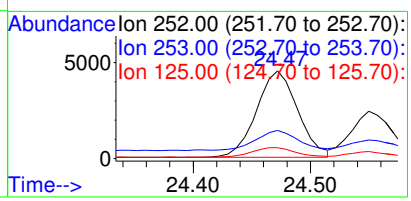


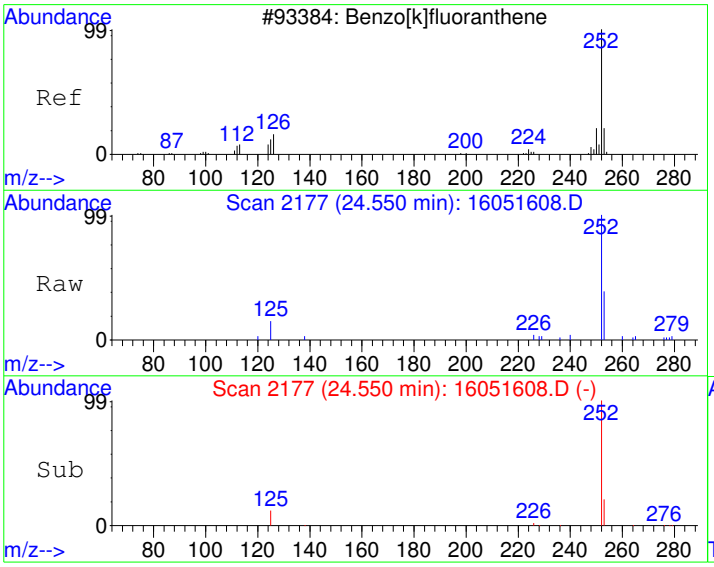


#21
Benzo[b]fluoranthene
Concen: 28.03 ug/kg
RT: 24.47 min Scan# 2166
Delta R.T. -0.01 min
Lab File: 16051608.D
Acq: 16 May 2016 12:54 pm

Tgt Ion:252 Resp: 11047

Ion	Ratio	Lower	Upper
252	100		
253	23.0	0.0	52.2
125	11.0	0.0	41.0

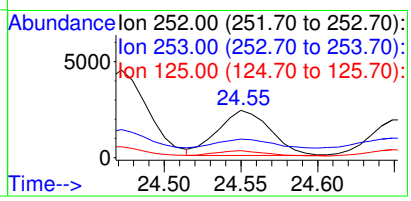


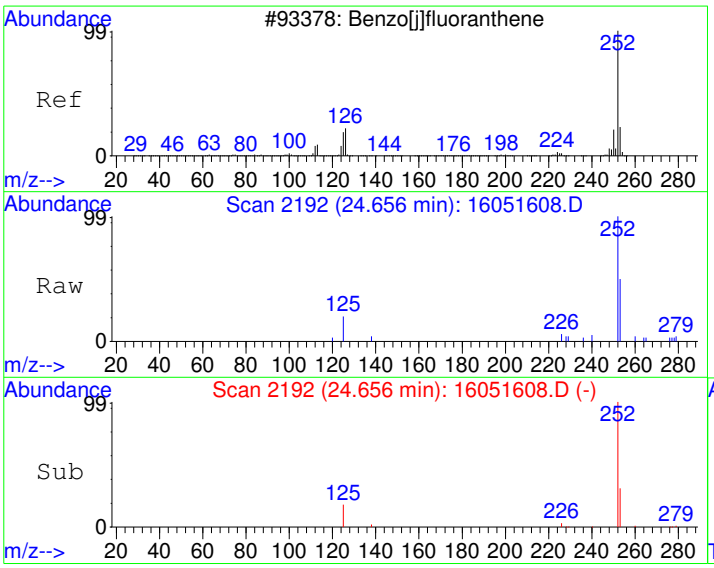


#22
Benzo[k]fluoranthene
Concen: 15.09 ug/kg
RT: 24.55 min Scan# 2177
Delta R.T. -0.02 min
Lab File: 16051608.D
Acq: 16 May 2016 12:54 pm

Tgt Ion:252 Resp: 5579

Ion	Ratio	Lower	Upper
252	100		
253	19.3	2.1	42.1
125	11.9	0.0	31.3

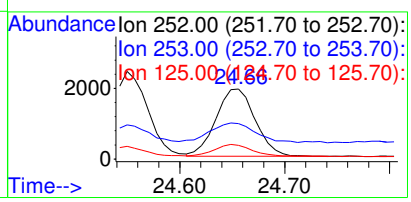


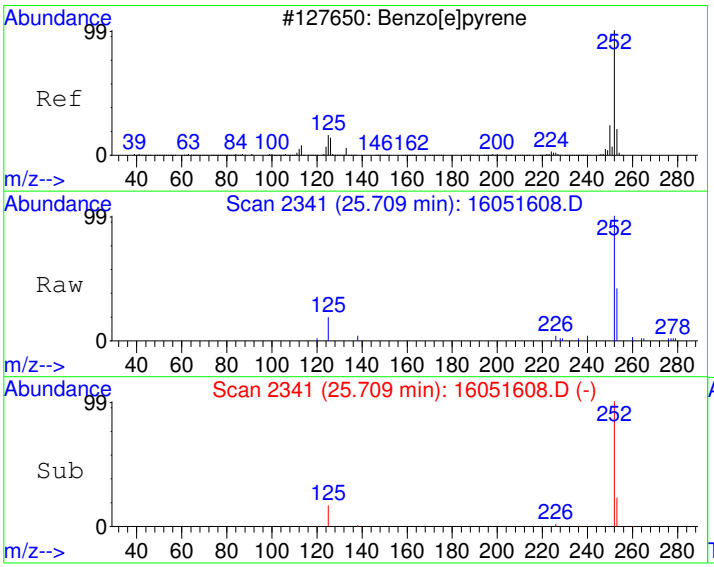


#23
Benzo(j)fluoranthene
Concen: 15.03 ug/kg
RT: 24.66 min Scan# 2192
Delta R.T. -0.01 min
Lab File: 16051608.D
Acq: 16 May 2016 12:54 pm

Tgt Ion:252 Resp: 4952

Ion	Ratio	Lower	Upper
252	100		
253	28.3	2.1	42.1
125	16.8	0.0	34.4

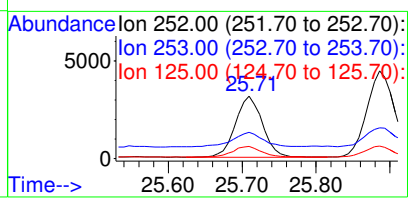


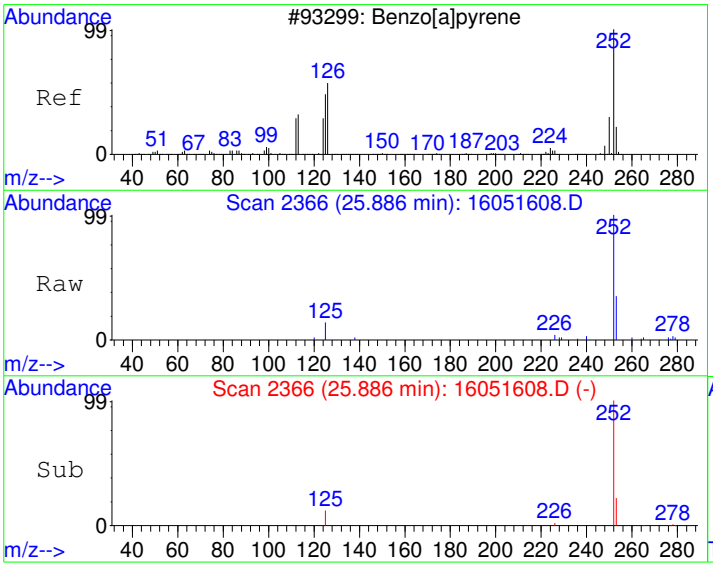


#24
Benzo[e]pyrene
Concen: 22.64 ug/kg
RT: 25.71 min Scan# 2341
Delta R.T. -0.01 min
Lab File: 16051608.D
Acq: 16 May 2016 12:54 pm

Tgt Ion:252 Resp: 7993

Ion	Ratio	Lower	Upper
252	100		
253	23.5	2.2	42.2
125	17.3	0.0	36.1

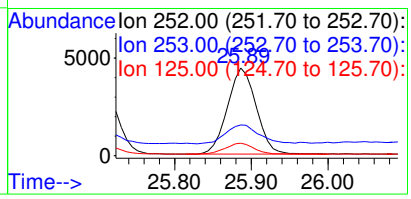


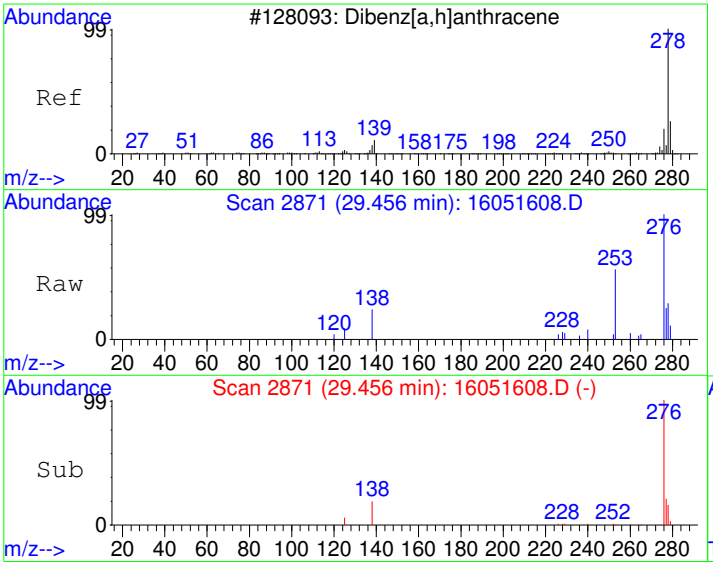


#25
Benzo[a]pyrene
Concen: 31.90 ug/kg
RT: 25.89 min Scan# 2366
Delta R.T. -0.01 min
Lab File: 16051608.D
Acq: 16 May 2016 12:54 pm

Tgt Ion:252 Resp: 11507

Ion	Ratio	Lower	Upper
252	100		
253	21.0	1.9	41.9
125	12.9	0.0	31.7

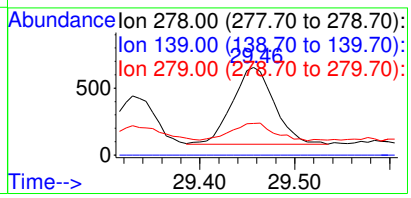


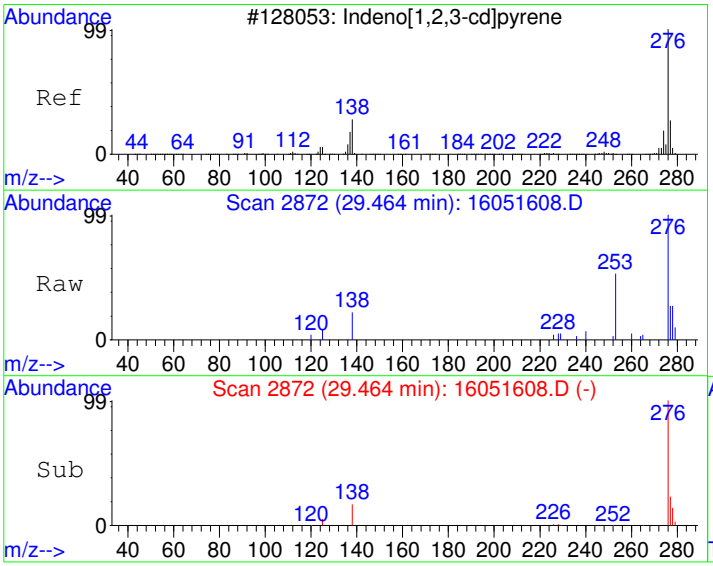


#26
Dibenz[a,h]anthracene
Concen: 5.38 ug/kg
RT: 29.46 min Scan# 2871
Delta R.T. -0.02 min
Lab File: 16051608.D
Acq: 16 May 2016 12:54 pm

Tgt Ion:278 Resp: 1768

Ion	Ratio	Lower	Upper
278	100		
139	0.0	0.0	20.0
279	22.0	4.2	44.2

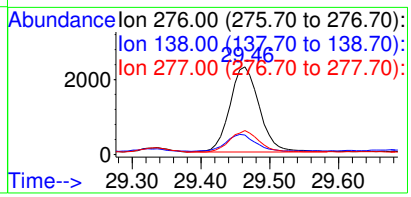


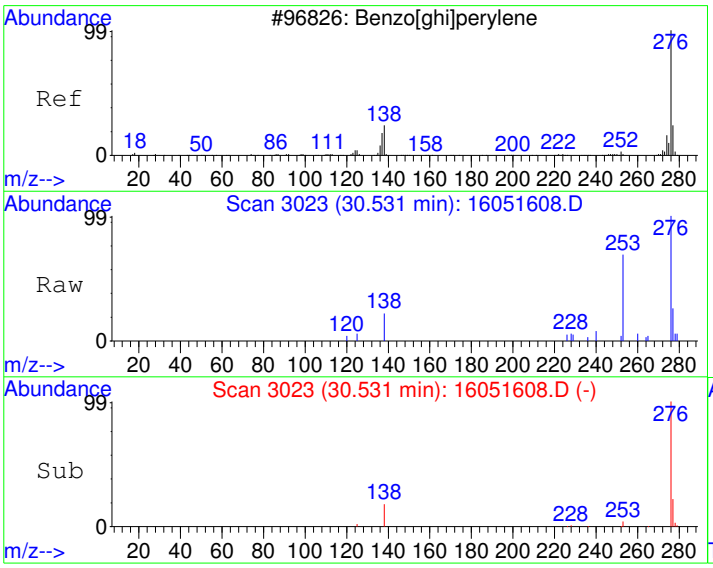


#27
Indeno[1,2,3-cd]pyrene
Concen: 17.19 ug/kg
RT: 29.46 min Scan# 2872
Delta R.T. -0.01 min
Lab File: 16051608.D
Acq: 16 May 2016 12:54 pm

Tgt Ion:276 Resp: 6736

Ion	Ratio	Lower	Upper
276	100		
138	18.9	6.7	46.7
277	25.1	5.8	45.8

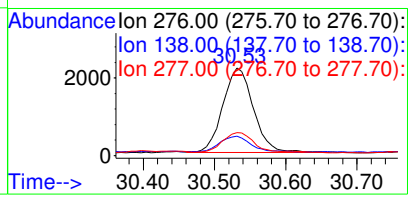




#28
Benzo[g,h,i]perylene
Concen: 21.17 ug/kg
RT: 30.53 min Scan# 3023
Delta R.T. -0.02 min
Lab File: 16051608.D
Acq: 16 May 2016 12:54 pm

Tgt Ion:276 Resp: 6468

Ion	Ratio	Lower	Upper
276	100		
138	18.3	0.0	39.1
277	23.8	4.0	44.0



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160516\16051609.D Vial: 9
Acq On : 16 May 2016 1:33 pm Operator:
Sample : 1605074-43A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 17 8:40 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Initial Calibration
DataAcq Meth : PP160421

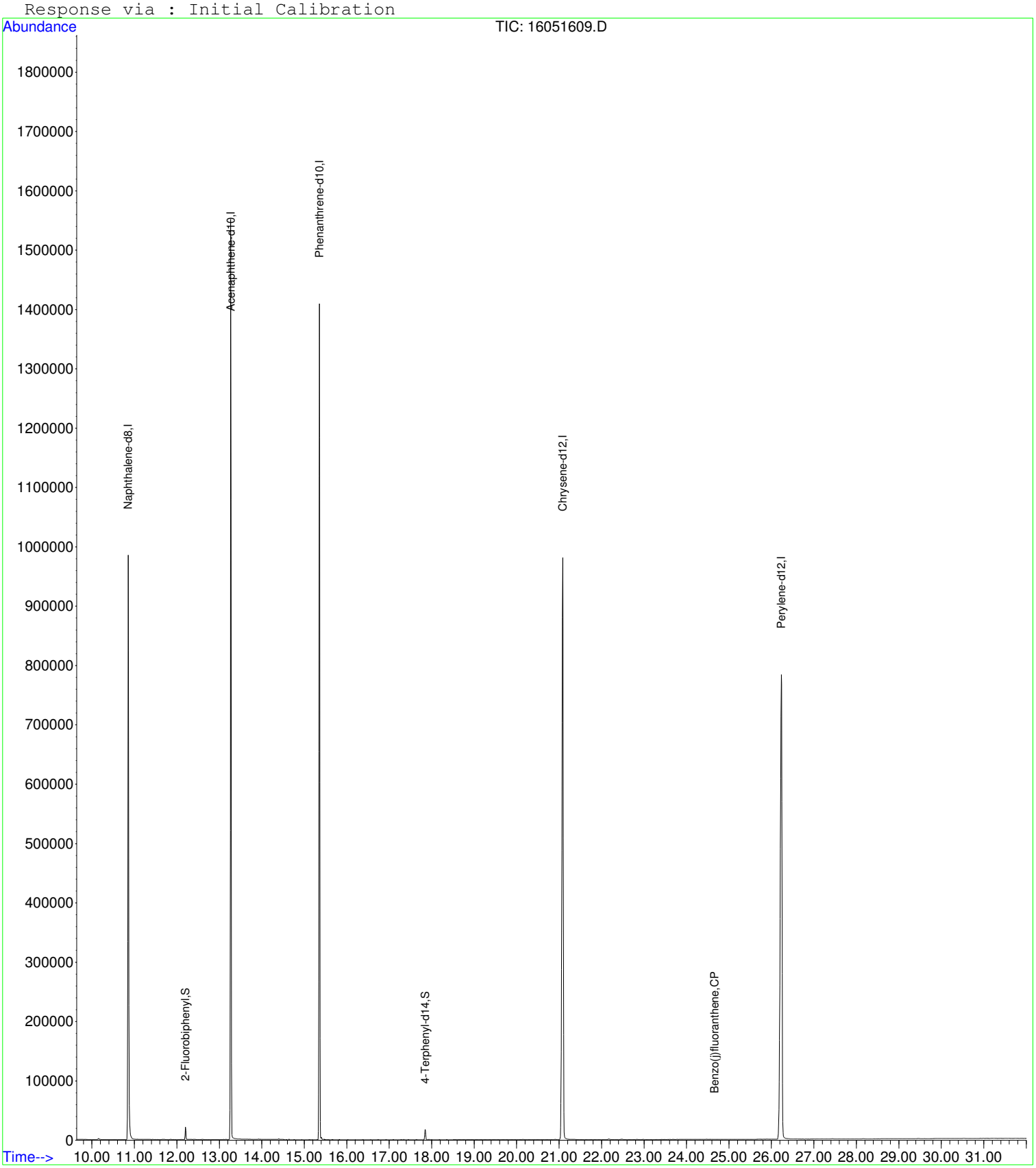
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.85	136	1295970	4000.00	ug/kg	112
5) Acenaphthene-d10	13.27	164	835232	4000.00	ug/kg	73
11) Phenanthrene-d10	15.36	188	1502292	4000.00	ug/kg	74
17) Chrysene-d12	21.09	240	1634982	4000.00	ug/kg	72
20) Perylene-d12	26.23	264	1545490	4000.00	ug/kg	75
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.20	172	16815	69.01	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.73%#		
16) 4-Terphenyl-d14	17.85	244	22799	58.66	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.47%#		
Target Compounds						Qvalue
23) Benzo(j)fluoranthene	24.66	252	188	0.55	ug/kg	98

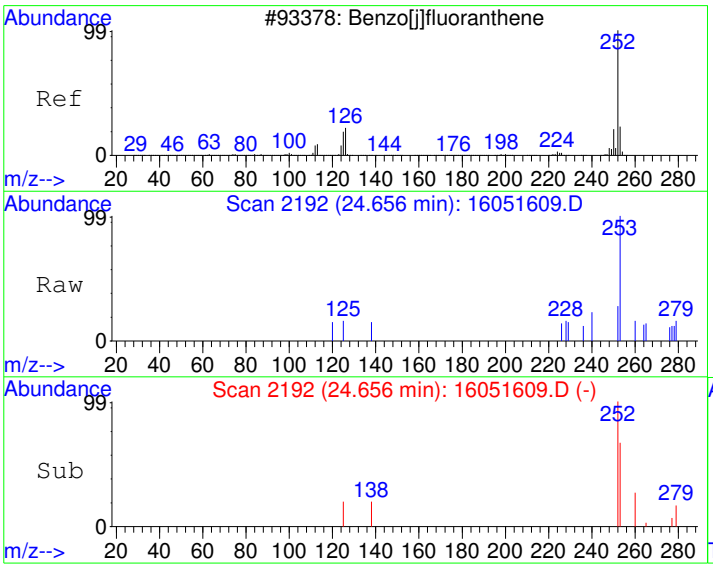
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160516\16051609.D Vial: 9
Acq On : 16 May 2016 1:33 pm Operator:
Sample : 1605074-43A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 17 8:40 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Initial Calibration

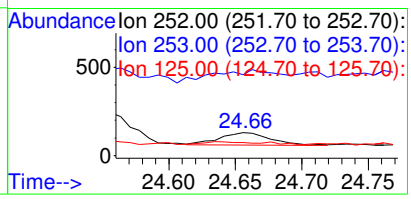




#23
Benzo(j)fluoranthene
Concen: 0.55 ug/kg
RT: 24.66 min Scan# 2192
Delta R.T. -0.01 min
Lab File: 16051609.D
Acq: 16 May 2016 1:33 pm

Tgt Ion:252 Resp: 188

Ion	Ratio	Lower	Upper
252	100		
253	20.3	2.1	42.1
125	14.5	0.0	34.4



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160516\16051610.D Vial: 10
Acq On : 16 May 2016 2:13 pm Operator:
Sample : 1605074-44A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 17 8:40 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Initial Calibration
DataAcq Meth : PP160421

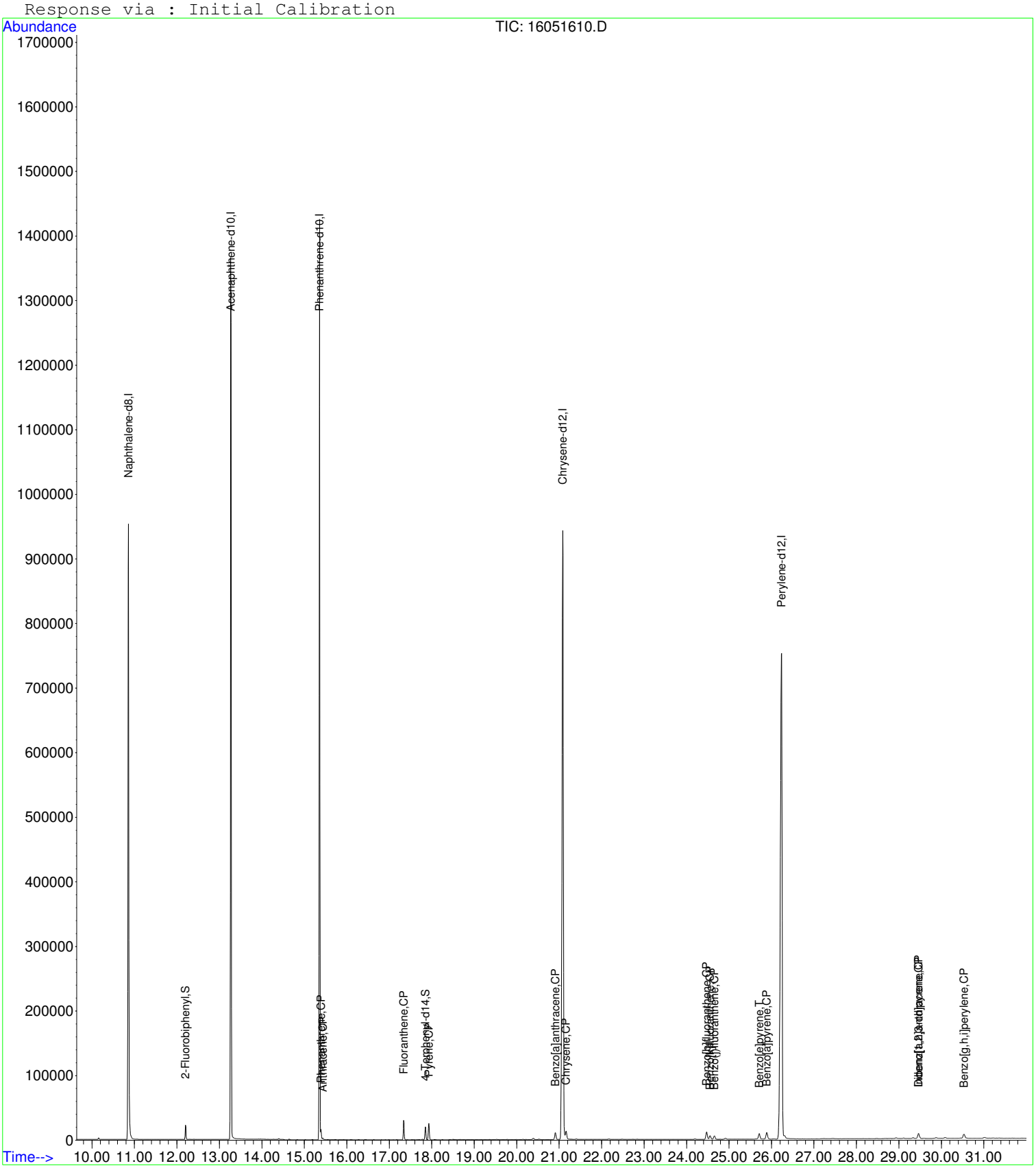
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1294302	4000.00	ug/kg	112
5) Acenaphthene-d10	13.27	164	815986	4000.00	ug/kg	71
11) Phenanthrene-d10	15.36	188	1497403	4000.00	ug/kg	73
17) Chrysene-d12	21.08	240	1581538	4000.00	ug/kg	70
20) Perylene-d12	26.24	264	1502081	4000.00	ug/kg	73
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.20	172	19679	82.67	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	2.07%#		
16) 4-Terphenyl-d14	17.85	244	26537	68.50	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.71%#		
Target Compounds						Qvalue
12) Phenanthrene	15.39	178	11293	28.68	ug/kg	100
13) Anthracene	15.43	178	1994	5.35	ug/kg	98
14) Fluoranthene	17.34	202	29678	72.83	ug/kg	99
15) Pyrene	17.93	202	26599	62.84	ug/kg	99
18) Benzo[a]anthracene	20.91	228	15819	42.69	ug/kg	99
19) Chrysene	21.16	228	19315	53.95	ug/kg	100
21) Benzo[b]fluoranthene	24.47	252	20420	51.58	ug/kg	99
22) Benzo[k]fluoranthene	24.56	252	9692	26.10	ug/kg	99
23) Benzo(j)fluoranthene	24.65	252	8751	26.45	ug/kg	88
24) Benzo[e]pyrene	25.71	252	15149	42.73	ug/kg	98
25) Benzo[a]pyrene	25.88	252	19146	52.84	ug/kg	98
26) Dibenz[a,h]anthracene	29.45	278	2955	8.96	ug/kg	94
27) Indeno[1,2,3-cd]pyrene	29.46	276	12827	32.59	ug/kg	92
28) Benzo[g,h,i]perylene	30.53	276	12601	41.05	ug/kg	99

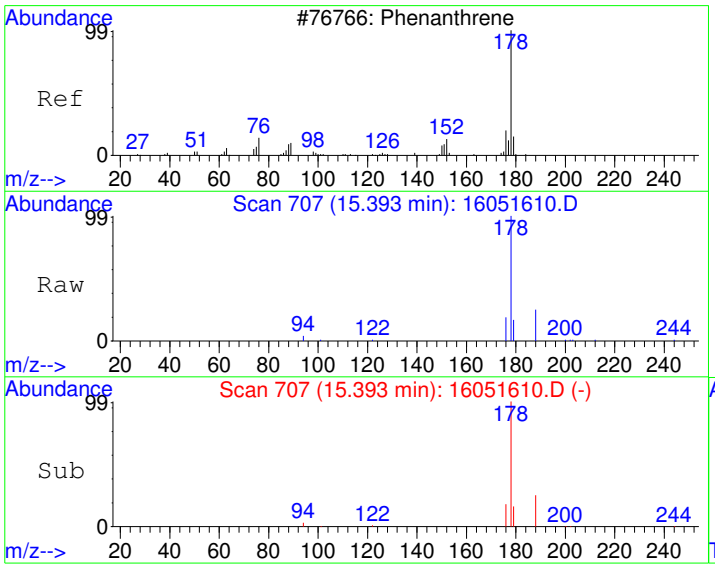
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160516\16051610.D Vial: 10
Acq On : 16 May 2016 2:13 pm Operator:
Sample : 1605074-44A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 17 8:40 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Initial Calibration

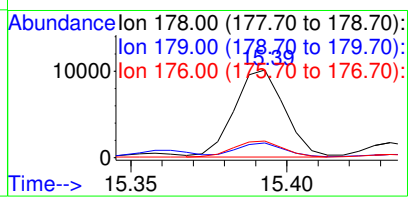


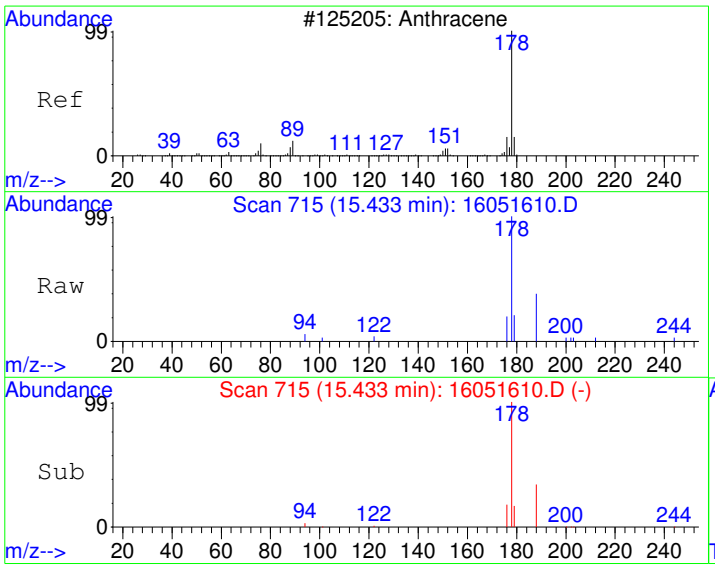


#12
Phenanthrene
Concen: 28.68 ug/kg
RT: 15.39 min Scan# 707
Delta R.T. -0.00 min
Lab File: 16051610.D
Acq: 16 May 2016 2:13 pm

Tgt Ion:178 Resp: 11293

Ion	Ratio	Lower	Upper
178	100		
179	15.9	0.0	45.9
176	18.6	0.0	48.5

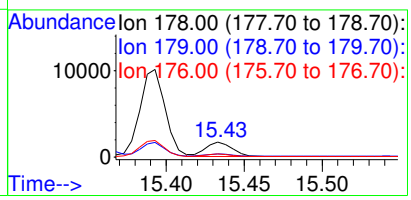


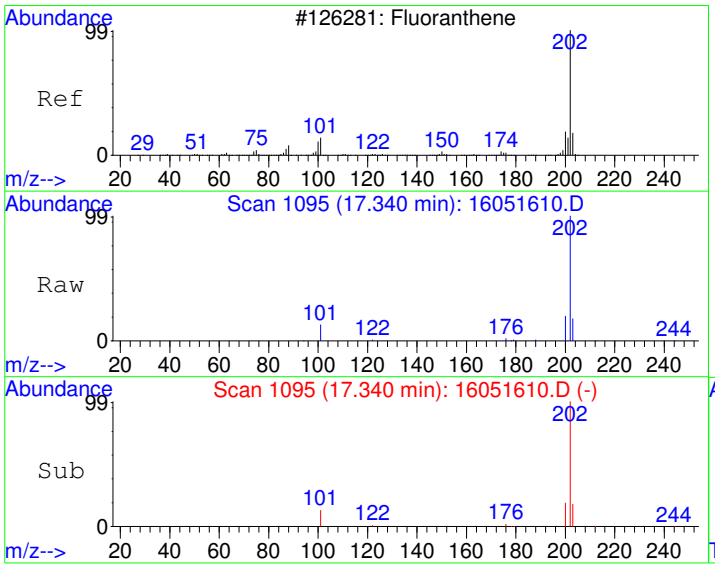


#13
Anthracene
Concen: 5.35 ug/kg
RT: 15.43 min Scan# 715
Delta R.T. -0.00 min
Lab File: 16051610.D
Acq: 16 May 2016 2:13 pm

Tgt Ion:178 Resp: 1994

Ion	Ratio	Lower	Upper
178	100		
179	16.6	0.0	45.9
176	17.2	0.0	48.2

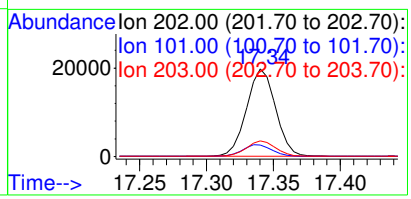


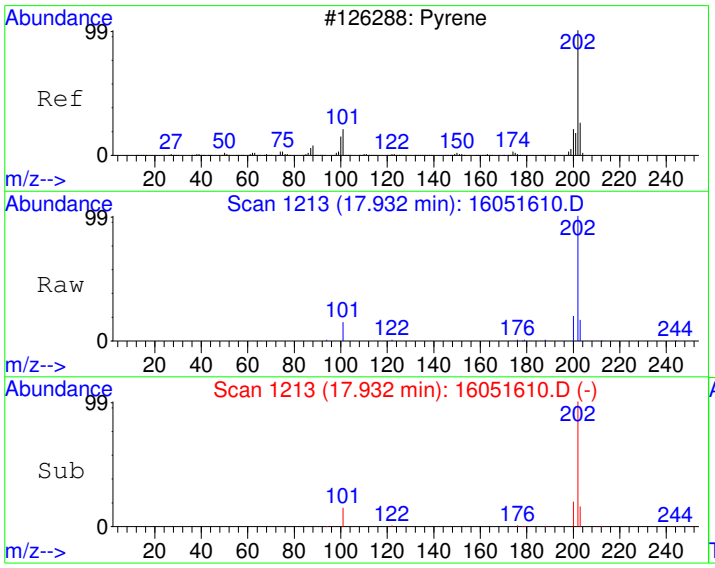


#14
Fluoranthene
Concen: 72.83 ug/kg
RT: 17.34 min Scan# 1095
Delta R.T. -0.00 min
Lab File: 16051610.D
Acq: 16 May 2016 2:13 pm

Tgt Ion:202 Resp: 29678

Ion	Ratio	Lower	Upper
202	100		
101	13.0	0.0	43.0
203	17.5	0.0	47.9

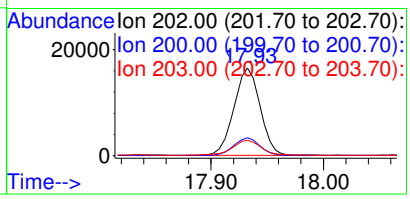


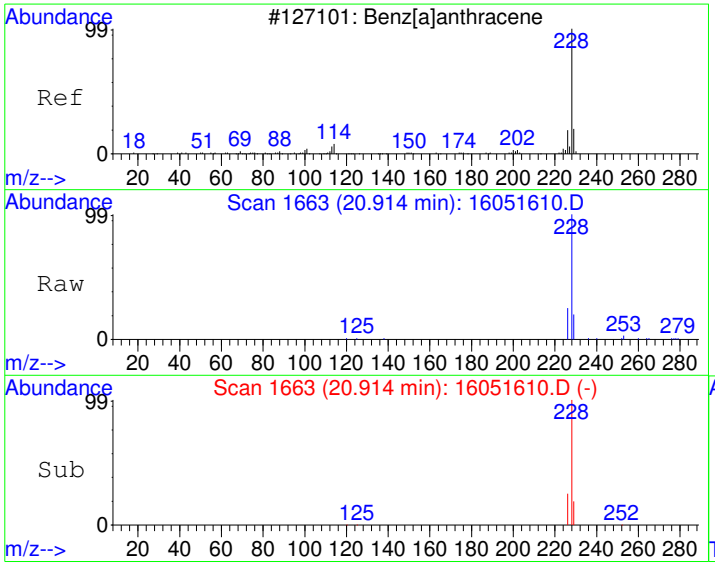


#15
Pyrene
Concen: 62.84 ug/kg
RT: 17.93 min Scan# 1213
Delta R.T. -0.00 min
Lab File: 16051610.D
Acq: 16 May 2016 2:13 pm

Tgt Ion:202 Resp: 26599

Ion	Ratio	Lower	Upper
202	100		
200	20.2	0.0	50.0
203	17.1	0.0	48.0

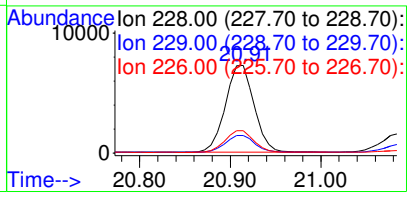


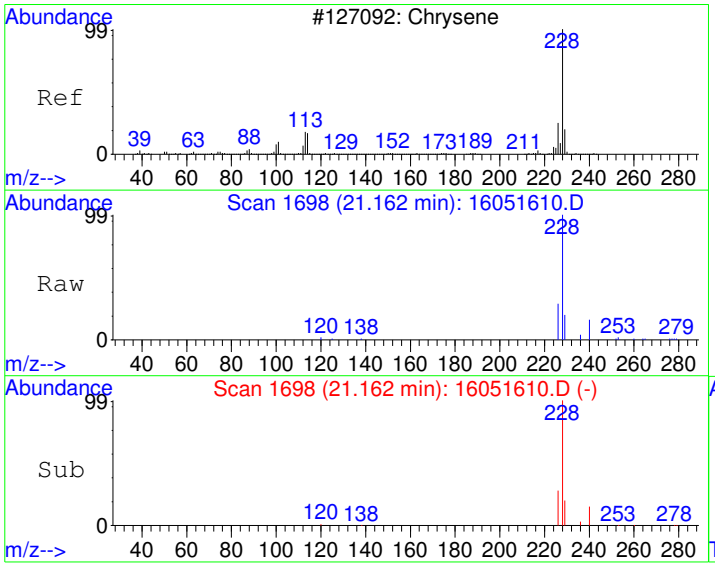


#18
Benzo[a]anthracene
Concen: 42.69 ug/kg
RT: 20.91 min Scan# 1663
Delta R.T. -0.00 min
Lab File: 16051610.D
Acq: 16 May 2016 2:13 pm

Tgt Ion:228 Resp: 15819

Ion	Ratio	Lower	Upper
228	100		
229	19.4	0.0	50.1
226	24.8	0.0	55.2

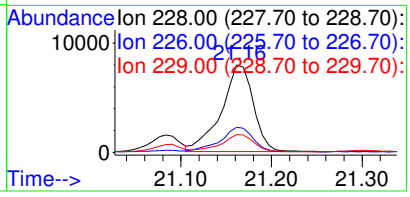


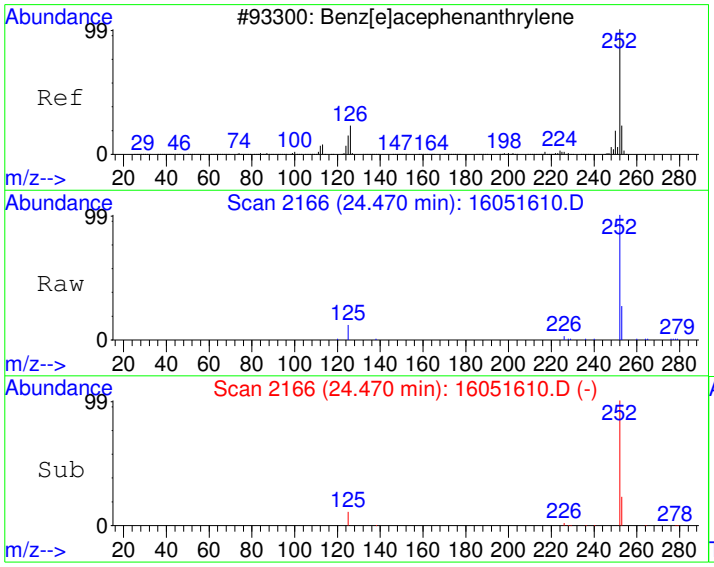


#19
Chrysene
Concen: 53.95 ug/kg
RT: 21.16 min Scan# 1698
Delta R.T. -0.01 min
Lab File: 16051610.D
Acq: 16 May 2016 2:13 pm

Tgt Ion:228 Resp: 19315

Ion	Ratio	Lower	Upper
228	100		
226	28.2	0.0	58.1
229	19.8	0.0	50.1

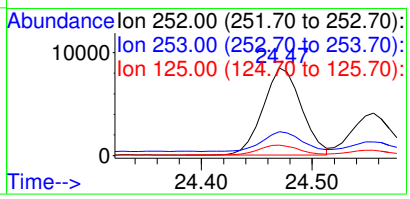


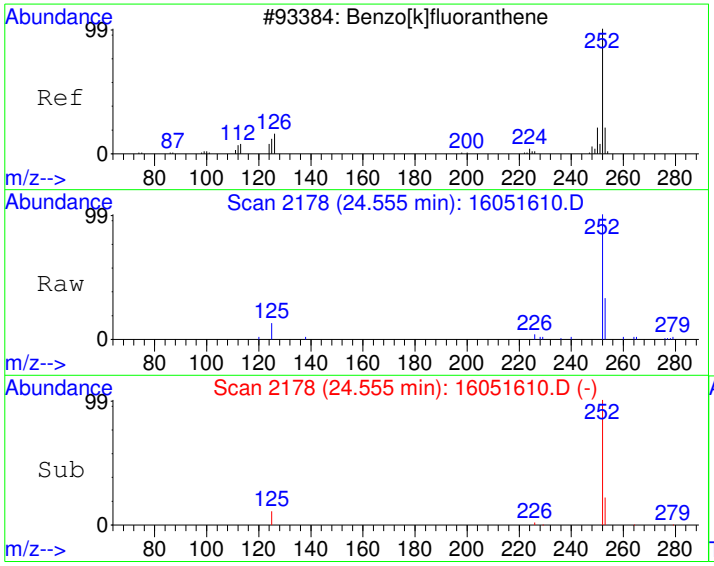


#21
Benzo[b]fluoranthene
Concen: 51.58 ug/kg
RT: 24.47 min Scan# 2166
Delta R.T. -0.01 min
Lab File: 16051610.D
Acq: 16 May 2016 2:13 pm

Tgt Ion:252 Resp: 20420

Ion	Ratio	Lower	Upper
252	100		
253	22.6	0.0	52.2
125	11.2	0.0	41.0

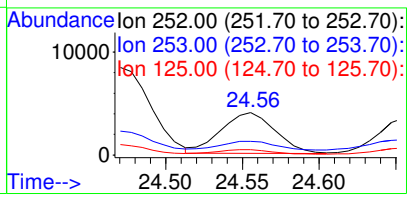


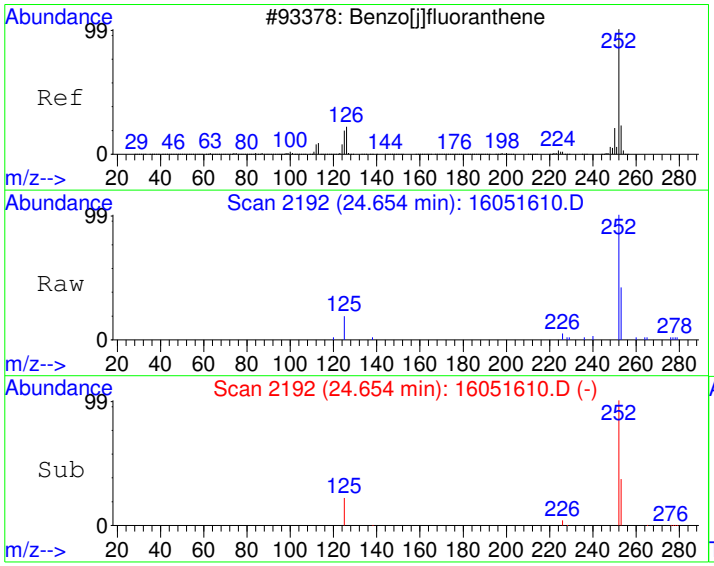


#22
Benzo[k]fluoranthene
Concen: 26.10 ug/kg
RT: 24.56 min Scan# 2178
Delta R.T. -0.01 min
Lab File: 16051610.D
Acq: 16 May 2016 2:13 pm

Tgt Ion:252 Resp: 9692

Ion	Ratio	Lower	Upper
252	100		
253	21.7	2.1	42.1
125	11.4	0.0	31.3

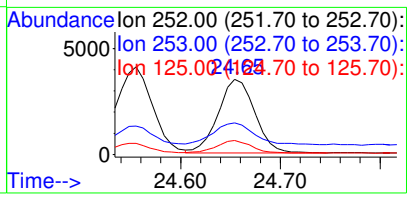


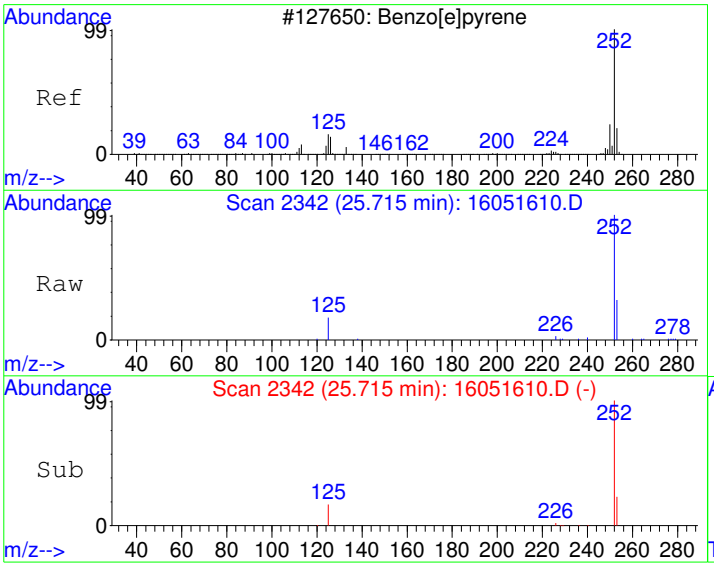


#23
Benzo(j)fluoranthene
Concen: 26.45 ug/kg
RT: 24.65 min Scan# 2192
Delta R.T. -0.01 min
Lab File: 16051610.D
Acq: 16 May 2016 2:13 pm

Tgt Ion:252 Resp: 8751

Ion	Ratio	Lower	Upper
252	100		
253	29.6	2.1	42.1
125	17.1	0.0	34.4

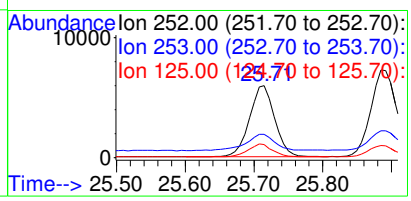


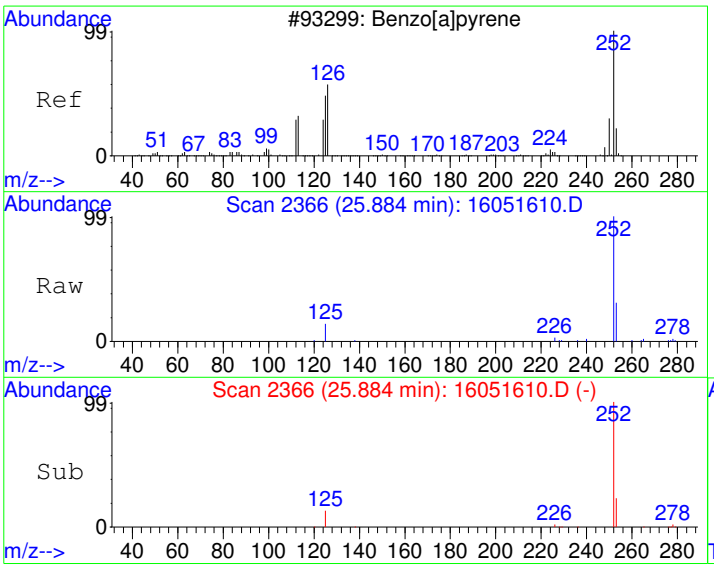


#24
Benzo[e]pyrene
Concen: 42.73 ug/kg
RT: 25.71 min Scan# 2342
Delta R.T. -0.01 min
Lab File: 16051610.D
Acq: 16 May 2016 2:13 pm

Tgt Ion:252 Resp: 15149

Ion	Ratio	Lower	Upper
252	100		
253	23.0	2.2	42.2
125	17.1	0.0	36.1

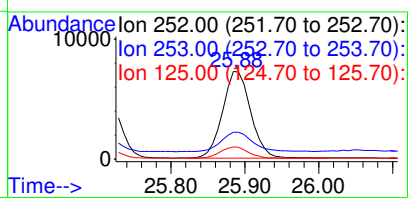


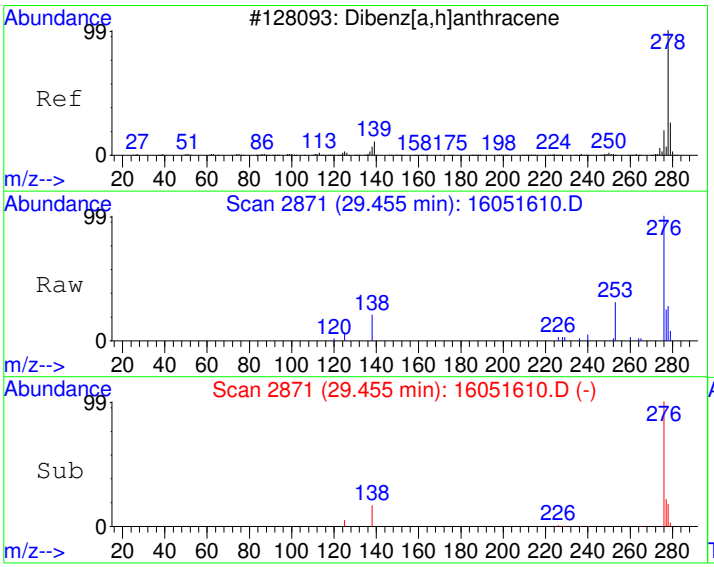


#25
Benzo[a]pyrene
Concen: 52.84 ug/kg
RT: 25.88 min Scan# 2366
Delta R.T. -0.01 min
Lab File: 16051610.D
Acq: 16 May 2016 2:13 pm

Tgt Ion:252 Resp: 19146

Ion	Ratio	Lower	Upper
252	100		
253	22.2	1.9	41.9
125	13.2	0.0	31.7

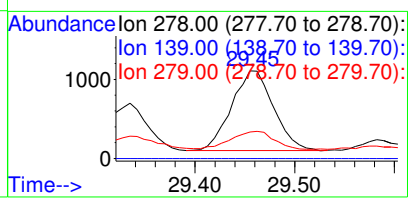


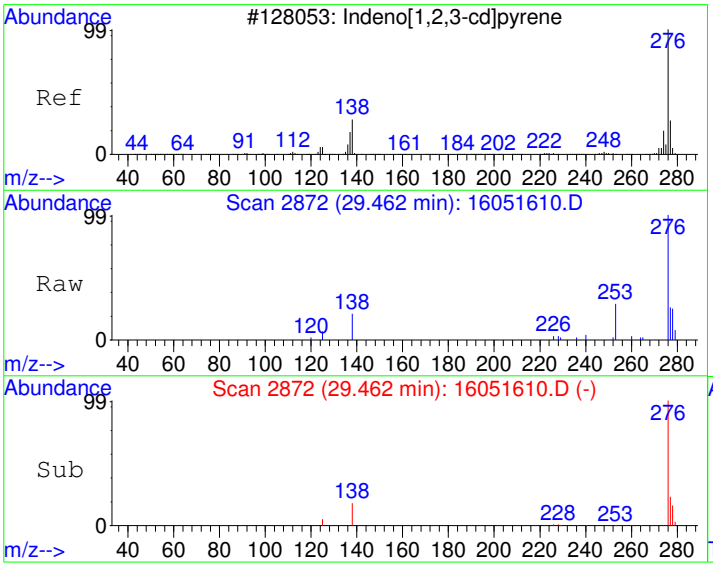


#26
Dibenz[a,h]anthracene
Concen: 8.96 ug/kg
RT: 29.45 min Scan# 2871
Delta R.T. -0.02 min
Lab File: 16051610.D
Acq: 16 May 2016 2:13 pm

Tgt Ion:278 Resp: 2955

Ion	Ratio	Lower	Upper
278	100		
139	0.0	0.0	20.0
279	21.4	4.2	44.2

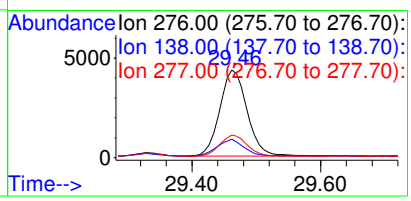


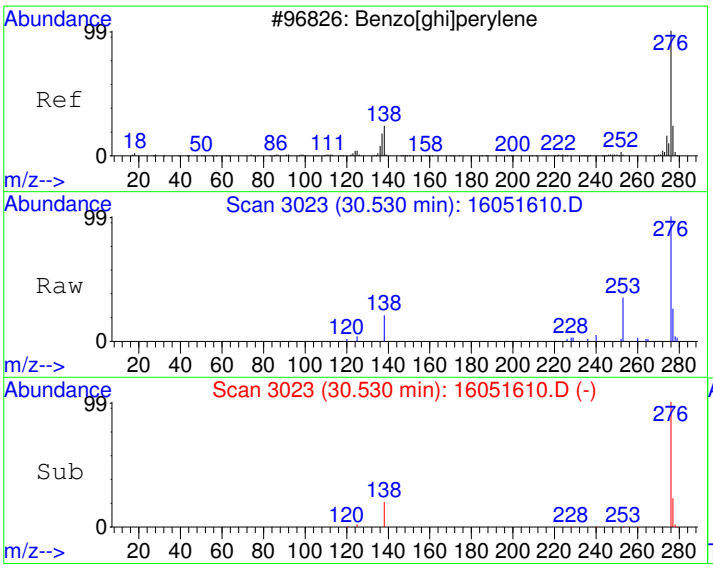


#27
Indeno[1,2,3-cd]pyrene
Concen: 32.59 ug/kg
RT: 29.46 min Scan# 2872
Delta R.T. -0.01 min
Lab File: 16051610.D
Acq: 16 May 2016 2:13 pm

Tgt Ion:276 Resp: 12827

Ion	Ratio	Lower	Upper
276	100		
138	19.4	6.7	46.7
277	24.6	5.8	45.8

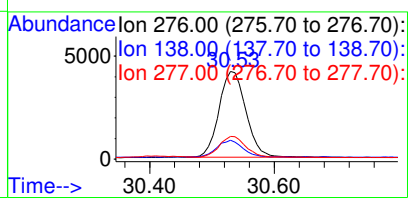




#28
Benzo[g,h,i]perylene
Concen: 41.05 ug/kg
RT: 30.53 min Scan# 3023
Delta R.T. -0.02 min
Lab File: 16051610.D
Acq: 16 May 2016 2:13 pm

Tgt Ion:276 Resp: 12601

Ion	Ratio	Lower	Upper
276	100		
138	19.4	0.0	39.1
277	24.3	4.0	44.0



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160516\16051611.D Vial: 11
Acq On : 16 May 2016 2:52 pm Operator:
Sample : 1605074-45A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 17 8:40 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Initial Calibration
DataAcq Meth : PP160421

DNR - Wrong vial in sequence tray. See rerun 5-17-2016

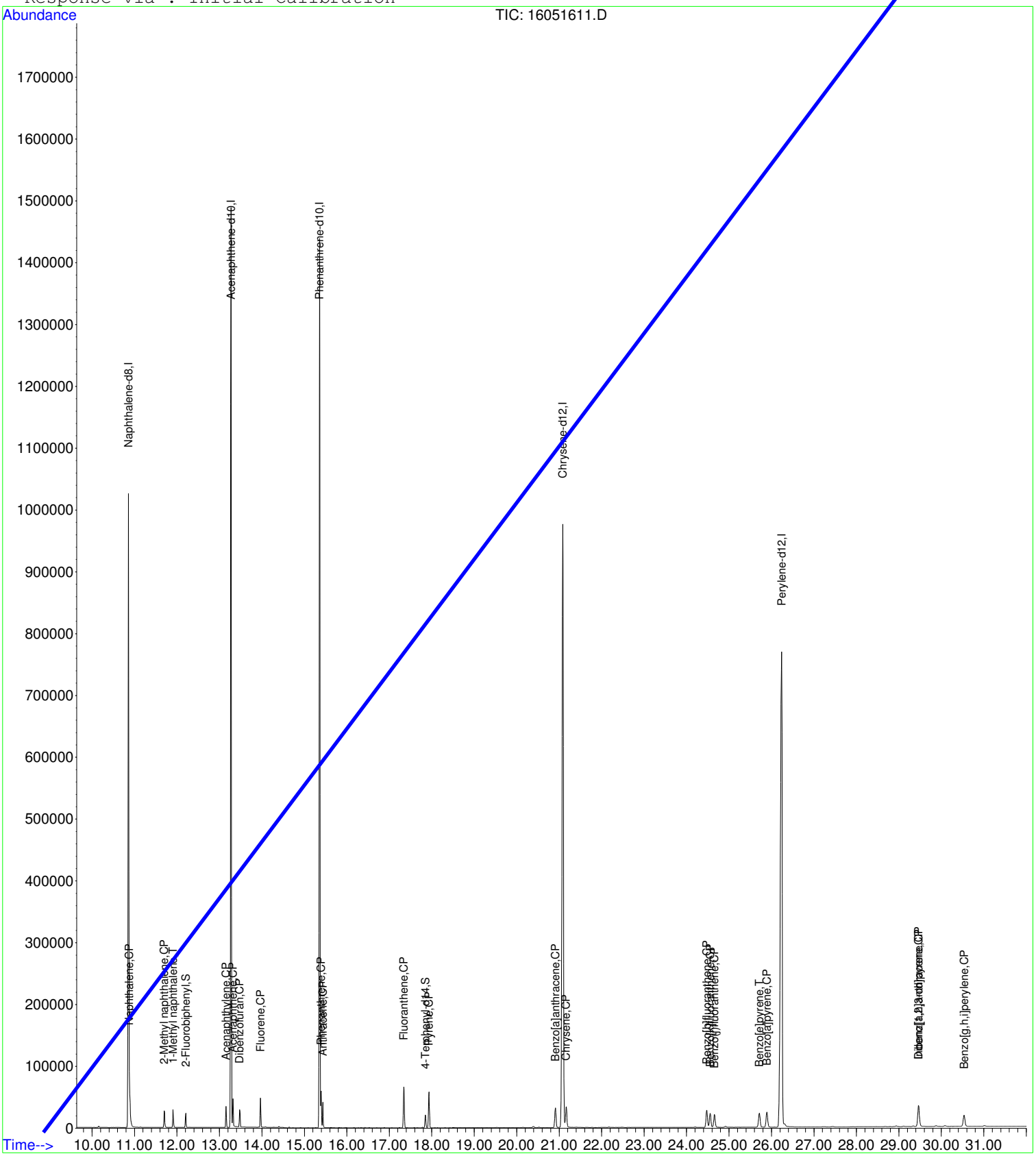
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1287633	4000.00	ug/kg	111
5) Acenaphthene-d10	13.27	164	828778	4000.00	ug/kg	72
11) Phenanthrene-d10	15.36	188	1530817	4000.00	ug/kg	75
17) Chrysene-d12	21.08	240	1619725	4000.00	ug/kg	71
20) Perylene-d12	26.24	264	1525949	4000.00	ug/kg	74
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.21	172	19422	80.34	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	2.01%#		
16) 4-Terphenyl-d14	17.85	244	27248	68.80	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.72%#		
Target Compounds						Qvalue
2) Naphthalene	10.89	128	23370	72.56	ug/kg	99
3) 2-Methyl naphthalene	11.70	142	17011	59.79	ug/kg	93
4) 1-Methyl naphthalene	11.91	142	15472	59.38	ug/kg	94
6) Dibenzofuran	13.48	168	26714	86.00	ug/kg	99
8) Acenaphthylene	13.16	152	28446	79.70	ug/kg	99
9) Acenaphthene	13.32	154	17157	77.45	ug/kg	100
10) Fluorene	13.97	166	22155	82.35	ug/kg	97
12) Phenanthrene	15.39	178	48407	120.24	ug/kg	98
13) Anthracene	15.43	178	34471	90.46	ug/kg	99
14) Fluoranthene	17.34	202	66918	160.63	ug/kg	100
15) Pyrene	17.93	202	62502	144.43	ug/kg	99
18) Benzo[a]anthracene	20.91	228	47597	125.43	ug/kg	99
19) Chrysene	21.17	228	48439	132.12	ug/kg	99
21) Benzo[b]fluoranthene	24.48	252	51330	127.63	ug/kg	99
22) Benzo[k]fluoranthene	24.56	252	40162	106.45	ug/kg	99
23) Benzo(j)fluoranthene	24.65	252	35813	106.56	ug/kg	97
24) Benzo[e]pyrene	25.72	252	43329	120.30	ug/kg	99
25) Benzo[a]pyrene	25.89	252	46809	127.18	ug/kg	99
26) Dibenz[a,h]anthracene	29.46	278	27726	82.71	ug/kg	97
27) Indeno[1,2,3-cd]pyrene	29.46	276	41463	103.69	ug/kg	94
28) Benzo[g,h,i]perylene	30.54	276	36140	115.90	ug/kg	98

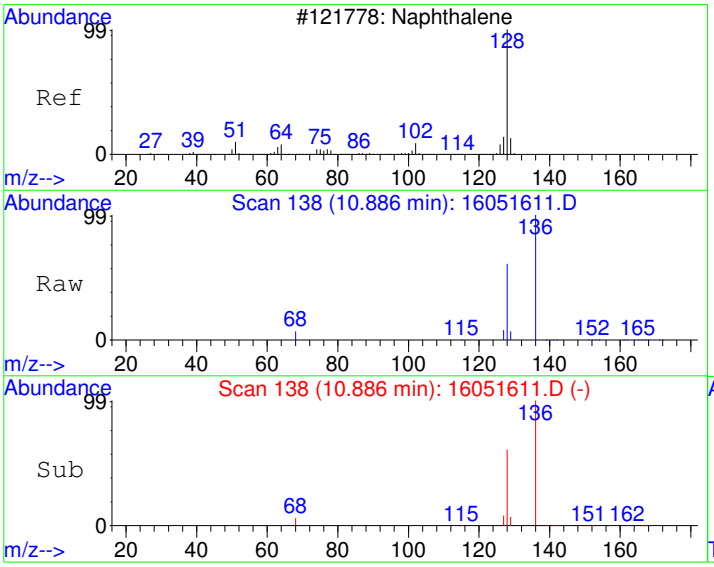
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160516\16051611.D Vial: 11
Acq On : 16 May 2016 2:52 pm Operator:
Sample : 1605074-45A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 17 8:40 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Initial Calibration

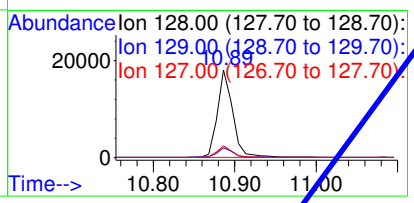


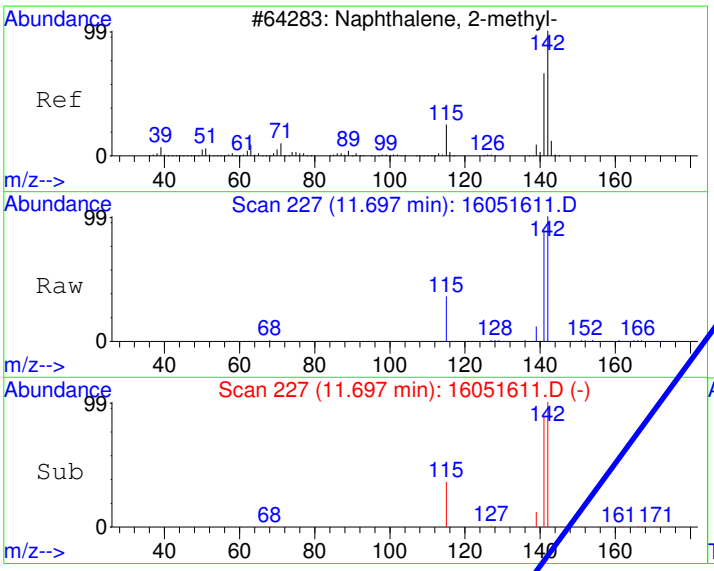


#2
Naphthalene
Concen: 72.56 ug/kg
RT: 10.89 min Scan# 138
Delta R.T. 0.01 min
Lab File: 16051611.D
Acq: 16 May 2016 2:52 pm

Tgt Ion:128 Resp: 23370

Ion	Ratio	Lower	Upper
128	100		
129	10.9	0.0	41.1
127	13.1	0.0	42.4

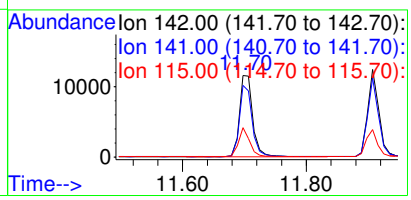


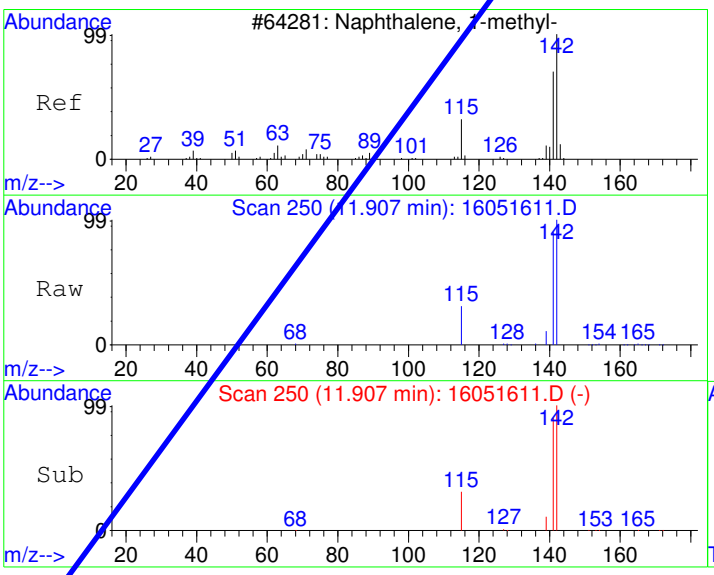


#3
2-Methyl naphthalene
Concen: 59.79 ug/kg
RT: 11.70 min Scan# 227
Delta R.T. -0.00 min
Lab File: 16051611.D
Acq: 16 May 2016 2:52 pm

Tgt Ion:142 Resp: 17011

Ion	Ratio	Lower	Upper
142	100		
141	87.5	54.4	114.4
115	35.6	0.0	56.0

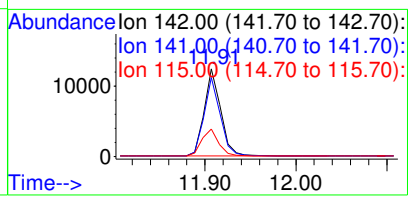


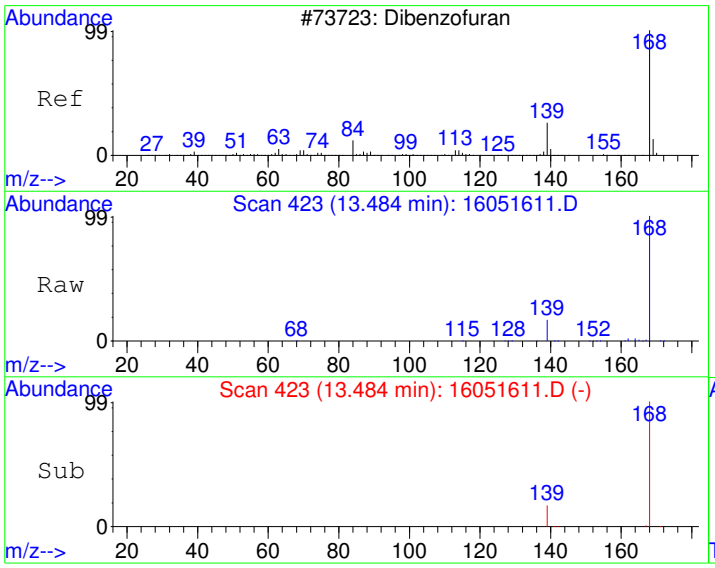


#4
1-Methyl naphthalene
Concen: 59.38 ug/kg
RT: 11.91 min Scan# 250
Delta R.T. 0.01 min
Lab File: 16051611.D
Acq: 16 May 2016 2:52 pm

Tgt Ion:142 Resp: 15472

Ion	Ratio	Lower	Upper
142	100		
141	89.9	56.5	116.5
115	30.9	0.0	55.0

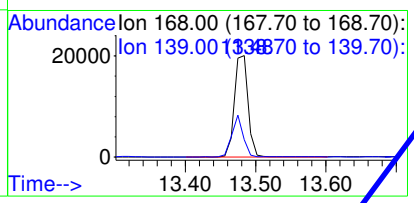


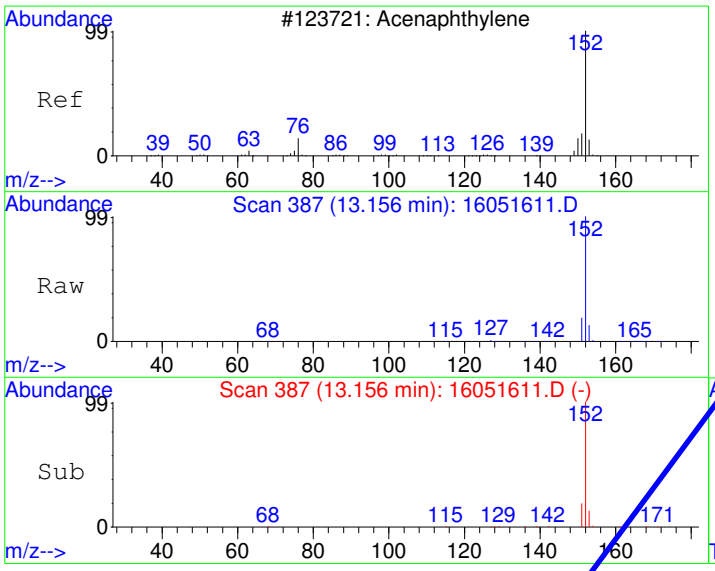


#6
Dibenzofuran
Concen: 86.00 ug/kg
RT: 13.48 min Scan# 423
Delta R.T. 0.01 min
Lab File: 16051611.D
Acq: 16 May 2016 2:52 pm

Tgt Ion:168 Resp: 26714

Ion	Ratio	Lower	Upper
168	100		
139	34.2	27.0	40.4

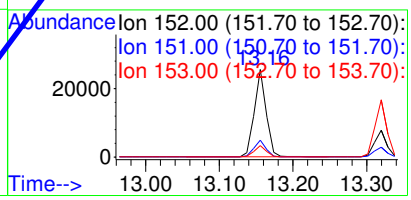


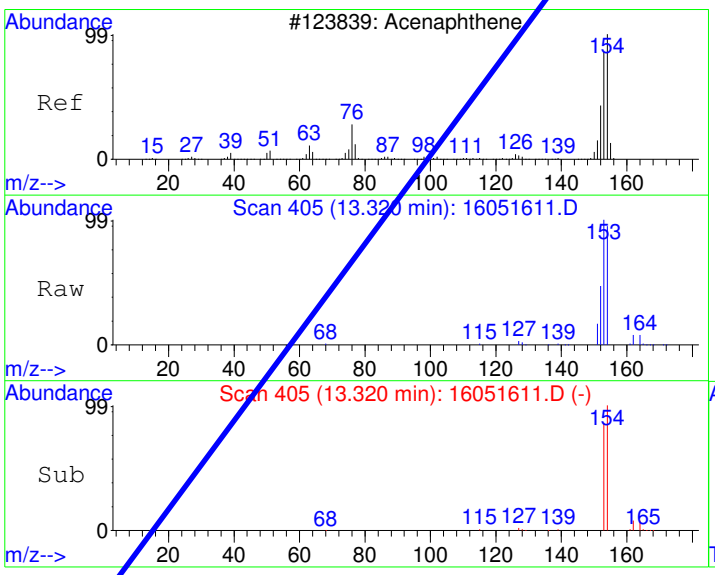


#8
Acenaphthylene
Concen: 79.70 ug/kg
RT: 13.16 min Scan# 387
Delta R.T. 0.01 min
Lab File: 16051611.D
Acq: 16 May 2016 2:52 pm

Tgt Ion:152 Resp: 28446

Ion	Ratio	Lower	Upper
152	100		
151	19.3	0.0	49.7
153	12.9	0.0	43.5

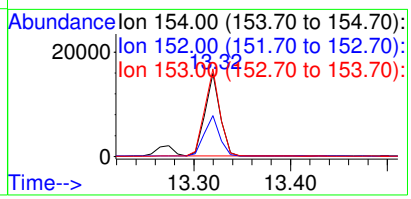


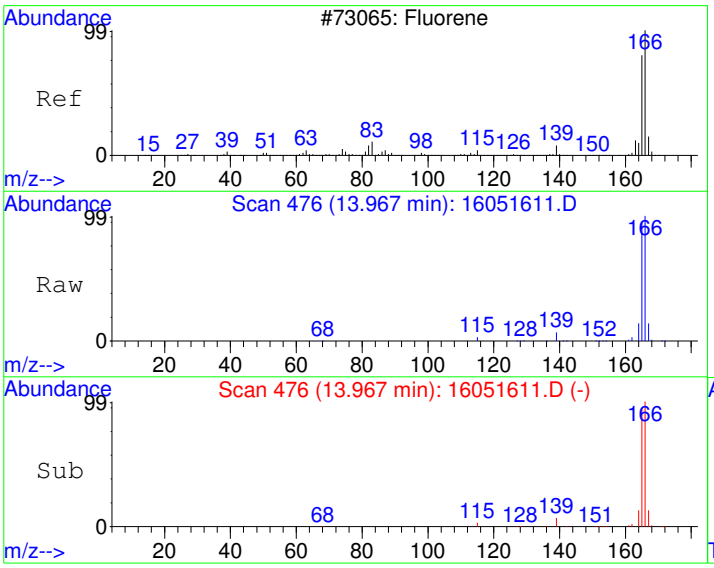


#9
Acenaphthene
Concen: 77.45 ug/kg
RT: 13.32 min Scan# 405
Delta R.T. -0.00 min
Lab File: 16051611.D
Acq: 16 May 2016 2:52 pm

Tgt Ion:154 Resp: 17157

Ion	Ratio	Lower	Upper
154	100		
152	49.1	18.9	78.9
153	105.4	75.2	135.2

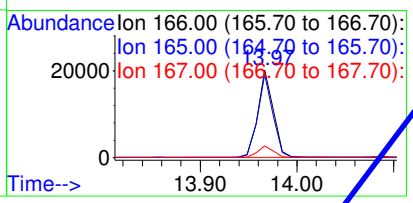


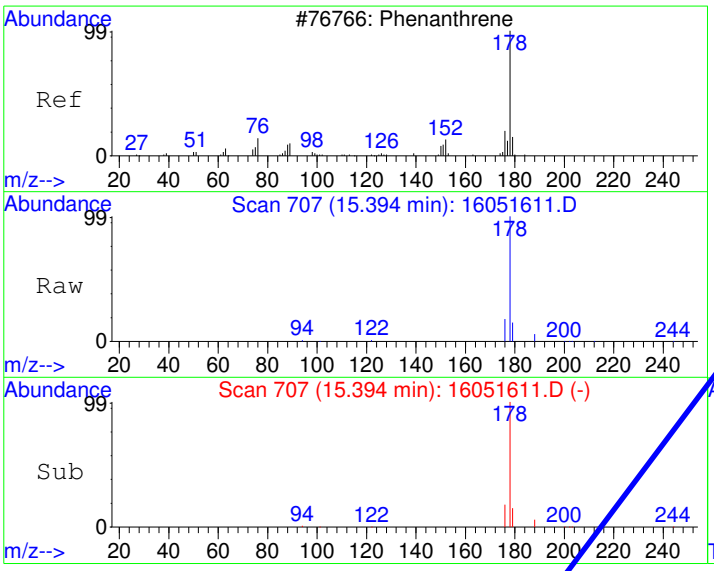


#10
Fluorene
Concen: 82.35 ug/kg
RT: 13.97 min Scan# 476
Delta R.T. -0.00 min
Lab File: 16051611.D
Acq: 16 May 2016 2:52 pm

Tgt Ion:166 Resp: 22155

Ion	Ratio	Lower	Upper
166	100		
165	94.7	61.8	121.8
167	13.3	0.0	43.6

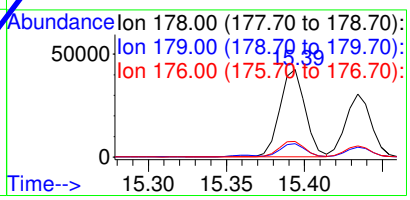


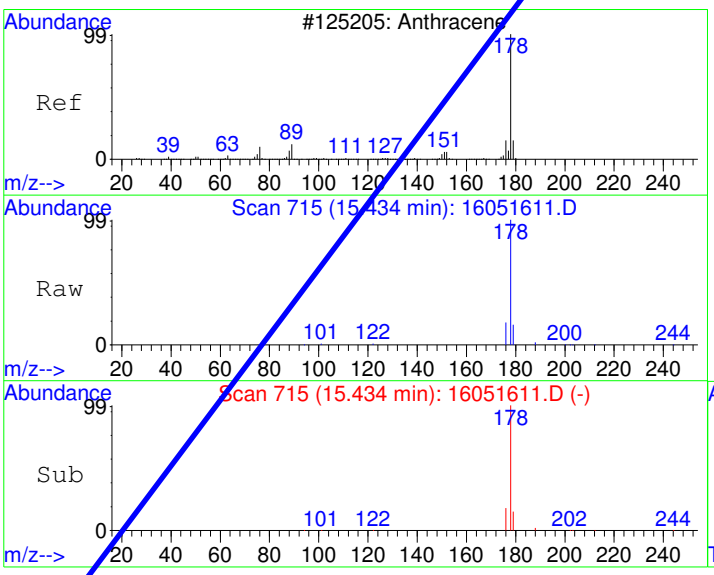


#12
Phenanthrene
Concen: 120.24 ug/kg
RT: 15.39 min Scan# 707
Delta R.T. 0.00 min
Lab File: 16051611.D
Acq: 16 May 2016 2:52 pm

Tgt Ion:178 Resp: 48407

Ion	Ratio	Lower	Upper
178	100		
179	15.1	0.0	45.9
176	17.8	0.0	48.5

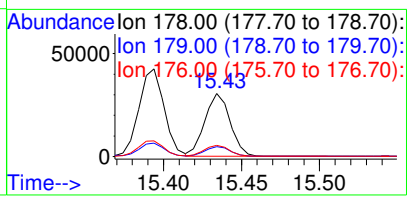


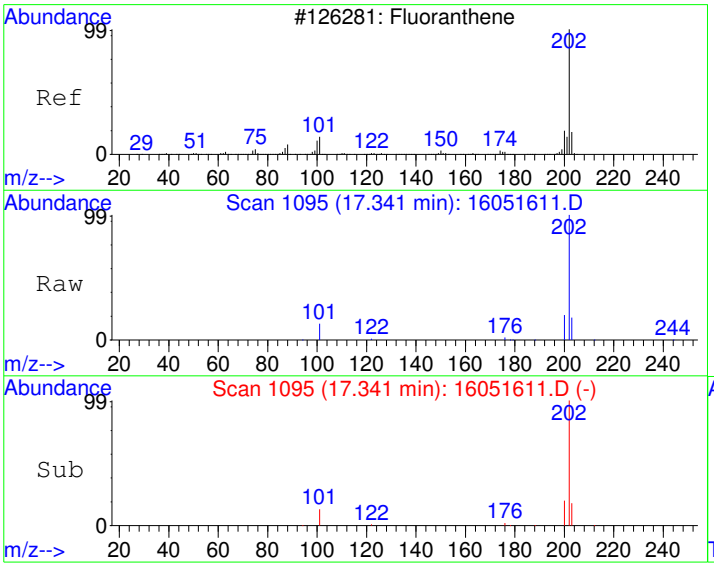


#13
Anthracene
Concen: 90.46 ug/kg
RT: 15.43 min Scan# 715
Delta R.T. 0.00 min
Lab File: 16051611.D
Acq: 16 May 2016 2:52 pm

Tgt Ion:178 Resp: 34471

Ion	Ratio	Lower	Upper
178	100		
179	15.3	0.0	45.9
176	17.6	0.0	48.2

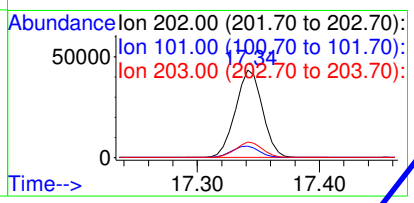


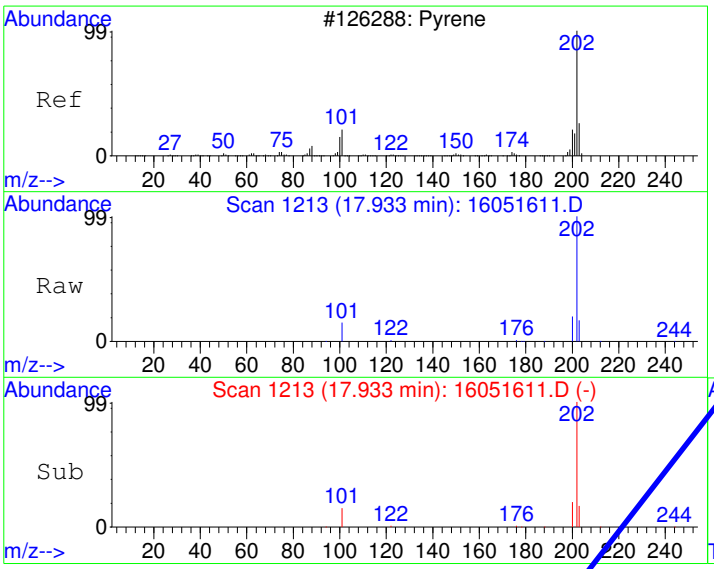


#14
Fluoranthene
Concen: 160.63 ug/kg
RT: 17.34 min Scan# 1095
Delta R.T. 0.00 min
Lab File: 16051611.D
Acq: 16 May 2016 2:52 pm

Tgt Ion:202 Resp: 66918

Ion	Ratio	Lower	Upper
202	100		
101	13.1	0.0	43.0
203	17.6	0.0	47.9

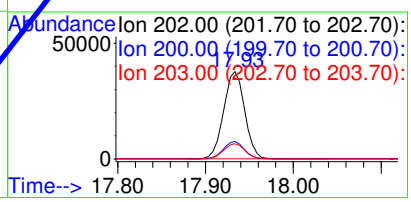


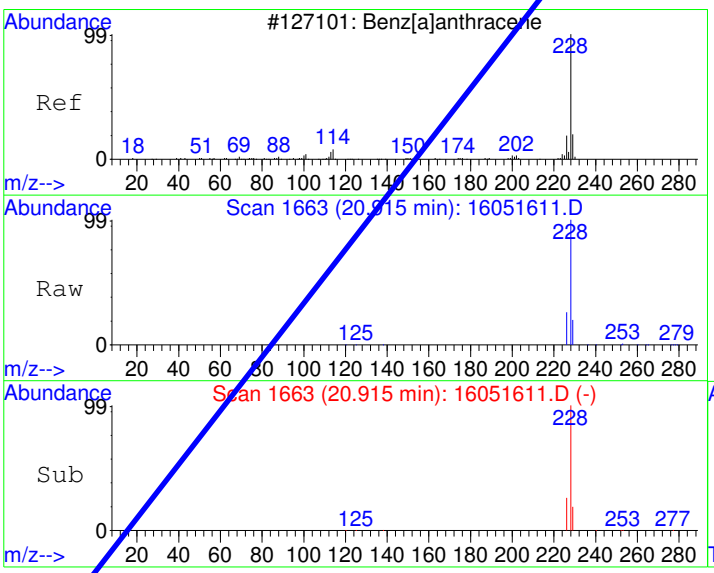


#15
Pyrene
Concen: 144.43 ug/kg
RT: 17.93 min Scan# 1213
Delta R.T. 0.00 min
Lab File: 16051611.D
Acq: 16 May 2016 2:52 pm

Tgt Ion:202 Resp: 62502

Ion	Ratio	Lower	Upper
202	100		
200	19.8	0.0	50.0
203	17.2	0.0	48.0

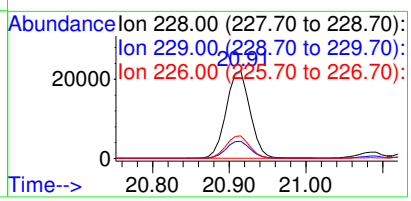


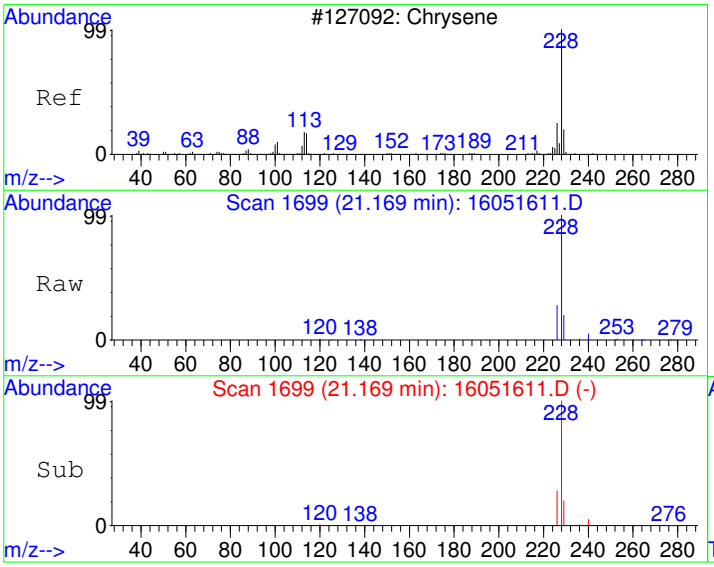


#18
Benzo[a]anthracene
Concen: 125.43 ug/kg
RT: 20.91 min Scan# 1663
Delta R.T. -0.00 min
Lab File: 16051611.D
Acq: 16 May 2016 2:52 pm

Tgt Ion:228 Resp: 47597

Ion	Ratio	Lower	Upper
228	100		
229	19.3	0.0	50.1
226	25.6	0.0	55.2

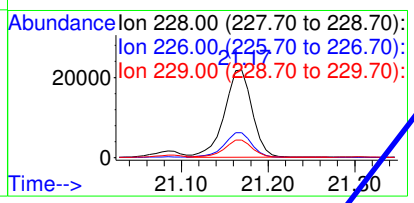


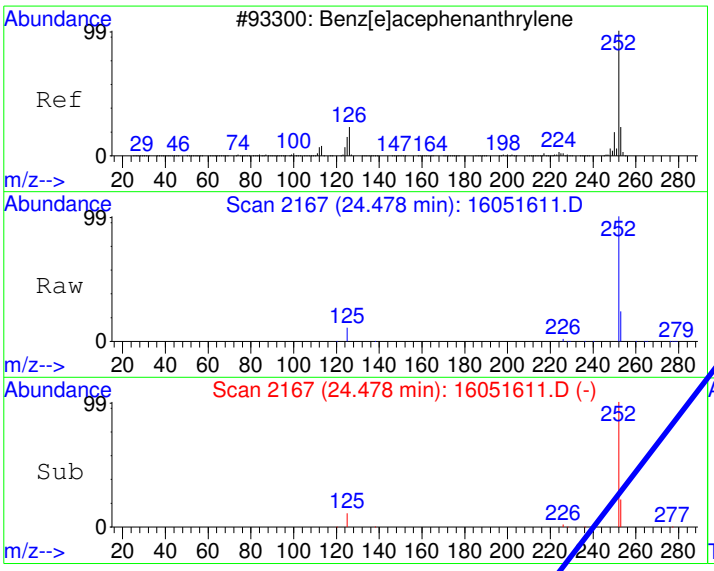


#19
Chrysene
Concen: 132.12 ug/kg
RT: 21.17 min Scan# 1699
Delta R.T. -0.00 min
Lab File: 16051611.D
Acq: 16 May 2016 2:52 pm

Tgt Ion:228 Resp: 48439

Ion	Ratio	Lower	Upper
228	100		
226	28.2	0.0	58.1
229	19.6	0.0	50.1

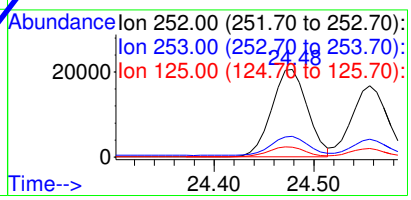


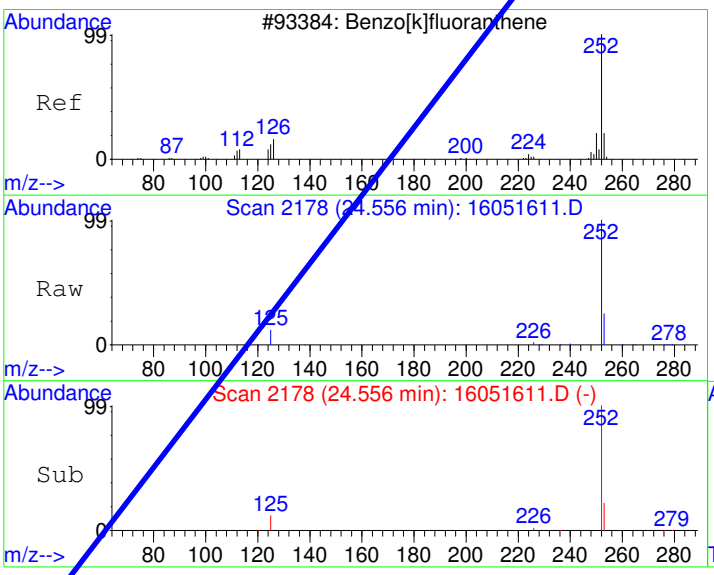


#21
Benzo[b]fluoranthene
Concen: 127.63 ug/kg
RT: 24.48 min Scan# 2167
Delta R.T. -0.01 min
Lab File: 16051611.D
Acq: 16 May 2016 2:52 pm

Tgt Ion:252 Resp: 51330

Ion	Ratio	Lower	Upper
252	100		
253	21.7	0.0	52.2
125	11.1	0.0	41.0

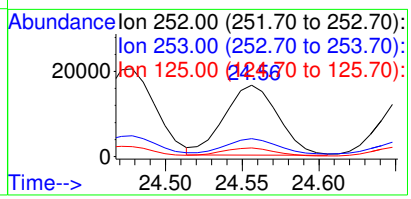


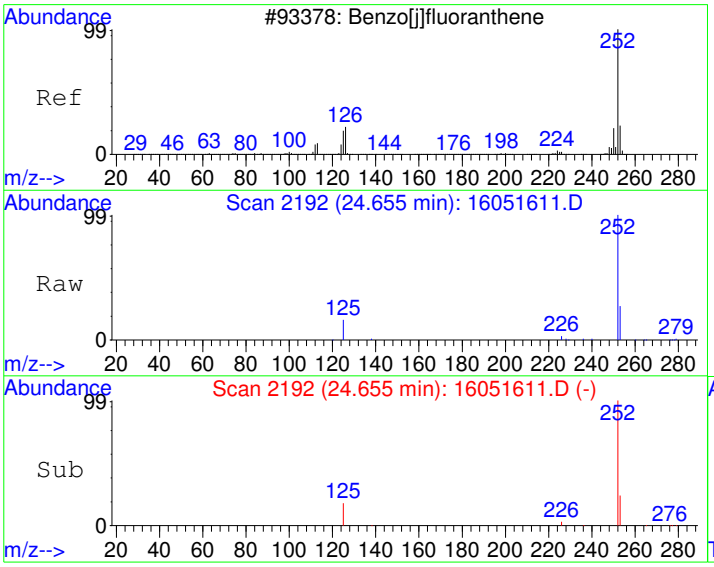


#22
Benzo[k]fluoranthene
Concen: 106.45 ug/kg
RT: 24.56 min Scan# 2178
Delta R.T. -0.01 min
Lab File: 16051611.D
Acq: 16 May 2016 2:52 pm

Tgt Ion:252 Resp: 40162

Ion	Ratio	Lower	Upper
252	100		
253	21.9	2.1	42.1
125	11.8	0.0	31.3

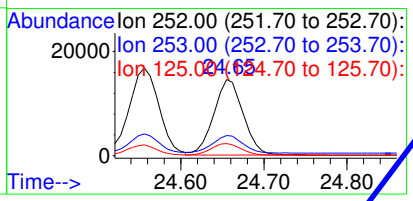


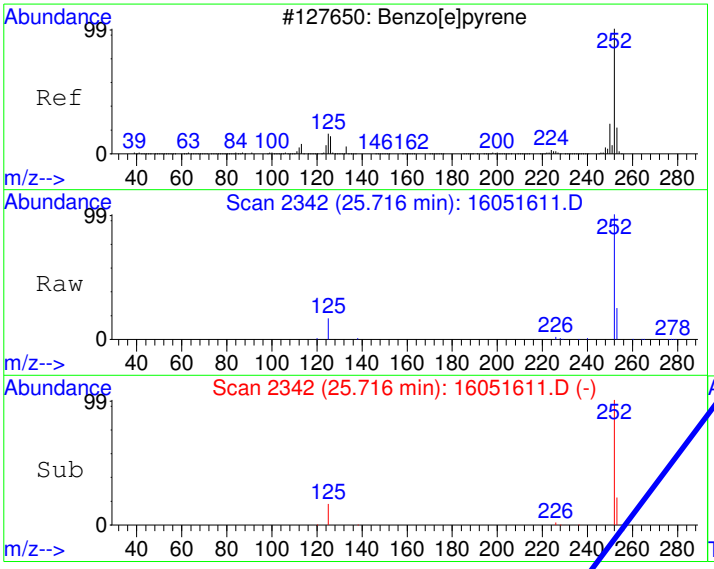


#23
Benzo(j)fluoranthene
Concen: 106.56 ug/kg
RT: 24.65 min Scan# 2192
Delta R.T. -0.01 min
Lab File: 16051611.D
Acq: 16 May 2016 2:52 pm

Tgt Ion:252 Resp: 35813

Ion	Ratio	Lower	Upper
252	100		
253	23.6	2.1	42.1
125	15.5	0.0	34.4

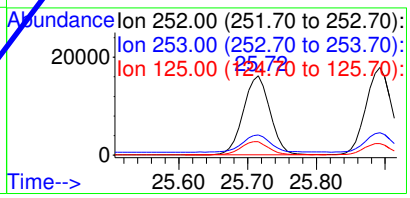


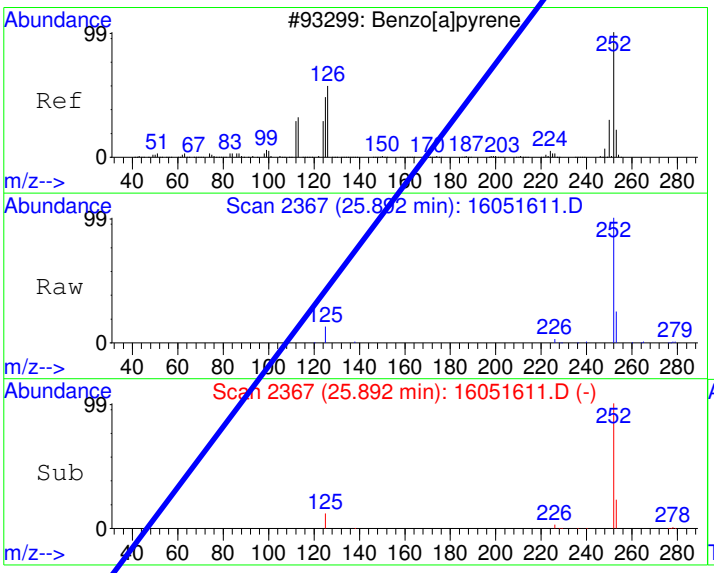


#24
Benzo[e]pyrene
Concen: 120.30 ug/kg
RT: 25.72 min Scan# 2342
Delta R.T. -0.01 min
Lab File: 16051611.D
Acq: 16 May 2016 2:52 pm

Tgt Ion:252 Resp: 43329

Ion	Ratio	Lower	Upper
252	100		
253	21.7	2.2	42.2
125	16.5	0.0	36.1

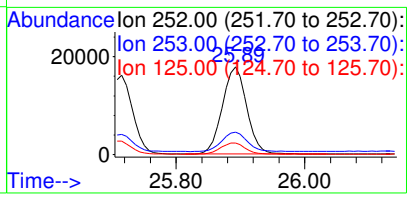


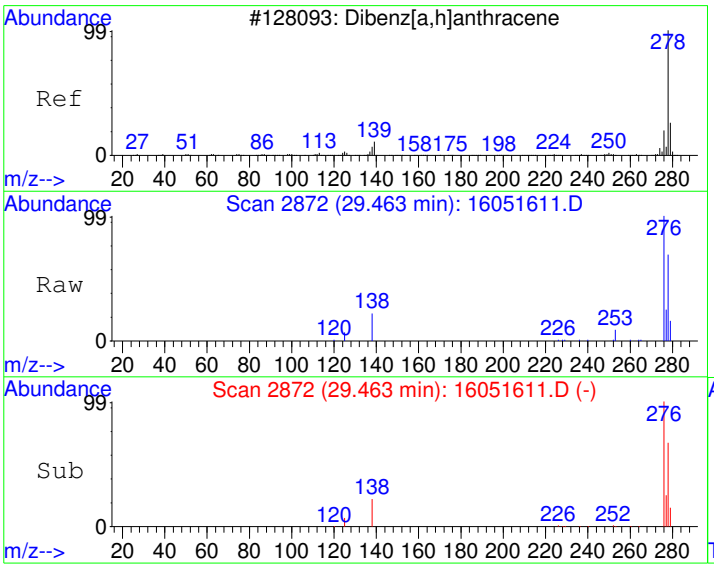


#25
Benzo[a]pyrene
Concen: 127.18 ug/kg
RT: 25.89 min Scan# 2367
Delta R.T. -0.01 min
Lab File: 16051611.D
Acq: 16 May 2016 2:52 pm

Tgt Ion:252 Resp: 46809

Ion	Ratio	Lower	Upper
252	100		
253	22.1	1.9	41.9
125	12.7	0.0	31.7

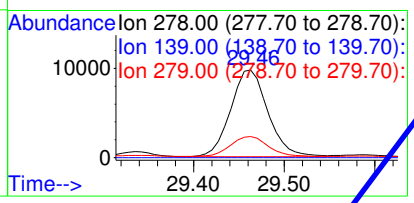


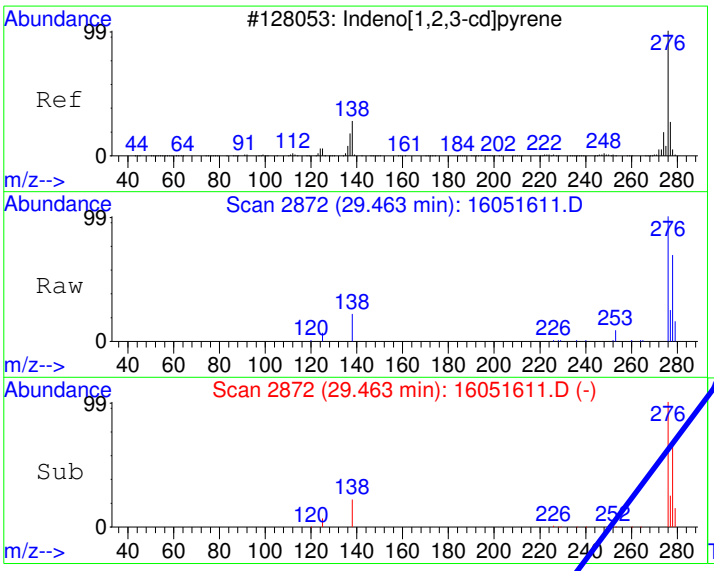


#26
Dibenz[a,h]anthracene
Concen: 82.71 ug/kg
RT: 29.46 min Scan# 2872
Delta R.T. -0.01 min
Lab File: 16051611.D
Acq: 16 May 2016 2:52 pm

Tgt Ion:278 Resp: 27726

Ion	Ratio	Lower	Upper
278	100		
139	0.0	0.0	20.0
279	22.8	4.2	44.2

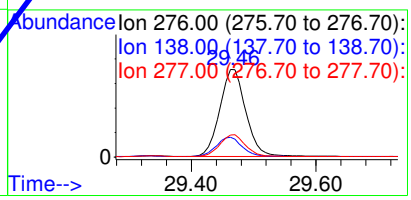


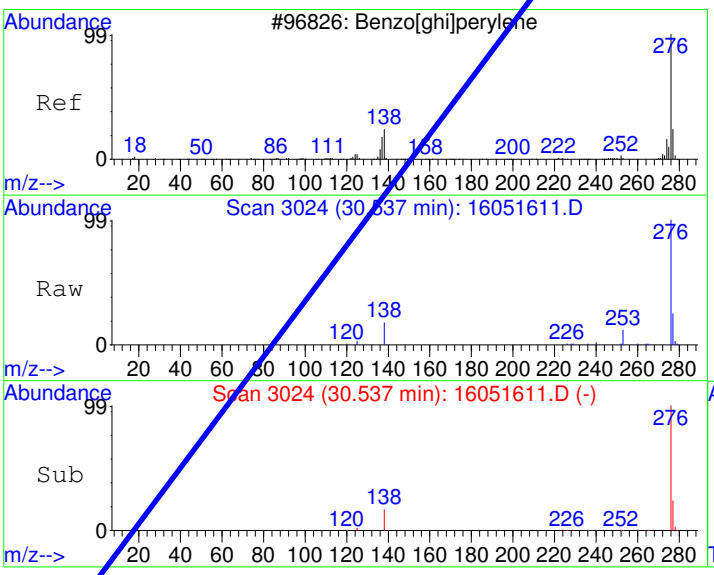


#27
Indeno[1,2,3-cd]pyrene
Concen: 103.69 ug/kg
RT: 29.46 min Scan# 2872
Delta R.T. -0.01 min
Lab File: 16051611.D
Acq: 16 May 2016 2:52 pm

Tgt Ion:276 Resp: 41463

Ion	Ratio	Lower	Upper
276	100		
138	21.9	6.7	46.7
277	24.9	5.8	45.8

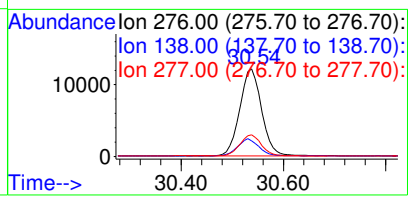




#28
Benzo[g,h,i]perylene
Concen: 115.90 ug/kg
RT: 30.54 min Scan# 3024
Delta R.T. -0.01 min
Lab File: 16051611.D
Acq: 16 May 2016 2:52 pm

Tgt Ion:276 Resp: 36140

Ion	Ratio	Lower	Upper
276	100		
138	17.2	0.0	39.1
277	24.3	4.0	44.0



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160516\16051612.D Vial: 12
Acq On : 16 May 2016 3:32 pm Operator:
Sample : 1605074-46A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 17 8:41 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Initial Calibration
DataAcq Meth : PP160421

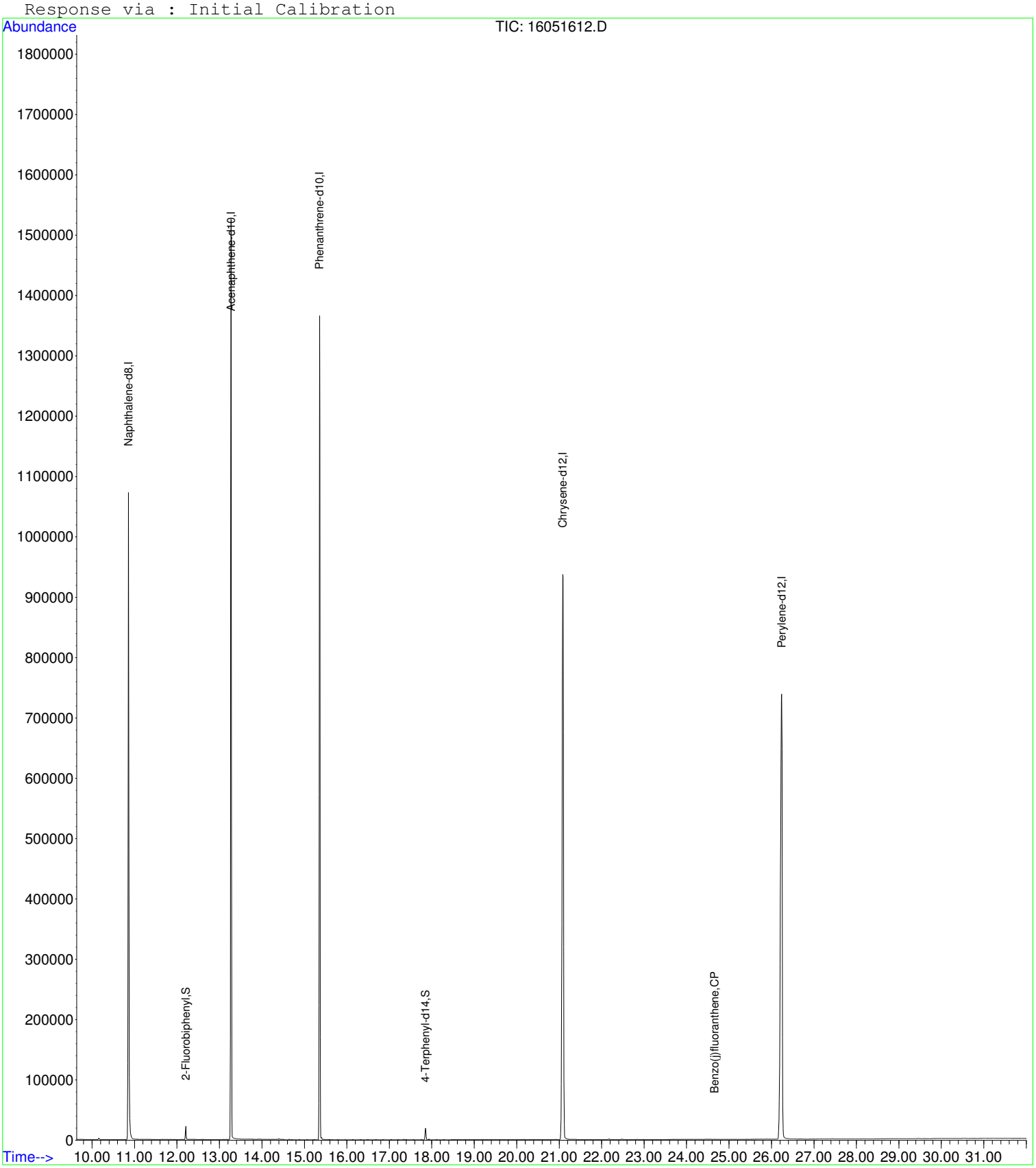
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1307229	4000.00	ug/kg	113
5) Acenaphthene-d10	13.27	164	808731	4000.00	ug/kg	70
11) Phenanthrene-d10	15.36	188	1437675	4000.00	ug/kg	70
17) Chrysene-d12	21.09	240	1579673	4000.00	ug/kg	70
20) Perylene-d12	26.24	264	1463559	4000.00	ug/kg	71
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.21	172	17893	75.85	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.90%#		
16) 4-Terphenyl-d14	17.85	244	24526	65.94	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.65%#		
Target Compounds						Qvalue
23) Benzo(j)fluoranthene	24.65	252	293	0.91	ug/kg	83

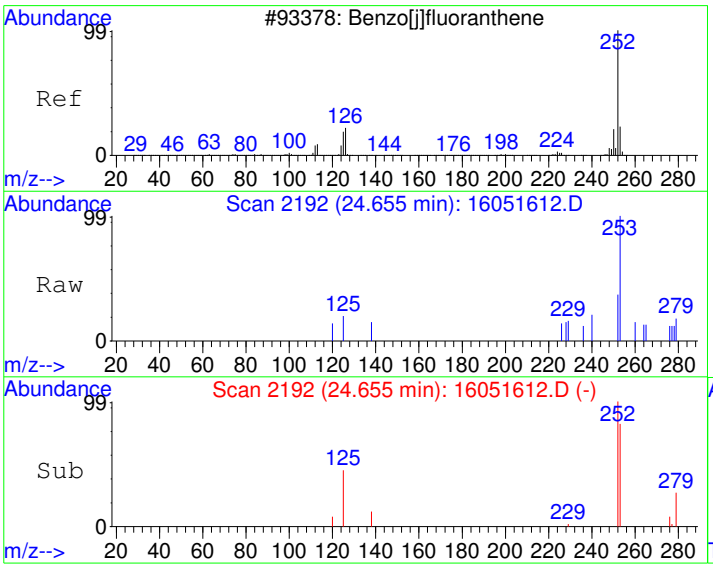
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160516\16051612.D Vial: 12
Acq On : 16 May 2016 3:32 pm Operator:
Sample : 1605074-46A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 17 8:41 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Initial Calibration

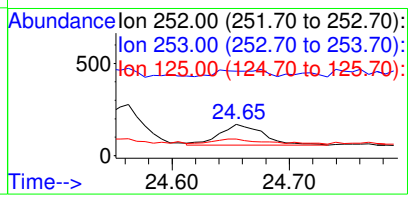




#23
Benzo(j)fluoranthene
Concen: 0.91 ug/kg
RT: 24.65 min Scan# 2192
Delta R.T. -0.01 min
Lab File: 16051612.D
Acq: 16 May 2016 3:32 pm

Tgt Ion:252 Resp: 293

Ion	Ratio	Lower	Upper
252	100		
253	27.4	2.1	42.1
125	24.8	0.0	34.4



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160516\16051613.D Vial: 13
Acq On : 16 May 2016 4:12 pm Operator:
Sample : 1605074-47A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 17 8:41 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Initial Calibration
DataAcq Meth : PP160421

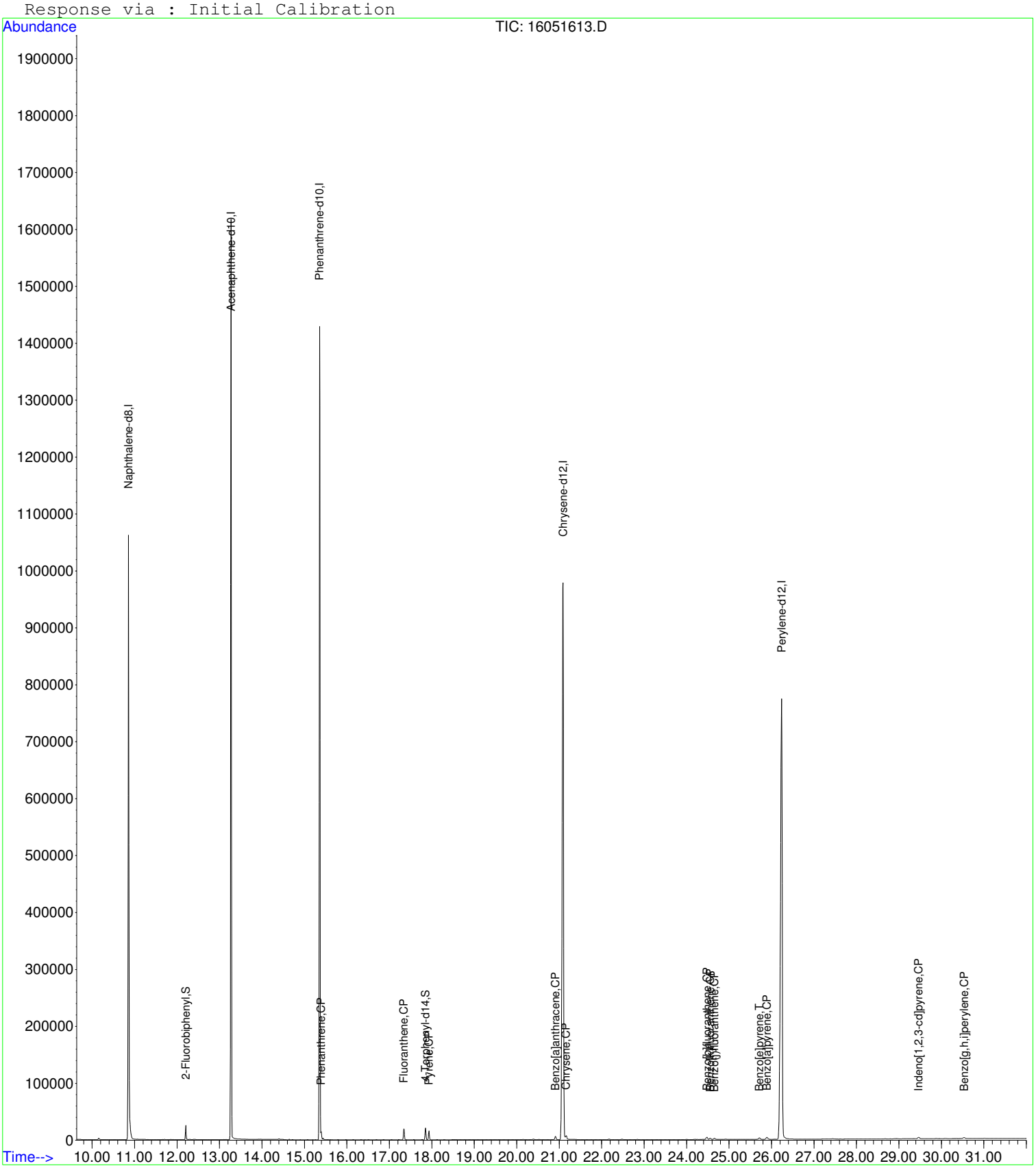
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1285879	4000.00	ug/kg	111
5) Acenaphthene-d10	13.27	164	844161	4000.00	ug/kg	73
11) Phenanthrene-d10	15.36	188	1539236	4000.00	ug/kg	75
17) Chrysene-d12	21.09	240	1629079	4000.00	ug/kg	72
20) Perylene-d12	26.24	264	1539439	4000.00	ug/kg	75
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.21	172	19479	79.10	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.98%#		
16) 4-Terphenyl-d14	17.85	244	26734	67.13	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.68%#		
Target Compounds						Qvalue
12) Phenanthrene	15.39	178	9829	24.28	ug/kg	99
14) Fluoranthene	17.35	202	19899	47.50	ug/kg	98
15) Pyrene	17.93	202	16469	37.85	ug/kg	99
18) Benzo[a]anthracene	20.91	228	8312	21.78	ug/kg	100
19) Chrysene	21.17	228	8822	23.92	ug/kg	99
21) Benzo[b]fluoranthene	24.48	252	7408	18.26	ug/kg	99
22) Benzo[k]fluoranthene	24.56	252	3876	10.18	ug/kg	97
23) Benzo(j)fluoranthene	24.65	252	3481	10.27	ug/kg	93
24) Benzo[e]pyrene	25.72	252	4949	13.62	ug/kg	98
25) Benzo[a]pyrene	25.89	252	7142	19.23	ug/kg	96
27) Indeno[1,2,3-cd]pyrene	29.46	276	4298	10.65	ug/kg	91
28) Benzo[g,h,i]perylene	30.54	276	3743	11.90	ug/kg	99

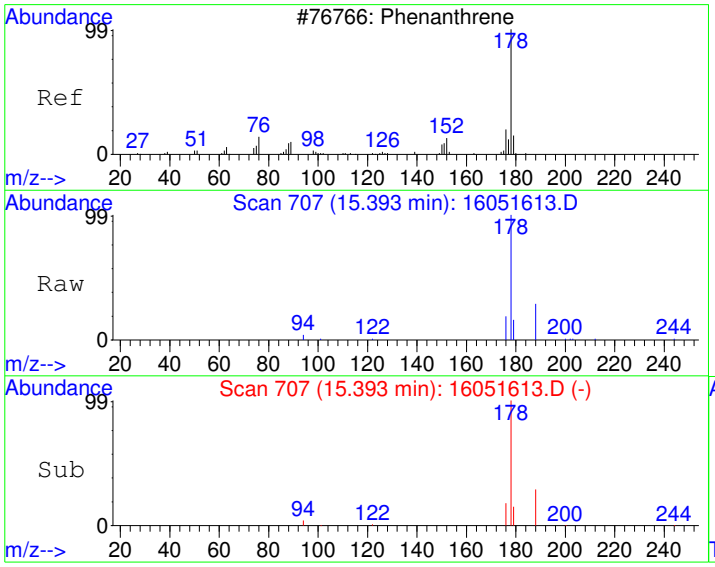
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160516\16051613.D Vial: 13
Acq On : 16 May 2016 4:12 pm Operator:
Sample : 1605074-47A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 17 8:41 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Initial Calibration

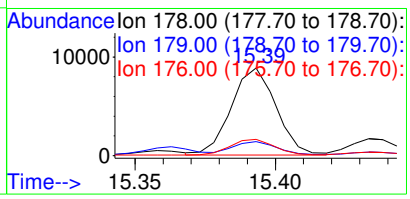


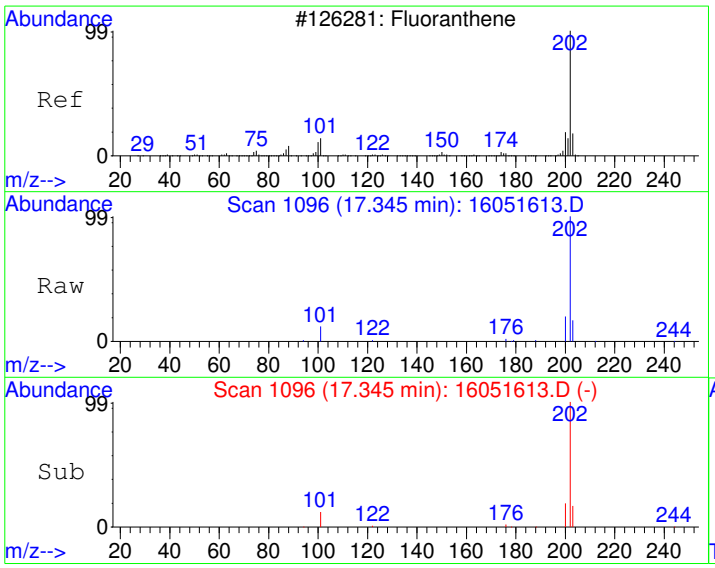


#12
Phenanthrene
Concen: 24.28 ug/kg
RT: 15.39 min Scan# 707
Delta R.T. -0.00 min
Lab File: 16051613.D
Acq: 16 May 2016 4:12 pm

Tgt Ion:178 Resp: 9829

Ion	Ratio	Lower	Upper
178	100		
179	15.0	0.0	45.9
176	18.6	0.0	48.5

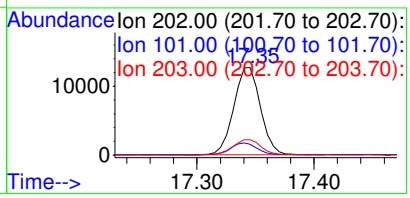


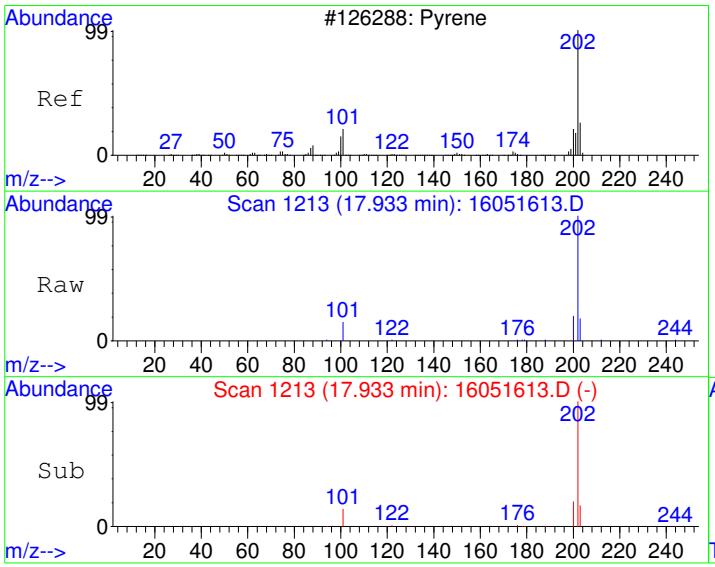


#14
Fluoranthene
Concen: 47.50 ug/kg
RT: 17.35 min Scan# 1096
Delta R.T. 0.00 min
Lab File: 16051613.D
Acq: 16 May 2016 4:12 pm

Tgt Ion:202 Resp: 19899

Ion	Ratio	Lower	Upper
202	100		
101	12.1	0.0	43.0
203	17.0	0.0	47.9

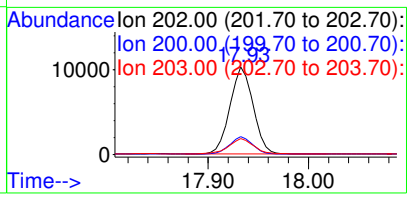


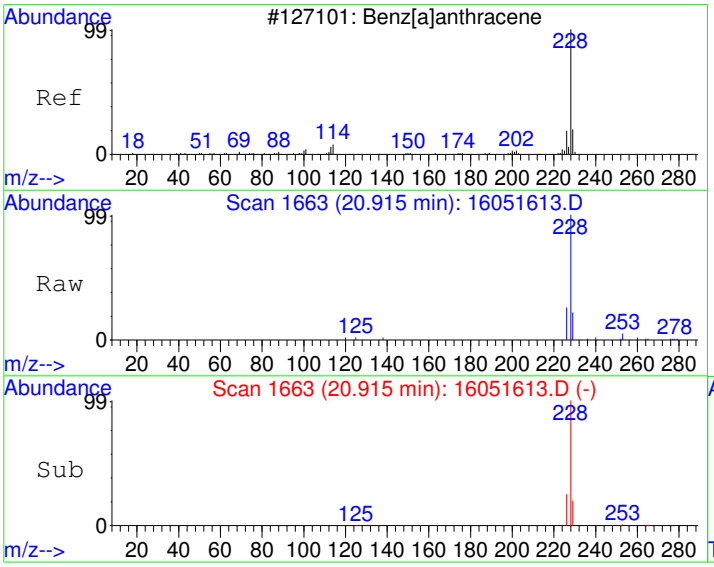


#15
Pyrene
Concen: 37.85 ug/kg
RT: 17.93 min Scan# 1213
Delta R.T. -0.00 min
Lab File: 16051613.D
Acq: 16 May 2016 4:12 pm

Tgt Ion:202 Resp: 16469

Ion	Ratio	Lower	Upper
202	100		
200	19.9	0.0	50.0
203	17.5	0.0	48.0

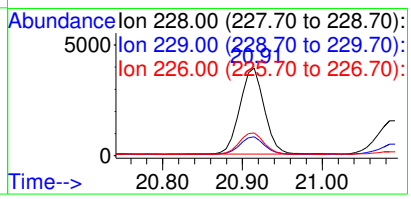


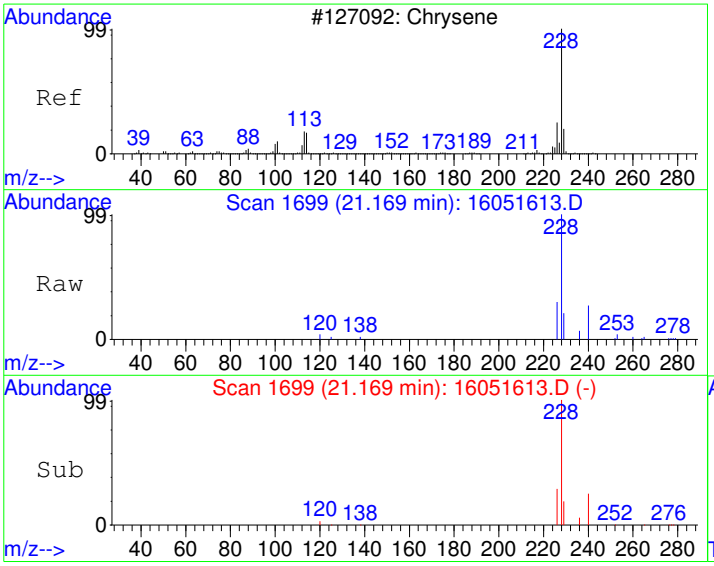


#18
Benzo[a]anthracene
Concen: 21.78 ug/kg
RT: 20.91 min Scan# 1663
Delta R.T. -0.00 min
Lab File: 16051613.D
Acq: 16 May 2016 4:12 pm

Tgt Ion:228 Resp: 8312

Ion	Ratio	Lower	Upper
228	100		
229	20.1	0.0	50.1
226	24.9	0.0	55.2

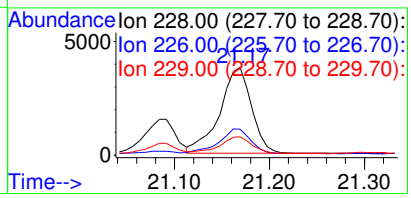


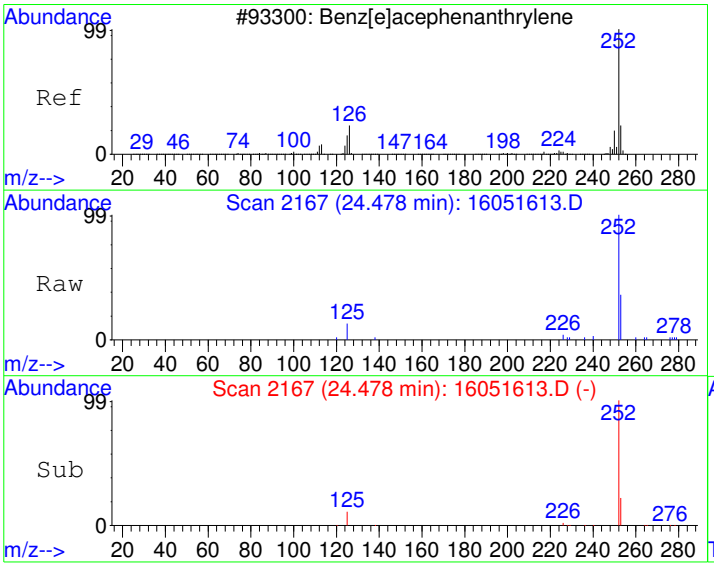


#19
Chrysene
Concen: 23.92 ug/kg
RT: 21.17 min Scan# 1699
Delta R.T. -0.00 min
Lab File: 16051613.D
Acq: 16 May 2016 4:12 pm

Tgt Ion:228 Resp: 8822

Ion	Ratio	Lower	Upper
228	100		
226	28.5	0.0	58.1
229	19.6	0.0	50.1

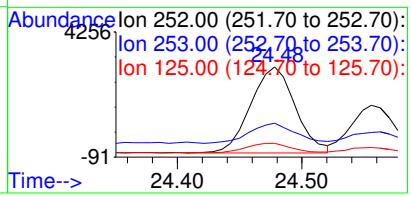


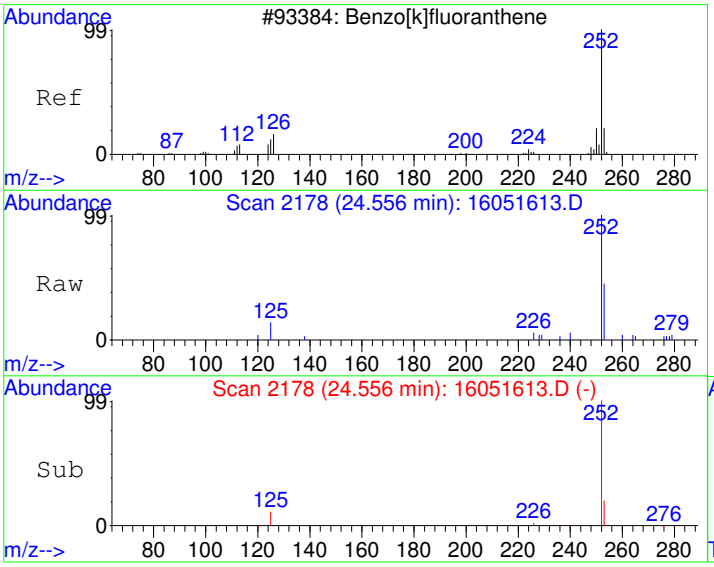


#21
Benzo[b]fluoranthene
Concen: 18.26 ug/kg
RT: 24.48 min Scan# 2167
Delta R.T. -0.01 min
Lab File: 16051613.D
Acq: 16 May 2016 4:12 pm

Tgt Ion:252 Resp: 7408

Ion	Ratio	Lower	Upper
252	100		
253	21.9	0.0	52.2
125	11.0	0.0	41.0

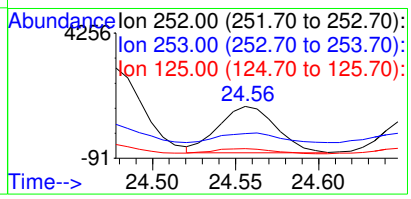


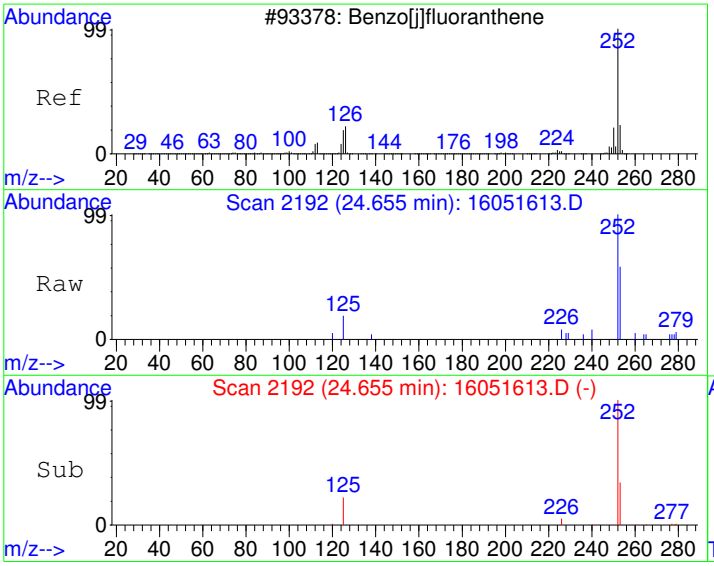


#22
Benzo[k]fluoranthene
Concen: 10.18 ug/kg
RT: 24.56 min Scan# 2178
Delta R.T. -0.01 min
Lab File: 16051613.D
Acq: 16 May 2016 4:12 pm

Tgt Ion:252 Resp: 3876

Ion	Ratio	Lower	Upper
252	100		
253	20.0	2.1	42.1
125	10.9	0.0	31.3

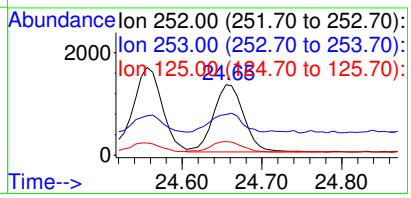


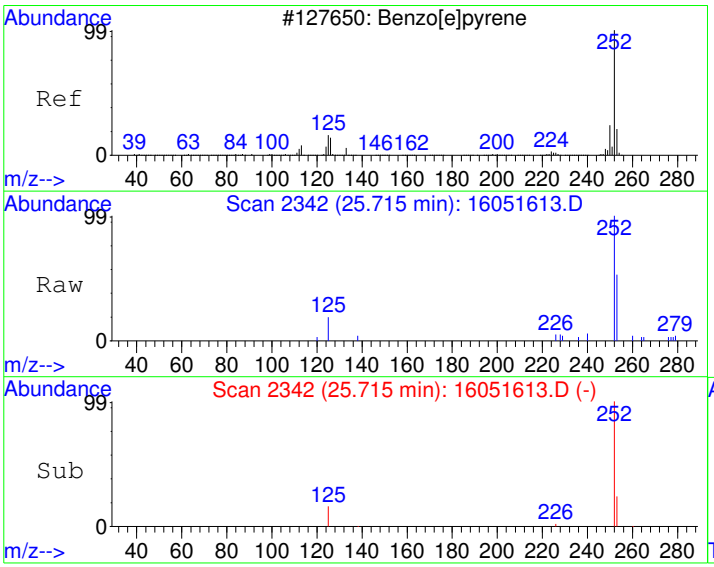


#23
Benzo(j)fluoranthene
Concen: 10.27 ug/kg
RT: 24.65 min Scan# 2192
Delta R.T. -0.01 min
Lab File: 16051613.D
Acq: 16 May 2016 4:12 pm

Tgt Ion:252 Resp: 3481

Ion	Ratio	Lower	Upper
252	100		
253	27.1	2.1	42.1
125	15.2	0.0	34.4

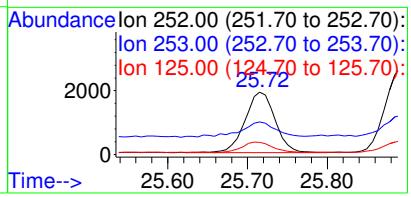


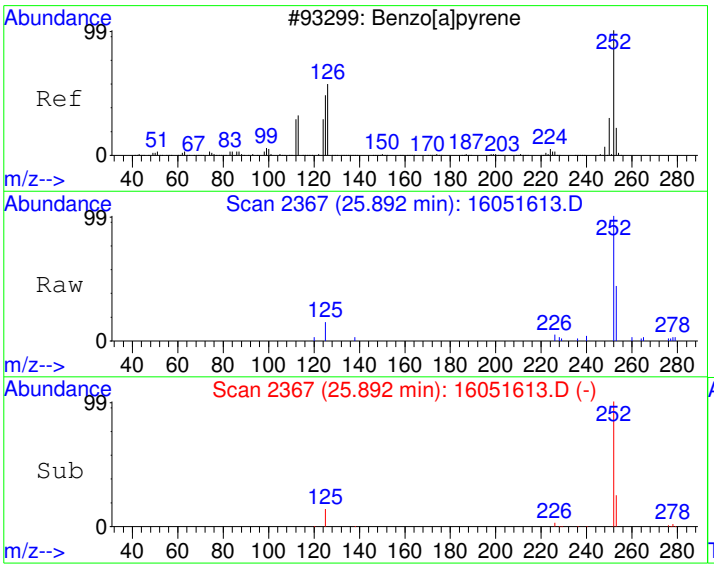


#24
Benzo[e]pyrene
Concen: 13.62 ug/kg
RT: 25.72 min Scan# 2342
Delta R.T. -0.01 min
Lab File: 16051613.D
Acq: 16 May 2016 4:12 pm

Tgt Ion:252 Resp: 4949

Ion	Ratio	Lower	Upper
252	100		
253	23.8	2.2	42.2
125	16.4	0.0	36.1

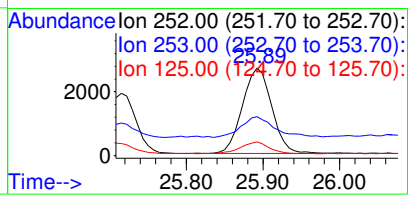


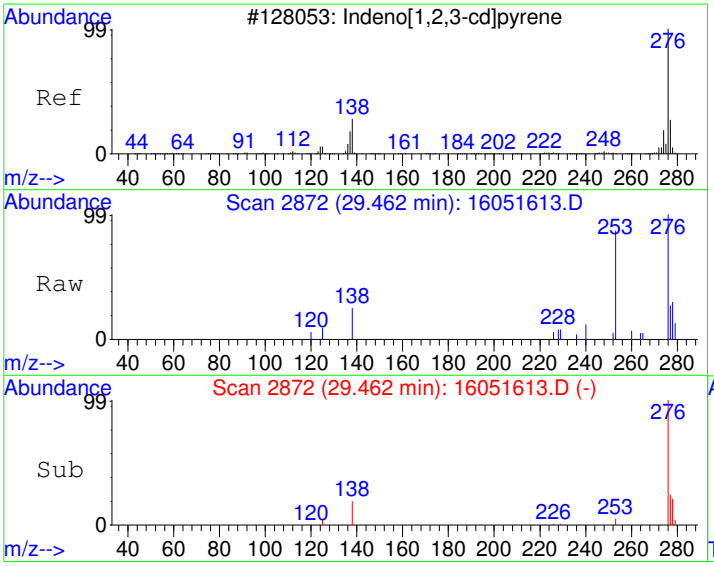


#25
Benzo[a]pyrene
Concen: 19.23 ug/kg
RT: 25.89 min Scan# 2367
Delta R.T. -0.01 min
Lab File: 16051613.D
Acq: 16 May 2016 4:12 pm

Tgt Ion:252 Resp: 7142

Ion	Ratio	Lower	Upper
252	100		
253	23.7	1.9	41.9
125	13.5	0.0	31.7

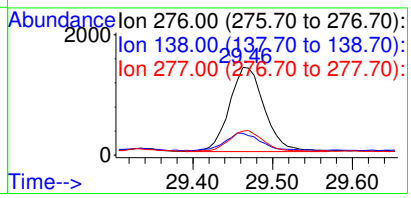


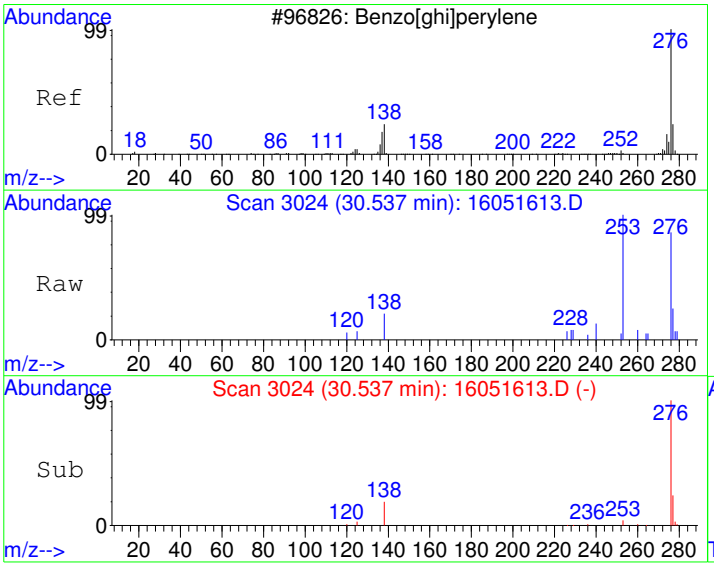


#27
Indeno[1,2,3-cd]pyrene
Concen: 10.65 ug/kg
RT: 29.46 min Scan# 2872
Delta R.T. -0.01 min
Lab File: 16051613.D
Acq: 16 May 2016 4:12 pm

Tgt Ion:276 Resp: 4298

Ion	Ratio	Lower	Upper
276	100		
138	20.1	6.7	46.7
277	23.6	5.8	45.8

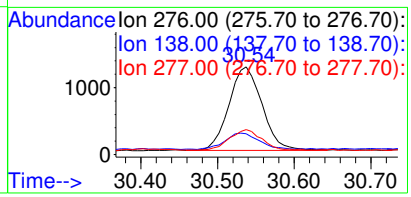




#28
Benzo[g,h,i]perylene
Concen: 11.90 ug/kg
RT: 30.54 min Scan# 3024
Delta R.T. -0.01 min
Lab File: 16051613.D
Acq: 16 May 2016 4:12 pm

Tgt Ion:276 Resp: 3743

Ion	Ratio	Lower	Upper
276	100		
138	18.5	0.0	39.1
277	24.6	4.0	44.0



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160516\16051616.D Vial: 16
Acq On : 16 May 2016 6:11 pm Operator:
Sample : 1605074-44AMS Inst : GC/MS #6
Misc : MS Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 17 8:33 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Initial Calibration
DataAcq Meth : PP160421

DNR- Wrong vail in sequence tray. See rerun 5-17-2016

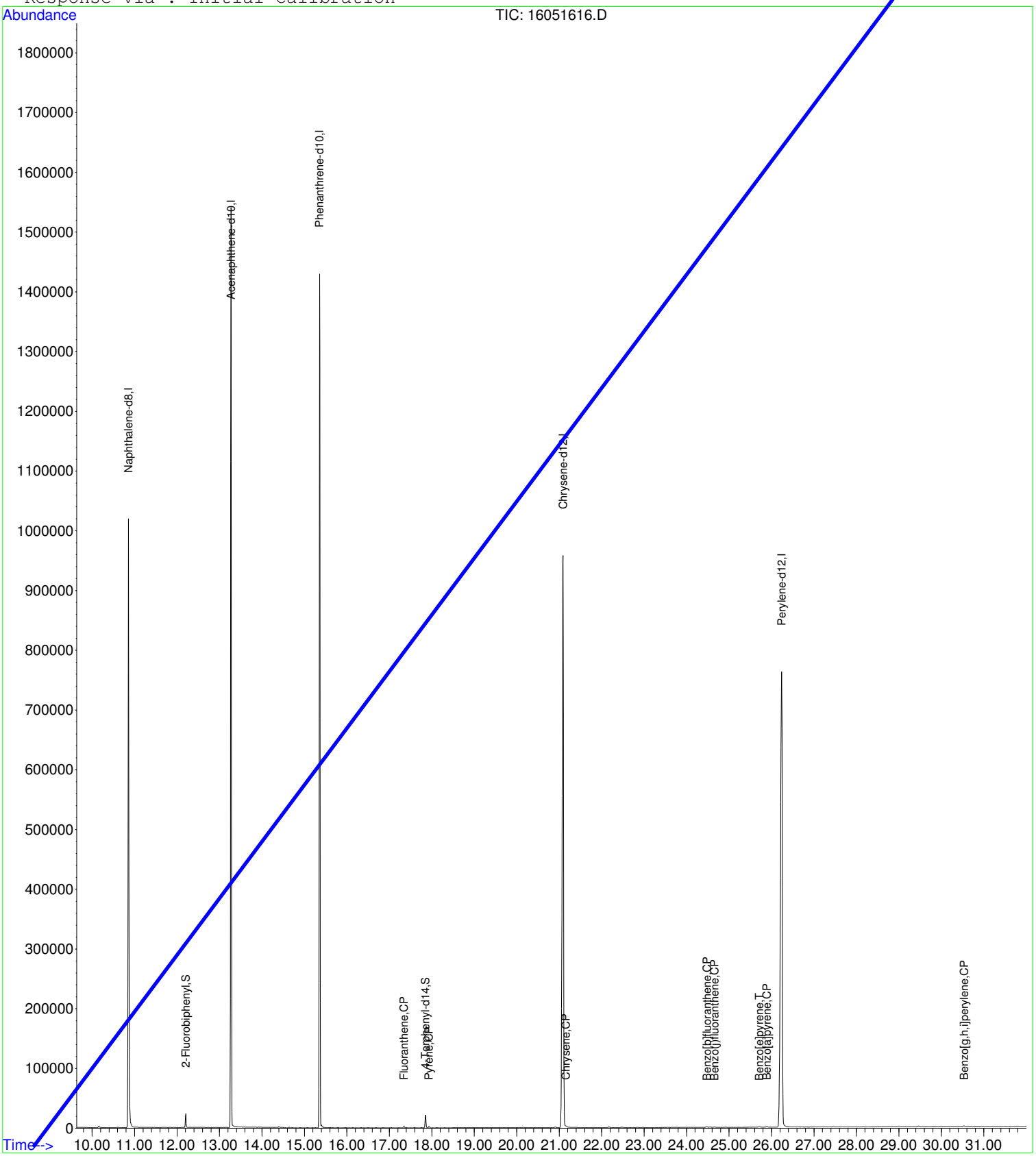
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1256325	4000.00	ug/kg	108
5) Acenaphthene-d10	13.27	164	833040	4000.00	ug/kg	72
11) Phenanthrene-d10	15.36	188	1541705	4000.00	ug/kg	75
17) Chrysene-d12	21.09	240	1601983	4000.00	ug/kg	71
20) Perylene-d12	26.24	264	1508715	4000.00	ug/kg	73
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.21	172	19077	78.50	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.96%#		
16) 4-Terphenyl-d14	17.85	244	26405	66.20	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.66%#		
Target Compounds						Qvalue
14) Fluoranthene	17.34	202	2530	6.03	ug/kg	96
15) Pyrene	17.93	202	2557	5.87	ug/kg	98
19) Chrysene	21.17	228	2066	5.70	ug/kg	99
21) Benzo[b]fluoranthene	24.48	252	2575	6.48	ug/kg	100
23) Benzo(j)fluoranthene	24.66	252	1023	3.08	ug/kg	88
24) Benzo[e]pyrene	25.72	252	1818	5.11	ug/kg	92
25) Benzo[a]pyrene	25.89	252	2438	6.70	ug/kg	96
28) Benzo[g,h,i]perylene	30.53	276	1876	6.08	ug/kg	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160516\16051616.D Vial: 16
Acq On : 16 May 2016 6:11 pm Operator:
Sample : 1605074-44AMS Inst : GC/MS #6
Misc : MS Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 17 8:33 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160516\16051617.D Vial: 17
Acq On : 16 May 2016 6:50 pm Operator:
Sample : 1605074-44AMSD Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 17 8:33 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Initial Calibration
DataAcq Meth : PP160421

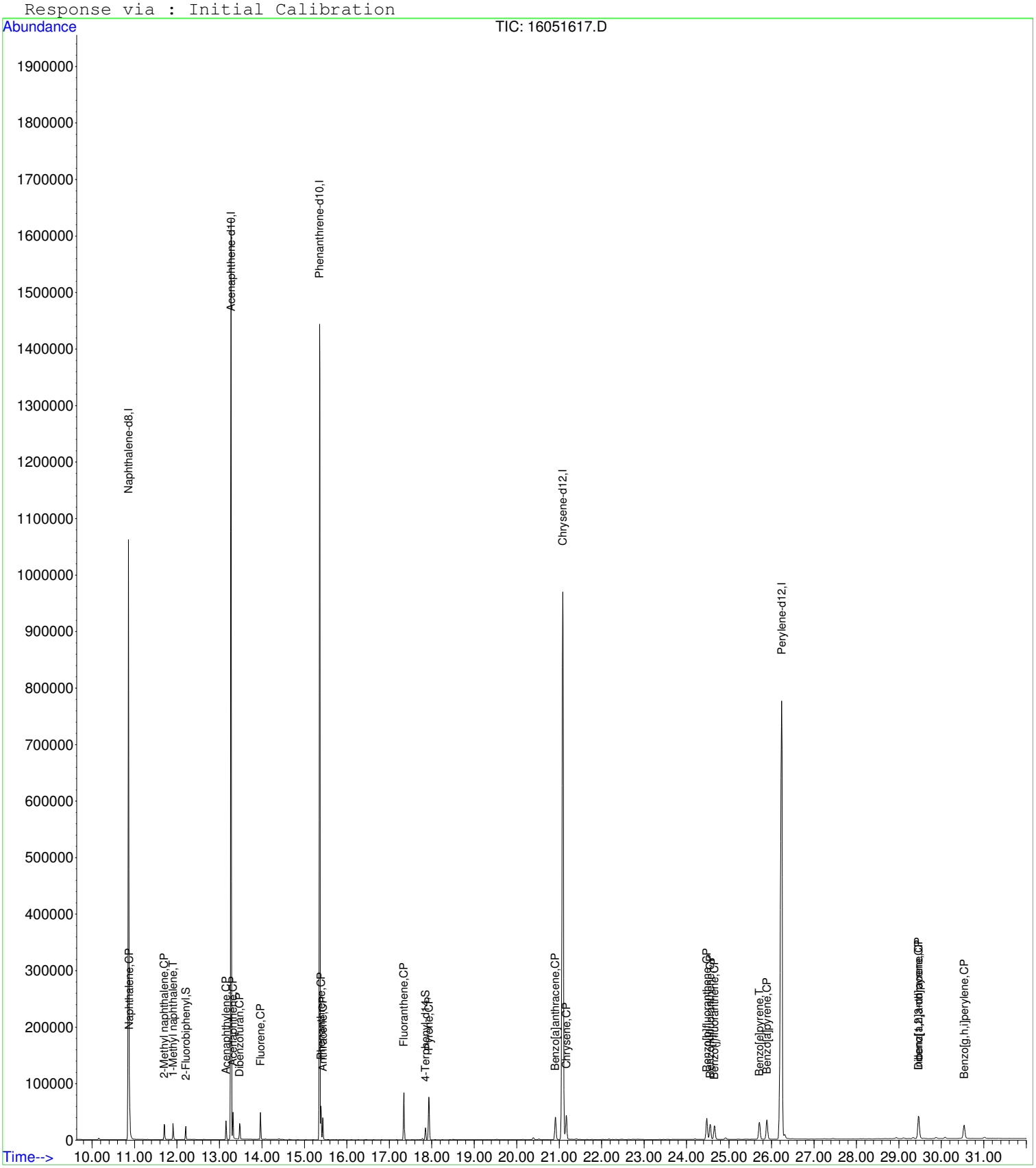
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1300062	4000.00	ug/kg	112
5) Acenaphthene-d10	13.27	164	849606	4000.00	ug/kg	74
11) Phenanthrene-d10	15.36	188	1577199	4000.00	ug/kg	77
17) Chrysene-d12	21.08	240	1646082	4000.00	ug/kg	72
20) Perylene-d12	26.24	264	1537974	4000.00	ug/kg	75
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.21	172	19041	76.83	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.92%#		
16) 4-Terphenyl-d14	17.85	244	27327	66.97	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.67%#		
Target Compounds						Qvalue
2) Naphthalene	10.89	128	23619	72.63	ug/kg	99
3) 2-Methyl naphthalene	11.71	142	16876	58.75	ug/kg	98
4) 1-Methyl naphthalene	11.91	142	15290	58.12	ug/kg	96
6) Dibenzofuran	13.48	168	26528	83.31	ug/kg	99
8) Acenaphthylene	13.16	152	27838	76.08	ug/kg	99
9) Acenaphthene	13.32	154	17459	76.88	ug/kg	100
10) Fluorene	13.97	166	22504	81.59	ug/kg	99
12) Phenanthrene	15.39	178	47283	114.00	ug/kg	99
13) Anthracene	15.43	178	34094	86.84	ug/kg	99
14) Fluoranthene	17.34	202	84898	197.79	ug/kg	98
15) Pyrene	17.93	202	81675	183.18	ug/kg	99
18) Benzo[a]anthracene	20.91	228	59987	155.55	ug/kg	99
19) Chrysene	21.17	228	63838	171.33	ug/kg	100
21) Benzo[b]fluoranthene	24.48	252	68905	169.99	ug/kg	99
22) Benzo[k]fluoranthene	24.56	252	46798	123.07	ug/kg	99
23) Benzo(j)fluoranthene	24.65	252	42931	126.74	ug/kg	95
24) Benzo[e]pyrene	25.72	252	55828	153.79	ug/kg	99
25) Benzo[a]pyrene	25.89	252	63809	172.01	ug/kg	99
26) Dibenz[a,h]anthracene	29.46	278	29739	88.03	ug/kg	99
27) Indeno[1,2,3-cd]pyrene	29.47	276	52119	129.32	ug/kg	92
28) Benzo[g,h,i]perylene	30.54	276	46121	146.75	ug/kg	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160516\16051617.D Vial: 17
Acq On : 16 May 2016 6:50 pm Operator:
Sample : 1605074-44AMSD Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 17 8:33 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160516\16051619.D Vial: 19
Acq On : 16 May 2016 8:06 pm Operator:
Sample : ICV2-160516 Inst : GC/MS #6
Misc : ICV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 17 8:33 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Initial Calibration
DataAcq Meth : PP160421

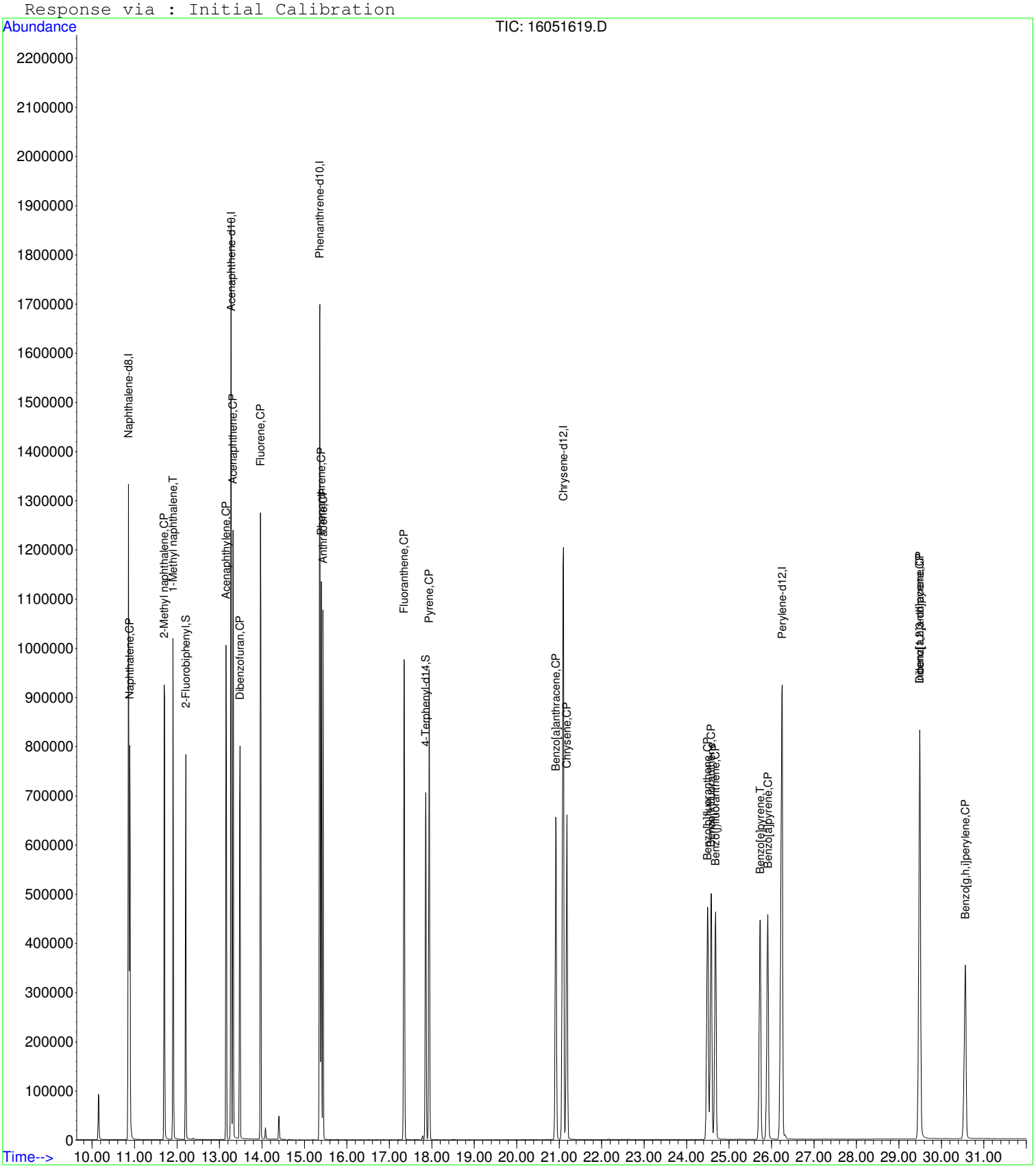
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1587027	4000.00	ug/kg	137
5) Acenaphthene-d10	13.27	164	985302	4000.00	ug/kg	86
11) Phenanthrene-d10	15.36	188	1919244	4000.00	ug/kg	94
17) Chrysene-d12	21.10	240	2113926	4000.00	ug/kg	93
20) Perylene-d12	26.25	264	1947601	4000.00	ug/kg	95
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.21	172	590358	2053.99	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 51.35%			
16) 4-Terphenyl-d14	17.86	244	915584	1843.92	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 46.10%			
Target Compounds						Qvalue
2) Naphthalene	10.89	128	785463	1978.62	ug/kg	99
3) 2-Methyl naphthalene	11.71	142	553632	1578.84	ug/kg	96
4) 1-Methyl naphthalene	11.91	142	499740	1556.08	ug/kg	95
6) Dibenzofuran	13.48	168	746091	2020.39	ug/kg	98
8) Acenaphthylene	13.15	152	903313	2128.80	ug/kg	100
9) Acenaphthene	13.32	154	530365	2013.71	ug/kg	97
10) Fluorene	13.97	166	676538	2115.11	ug/kg	98
12) Phenanthrene	15.40	178	967210	1916.29	ug/kg	100
13) Anthracene	15.44	178	894004	1871.35	ug/kg	100
14) Fluoranthene	17.35	202	1023358	1959.30	ug/kg	99
15) Pyrene	17.94	202	1030046	1898.47	ug/kg	99
18) Benzo[a]anthracene	20.92	228	974515	1967.76	ug/kg	99
19) Chrysene	21.18	228	899329	1879.47	ug/kg	100
21) Benzo[b]fluoranthene	24.49	252	984442	1917.79	ug/kg	99
22) Benzo[k]fluoranthene	24.58	252	906607	1882.71	ug/kg	100
23) Benzo(j)fluoranthene	24.68	252	807967	1883.58	ug/kg	99
24) Benzo[e]pyrene	25.74	252	860252	1871.30	ug/kg	99
25) Benzo[a]pyrene	25.91	252	891221	1897.16	ug/kg	99
26) Dibenz[a,h]anthracene	29.49	278	784134	1832.82	ug/kg	99
27) Indeno[1,2,3-cd]pyrene	29.50	276	911156	1785.23	ug/kg	96
28) Benzo[g,h,i]perylene	30.57	276	735205	1847.32	ug/kg	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160516\16051619.D Vial: 19
Acq On : 16 May 2016 8:06 pm Operator:
Sample : ICV2-160516 Inst : GC/MS #6
Misc : ICV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 17 8:33 2016 Quant Results File: PP160421.RES

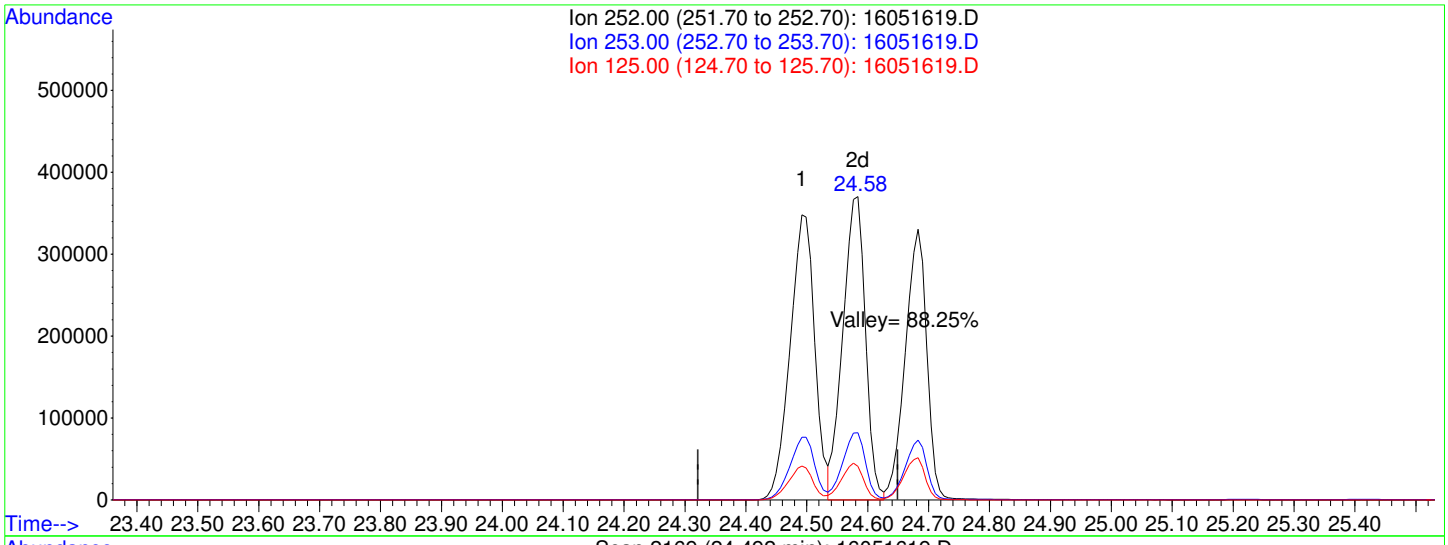
Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Initial Calibration

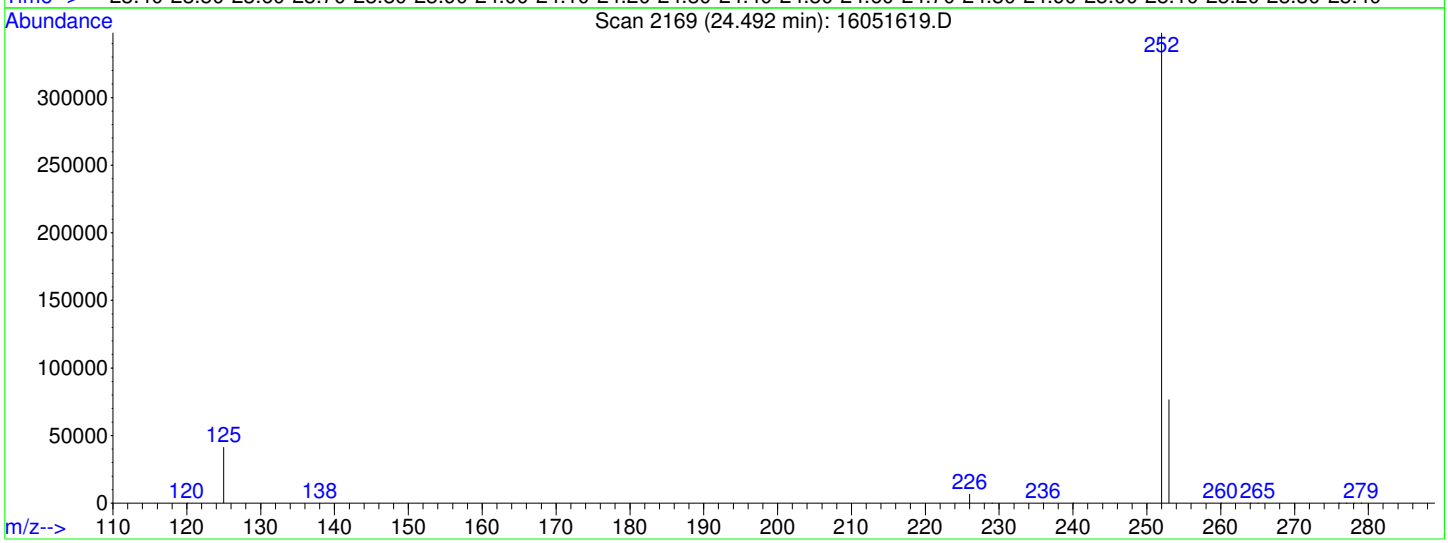


Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\160516\16051619.D Vial: 19
Acq On : 16 May 2016 8:06 pm Operator:
Sample : ICV2-160516 Inst : GC/MS #6
Misc : ICV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 16 20:38 2016 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Multiple Level Calibration





TIC: 16051619.D

(21) Benzo[b]fluoranthene (CP)

24.49min 1917.79ug/kg

response 984442

Ion	Exp%	Act%
252.00	100	100
253.00	22.20	21.95
125.00	11.00	11.88
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160516\16051621.D Vial: 21
Acq On : 16 May 2016 9:26 pm Operator:
Sample : SB-160516 Inst : GC/MS #6
Misc : SBLK Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 17 8:34 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Initial Calibration
DataAcq Meth : PP160421

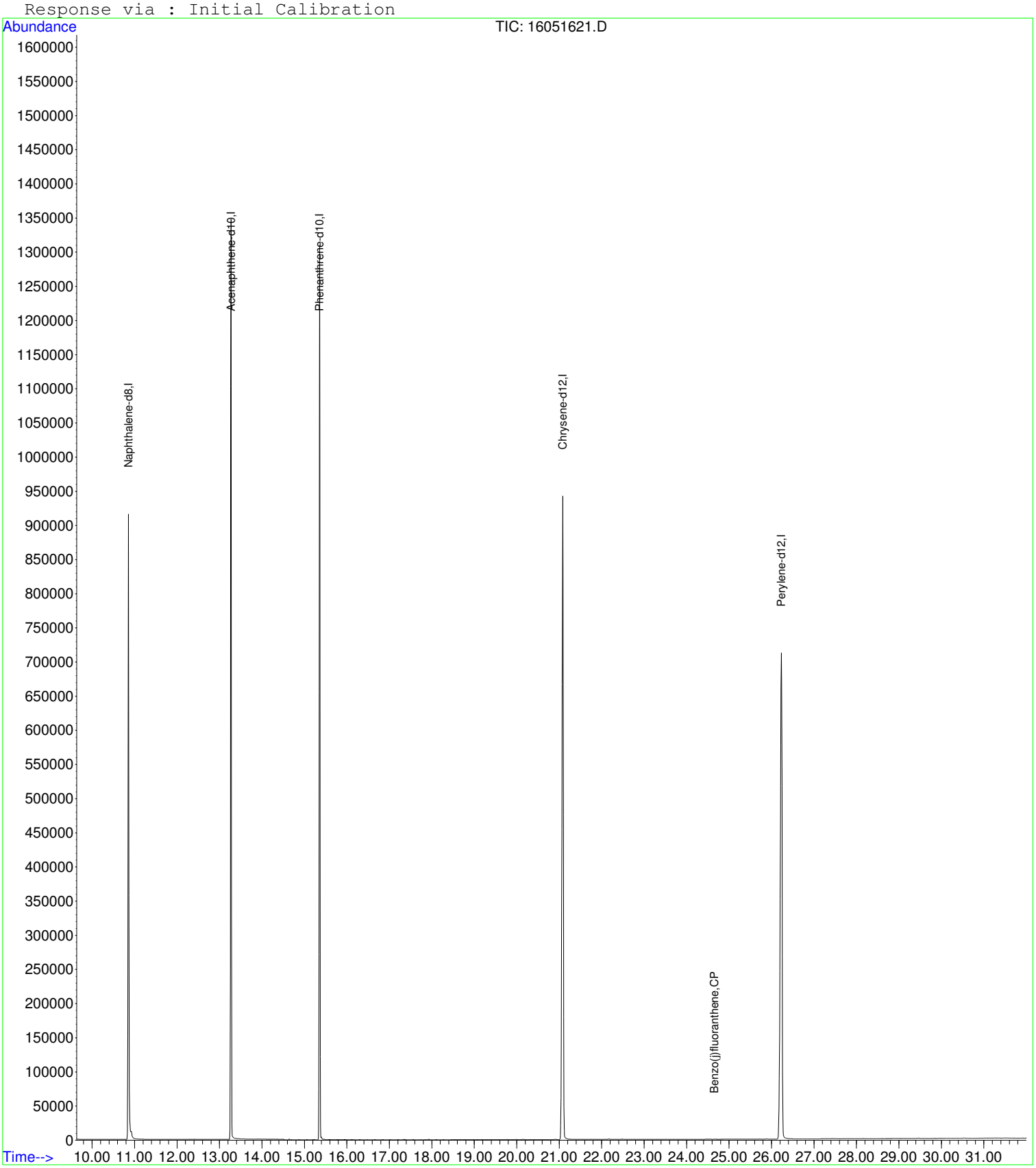
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1188173	4000.00	ug/kg	103
5) Acenaphthene-d10	13.27	164	766722	4000.00	ug/kg	67
11) Phenanthrene-d10	15.36	188	1376151	4000.00	ug/kg	67
17) Chrysene-d12	21.08	240	1565686	4000.00	ug/kg	69
20) Perylene-d12	26.23	264	1434351	4000.00	ug/kg	70
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.21	172	37	0.17	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	0.00%#		
16) 4-Terphenyl-d14	17.85	244	201	0.56	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	0.01%#		
Target Compounds						Qvalue
23) Benzo(j)fluoranthene	24.65	252	214	0.68	ug/kg	81

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160516\16051621.D Vial: 21
Acq On : 16 May 2016 9:26 pm Operator:
Sample : SB-160516 Inst : GC/MS #6
Misc : SBLK Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 17 8:34 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160516\16051629.D Vial: 29
Acq On : 17 May 2016 2:45 am Operator:
Sample : CCV1-160516 Inst : GC/MS #6
Misc : CCV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 17 8:34 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Initial Calibration
DataAcq Meth : PP160421

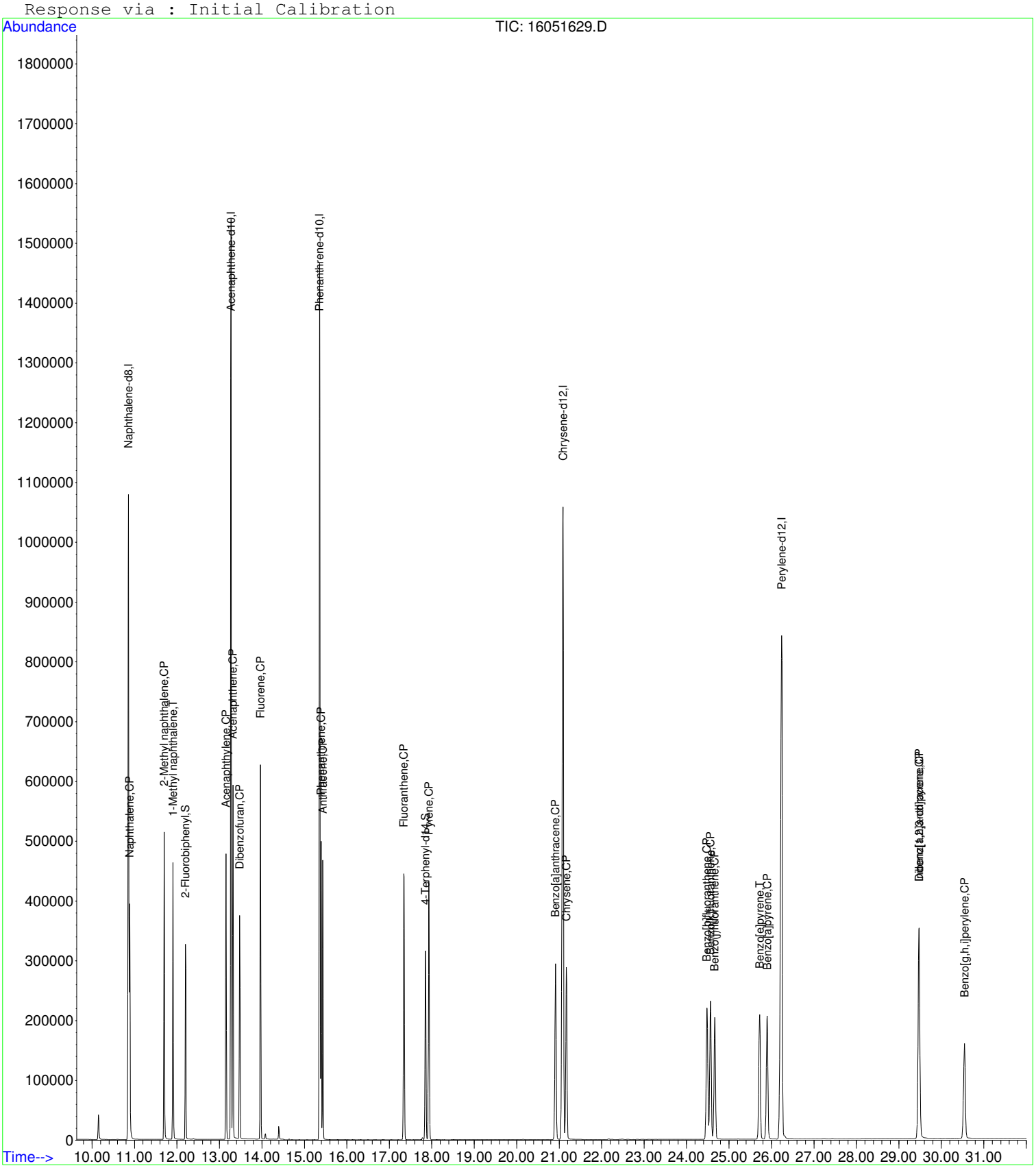
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1416766	4000.00	ug/kg	122
5) Acenaphthene-d10	13.27	164	870789	4000.00	ug/kg	76
11) Phenanthrene-d10	15.36	188	1596898	4000.00	ug/kg	78
17) Chrysene-d12	21.09	240	1822219	4000.00	ug/kg	80
20) Perylene-d12	26.24	264	1694586	4000.00	ug/kg	82
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.20	172	274152	1079.27	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 26.98%#			
16) 4-Terphenyl-d14	17.85	244	402356	973.88	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 24.35%#			
Target Compounds						Qvalue
2) Naphthalene	10.89	128	360759	1017.98	ug/kg	100
3) 2-Methyl naphthalene	11.70	142	257780	823.48	ug/kg	97
4) 1-Methyl naphthalene	11.91	142	232004	809.22	ug/kg	99
6) Dibenzofuran	13.47	168	329031	1008.18	ug/kg	100
8) Acenaphthylene	13.16	152	404545	1078.75	ug/kg	99
9) Acenaphthene	13.32	154	233797	1004.43	ug/kg	99
10) Fluorene	13.97	166	293261	1037.41	ug/kg	100
12) Phenanthrene	15.39	178	409680	975.53	ug/kg	99
13) Anthracene	15.43	178	390297	981.89	ug/kg	100
14) Fluoranthene	17.35	202	447991	1030.85	ug/kg	99
15) Pyrene	17.93	202	449690	996.12	ug/kg	99
18) Benzo[a]anthracene	20.91	228	426733	999.61	ug/kg	99
19) Chrysene	21.17	228	391638	949.49	ug/kg	99
21) Benzo[b]fluoranthene	24.48	252	428409	959.19	ug/kg	100
22) Benzo[k]fluoranthene	24.56	252	410169	978.96	ug/kg	100
23) Benzo(j)fluoranthene	24.67	252	357126	956.86	ug/kg	100
24) Benzo[e]pyrene	25.72	252	375670	939.21	ug/kg	99
25) Benzo[a]pyrene	25.90	252	389706	953.44	ug/kg	99
26) Dibenz[a,h]anthracene	29.47	278	331475	890.46	ug/kg	99
27) Indeno[1,2,3-cd]pyrene	29.48	276	386681	870.75	ug/kg	96
28) Benzo[g,h,i]perylene	30.54	276	312491	902.42	ug/kg	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160516\16051629.D Vial: 29
Acq On : 17 May 2016 2:45 am Operator:
Sample : CCV1-160516 Inst : GC/MS #6
Misc : CCV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 17 8:34 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160517\16051702.D Vial: 2
Acq On : 17 May 2016 8:49 am Operator:
Sample : ICV-160517 Inst : GC/MS #6
Misc : ICV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 17 13:08 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Initial Calibration
DataAcq Meth : PP160421

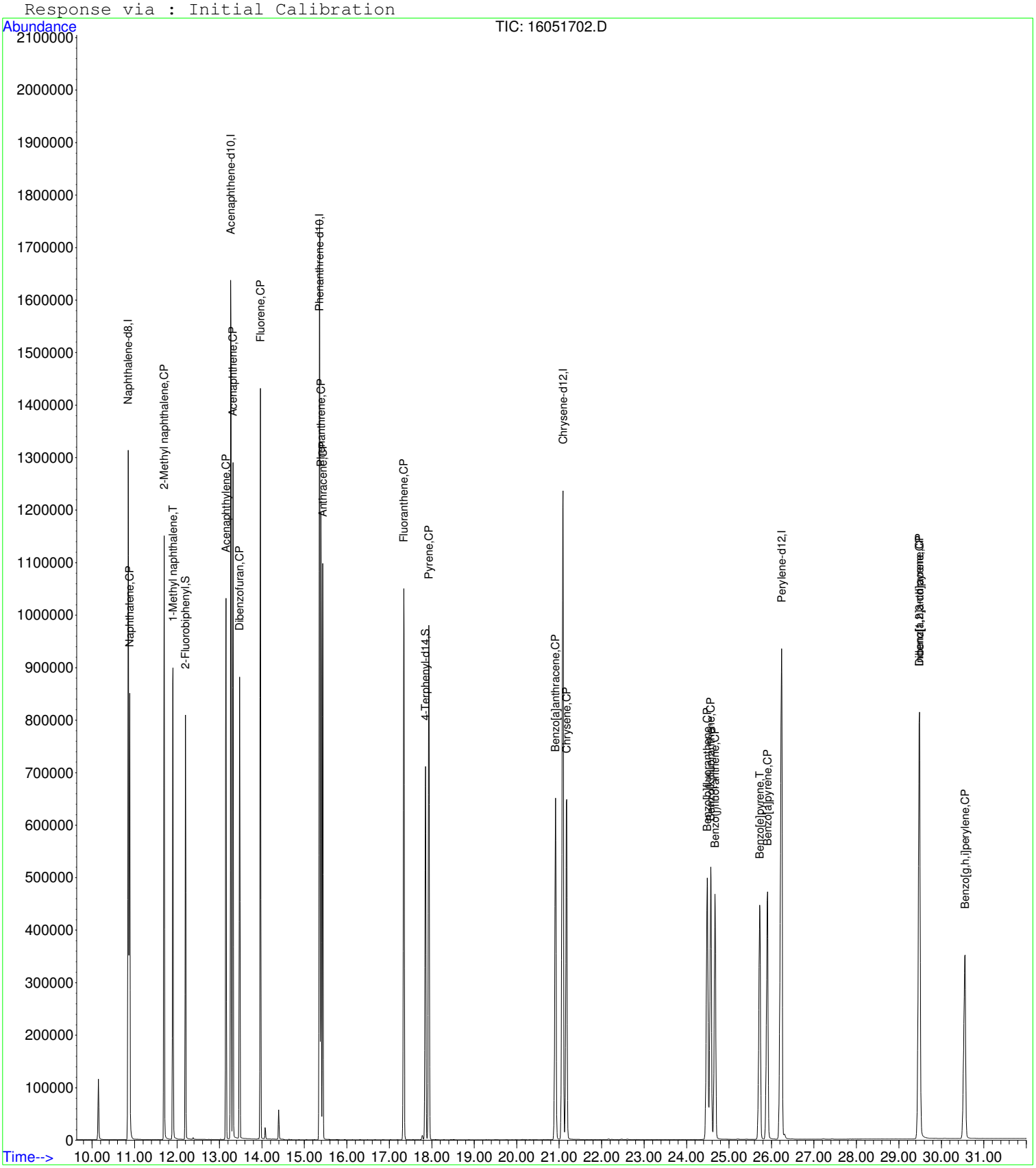
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.85	136	1678774	4000.00	ug/kg	145
5) Acenaphthene-d10	13.26	164	985168	4000.00	ug/kg	86
11) Phenanthrene-d10	15.36	188	1960793	4000.00	ug/kg	96
17) Chrysene-d12	21.09	240	2141303	4000.00	ug/kg	94
20) Perylene-d12	26.24	264	1968036	4000.00	ug/kg	96
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.20	172	600786	2090.55	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	52.26%		
16) 4-Terphenyl-d14	17.85	244	928743	1830.79	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	45.77%		
Target Compounds						Qvalue
2) Naphthalene	10.89	128	823757	1961.68	ug/kg	99
3) 2-Methyl naphthalene	11.70	142	575231	1550.79	ug/kg	99
4) 1-Methyl naphthalene	11.91	142	517475	1523.24	ug/kg	98
6) Dibenzofuran	13.47	168	745027	2017.78	ug/kg	99
8) Acenaphthylene	13.15	152	908292	2140.82	ug/kg	99
9) Acenaphthene	13.32	154	521733	1981.21	ug/kg	99
10) Fluorene	13.97	166	677871	2119.57	ug/kg	99
12) Phenanthrene	15.39	178	988688	1917.34	ug/kg	100
13) Anthracene	15.43	178	916500	1877.79	ug/kg	100
14) Fluoranthene	17.34	202	1044897	1958.14	ug/kg	99
15) Pyrene	17.93	202	1051090	1896.21	ug/kg	100
18) Benzo[a]anthracene	20.91	228	990726	1974.92	ug/kg	99
19) Chrysene	21.18	228	914861	1887.48	ug/kg	99
21) Benzo[b]fluoranthene	24.49	252	1012881	1952.71	ug/kg	99
22) Benzo[k]fluoranthene	24.57	252	924908	1900.78	ug/kg	100
23) Benzo(j)fluoranthene	24.67	252	822151	1896.74	ug/kg	99
24) Benzo[e]pyrene	25.72	252	864681	1861.41	ug/kg	99
25) Benzo[a]pyrene	25.91	252	901121	1898.31	ug/kg	100
26) Dibenz[a,h]anthracene	29.48	278	793821	1836.20	ug/kg	99
27) Indeno[1,2,3-cd]pyrene	29.48	276	921475	1786.71	ug/kg	98
28) Benzo[g,h,i]perylene	30.56	276	744827	1852.06	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160517\16051702.D Vial: 2
Acq On : 17 May 2016 8:49 am Operator:
Sample : ICV-160517 Inst : GC/MS #6
Misc : ICV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 17 13:08 2016 Quant Results File: PP160421.RES

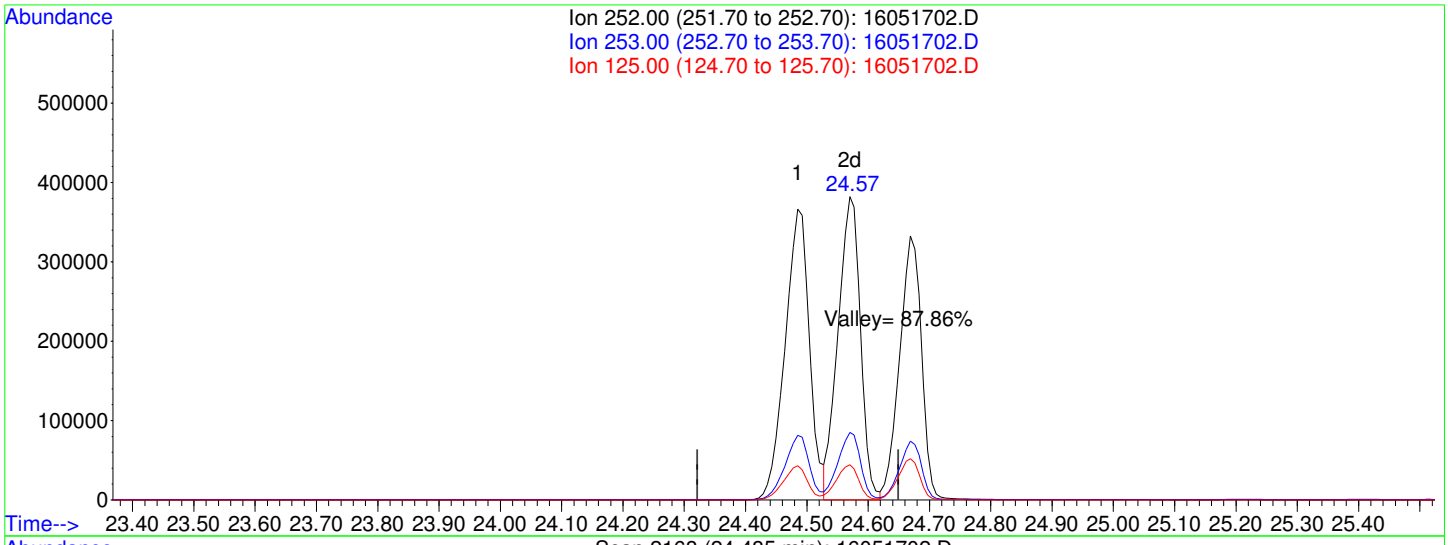
Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Initial Calibration

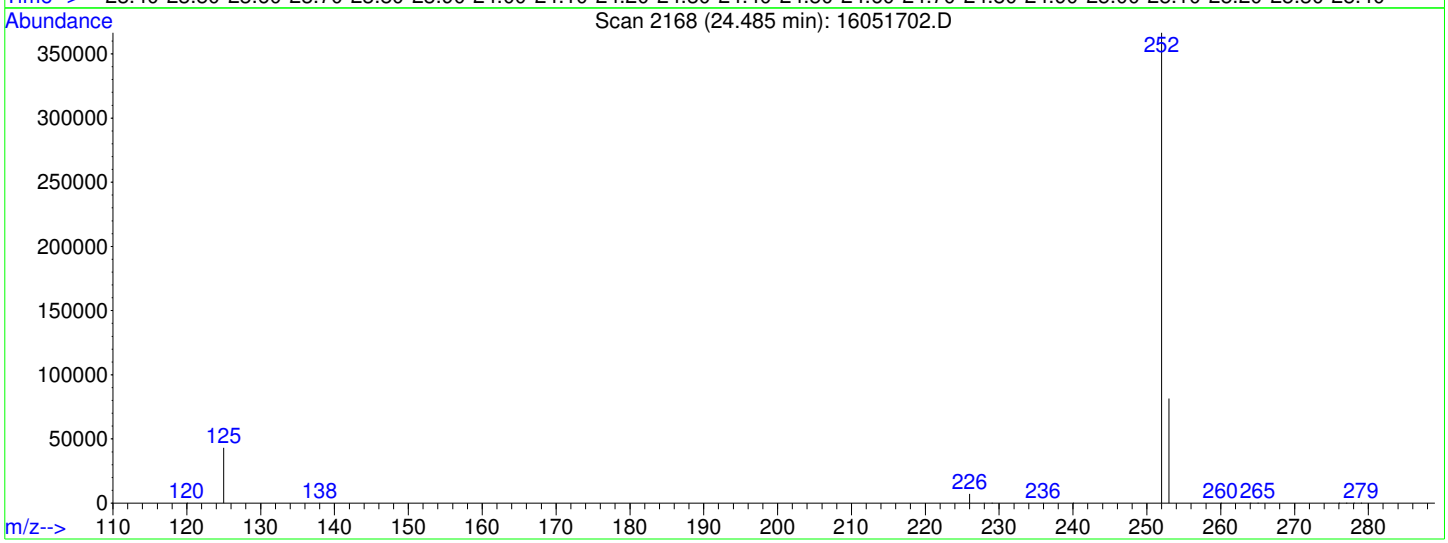


Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\160517\16051702.D Vial: 2
Acq On : 17 May 2016 8:49 am Operator:
Sample : ICV-160517 Inst : GC/MS #6
Misc : ICV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 17 9:21 2016 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Multiple Level Calibration





TIC: 16051702.D

(21) Benzo[b]fluoranthene (CP)

24.49min 1952.71ug/kg

response 1012881

Ion	Exp%	Act%
252.00	100	100
253.00	22.20	22.10
125.00	11.00	11.74
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160517\16051703.D Vial: 3
Acq On : 17 May 2016 9:31 am Operator:
Sample : 1605074-44AMS Inst : GC/MS #6
Misc : MS Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 17 13:08 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Initial Calibration
DataAcq Meth : PP160421

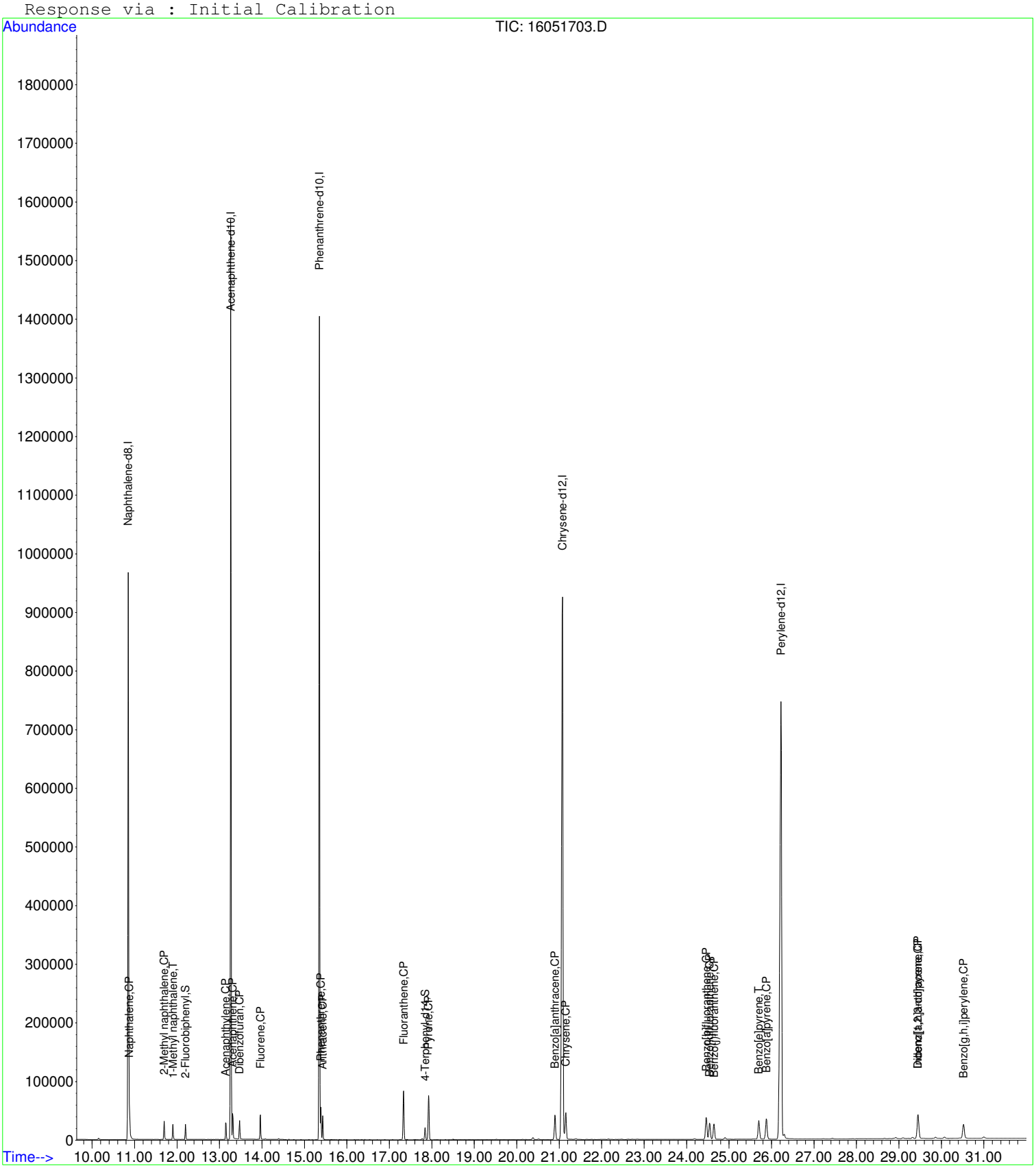
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.85	136	1220181	4000.00	ug/kg	105
5) Acenaphthene-d10	13.26	164	820384	4000.00	ug/kg	71
11) Phenanthrene-d10	15.35	188	1474371	4000.00	ug/kg	72
17) Chrysene-d12	21.08	240	1561272	4000.00	ug/kg	69
20) Perylene-d12	26.22	264	1457615	4000.00	ug/kg	71
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.20	172	19609	81.94	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	2.05%#		
16) 4-Terphenyl-d14	17.84	244	26963	70.69	ug/kg	-0.01
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.77%#		
Target Compounds						Qvalue
2) Naphthalene	10.88	128	23499	76.99	ug/kg	100
3) 2-Methyl naphthalene	11.70	142	17260	64.02	ug/kg	98
4) 1-Methyl naphthalene	11.91	142	15744	63.76	ug/kg	100
6) Dibenzofuran	13.47	168	27244	88.61	ug/kg	99
8) Acenaphthylene	13.14	152	28843	81.64	ug/kg	99
9) Acenaphthene	13.31	154	17954	81.87	ug/kg	96
10) Fluorene	13.97	166	22900	85.99	ug/kg	98
12) Phenanthrene	15.39	178	47210	121.76	ug/kg	98
13) Anthracene	15.43	178	34180	93.13	ug/kg	99
14) Fluoranthene	17.34	202	83853	208.98	ug/kg	99
15) Pyrene	17.92	202	81167	194.74	ug/kg	99
18) Benzo[a]anthracene	20.90	228	60889	166.47	ug/kg	98
19) Chrysene	21.15	228	64919	183.70	ug/kg	99
21) Benzo[b]fluoranthene	24.46	252	70388	183.22	ug/kg	99
22) Benzo[k]fluoranthene	24.54	252	48485	134.53	ug/kg	100
23) Benzo(j)fluoranthene	24.65	252	46093	143.58	ug/kg	97
24) Benzo[e]pyrene	25.70	252	57449	166.98	ug/kg	99
25) Benzo[a]pyrene	25.88	252	65241	185.56	ug/kg	99
26) Dibenz[a,h]anthracene	29.45	278	30791	96.16	ug/kg	98
27) Indeno[1,2,3-cd]pyrene	29.46	276	52976	138.69	ug/kg	91
28) Benzo[g,h,i]perylene	30.52	276	47005	157.81	ug/kg	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160517\16051703.D Vial: 3
Acq On : 17 May 2016 9:31 am Operator:
Sample : 1605074-44AMS Inst : GC/MS #6
Misc : MS Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 17 13:08 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160517\16051704.D Vial: 4
Acq On : 17 May 2016 10:11 am Operator:
Sample : SB-160517 Inst : GC/MS #6
Misc : SBLK Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 17 13:08 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Initial Calibration
DataAcq Meth : PP160421

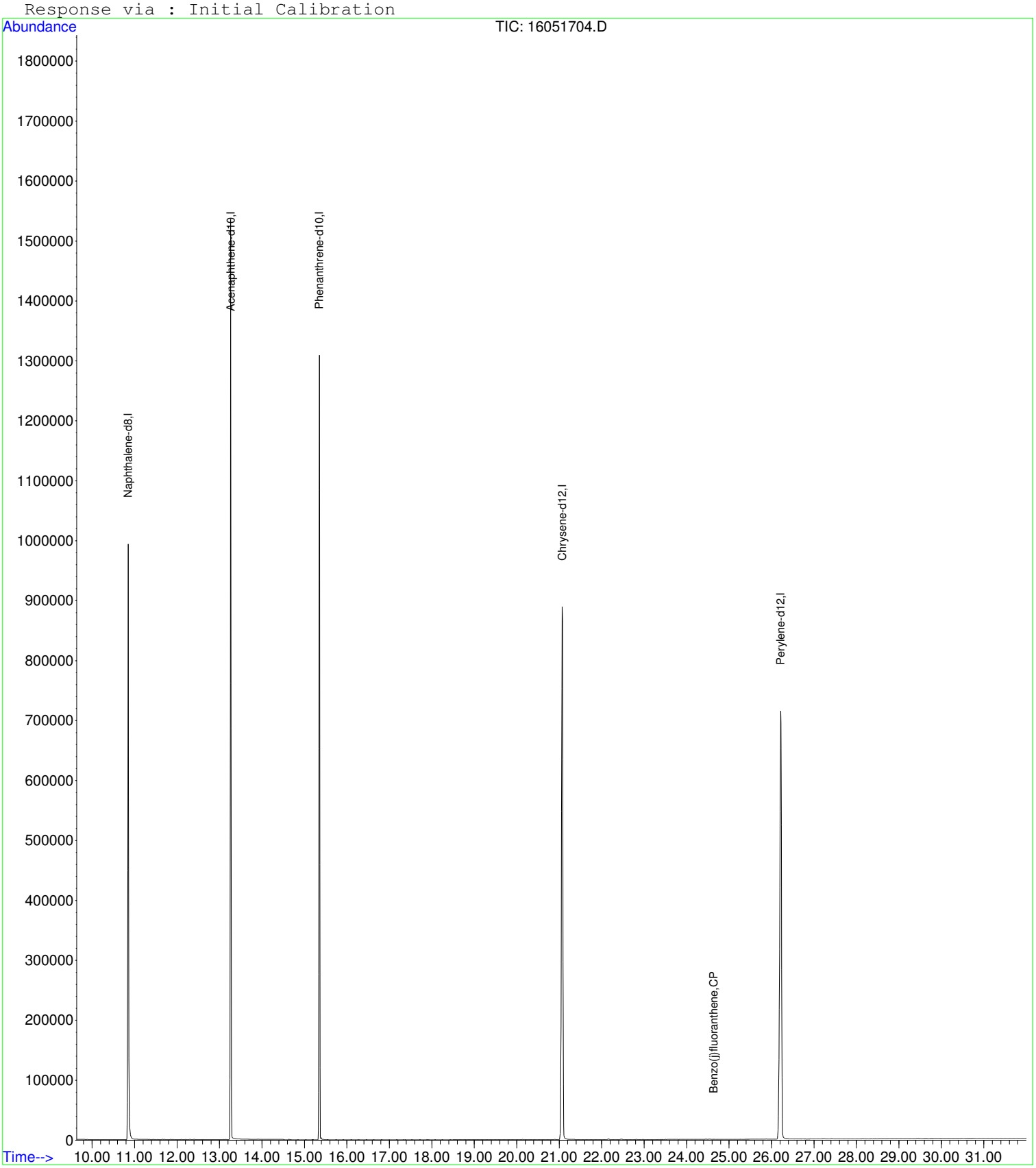
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.85	136	1208387	4000.00	ug/kg	104
5) Acenaphthene-d10	13.26	164	785820	4000.00	ug/kg	68
11) Phenanthrene-d10	15.35	188	1367078	4000.00	ug/kg	67
17) Chrysene-d12	21.07	240	1507667	4000.00	ug/kg	66
20) Perylene-d12	26.22	264	1392131	4000.00	ug/kg	68
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.20	172	71	0.31	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	0.01%#		
16) 4-Terphenyl-d14	17.84	244	110	0.31	ug/kg	-0.01
Spiked Amount 4000.000	Range 40 - 140		Recovery =	0.01%#		
Target Compounds						Qvalue
23) Benzo(j)fluoranthene	24.64	252	234	0.76	ug/kg#	40

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160517\16051704.D Vial: 4
Acq On : 17 May 2016 10:11 am Operator:
Sample : SB-160517 Inst : GC/MS #6
Misc : SBLK Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 17 13:08 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160517\16051705.D Vial: 5
Acq On : 17 May 2016 10:51 am Operator:
Sample : 1605074-45A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 17 13:09 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Initial Calibration
DataAcq Meth : PP160421

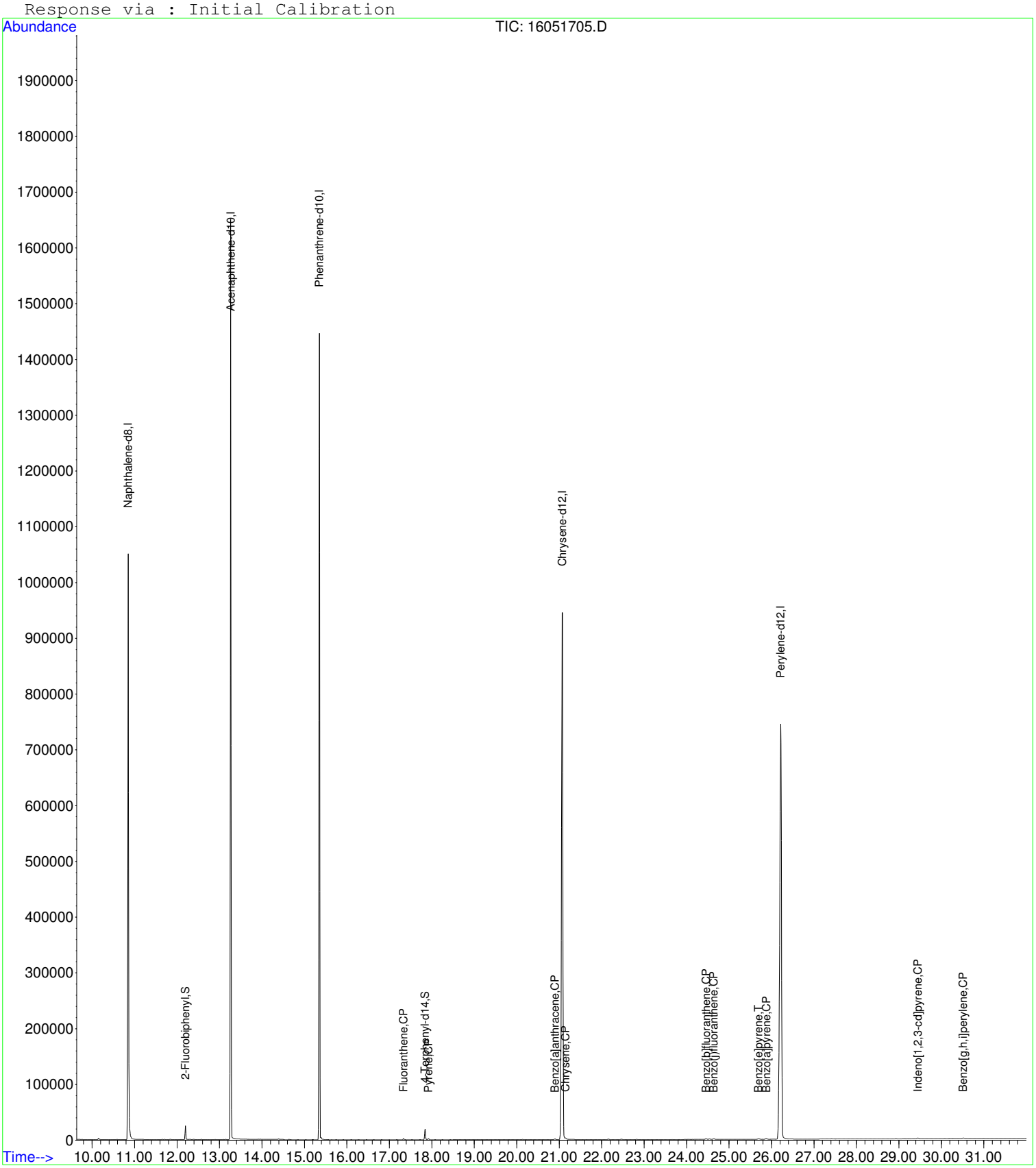
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.85	136	1256622	4000.00	ug/kg	108
5) Acenaphthene-d10	13.26	164	843616	4000.00	ug/kg	73
11) Phenanthrene-d10	15.35	188	1495727	4000.00	ug/kg	73
17) Chrysene-d12	21.08	240	1570765	4000.00	ug/kg	69
20) Perylene-d12	26.22	264	1476876	4000.00	ug/kg	72
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.20	172	18503	75.19	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.88%#		
16) 4-Terphenyl-d14	17.84	244	24411	63.08	ug/kg	-0.01
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.58%#		
Target Compounds						Qvalue
14) Fluoranthene	17.33	202	2547	6.26	ug/kg	96
15) Pyrene	17.92	202	2638	6.24	ug/kg	98
18) Benzo[a]anthracene	20.90	228	1968	5.35	ug/kg	97
19) Chrysene	21.15	228	2351	6.61	ug/kg	97
21) Benzo[b]fluoranthene	24.46	252	2757	7.08	ug/kg	97
23) Benzo(j)fluoranthene	24.64	252	2038	6.27	ug/kg	94
24) Benzo[e]pyrene	25.69	252	2215	6.35	ug/kg	97
25) Benzo[a]pyrene	25.87	252	2658	7.46	ug/kg	91
27) Indeno[1,2,3-cd]pyrene	29.45	276	2153	5.56	ug/kg	93
28) Benzo[g,h,i]perylene	30.52	276	2123	7.03	ug/kg	98

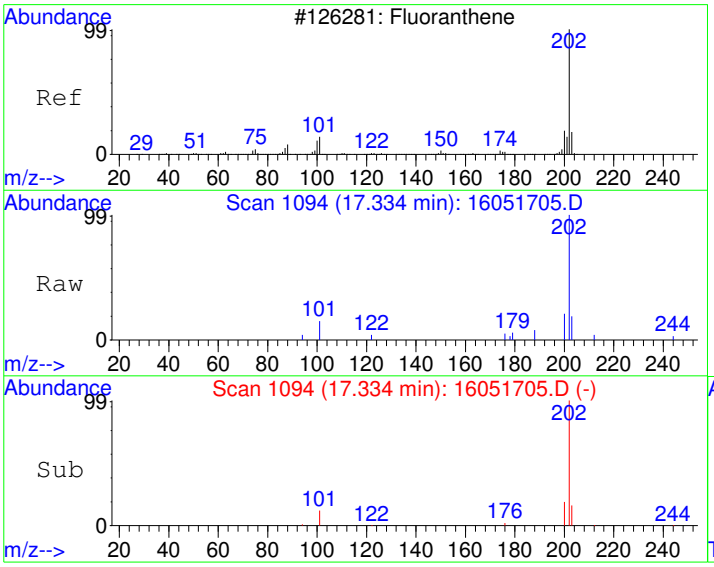
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160517\16051705.D Vial: 5
Acq On : 17 May 2016 10:51 am Operator:
Sample : 1605074-45A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 17 13:09 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Initial Calibration

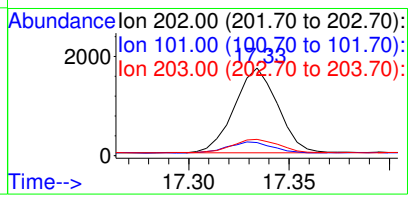


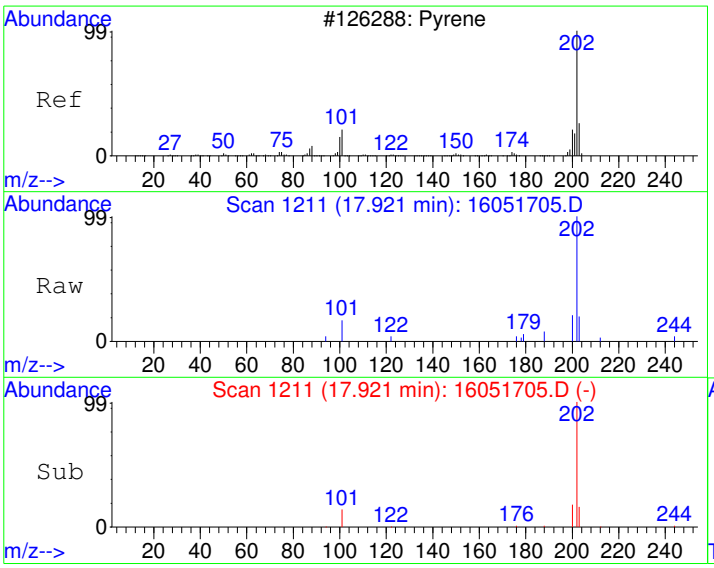


#14
Fluoranthene
Concen: 6.26 ug/kg
RT: 17.33 min Scan# 1094
Delta R.T. -0.01 min
Lab File: 16051705.D
Acq: 17 May 2016 10:51 am

Tgt Ion:202 Resp: 2547

Ion	Ratio	Lower	Upper
202	100		
101	12.2	0.0	43.0
203	15.7	0.0	47.9

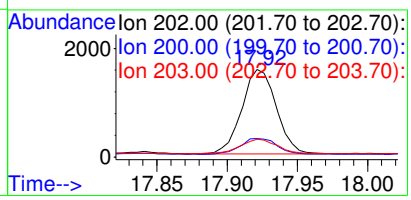


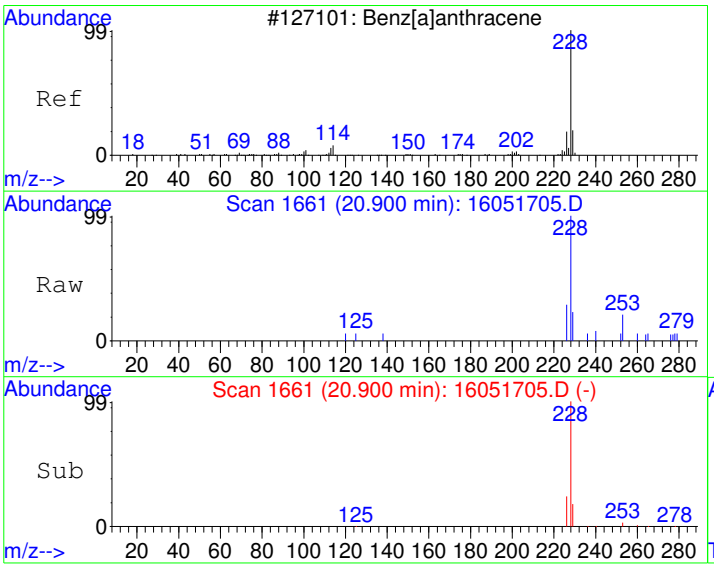


#15
Pyrene
Concen: 6.24 ug/kg
RT: 17.92 min Scan# 1211
Delta R.T. -0.01 min
Lab File: 16051705.D
Acq: 17 May 2016 10:51 am

Tgt Ion:202 Resp: 2638

Ion	Ratio	Lower	Upper
202	100		
200	18.7	0.0	50.0
203	17.2	0.0	48.0

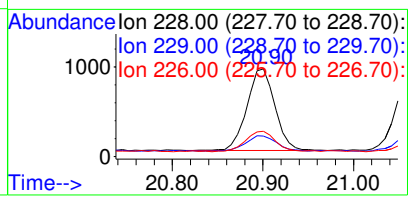


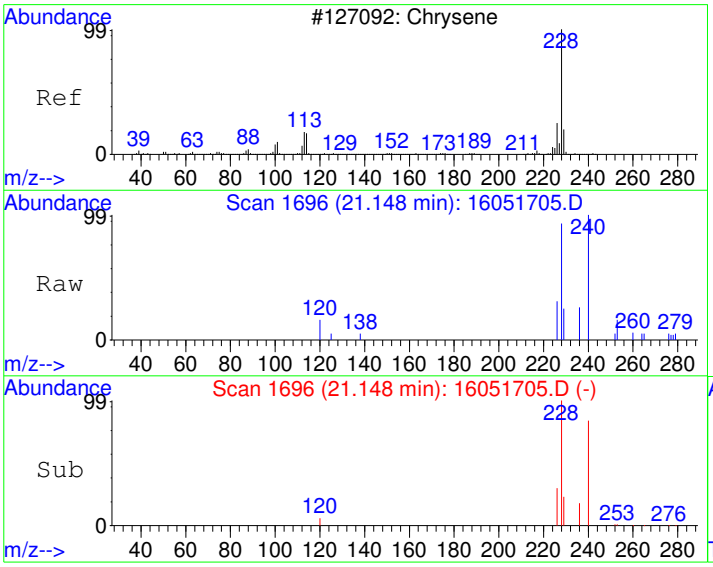


#18
Benzo[a]anthracene
Concen: 5.35 ug/kg
RT: 20.90 min Scan# 1661
Delta R.T. -0.01 min
Lab File: 16051705.D
Acq: 17 May 2016 10:51 am

Tgt Ion:228 Resp: 1968

Ion	Ratio	Lower	Upper
228	100		
229	18.0	0.0	50.1
226	24.6	0.0	55.2

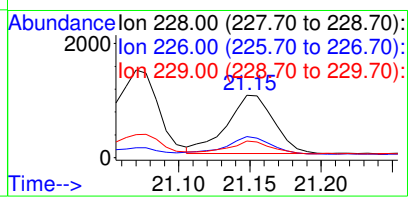


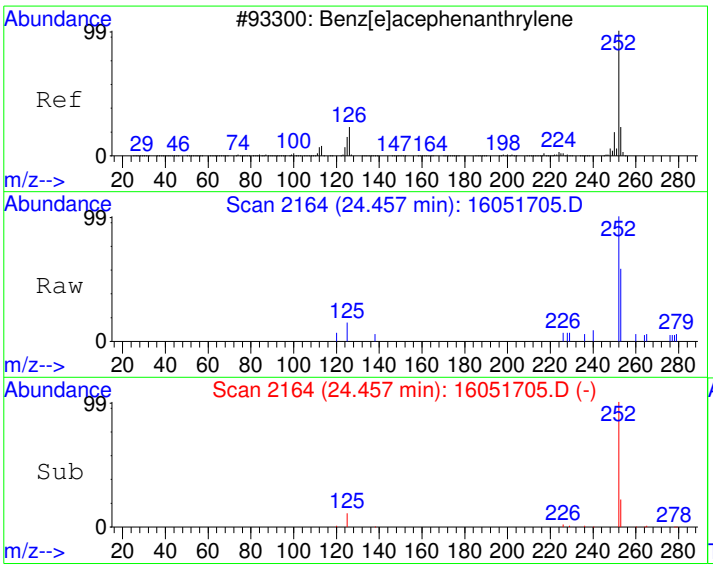


#19
Chrysene
Concen: 6.61 ug/kg
RT: 21.15 min Scan# 1696
Delta R.T. -0.02 min
Lab File: 16051705.D
Acq: 17 May 2016 10:51 am

Tgt Ion:228 Resp: 2351

Ion	Ratio	Lower	Upper
228	100		
226	30.2	0.0	58.1
229	21.2	0.0	50.1

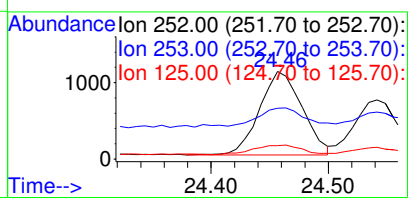


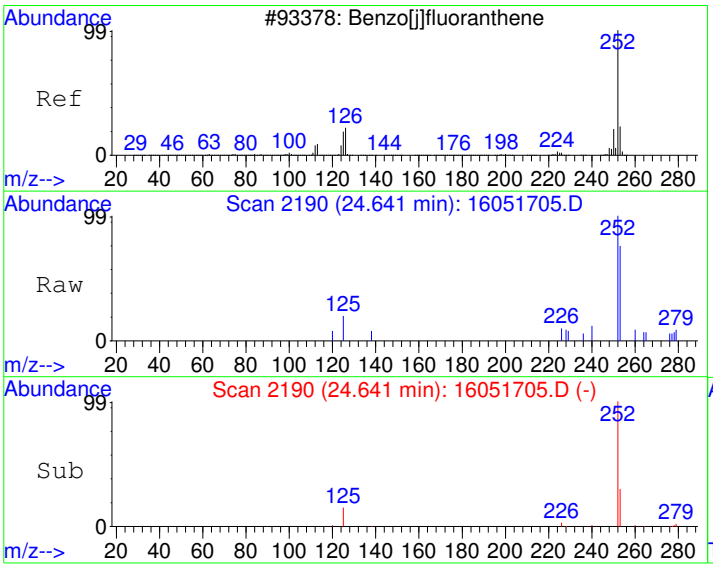


#21
Benzo[b]fluoranthene
Concen: 7.08 ug/kg
RT: 24.46 min Scan# 2164
Delta R.T. -0.03 min
Lab File: 16051705.D
Acq: 17 May 2016 10:51 am

Tgt Ion:252 Resp: 2757

Ion	Ratio	Lower	Upper
252	100		
253	20.6	0.0	52.2
125	10.2	0.0	41.0

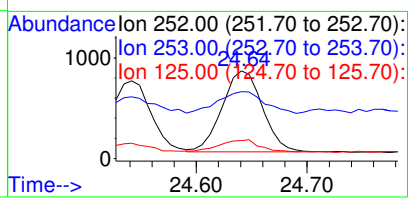


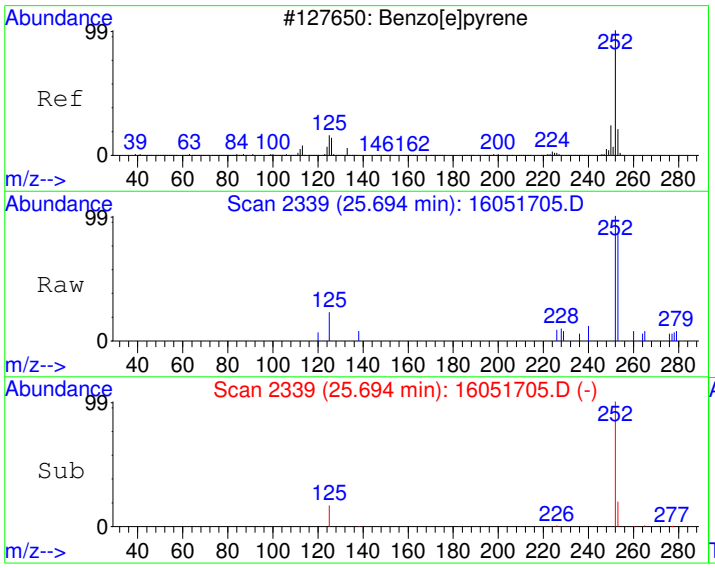


#23
Benzo(j)fluoranthene
Concen: 6.27 ug/kg
RT: 24.64 min Scan# 2190
Delta R.T. -0.03 min
Lab File: 16051705.D
Acq: 17 May 2016 10:51 am

Tgt Ion:252 Resp: 2038

Ion	Ratio	Lower	Upper
252	100		
253	26.5	2.1	42.1
125	13.7	0.0	34.4

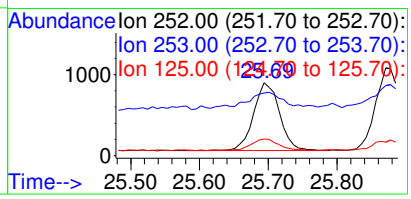


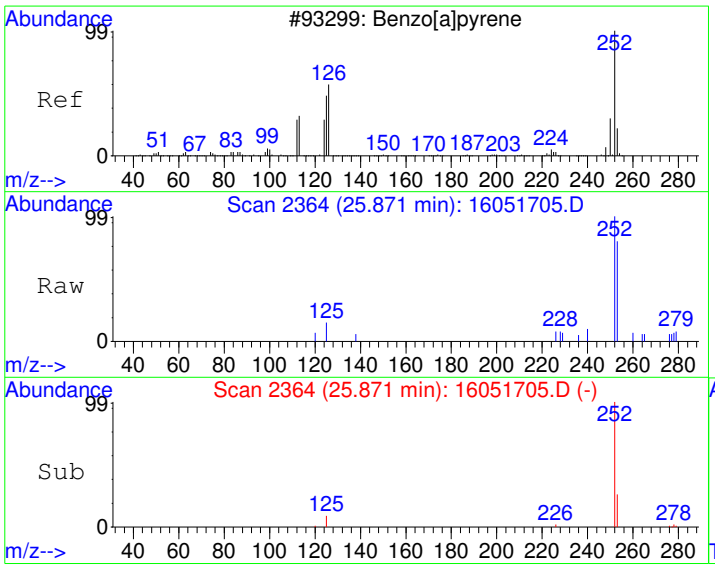


#24
Benzo[e]pyrene
Concen: 6.35 ug/kg
RT: 25.69 min Scan# 2339
Delta R.T. -0.03 min
Lab File: 16051705.D
Acq: 17 May 2016 10:51 am

Tgt Ion:252 Resp: 2215

Ion	Ratio	Lower	Upper
252	100		
253	19.4	2.2	42.2
125	16.1	0.0	36.1

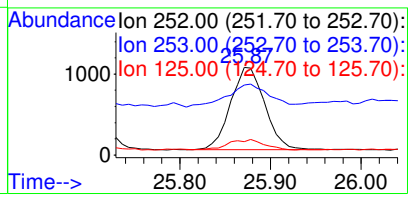


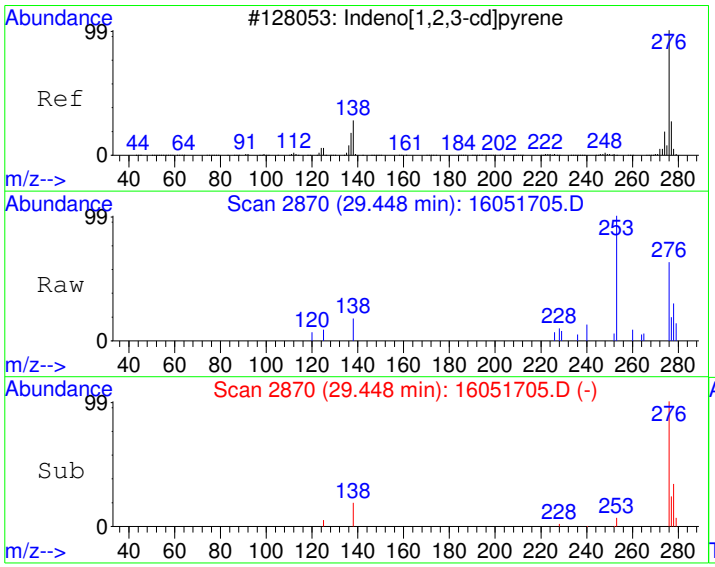


#25
Benzo[a]pyrene
Concen: 7.46 ug/kg
RT: 25.87 min Scan# 2364
Delta R.T. -0.03 min
Lab File: 16051705.D
Acq: 17 May 2016 10:51 am

Tgt Ion:252 Resp: 2658

Ion	Ratio	Lower	Upper
252	100		
253	27.0	1.9	41.9
125	9.4	0.0	31.7

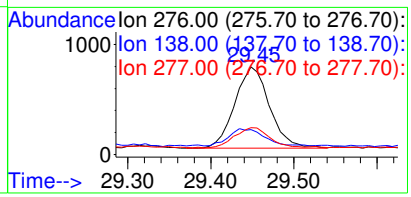


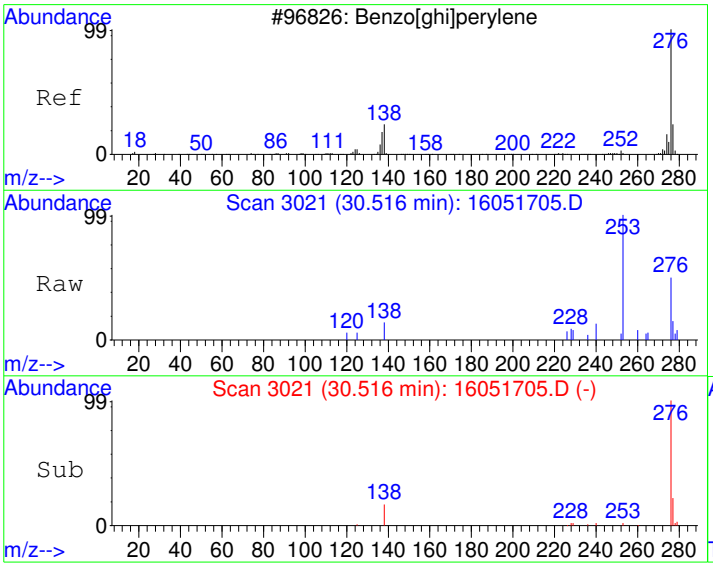


#27
Indeno[1,2,3-cd]pyrene
Concen: 5.56 ug/kg
RT: 29.45 min Scan# 2870
Delta R.T. -0.03 min
Lab File: 16051705.D
Acq: 17 May 2016 10:51 am

Tgt Ion:276 Resp: 2153

Ion	Ratio	Lower	Upper
276	100		
138	20.2	6.7	46.7
277	24.8	5.8	45.8

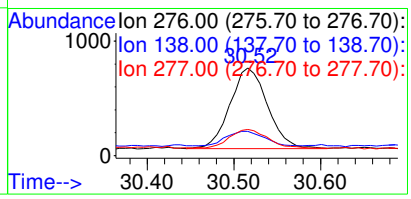




#28
Benzo[g,h,i]perylene
Concen: 7.03 ug/kg
RT: 30.52 min Scan# 3021
Delta R.T. -0.04 min
Lab File: 16051705.D
Acq: 17 May 2016 10:51 am

Tgt Ion:276 Resp: 2123

Ion	Ratio	Lower	Upper
276	100		
138	17.8	0.0	39.1
277	23.4	4.0	44.0



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160517\16051707.D Vial: 2
Acq On : 17 May 2016 12:27 pm Operator:
Sample : CCV1-160517 Inst : GC/MS #6
Misc : CCV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 17 13:58 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Initial Calibration
DataAcq Meth : PP160421

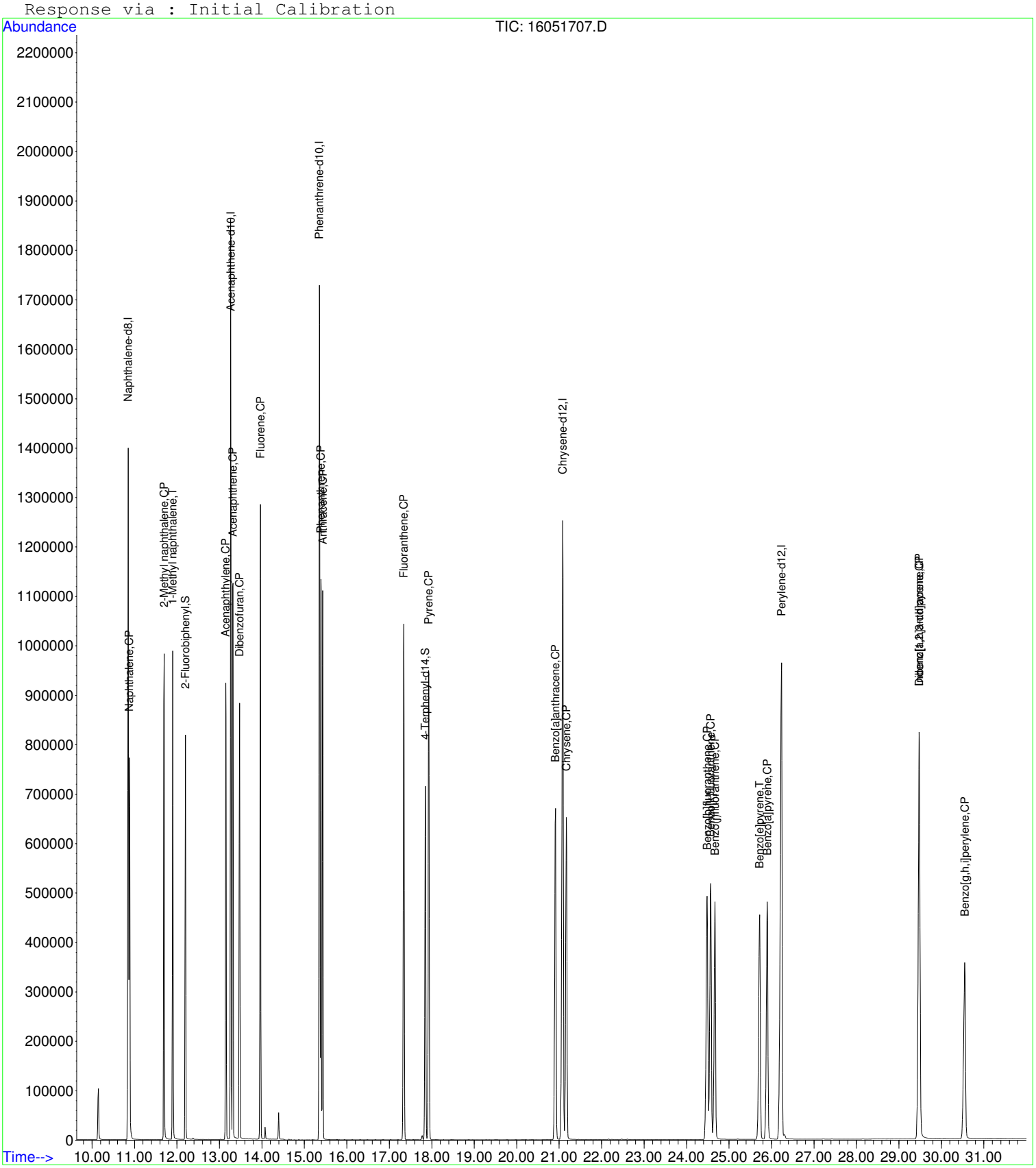
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.85	136	1639164	4000.00	ug/kg	141
5) Acenaphthene-d10	13.27	164	994074	4000.00	ug/kg	86
11) Phenanthrene-d10	15.35	188	1966569	4000.00	ug/kg	96
17) Chrysene-d12	21.08	240	2143396	4000.00	ug/kg	94
20) Perylene-d12	26.24	264	1977137	4000.00	ug/kg	96
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.20	172	592084	2041.81	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 51.05%			
16) 4-Terphenyl-d14	17.85	244	924369	1816.81	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 45.42%			
Target Compounds						Qvalue
2) Naphthalene	10.88	128	796557	1942.75	ug/kg	99
3) 2-Methyl naphthalene	11.70	142	562682	1553.61	ug/kg	97
4) 1-Methyl naphthalene	11.90	142	503920	1519.18	ug/kg	94
6) Dibenzofuran	13.47	168	755720	2028.40	ug/kg	98
8) Acenaphthylene	13.15	152	902960	2109.19	ug/kg	99
9) Acenaphthene	13.32	154	532916	2005.54	ug/kg	96
10) Fluorene	13.97	166	696139	2157.19	ug/kg	97
12) Phenanthrene	15.39	178	980066	1895.04	ug/kg	99
13) Anthracene	15.43	178	920634	1880.72	ug/kg	100
14) Fluoranthene	17.34	202	1034926	1933.76	ug/kg	99
15) Pyrene	17.93	202	1040113	1870.89	ug/kg	100
18) Benzo[a]anthracene	20.91	228	990910	1973.35	ug/kg	100
19) Chrysene	21.17	228	905661	1866.68	ug/kg	100
21) Benzo[b]fluoranthene	24.48	252	1003192	1925.12	ug/kg	99
22) Benzo[k]fluoranthene	24.57	252	927387	1897.10	ug/kg	99
23) Benzo(j)fluoranthene	24.67	252	827278	1899.78	ug/kg	99
24) Benzo[e]pyrene	25.72	252	871661	1867.80	ug/kg	99
25) Benzo[a]pyrene	25.90	252	909337	1906.80	ug/kg	99
26) Dibenz[a,h]anthracene	29.48	278	797559	1836.35	ug/kg	100
27) Indeno[1,2,3-cd]pyrene	29.48	276	928320	1791.69	ug/kg	96
28) Benzo[g,h,i]perylene	30.55	276	745016	1844.00	ug/kg	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160517\16051707.D Vial: 2
Acq On : 17 May 2016 12:27 pm Operator:
Sample : CCV1-160517 Inst : GC/MS #6
Misc : CCV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 17 13:58 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Mon May 16 11:20:24 2016
Response via : Initial Calibration



GCMS6
Calibration Curve
For

DHL Work Order
1605074

CAL ID: 651

Method 8270 PAH Calibration Curve Sheet

Instrument ID: GCMS #6 **Calibration File Name:** PP160421.CAL

Target Concentration	Solvent Amount mL	Standard Preparation Stocks and Surrogate (µL/mL)	Final Volume mL
5 ppb	0.999	0.001 mL of 5000 ppb	1
10 ppb	0.998	0.002 mL of 5000 ppb	1
50 ppb	0.990	0.01 mL of 5000 ppb	1
100 ppb	0.980	0.02 mL of 5000 ppb	1
500 ppb	0.900	0.10 mL of 5000 ppb	1
1000 ppb	0.800	0.20 mL of 5000 ppb	1
2000 ppb	0.600	0.40 mL of 5000 ppb	1
5000 ppb	----	PAHCAL160421	10
SSCV 2500 ppb	0.500	0.50 mL of PAHSSCV160317-1	1
SSCV 2500 ppb	----	PAHSSCV160322-2	1

Standards Used for the Calibration Curve

Primary Stock STDs	DHL Standard ID	Second Source (SS) Stock STDs	DHL Standard ID
5 PPM (5000 PPB) PAH CAL STD	**PAHCAL160421**	5PPM (5000PPB) PAH SSCV STD	**PAHSSCV160317-1**
		5PPM (5000PPB) PAH SSCV STD	**PAHSSCV160322-2**

Review Item	Acceptance Criteria	Yes	No	N/A	2nd Level Review
1. Are all standards within expiration dates?	Primary Stocks = 1 year Intermediate Standards = 6 months	X			X
2. Are all manual integrations listed on MI tracking form? **(DoD Projects only)**	Manual Integration Tracking Form			X	X
3. Does the tune and resolution check meet criteria?	Benzo(b) / Benzo(k)phenanthrene Valley > 50% See Tune Eval Report	X			X
4. Does the ICAL curve meet criteria? Use average CF only if %RSD < 15%	%RSD < 15% COD ≥ 0.990	X			X
5. Has the low point been reprocessed under the new ICAL curve and meets criteria?	70-130% recovery	X			X
6. Has the SSCV been analyzed and meets criteria?	80-120% recovery	X			X

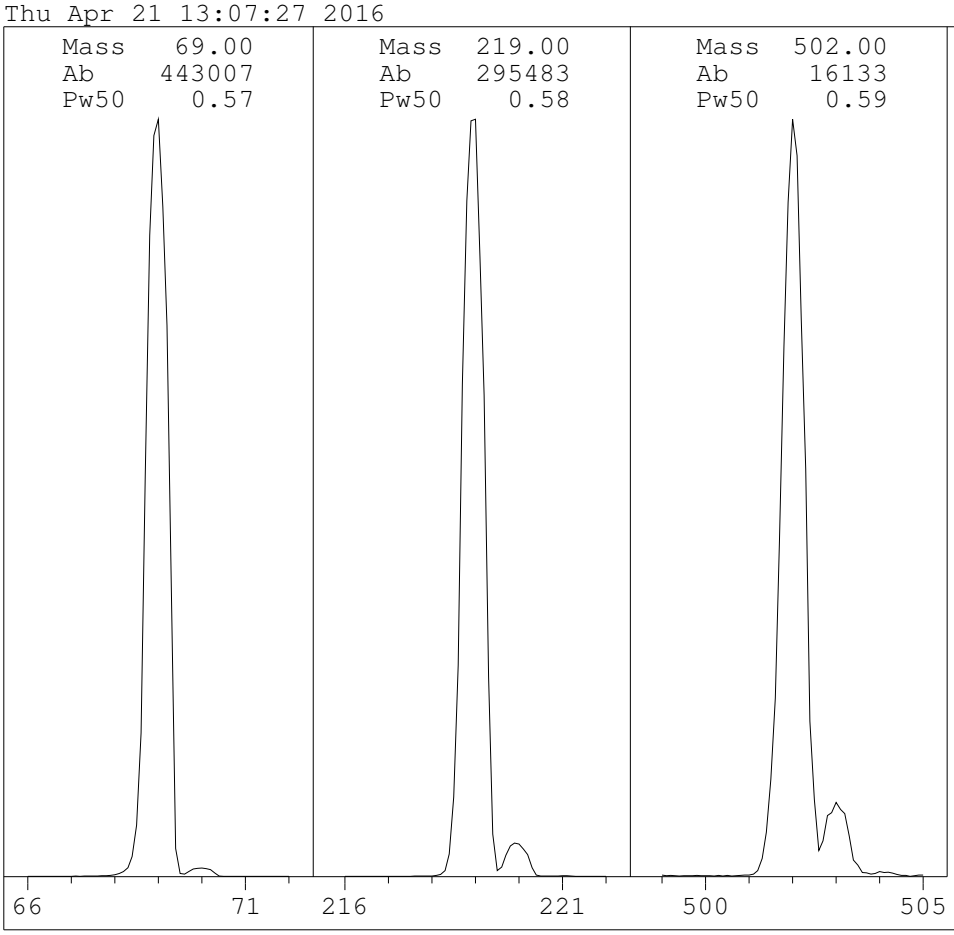
Analyst: Karyn Lane Date: 04/22/16

Second-Level Review: Date: 04/22/2016

HP5973

Instrument: GC/MS #6

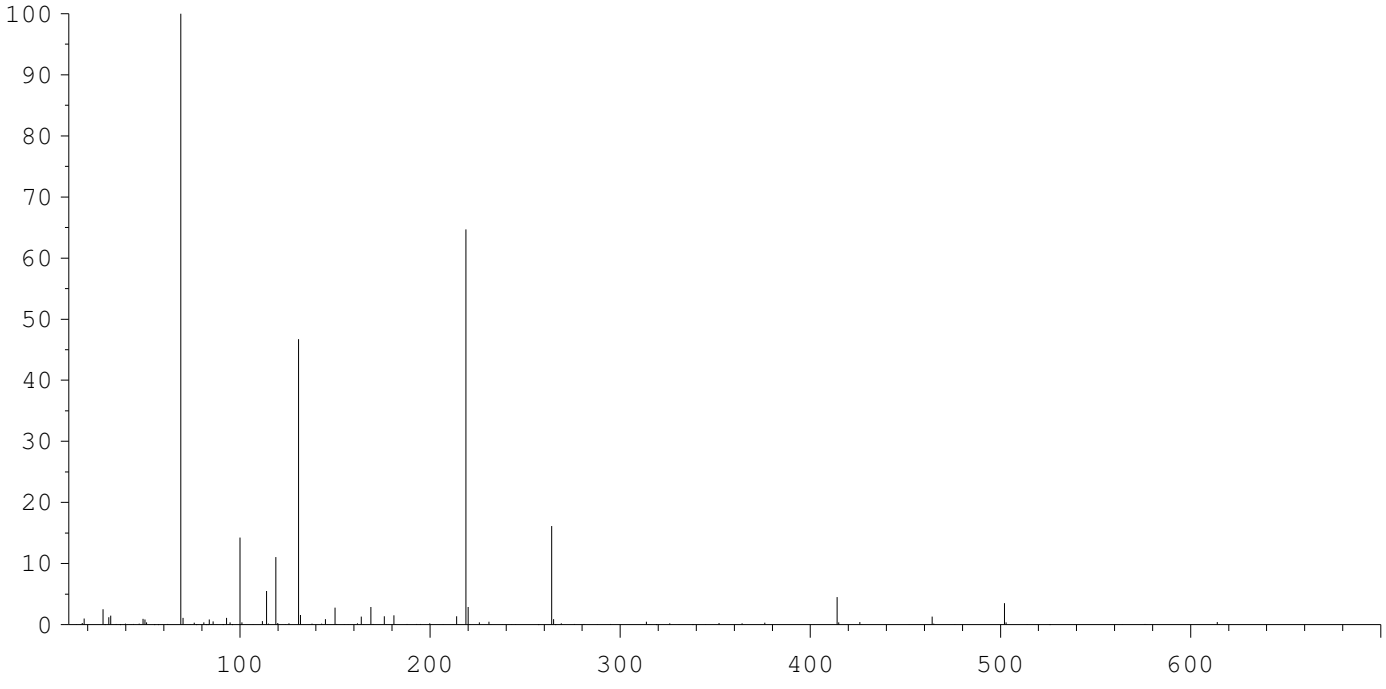
Thu Apr 21 13:07:27 2016 C:\HPCHEM\1\5973\ATUNE.U



Ion Pol	POS	MassGain	7
		MassOffs	-14
Emission	34.6	AmuGain	2195
EleEnergy	69.9	AmuOffs	127
Filament	2	Wid219	0.011
		DC Pol	POS
Repeller	19.90		
IonFocus	80.7	HED	ON
EntLens	14.0	EMVolts	1424
EntOffs	16.06		
		Samples	8
PFTBA	OPEN	Averages	3
		StepSize	0.10
Zones:			
MS Source	230	Foreline	71
MS Quad	150		

Scan: 10.00 - 700.00 Samples: 8 Thresh: 100

125 peaks Base: 69.00 Abundance: 394176



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	394176	100.00	70.00	4405	1.12
218.90	254912	64.67	220.00	11307	4.44
502.00	13826	3.51	503.00	1441	10.42

TARGET MASS:	50	69	131	219	414	502
TARGET ABUND(%):	1.0	100.0	55.0	45.0	3.5	2.5
ACTUAL TUNE ABUND(%):	0.9	100.0	46.7	38.7	4.5	3.5

DHL Analytical, Inc.

Run ID: GCMS6_160421A **Run No.:** 85382

Analytical Run Date: 4/21/2016 **InstrumentID:** GCMS6

Analyst: Karyn Lane **Column:** Agilent (J&W) DB-EUPAH (20m x 0.18mmI

Calibration ID: 651 **Column ID:** 0.18mm

Column Length: 20m

SampID	DF	TestCode	SampType	Batch ID	Analysis Date/Time	Q	Comments
DFTPP-160421	1	PAH_ALL_W	TUNE	R85382	4/21/2016 1:12:00 PM		
PCAL-160421 (5 ppb)	1	PAH_ALL_W	CAL1	R85382	4/21/2016 2:30:00 PM		
PCAL-160421 (10 ppb)	1	PAH_ALL_W	CAL	R85382	4/21/2016 3:10:00 PM		
PCAL-160421 (50 ppb)	1	PAH_ALL_W	CAL	R85382	4/21/2016 3:51:00 PM		
PCAL-160421 (100 ppb	1	PAH_ALL_W	CAL	R85382	4/21/2016 4:31:00 PM		
PCAL-160421 (500 ppb	1	PAH_ALL_W	CAL	R85382	4/21/2016 5:11:00 PM		
PCAL-160421 (1000 pp	1	PAH_ALL_W	CAL	R85382	4/21/2016 5:50:00 PM		
PCAL-160421 (2000 pp	1	PAH_ALL_W	CAL	R85382	4/21/2016 6:30:00 PM		
PCAL-160421 (5000 pp	1	PAH_ALL_W	CAL	R85382	4/21/2016 7:10:00 PM		
PSSCV-160421 (2500 p	1	PAH_ALL_W	ICV	R85382	4/21/2016 8:30:00 PM		
PSSCV-160421 (2500 p	1	PAH_ALL_W	ICV	R85382	4/21/2016 9:10:00 PM		

REVIEWED/APPROVED

By Sherri Herschmann at 9:42:32 AM, 4/28/2016

Response Factor Report GC/MS #6

Method Path : F:\IC\GCMS#6\
Method File : PP160421.M
Title : PAH Calibration
Last Update : Fri Apr 22 09:12:07 2016
Response Via : Initial Calibration

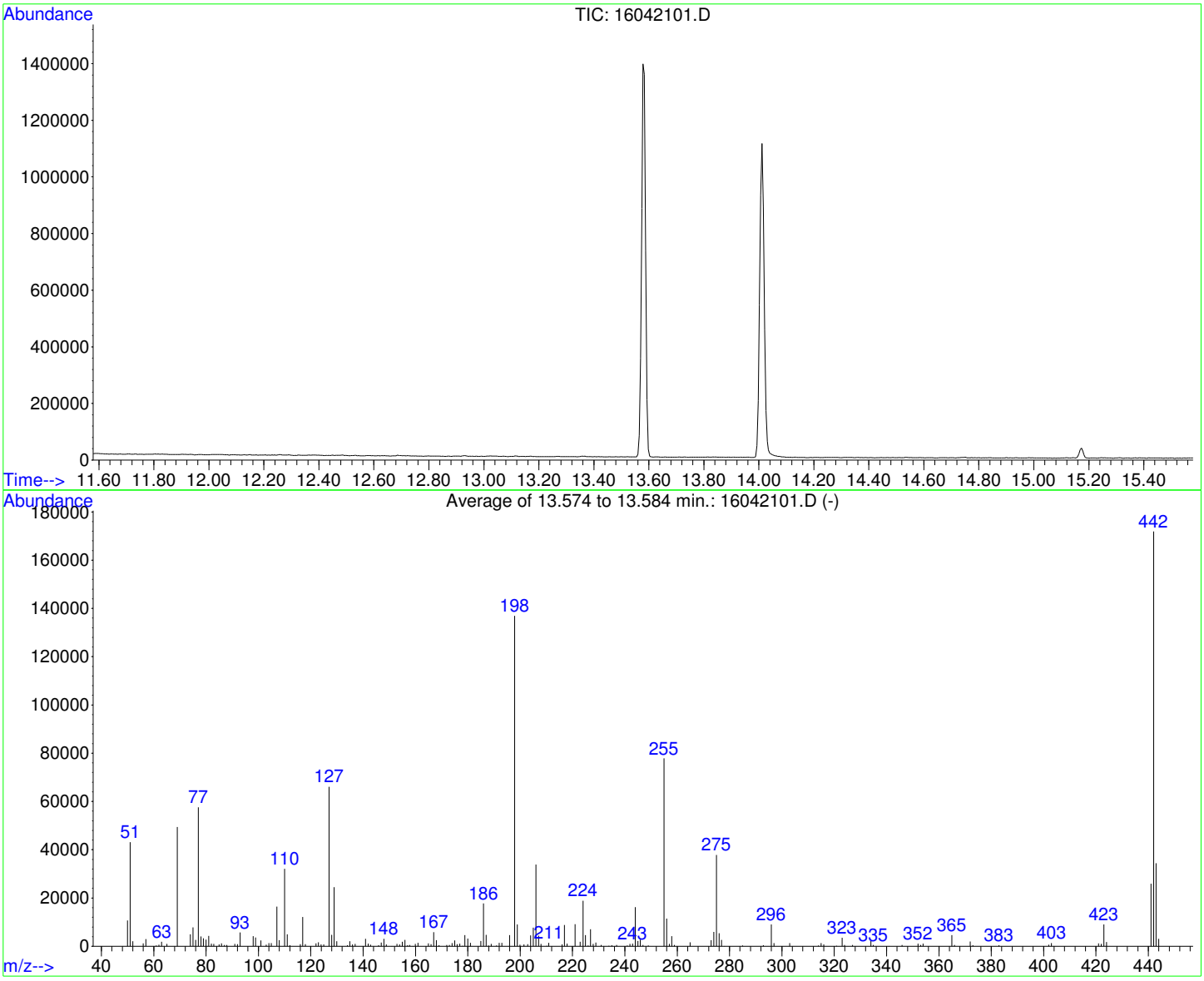
REVIEWED/APPROVED
By Sherri Herschmann at 9:42:37 AM, 4/28/2016

Calibration Files
1 =16042103.D 2 =16042104.D 3 =16042105.D 4 =16042106.D 5 =16042107.D 6 =16042108.D 7 =16042109.D
8 =16042110.D

		Compound	1	2	3	4	5	6	7	8	Avg	%RSD	Fit	RSD/CF	Constant	Linear	Quad
1)	I	Naphthalene-d8	----------ISTD----------														
2)	CP	Naphthalene	1.072	1.056	1.009	0.988	1.009	0.977	0.968	0.925	1.001	4.73	A	0.0473	0.0000	1.0005	0.0000
3)	CP	2-Methyl napht...	0.953	0.908	0.902	0.917	0.935	0.832	0.831	0.792	0.884	6.55	A	0.0655	0.0000	0.8838	0.0000
4)	T	1-Methyl napht...	0.853	0.833	0.826	0.836	0.861	0.767	0.766	0.734	0.809	5.82	A	0.0582	0.0000	0.8094	0.0000
5)	I	Acenaphthene-d10	----------ISTD----------														
6)	CP	Dibenzofuran	1.545	1.518	1.528	1.405	1.512	1.565	1.518	1.402	1.499	4.09#	A	0.0409	0.0000	1.4992	0.0000
7)	S	2-Fluorobiphenyl	1.227	1.249	1.171	1.271	1.202	1.091	1.074	1.049	1.167	7.28	A	0.0728	0.0000	1.1668	0.0000
8)	CP	Acenaphthylene	1.674	1.692	1.669	1.714	1.816	1.765	1.778	1.672	1.723	3.28	A	0.0328	0.0000	1.7226	0.0000
9)	CP	Acenaphthene	1.098	1.076	1.079	1.061	1.086	1.068	1.068	1.019	1.069	2.19	A	0.0219	0.0000	1.0692	0.0000
10)	CP	Fluorene	1.289	1.261	1.290	1.183	1.319	1.395	1.381	1.270	1.299	5.23	A	0.0523	0.0000	1.2985	0.0000
11)	I	Phenanthrene-d10	----------ISTD----------														
12)	CP	Phenanthrene	1.112	1.104	1.033	1.056	1.077	1.042	1.021	0.970	1.052	4.44	A	0.0444	0.0000	1.0519	0.0000
13)	CP	Anthracene	0.994	1.001	0.984	0.995	1.044	1.012	0.997	0.939	0.996	2.94	A	0.0294	0.0000	0.9957	0.0000
14)	CP	Fluoranthene	1.097	1.126	1.050	1.113	1.130	1.091	1.082	1.033	1.090	3.18	A	0.0318	0.0000	1.0903	0.0000
15)	CP	Pyrene	1.164	1.208	1.085	1.158	1.154	1.114	1.100	1.065	1.131	4.23	A	0.0423	0.0000	1.1308	0.0000
16)	S	4-Terphenyl-d14	1.290	1.174	0.947	1.015	0.997	0.964	0.956	0.937	1.035	12.39	A	0.1239	0.0000	1.0349	0.0000
17)	I	Chrysene-d12	----------ISTD----------														
18)	CP	Benzo[a]anthra...	0.905	0.905	0.896	0.905	0.987	0.967	0.978	0.953	0.937	4.04	A	0.0404	0.0000	0.9371	0.0000
19)	CP	Chrysene	0.917	0.912	0.890	0.892	0.939	0.912	0.909	0.873	0.905	2.24	A	0.0224	0.0000	0.9054	0.0000
20)	I	Perylene-d12	----------ISTD----------														
21)	CP	Benzo[b]fluora...	1.031	1.068	1.042	1.021	1.084	1.075	1.080	1.033	1.054	2.37	A	0.0237	0.0000	1.0543	0.0000
22)	CP	Benzo[k]fluora...	0.949	0.988	0.978	0.973	1.045	1.016	1.004	0.961	0.989	3.18	A	0.0318	0.0000	0.9890	0.0000
23)	CP	Benzo(j)fluora...	0.840	0.858	0.868	0.867	0.923	0.906	0.907	0.878	0.881	3.23	A	0.0323	0.0000	0.8810	0.0000
24)	T	Benzo[e]pyrene	0.931	0.957	0.942	0.931	0.974	0.953	0.956	0.909	0.944	2.13	A	0.0213	0.0000	0.9442	0.0000
25)	CP	Benzo[a]pyrene	0.955	0.941	0.944	0.932	0.997	0.991	0.998	0.962	0.965	2.76	A	0.0276	0.0000	0.9648	0.0000
26)	CP	Dibenz[a,h]ant...	0.881	0.820	0.849	0.840	0.906	0.908	0.913	0.911	0.879	4.22	A	0.0422	0.0000	0.8787	0.0000
27)	CP	Indeno[1,2,3-c...	1.037	0.991	1.024	1.016	1.084	1.078	1.084	1.071	1.048	3.43	A	0.0343	0.0000	1.0482	0.0000
28)	CP	Benzo[g,h,i]pe...	0.797	0.782	0.792	0.796	0.842	0.843	0.852	0.834	0.817	3.44	A	0.0344	0.0000	0.8174	0.0000

(#) = Out of Range

Data File : C:\HPCHEM\1\DATA\160421\16042101.D Vial: 1
Acq On : 21 Apr 2016 1:12 pm Operator:
Sample : DFTPP-160421 Inst : GC/MS #6
Misc : TUNE Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : C:\HPCHEM\1\METHODS\DFTPPPAH.M (RTE Integrator)
Title : PAH Calibration



AutoFind: Scans 1592, 1593, 1594; Background Corrected with Scan 1586

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	31.5	43141	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	36.1	49451	PASS
70	69	0.00	2	0.0	0	PASS
127	198	10	80	48.3	66112	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	136896	PASS
199	198	5	9	6.6	9062	PASS
275	198	10	60	27.7	37883	PASS
365	198	1	200	3.4	4588	PASS
441	442	0.01	24	15.1	25970	PASS
442	198	50	400	125.6	171901	PASS
443	442	15	24	20.0	34379	PASS

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160421\16042103.D Vial: 3
Acq On : 21 Apr 2016 2:30 pm Operator:
Sample : PCAL-160421 (5 ppb) Inst : GC/MS #6
Misc : CAL1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 22 11:45 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri Apr 22 11:43:43 2016
Response via : Initial Calibration
DataAcq Meth : PP160322

Reprocessed low point.

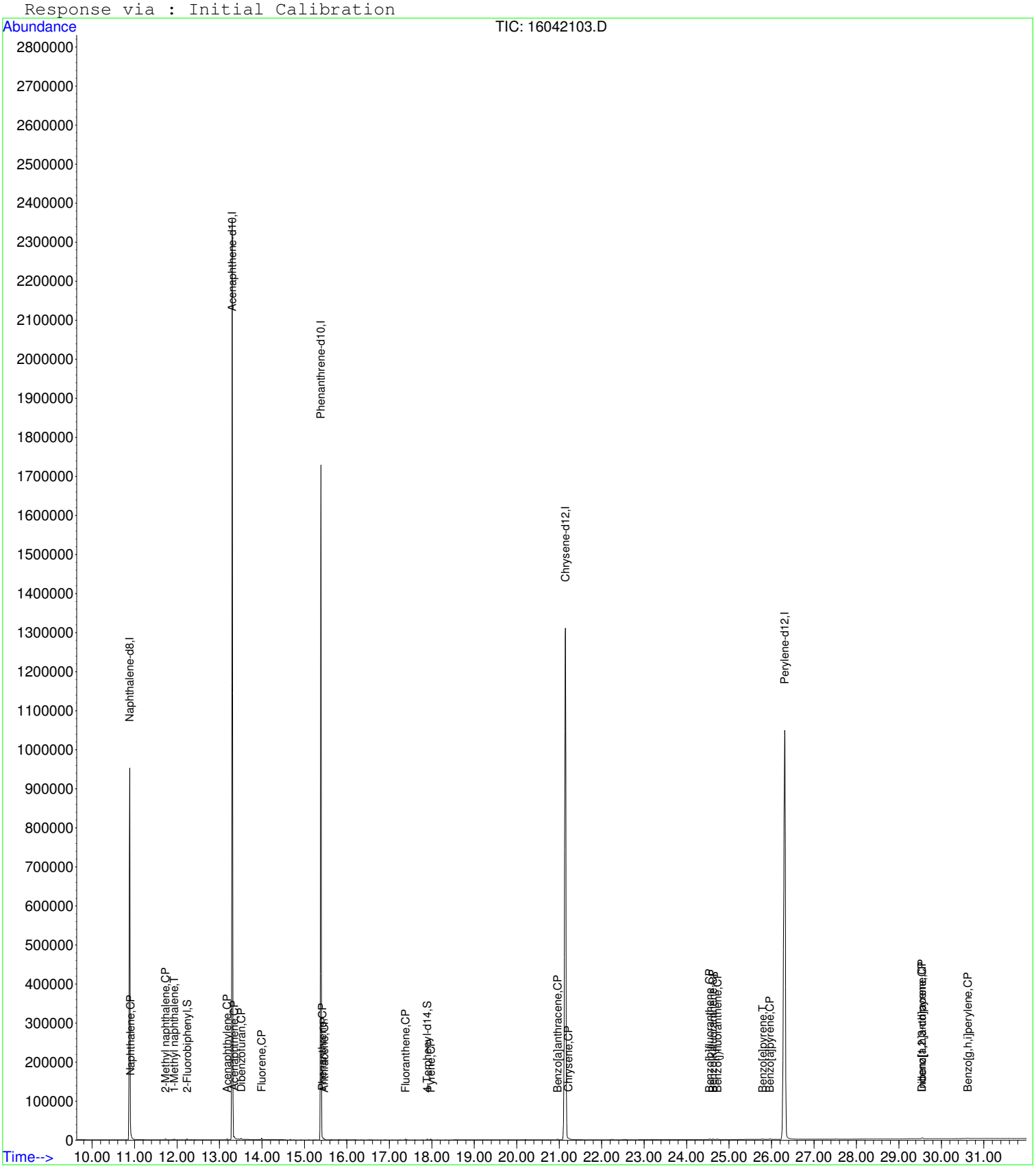
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.88	136	1142778	4000.00	ug/kg	99
5) Acenaphthene-d10	13.30	164	1244911	4000.00	ug/kg	108
11) Phenanthrene-d10	15.39	188	1877690	4000.00	ug/kg	92
17) Chrysene-d12	21.15	240	2186100	4000.00	ug/kg	96
20) Perylene-d12	26.31	264	2056958	4000.00	ug/kg	100
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.23	172	1910	5.26	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	0.13%#		
16) 4-Terphenyl-d14	17.89	244	3028	6.23	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	0.16%#		
Target Compounds						Qvalue
2) Naphthalene	10.91	128	1531	5.36	ug/kg	98
3) 2-Methyl naphthalene	11.73	142	1362	5.39	ug/kg	98
4) 1-Methyl naphthalene	11.93	142	1218	5.27	ug/kg	92
6) Dibenzofuran	13.51	168	2405	5.15	ug/kg	100
8) Acenaphthylene	13.18	152	2605	4.86	ug/kg	99
9) Acenaphthene	13.35	154	1708	5.13	ug/kg	99
10) Fluorene	13.99	166	2006	4.96	ug/kg	100
12) Phenanthrene	15.42	178	2611	5.29	ug/kg	98
13) Anthracene	15.46	178	2334	4.99	ug/kg	97
14) Fluoranthene	17.38	202	2574	5.04	ug/kg	97
15) Pyrene	17.98	202	2731	5.14	ug/kg	98
18) Benzo[a]anthracene	20.96	228	2474	4.83	ug/kg	98
19) Chrysene	21.23	228	2506	5.06	ug/kg	98
21) Benzo[b]fluoranthene	24.54	252	2650	4.89	ug/kg	95
22) Benzo[k]fluoranthene	24.62	252	2439	4.80	ug/kg	99
23) Benzo(j)fluoranthene	24.73	252	2160	4.77	ug/kg	98
24) Benzo[e]pyrene	25.79	252	2395	4.93	ug/kg	99
25) Benzo[a]pyrene	25.96	252	2456	4.95	ug/kg	98
26) Dibenz[a,h]anthracene	29.54	278	2266	5.01	ug/kg	100
27) Indeno[1,2,3-cd]pyrene	29.55	276	2667	4.95	ug/kg	94
28) Benzo[g,h,i]perylene	30.62	276	2050	4.88	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160421\16042103.D Vial: 3
Acq On : 21 Apr 2016 2:30 pm Operator:
Sample : PCAL-160421 (5 ppb) Inst : GC/MS #6
Misc : CAL1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 22 11:45 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri Apr 22 11:43:43 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160421\16042104.D Vial: 4
Acq On : 21 Apr 2016 3:10 pm Operator:
Sample : PCAL-160421 (10 ppb) Inst : GC/MS #6
Misc : CAL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 22 11:45 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri Apr 22 11:43:43 2016
Response via : Initial Calibration
DataAcq Meth : PP160322

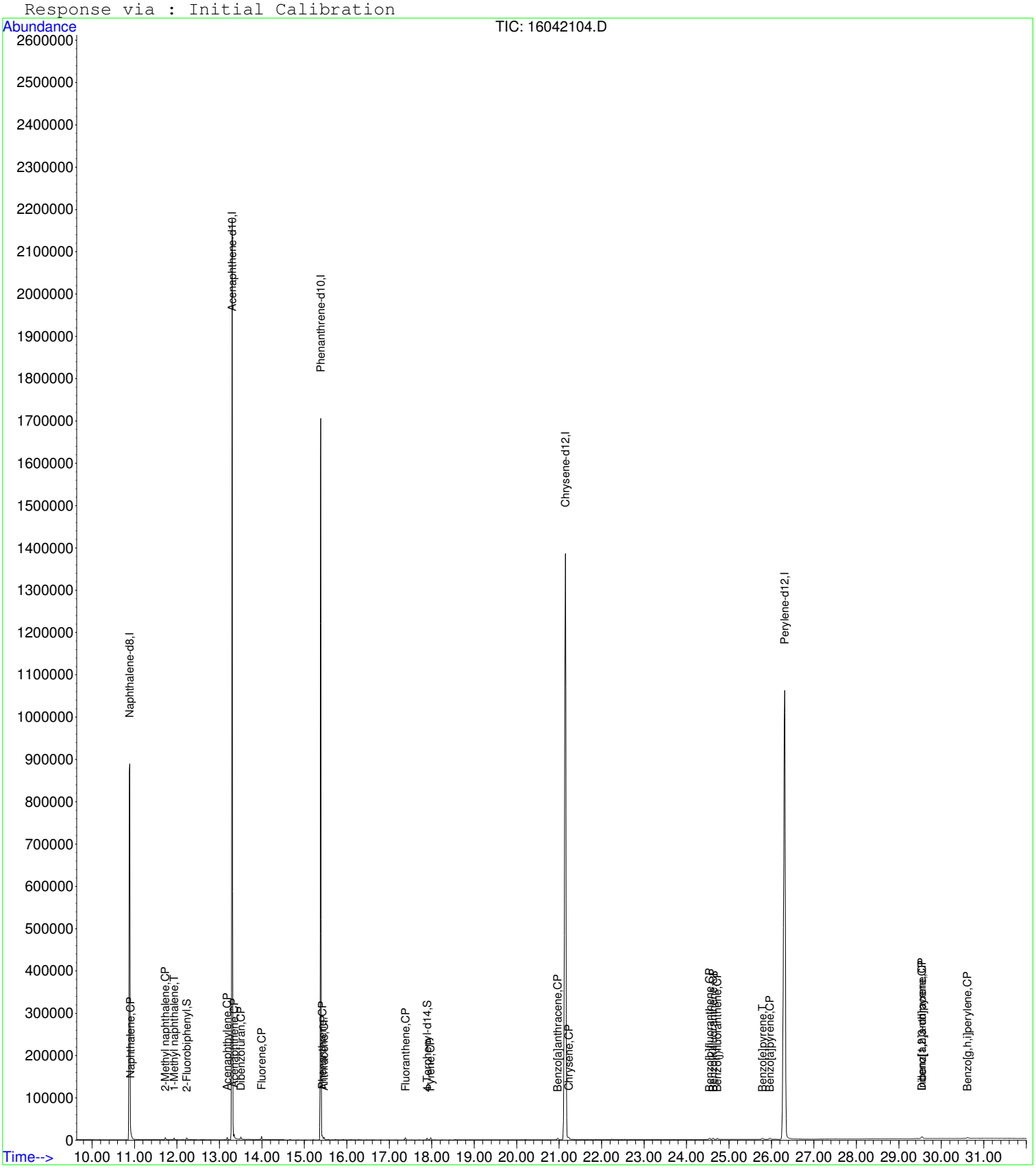
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.89	136	1199002	4000.00	ug/kg	103
5) Acenaphthene-d10	13.30	164	1222079	4000.00	ug/kg	106
11) Phenanthrene-d10	15.39	188	1882400	4000.00	ug/kg	92
17) Chrysene-d12	21.15	240	2305426	4000.00	ug/kg	101
20) Perylene-d12	26.31	264	2097207	4000.00	ug/kg	102
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.24	172	3816	10.70	ug/kg	0.01
Spiked Amount 4000.000	Range 40 - 140		Recovery =	0.27%#		
16) 4-Terphenyl-d14	17.89	244	5525	11.34	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	0.28%#		
Target Compounds						Qvalue
2) Naphthalene	10.91	128	3165	10.55	ug/kg	99
3) 2-Methyl naphthalene	11.72	142	2722	10.27	ug/kg	96
4) 1-Methyl naphthalene	11.93	142	2498	10.30	ug/kg	98
6) Dibenzofuran	13.50	168	4637	10.12	ug/kg	97
8) Acenaphthylene	13.18	152	5169	9.82	ug/kg	99
9) Acenaphthene	13.35	154	3288	10.07	ug/kg	99
10) Fluorene	13.99	166	3853	9.71	ug/kg	100
12) Phenanthrene	15.42	178	5197	10.50	ug/kg	100
13) Anthracene	15.46	178	4709	10.05	ug/kg	99
14) Fluoranthene	17.38	202	5273	10.29	ug/kg	98
15) Pyrene	17.97	202	5684	10.68	ug/kg	98
18) Benzo[a]anthracene	20.96	228	5216	9.66	ug/kg	99
19) Chrysene	21.23	228	5255	10.07	ug/kg	100
21) Benzo[b]fluoranthene	24.54	252	5597	10.13	ug/kg	99
22) Benzo[k]fluoranthene	24.63	252	5178	9.99	ug/kg	98
23) Benzo(j)fluoranthene	24.73	252	4498	9.74	ug/kg	97
24) Benzo[e]pyrene	25.79	252	5016	10.13	ug/kg	99
25) Benzo[a]pyrene	25.96	252	4933	9.75	ug/kg	99
26) Dibenz[a,h]anthracene	29.55	278	4301	9.34	ug/kg	99
27) Indeno[1,2,3-cd]pyrene	29.55	276	5196	9.45	ug/kg	97
28) Benzo[g,h,i]perylene	30.62	276	4100	9.57	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160421\16042104.D Vial: 4
Acq On : 21 Apr 2016 3:10 pm Operator:
Sample : PCAL-160421 (10 ppb) Inst : GC/MS #6
Misc : CAL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 22 11:45 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri Apr 22 11:43:43 2016
Response via : Initial Calibration



399

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160421\16042105.D Vial: 5
Acq On : 21 Apr 2016 3:51 pm Operator:
Sample : PCAL-160421 (50 ppb) Inst : GC/MS #6
Misc : CAL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 22 11:45 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri Apr 22 11:43:43 2016
Response via : Initial Calibration
DataAcq Meth : PP160322

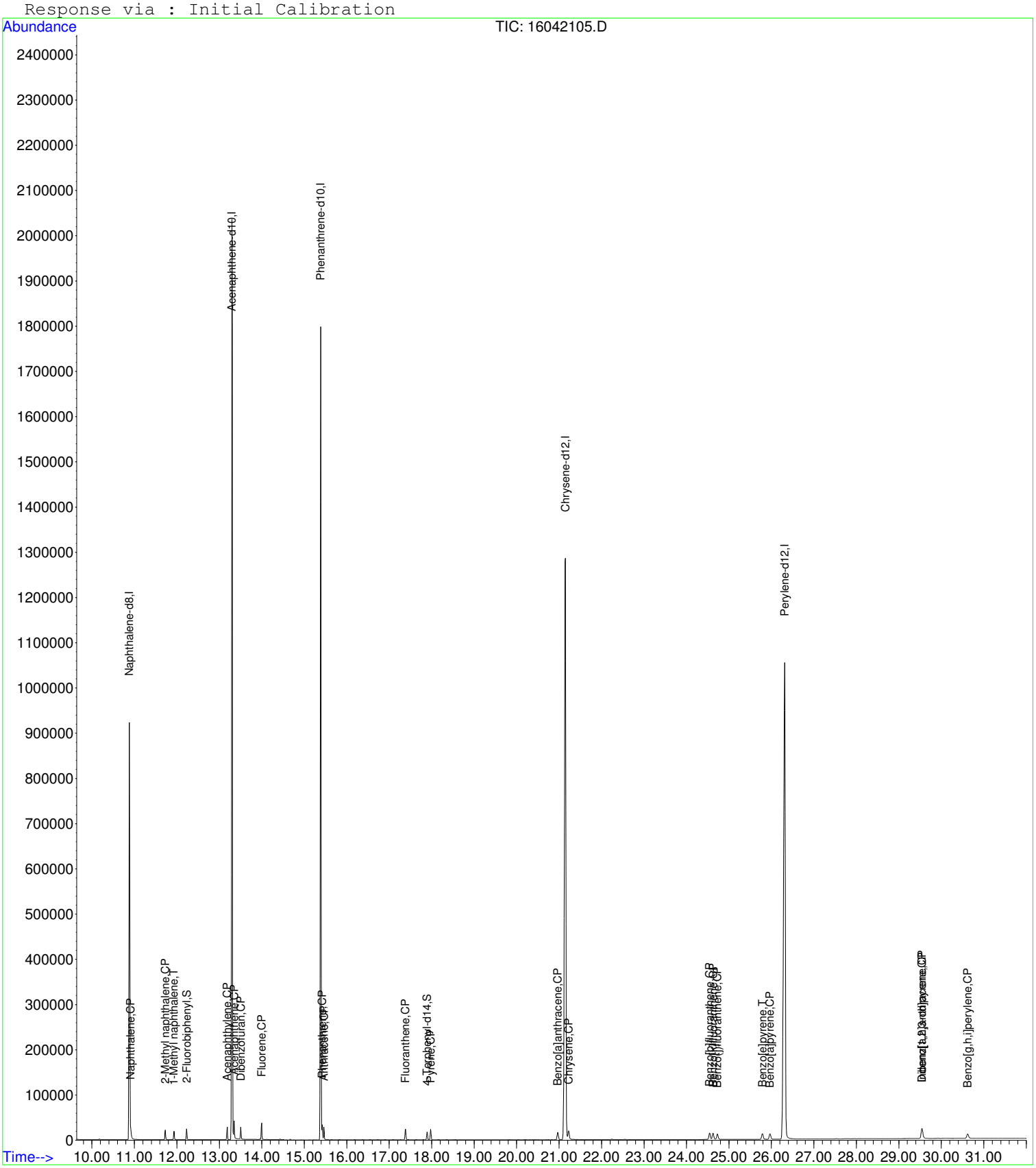
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.88	136	1080570	4000.00	ug/kg	93
5) Acenaphthene-d10	13.30	164	1201613	4000.00	ug/kg	104
11) Phenanthrene-d10	15.39	188	1885707	4000.00	ug/kg	92
17) Chrysene-d12	21.15	240	2199366	4000.00	ug/kg	97
20) Perylene-d12	26.31	264	2036632	4000.00	ug/kg	99
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.23	172	17592	50.19	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.25%#		
16) 4-Terphenyl-d14	17.89	244	22329	45.77	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.14%#		
Target Compounds						Qvalue
2) Naphthalene	10.92	128	13632	50.43	ug/kg	99
3) 2-Methyl naphthalene	11.73	142	12186	51.04	ug/kg	97
4) 1-Methyl naphthalene	11.94	142	11156	51.02	ug/kg	99
6) Dibenzofuran	13.51	168	22945	50.95	ug/kg	99
8) Acenaphthylene	13.19	152	25071	48.45	ug/kg	98
9) Acenaphthene	13.35	154	16206	50.45	ug/kg	98
10) Fluorene	14.00	166	19379	49.68	ug/kg	98
12) Phenanthrene	15.42	178	24341	49.08	ug/kg	98
13) Anthracene	15.46	178	23196	49.42	ug/kg	99
14) Fluoranthene	17.38	202	24647	48.03	ug/kg	99
15) Pyrene	17.98	202	25571	47.97	ug/kg	99
18) Benzo[a]anthracene	20.96	228	24646	47.83	ug/kg	100
19) Chrysene	21.23	228	24465	49.14	ug/kg	99
21) Benzo[b]fluoranthene	24.54	252	26529	49.42	ug/kg	99
22) Benzo[k]fluoranthene	24.63	252	24886	49.42	ug/kg	99
23) Benzo(j)fluoranthene	24.73	252	22107	49.28	ug/kg	98
24) Benzo[e]pyrene	25.79	252	23989	49.90	ug/kg	99
25) Benzo[a]pyrene	25.96	252	24021	48.90	ug/kg	100
26) Dibenz[a,h]anthracene	29.54	278	21621	48.33	ug/kg	97
27) Indeno[1,2,3-cd]pyrene	29.55	276	26066	48.84	ug/kg	95
28) Benzo[g,h,i]perylene	30.62	276	20164	48.45	ug/kg	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160421\16042105.D Vial: 5
Acq On : 21 Apr 2016 3:51 pm Operator:
Sample : PCAL-160421 (50 ppb) Inst : GC/MS #6
Misc : CAL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 22 11:45 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri Apr 22 11:43:43 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160421\16042106.D Vial: 6
Acq On : 21 Apr 2016 4:31 pm Operator:
Sample : PCAL-160421 (100 ppb) Inst : GC/MS #6
Misc : CAL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 22 11:45 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri Apr 22 11:43:43 2016
Response via : Initial Calibration
DataAcq Meth : PP160322

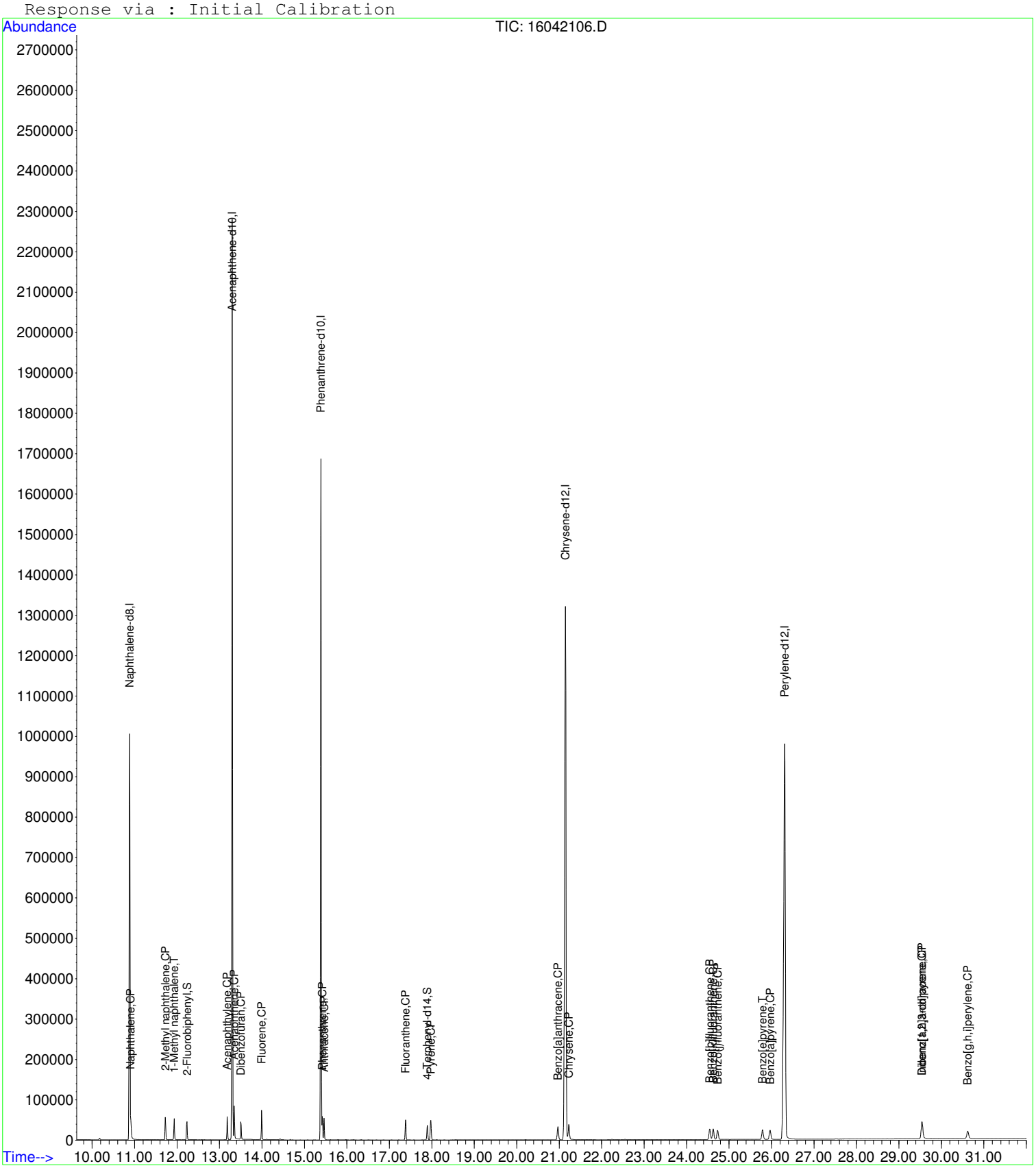
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.89	136	1270878	4000.00	ug/kg	110
5) Acenaphthene-d10	13.30	164	1176698	4000.00	ug/kg	102
11) Phenanthrene-d10	15.39	188	1800254	4000.00	ug/kg	88
17) Chrysene-d12	21.15	240	2173217	4000.00	ug/kg	96
20) Perylene-d12	26.31	264	1915994	4000.00	ug/kg	93
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.23	172	37379	108.90	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	2.72%#		
16) 4-Terphenyl-d14	17.89	244	45660	98.03	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	2.45%#		
Target Compounds						Qvalue
2) Naphthalene	10.91	128	31387	98.73	ug/kg	100
3) 2-Methyl naphthalene	11.72	142	29129	103.73	ug/kg	96
4) 1-Methyl naphthalene	11.93	142	26563	103.29	ug/kg	97
6) Dibenzofuran	13.51	168	41336	93.73	ug/kg	98
8) Acenaphthylene	13.18	152	50435	99.53	ug/kg	99
9) Acenaphthene	13.35	154	31207	99.22	ug/kg	98
10) Fluorene	13.99	166	34802	91.11	ug/kg	100
12) Phenanthrene	15.42	178	47518	100.37	ug/kg	98
13) Anthracene	15.46	178	44798	99.97	ug/kg	99
14) Fluoranthene	17.38	202	50045	102.15	ug/kg	99
15) Pyrene	17.98	202	52116	102.40	ug/kg	99
18) Benzo[a]anthracene	20.97	228	49179	96.59	ug/kg	100
19) Chrysene	21.23	228	48443	98.48	ug/kg	99
21) Benzo[b]fluoranthene	24.55	252	48925	96.88	ug/kg	99
22) Benzo[k]fluoranthene	24.63	252	46589	98.35	ug/kg	99
23) Benzo(j)fluoranthene	24.73	252	41528	98.41	ug/kg	99
24) Benzo[e]pyrene	25.79	252	44578	98.57	ug/kg	99
25) Benzo[a]pyrene	25.97	252	44648	96.61	ug/kg	100
26) Dibenz[a,h]anthracene	29.54	278	40242	95.61	ug/kg	99
27) Indeno[1,2,3-cd]pyrene	29.55	276	48662	96.92	ug/kg	95
28) Benzo[g,h,i]perylene	30.62	276	38139	97.41	ug/kg	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160421\16042106.D Vial: 6
Acq On : 21 Apr 2016 4:31 pm Operator:
Sample : PCAL-160421 (100 ppb) Inst : GC/MS #6
Misc : CAL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 22 11:45 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri Apr 22 11:43:43 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160421\16042107.D Vial: 7
Acq On : 21 Apr 2016 5:11 pm Operator:
Sample : PCAL-160421 (500 ppb) Inst : GC/MS #6
Misc : CAL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 22 11:45 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri Apr 22 11:43:43 2016
Response via : Initial Calibration
DataAcq Meth : PP160322

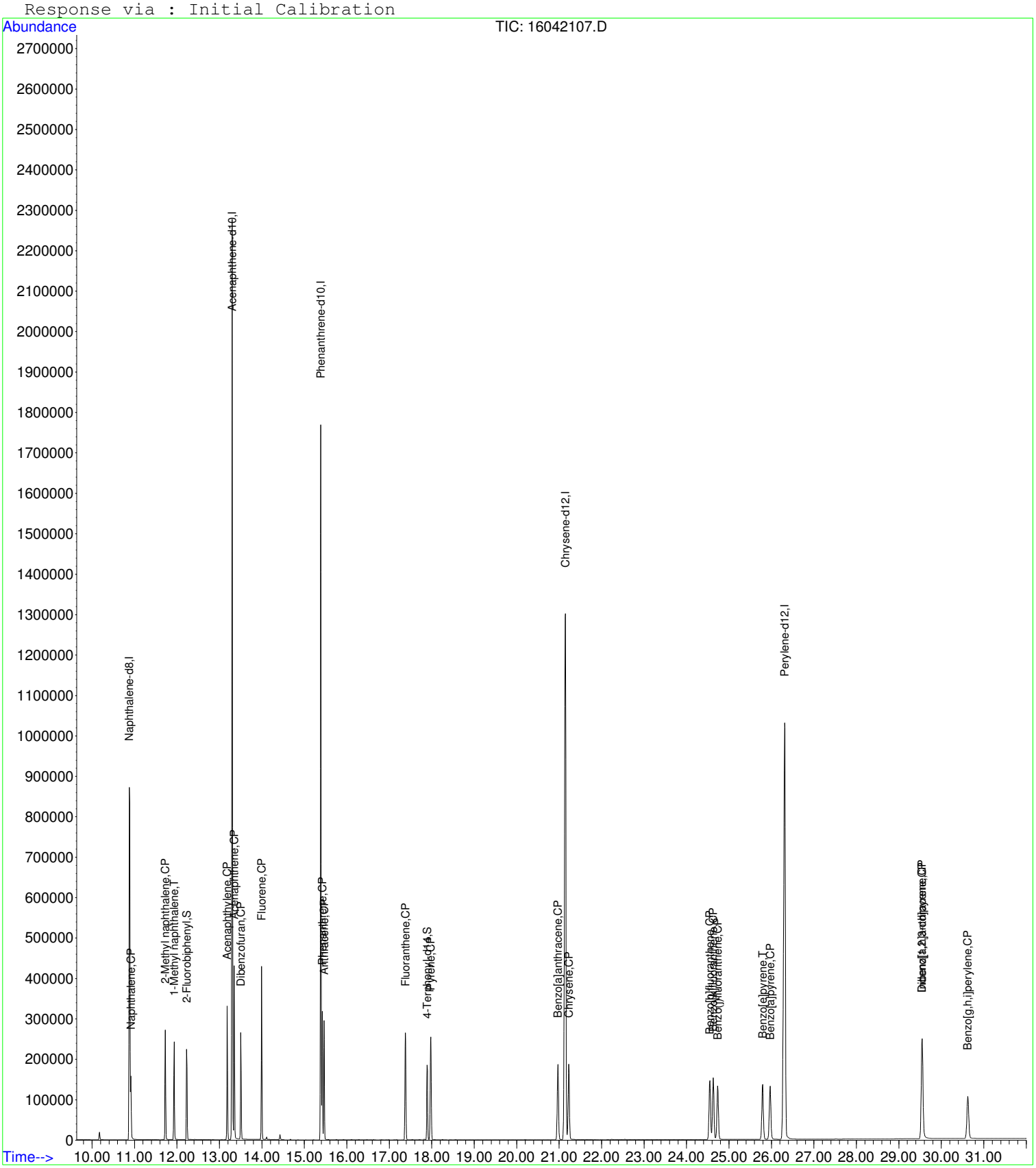
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.88	136	1148191	4000.00	ug/kg	99
5) Acenaphthene-d10	13.30	164	1212423	4000.00	ug/kg	105
11) Phenanthrene-d10	15.39	188	1918468	4000.00	ug/kg	94
17) Chrysene-d12	21.15	240	2190661	4000.00	ug/kg	96
20) Perylene-d12	26.31	264	2019677	4000.00	ug/kg	98
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.23	172	182135	514.98	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 12.87%#			
16) 4-Terphenyl-d14	17.89	244	239044	481.61	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 12.04%#			
Target Compounds						Qvalue
2) Naphthalene	10.91	128	144814	504.22	ug/kg	100
3) 2-Methyl naphthalene	11.72	142	134217	529.05	ug/kg	99
4) 1-Methyl naphthalene	11.93	142	123573	531.84	ug/kg	99
6) Dibenzofuran	13.50	168	229182	504.36	ug/kg	99
8) Acenaphthylene	13.18	152	275195	527.05	ug/kg	99
9) Acenaphthene	13.35	154	164525	507.66	ug/kg	99
10) Fluorene	13.99	166	199871	507.82	ug/kg	99
12) Phenanthrene	15.42	178	258354	512.07	ug/kg	99
13) Anthracene	15.46	178	250282	524.11	ug/kg	99
14) Fluoranthene	17.38	202	270526	518.15	ug/kg	99
15) Pyrene	17.98	202	276662	510.12	ug/kg	99
18) Benzo[a]anthracene	20.97	228	270207	526.50	ug/kg	100
19) Chrysene	21.23	228	257223	518.73	ug/kg	99
21) Benzo[b]fluoranthene	24.55	252	273668	514.11	ug/kg	99
22) Benzo[k]fluoranthene	24.63	252	263925	528.52	ug/kg	99
23) Benzo(j)fluoranthene	24.73	252	233097	524.02	ug/kg	99
24) Benzo[e]pyrene	25.79	252	245920	515.86	ug/kg	99
25) Benzo[a]pyrene	25.97	252	251605	516.48	ug/kg	100
26) Dibenz[a,h]anthracene	29.55	278	228786	515.68	ug/kg	99
27) Indeno[1,2,3-cd]pyrene	29.55	276	273714	517.15	ug/kg	98
28) Benzo[g,h,i]perylene	30.62	276	212686	515.34	ug/kg	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160421\16042107.D Vial: 7
Acq On : 21 Apr 2016 5:11 pm Operator:
Sample : PCAL-160421 (500 ppb) Inst : GC/MS #6
Misc : CAL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 22 11:45 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri Apr 22 11:43:43 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160421\16042108.D Vial: 8
Acq On : 21 Apr 2016 5:50 pm Operator:
Sample : PCAL-160421 (1000 ppb) Inst : GC/MS #6
Misc : CAL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 22 11:46 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri Apr 22 11:43:43 2016
Response via : Initial Calibration
DataAcq Meth : PP160322

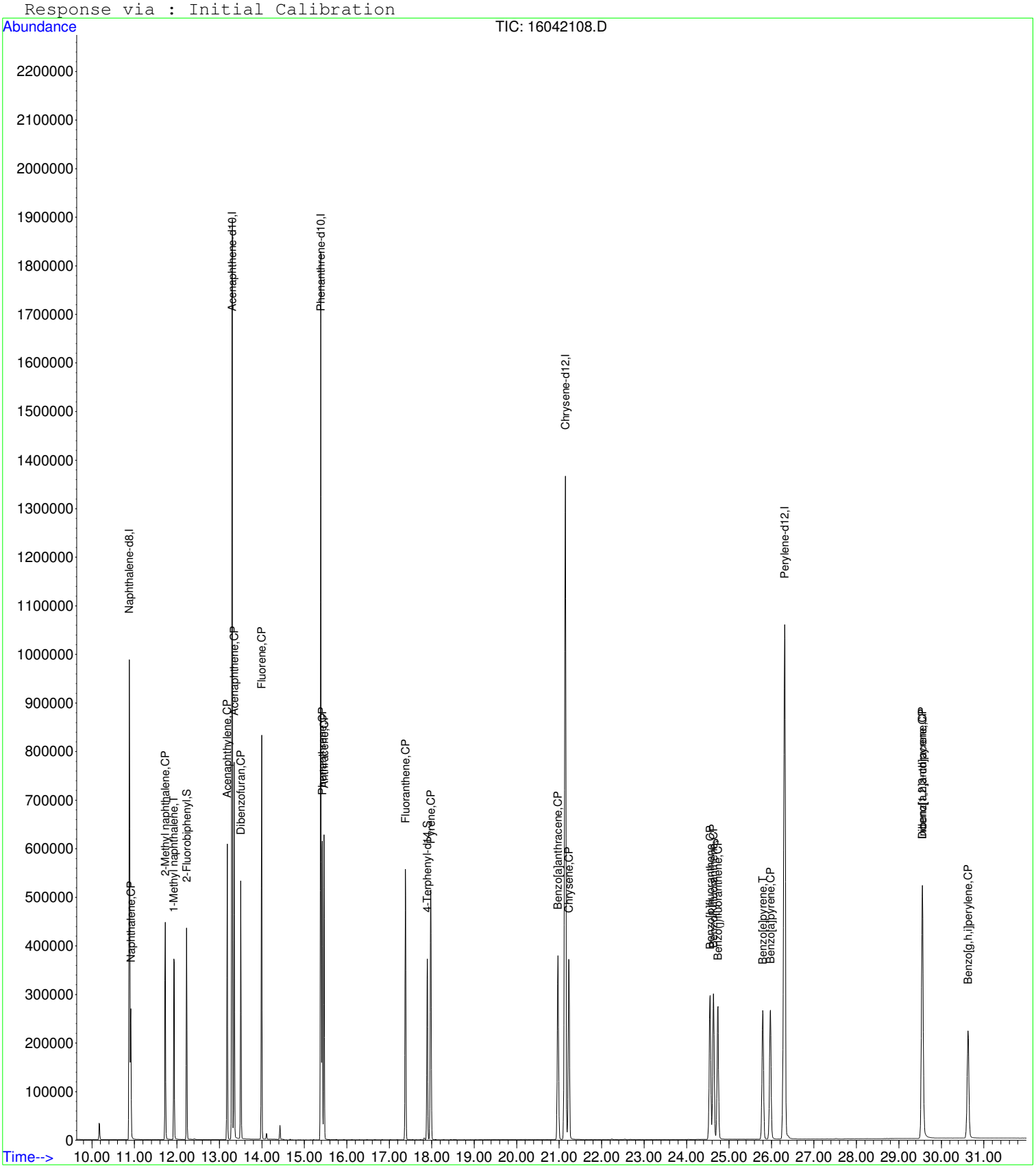
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.88	136	1136496	4000.00	ug/kg	98
5) Acenaphthene-d10	13.30	164	1155470	4000.00	ug/kg	100
11) Phenanthrene-d10	15.39	188	2018968	4000.00	ug/kg	99
17) Chrysene-d12	21.15	240	2284860	4000.00	ug/kg	101
20) Perylene-d12	26.31	264	2095808	4000.00	ug/kg	102
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.23	172	315163	935.04	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	23.38%#		
16) 4-Terphenyl-d14	17.89	244	486503	931.39	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	23.28%#		
Target Compounds						Qvalue
2) Naphthalene	10.92	128	277677	976.77	ug/kg	100
3) 2-Methyl naphthalene	11.73	142	236454	941.63	ug/kg	97
4) 1-Methyl naphthalene	11.94	142	218047	948.10	ug/kg	98
6) Dibenzofuran	13.50	168	452065	1043.89	ug/kg	99
8) Acenaphthylene	13.18	152	509913	1024.72	ug/kg	99
9) Acenaphthene	13.35	154	308489	998.79	ug/kg	98
10) Fluorene	14.00	166	402991	1074.35	ug/kg	97
12) Phenanthrene	15.42	178	526173	990.99	ug/kg	99
13) Anthracene	15.46	178	510658	1016.12	ug/kg	99
14) Fluoranthene	17.38	202	550773	1002.41	ug/kg	99
15) Pyrene	17.98	202	562050	984.74	ug/kg	99
18) Benzo[a]anthracene	20.97	228	552303	1031.79	ug/kg	100
19) Chrysene	21.23	228	520856	1007.08	ug/kg	99
21) Benzo[b]fluoranthene	24.56	252	563310	1019.78	ug/kg	99
22) Benzo[k]fluoranthene	24.63	252	532095	1026.84	ug/kg	99
23) Benzo(j)fluoranthene	24.74	252	474751	1028.50	ug/kg	99
24) Benzo[e]pyrene	25.79	252	499171	1009.06	ug/kg	99
25) Benzo[a]pyrene	25.98	252	519265	1027.20	ug/kg	99
26) Dibenz[a,h]anthracene	29.55	278	475543	1032.92	ug/kg	99
27) Indeno[1,2,3-cd]pyrene	29.55	276	565012	1028.75	ug/kg	97
28) Benzo[g,h,i]perylene	30.63	276	441808	1031.61	ug/kg	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160421\16042108.D Vial: 8
Acq On : 21 Apr 2016 5:50 pm Operator:
Sample : PCAL-160421 (1000 ppb) Inst : GC/MS #6
Misc : CAL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 22 11:46 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri Apr 22 11:43:43 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160421\16042109.D Vial: 9
Acq On : 21 Apr 2016 6:30 pm Operator:
Sample : PCAL-160421 (2000 ppb) Inst : GC/MS #6
Misc : CAL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 22 11:46 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri Apr 22 11:43:43 2016
Response via : Initial Calibration
DataAcq Meth : PP160322

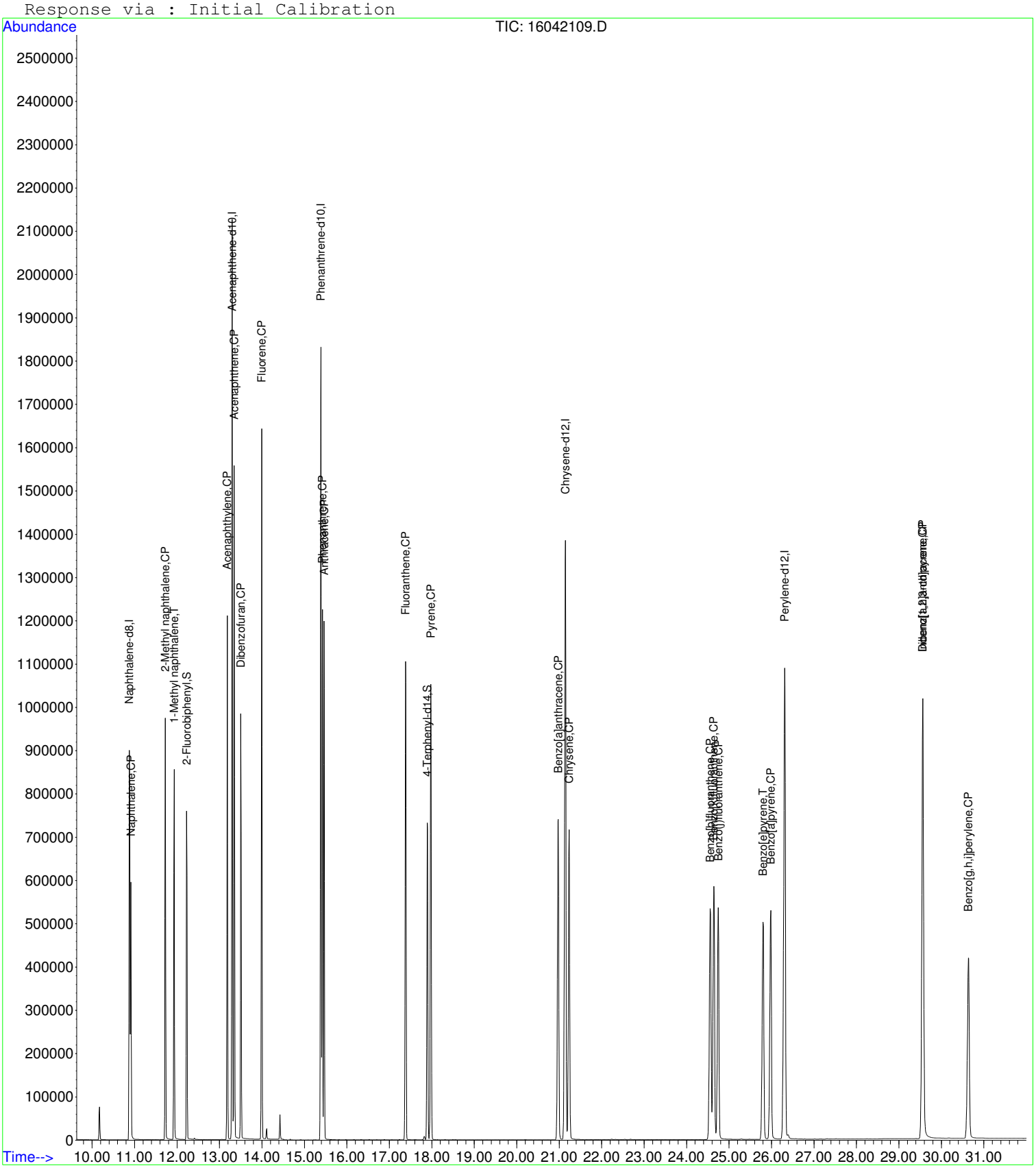
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.88	136	1159180	4000.00	ug/kg	100
5) Acenaphthene-d10	13.30	164	1151209	4000.00	ug/kg	100
11) Phenanthrene-d10	15.39	188	2042352	4000.00	ug/kg	100
17) Chrysene-d12	21.15	240	2271514	4000.00	ug/kg	100
20) Perylene-d12	26.31	264	2059792	4000.00	ug/kg	100
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.23	172	618262	1841.07	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	46.03%		
16) 4-Terphenyl-d14	17.90	244	975941	1847.00	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	46.17%		
Target Compounds						Qvalue
2) Naphthalene	10.91	128	561019	1934.86	ug/kg	100
3) 2-Methyl naphthalene	11.72	142	481530	1880.07	ug/kg	100
4) 1-Methyl naphthalene	11.93	142	443761	1891.77	ug/kg	100
6) Dibenzofuran	13.50	168	873590	2024.72	ug/kg	100
8) Acenaphthylene	13.18	152	1023648	2064.73	ug/kg	100
9) Acenaphthene	13.35	154	614677	1997.49	ug/kg	100
10) Fluorene	13.99	166	794927	2127.08	ug/kg	100
12) Phenanthrene	15.42	178	1042190	1940.39	ug/kg	100
13) Anthracene	15.46	178	1017931	2002.32	ug/kg	100
14) Fluoranthene	17.38	202	1104168	1986.59	ug/kg	100
15) Pyrene	17.98	202	1123696	1946.24	ug/kg	100
18) Benzo[a]anthracene	20.98	228	1111322	2088.32	ug/kg	100
19) Chrysene	21.23	228	1032491	2008.06	ug/kg	100
21) Benzo[b]fluoranthene	24.56	252	1112314	2048.87	ug/kg	100
22) Benzo[k]fluoranthene	24.64	252	1033820	2029.96	ug/kg	100
23) Benzo(j)fluoranthene	24.75	252	933880	2058.53	ug/kg	100
24) Benzo[e]pyrene	25.80	252	984667	2025.28	ug/kg	100
25) Benzo[a]pyrene	25.98	252	1027353	2067.83	ug/kg	100
26) Dibenz[a,h]anthracene	29.56	278	940656	2078.92	ug/kg	100
27) Indeno[1,2,3-cd]pyrene	29.56	276	1116484	2068.39	ug/kg	100
28) Benzo[g,h,i]perylene	30.64	276	877689	2085.21	ug/kg	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160421\16042109.D Vial: 9
Acq On : 21 Apr 2016 6:30 pm Operator:
Sample : PCAL-160421 (2000 ppb) Inst : GC/MS #6
Misc : CAL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 22 11:46 2016 Quant Results File: PP160421.RES

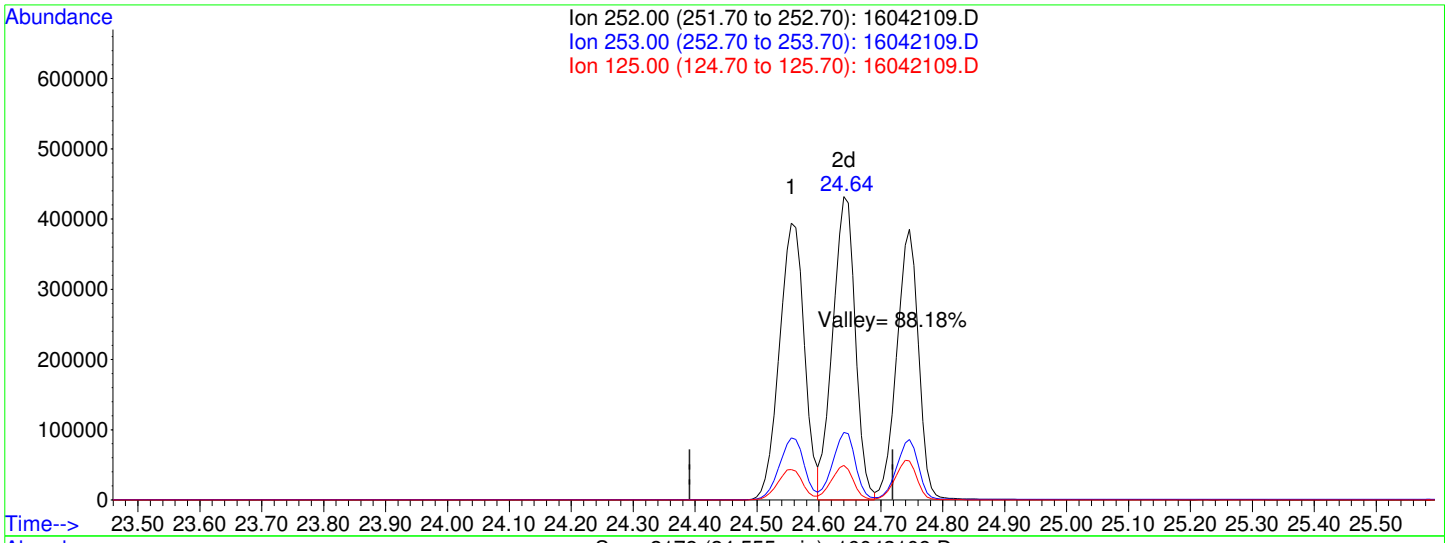
Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri Apr 22 11:43:43 2016
Response via : Initial Calibration

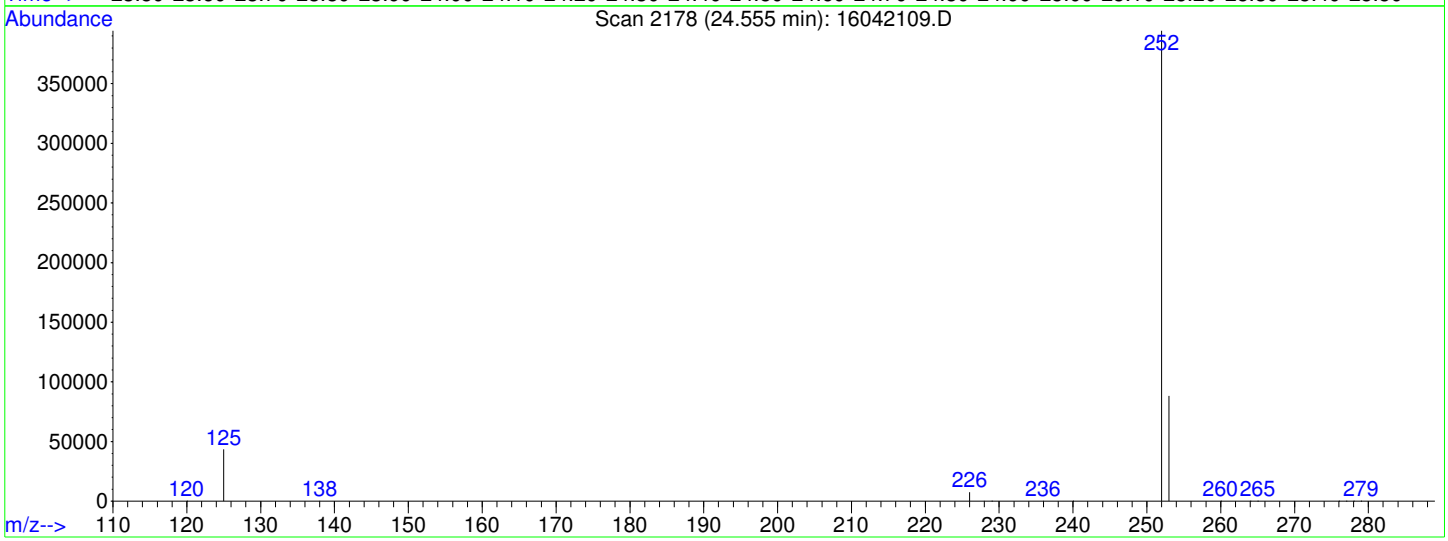


Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\160421\16042109.D Vial: 9
Acq On : 21 Apr 2016 6:30 pm Operator:
Sample : PCAL-160421 (2000 ppb) Inst : GC/MS #6
Misc : CAL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 22 9:10 2016 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri Apr 22 09:12:07 2016
Response via : Multiple Level Calibration





TIC: 16042109.D

(21) Benzo[b]fluoranthene (CP)

24.56min 1892.05ug/kg

response 1112314

Ion	Exp%	Act%
252.00	100	100
253.00	22.10	22.23
125.00	10.50	11.00
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160421\16042110.D Vial: 10
Acq On : 21 Apr 2016 7:10 pm Operator:
Sample : PCAL-160421 (5000 ppb) Inst : GC/MS #6
Misc : CAL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 22 11:46 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri Apr 22 11:43:43 2016
Response via : Initial Calibration
DataAcq Meth : PP160322

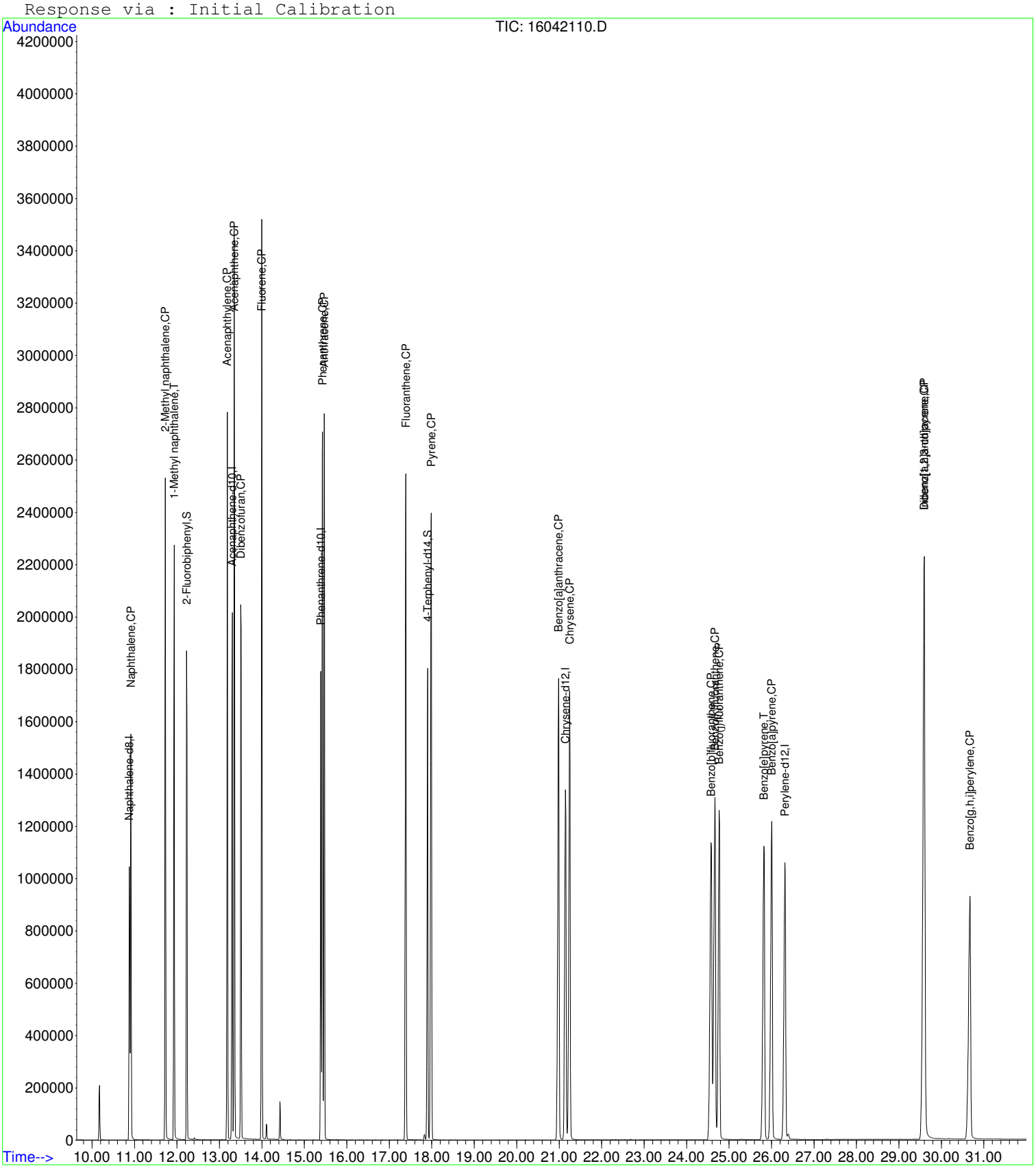
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.88	136	1267887	4000.00	ug/kg	109
5) Acenaphthene-d10	13.30	164	1170622	4000.00	ug/kg	102
11) Phenanthrene-d10	15.39	188	2026803	4000.00	ug/kg	99
17) Chrysene-d12	21.15	240	2321115	4000.00	ug/kg	102
20) Perylene-d12	26.32	264	2077450	4000.00	ug/kg	101
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.23	172	1535636	4497.00	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 112.43%			
16) 4-Terphenyl-d14	17.90	244	2372972	4525.38	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 113.13%			
Target Compounds						Qvalue
2) Naphthalene	10.91	128	1466551	4624.22	ug/kg	99
3) 2-Methyl naphthalene	11.73	142	1254770	4479.04	ug/kg	99
4) 1-Methyl naphthalene	11.94	142	1162503	4530.90	ug/kg	99
6) Dibenzofuran	13.51	168	2052094	4677.28	ug/kg	99
8) Acenaphthylene	13.18	152	2446851	4853.52	ug/kg	98
9) Acenaphthene	13.35	154	1490789	4764.22	ug/kg	98
10) Fluorene	14.00	166	1858069	4889.40	ug/kg	100
12) Phenanthrene	15.43	178	2457176	4609.95	ug/kg	99
13) Anthracene	15.47	178	2377979	4713.49	ug/kg	98
14) Fluoranthene	17.39	202	2617800	4746.00	ug/kg	98
15) Pyrene	17.99	202	2697026	4707.07	ug/kg	99
18) Benzo[a]anthracene	20.99	228	2764069	5083.06	ug/kg	99
19) Chrysene	21.25	228	2532342	4819.83	ug/kg	99
21) Benzo[b]fluoranthene	24.58	252	2683309	4900.63	ug/kg	99
22) Benzo[k]fluoranthene	24.67	252	2495150	4857.71	ug/kg	99
23) Benzo(j)fluoranthene	24.77	252	2281068	4985.37	ug/kg	99
24) Benzo[e]pyrene	25.82	252	2361015	4814.90	ug/kg	99
25) Benzo[a]pyrene	26.00	252	2496967	4983.10	ug/kg	99
26) Dibenz[a,h]anthracene	29.60	278	2366235	5185.10	ug/kg	99
27) Indeno[1,2,3-cd]pyrene	29.60	276	2781552	5109.27	ug/kg	99
28) Benzo[g,h,i]perylene	30.67	276	2164787	5099.38	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160421\16042110.D Vial: 10
Acq On : 21 Apr 2016 7:10 pm Operator:
Sample : PCAL-160421 (5000 ppb) Inst : GC/MS #6
Misc : CAL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 22 11:46 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri Apr 22 11:43:43 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160421\16042112.D Vial: 12
Acq On : 21 Apr 2016 8:30 pm Operator:
Sample : PSSCV-160421 (2500 ppb) Inst : GC/MS #6
Misc : ICV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 22 11:46 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri Apr 22 11:43:43 2016
Response via : Initial Calibration
DataAcq Meth : PP160322

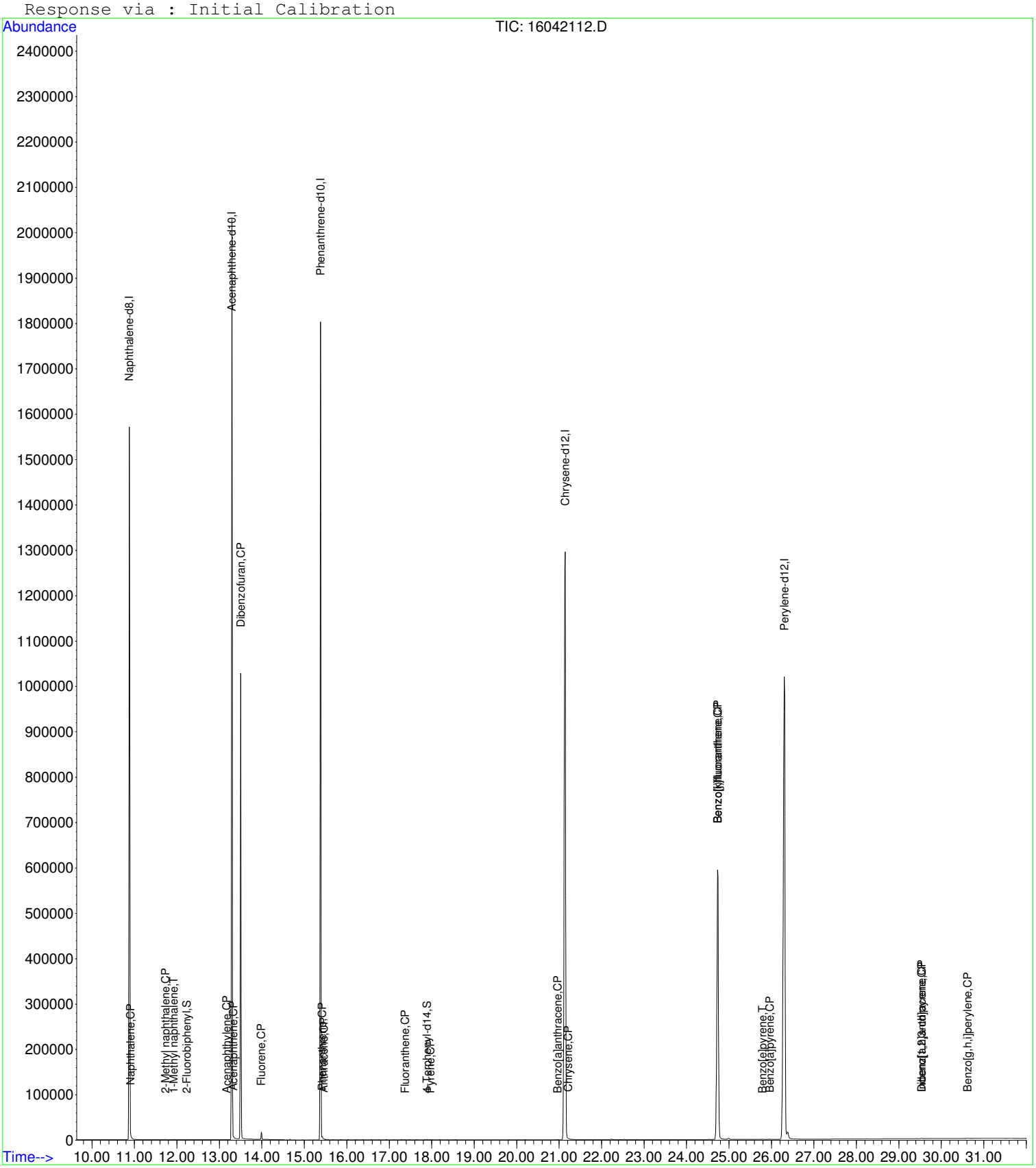
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)	
1) Naphthalene-d8	10.88	136	1773814	4000.00	ug/kg	153	
5) Acenaphthene-d10	13.29	164	1073271	4000.00	ug/kg	93	
11) Phenanthrene-d10	15.38	188	1966702	4000.00	ug/kg	96	
17) Chrysene-d12	21.14	240	2203847	4000.00	ug/kg	97	
20) Perylene-d12	26.30	264	1999501	4000.00	ug/kg	97	
System Monitoring Compounds							
7) 2-Fluorobiphenyl	12.23	172	473	1.51	ug/kg	0.00	
Spiked Amount 4000.000	Range 40 - 140		Recovery =	0.04%#			
16) 4-Terphenyl-d14	17.89	244	1537	3.02	ug/kg	-0.01	
Spiked Amount 4000.000	Range 40 - 140		Recovery =	0.08%#			
Target Compounds						Qvalue	
2) Naphthalene	10.92	128	667	1.50	ug/kg	98	
3) 2-Methyl naphthalene	11.73	142	541	1.38	ug/kg	94	
4) 1-Methyl naphthalene	11.93	142	390	1.09	ug/kg	96	
6) Dibenzofuran	13.50	168	930384	2312.95	ug/kg	99	92.52%
8) Acenaphthylene	13.18	152	654	1.41	ug/kg	99	
9) Acenaphthene	13.34	154	537	1.87	ug/kg	96	
10) Fluorene	13.99	166	8239	23.65	ug/kg	99	
12) Phenanthrene	15.42	178	915	1.77	ug/kg	99	
13) Anthracene	15.46	178	904	1.85	ug/kg	96	
14) Fluoranthene	17.37	202	754	1.41	ug/kg	97	
15) Pyrene	17.97	202	988	1.78	ug/kg	95	
18) Benzo[a]anthracene	20.96	228	786	1.52	ug/kg	92	
19) Chrysene	21.22	228	862	1.73	ug/kg	97	
21) Benzo[b]fluoranthene	0.00	252	0	N.D.			
22) Benzo[k]fluoranthene	24.73	252	1073092	2170.60	ug/kg	96	
23) Benzo(j)fluoranthene	24.73	252	1088009	2470.59	ug/kg	99	98.80%
24) Benzo[e]pyrene	25.79	252	711	1.51	ug/kg	85	
25) Benzo[a]pyrene	25.96	252	776	1.61	ug/kg	86	
26) Dibenz[a,h]anthracene	29.54	278	674	1.53	ug/kg	97	
27) Indeno[1,2,3-cd]pyrene	29.55	276	905	1.73	ug/kg	91	
28) Benzo[g,h,i]perylene	30.62	276	929	2.27	ug/kg	94	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160421\16042112.D Vial: 12
Acq On : 21 Apr 2016 8:30 pm Operator:
Sample : PSSCV-160421 (2500 ppb) Inst : GC/MS #6
Misc : ICV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 22 11:46 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri Apr 22 11:43:43 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160421\16042113.D Vial: 13
Acq On : 21 Apr 2016 9:10 pm Operator:
Sample : PSSCV-160421 (2500 ppb) Inst : GC/MS #6
Misc : ICV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 22 11:46 2016 Quant Results File: PP160421.RES

Quant Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri Apr 22 11:43:43 2016
Response via : Initial Calibration
DataAcq Meth : PP160322

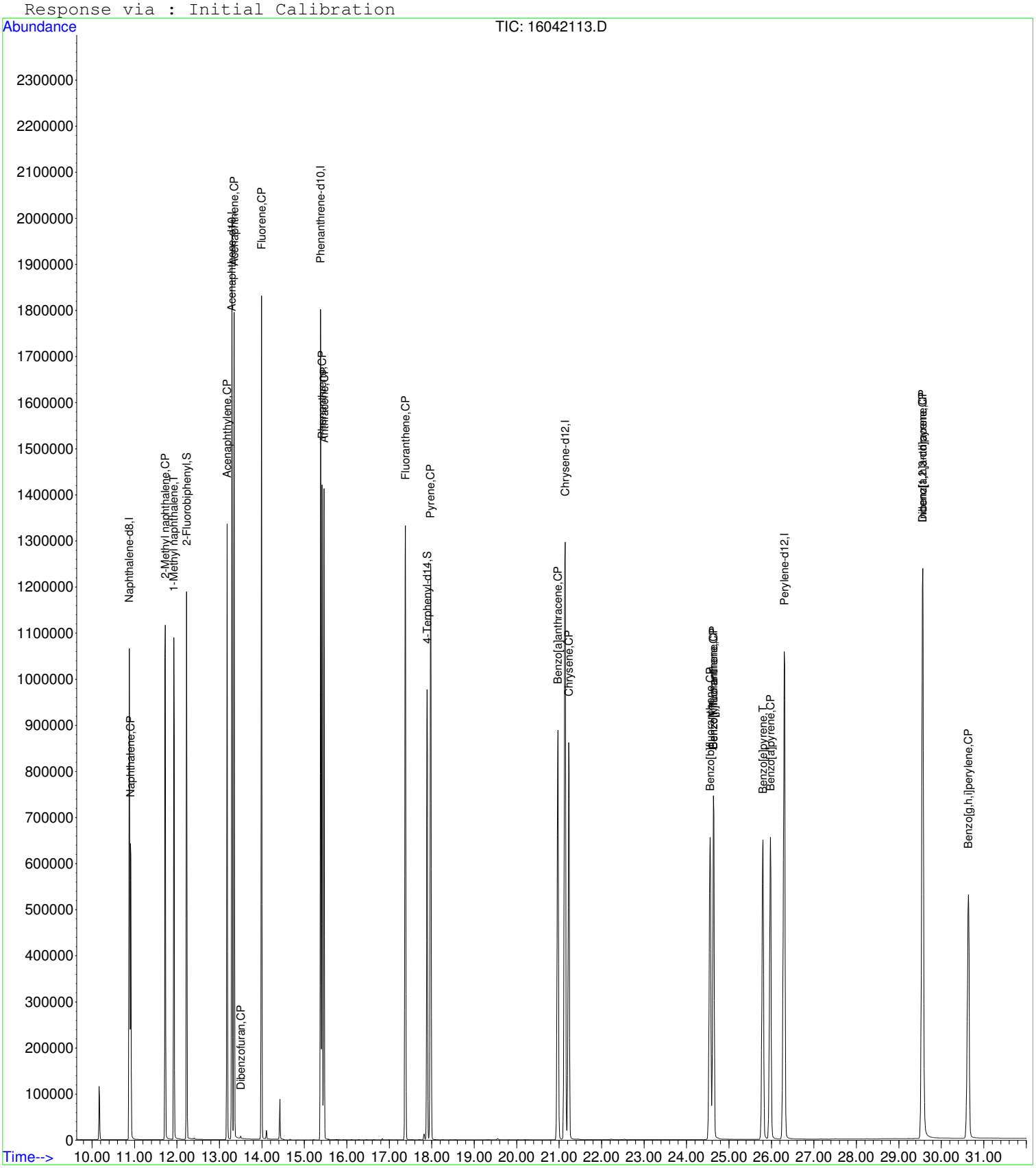
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.88	136	1207407	4000.00	ug/kg	104
5) Acenaphthene-d10	13.29	164	1125201	4000.00	ug/kg	98
11) Phenanthrene-d10	15.38	188	2006052	4000.00	ug/kg	98
17) Chrysene-d12	21.14	240	2214439	4000.00	ug/kg	97
20) Perylene-d12	26.30	264	2022205	4000.00	ug/kg	98
System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.23	172	865296	2636.25	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	65.91%		
16) 4-Terphenyl-d14	17.89	244	1276971	2460.44	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	61.51%		
Target Compounds						Qvalue
2) Naphthalene	10.90	128	700486	2319.36	ug/kg	99
3) 2-Methyl naphthalene	11.72	142	646154	2422.05	ug/kg	96
4) 1-Methyl naphthalene	11.93	142	589122	2411.14	ug/kg	93
6) ~~Dibenzofuran~~	~~13.50~~	~~168~~	~~4477~~	~~10.62~~	~~ug/kg~~	~~99~~
8) Acenaphthylene	13.18	152	1162279	2398.54	ug/kg	99
9) Acenaphthene	13.35	154	742241	2467.78	ug/kg	98
10) Fluorene	13.99	166	937451	2566.43	ug/kg	98
12) Phenanthrene	15.42	178	1224975	2321.97	ug/kg	100
13) Anthracene	15.46	178	1210391	2423.98	ug/kg	100
14) Fluoranthene	17.38	202	1343025	2460.06	ug/kg	99
15) Pyrene	17.98	202	1367241	2410.90	ug/kg	100
18) Benzo[a]anthracene	20.97	228	1320521	2545.39	ug/kg	100
19) Chrysene	21.23	228	1199457	2392.91	ug/kg	100
21) Benzo[b]fluoranthene	24.56	252	1332056	2499.24	ug/kg	100
22) Benzo[k]fluoranthene	24.63	252	1314395	2628.85	ug/kg	99
23) ~~Benzo(j)fluoranthene~~	~~24.63~~	~~252~~	~~1324210~~	~~2973.18~~	~~ug/kg~~	~~96~~
24) Benzo[e]pyrene	25.80	252	1256065	2631.51	ug/kg	99
25) Benzo[a]pyrene	25.98	252	1257772	2578.66	ug/kg	99
26) Dibenz[a,h]anthracene	29.56	278	1181135	2658.91	ug/kg	100
27) Indeno[1,2,3-cd]pyrene	29.56	276	1381760	2607.41	ug/kg	99
28) Benzo[g,h,i]perylene	30.64	276	1103924	2671.45	ug/kg	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160421\16042113.D Vial: 13
Acq On : 21 Apr 2016 9:10 pm Operator:
Sample : PSSCV-160421 (2500 ppb) Inst : GC/MS #6
Misc : ICV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 22 11:46 2016 Quant Results File: PP160421.RES

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri Apr 22 11:43:43 2016
Response via : Initial Calibration



GCMS8
For

DHL Work Order
1605074

GCMS8_160515A
For

DHL Work Order
1605074

Lab Data Review Check List
EPA Method 8270 / 625 - PAH: Polynuclear Aromatic Hydrocarbons

Project Number(s): SEE RUN LOG.	**Run ID: GCMS8_160515A**
Batch Number(s): SEE RUN LOG.	**SOP:** ORGANICS-PAH-01
Matrix: SEE RUN LOG.	

Review Item	Yes	No	N/A	2nd Level Review
Data Folder Contents 1. Is the Prep Batch Report included? Check and record the following: ***Prep Start/End Dates, Sample Amounts, Bottle #s***	X			
2. Are the reagents and spikes listed on the Prep Batch Report current with a valid expiration date? ***All standard/QC sample preparations shall be documented in LIMS***	X			x
3. Is the Run Log and instrument sequence included? ***Check the Test Code, Sample Type, Batch ID, and Analysis Date/Time***	X			
4. Is the System Verification - Tune Report included? ***Date/Tme of Tune starts 12-hour analysis window***	X			
5. Is the Evaluate Continuing Calibration Report included?	X			

Daily Demonstration of Performance

QC items that do not meet method/SOP/project requirements will be described on the run log. All variances that impact data quality will be described in the Variance/Comment Section on page 2.

Review Item	Frequency	Limits	Pass	Fail (List Batch/Sample) **See Run Log**	2nd Level Review
Tune	Before ICAL Every 12 hours	See Tune Eval Report	X		
Resolution Check - Benzo(b) and Benzo(k)phenanthrene	Before ICAL Every 12 hours	Benzo(b) and Benzo(k) Valley > 50%	X		
Initial Calibration Curve (ICAL) (minimum: 5 Standards)	Prior to samples and when ICV fails	Avg. RF - %RSD ≤ 15% Curve (COD) - R^2 ≥ 0.990	X		x
SSCV - (Second Source)	After calibration (ICAL)	80-120%	X		
ICV - (Daily Initial Cal Verification)	Every 12 hours	ISTDs Area% (50-200%) Surrogates %R (See LIMS) Analytes %R (80-120%)	X		

Review Item	Frequency	Limits	Pass	Fail	N/A	Review
Method Blank (MB) System Blank (SYS Blank)	Every Batch (MB) Daily (SYS BL)	< MDL / <½ RL (DoD) or <1/10 the sample/reg limit	X			
Lab Control Sample (LCS)	Every Batch	See LIMS	X			
Lab Control Sample Dup (LCSD)	Insufficient sample Sample Matrix	See LIMS			X	
LCSD - RPD	Every LCS/LCSD	≤ 30 (Aq/Soil/DoD)			X	
Field Samples	Up to 20 per prep batch	ISTDs Area% (50-200%) Surrogates %R (See LIMS) RRT ± 0.06 RRT Standard Q value > 70 - check for #	X			x
Matrix Spike (MS)	Every Batch/20 samples	See LIMS		X		
Matrix Spike Duplicate (MSD) (MSD is N/A for Method 625)	Every Prep Batch except Method 625	See LIMS		X		
MSD - RPD (MSD is N/A for Method 625)	Every MS/MSD except Method 625	≤ 30 (Aq/Soil/DoD)		X		

Lab Data Review Check List
EPA Method 8270 / 625 - PAH: Polynuclear Aromatic Hydrocarbons

Review Item	Criteria	Yes	No	N/A	2nd Level Review
Sample Analysis	7 days (Aq) - extraction			X	
1. Are all sample hold times met?	14 days (Soil) - extraction	X			
	40 days analysis	X			
2. Are all manual integrations signed (Before & After) and printouts included ? Put in LIMS Comment Section ***Include MI form for DoD work***	Before & After - signed Comment Section in LIMS MI Form - DoD only			X	x
3. Are all samples with concentrations > the highest standard used for calibration diluted and reanalyzed?	> highest standard	X			
Review Item #3 is N/A ONLY if all sample results are within Calibration range or NO if dilution is in different folder					
4. Is mass spectra reviewed/verified if Q value is <70 and/or # flag for results >MDL?	Q value <70 - All hits	X			x
5. Are ALL reported analytes > MDL (+ J flags) circled by the analyst?		X	**Return to analyst if NO**		
VARIANCE REPORT					
QC items that do not meet method/SOP/project requirements will be described on the run log. All variances that impact data quality will be described in this section.					
NON-CONFORMANCES / VARIANCE 1. Are all non-conformances included and noted?	All deviations from the method and SOP that affect data quality	X			x
2. Are all corrective actions included?		X			
3. Does the variance require approval by the Technical Director/General Manager/QA Manager?		X			

QA APPROVED
By John DuPont at 2:51:41 PM, 5/26/2016

Approved by: Date:

Description and Corrective Actions of QC items that do not meet method/SOP/project requirements:

****INCLUDE VARIANCE ITEM / REASON / CORRECTIVE ACTION / IMPACT ON DATA****

VARIANCE ITEM	REASON	CORRECTIVE ACTION
___ Hold Time exceeded (7D/14D-Ext/40D-Analysis)	___ Sample Received out of HT	___ Reanalyze QC to confirm
___ ICV out of control (±20%)	___ Carryover from previous run	___ Recalibrate
___ MB/SYS BL out of control (> MDL / >½ RL)	___ Cross contamination	___ Reprep/Reanalyze sample
___ LCS ___ LCSD out of control (See LIMS)	___ Lab Artifact	___ Reprep/Reanalyze Batch
x RPD out of control for LCS/LCSD (>30)	___ Prep Spike error (describe)	___ Reanalyze Batch/Sample/QC
x MS x MSD out of control (See LIMS)	x High Levels of target analytes	___ Verify H2O/reagents are clean
___ RPD out of control for MS/MSD (>30)	___ High Levels of non-targets	___ Reanalyze sample to confirm
___ Internal Standard(s) out of control	___ Insufficient sample for QC	___ Sample results ND w/ dilution
___ Multiple Surrogates out of control	___ Prep Error	___ Client notified and approved
___ No MS/MSD prepared - LCS/LCSD used instead	___ Analytical Error	___ Flag data / Case narrative
___ Missing QC (other than MS/MSD)	___ Client Request	___ Instrument Maintenance
___ QC sample(s) was mis-spiked	___ Other (describe below)	x Accept data
___ Other (describe below)		

___ Cannot reanalyze (HT out/Lack of Sample)

General Comments and Impact on Data:

See run log. Several analytes fail in MS and MSD - high levels of target analytes present. Assumed matrix effect - no corrective action taken.

Analyst: Karyn Lane Date: 5/16/2016 16:26

Second-Level Review: Janice Whitt Date: 5/26/2016

REVIEWED BY
By Janice Whitt at 2:39:48 PM, 5/26/2016

DHL Analytical, Inc.

Run ID: GCMS8_160515A **Run No.:** 85832

Analytical Run Date: 5/15/2016 **InstrumentID:** GCMS8

Analyst: Karyn Lane **Column:** Rtx-5Sil MS (30m x 0.25mm ID x 0.5µm df)

Calibration ID: 658 **Column ID:** 0.18mm

Column Length: 20m

Cal Comments: PAH160510.M

SampID	DF	TestCode	SampType	Batch ID	Analysis Date/Time	Q	Comments
DFTPP-160515	1	PAH_LL_SDOD1	TUNE	R85832	5/15/2016 5:53:00 PM		
ICV-160515	1	PAH_LL_SDOD1	ICV	R85832	5/15/2016 6:30:00 PM		
LCS-75119	1	PAH_LL_SDOD1	LCS	75119	5/15/2016 7:08:00 PM		
MB-75119	1	PAH_LL_SDOD1	MBLK	75119	5/15/2016 7:44:00 PM		
1605074-13A	20	PAH_LL_SDOD1	SAMP	75119	5/15/2016 8:22:00 PM		All samples in this batch run at 10x - detection limit is sufficient and is approved by project managers. Some are run at larger dilution due to color of the extract and high concentration of hydrocarbons.
1605074-17A	10	PAH_LL_SDOD1	SAMP	75119	5/15/2016 8:59:00 PM		
1605074-18A	20	PAH_LL_SDOD1	SAMP	75119	5/15/2016 9:36:00 PM		
1605074-19A	10	PAH_LL_SDOD1	SAMP	75119	5/15/2016 10:13:00 PM		
1605074-20A	10	PAH_LL_SDOD1	SAMP	75119	5/15/2016 10:50:00 PM		
1605074-21A	10	PAH_LL_SDOD1	SAMP	75119	5/15/2016 11:27:00 PM		
1605074-22A	10	PAH_LL_SDOD1	SAMP	75119	5/16/2016 12:04:00 AM		
1605074-23A	20	PAH_LL_SDOD1	SAMP	75119	5/16/2016 12:41:00 AM		
1605074-24A	10	PAH_LL_SDOD1	SAMP	75119	5/16/2016 1:18:00 AM		
1605074-25A	10	PAH_LL_SDOD1	SAMP	75119	5/16/2016 1:55:00 AM		
1605074-26A	10	PAH_LL_SDOD1	SAMP	75119	5/16/2016 2:32:00 AM		
1605074-13AMS	20	PAH_LL_SDOD1	MS	75119	5/16/2016 3:08:00 AM		8 analytes low.
1605074-13AMSD	20	PAH_LL_SDOD1	MSD	75119	5/16/2016 3:45:00 AM		13 analyte high. RPD out for 8 analytes. This sample contains very high concentration of target analytes.
DFTPP2-160515	1	PAH_LL_SDOD1	TUNE	R85832	5/16/2016 4:22:00 AM		
ICV2-160515	1	PAH_LL_SDOD1	ICV	R85832	5/16/2016 4:58:00 AM		
SB-160515	1	PAH_LL_SDOD1	SBLK	75119	5/16/2016 6:12:00 AM		
1605074-27A	10	PAH_LL_SDOD1	SAMP	75119	5/16/2016 6:48:00 AM		
1605074-28A	10	PAH_LL_SDOD1	SAMP	75119	5/16/2016 7:25:00 AM		Prep analyst double spiked the surrogates. Concentration adjusted in LIMS, recovery ok.
1605074-29A	10	PAH_LL_SDOD1	SAMP	75119	5/16/2016 8:02:00 AM		
1605074-30A	10	PAH_LL_SDOD1	SAMP	75119	5/16/2016 8:49:00 AM		
1605074-31A	10	PAH_LL_SDOD1	SAMP	75119	5/16/2016 9:26:00 AM		

Std ID	Std Name	Type	Exp. Date
DFTPP160509	2.5 PPM 525 TUNE STD.	TUNE	05/07/2017
PAHCCV-160509	1 PPM PAH CCV STANDARD	CCV	08/07/2016
PAHICV160509	2 PPM PAH ICV	ICV	08/07/2016
SVI150810-08	4000 PPM INTERNAL STANDAR	ALL	07/21/2016

DHL Analytical, Inc.

Run ID: GCMS8_160515A **Run No.:** 85832

1605074-32A	10	PAH_LL_SDOD1	SAMP	75119	5/16/2016 10:03:00 AM		
1605074-36A	10	PAH_LL_SDOD1	SAMP	75119	5/16/2016 10:40:00 AM		
1605074-37A	10	PAH_LL_SDOD1	SAMP	75119	5/16/2016 11:16:00 AM		
1605074-38A	10	PAH_LL_SDOD1	SAMP	75119	5/16/2016 11:53:00 AM		
CCV1-160515	1	PAH_LL_SDOD1	CCV	R85832	5/16/2016 12:30:00 PM		

Std ID	Std Name	Type	Exp. Date
DFTPP160509	2.5 PPM 525 TUNE STD.	TUNE	05/07/2017
PAHCCV-160509	1 PPM PAH CCV STANDARD	CCV	08/07/2016
PAHICV160509	2 PPM PAH ICV	ICV	08/07/2016
SVI150810-08	4000 PPM INTERNAL STANDAR	ALL	07/21/2016

Sequence Name: C:\msdchem\1\sequence\160515.S
Comment:
Operator:
Data Path: C:\MSDCHEM\1\DATA\160515\
Instrument Name: GCMS #8
Instrument Control Pre-Seq Cmd:
Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:
Data Analysis Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line			Sample Name/Misc Info	
1)	Sample	1	16051501 PAH160510	SBLK
2)	Sample	2	16051502 DFTPPPAH	DFTPP-160515
3)	Sample	3	16051503 PAH160510	ICV-160515
4)	Sample	4	16051504 PAH160510	LCS-75119
5)	Sample	5	16051505 PAH160510	MB-75119
6)	Sample	6	16051506 PAH160510	1605074-13A
7)	Sample	7	16051507 PAH160510	1605074-17A
8)	Sample	8	16051508 PAH160510	1605074-18A
9)	Sample	9	16051509 PAH160510	1605074-19A
10)	Sample	10	16051510 PAH160510	1605074-20A
11)	Sample	1	16051511 DFTPPPAH	DFTPP-160515
12)	Sample	2	16051512 PAH160510	ICV-160515
13)	Sample	3	16051513 PAH160510	LCS-75119
14)	Sample	4	16051514 PAH160510	MB-75119
15)	Sample	5	16051515 PAH160510	1605074-13A
16)	Sample	6	16051516 PAH160510	1605074-17A
17)	Sample	7	16051517 PAH160510	1605074-18A
18)	Sample	8	16051518 PAH160510	1605074-19A
19)	Sample	9	16051519 PAH160510	1605074-20A
20)	Sample	10	16051520 PAH160510	1605074-21A
21)	Sample	11	16051521 PAH160510	1605074-22A
22)	Sample	12	16051522 PAH160510	1605074-23A
23)	Sample	13	16051523 PAH160510	1605074-24A
24)	Sample	14	16051524 PAH160510	1605074-25A
25)	Sample	15	16051525 PAH160510	1605074-26A
26)	Sample	16	16051526 PAH160510	1605074-13AMS
27)	Sample	17	16051527 PAH160510	1605074-13AMSD
28)	Sample	18	16051528 DFTPPPAH	DFTPP2-160515
29)	Sample	19	16051529 PAH160510	ICV2-160515
30)	Sample	20	16051530 PAH160510	SBLK
31)	Sample	21	16051531 PAH160510	SB-160515
32)	Sample	22	16051532 PAH160510	1605074-27A
33)	Sample	23	16051533 PAH160510	1605074-28A
34)	Sample	24	16051534 PAH160510	1605074-29A
35)	Sample	25	16051535 PAH160510	1605074-30A
36)	Sample	26	16051536 PAH160510	1605074-31A
37)	Sample	27	16051537 PAH160510	1605074-32A
38)	Sample	28	16051538 PAH160510	1605074-36A
39)	Sample	29	16051539 PAH160510	1605074-37A
40)	Sample	30	16051540 PAH160510	1605074-38A
41)	Sample	31	16051541 PAH160510	CCV1-160515

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/12/2016 8:29:30 AM**
Digestion:
Prep End Date: **5/12/2016 11:37:00 AM**

Prep Batch **75119** Prep Code: **3550_PAHDOD** Technician: **Lauren Garcia**

Prep Factor Units: **mL/g**

Equipment List

Turbo-Vap # 1,2,3
Balance # 25
Sonicators # 1,2,3,4

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605074-13A	Soil		10.46	10	0.956	2 of 3	
1605074-13AMS	Soil		10.22	10	0.978	23 of	
1605074-13AMSD	Soil		10.07	10	0.993	3 of	
1605074-17A	Soil		10.11	10	0.989	1 of 1	
1605074-18A	Soil		10.17	10	0.983	1 of 1	
1605074-19A	Soil		10.04	10	0.996	1 of 1	
1605074-20A	Soil		10.42	10	0.960	1 of 1	
1605074-21A	Soil		7.08	10	1.412	1 of 1	
1605074-22A	Soil		10.02	10	0.998	1 of 1	
1605074-23A	Soil		10.18	10	0.982	1 of 1	
1605074-24A	Soil		10.03	10	0.997	1 of 1	
1605074-25A	Soil		10.54	10	0.949	1 of 1	
1605074-26A	Soil		10.05	10	0.995	of 3	
1605074-27A	Soil		10.09	10	0.991	1 of 1	
1605074-28A	Soil		10.77	10	0.929	1 of 1	
1605074-29A	Soil		10.84	10	0.923	1 of 1	
1605074-30A	Soil		10.18	10	0.982	1 of 1	
1605074-31A	Soil		10.45	10	0.957	1 of 1	
1605074-32A	Soil		10.3	10	0.971	1 of 1	
1605074-36A	Soil		10.58	10	0.945	1 of 1	
1605074-37A	Soil		10.18	10	0.982	1 of 1	
1605074-38A	Soil		10.05	10	0.995	1 of 1	
LCS-75119	Soil		10	10	1.000	of	
MB-75119	Soil		10	10	1.000	of	

Number	Reagent Name	Amt	Units	Exp. Da
9927	purified sodium sulfate	10	g	07/04/2016
10169	Methylene Chloride	8	ml	03/15/2026
10214	Whatman 41 Filter	1	filter	03/30/2026
10343	1:1 MeCl2/Acetone	120	ml	05/09/2026

Spk ID	Spike Name	SampType	Amt (mL or g)	Exp. Date
PAHPREP160509	200 PPM PAH Spike Mix	LCS/MS/MSD	0.05	11/07/2016
SVPREP160510	40 PPM Surrogate Standard	ALL	0.25	08/08/2016

REVIEWED BY
By Janice Whitt at 2:13:51 PM, 5/26/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/12/2016 8:29:30 AM**
Digestion:
Prep End Date: 5/12/2016 11:37 AM

Prep Batch **75119** Prep Code: **3550_PAHDOD** Technician: **Lauren Garcia**

Prep Factor Units: **mL/g**

Equipment List
Turbo-Vap # 1,2,3
Balance # 25
Sonicators # 1,2,3,4

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605074-13A	Soil		10.46	10	1.000	2 of 3	
1605074-13AMS	Soil		10.22	10	1.000	23 of 3	
1605074-13AMSD	Soil		10.07	10	1.000	3 of 3	
1605074-17A	Soil		10.11	10	1.000	1 of 1	
1605074-18A	Soil		10.17	10	1.000	1 of 1	
1605074-19A	Soil		10.04	10	1.000	1 of 1	
1605074-20A	Soil		10.42	10	1.000	1 of 1	
1605074-21A	Soil	7.08	10.0 18	10 5/12/16	1.000	1 of 1	
1605074-22A	Soil		10.02	10	1.000	1 of 1	
1605074-23A	Soil		10.18	10	1.000	1 of 1	
1605074-24A	Soil		10.03	10	1.000	1 of 1	
1605074-25A	Soil		10.54	10	1.000	1 of 1	
1605074-26A	Soil		10.05	10	1.000	of 3	
1605074-27A	Soil		10.09	10	1.000	1 of 1	
1605074-28A	Soil		10.77	10	1.000	1 of 1	
1605074-29A	Soil		10.84	10	1.000	1 of 1	
1605074-30A	Soil		10.18	10	1.000	1 of 1	
1605074-31A	Soil		10.45	10	1.000	1 of 1	
1605074-32A	Soil		10.30	10	1.000	1 of 1	
1605074-36A	Soil		10.58	10	1.000	1 of 1	
1605074-37A	Soil		10.18	10	1.000	1 of 1	
1605074-38A	Soil		10.05	10	1.000	1 of 1	
LCS-75119	Soil		10	10	1.000	of	
MB-75119	Soil		10	10	1.000	of	

Number	Reagent Name	Amt	Units	Exp. Da
9927	purified sodium sulfate	10	g	07/04/2016
10169	Methylene Chloride	8	ml	03/15/2026
10214	Whatman 41 Filter	1	filter	03/30/2026
10343	1:1 MeCl2/Acetone	120	ml	05/09/2026

Spk ID	Spike Name	SampType	Amt (mL or g)	Exp. Date
PAHPREP160509	200 PPM PAH Spike Mix	LCS/MS/MSD	0.05	11/07/2016
SVPREP160510	40 PPM Surrogate Standard	ALL	0.25	08/08/2016

REVIEWED BY
By Janice Whitt at 2:13:48 PM, 5/26/2016

5/12/16
AK 5/12/16
5/12/16

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/9/2016 9:45:00 AM**
Digestion: **Start: 5/9/2016 11:00:00 AM / Stop: 5/10/2016 10:00:00 AM**
Prep End Date: **5/10/2016 7:00:00 PM**

Prep Batch **75016** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker**

Prep Factor Units: mL/

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #			Cleanup
1605074-01A	Soil		0	0	#Num!	1	of	1	
1605074-02A	Soil		0	0	#Num!	1	of	1	
1605074-03A	Soil		0	0	#Num!	1	of	1	
	Sieved only no subdampling - hard clay								
1605074-04A	Soil		0	0	#Num!	1	of	1	
	Sieved only no subdampling - hard clay								
1605074-05A	Soil		0	0	#Num!	1	of	1	
1605074-06A	Soil		0	0	#Num!	1	of	1	
	Sieved only no subsampling - hard clay								
1605074-07A	Soil		0	0	#Num!	1	of	1	
	Sieved only no subsampling - hard clay								
1605074-08A	Soil		0	0	#Num!	1	of	1	
	Sieved only no subsampling - hard clay								
1605074-09A	Soil		0	0	#Num!	1	of	1	
1605074-10A	Soil		0	0	#Num!	1	of	1	
1605074-11A	Soil		0	0	#Num!	1	of	1	
	Sieved only no sub sampling - hard clay								
1605074-12A	Soil		0	0	#Num!	1	of	1	
	Sieved only no sub sampling - hard clay								
1605074-13A	Soil		0	0	#Num!		of	3	
	Extra subsampled for MS/MSD								
1605074-14A	Soil		0	0	#Num!	1	of	1	
1605074-15A	Soil		0	0	#Num!	1	of	1	
1605074-16A	Soil		0	0	#Num!	1	of	1	
1605074-17A	Soil		0	0	#Num!	1	of	1	
1605074-18A	Soil		0	0	#Num!	1	of	1	
1605074-19A	Soil		0	0	#Num!	1	of	1	

REVIEWED BY
By Janice Whitt at 2:12:48 PM, 5/26/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/9/2016 9:45:00 AM**
Digestion: **Start: 5/9/2016 11:00:00 AM / Stop: 5/10/2016 10:00:00 AM**
Prep End Date: **5/10/2016 7:00:00 PM**

Prep Batch **75016** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker**

Prep Factor Units: mL/

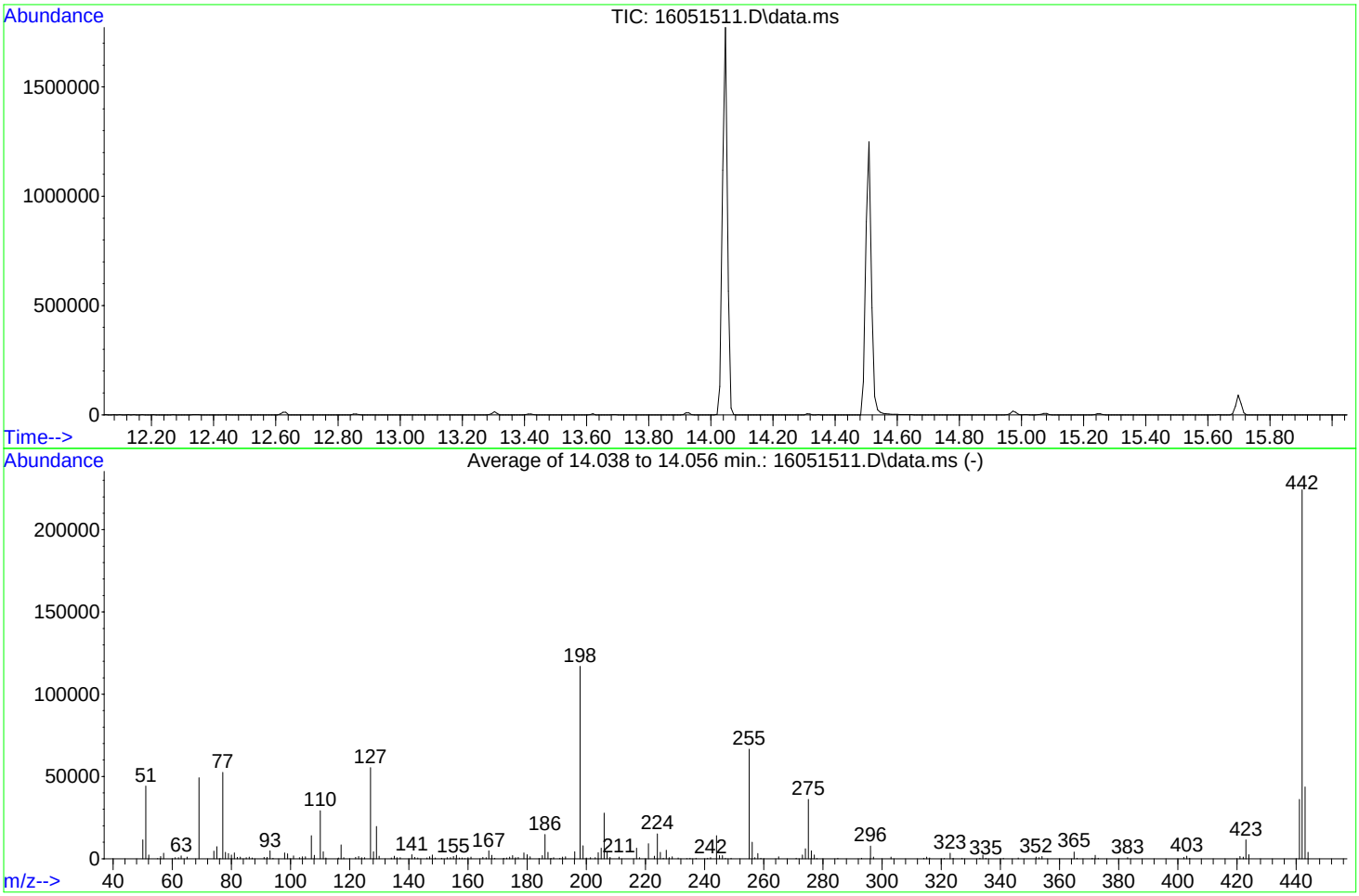
Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #			Cleanup
1605074-20A	Soil		0	0	#Num!	1	of	1	
1605074-21A	Soil		0	0	#Num!	1	of	1	
1605074-22A	Soil		0	0	#Num!	1	of	1	
1605074-23A	Soil		0	0	#Num!	1	of	1	
1605074-24A	Soil		0	0	#Num!	1	of	1	
1605074-25A	Soil		0	0	#Num!	1	of	1	
1605074-26A	Soil		0	0	#Num!		of	3	
	Extra subsampled for MS/MSD								
1605074-27A	Soil		0	0	#Num!	1	of	1	
1605074-36A	Soil		0	0	#Num!	1	of	1	
1605074-37A	Soil		0	0	#Num!	1	of	1	
	Sieved only no subsampling - hard clay								
1605074-38A	Soil		0	0	#Num!	1	of	1	
	Sieved only no subsampling - hard clay								
1605074-39A	Soil		0	0	#Num!	1	of	1	
1605074-40A	Soil		0	0	#Num!	1	of	1	
1605074-41A	Soil		0	0	#Num!	1	of	1	
	Sieved only no subsampling - hard clay								
1605074-42A	Soil		0	0	#Num!	1	of	1	
	Sieved only no subsampling - hard clay								
1605074-43A	Soil		0	0	#Num!	1	of	1	
	Sieved only no subsampling - hard clay								
1605074-44A	Soil		0	0	#Num!		of	3	
	Extra subsampled for MS/MSD								
1605074-45A	Soil		0	0	#Num!	1	of	1	
	Sieved only no subsampling - hard clay								

REVIEWED BY
By Janice Whitt at 2:12:50 PM, 5/26/2016

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051511.D
Acq On : 15 May 2016 5:53 pm
Operator :
Sample : DFTPP-160515
Misc : TUNE
ALS Vial : 1 Sample Multiplier: ~~10~~ 1

Integration File: RTEINT.P

Method : C:\msdchem\1\METHODS\DFTPPPAH.M
Title : CLP BNA Calibration - Large Volume Injection
Last Update : Thu Aug 27 07:24:43 2015



AutoFind: Scans 436, 437, 438; Background Corrected with Scan 432

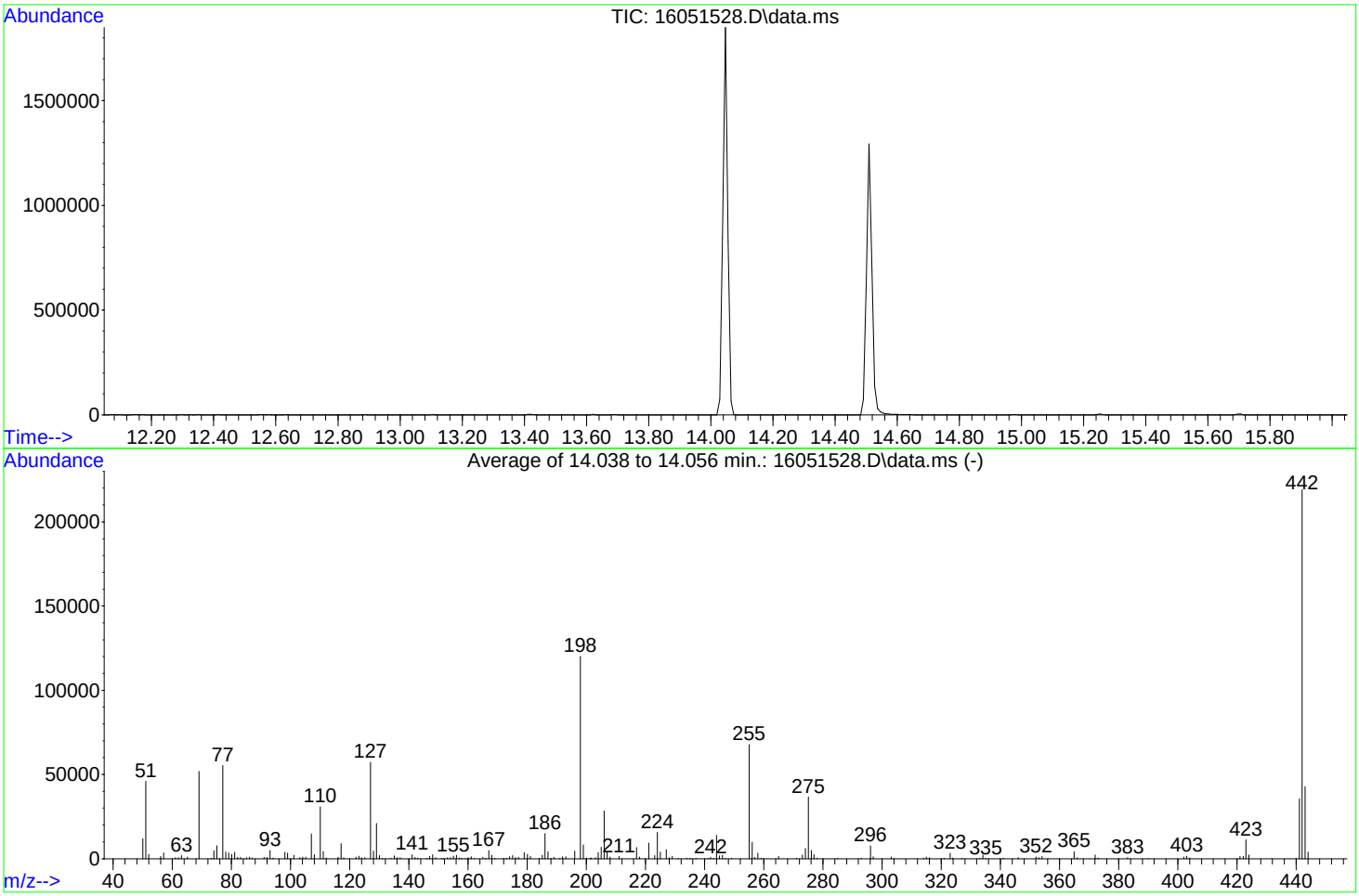
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	37.8	44180	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	42.1	49263	PASS
70	69	0.00	2	0.0	0	PASS
127	198	10	80	47.4	55368	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	116896	PASS
199	198	5	9	6.8	7940	PASS
275	198	10	60	30.8	35978	PASS
365	198	1	200	3.6	4166	PASS
441	442	0.01	24	16.1	36106	PASS
442	198	50	400	191.9	224336	PASS
443	442	15	24	19.5	43648	PASS

REVIEWED BY
By Janice Whitt at 2:12:53 PM, 5/26/2016

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051528.D
Acq On : 16 May 2016 4:22 am
Operator :
Sample : DFTPP2-160515
Misc : TUNE
ALS Vial : 18 Sample Multiplier: 1

Integration File: RTEINT.P

Method : C:\msdchem\1\METHODS\DFTPPPAH.M
Title : CLP BNA Calibration - Large Volume Injection
Last Update : Thu Aug 27 07:24:43 2015



AutoFind: Scans 436, 437, 438; Background Corrected with Scan 432

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	38.2	45898	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	43.1	51761	PASS
70	69	0.00	2	0.0	0	PASS
127	198	10	80	47.6	57221	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	120098	PASS
199	198	5	9	6.8	8214	PASS
275	198	10	60	30.5	36661	PASS
365	198	1	200	3.5	4147	PASS
441	442	0.01	24	16.2	35548	PASS
442	198	50	400	182.4	219090	PASS
443	442	15	24	19.6	42846	PASS

REVIEWED BY
By Janice Whitt at 2:12:57 PM, 5/26/2016

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051512.D
Acq On : 15 May 2016 6:30 pm
Operator :
Sample : ICV-160515
Misc : ICV
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 16 13:05:51 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.275	136	1564923	4000.00	ug/kg	100
6) Acenaphthene-d10	12.861	164	892317	4000.00	ug/kg	91
11) Phenanthrene-d10	14.985	188	2414755	4000.00	ug/kg	78
16) Chrysene-d12	20.997	240	3070900	4000.00	ug/kg	88
20) Perylene-d12	26.264	264	2634547	4000.00	ug/kg	89

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.760	172	578667	1881.44	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 47.04%			
17) 4-Terphenyl-d14	17.602	244	1297156	1828.16	ug/kg	0.01
Spiked Amount 4000.000	Range 51 - 135		Recovery = 45.70%#			

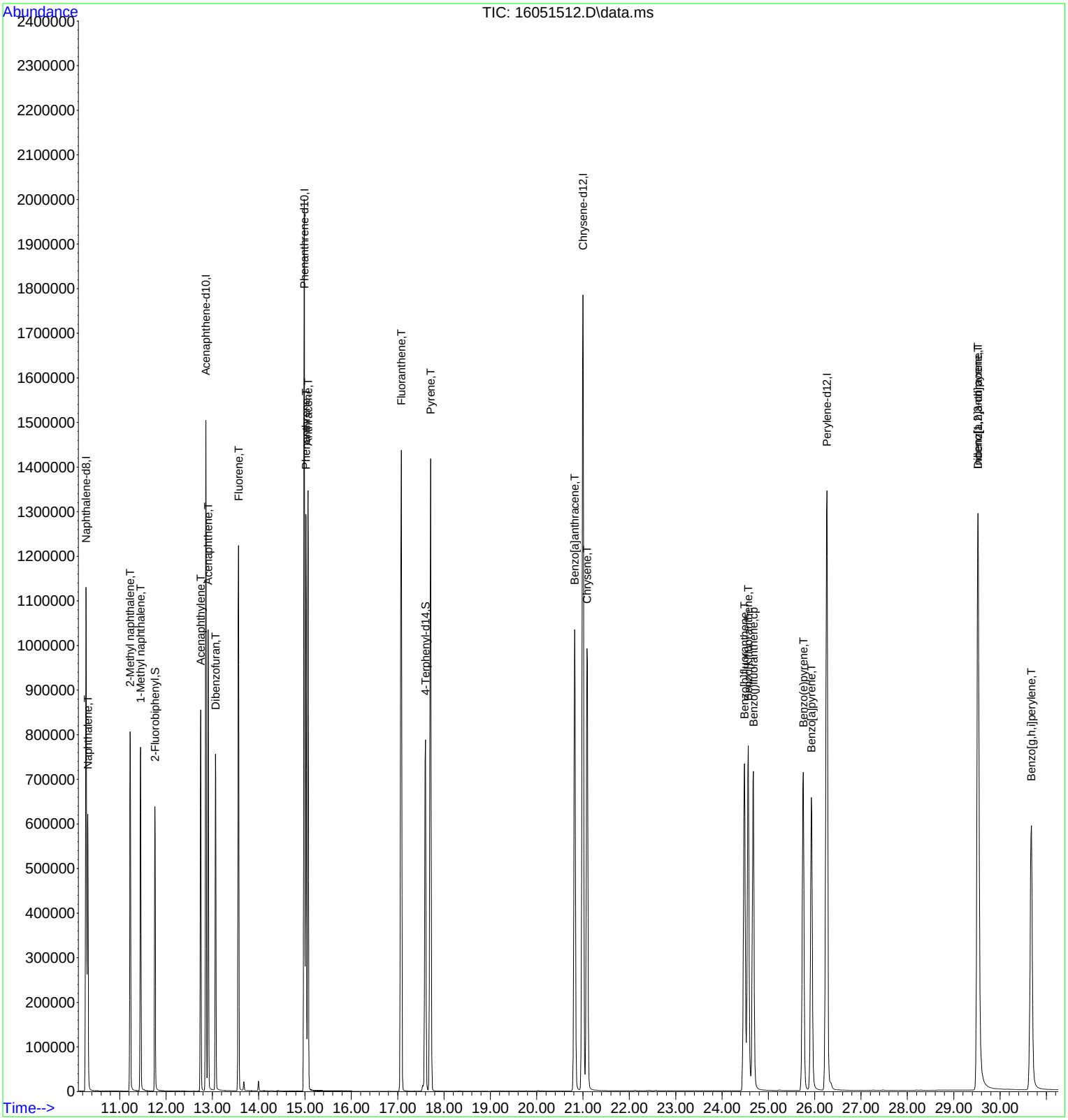
Target Compounds						Qvalue
2) Naphthalene	10.312	128	708874	1869.10	ug/kg	100
3) 2-Methyl naphthalene	11.230	142	509724	1986.99	ug/kg	99
4) 1-Methyl naphthalene	11.452	142	464148	1950.23	ug/kg	100
7) Acenaphthylene	12.748	152	808758	1928.71	ug/kg	100
8) Acenaphthene	12.910	153	491262	1851.29	ug/kg	100
9) Dibenzofuran	13.072	168	720285	1680.86	ug/kg	95
10) Fluorene	13.563	166	646810	1605.03	ug/kg	99
12) Phenanthrene	15.021	178	1263711	1808.17	ug/kg	99
13) Anthracene	15.065	178	1324701	1749.49	ug/kg	99
14) Fluoranthene	17.079	202	1723248	1884.10	ug/kg	98
15) Pyrene	17.709	202	1731517	1887.47	ug/kg	99
18) Benzo[a]anthracene	20.822	228	1629443	1887.57	ug/kg	100
19) Chrysene	21.085	228	1494643	1891.38	ug/kg	100
21) Benzo[b]fluoranthene	24.484	252	1455852	1940.39	ug/kg	99
22) Benzo[k]fluoranthene	24.565	252	1313301	2182.37	ug/kg	98
23) Benzo(j)fluoranthene	24.675	252	1265700	2080.91	ug/kg	99
24) Benzo(e)pyrene	25.751	252	1359606	1887.99	ug/kg	98
25) Benzo[a]pyrene	25.927	252	1322413	1917.69	ug/kg	99
26) Indeno[1,2,3-cd]pyrene	29.531	276	1503545	1968.06	ug/kg	98
27) Dibenz[a,h]anthracene	29.516	278	1258262	2020.22	ug/kg	99
28) Benzo[g,h,i]perylene	30.674	276	1260189	1890.37	ug/kg	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051512.D
Acq On : 15 May 2016 6:30 pm
Operator :
Sample : ICV-160515
Misc : ICV
ALS Vial : 2 Sample Multiplier: 1

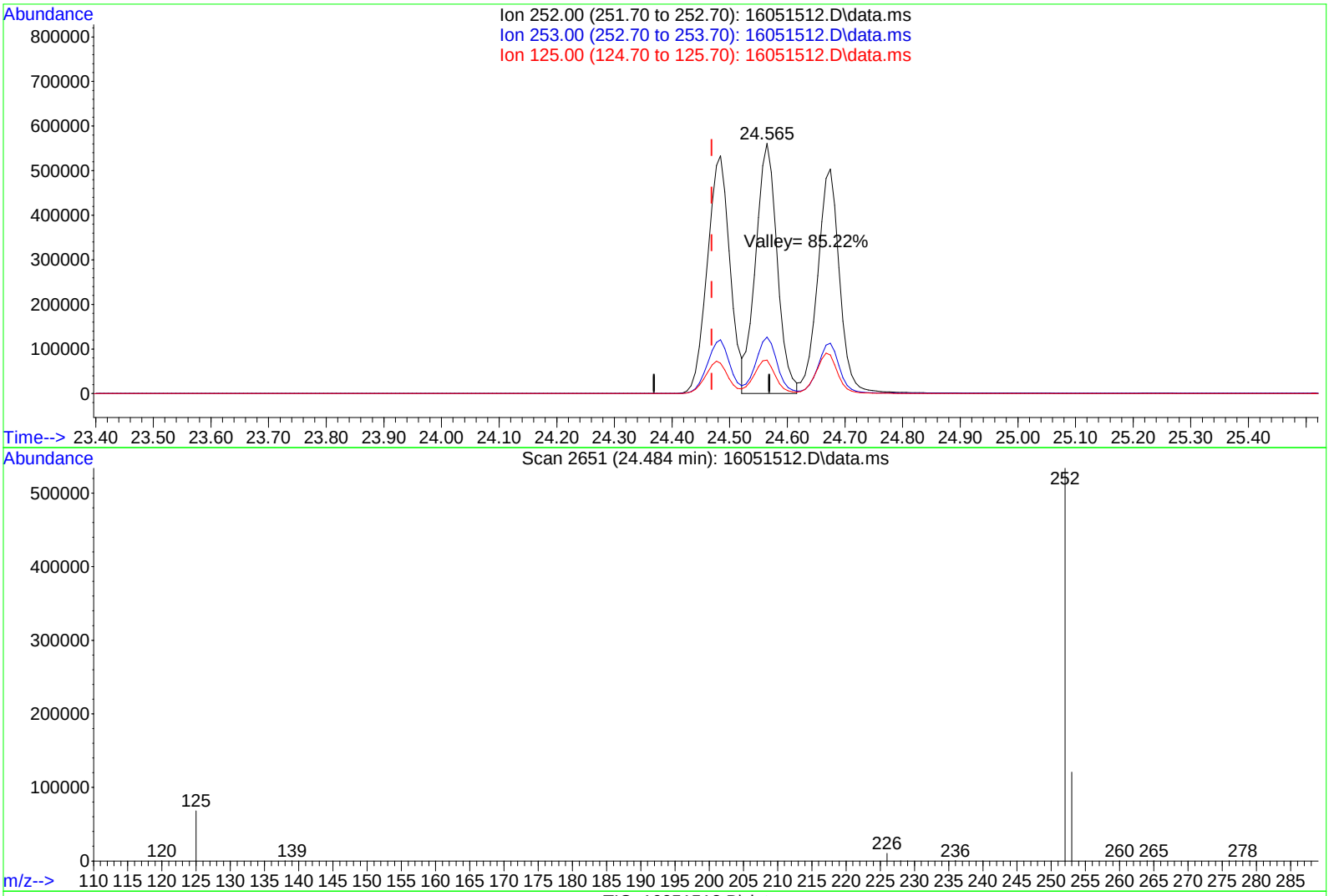
Quant Time: May 16 13:05:51 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration



Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051512.D
Acq On : 15 May 2016 6:30 pm
Operator :
Sample : ICV-160515
Misc : ICV
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 15 19:01:45 2016
Quant Method : C:\MSDCHEM\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration



TIC: 16051512.D\data.ms

(21) Benzo[b]fluoranthene (T)

24.484min (+0.015) 1940.39ug/kg

response 1455852

Ion	Exp%	Act%
252.00	100	100
253.00	22.60	22.50
125.00	13.80	12.77
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051513.D
Acq On : 15 May 2016 7:08 pm
Operator :
Sample : LCS-75119
Misc : LCS
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 16 13:05:54 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

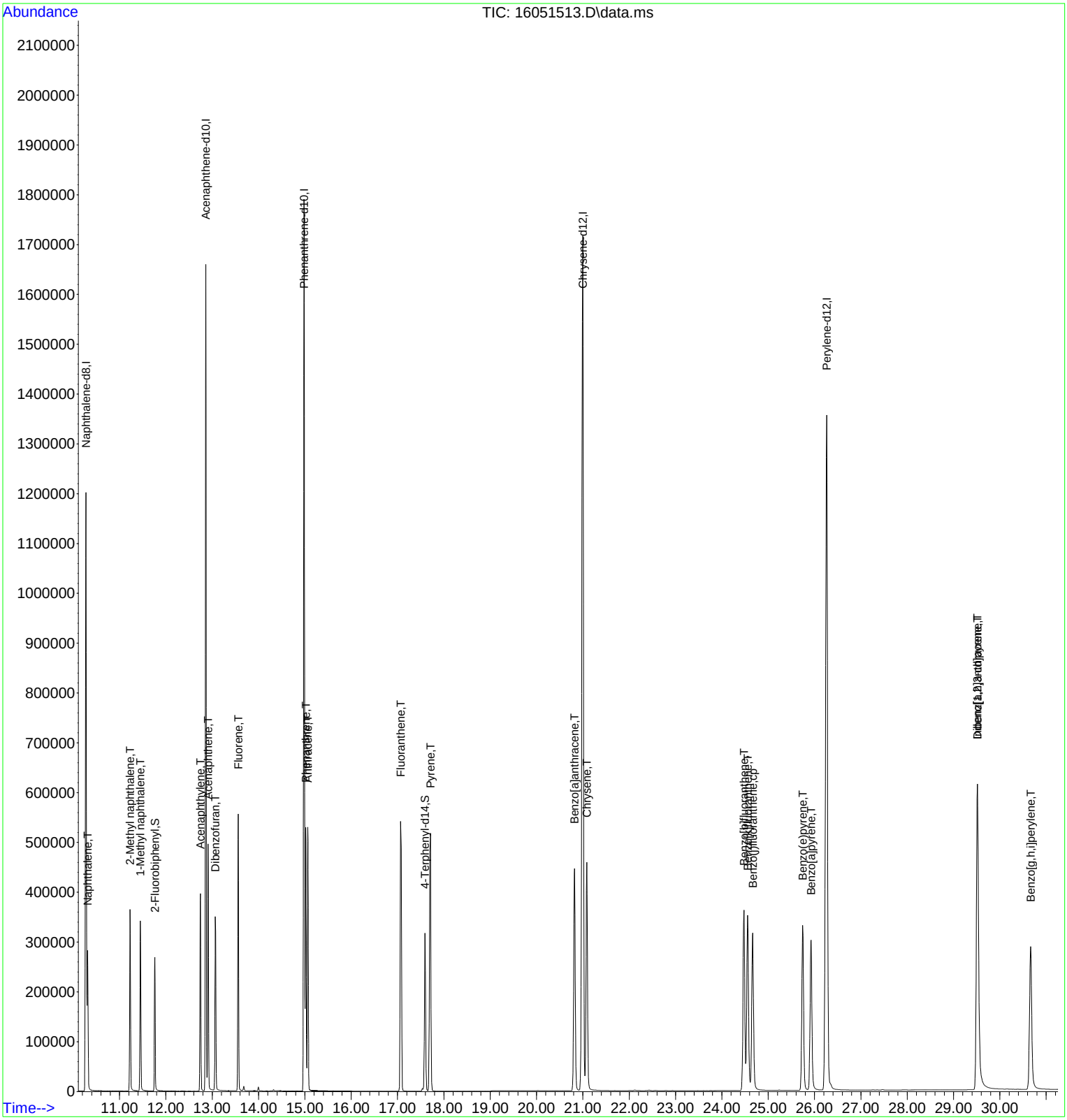
Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.273	136	1648633	4000.00	ug/kg	106
6) Acenaphthene-d10	12.861	164	973784	4000.00	ug/kg	100
11) Phenanthrene-d10	14.982	188	2119867	4000.00	ug/kg	68
16) Chrysene-d12	20.997	240	2869710	4000.00	ug/kg	82
20) Perylene-d12	26.263	264	2664390	4000.00	ug/kg	90
System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.762	172	244819	755.57	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 18.89%#			
17) 4-Terphenyl-d14	17.589	244	473506	714.13	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery = 17.85%#			
Target Compounds						Qvalue
2) Naphthalene	10.310	128	310215	776.42	ug/kg	100
3) 2-Methyl naphthalene	11.227	142	226206	830.88	ug/kg	99
4) 1-Methyl naphthalene	11.450	142	206582	823.93	ug/kg	98
7) Acenaphthylene	12.748	152	380038	830.49	ug/kg	99
8) Acenaphthene	12.910	153	230735	796.77	ug/kg	99
9) Dibenzofuran	13.067	168	337389	721.46	ug/kg	89
10) Fluorene	13.563	166	298234	678.14	ug/kg	99
12) Phenanthrene	15.018	178	510950	832.79	ug/kg	98
13) Anthracene	15.063	178	515994	776.25	ug/kg	98
14) Fluoranthene	17.066	202	687174	855.83	ug/kg	86
15) Pyrene	17.710	202	689539	856.20	ug/kg	92
18) Benzo[a]anthracene	20.821	228	708553	878.34	ug/kg	99
19) Chrysene	21.085	228	658475	891.68	ug/kg	99
21) Benzo[b]fluoranthene	24.476	252	679515	895.53	ug/kg	98
22) Benzo[k]fluoranthene	24.557	252	617882	1015.26	ug/kg	97
23) Benzo(j)fluoranthene	24.667	252	574018	933.16	ug/kg	98
24) Benzo(e)pyrene	25.743	252	628404	862.85	ug/kg	98
25) Benzo[a]pyrene	25.926	252	607636	871.29	ug/kg	98
26) Indeno[1,2,3-cd]pyrene	29.523	276	732893	948.57	ug/kg	96
27) Dibenz[a,h]anthracene	29.508	278	611001	970.01	ug/kg	98
28) Benzo[g,h,i]perylene	30.666	276	617439	915.82	ug/kg	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051513.D
Acq On : 15 May 2016 7:08 pm
Operator :
Sample : LCS-75119
Misc : LCS
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 16 13:05:54 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051514.D
Acq On : 15 May 2016 7:44 pm
Operator :
Sample : MB-75119
Misc : MBLK
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 16 13:05:57 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.276	136	1547832	4000.00	ug/kg	99
6) Acenaphthene-d10	12.862	164	886957	4000.00	ug/kg	91
11) Phenanthrene-d10	14.981	188	1982991	4000.00	ug/kg	64
16) Chrysene-d12	20.991	240	2786880	4000.00	ug/kg	80
20) Perylene-d12	26.258	264	2539679	4000.00	ug/kg	86

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.760	172	237351	780.23	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 19.51%#			
17) 4-Terphenyl-d14	17.588	244	485277	753.63	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery = 18.84%#			

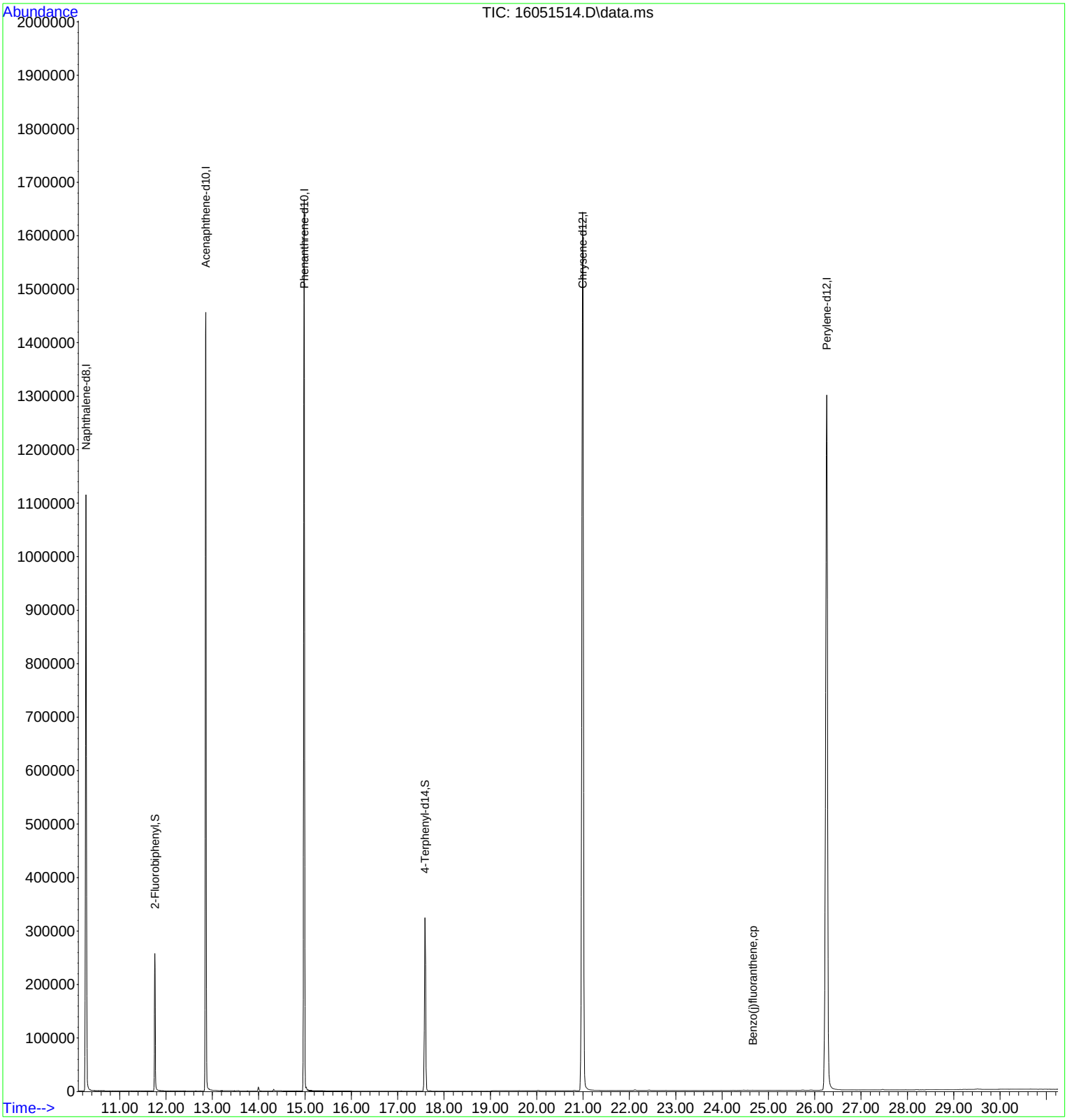
Target Compounds						Qvalue
23) Benzo(j)fluoranthene	24.661	252	815	1.39	ug/kg	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051514.D
Acq On : 15 May 2016 7:44 pm
Operator :
Sample : MB-75119
Misc : MBLK
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 16 13:05:57 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051515.D
Acq On : 15 May 2016 8:22 pm
Operator :
Sample : 1605074-13A
Misc : SAMP
ALS Vial : 5 Sample Multiplier: 20

Quant Time: May 16 13:06:37 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.272	136	1644226	4000.00	ug/kg	105
6) Acenaphthene-d10	12.862	164	1016427	4000.00	ug/kg	104
11) Phenanthrene-d10	14.983	188	2611654	4000.00	ug/kg	84
16) Chrysene-d12	20.998	240	3061414	4000.00	ug/kg	88
20) Perylene-d12	26.258	264	2659019	4000.00	ug/kg	90

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.761	172	12050	37.29	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 0.93%#			
17) 4-Terphenyl-d14	17.588	244	27128	38.35	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery = 0.96%#			

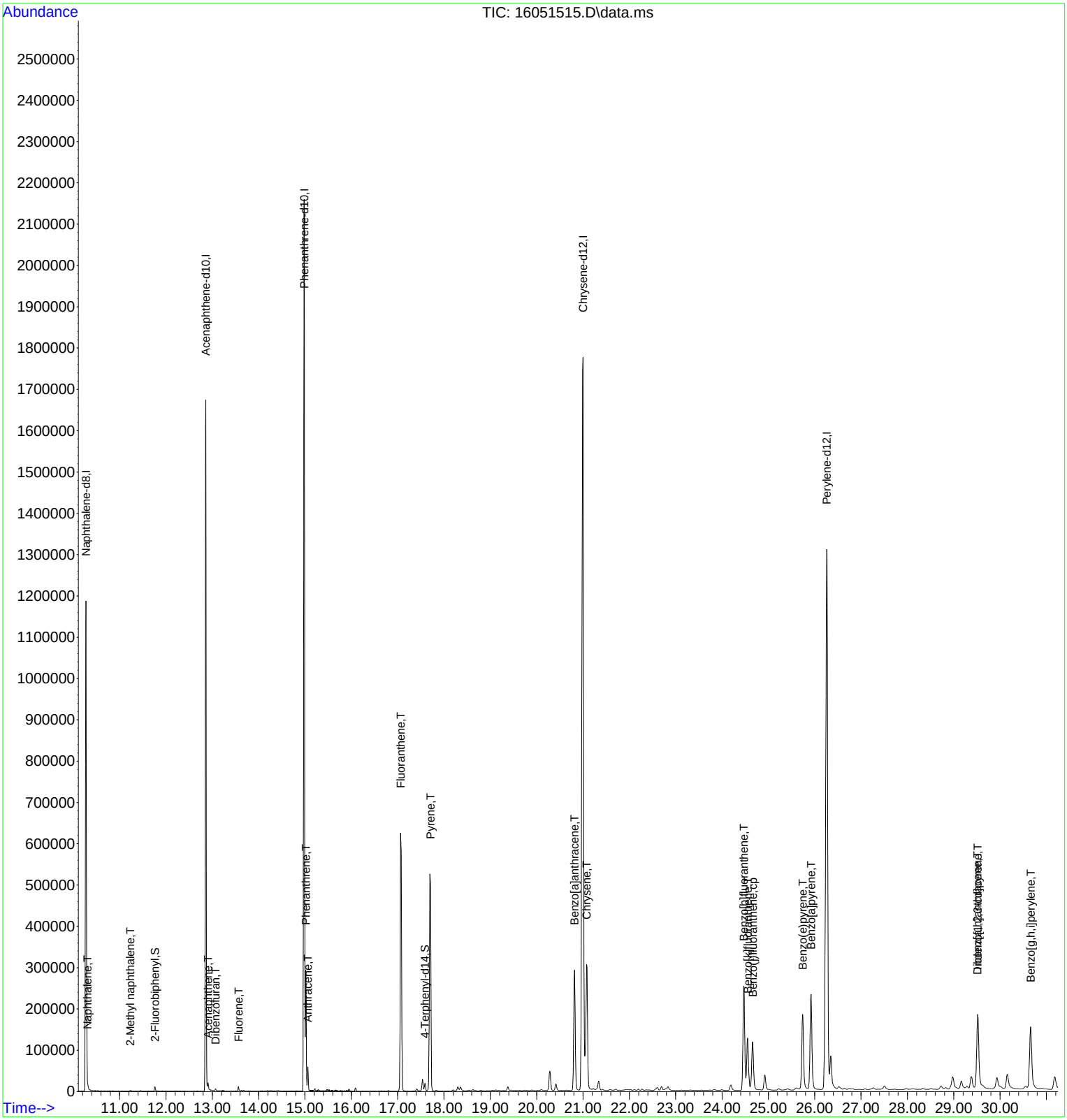
Target Compounds						Qvalue
2) Naphthalene	10.309	128	7520	18.87	ug/kg	99
3) 2-Methyl naphthalene	11.231	142	1516	8.95	ug/kg	100
8) Acenaphthene	12.911	153	7326	24.24	ug/kg	100
9) Dibenzofuran	13.073	168	5075	10.40	ug/kg	99
10) Fluorene	13.564	166	5759	12.55	ug/kg	98
12) Phenanthrene	15.019	178	272411	360.39	ug/kg	98
13) Anthracene	15.063	178	56583	69.09	ug/kg	98
14) Fluoranthene	17.065	202	805363	814.15	ug/kg	85
15) Pyrene	17.709	202	707607	713.19	ug/kg	90
18) Benzo[a]anthracene	20.815	228	458006	532.21	ug/kg	99
19) Chrysene	21.079	228	528385	670.71	ug/kg	99
21) Benzo[b]fluoranthene	24.471	252	487468	643.73	ug/kg	98
22) Benzo[k]fluoranthene	24.551	252	218760	360.18	ug/kg	96
23) Benzo(j)fluoranthene	24.661	252	212489	346.13	ug/kg	88
24) Benzo(e)pyrene	25.738	252	350053	481.62	ug/kg	96
25) Benzo[a]pyrene	25.921	252	469861	675.10	ug/kg	99
26) Indeno[1,2,3-cd]pyrene	29.518	276	323822	419.97	ug/kg	90
27) Dibenz[a,h]anthracene	29.503	278	71177	113.23	ug/kg	98
28) Benzo[g,h,i]perylene	30.660	276	324775	482.70	ug/kg	96

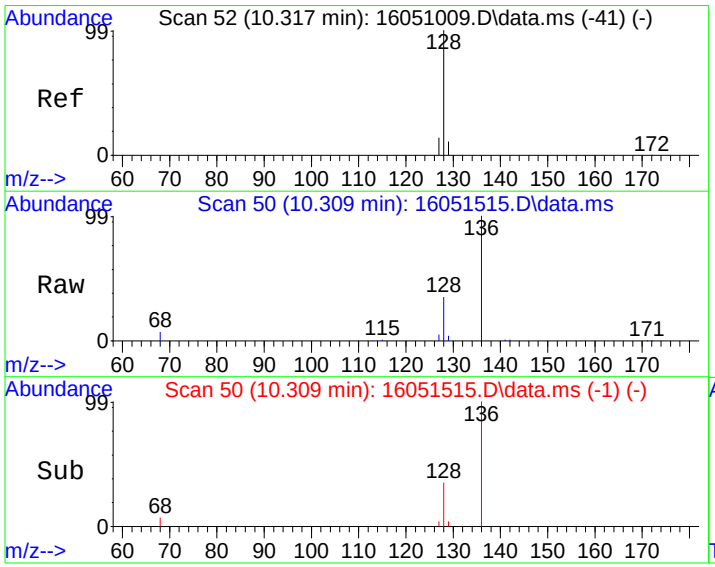
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051515.D
Acq On : 15 May 2016 8:22 pm
Operator :
Sample : 1605074-13A
Misc : SAMP
ALS Vial : 5 Sample Multiplier: 20

Quant Time: May 16 13:06:37 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

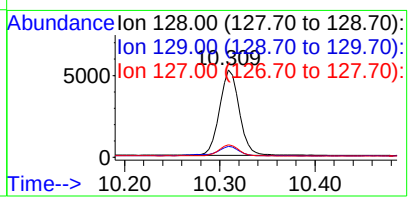


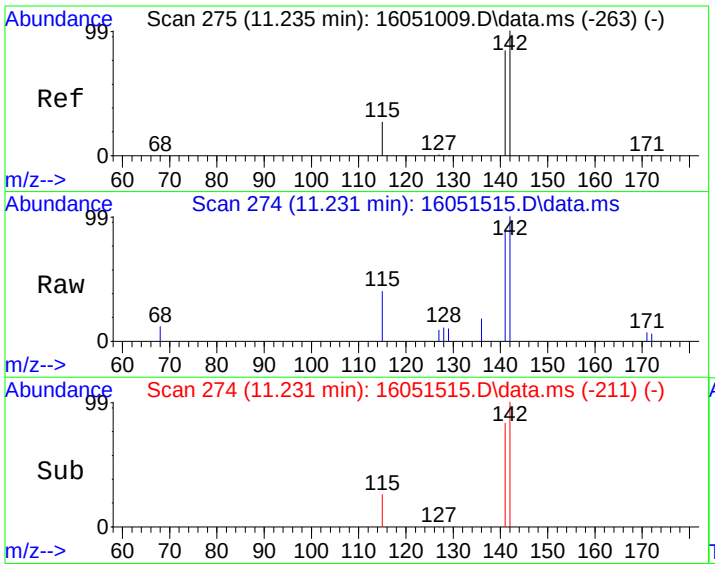


#2
Naphthalene
Concen: 18.87 ug/kg
RT: 10.309 min Scan# 50
Delta R.T. 0.005 min
Lab File: 16051515.D
Acq: 15 May 2016 8:22 pm

Tgt Ion:128 Resp: 7520

Ion	Ratio	Lower	Upper
128	100		
129	10.9	0.0	31.3
127	13.1	0.0	33.5

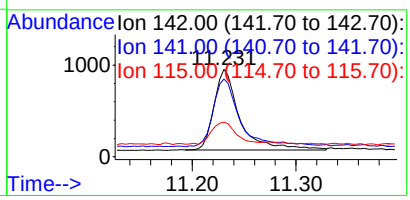


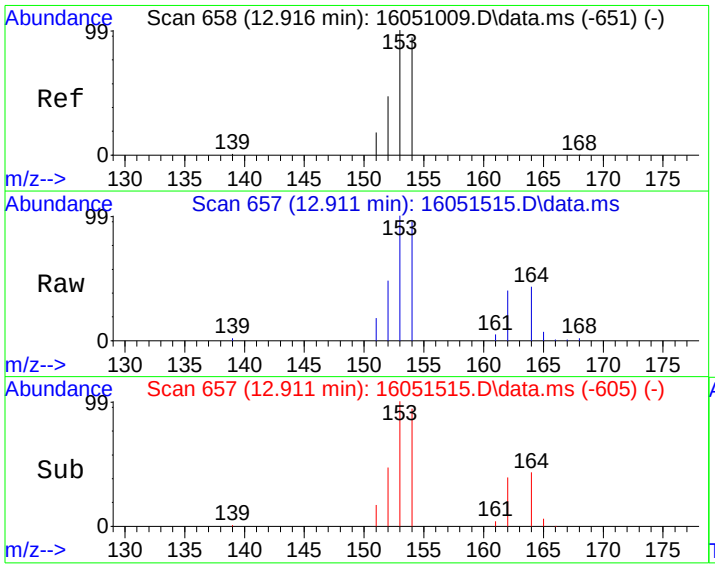


#3
2-Methyl naphthalene
Concen: 8.95 ug/kg
RT: 11.231 min Scan# 274
Delta R.T. 0.009 min
Lab File: 16051515.D
Acq: 15 May 2016 8:22 pm

Tgt Ion:142 Resp: 1516

Ion	Ratio	Lower	Upper
142	100		
141	84.0	63.9	103.9
115	27.5	6.7	46.7

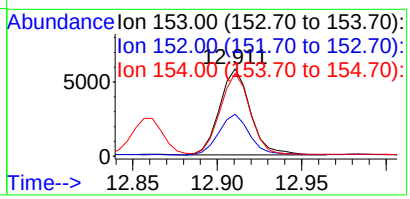


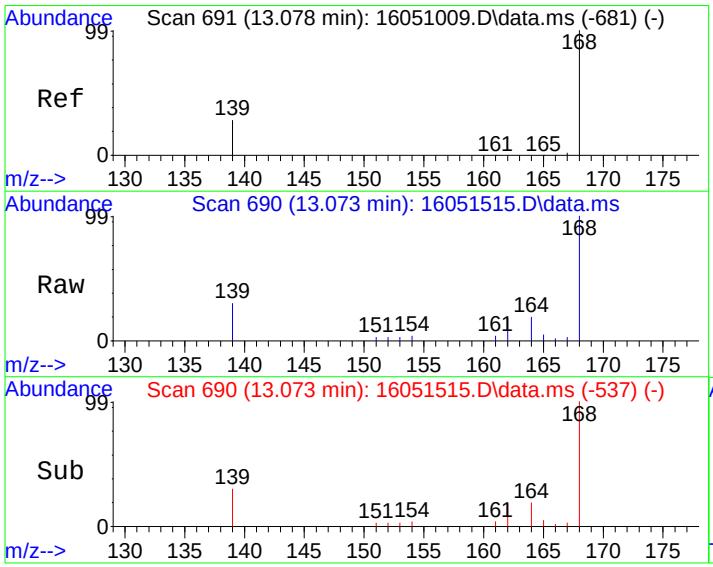


#8
Acenaphthene
Concen: 24.24 ug/kg
RT: 12.911 min Scan# 657
Delta R.T. 0.006 min
Lab File: 16051515.D
Acq: 15 May 2016 8:22 pm

Tgt Ion:153 Resp: 7326

Ion	Ratio	Lower	Upper
153	100		
152	47.0	27.2	67.2
154	94.0	74.3	114.3

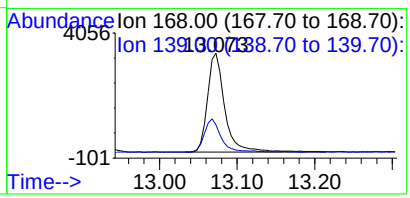


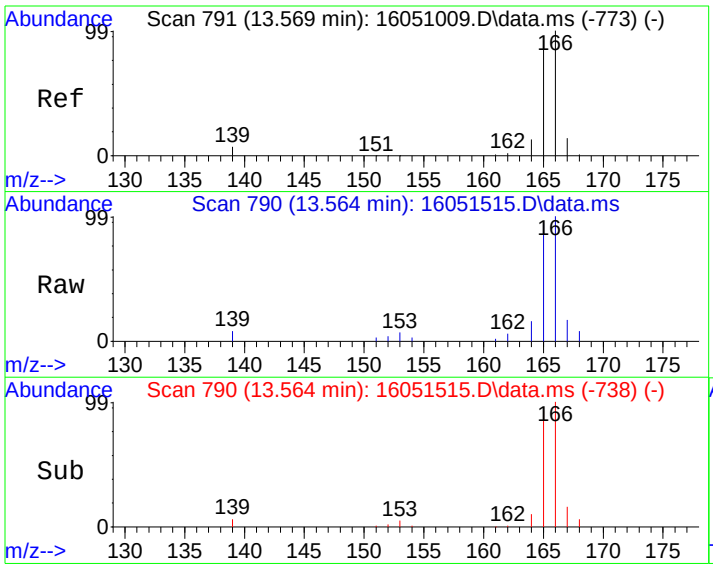


#9
Dibenzofuran
Concen: 10.40 ug/kg
RT: 13.073 min Scan# 690
Delta R.T. 0.011 min
Lab File: 16051515.D
Acq: 15 May 2016 8:22 pm

Tgt Ion:168 Resp: 5075

Ion	Ratio	Lower	Upper
168	100		
139	27.5	7.8	47.8

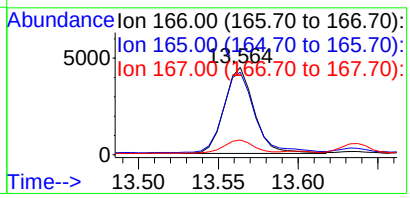


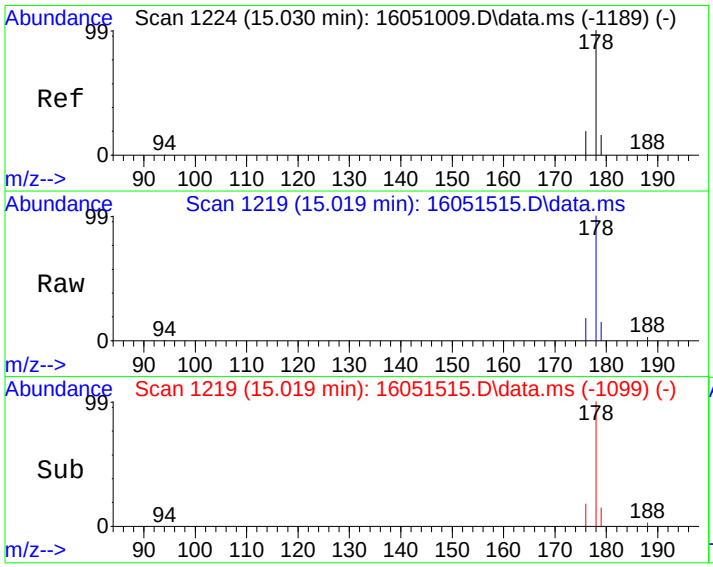


#10
Fluorene
Concen: 12.55 ug/kg
RT: 13.564 min Scan# 790
Delta R.T. 0.006 min
Lab File: 16051515.D
Acq: 15 May 2016 8:22 pm

Tgt Ion:166 Resp: 5759

Ion	Ratio	Lower	Upper
166	100		
165	93.1	71.9	111.9
167	15.5	0.0	33.8

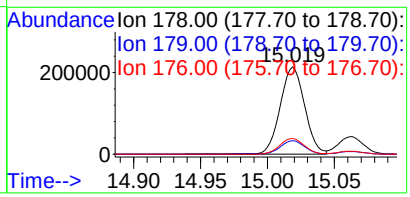


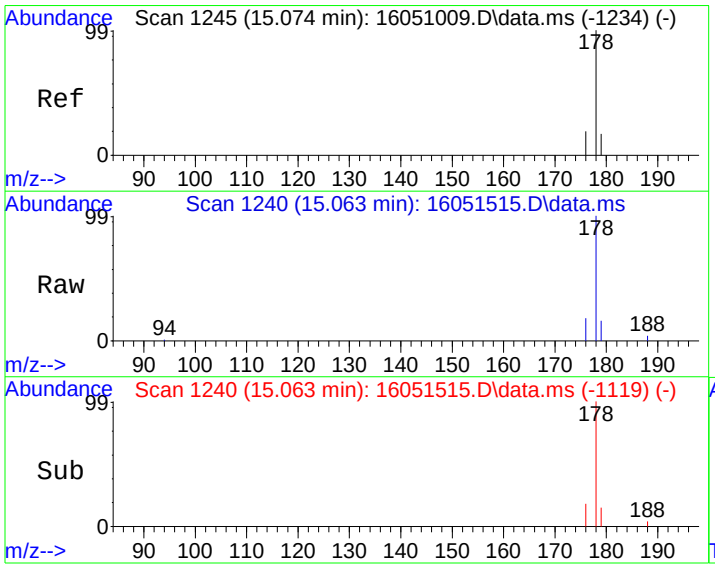


#12
Phenanthrene
Concen: 360.39 ug/kg
RT: 15.019 min Scan# 1219
Delta R.T. 0.003 min
Lab File: 16051515.D
Acq: 15 May 2016 8:22 pm

Tgt Ion:178 Resp: 272411

Ion	Ratio	Lower	Upper
178	100		
179	15.4	0.0	36.4
176	18.2	0.0	39.2

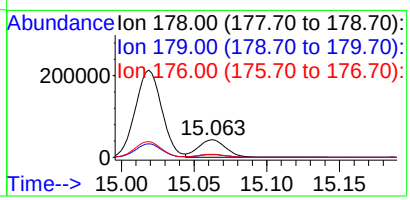


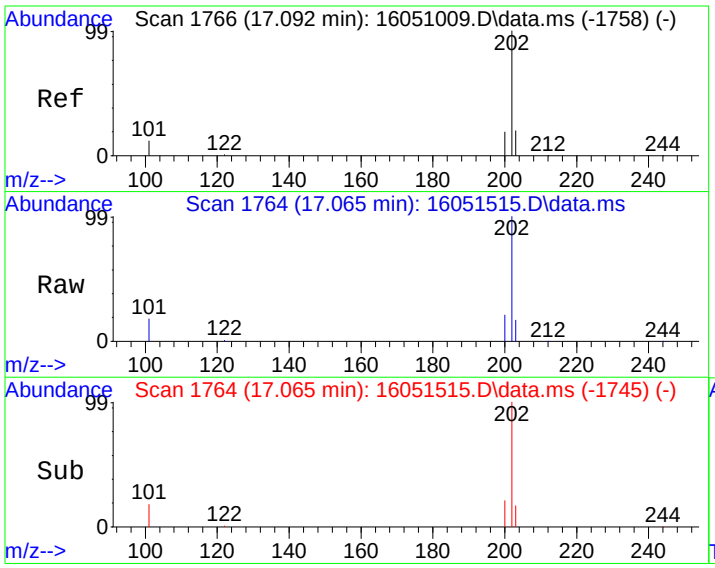


#13
Anthracene
Concen: 69.09 ug/kg
RT: 15.063 min Scan# 1240
Delta R.T. 0.005 min
Lab File: 16051515.D
Acq: 15 May 2016 8:22 pm

Tgt Ion:178 Resp: 56583

Ion	Ratio	Lower	Upper
178	100		
179	15.4	0.0	36.5
176	17.6	0.0	38.6

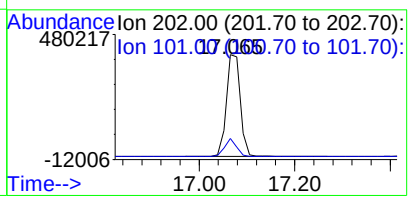


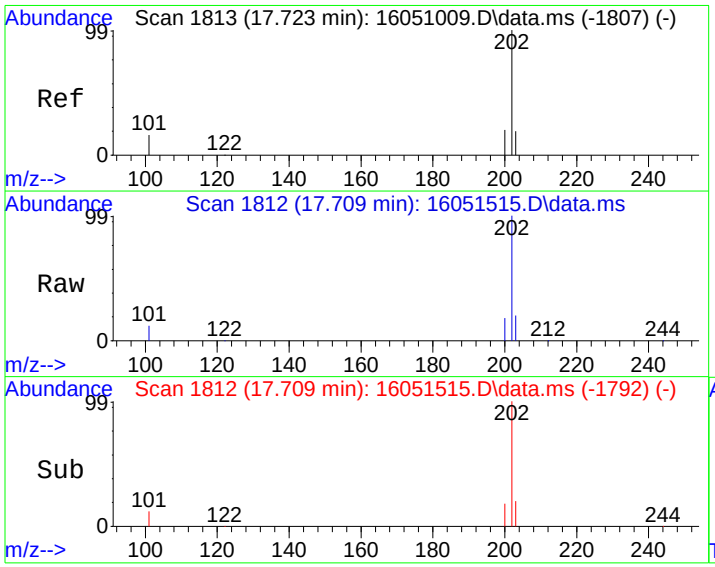


#14
Fluoranthene
Concen: 814.15 ug/kg
RT: 17.065 min Scan# 1764
Delta R.T. 0.000 min
Lab File: 16051515.D
Acq: 15 May 2016 8:22 pm

Tgt Ion:202 Resp: 805363

Ion	Ratio	Lower	Upper
202	100		
101	17.7	0.0	32.0

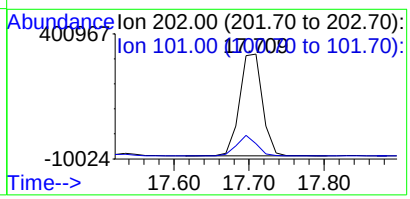


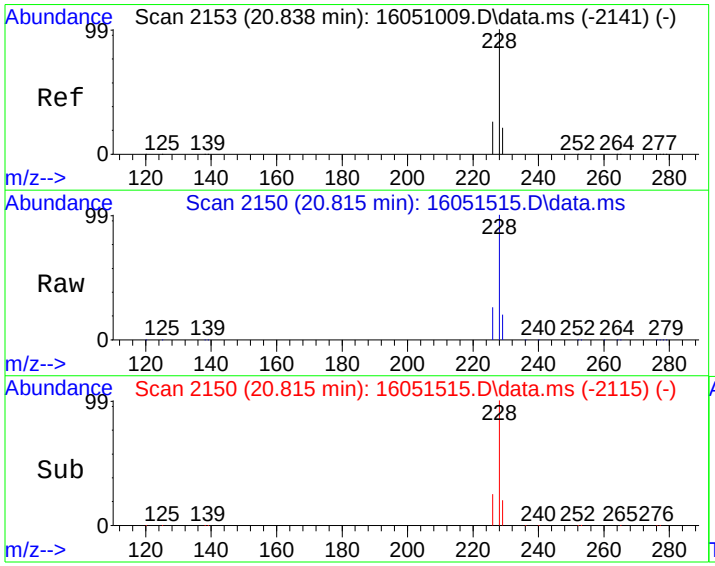


#15
Pyrene
Concen: 713.19 ug/kg
RT: 17.709 min Scan# 1812
Delta R.T. 0.013 min
Lab File: 16051515.D
Acq: 15 May 2016 8:22 pm

Tgt Ion:202 Resp: 707607

Ion	Ratio	Lower	Upper
202	100		
101	11.8	0.0	35.9

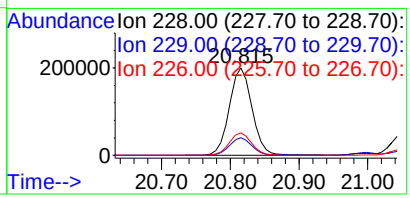


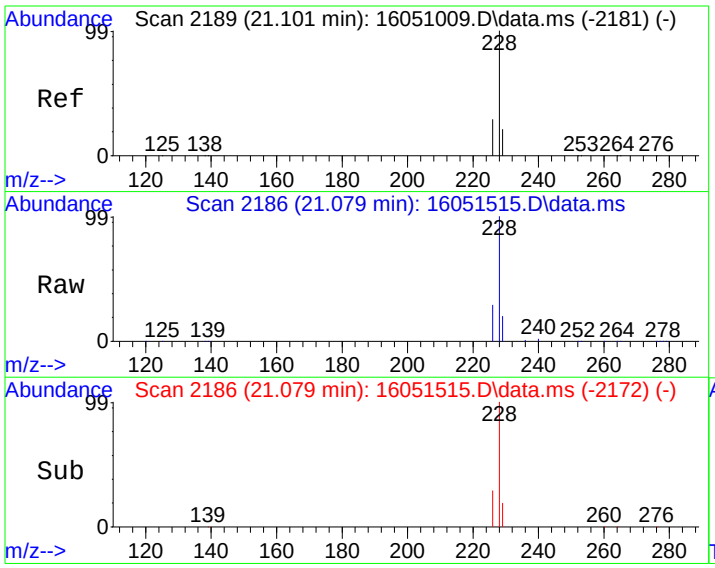


#18
Benzo[a]anthracene
Concen: 532.21 ug/kg
RT: 20.815 min Scan# 2150
Delta R.T. 0.009 min
Lab File: 16051515.D
Acq: 15 May 2016 8:22 pm

Tgt Ion:228 Resp: 458006

Ion	Ratio	Lower	Upper
228	100		
229	20.0	0.7	40.7
226	25.5	5.9	45.9

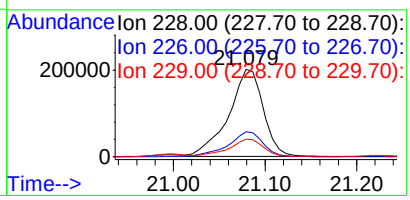


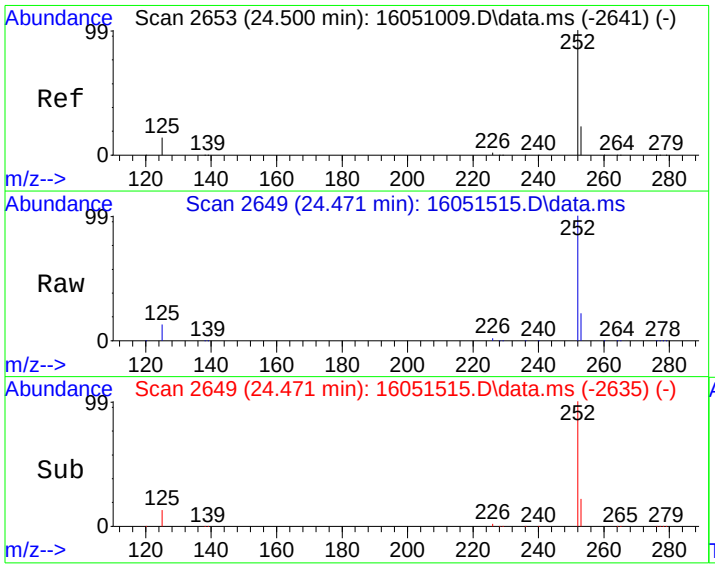


#19
Chrysene
Concen: 670.71 ug/kg
RT: 21.079 min Scan# 2186
Delta R.T. 0.002 min
Lab File: 16051515.D
Acq: 15 May 2016 8:22 pm

Tgt Ion:228 Resp: 528385

Ion	Ratio	Lower	Upper
228	100		
226	28.5	8.8	48.8
229	20.1	0.5	40.5

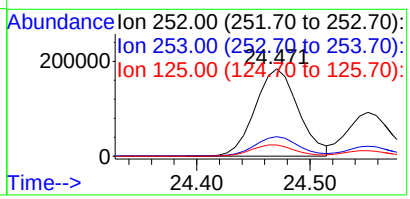


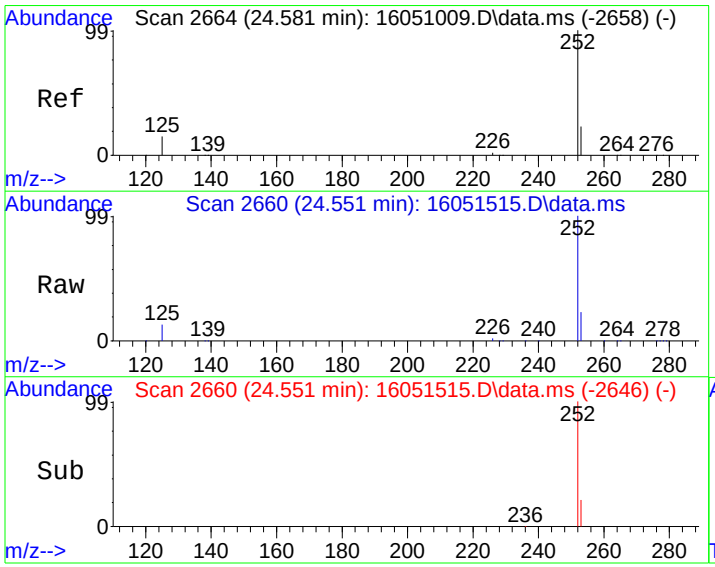


#21
Benzo[b]fluoranthene
Concen: 643.73 ug/kg
RT: 24.471 min Scan# 2649
Delta R.T. 0.002 min
Lab File: 16051515.D
Acq: 15 May 2016 8:22 pm

Tgt Ion:252 Resp: 487468

Ion	Ratio	Lower	Upper
252	100		
253	22.0	2.6	42.6
125	12.9	0.0	33.8

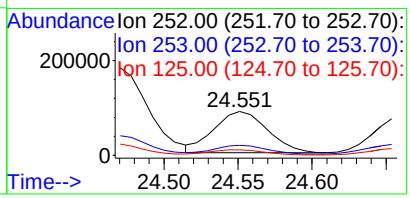


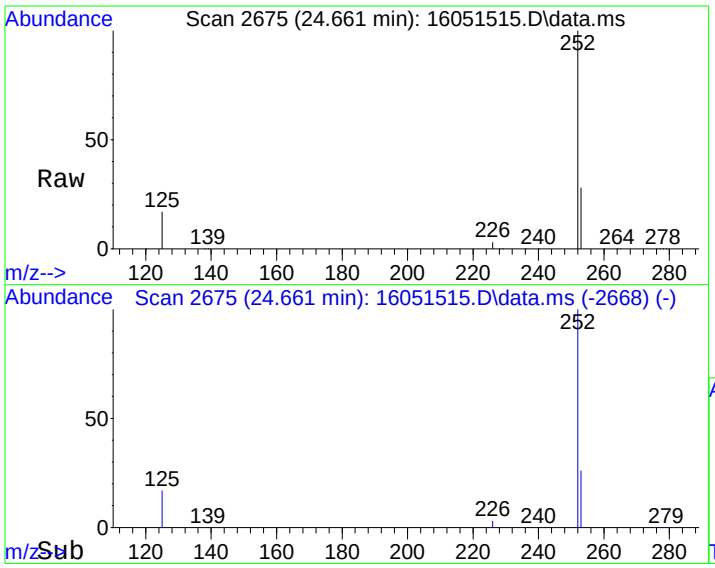


#22
Benzo[k]fluoranthene
Concen: 360.18 ug/kg
RT: 24.551 min Scan# 2660
Delta R.T. 0.002 min
Lab File: 16051515.D
Acq: 15 May 2016 8:22 pm

Tgt Ion:252 Resp: 218760

Ion	Ratio	Lower	Upper
252	100		
253	21.0	2.8	42.8
125	12.7	0.0	34.7

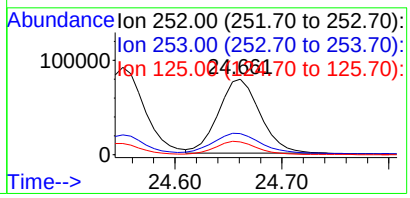


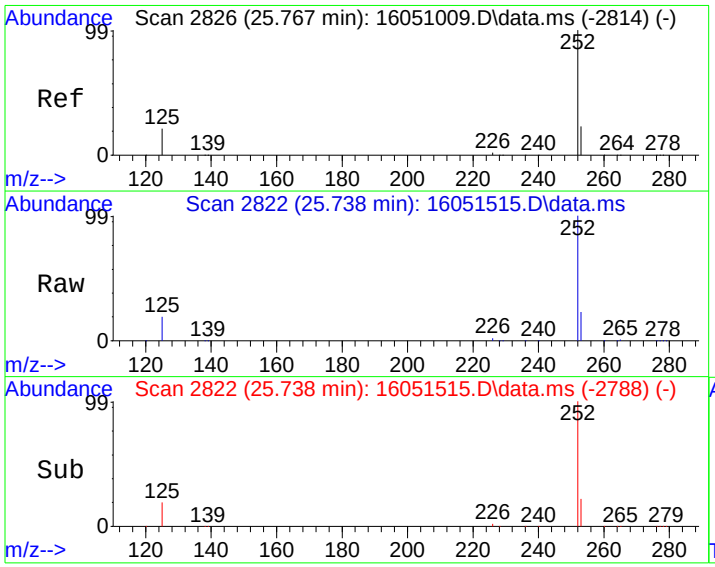


#23
Benzo(j)fluoranthene
Concen: 346.13 ug/kg
RT: 24.661 min Scan# 2675
Delta R.T. 0.002 min
Lab File: 16051515.D
Acq: 15 May 2016 8:22 pm

Tgt Ion:252 Resp: 212489

Ion	Ratio	Lower	Upper
252	100		
253	31.0	2.3	42.3
125	17.5	0.0	39.2

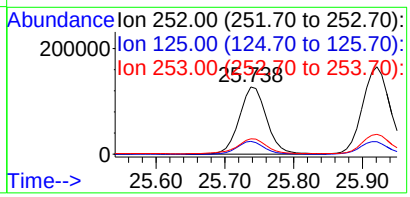


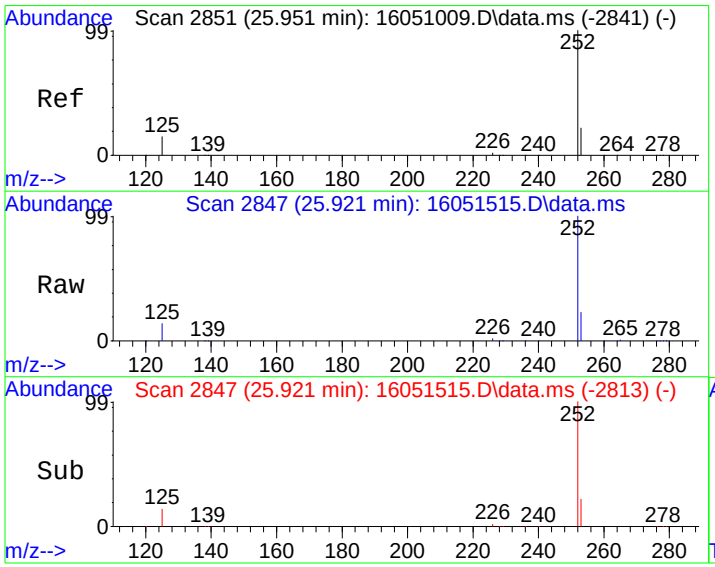


#24
Benzo(e)pyrene
Concen: 481.62 ug/kg
RT: 25.738 min Scan# 2822
Delta R.T. 0.002 min
Lab File: 16051515.D
Acq: 15 May 2016 8:22 pm

Tgt Ion:252 Resp: 350053

Ion	Ratio	Lower	Upper
252	100		
125	19.0	0.8	40.8
253	23.9	2.4	42.4

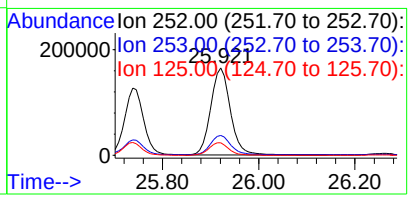


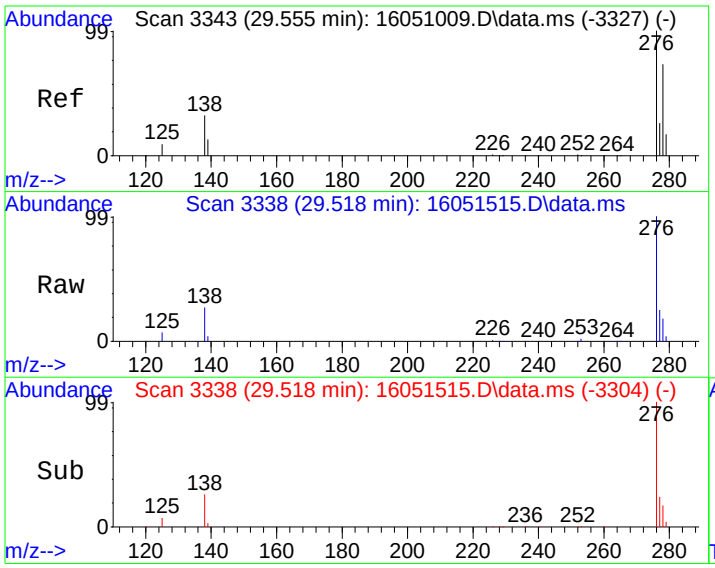


#25
Benzo[a]pyrene
Concen: 675.10 ug/kg
RT: 25.921 min Scan# 2847
Delta R.T. 0.002 min
Lab File: 16051515.D
Acq: 15 May 2016 8:22 pm

Tgt Ion:252 Resp: 469861

Ion	Ratio	Lower	Upper
252	100		
253	22.3	2.5	42.5
125	14.3	0.0	35.5

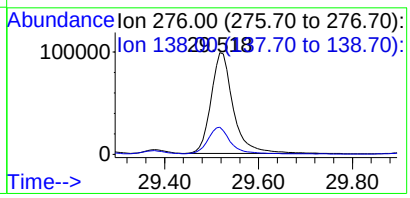


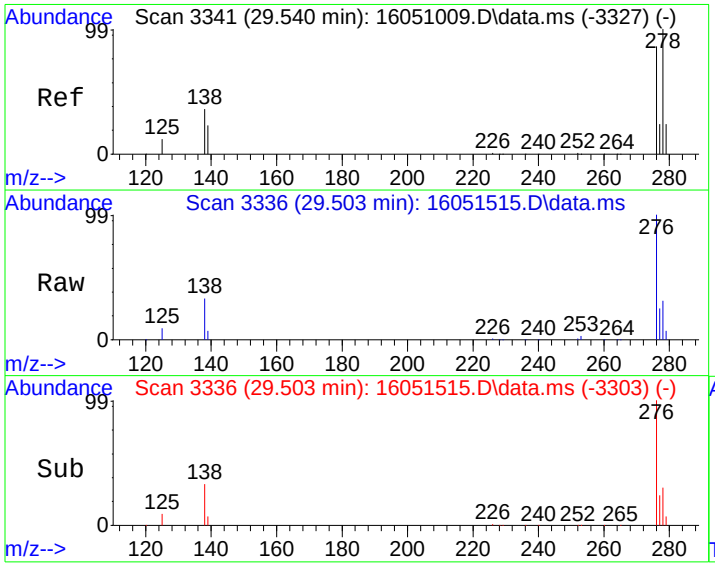


#26
Indeno[1,2,3-cd]pyrene
Concen: 419.97 ug/kg
RT: 29.518 min Scan# 3338
Delta R.T. 0.002 min
Lab File: 16051515.D
Acq: 15 May 2016 8:22 pm

Tgt Ion:276 Resp: 323822

Ion	Ratio	Lower	Upper
276	100		
138	26.6	12.0	52.0

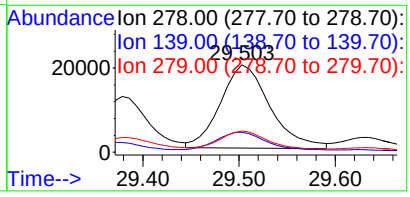


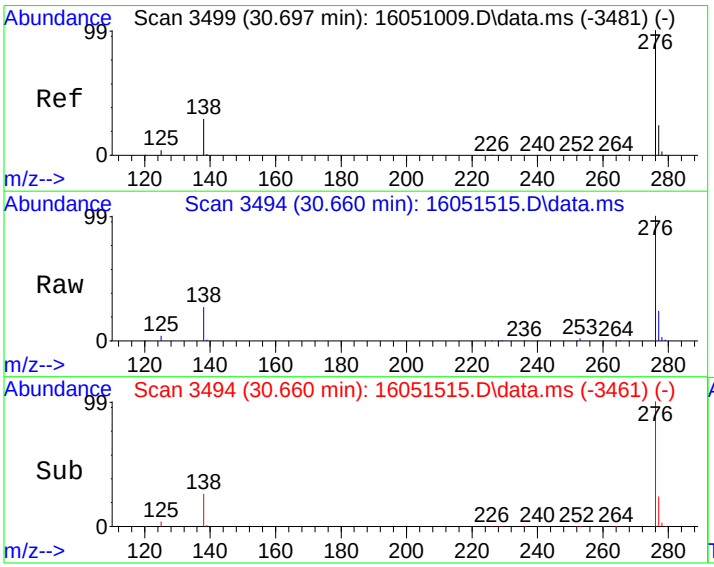


#27
Dibenz[a,h]anthracene
Concen: 113.23 ug/kg
RT: 29.503 min Scan# 3336
Delta R.T. -0.006 min
Lab File: 16051515.D
Acq: 15 May 2016 8:22 pm

Tgt Ion:278 Resp: 71177

Ion	Ratio	Lower	Upper
278	100		
139	22.3	2.9	42.9
279	22.9	4.4	44.4

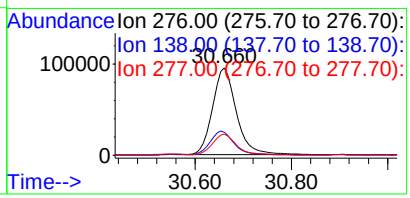




#28
Benzo[g,h,i]perylene
Concen: 482.70 ug/kg
RT: 30.660 min Scan# 3494
Delta R.T. -0.006 min
Lab File: 16051515.D
Acq: 15 May 2016 8:22 pm

Tgt Ion:276 Resp: 324775

Ion	Ratio	Lower	Upper
276	100		
138	26.2	9.3	49.3
277	23.8	4.3	44.3



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051516.D
Acq On : 15 May 2016 8:59 pm
Operator :
Sample : 1605074-17A
Misc : SAMP
ALS Vial : 6 Sample Multiplier: 10

Quant Time: May 16 13:06:46 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.273	136	1550507	4000.00	ug/kg	99
6) Acenaphthene-d10	12.861	164	912783	4000.00	ug/kg	93
11) Phenanthrene-d10	14.980	188	2278834	4000.00	ug/kg	73
16) Chrysene-d12	20.990	240	3048341	4000.00	ug/kg	87
20) Perylene-d12	26.257	264	2613240	4000.00	ug/kg	88

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.762	172	21489	70.52	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.76%#			
17) 4-Terphenyl-d14	17.589	244	51216	72.72	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery = 1.82%#			

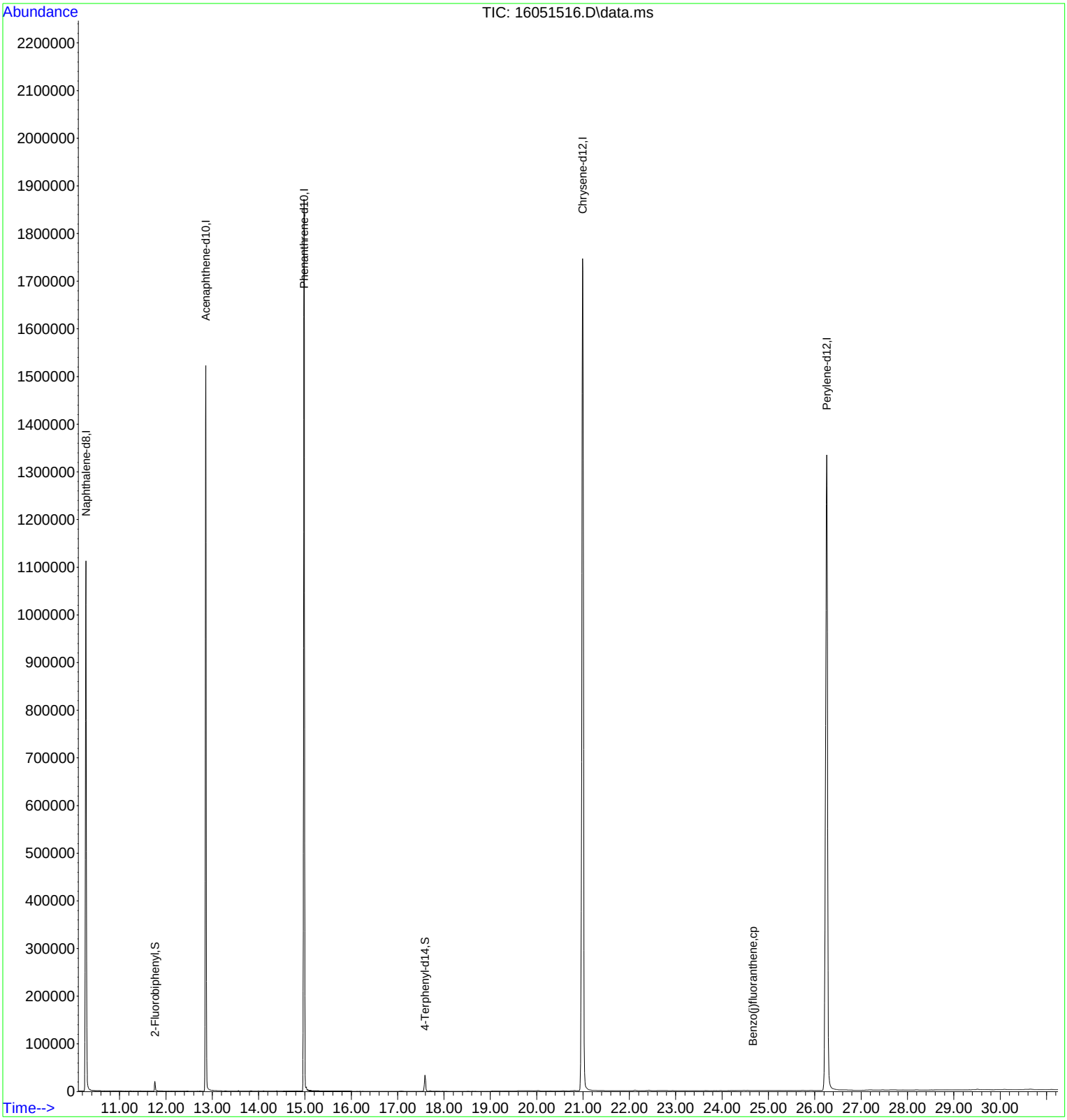
Target Compounds						Qvalue
23) Benzo(j)fluoranthene	24.653	252	617	1.02	ug/kg	85

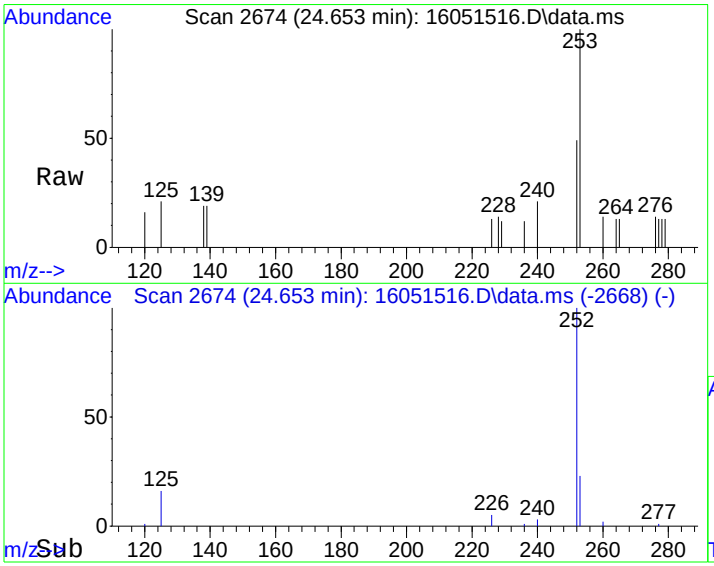
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051516.D
Acq On : 15 May 2016 8:59 pm
Operator :
Sample : 1605074-17A
Misc : SAMP
ALS Vial : 6 Sample Multiplier: 10

Quant Time: May 16 13:06:46 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

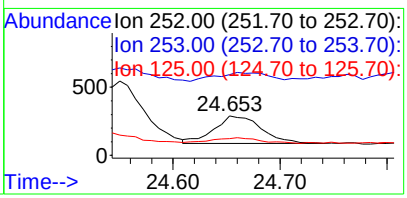




#23
Benzo(j)fluoranthene
Concen: 1.02 ug/kg
RT: 24.653 min Scan# 2674
Delta R.T. -0.007 min
Lab File: 16051516.D
Acq: 15 May 2016 8:59 pm

Tgt Ion:252 Resp: 617

Ion	Ratio	Lower	Upper
252	100		
253	34.7	2.3	42.3
125	20.4	0.0	39.2



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051517.D
Acq On : 15 May 2016 9:36 pm
Operator :
Sample : 1605074-18A
Misc : SAMP
ALS Vial : 7 Sample Multiplier: 20

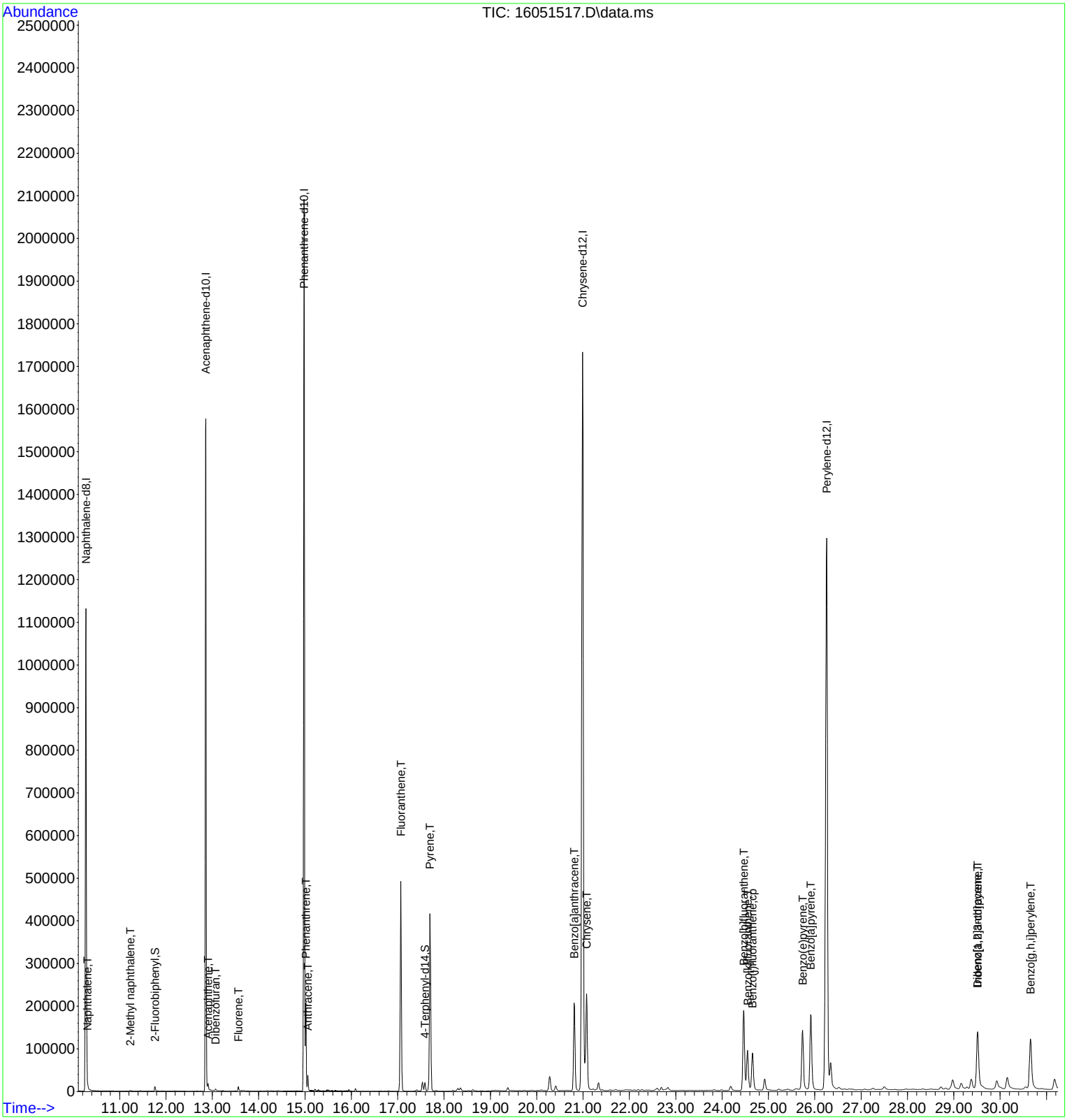
Quant Time: May 16 13:06:50 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

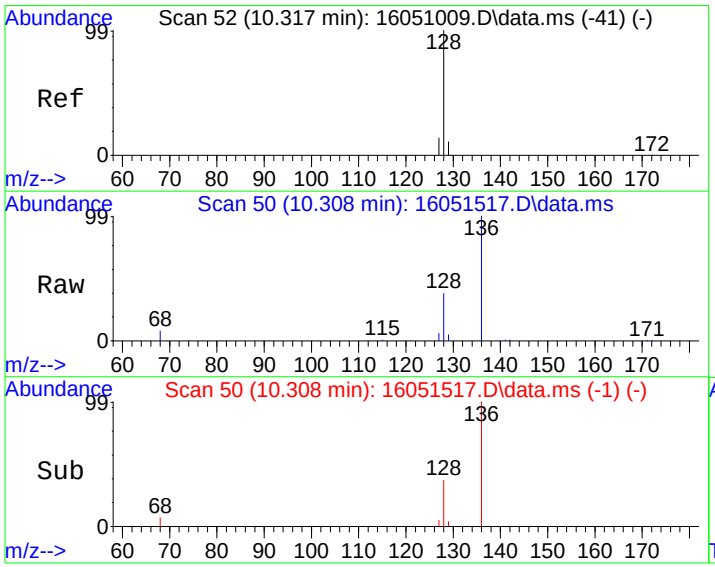
Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.271	136	1578234	4000.00	ug/kg	101
6) Acenaphthene-d10	12.861	164	962214	4000.00	ug/kg	98
11) Phenanthrene-d10	14.980	188	2522094	4000.00	ug/kg	81
16) Chrysene-d12	20.990	240	2938697	4000.00	ug/kg	84
20) Perylene-d12	26.257	264	2522113	4000.00	ug/kg	85
System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.760	172	12241	39.46	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	0.99%#		
17) 4-Terphenyl-d14	17.589	244	27520	40.53	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery =	1.01%#		
Target Compounds						Qvalue
2) Naphthalene	10.308	128	7369	19.27	ug/kg	99
3) 2-Methyl naphthalene	11.230	142	1553	9.32	ug/kg	99
8) Acenaphthene	12.910	153	6305	22.03	ug/kg	99
9) Dibenzofuran	13.072	168	4679	10.13	ug/kg	97
10) Fluorene	13.563	166	5765	13.27	ug/kg	98
12) Phenanthrene	15.016	178	188814	258.67	ug/kg	97
13) Anthracene	15.060	178	35309	44.65	ug/kg	97
14) Fluoranthene	17.066	202	570092	596.78	ug/kg	93
15) Pyrene	17.696	202	514579	537.05	ug/kg	96
18) Benzo[a]anthracene	20.807	228	322525	390.43	ug/kg	99
19) Chrysene	21.078	228	384248	508.12	ug/kg	99
21) Benzo[b]fluoranthene	24.470	252	370588	515.95	ug/kg	98
22) Benzo[k]fluoranthene	24.550	252	160627	278.82	ug/kg	95
23) Benzo(j)fluoranthene	24.660	252	159439	273.82	ug/kg	88
24) Benzo(e)pyrene	25.737	252	270529	392.41	ug/kg	96
25) Benzo[a]pyrene	25.913	252	361716	547.92	ug/kg	99
26) Indeno[1,2,3-cd]pyrene	29.517	276	251158	343.41	ug/kg	88
27) Dibenz[a,h]anthracene	29.502	278	54484	91.38	ug/kg	97
28) Benzo[g,h,i]perylene	30.652	276	258399	404.90	ug/kg	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051517.D
Acq On : 15 May 2016 9:36 pm
Operator :
Sample : 1605074-18A
Misc : SAMP
ALS Vial : 7 Sample Multiplier: 20

Quant Time: May 16 13:06:50 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

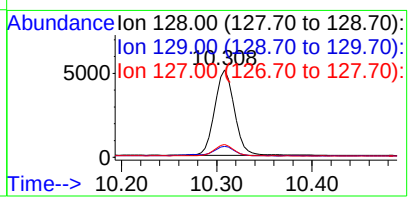


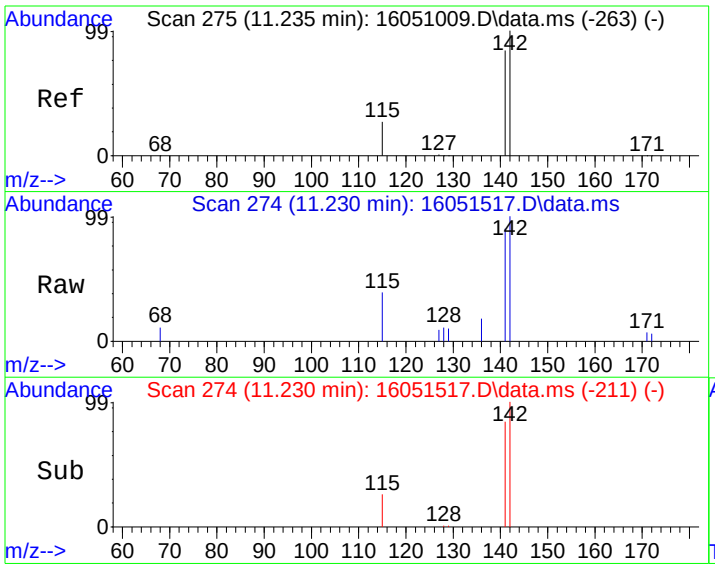


#2
Naphthalene
Concen: 19.27 ug/kg
RT: 10.308 min Scan# 50
Delta R.T. 0.004 min
Lab File: 16051517.D
Acq: 15 May 2016 9:36 pm

Tgt Ion:128 Resp: 7369

Ion	Ratio	Lower	Upper
128	100		
129	10.9	0.0	31.3
127	13.4	0.0	33.5

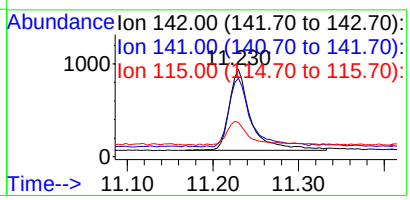


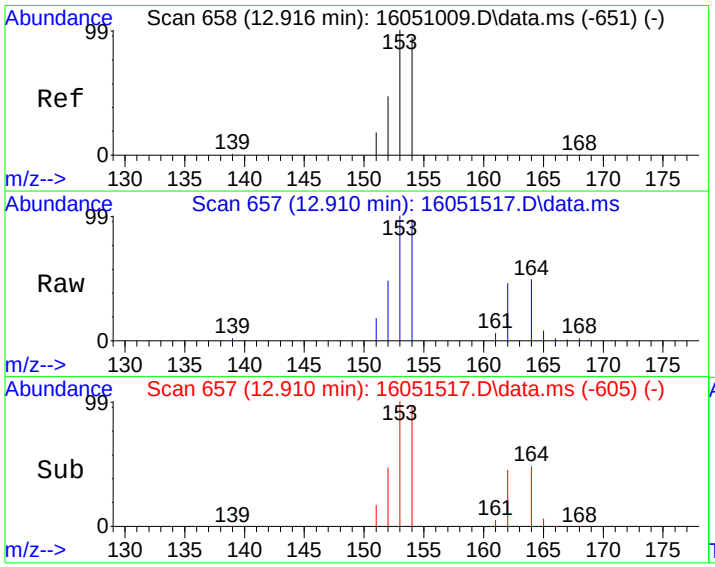


#3
2-Methyl naphthalene
Concen: 9.32 ug/kg
RT: 11.230 min Scan# 274
Delta R.T. 0.009 min
Lab File: 16051517.D
Acq: 15 May 2016 9:36 pm

Tgt Ion:142 Resp: 1553

Ion	Ratio	Lower	Upper
142	100		
141	83.0	63.9	103.9
115	27.6	6.7	46.7

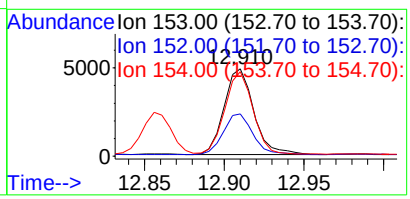


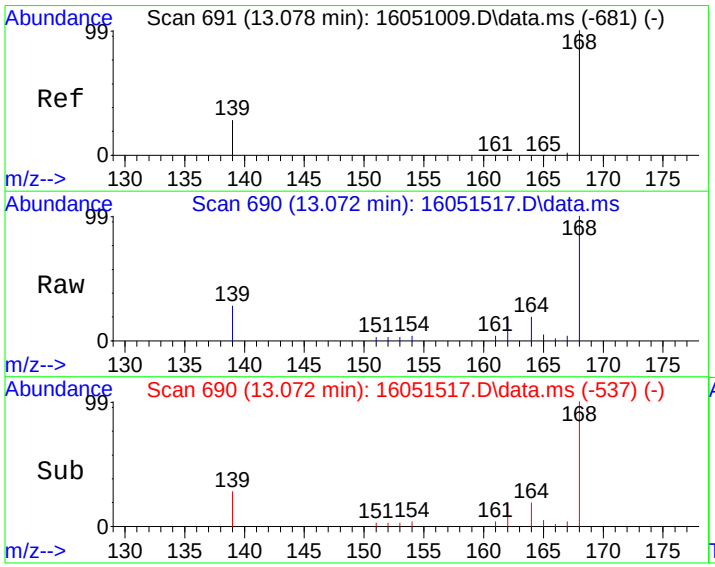


#8
Acenaphthene
Concen: 22.03 ug/kg
RT: 12.910 min Scan# 657
Delta R.T. 0.005 min
Lab File: 16051517.D
Acq: 15 May 2016 9:36 pm

Tgt Ion:153 Resp: 6305

Ion	Ratio	Lower	Upper
153	100		
152	47.4	27.2	67.2
154	96.1	74.3	114.3

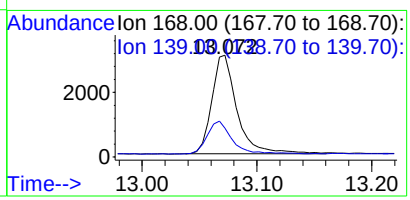


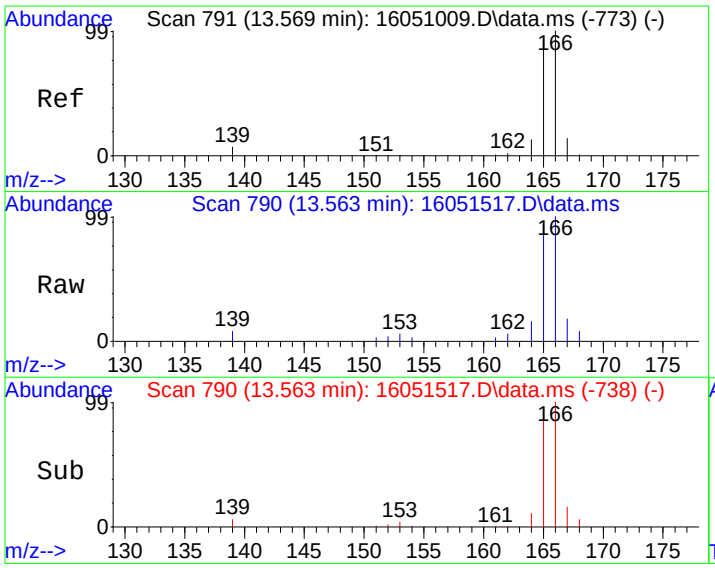


#9
Dibenzofuran
Concen: 10.13 ug/kg
RT: 13.072 min Scan# 690
Delta R.T. 0.010 min
Lab File: 16051517.D
Acq: 15 May 2016 9:36 pm

Tgt Ion:168 Resp: 4679

Ion	Ratio	Lower	Upper
168	100		
139	26.1	7.8	47.8

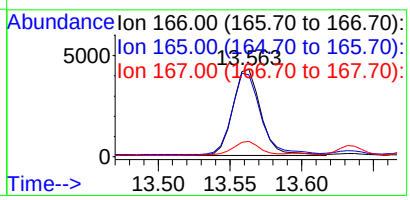


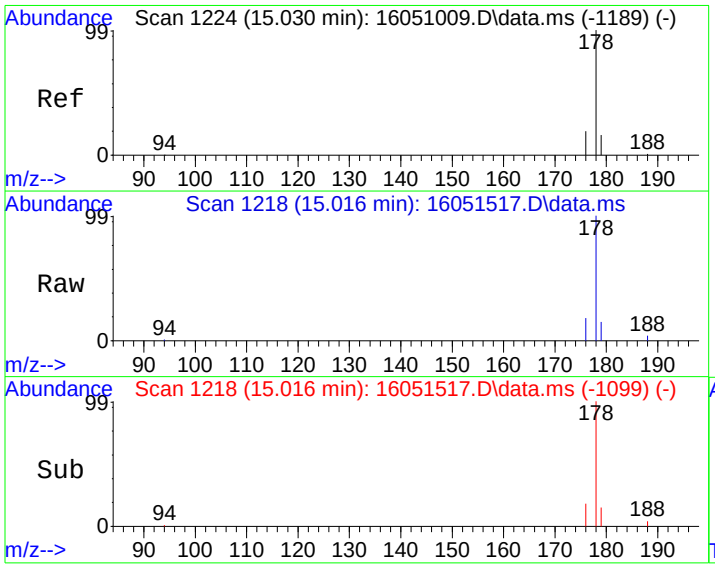


#10
Fluorene
Concen: 13.27 ug/kg
RT: 13.563 min Scan# 790
Delta R.T. 0.005 min
Lab File: 16051517.D
Acq: 15 May 2016 9:36 pm

Tgt Ion:166 Resp: 5765

Ion	Ratio	Lower	Upper
166	100		
165	92.8	71.9	111.9
167	15.9	0.0	33.8

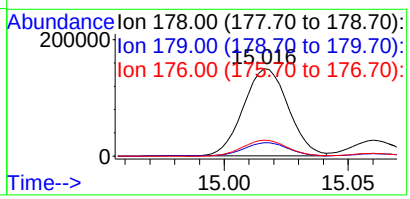


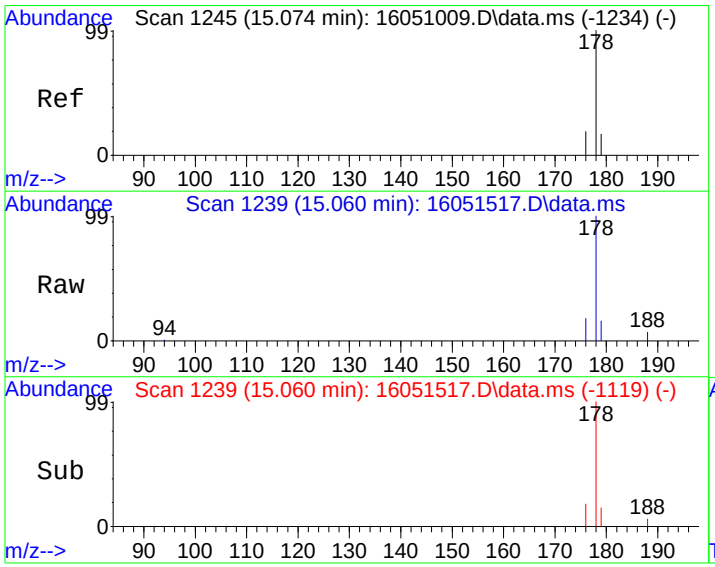


#12
Phenanthrene
Concen: 258.67 ug/kg
RT: 15.016 min Scan# 1218
Delta R.T. -0.000 min
Lab File: 16051517.D
Acq: 15 May 2016 9:36 pm

Tgt Ion:178 Resp: 188814

Ion	Ratio	Lower	Upper
178	100		
179	14.9	0.0	36.4
176	18.3	0.0	39.2

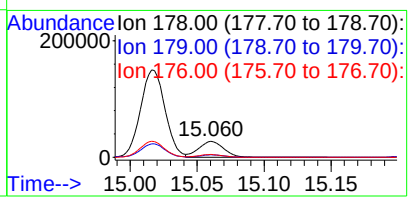


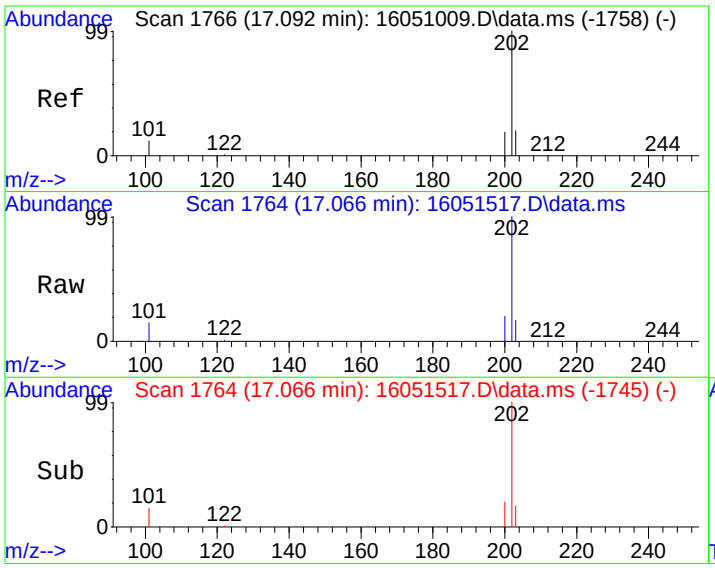


#13
Anthracene
Concen: 44.65 ug/kg
RT: 15.060 min Scan# 1239
Delta R.T. 0.002 min
Lab File: 16051517.D
Acq: 15 May 2016 9:36 pm

Tgt Ion:178 Resp: 35309

Ion	Ratio	Lower	Upper
178	100		
179	15.3	0.0	36.5
176	17.5	0.0	38.6

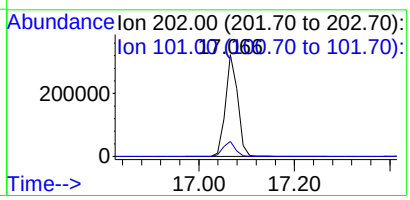


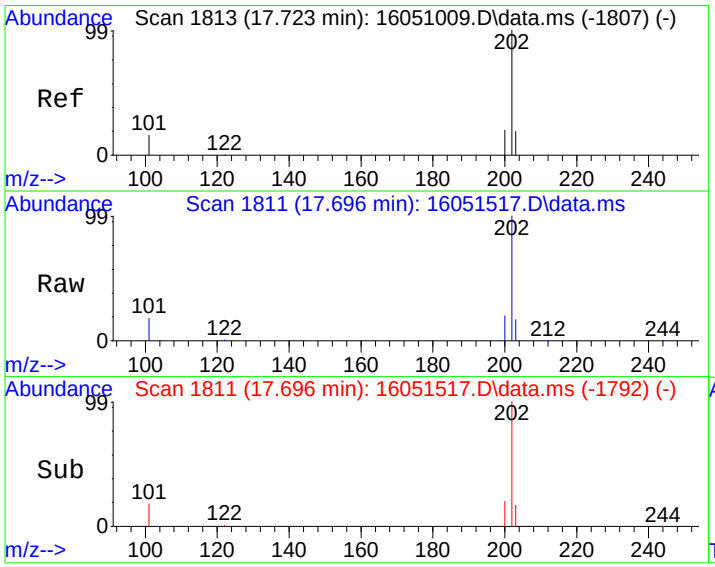


#14
Fluoranthene
Concen: 596.78 ug/kg
RT: 17.066 min Scan# 1764
Delta R.T. 0.001 min
Lab File: 16051517.D
Acq: 15 May 2016 9:36 pm

Tgt Ion:202 Resp: 570092

Ion	Ratio	Lower	Upper
202	100		
101	14.6	0.0	32.0

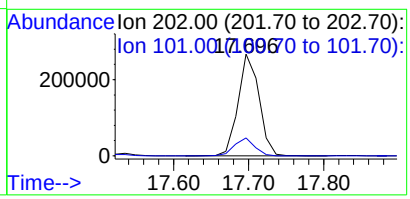


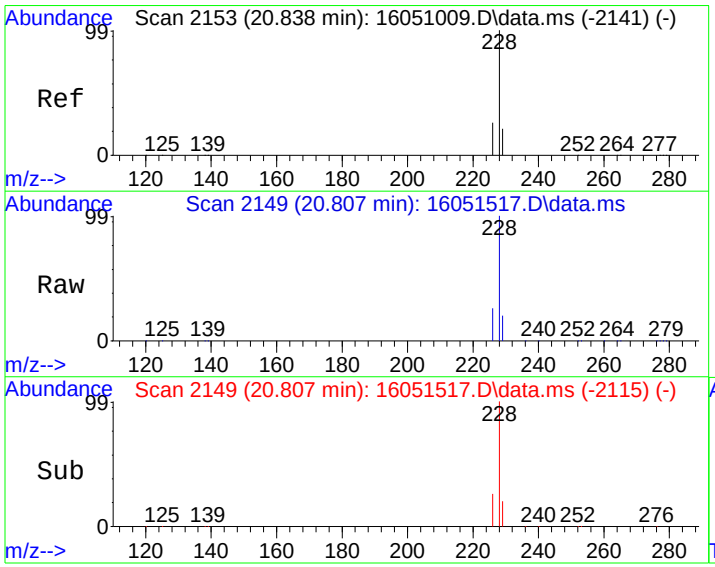


#15
Pyrene
Concen: 537.05 ug/kg
RT: 17.696 min Scan# 1811
Delta R.T. 0.001 min
Lab File: 16051517.D
Acq: 15 May 2016 9:36 pm

Tgt Ion:202 Resp: 514579

Ion	Ratio	Lower	Upper
202	100		
101	17.6	0.0	35.9

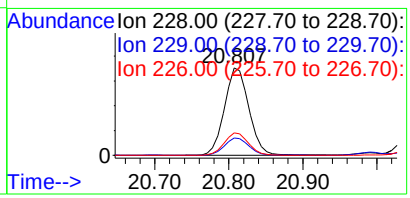


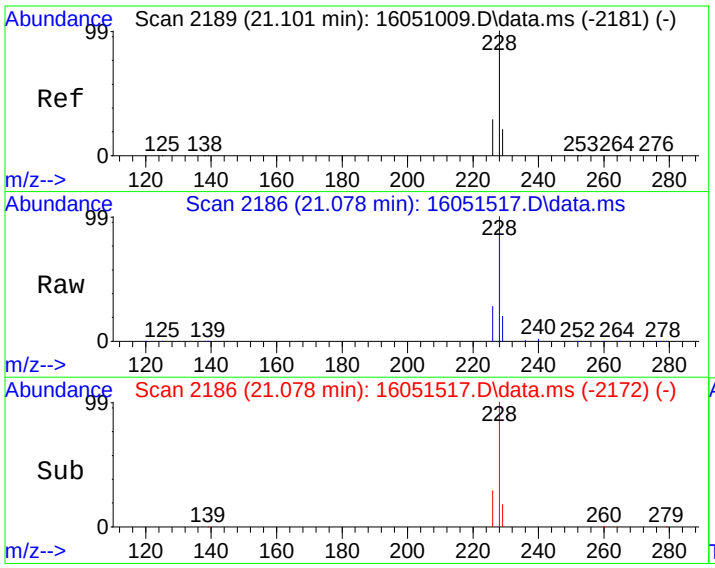


#18
Benzo[a]anthracene
Concen: 390.43 ug/kg
RT: 20.807 min Scan# 2149
Delta R.T. 0.001 min
Lab File: 16051517.D
Acq: 15 May 2016 9:36 pm

Tgt Ion:228 Resp: 322525

Ion	Ratio	Lower	Upper
228	100		
229	19.8	0.7	40.7
226	25.7	5.9	45.9

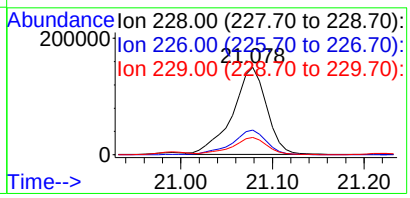


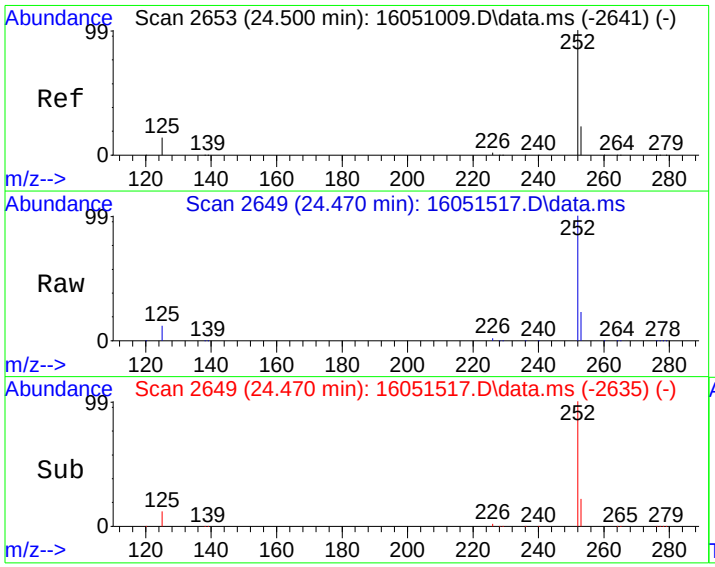


#19
Chrysene
Concen: 508.12 ug/kg
RT: 21.078 min Scan# 2186
Delta R.T. 0.001 min
Lab File: 16051517.D
Acq: 15 May 2016 9:36 pm

Tgt Ion:228 Resp: 384248

Ion	Ratio	Lower	Upper
228	100		
226	28.2	8.8	48.8
229	19.9	0.5	40.5

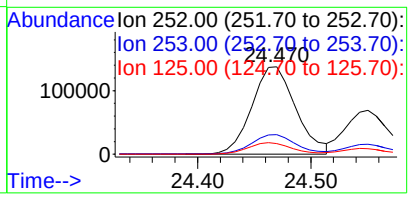


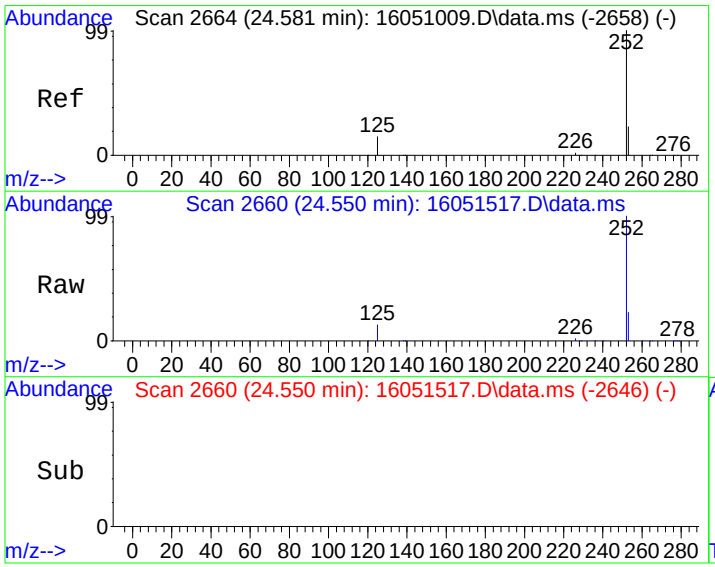


#21
Benzo[b]fluoranthene
Concen: 515.95 ug/kg
RT: 24.470 min Scan# 2649
Delta R.T. 0.001 min
Lab File: 16051517.D
Acq: 15 May 2016 9:36 pm

Tgt Ion:252 Resp: 370588

Ion	Ratio	Lower	Upper
252	100		
253	22.1	2.6	42.6
125	12.3	0.0	33.8

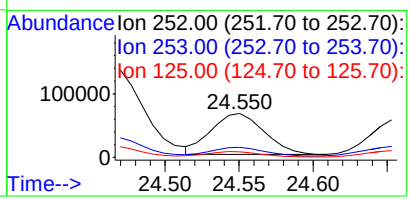


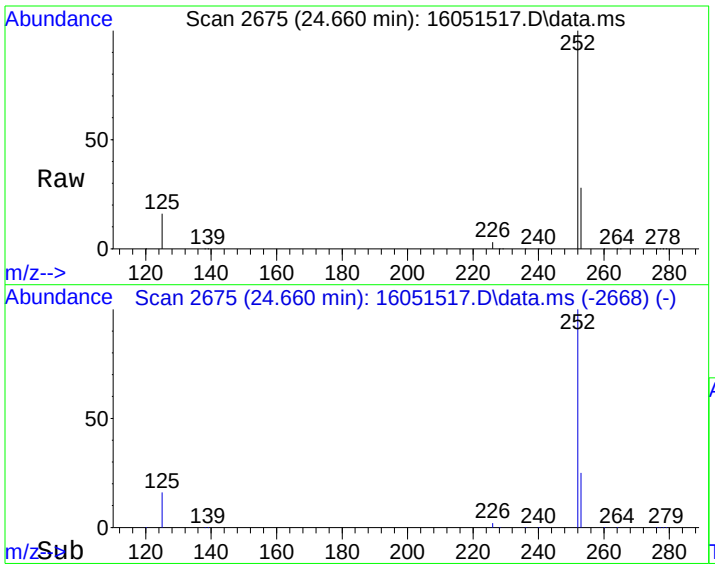


#22
Benzo[k]fluoranthene
Concen: 278.82 ug/kg
RT: 24.550 min Scan# 2660
Delta R.T. 0.001 min
Lab File: 16051517.D
Acq: 15 May 2016 9:36 pm

Tgt Ion:252 Resp: 160627

Ion	Ratio	Lower	Upper
252	100		
253	20.4	2.8	42.8
125	12.3	0.0	34.7

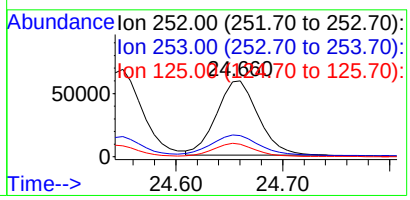


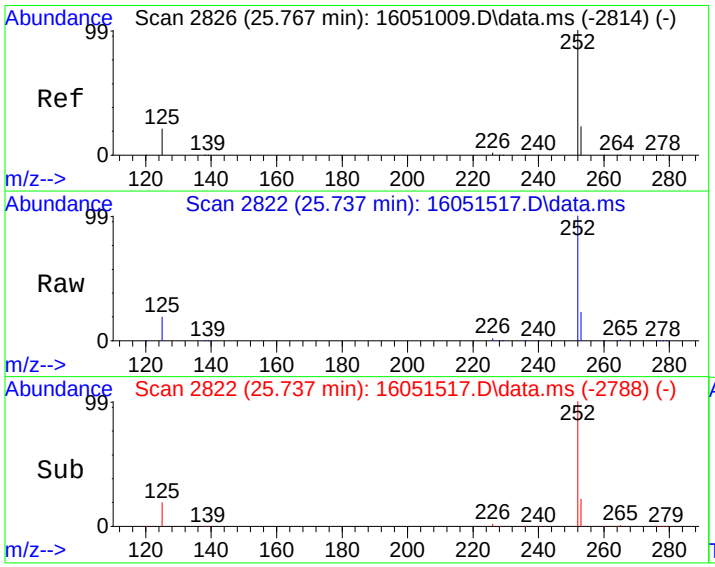


#23
Benzo(j)fluoranthene
Concen: 273.82 ug/kg
RT: 24.660 min Scan# 2675
Delta R.T. 0.001 min
Lab File: 16051517.D
Acq: 15 May 2016 9:36 pm

Tgt Ion:252 Resp: 159439

Ion	Ratio	Lower	Upper
252	100		
253	31.1	2.3	42.3
125	17.4	0.0	39.2

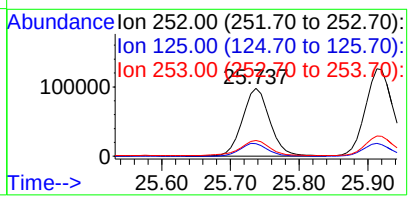


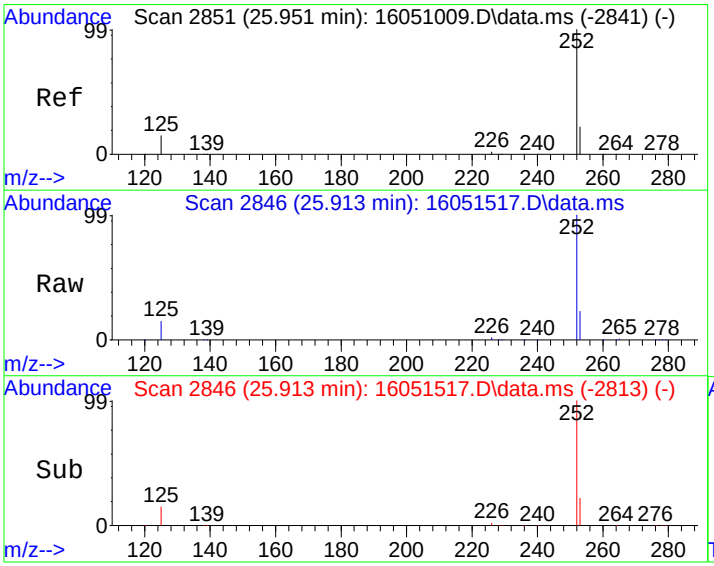


#24
Benzo(e)pyrene
Concen: 392.41 ug/kg
RT: 25.737 min Scan# 2822
Delta R.T. 0.001 min
Lab File: 16051517.D
Acq: 15 May 2016 9:36 pm

Tgt Ion:252 Resp: 270529

Ion	Ratio	Lower	Upper
252	100		
125	18.9	0.8	40.8
253	23.9	2.4	42.4

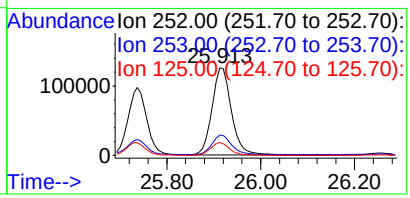


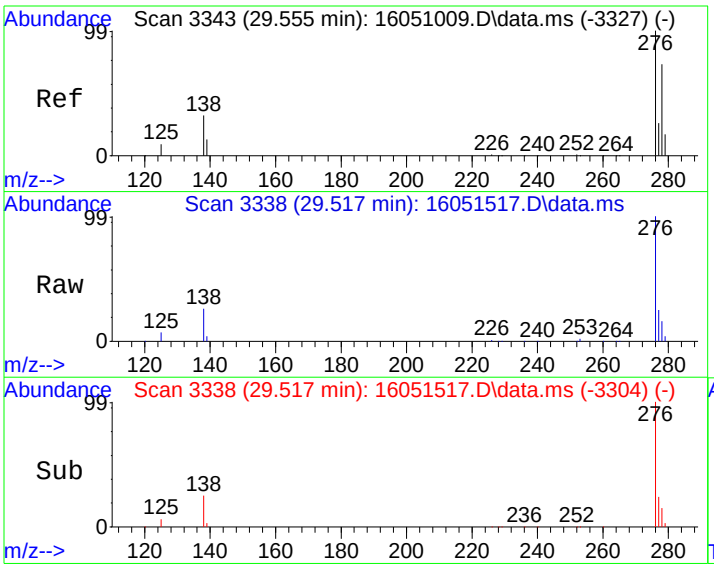


#25
Benzo[a]pyrene
Concen: 547.92 ug/kg
RT: 25.913 min Scan# 2846
Delta R.T. -0.006 min
Lab File: 16051517.D
Acq: 15 May 2016 9:36 pm

Tgt Ion:252 Resp: 361716

Ion	Ratio	Lower	Upper
252	100		
253	22.5	2.5	42.5
125	14.6	0.0	35.5

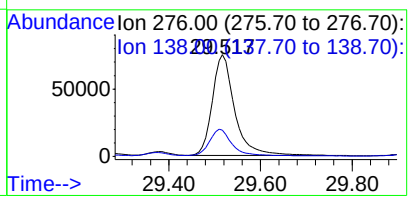


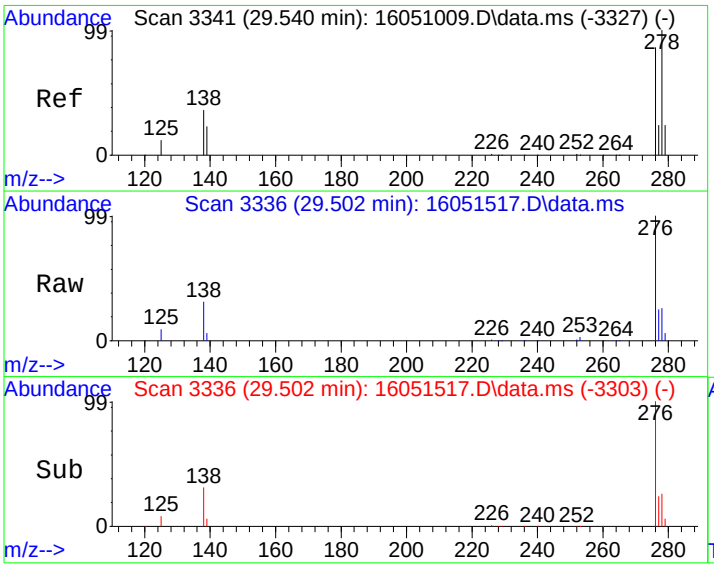


#26
Indeno[1,2,3-cd]pyrene
Concen: 343.41 ug/kg
RT: 29.517 min Scan# 3338
Delta R.T. 0.001 min
Lab File: 16051517.D
Acq: 15 May 2016 9:36 pm

Tgt Ion:276 Resp: 251158

Ion	Ratio	Lower	Upper
276	100		
138	25.5	12.0	52.0

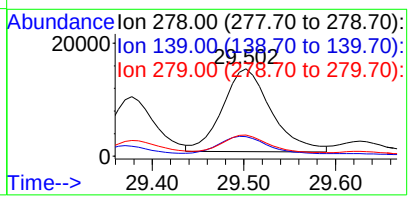


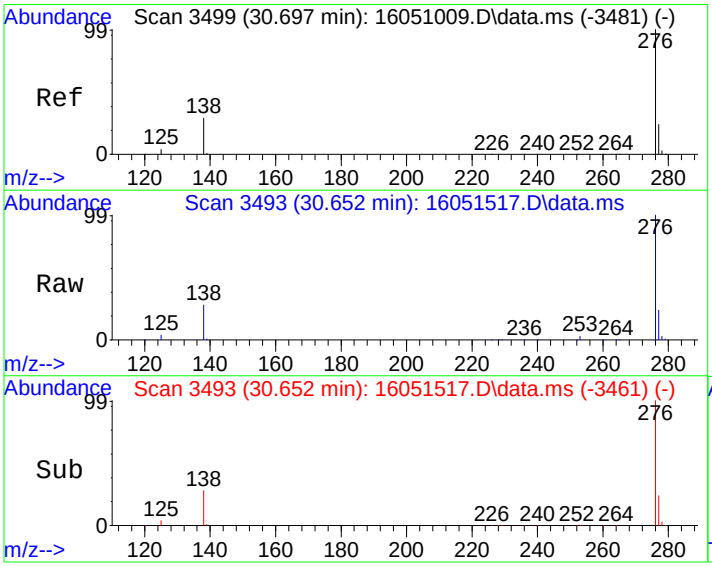


#27
Dibenz[a,h]anthracene
Concen: 91.38 ug/kg
RT: 29.502 min Scan# 3336
Delta R.T. -0.006 min
Lab File: 16051517.D
Acq: 15 May 2016 9:36 pm

Tgt Ion:278 Resp: 54484

Ion	Ratio	Lower	Upper
278	100		
139	21.8	2.9	42.9
279	23.0	4.4	44.4

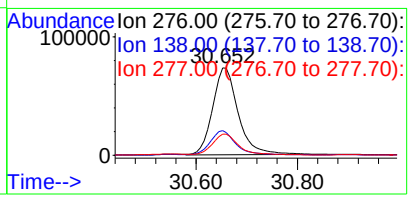




#28
Benzo[g,h,i]perylene
Concen: 404.90 ug/kg
RT: 30.652 min Scan# 3493
Delta R.T. -0.014 min
Lab File: 16051517.D
Acq: 15 May 2016 9:36 pm

Tgt Ion:276 Resp: 258399

Ion	Ratio	Lower	Upper
276	100		
138	27.9	9.3	49.3
277	24.0	4.3	44.3



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051518.D
Acq On : 15 May 2016 10:13 pm
Operator :
Sample : 1605074-19A
Misc : SAMP
ALS Vial : 8 Sample Multiplier: 10

Quant Time: May 16 13:06:59 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.271	136	1602310	4000.00	ug/kg	103
6) Acenaphthene-d10	12.861	164	997524	4000.00	ug/kg	102
11) Phenanthrene-d10	14.980	188	2521761	4000.00	ug/kg	81
16) Chrysene-d12	20.992	240	3040223	4000.00	ug/kg	87
20) Perylene-d12	26.259	264	2637158	4000.00	ug/kg	89

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.760	172	23936	76.01	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.90%#		
17) 4-Terphenyl-d14	17.589	244	52115	74.19	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery =	1.85%#		

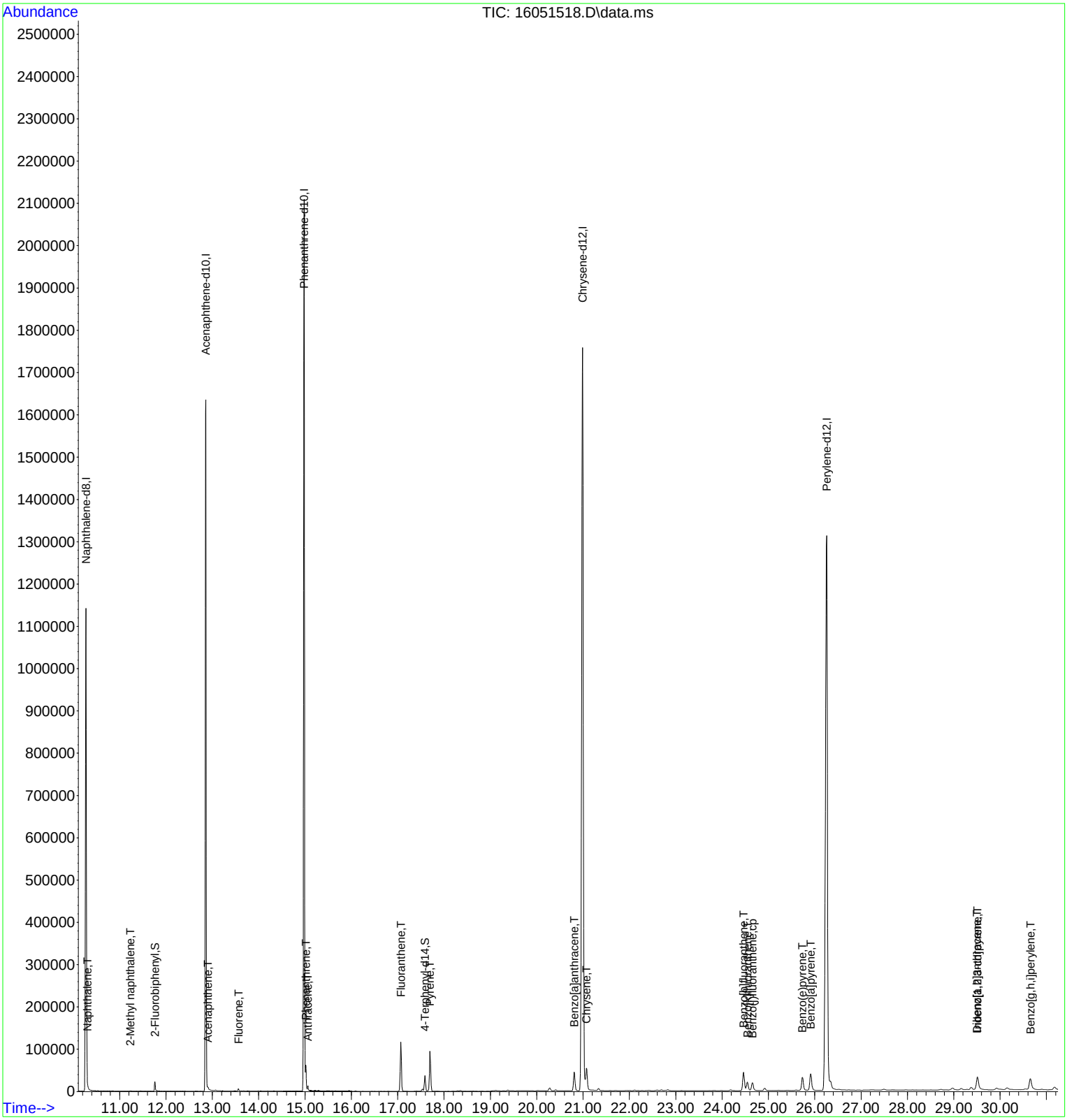
Target Compounds						Qvalue
2) Naphthalene	10.308	128	2736	7.05	ug/kg	99
3) 2-Methyl naphthalene	11.229	142	589	5.63	ug/kg	97
8) Acenaphthene	12.910	153	2148	7.24	ug/kg	98
10) Fluorene	13.563	166	3148	6.99	ug/kg	98
12) Phenanthrene	15.016	178	51800	70.97	ug/kg	97
13) Anthracene	15.060	178	10061	12.72	ug/kg	97
14) Fluoranthene	17.065	202	134550	140.87	ug/kg	94
15) Pyrene	17.696	202	116436	121.54	ug/kg	97
18) Benzo[a]anthracene	20.809	228	70282	82.24	ug/kg	99
19) Chrysene	21.073	228	85228	108.94	ug/kg	99
21) Benzo[b]fluoranthene	24.464	252	83514	111.20	ug/kg	98
22) Benzo[k]fluoranthene	24.545	252	35614	59.12	ug/kg	96
23) Benzo(j)fluoranthene	24.655	252	34570	56.78	ug/kg	87
24) Benzo(e)pyrene	25.731	252	61300	85.04	ug/kg	96
25) Benzo[a]pyrene	25.915	252	82199	119.08	ug/kg	98
26) Indeno[1,2,3-cd]pyrene	29.511	276	58424	76.40	ug/kg	89
27) Dibenz[a,h]anthracene	29.496	278	14281	22.91	ug/kg	98
28) Benzo[g,h,i]perylene	30.654	276	61308	91.87	ug/kg	98

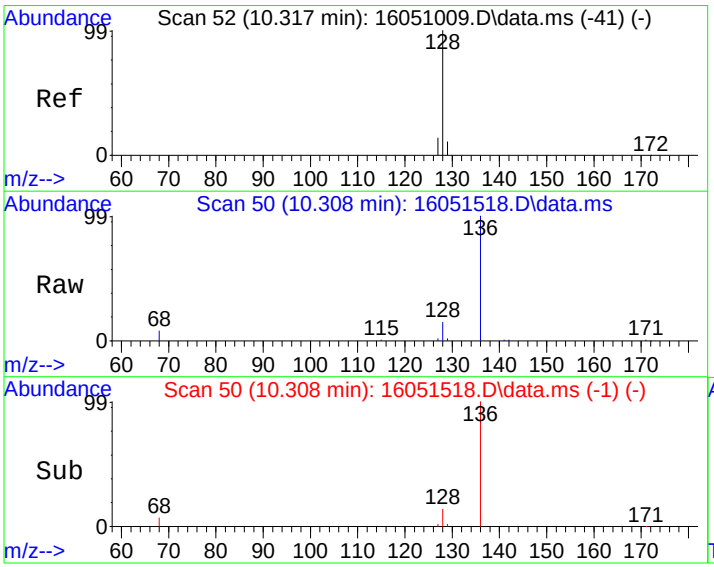
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051518.D
Acq On : 15 May 2016 10:13 pm
Operator :
Sample : 1605074-19A
Misc : SAMP
ALS Vial : 8 Sample Multiplier: 10

Quant Time: May 16 13:06:59 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

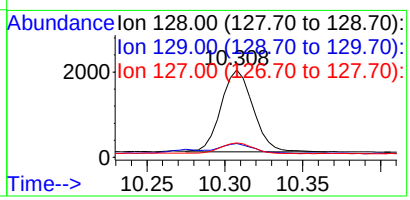


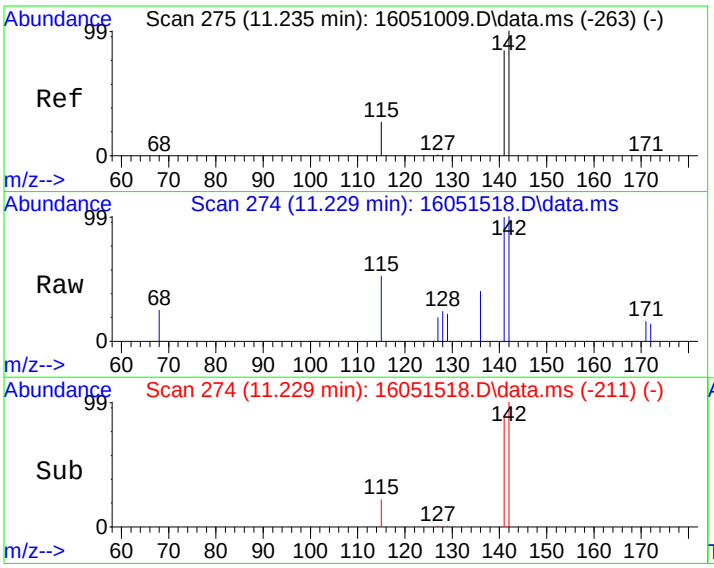


#2
Naphthalene
Concen: 7.05 ug/kg
RT: 10.308 min Scan# 50
Delta R.T. 0.004 min
Lab File: 16051518.D
Acq: 15 May 2016 10:13 pm

Tgt Ion:128 Resp: 2736

Ion	Ratio	Lower	Upper
128	100		
129	11.7	0.0	31.3
127	12.9	0.0	33.5

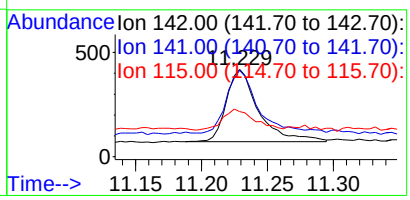


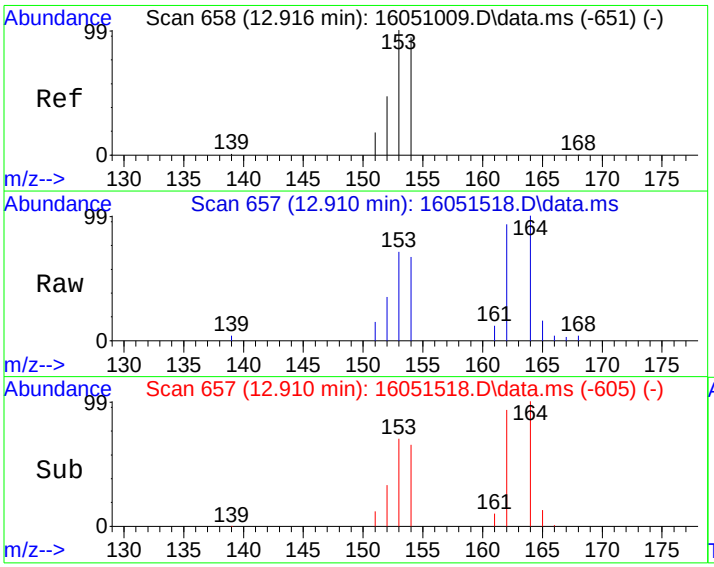


#3
2-Methyl naphthalene
Concen: 5.63 ug/kg
RT: 11.229 min Scan# 274
Delta R.T. 0.008 min
Lab File: 16051518.D
Acq: 15 May 2016 10:13 pm

Tgt Ion:142 Resp: 589

Ion	Ratio	Lower	Upper
142	100		
141	86.2	63.9	103.9
115	23.3	6.7	46.7

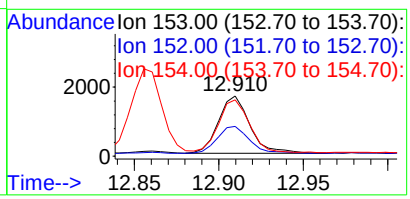


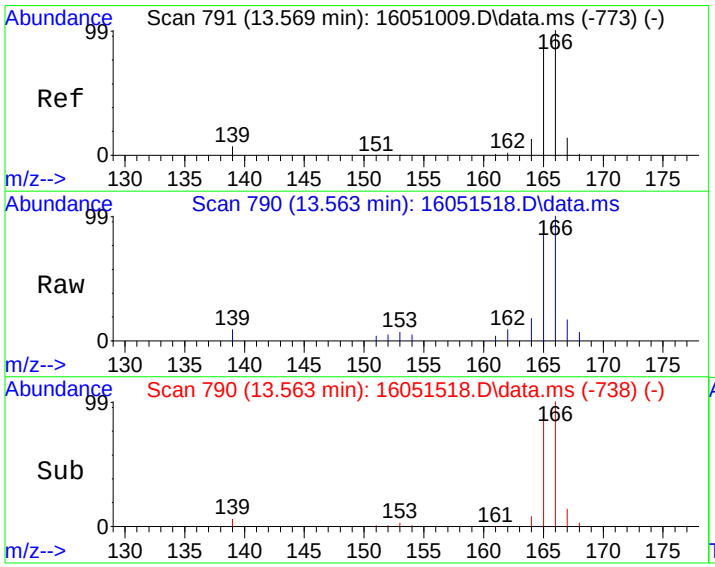


#8
Acenaphthene
Concen: 7.24 ug/kg
RT: 12.910 min Scan# 657
Delta R.T. 0.005 min
Lab File: 16051518.D
Acq: 15 May 2016 10:13 pm

Tgt Ion:153 Resp: 2148

Ion	Ratio	Lower	Upper
153	100		
152	46.8	27.2	67.2
154	92.4	74.3	114.3

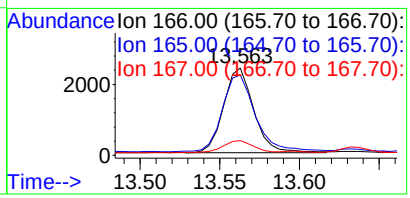


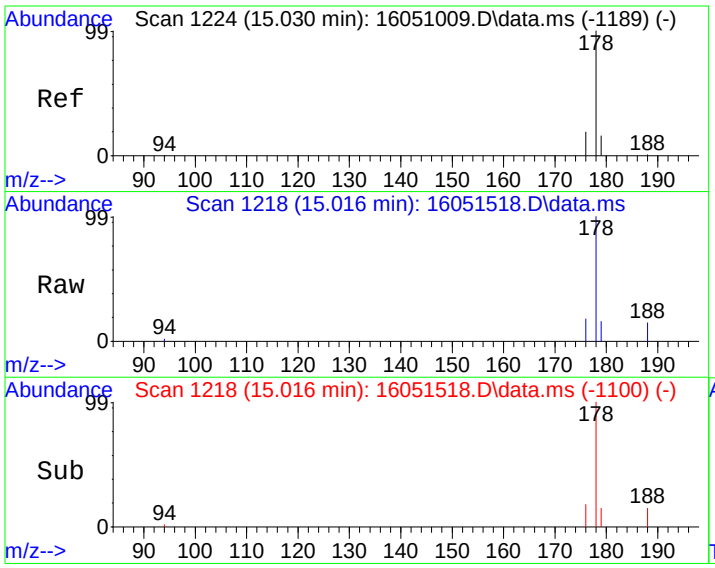


#10
Fluorene
Concen: 6.99 ug/kg
RT: 13.563 min Scan# 790
Delta R.T. 0.005 min
Lab File: 16051518.D
Acq: 15 May 2016 10:13 pm

Tgt Ion:166 Resp: 3148

Ion	Ratio	Lower	Upper
166	100		
165	89.8	71.9	111.9
167	13.8	0.0	33.8

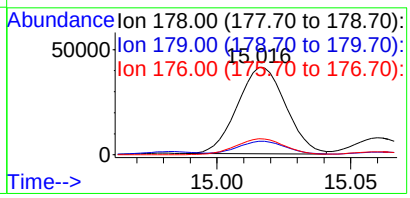


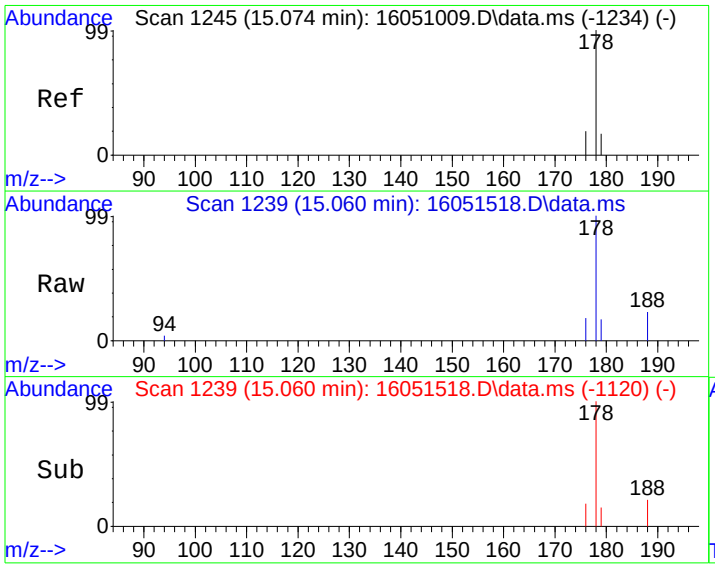


#12
Phenanthrene
Concen: 70.97 ug/kg
RT: 15.016 min Scan# 1218
Delta R.T. -0.000 min
Lab File: 16051518.D
Acq: 15 May 2016 10:13 pm

Tgt Ion:178 Resp: 51800

Ion	Ratio	Lower	Upper
178	100		
179	14.9	0.0	36.4
176	18.3	0.0	39.2

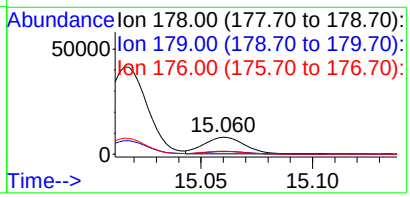


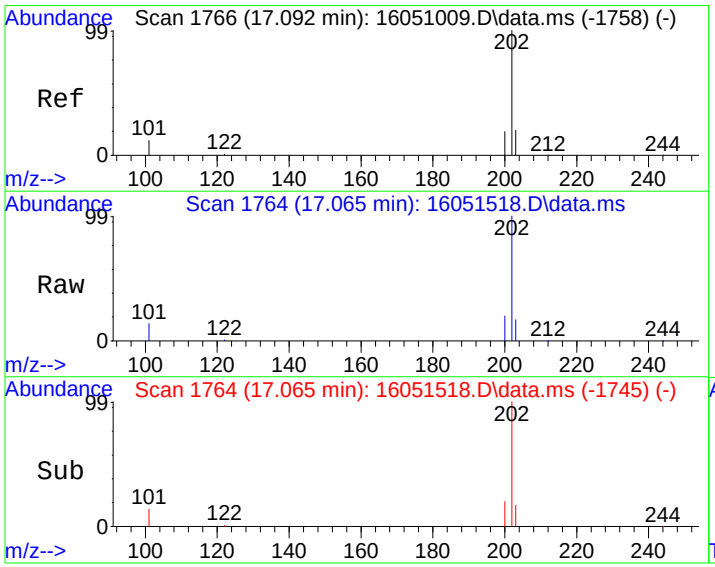


#13
Anthracene
Concen: 12.72 ug/kg
RT: 15.060 min Scan# 1239
Delta R.T. 0.002 min
Lab File: 16051518.D
Acq: 15 May 2016 10:13 pm

Tgt Ion:178 Resp: 10061

Ion	Ratio	Lower	Upper
178	100		
179	15.2	0.0	36.5
176	17.6	0.0	38.6

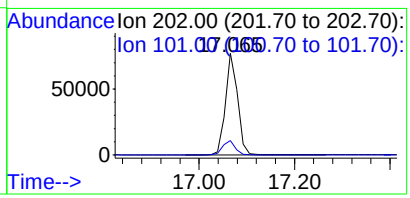


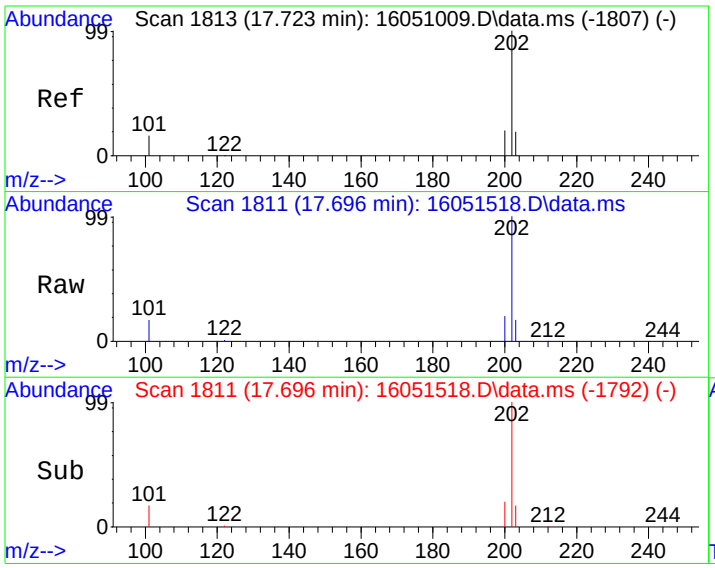


#14
Fluoranthene
Concen: 140.87 ug/kg
RT: 17.065 min Scan# 1764
Delta R.T. 0.000 min
Lab File: 16051518.D
Acq: 15 May 2016 10:13 pm

Tgt Ion:202 Resp: 134550

Ion	Ratio	Lower	Upper
202	100		
101	14.2	0.0	32.0

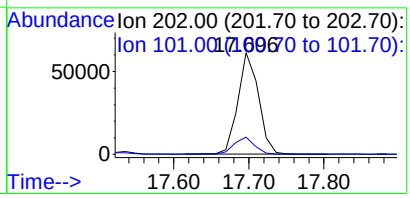


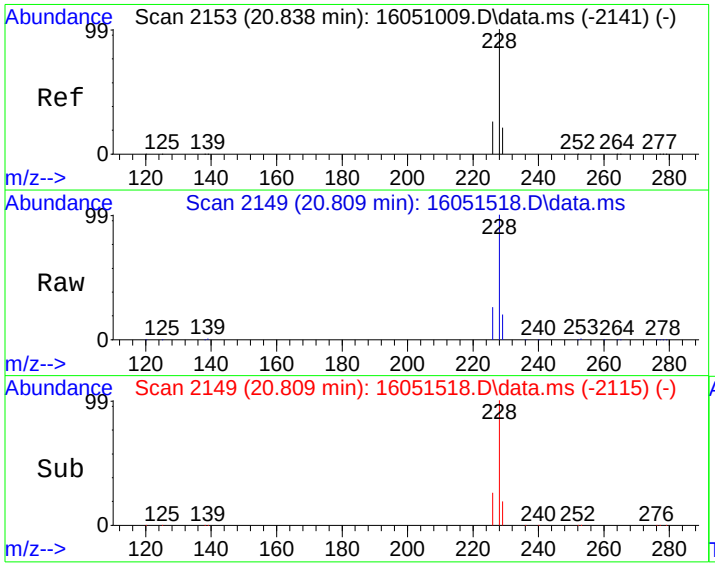


#15
Pyrene
Concen: 121.54 ug/kg
RT: 17.696 min Scan# 1811
Delta R.T. 0.000 min
Lab File: 16051518.D
Acq: 15 May 2016 10:13 pm

Tgt Ion:202 Resp: 116436

Ion	Ratio	Lower	Upper
202	100		
101	17.0	0.0	35.9

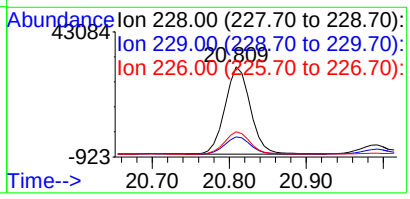


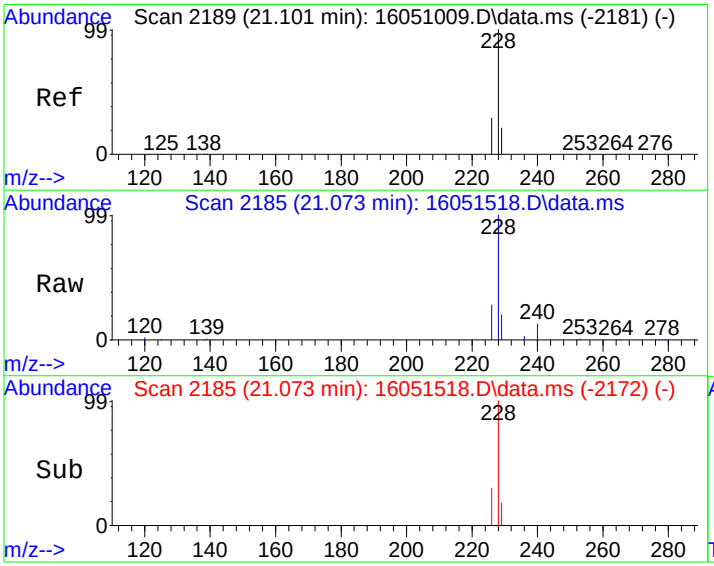


#18
Benzo[a]anthracene
Concen: 82.24 ug/kg
RT: 20.809 min Scan# 2149
Delta R.T. 0.003 min
Lab File: 16051518.D
Acq: 15 May 2016 10:13 pm

Tgt Ion:228 Resp: 70282

Ion	Ratio	Lower	Upper
228	100		
229	19.6	0.7	40.7
226	25.6	5.9	45.9

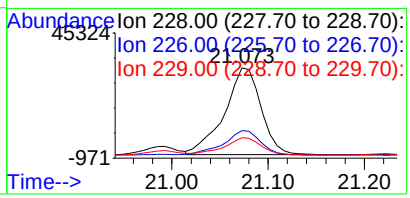


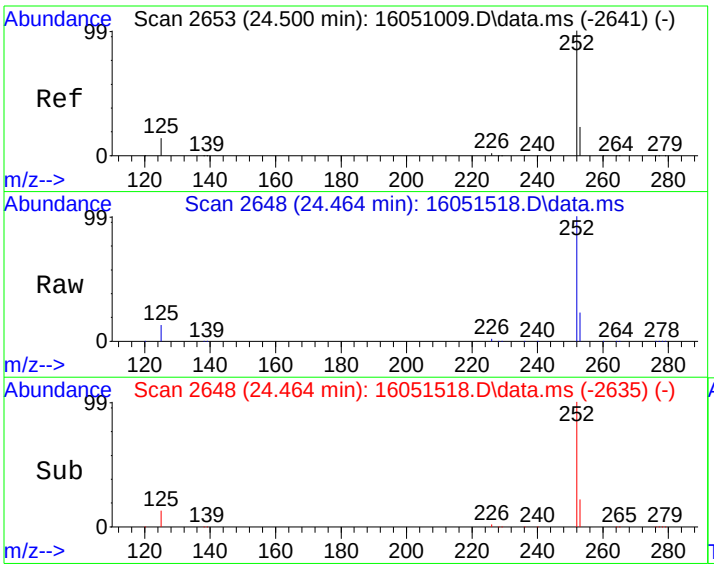


#19
Chrysene
Concen: 108.94 ug/kg
RT: 21.073 min Scan# 2185
Delta R.T. -0.005 min
Lab File: 16051518.D
Acq: 15 May 2016 10:13 pm

Tgt Ion:228 Resp: 85228

Ion	Ratio	Lower	Upper
228	100		
226	28.3	8.8	48.8
229	19.9	0.5	40.5

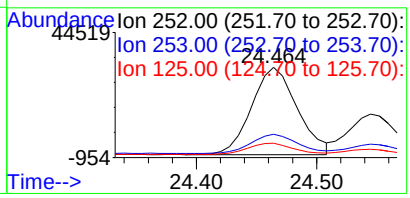


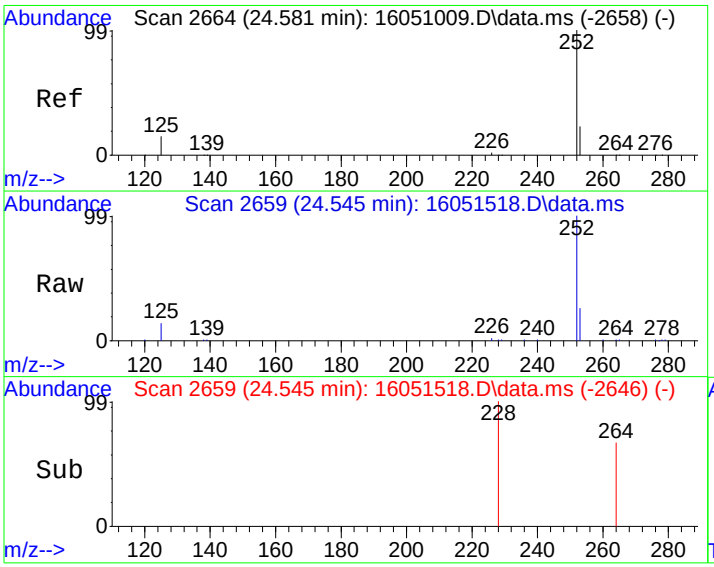


#21
Benzo[b]fluoranthene
Concen: 111.20 ug/kg
RT: 24.464 min Scan# 2648
Delta R.T. -0.005 min
Lab File: 16051518.D
Acq: 15 May 2016 10:13 pm

Tgt Ion:252 Resp: 83514

Ion	Ratio	Lower	Upper
252	100		
253	21.8	2.6	42.6
125	12.9	0.0	33.8

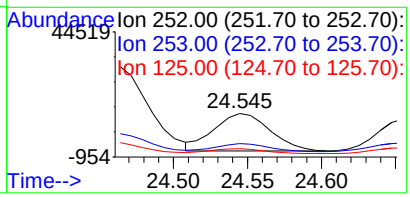


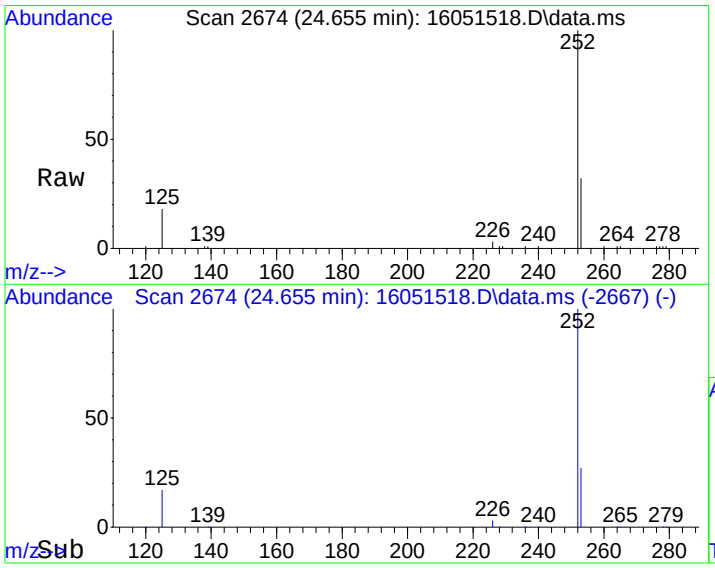


#22
Benzo[k]fluoranthene
Concen: 59.12 ug/kg
RT: 24.545 min Scan# 2659
Delta R.T. -0.005 min
Lab File: 16051518.D
Acq: 15 May 2016 10:13 pm

Tgt Ion:252 Resp: 35614

Ion	Ratio	Lower	Upper
252	100		
253	21.1	2.8	42.8
125	13.0	0.0	34.7

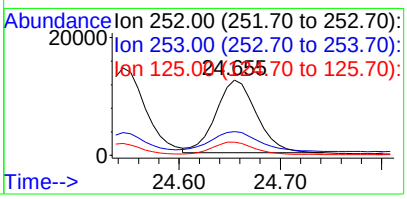


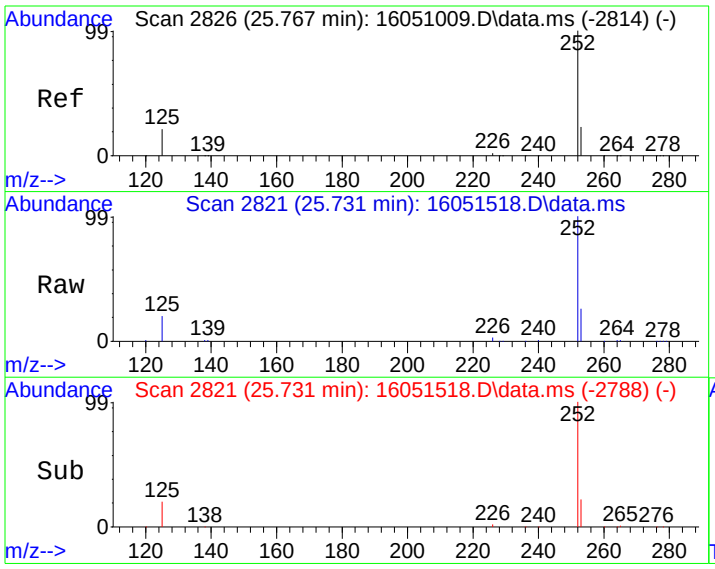


#23
Benzo(j)fluoranthene
Concen: 56.78 ug/kg
RT: 24.655 min Scan# 2674
Delta R.T. -0.005 min
Lab File: 16051518.D
Acq: 15 May 2016 10:13 pm

Tgt Ion:252 Resp: 34570

Ion	Ratio	Lower	Upper
252	100		
253	32.1	2.3	42.3
125	17.2	0.0	39.2

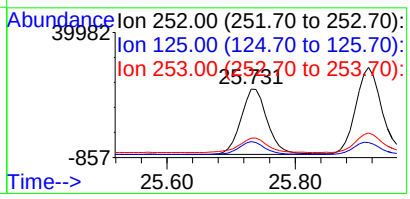


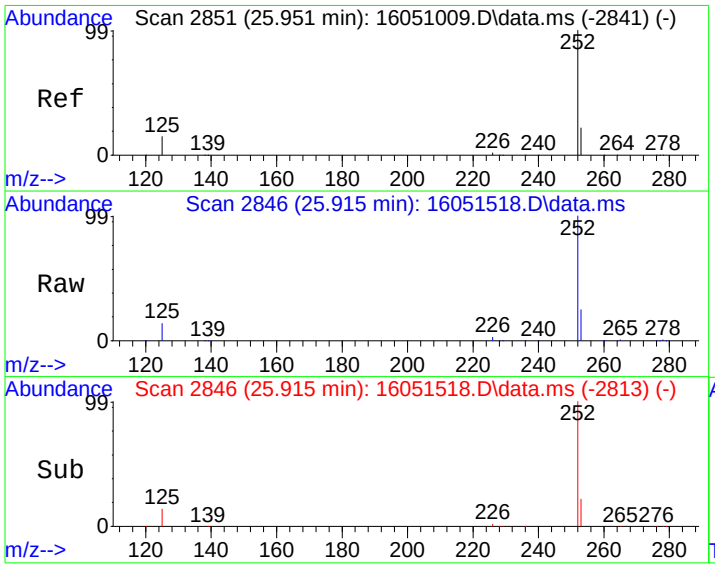


#24
Benzo(e)pyrene
Concen: 85.04 ug/kg
RT: 25.731 min Scan# 2821
Delta R.T. -0.005 min
Lab File: 16051518.D
Acq: 15 May 2016 10:13 pm

Tgt Ion:252 Resp: 61300

Ion	Ratio	Lower	Upper
252	100		
125	19.0	0.8	40.8
253	24.1	2.4	42.4

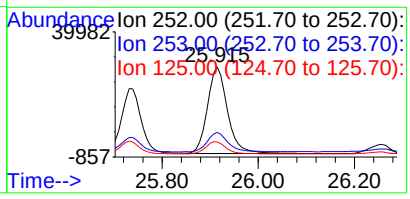


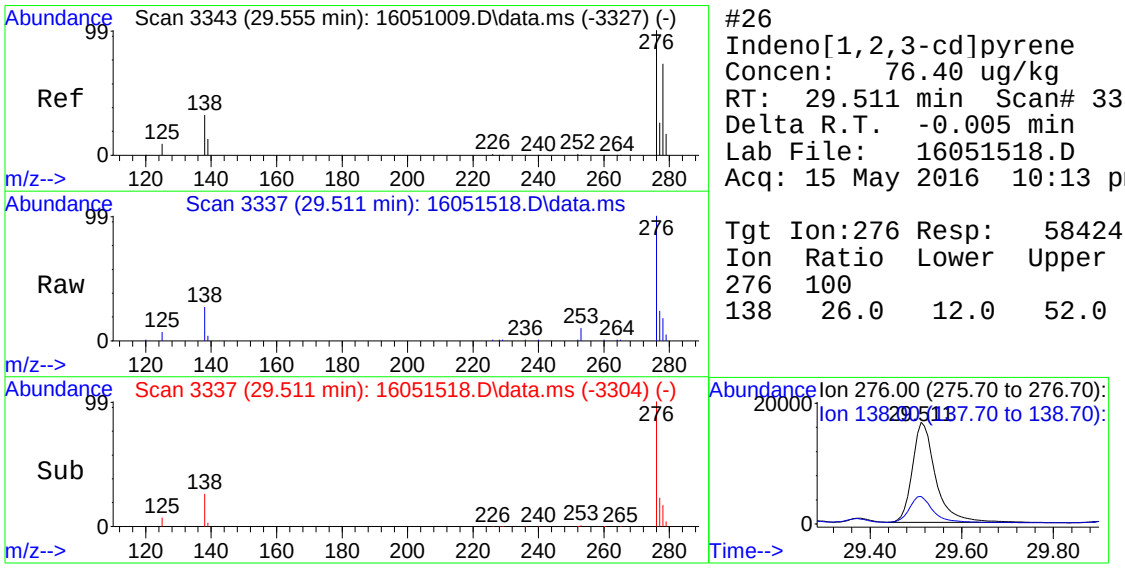


#25
Benzo[a]pyrene
Concen: 119.08 ug/kg
RT: 25.915 min Scan# 2846
Delta R.T. -0.005 min
Lab File: 16051518.D
Acq: 15 May 2016 10:13 pm

Tgt Ion:252 Resp: 82199

Ion	Ratio	Lower	Upper
252	100		
253	22.1	2.5	42.5
125	13.8	0.0	35.5

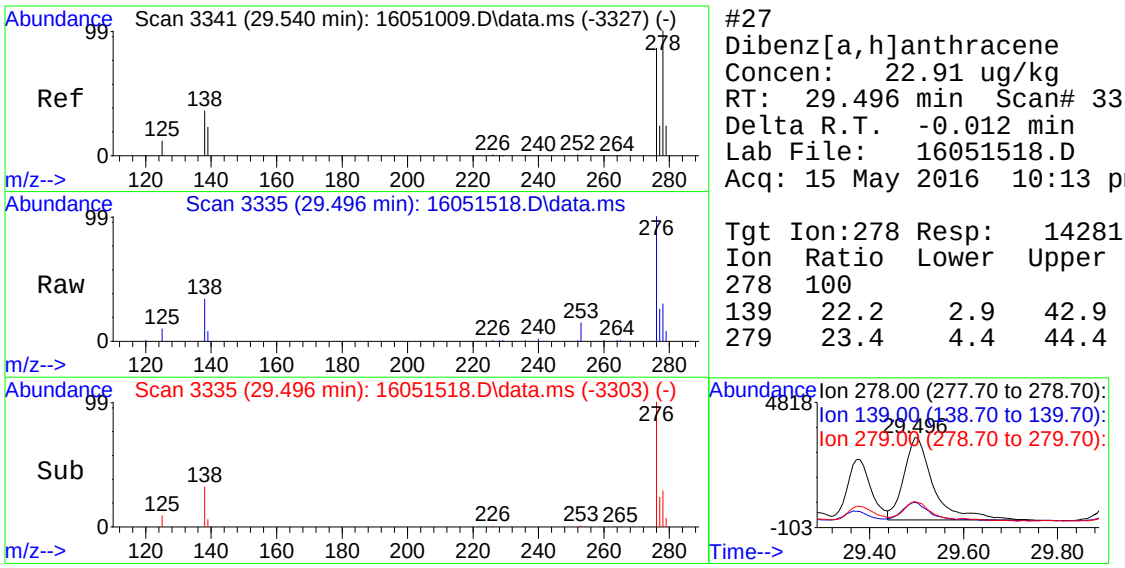




#26
Indeno[1,2,3-cd]pyrene
Concen: 76.40 ug/kg
RT: 29.511 min Scan# 3337
Delta R.T. -0.005 min
Lab File: 16051518.D
Acq: 15 May 2016 10:13 pm

Tgt Ion:276 Resp: 58424

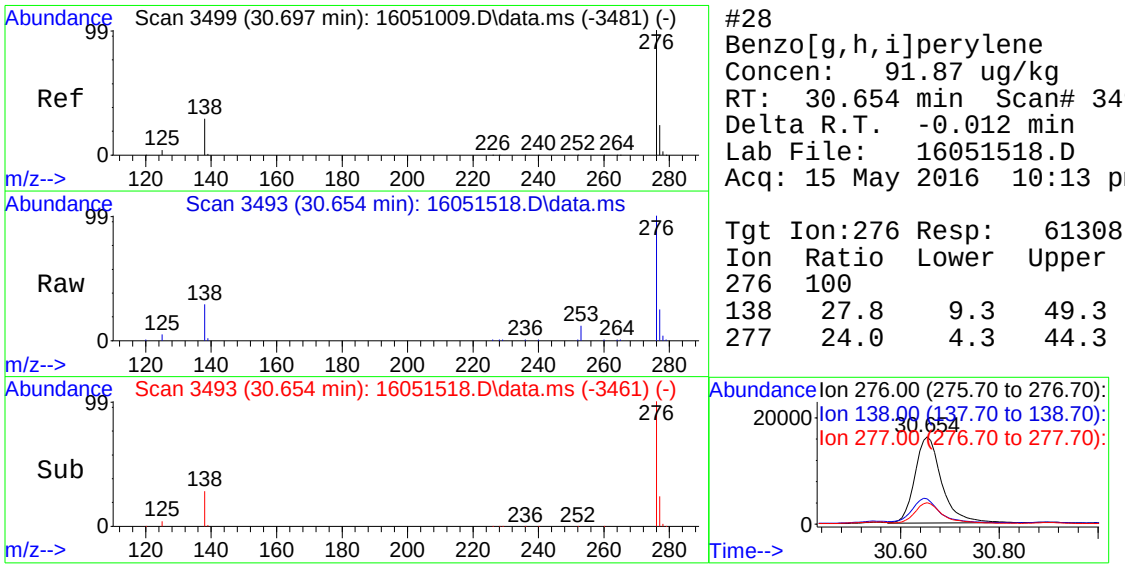
Ion	Ratio	Lower	Upper
276	100		
138	26.0	12.0	52.0



#27
Dibenz[a,h]anthracene
Concen: 22.91 ug/kg
RT: 29.496 min Scan# 3335
Delta R.T. -0.012 min
Lab File: 16051518.D
Acq: 15 May 2016 10:13 pm

Tgt Ion:278 Resp: 14281

Ion	Ratio	Lower	Upper
278	100		
139	22.2	2.9	42.9
279	23.4	4.4	44.4



#28
Benzo[g,h,i]perylene
Concen: 91.87 ug/kg
RT: 30.654 min Scan# 3493
Delta R.T. -0.012 min
Lab File: 16051518.D
Acq: 15 May 2016 10:13 pm

Tgt Ion:276 Resp: 61308

Ion	Ratio	Lower	Upper
276	100		
138	27.8	9.3	49.3
277	24.0	4.3	44.3

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051519.D
Acq On : 15 May 2016 10:50 pm
Operator :
Sample : 1605074-20A
Misc : SAMP
ALS Vial : 9 Sample Multiplier: 10

Quant Time: May 16 13:07:08 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.272	136	1603173	4000.00	ug/kg	103
6) Acenaphthene-d10	12.857	164	994024	4000.00	ug/kg	102
11) Phenanthrene-d10	14.981	188	2560290	4000.00	ug/kg	82
16) Chrysene-d12	20.991	240	3079800	4000.00	ug/kg	88
20) Perylene-d12	26.258	264	2631904	4000.00	ug/kg	89

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.761	172	23197	73.62	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.84%#			
17) 4-Terphenyl-d14	17.588	244	51959	73.02	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery = 1.83%#			

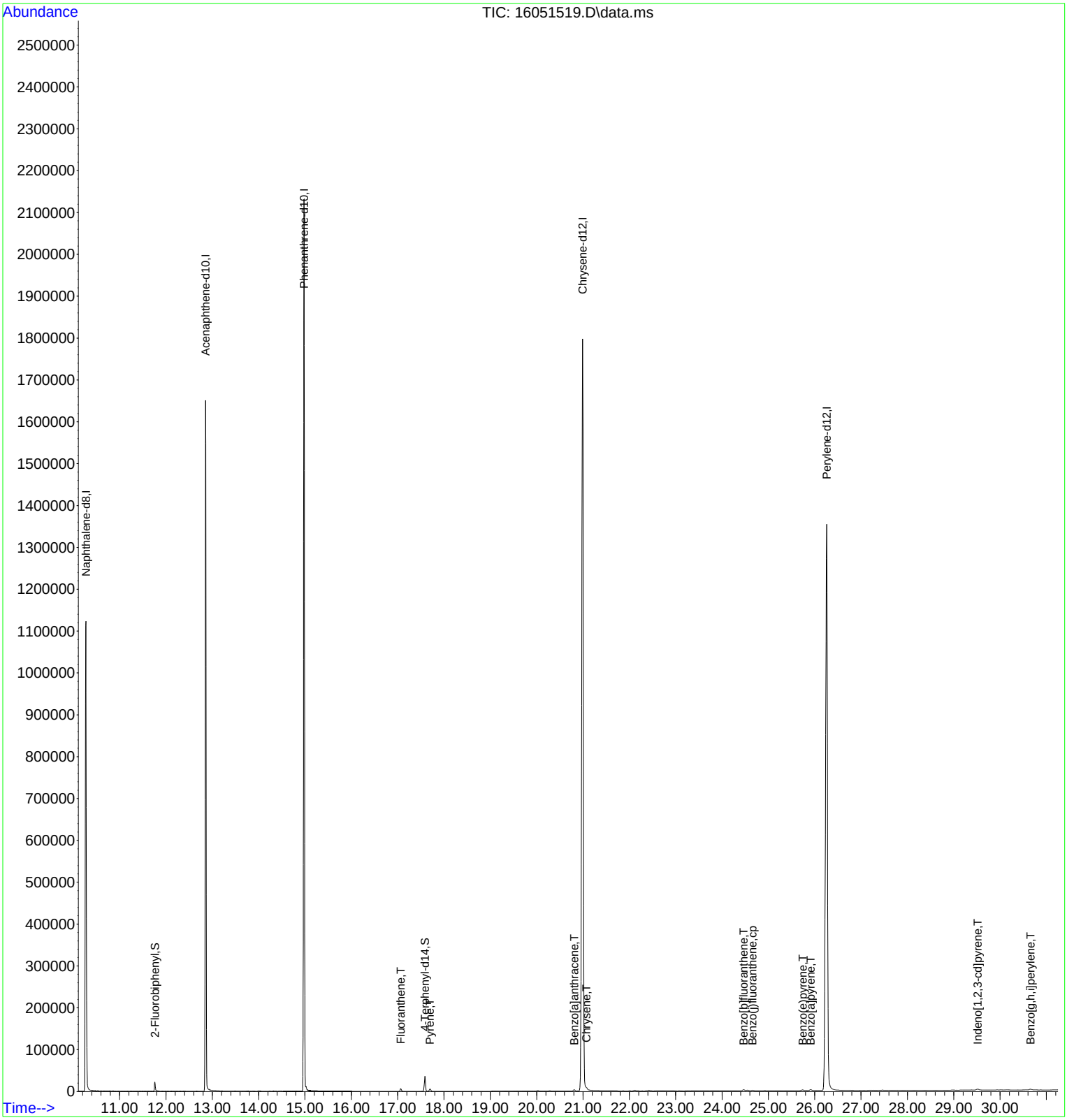
Target Compounds						Qvalue
14) Fluoranthene	17.065	202	8440	8.70	ug/kg	92
15) Pyrene	17.696	202	7569	7.78	ug/kg	96
18) Benzo[a]anthracene	20.808	228	4830	5.58	ug/kg	98
19) Chrysene	21.079	228	5933	7.49	ug/kg	99
21) Benzo[b]fluoranthene	24.463	252	5723	7.64	ug/kg	98
23) Benzo(j)fluoranthene	24.654	252	2289	3.77	ug/kg	85
24) Benzo(e)pyrene	25.738	252	4118	5.72	ug/kg	92
25) Benzo[a]pyrene	25.914	252	5509	8.00	ug/kg	98
26) Indeno[1,2,3-cd]pyrene	29.518	276	4316	5.66	ug/kg	88
28) Benzo[g,h,i]perylene	30.653	276	4648	6.98	ug/kg	99

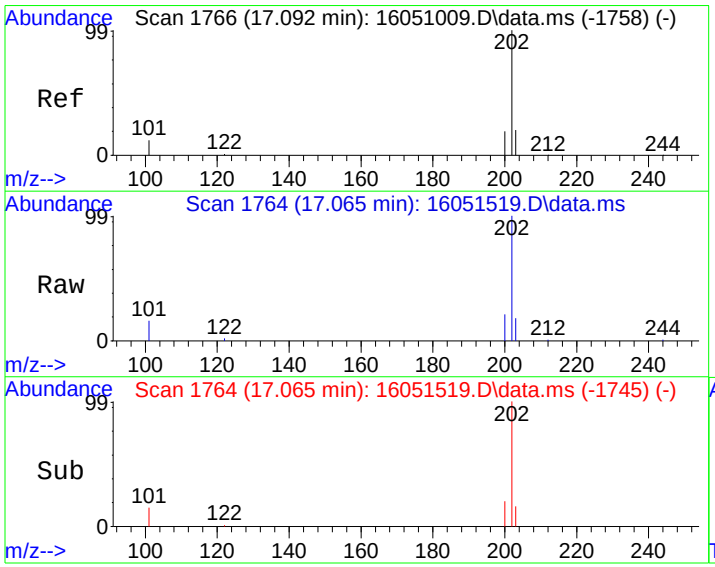
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051519.D
Acq On : 15 May 2016 10:50 pm
Operator :
Sample : 1605074-20A
Misc : SAMP
ALS Vial : 9 Sample Multiplier: 10

Quant Time: May 16 13:07:08 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

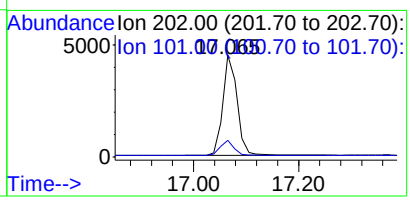


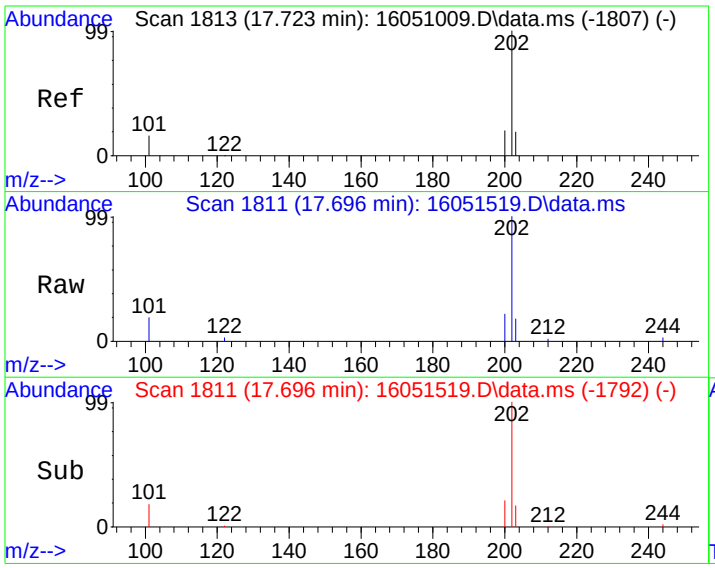


#14
Fluoranthene
Concen: 8.70 ug/kg
RT: 17.065 min Scan# 1764
Delta R.T. -0.000 min
Lab File: 16051519.D
Acq: 15 May 2016 10:50 pm

Tgt Ion:202 Resp: 8440

Ion	Ratio	Lower	Upper
202	100		
101	15.0	0.0	32.0

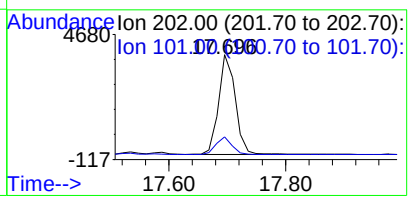


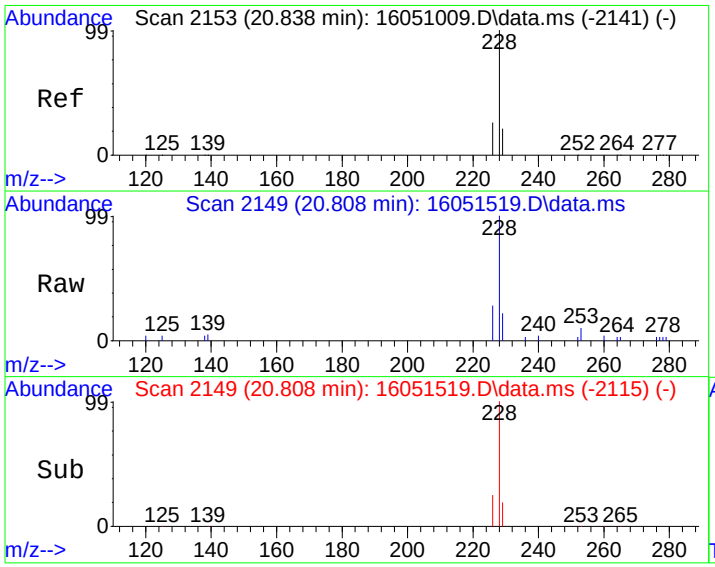


#15
Pyrene
Concen: 7.78 ug/kg
RT: 17.696 min Scan# 1811
Delta R.T. -0.000 min
Lab File: 16051519.D
Acq: 15 May 2016 10:50 pm

Tgt Ion:202 Resp: 7569

Ion	Ratio	Lower	Upper
202	100		
101	17.7	0.0	35.9

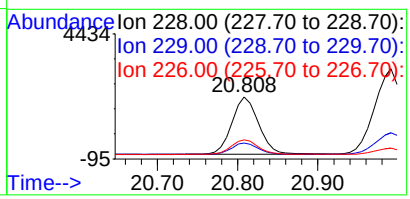


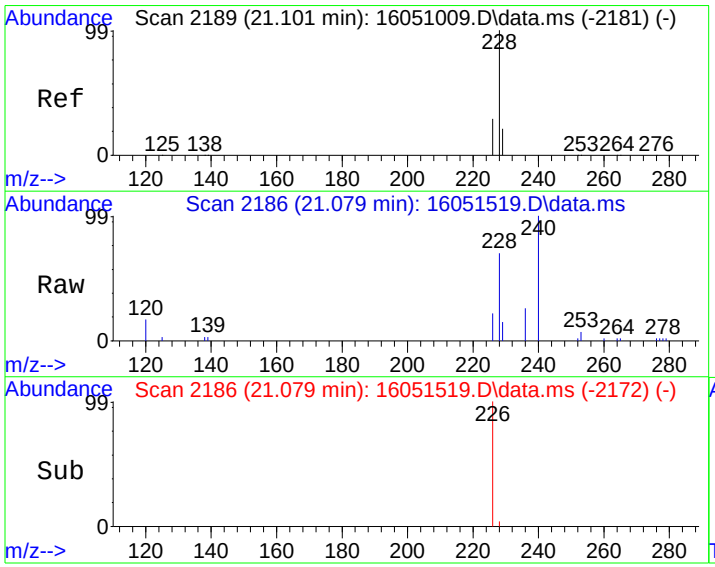


#18
Benzo[a]anthracene
Concen: 5.58 ug/kg
RT: 20.808 min Scan# 2149
Delta R.T. 0.002 min
Lab File: 16051519.D
Acq: 15 May 2016 10:50 pm

Tgt Ion:228 Resp: 4830

Ion	Ratio	Lower	Upper
228	100		
229	19.5	0.7	40.7
226	25.4	5.9	45.9

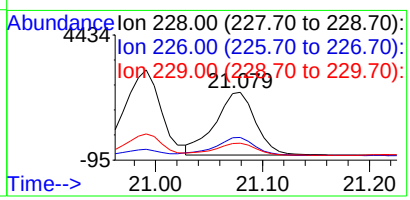


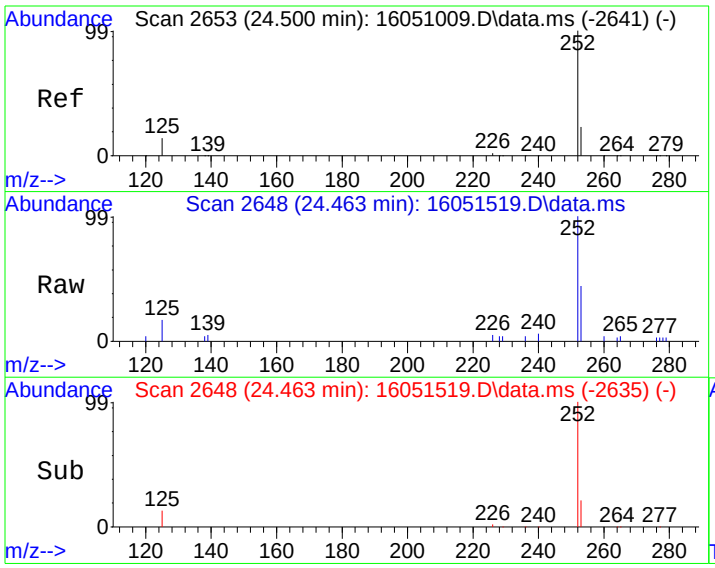


#19
Chrysene
Concen: 7.49 ug/kg
RT: 21.079 min Scan# 2186
Delta R.T. 0.002 min
Lab File: 16051519.D
Acq: 15 May 2016 10:50 pm

Tgt Ion:228 Resp: 5933

Ion	Ratio	Lower	Upper
228	100		
226	28.9	8.8	48.8
229	19.3	0.5	40.5

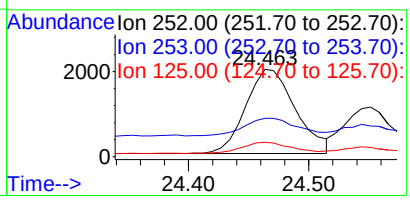


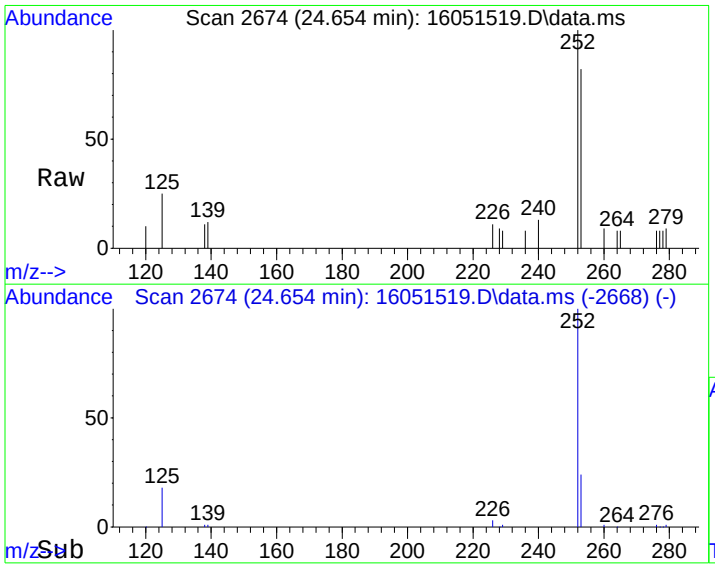


#21
Benzo[b]fluoranthene
Concen: 7.64 ug/kg
RT: 24.463 min Scan# 2648
Delta R.T. -0.005 min
Lab File: 16051519.D
Acq: 15 May 2016 10:50 pm

Tgt Ion:252 Resp: 5723

Ion	Ratio	Lower	Upper
252	100		
253	21.2	2.6	42.6
125	13.2	0.0	33.8

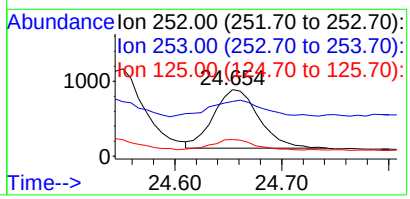


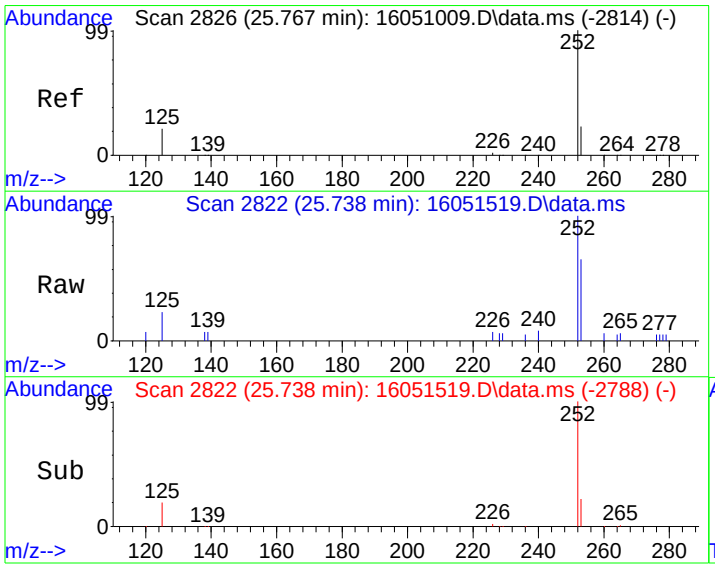


#23
Benzo(j)fluoranthene
Concen: 3.77 ug/kg
RT: 24.654 min Scan# 2674
Delta R.T. -0.005 min
Lab File: 16051519.D
Acq: 15 May 2016 10:50 pm

Tgt Ion:252 Resp: 2289

Ion	Ratio	Lower	Upper
252	100		
253	33.2	2.3	42.3
125	16.7	0.0	39.2

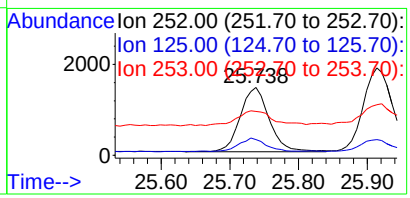


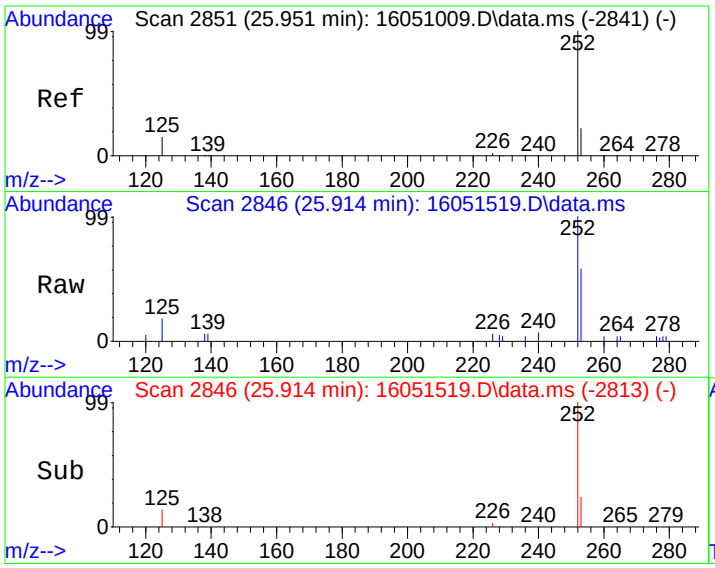


#24
Benzo(e)pyrene
Concen: 5.72 ug/kg
RT: 25.738 min Scan# 2822
Delta R.T. 0.002 min
Lab File: 16051519.D
Acq: 15 May 2016 10:50 pm

Tgt Ion:252 Resp: 4118

Ion	Ratio	Lower	Upper
252	100		
125	18.8	0.8	40.8
253	28.3	2.4	42.4

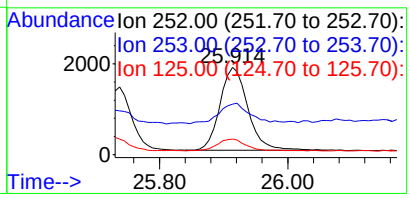


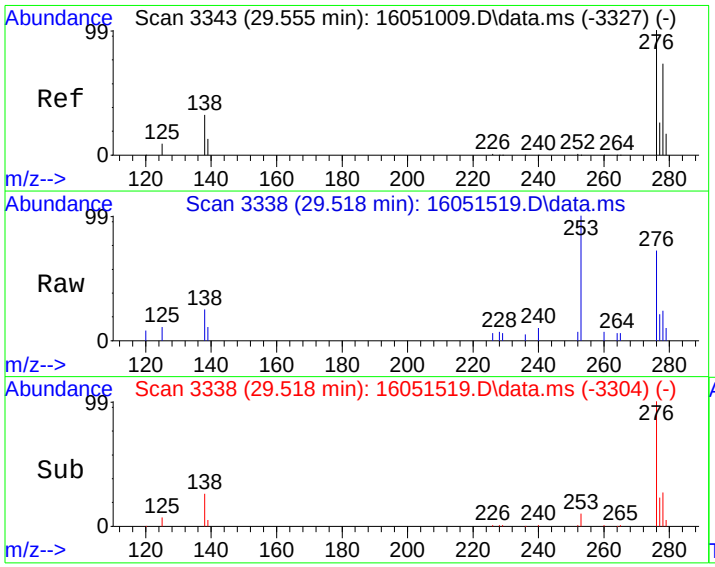


#25
Benzo[a]pyrene
Concen: 8.00 ug/kg
RT: 25.914 min Scan# 2846
Delta R.T. -0.005 min
Lab File: 16051519.D
Acq: 15 May 2016 10:50 pm

Tgt Ion:252 Resp: 5509

Ion	Ratio	Lower	Upper
252	100		
253	22.8	2.5	42.5
125	14.2	0.0	35.5

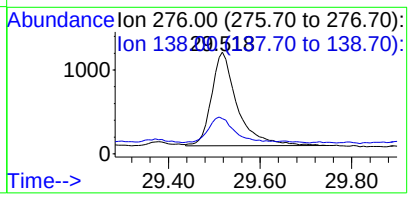


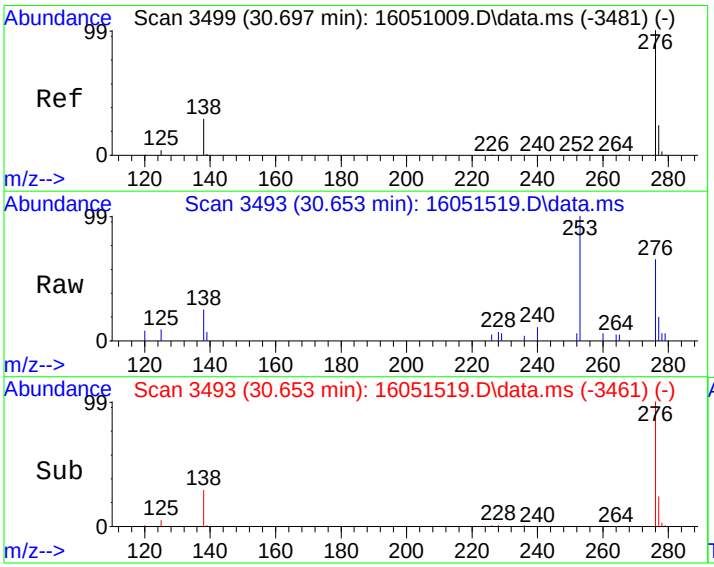


#26
Indeno[1,2,3-cd]pyrene
Concen: 5.66 ug/kg
RT: 29.518 min Scan# 3338
Delta R.T. 0.002 min
Lab File: 16051519.D
Acq: 15 May 2016 10:50 pm

Tgt Ion:276 Resp: 4316

Ion	Ratio	Lower	Upper
276	100		
138	25.5	12.0	52.0

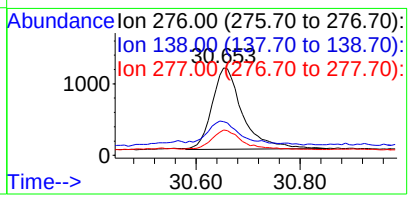




#28
Benzo[g,h,i]perylene
Concen: 6.98 ug/kg
RT: 30.653 min Scan# 3493
Delta R.T. -0.013 min
Lab File: 16051519.D
Acq: 15 May 2016 10:50 pm

Tgt Ion:276 Resp: 4648

Ion	Ratio	Lower	Upper
276	100		
138	28.3	9.3	49.3
277	24.2	4.3	44.3



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051520.D
Acq On : 15 May 2016 11:27 pm
Operator :
Sample : 1605074-21A
Misc : SAMP
ALS Vial : 10 Sample Multiplier: 10

Quant Time: May 16 13:07:15 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.271	136	1594492	4000.00	ug/kg	102
6) Acenaphthene-d10	12.856	164	984983	4000.00	ug/kg	101
11) Phenanthrene-d10	14.981	188	2516266	4000.00	ug/kg	81
16) Chrysene-d12	20.990	240	3012512	4000.00	ug/kg	86
20) Perylene-d12	26.257	264	2613347	4000.00	ug/kg	88

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.760	172	24447	78.01	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.95%#			
17) 4-Terphenyl-d14	17.589	244	53002	76.15	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery = 1.90%#			

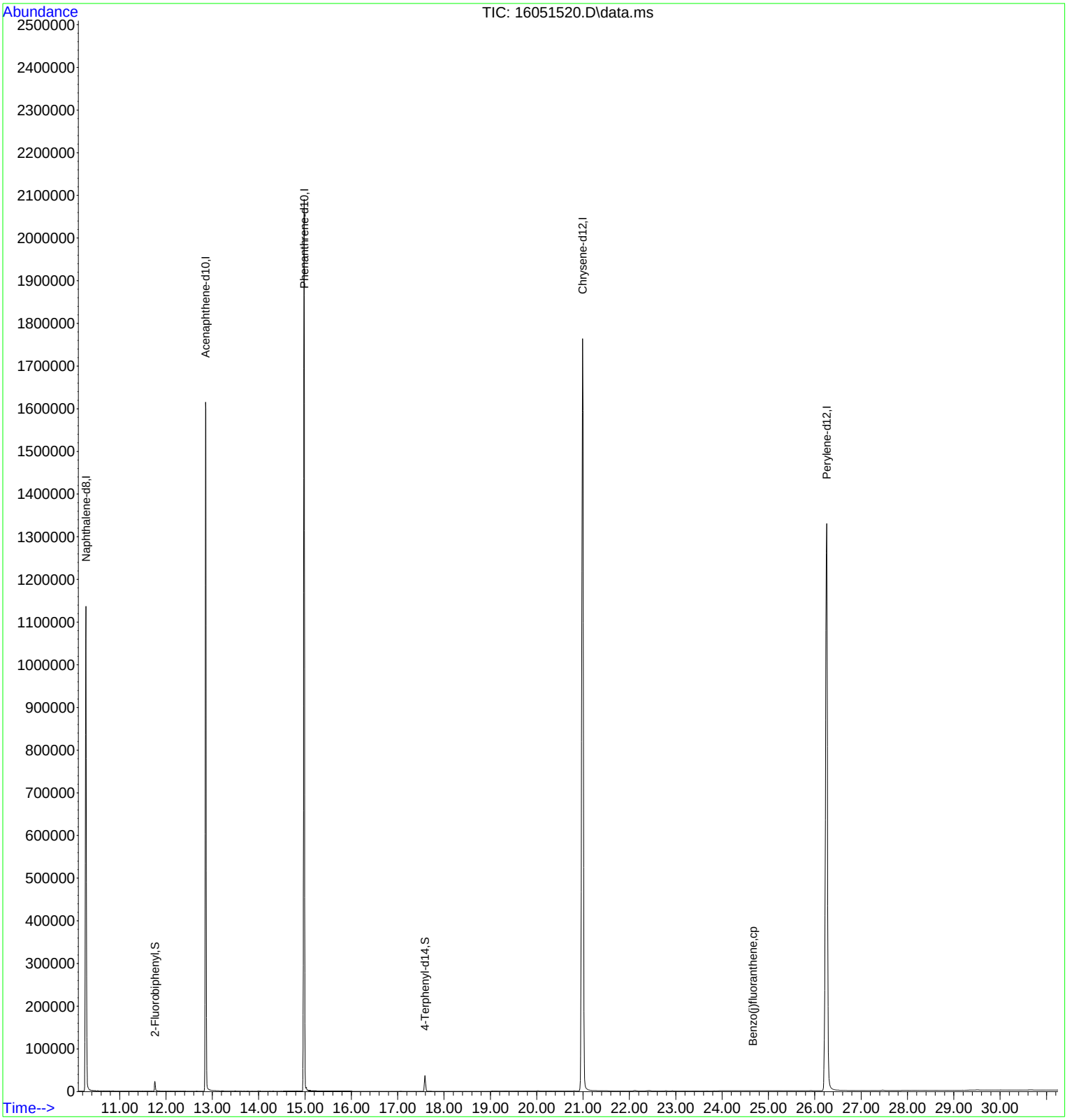
Target Compounds						Qvalue
23) Benzo(j)fluoranthene	24.653	252	204	0.34	ug/kg	86

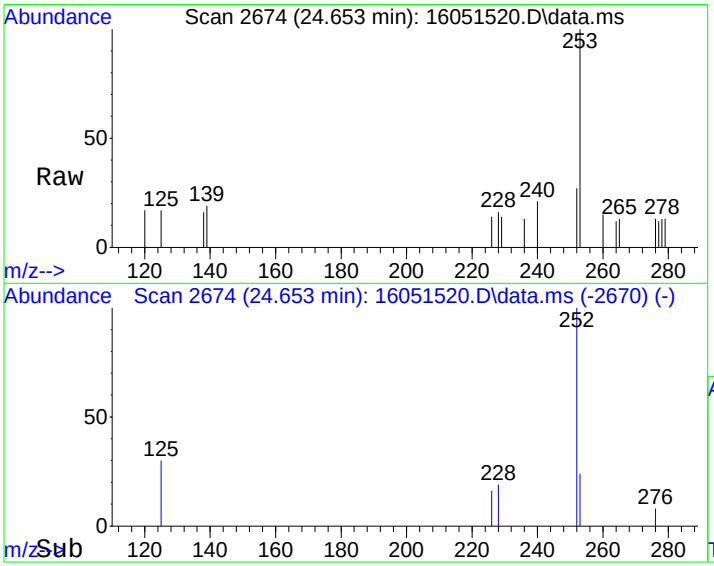
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051520.D
Acq On : 15 May 2016 11:27 pm
Operator :
Sample : 1605074-21A
Misc : SAMP
ALS Vial : 10 Sample Multiplier: 10

Quant Time: May 16 13:07:15 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

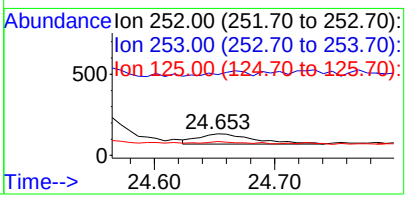




#23
Benzo(j)fluoranthene
Concen: 0.34 ug/kg
RT: 24.653 min Scan# 2674
Delta R.T. -0.007 min
Lab File: 16051520.D
Acq: 15 May 2016 11:27 pm

Tgt Ion:252 Resp: 204

Ion	Ratio	Lower	Upper
252	100		
253	27.0	2.3	42.3
125	10.8	0.0	39.2



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051521.D
Acq On : 16 May 2016 12:04 am
Operator :
Sample : 1605074-22A
Misc : SAMP
ALS Vial : 11 Sample Multiplier: 10

Quant Time: May 16 13:07:19 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.272	136	1592465	4000.00	ug/kg	102
6) Acenaphthene-d10	12.856	164	976603	4000.00	ug/kg	100
11) Phenanthrene-d10	14.981	188	2521514	4000.00	ug/kg	81
16) Chrysene-d12	20.990	240	3002129	4000.00	ug/kg	86
20) Perylene-d12	26.257	264	2635841	4000.00	ug/kg	89

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.761	172	24478	78.21	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.96%#			
17) 4-Terphenyl-d14	17.589	244	52637	75.88	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery = 1.90%#			

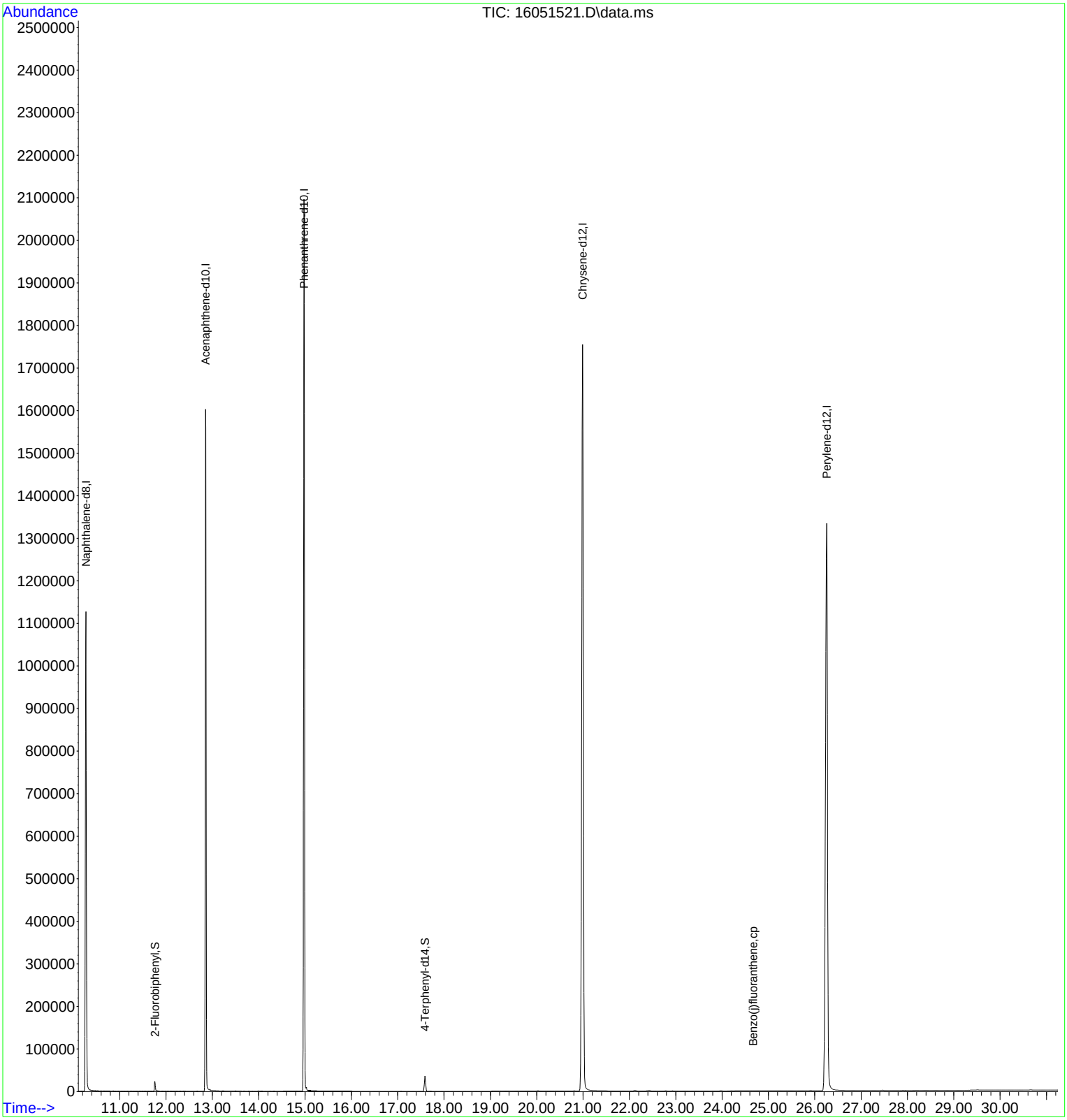
Target Compounds						Qvalue
23) Benzo(j)fluoranthene	24.667	252	164	0.27	ug/kg	86

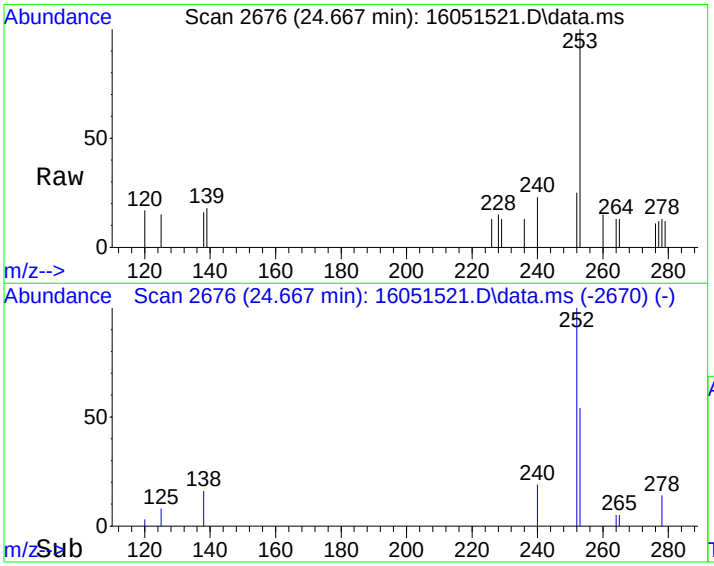
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051521.D
Acq On : 16 May 2016 12:04 am
Operator :
Sample : 1605074-22A
Misc : SAMP
ALS Vial : 11 Sample Multiplier: 10

Quant Time: May 16 13:07:19 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

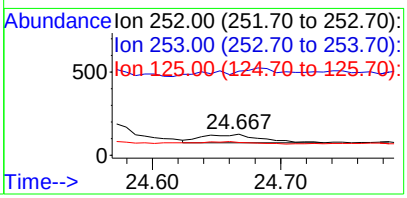




#23
Benzo(j)fluoranthene
Concen: 0.27 ug/kg
RT: 24.667 min Scan# 2676
Delta R.T. 0.008 min
Lab File: 16051521.D
Acq: 16 May 2016 12:04 am

Tgt Ion:252 Resp: 164

Ion	Ratio	Lower	Upper
252	100		
253	33.5	2.3	42.3
125	20.1	0.0	39.2



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051522.D
Acq On : 16 May 2016 12:41 am
Operator :
Sample : 1605074-23A
Misc : SAMP
ALS Vial : 12 Sample Multiplier: 20

Quant Time: May 16 13:07:22 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.272	136	1588142	4000.00	ug/kg	102
6) Acenaphthene-d10	12.857	164	978724	4000.00	ug/kg	100
11) Phenanthrene-d10	14.981	188	2516623	4000.00	ug/kg	81
16) Chrysene-d12	20.991	240	2821289	4000.00	ug/kg	81
20) Perylene-d12	26.258	264	2480644	4000.00	ug/kg	84

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.761	172	12431	39.83	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.00%#		
17) 4-Terphenyl-d14	17.588	244	26036	39.94	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery =	1.00%#		

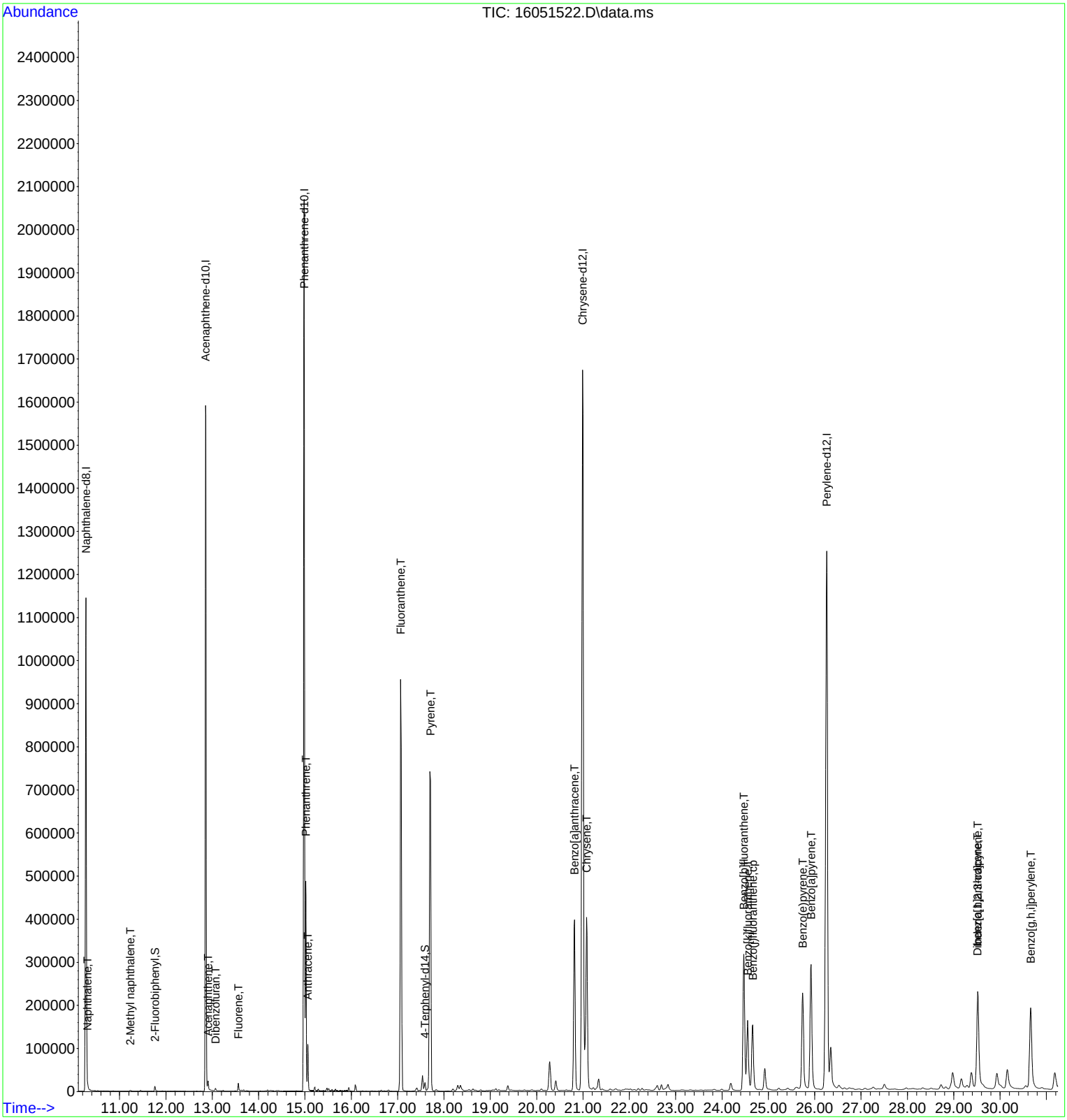
Target Compounds						Qvalue
2) Naphthalene	10.309	128	7942	20.63	ug/kg	99
3) 2-Methyl naphthalene	11.230	142	1669	9.72	ug/kg	98
8) Acenaphthene	12.911	153	9234	31.73	ug/kg	99
9) Dibenzofuran	13.073	168	6092	12.96	ug/kg	97
10) Fluorene	13.564	166	9796	22.16	ug/kg	99
12) Phenanthrene	15.017	178	461859	634.10	ug/kg	98
13) Anthracene	15.061	178	104919	132.95	ug/kg	97
14) Fluoranthene	17.065	202	1178329	1236.17	ug/kg	86
15) Pyrene	17.709	202	1013978	1060.57	ug/kg	90
18) Benzo[a]anthracene	20.815	228	619611	781.27	ug/kg	99
19) Chrysene	21.079	228	686648	945.79	ug/kg	99
21) Benzo[b]fluoranthene	24.471	252	607986	860.61	ug/kg	99
22) Benzo[k]fluoranthene	24.551	252	274308	484.11	ug/kg	96
23) Benzo(j)fluoranthene	24.661	252	271131	473.42	ug/kg	89
24) Benzo(e)pyrene	25.738	252	437811	645.68	ug/kg	96
25) Benzo[a]pyrene	25.921	252	598687	922.05	ug/kg	99
26) Indeno[1,2,3-cd]pyrene	29.525	276	399946	555.99	ug/kg	85
27) Dibenz[a,h]anthracene	29.503	278	90269	153.92	ug/kg	99
28) Benzo[g,h,i]perylene	30.660	276	402075	640.56	ug/kg	97

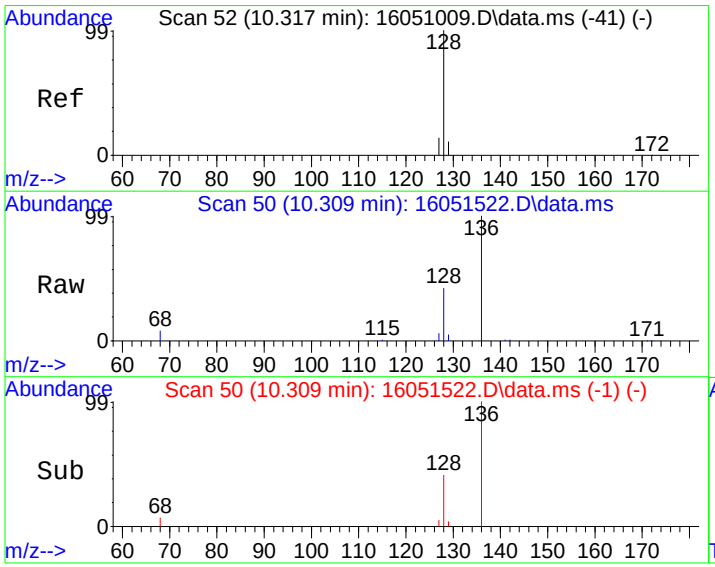
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051522.D
Acq On : 16 May 2016 12:41 am
Operator :
Sample : 1605074-23A
Misc : SAMP
ALS Vial : 12 Sample Multiplier: 20

Quant Time: May 16 13:07:22 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

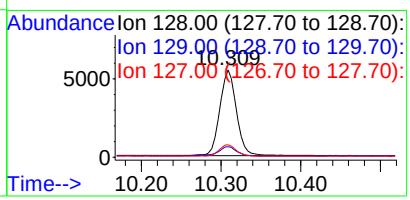


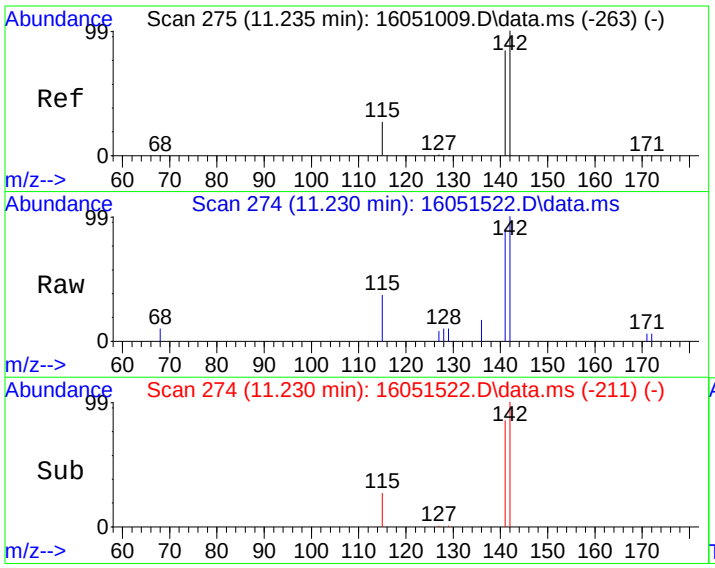


#2
Naphthalene
Concen: 20.63 ug/kg
RT: 10.309 min Scan# 50
Delta R.T. 0.005 min
Lab File: 16051522.D
Acq: 16 May 2016 12:41 am

Tgt Ion:128 Resp: 7942

Ion	Ratio	Lower	Upper
128	100		
129	11.0	0.0	31.3
127	13.2	0.0	33.5

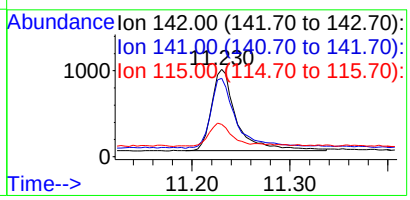


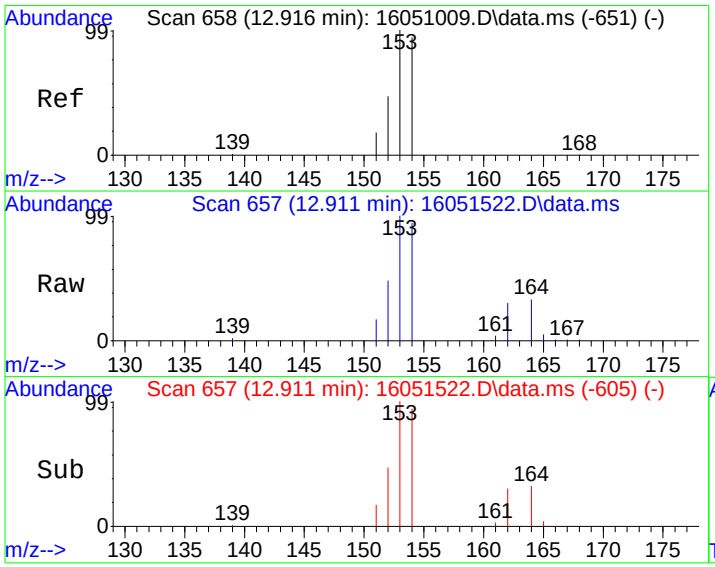


#3
2-Methyl naphthalene
Concen: 9.72 ug/kg
RT: 11.230 min Scan# 274
Delta R.T. 0.009 min
Lab File: 16051522.D
Acq: 16 May 2016 12:41 am

Tgt Ion:142 Resp: 1669

Ion	Ratio	Lower	Upper
142	100		
141	85.9	63.9	103.9
115	26.3	6.7	46.7

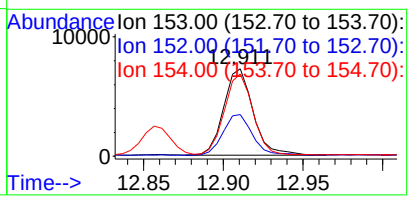


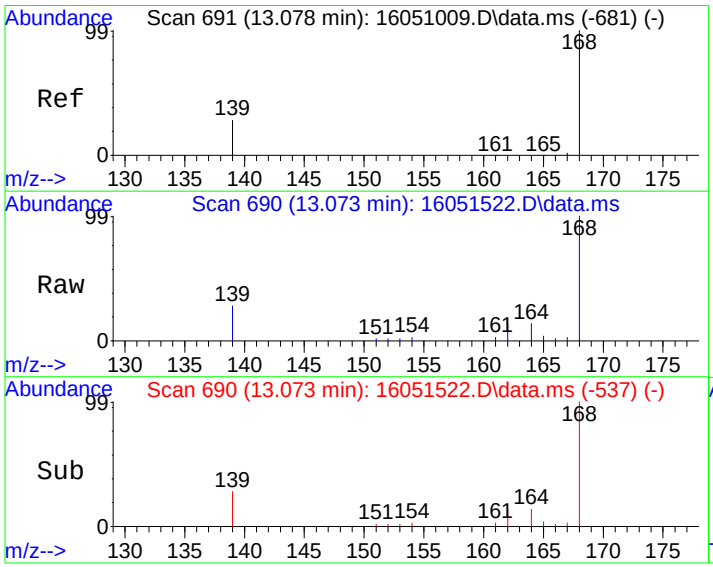


#8
Acenaphthene
Concen: 31.73 ug/kg
RT: 12.911 min Scan# 657
Delta R.T. 0.006 min
Lab File: 16051522.D
Acq: 16 May 2016 12:41 am

Tgt Ion:153 Resp: 9234

Ion	Ratio	Lower	Upper
153	100		
152	47.1	27.2	67.2
154	93.7	74.3	114.3

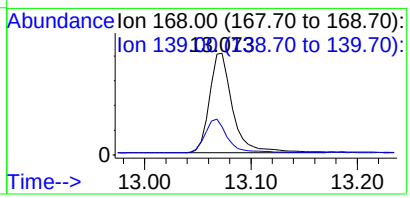


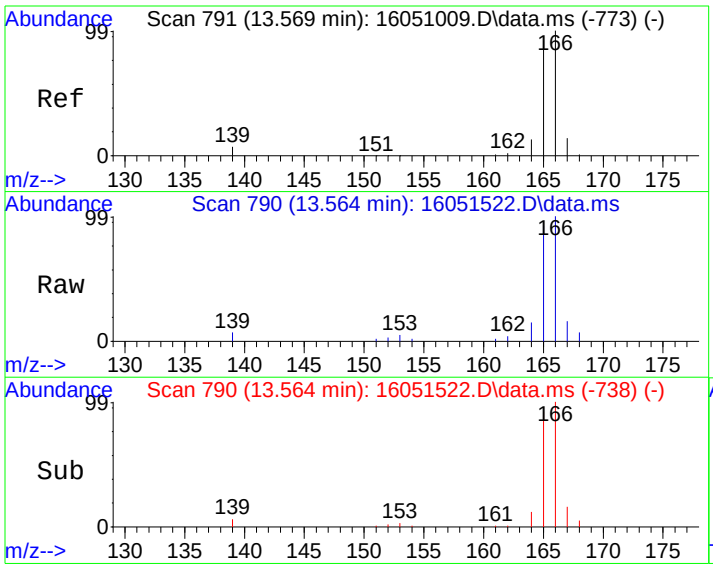


#9
Dibenzofuran
Concen: 12.96 ug/kg
RT: 13.073 min Scan# 690
Delta R.T. 0.011 min
Lab File: 16051522.D
Acq: 16 May 2016 12:41 am

Tgt Ion:168 Resp: 6092

Ion	Ratio	Lower	Upper
168	100		
139	26.1	7.8	47.8

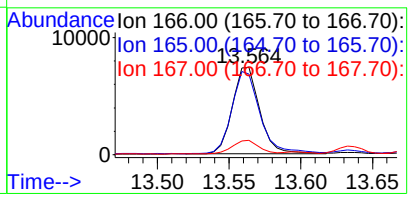


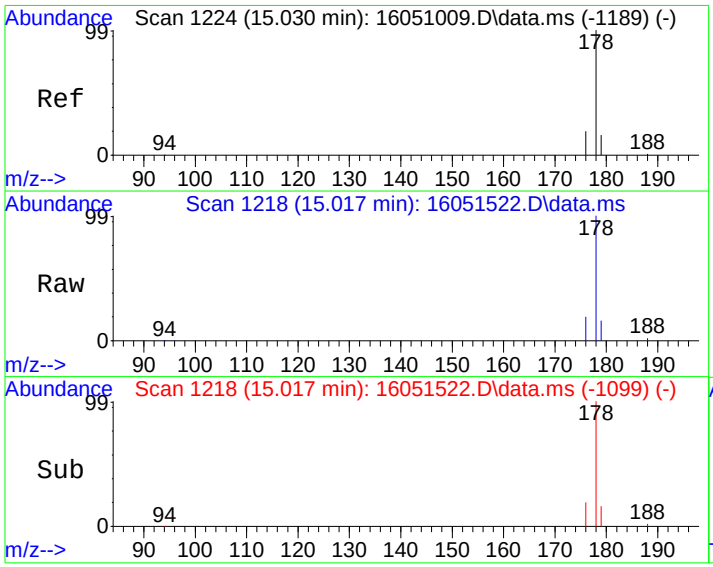


#10
Fluorene
Concen: 22.16 ug/kg
RT: 13.564 min Scan# 790
Delta R.T. 0.006 min
Lab File: 16051522.D
Acq: 16 May 2016 12:41 am

Tgt Ion:166 Resp: 9796

Ion	Ratio	Lower	Upper
166	100		
165	91.9	71.9	111.9
167	15.6	0.0	33.8

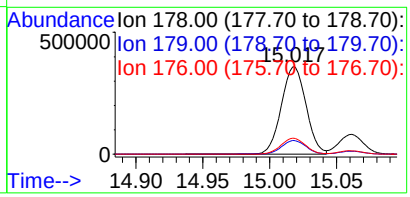


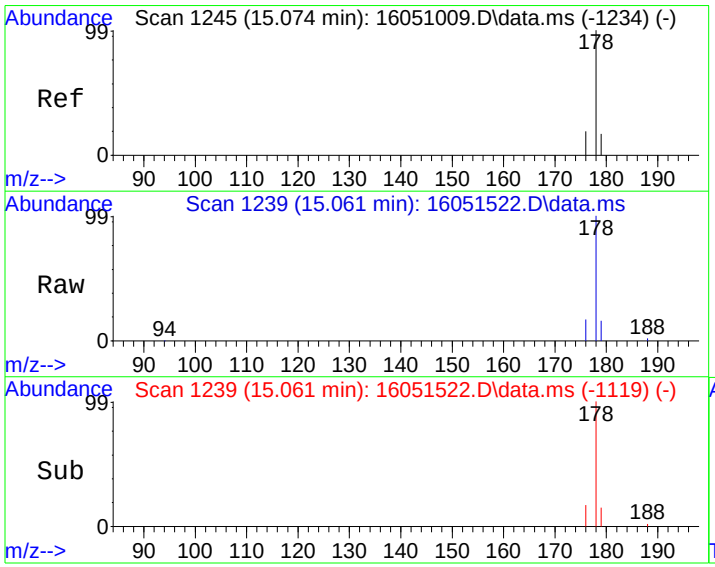


#12
Phenanthrene
Concen: 634.10 ug/kg
RT: 15.017 min Scan# 1218
Delta R.T. 0.001 min
Lab File: 16051522.D
Acq: 16 May 2016 12:41 am

Tgt Ion:178 Resp: 461859

Ion	Ratio	Lower	Upper
178	100		
179	15.7	0.0	36.4
176	18.6	0.0	39.2

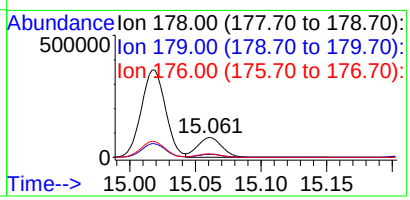


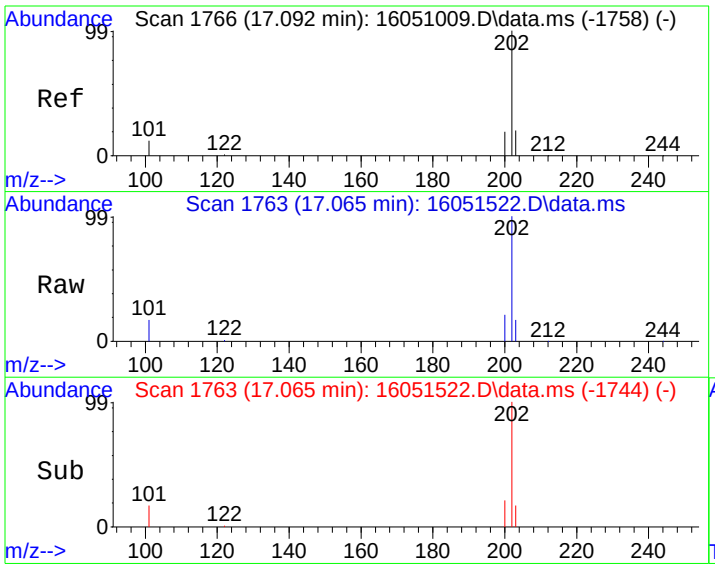


#13
Anthracene
Concen: 132.95 ug/kg
RT: 15.061 min Scan# 1239
Delta R.T. 0.003 min
Lab File: 16051522.D
Acq: 16 May 2016 12:41 am

Tgt Ion:178 Resp: 104919

Ion	Ratio	Lower	Upper
178	100		
179	15.3	0.0	36.5
176	17.4	0.0	38.6

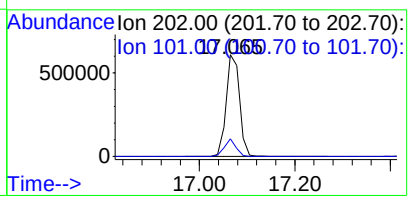


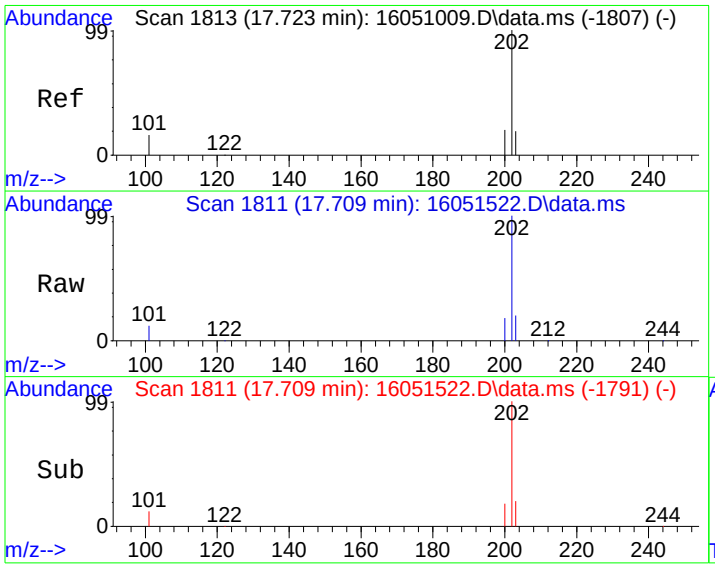


#14
Fluoranthene
Concen: 1236.17 ug/kg
RT: 17.065 min Scan# 1763
Delta R.T. -0.000 min
Lab File: 16051522.D
Acq: 16 May 2016 12:41 am

Tgt Ion:202 Resp: 1178329

Ion	Ratio	Lower	Upper
202	100		
101	17.4	0.0	32.0

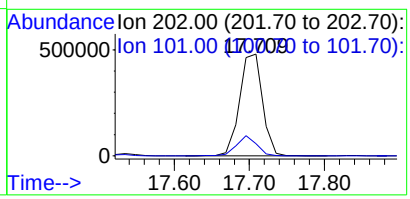


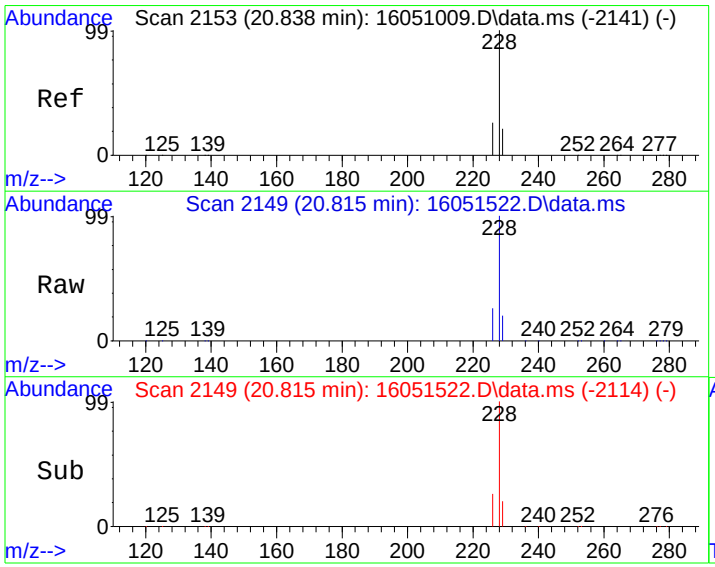


#15
Pyrene
Concen: 1060.57 ug/kg
RT: 17.709 min Scan# 1811
Delta R.T. 0.013 min
Lab File: 16051522.D
Acq: 16 May 2016 12:41 am

Tgt Ion:202 Resp: 1013978

Ion	Ratio	Lower	Upper
202	100		
101	11.8	0.0	35.9

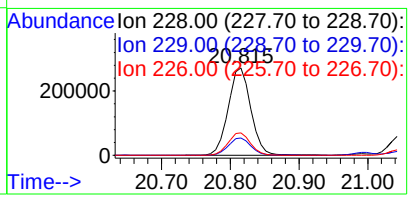


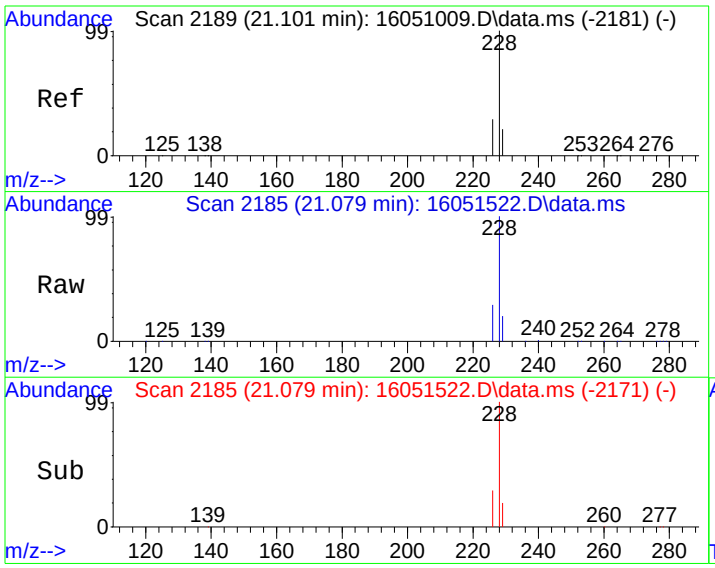


#18
Benzo[a]anthracene
Concen: 781.27 ug/kg
RT: 20.815 min Scan# 2149
Delta R.T. 0.009 min
Lab File: 16051522.D
Acq: 16 May 2016 12:41 am

Tgt Ion:228 Resp: 619611

Ion	Ratio	Lower	Upper
228	100		
229	19.9	0.7	40.7
226	25.6	5.9	45.9

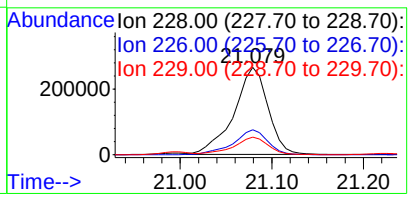


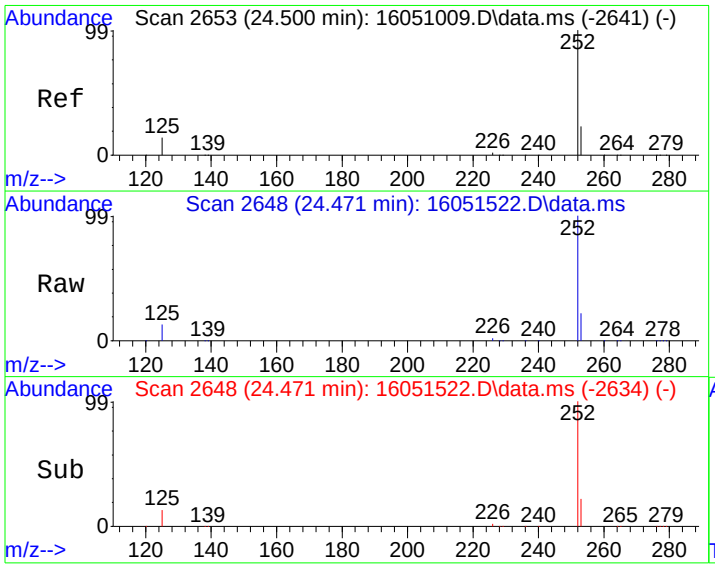


#19
Chrysene
Concen: 945.79 ug/kg
RT: 21.079 min Scan# 2185
Delta R.T. 0.002 min
Lab File: 16051522.D
Acq: 16 May 2016 12:41 am

Tgt Ion:228 Resp: 686648

Ion	Ratio	Lower	Upper
228	100		
226	28.5	8.8	48.8
229	20.2	0.5	40.5

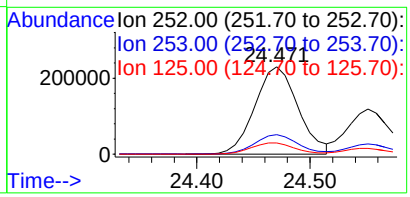


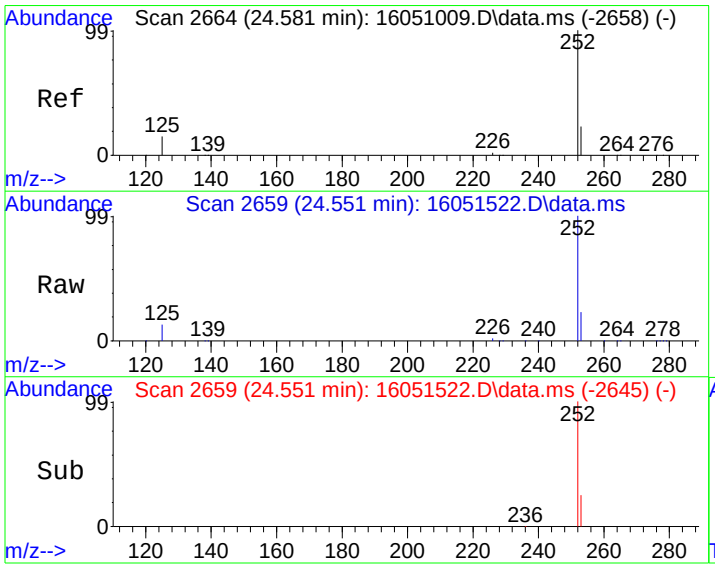


#21
Benzo[b]fluoranthene
Concen: 860.61 ug/kg
RT: 24.471 min Scan# 2648
Delta R.T. 0.002 min
Lab File: 16051522.D
Acq: 16 May 2016 12:41 am

Tgt Ion:252 Resp: 607986

Ion	Ratio	Lower	Upper
252	100		
253	22.2	2.6	42.6
125	12.9	0.0	33.8

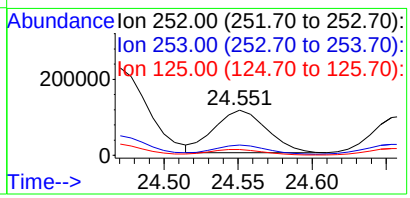


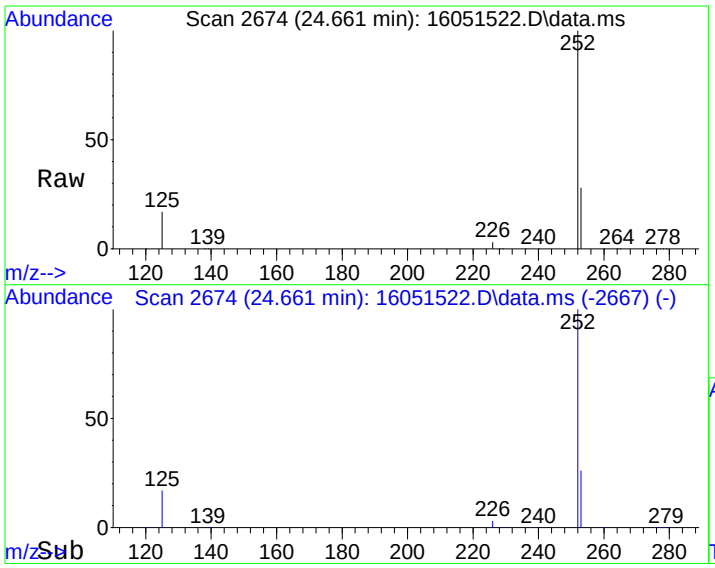


#22
Benzo[k]fluoranthene
Concen: 484.11 ug/kg
RT: 24.551 min Scan# 2659
Delta R.T. 0.002 min
Lab File: 16051522.D
Acq: 16 May 2016 12:41 am

Tgt Ion:252 Resp: 274308

Ion	Ratio	Lower	Upper
252	100		
253	21.0	2.8	42.8
125	12.7	0.0	34.7

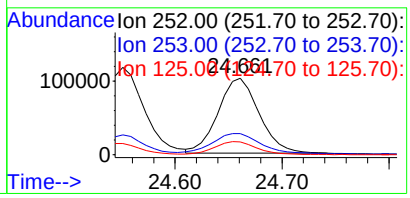


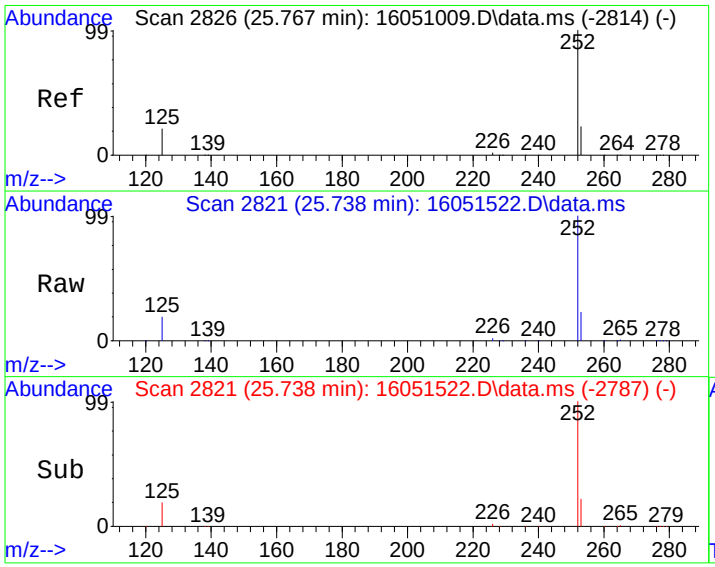


#23
Benzo(j)fluoranthene
Concen: 473.42 ug/kg
RT: 24.661 min Scan# 2674
Delta R.T. 0.002 min
Lab File: 16051522.D
Acq: 16 May 2016 12:41 am

Tgt Ion:252 Resp: 271131

Ion	Ratio	Lower	Upper
252	100		
253	31.0	2.3	42.3
125	17.5	0.0	39.2

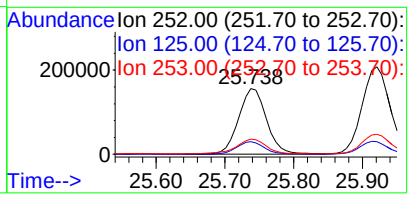


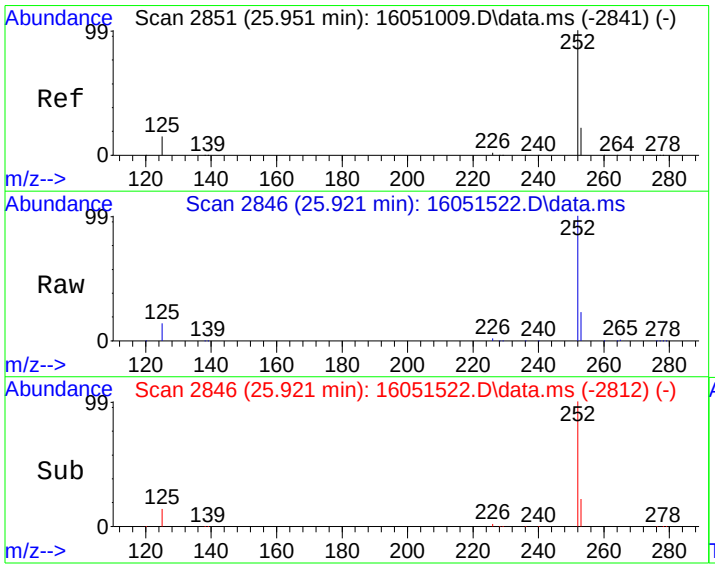


#24
Benzo(e)pyrene
Concen: 645.68 ug/kg
RT: 25.738 min Scan# 2821
Delta R.T. 0.002 min
Lab File: 16051522.D
Acq: 16 May 2016 12:41 am

Tgt Ion:252 Resp: 437811

Ion	Ratio	Lower	Upper
252	100		
125	18.8	0.8	40.8
253	24.0	2.4	42.4

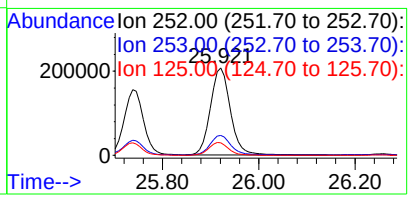


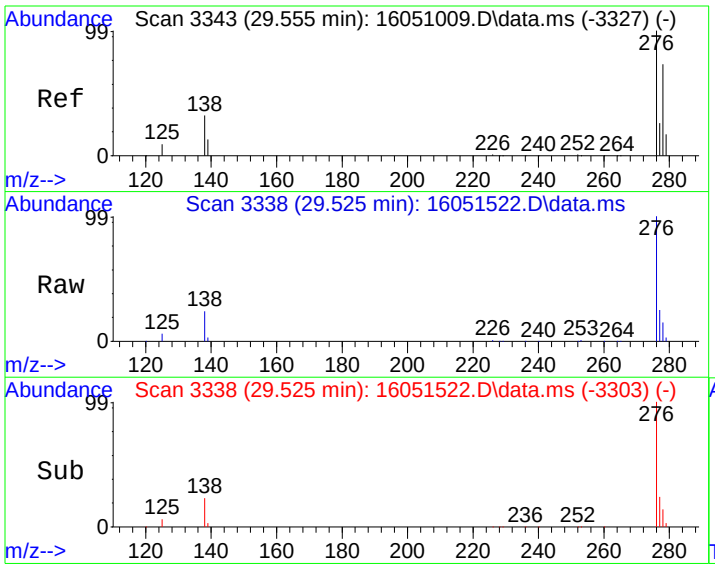


#25
Benzo[a]pyrene
Concen: 922.05 ug/kg
RT: 25.921 min Scan# 2846
Delta R.T. 0.002 min
Lab File: 16051522.D
Acq: 16 May 2016 12:41 am

Tgt Ion:252 Resp: 598687

Ion	Ratio	Lower	Upper
252	100		
253	22.5	2.5	42.5
125	14.4	0.0	35.5

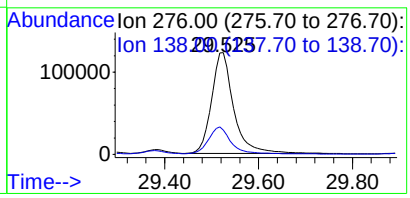


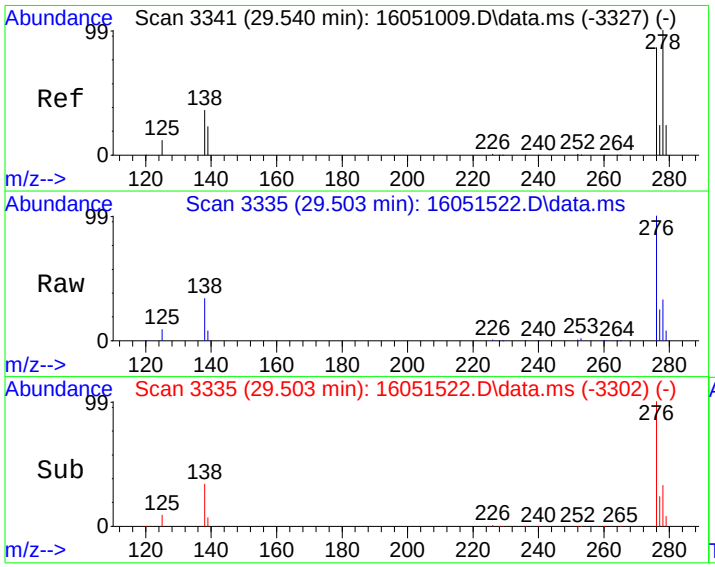


#26
Indeno[1,2,3-cd]pyrene
Concen: 555.99 ug/kg
RT: 29.525 min Scan# 3338
Delta R.T. 0.009 min
Lab File: 16051522.D
Acq: 16 May 2016 12:41 am

Tgt Ion:276 Resp: 399946

Ion	Ratio	Lower	Upper
276	100		
138	23.7	12.0	52.0

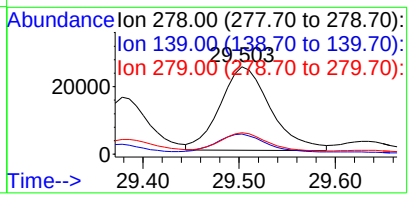


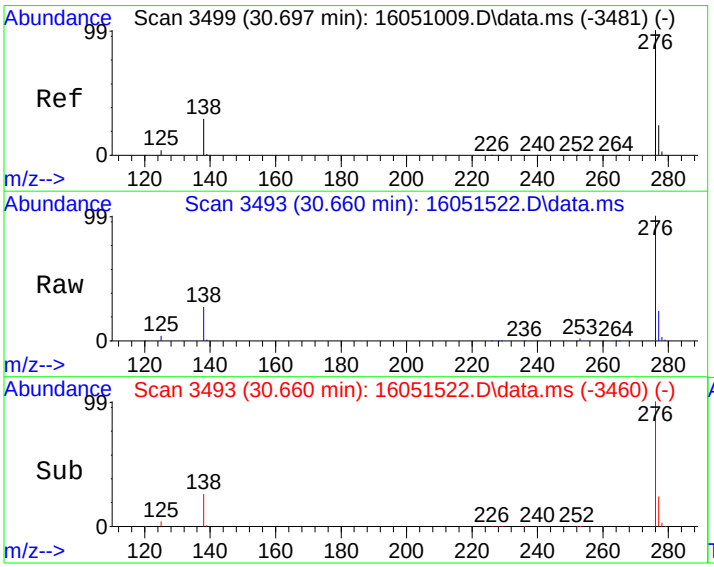


#27
Dibenz[a,h]anthracene
Concen: 153.92 ug/kg
RT: 29.503 min Scan# 3335
Delta R.T. -0.006 min
Lab File: 16051522.D
Acq: 16 May 2016 12:41 am

Tgt Ion:278 Resp: 90269

Ion	Ratio	Lower	Upper
278	100		
139	22.7	2.9	42.9
279	23.4	4.4	44.4

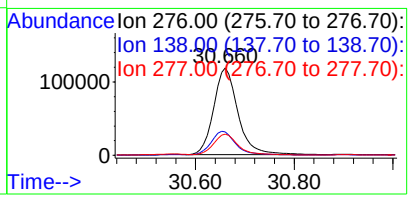




#28
Benzo[g,h,i]perylene
Concen: 640.56 ug/kg
RT: 30.660 min Scan# 3493
Delta R.T. -0.006 min
Lab File: 16051522.D
Acq: 16 May 2016 12:41 am

Tgt Ion:276 Resp: 402075

Ion	Ratio	Lower	Upper
276	100		
138	26.4	9.3	49.3
277	24.0	4.3	44.3



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051523.D
Acq On : 16 May 2016 1:18 am
Operator :
Sample : 1605074-24A
Misc : SAMP
ALS Vial : 13 Sample Multiplier: 10

Quant Time: May 16 13:07:31 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.272	136	1565431	4000.00	ug/kg	100
6) Acenaphthene-d10	12.862	164	995660	4000.00	ug/kg	102
11) Phenanthrene-d10	14.981	188	2544555	4000.00	ug/kg	82
16) Chrysene-d12	20.998	240	2883599	4000.00	ug/kg	82
20) Perylene-d12	26.258	264	2546636	4000.00	ug/kg	86

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.761	172	23545	76.53	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.91%#		
17) 4-Terphenyl-d14	17.589	244	52160	78.29	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery =	1.96%#		

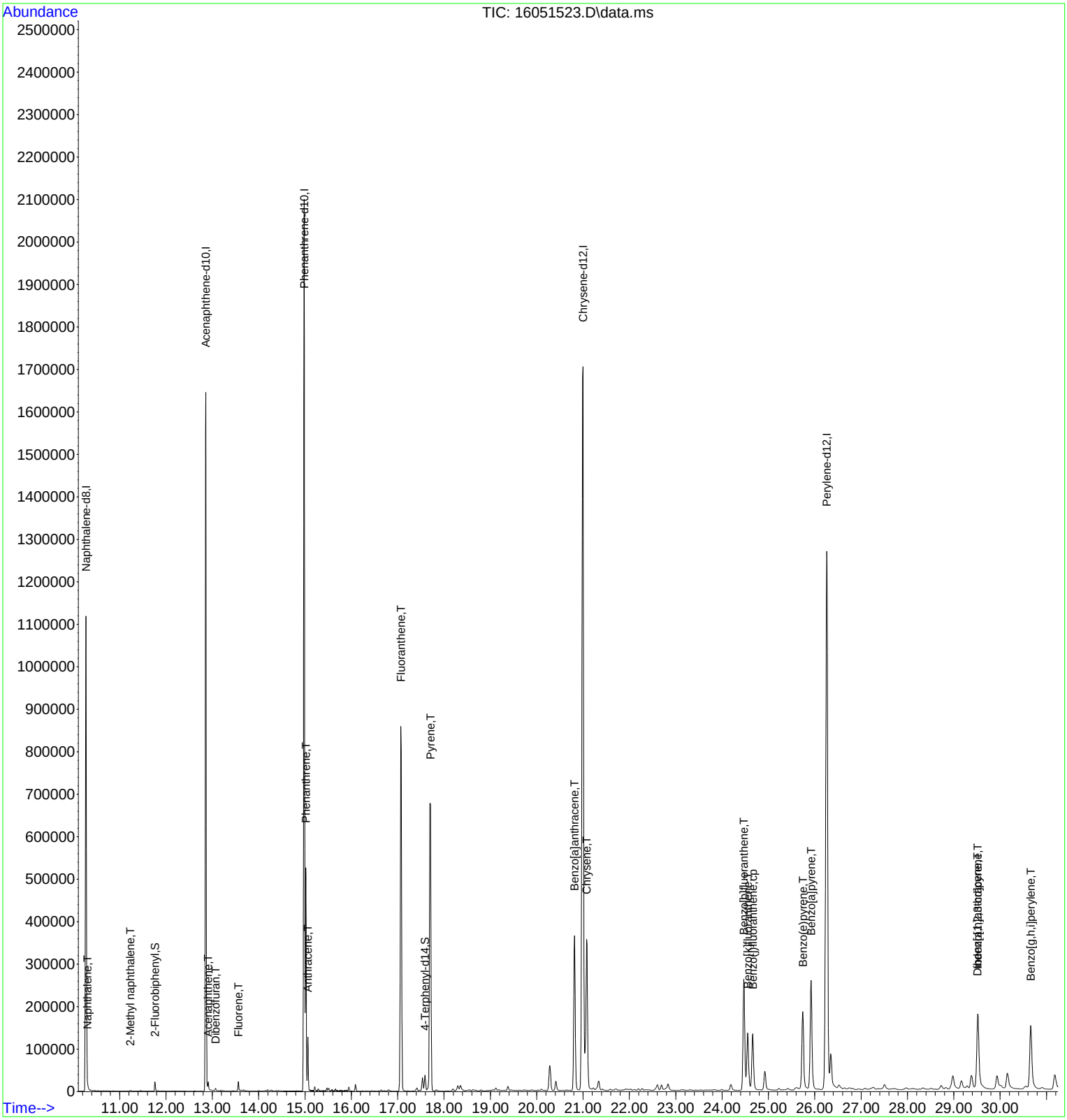
Target Compounds						Qvalue
2) Naphthalene	10.309	128	6066	15.99	ug/kg	99
3) 2-Methyl naphthalene	11.230	142	1439	8.93	ug/kg	97
8) Acenaphthene	12.911	153	8263	27.91	ug/kg	100
9) Dibenzofuran	13.073	168	6059	12.67	ug/kg	97
10) Fluorene	13.564	166	12289	27.33	ug/kg	99
12) Phenanthrene	15.019	178	494693	671.72	ug/kg	98
13) Anthracene	15.061	178	123806	155.17	ug/kg	97
14) Fluoranthene	17.065	202	1117427	1159.41	ug/kg	85
15) Pyrene	17.709	202	929335	961.36	ug/kg	91
18) Benzo[a]anthracene	20.815	228	566644	699.05	ug/kg	99
19) Chrysene	21.079	228	605476	815.96	ug/kg	99
21) Benzo[b]fluoranthene	24.470	252	500665	690.33	ug/kg	99
22) Benzo[k]fluoranthene	24.551	252	235310	404.52	ug/kg	96
23) Benzo(j)fluoranthene	24.661	252	228981	389.46	ug/kg	88
24) Benzo(e)pyrene	25.745	252	356286	511.83	ug/kg	96
25) Benzo[a]pyrene	25.921	252	507062	760.70	ug/kg	99
26) Indeno[1,2,3-cd]pyrene	29.525	276	321360	435.16	ug/kg	86
27) Dibenz[a,h]anthracene	29.503	278	67334	111.84	ug/kg	99
28) Benzo[g,h,i]perylene	30.660	276	322472	500.43	ug/kg	98

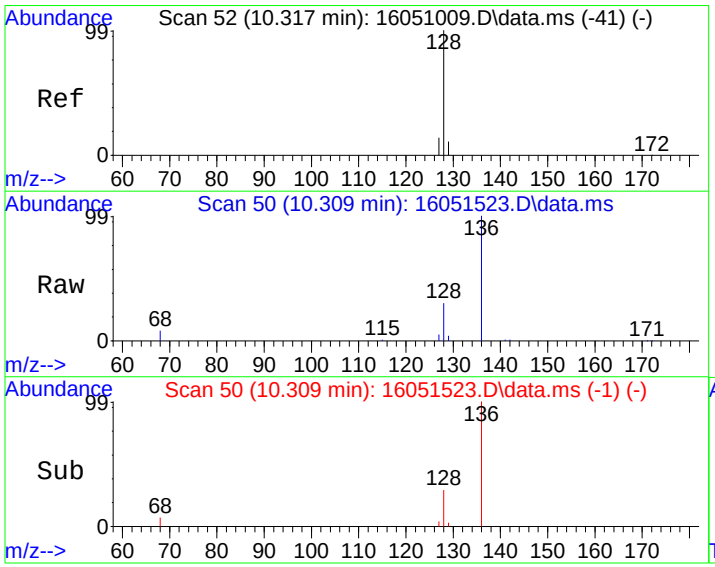
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051523.D
Acq On : 16 May 2016 1:18 am
Operator :
Sample : 1605074-24A
Misc : SAMP
ALS Vial : 13 Sample Multiplier: 10

Quant Time: May 16 13:07:31 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

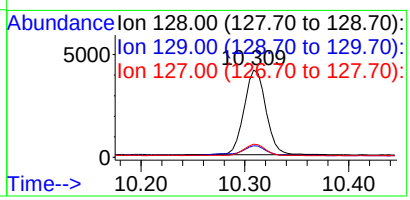


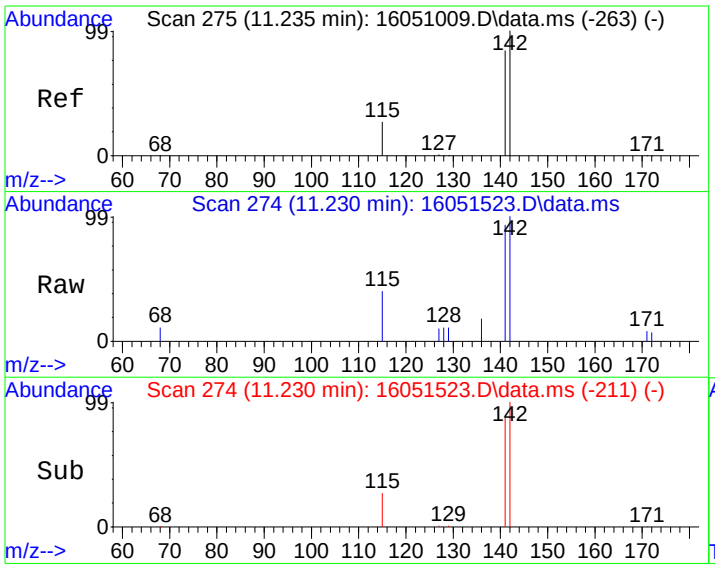


#2
Naphthalene
Concen: 15.99 ug/kg
RT: 10.309 min Scan# 50
Delta R.T. 0.005 min
Lab File: 16051523.D
Acq: 16 May 2016 1:18 am

Tgt Ion:128 Resp: 6066

Ion	Ratio	Lower	Upper
128	100		
129	11.5	0.0	31.3
127	13.3	0.0	33.5

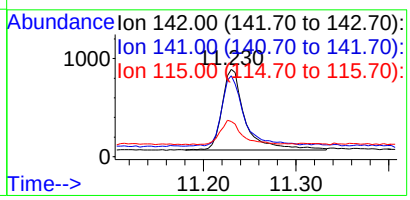


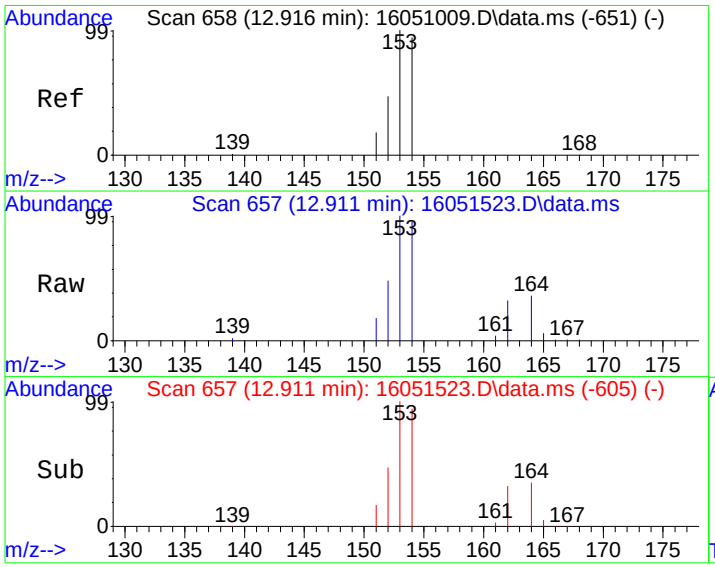


#3
2-Methyl naphthalene
Concen: 8.93 ug/kg
RT: 11.230 min Scan# 274
Delta R.T. 0.009 min
Lab File: 16051523.D
Acq: 16 May 2016 1:18 am

Tgt Ion:142 Resp: 1439

Ion	Ratio	Lower	Upper
142	100		
141	87.1	63.9	103.9
115	28.0	6.7	46.7

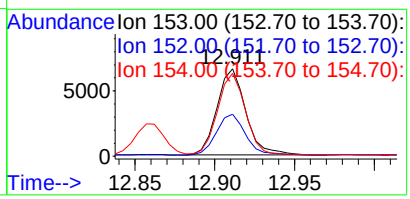


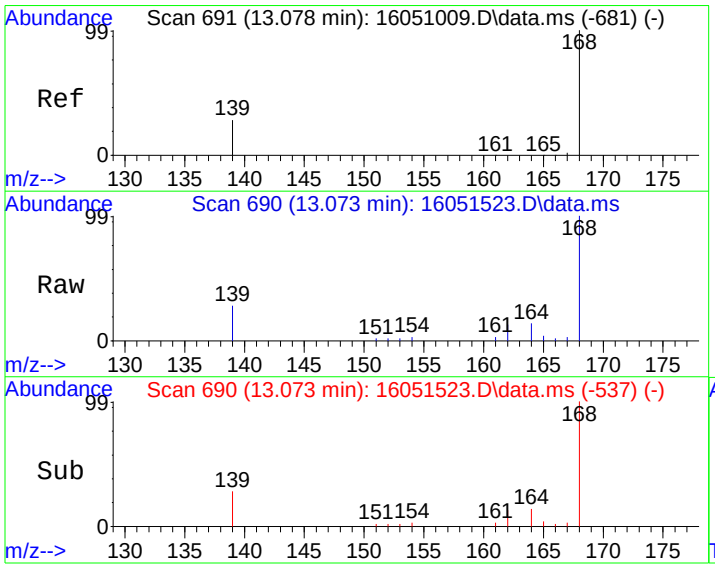


#8
Acenaphthene
Concen: 27.91 ug/kg
RT: 12.911 min Scan# 657
Delta R.T. 0.006 min
Lab File: 16051523.D
Acq: 16 May 2016 1:18 am

Tgt Ion:153 Resp: 8263

Ion	Ratio	Lower	Upper
153	100		
152	47.4	27.2	67.2
154	94.3	74.3	114.3

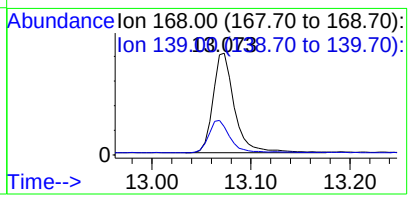


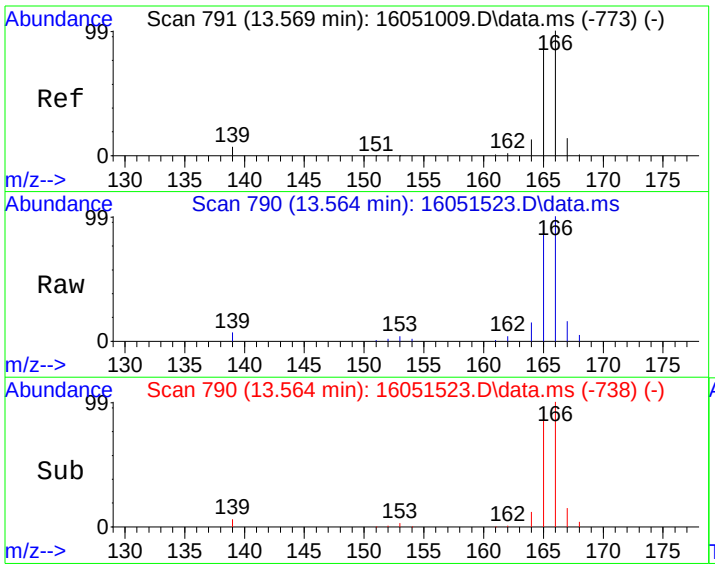


#9
Dibenzofuran
Concen: 12.67 ug/kg
RT: 13.073 min Scan# 690
Delta R.T. 0.011 min
Lab File: 16051523.D
Acq: 16 May 2016 1:18 am

Tgt Ion:168 Resp: 6059

Ion	Ratio	Lower	Upper
168	100		
139	26.1	7.8	47.8

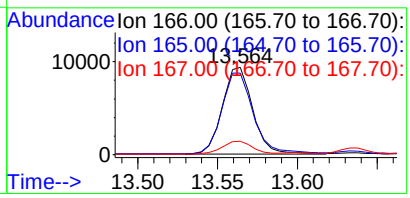


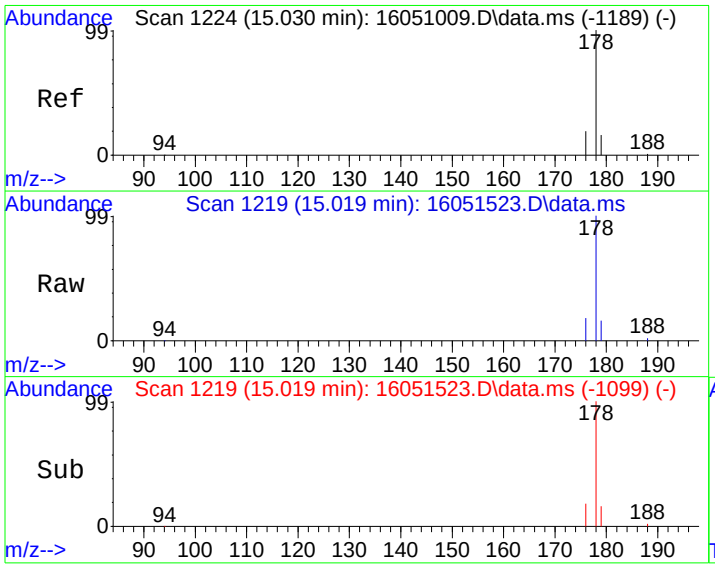


#10
Fluorene
Concen: 27.33 ug/kg
RT: 13.564 min Scan# 790
Delta R.T. 0.006 min
Lab File: 16051523.D
Acq: 16 May 2016 1:18 am

Tgt Ion:166 Resp: 12289

Ion	Ratio	Lower	Upper
166	100		
165	92.7	71.9	111.9
167	14.8	0.0	33.8

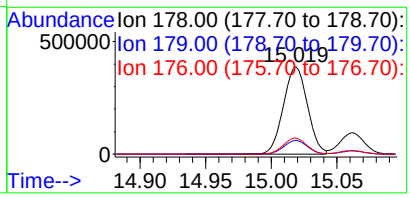


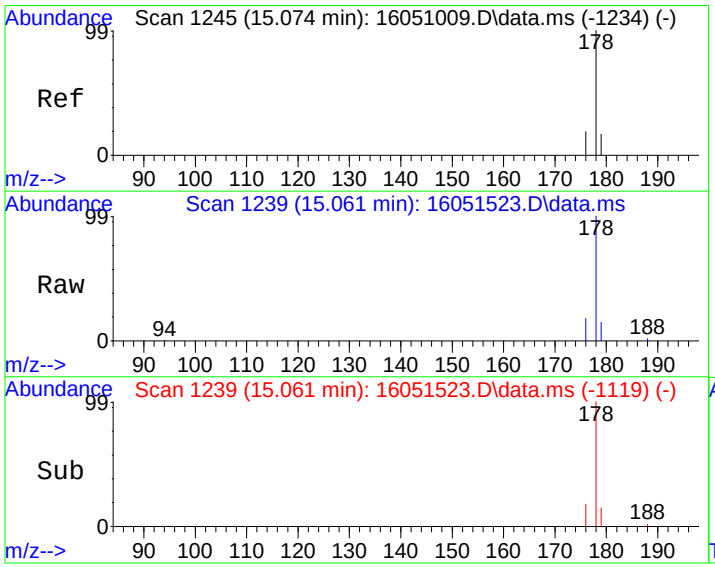


#12
Phenanthrene
Concen: 671.72 ug/kg
RT: 15.019 min Scan# 1219
Delta R.T. 0.003 min
Lab File: 16051523.D
Acq: 16 May 2016 1:18 am

Tgt Ion:178 Resp: 494693

Ion	Ratio	Lower	Upper
178	100		
179	15.6	0.0	36.4
176	18.4	0.0	39.2

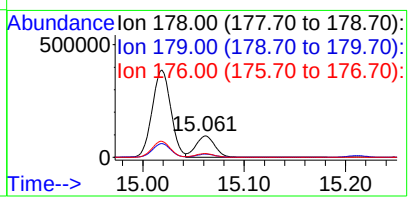


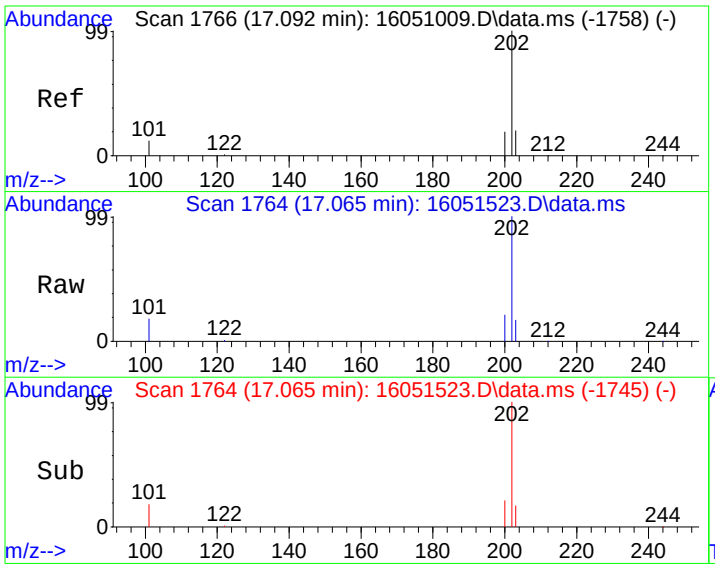


#13
Anthracene
Concen: 155.17 ug/kg
RT: 15.061 min Scan# 1239
Delta R.T. 0.003 min
Lab File: 16051523.D
Acq: 16 May 2016 1:18 am

Tgt Ion:178 Resp: 123806

Ion	Ratio	Lower	Upper
178	100		
179	15.2	0.0	36.5
176	17.7	0.0	38.6

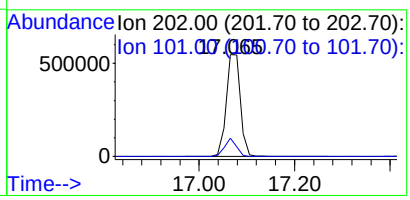


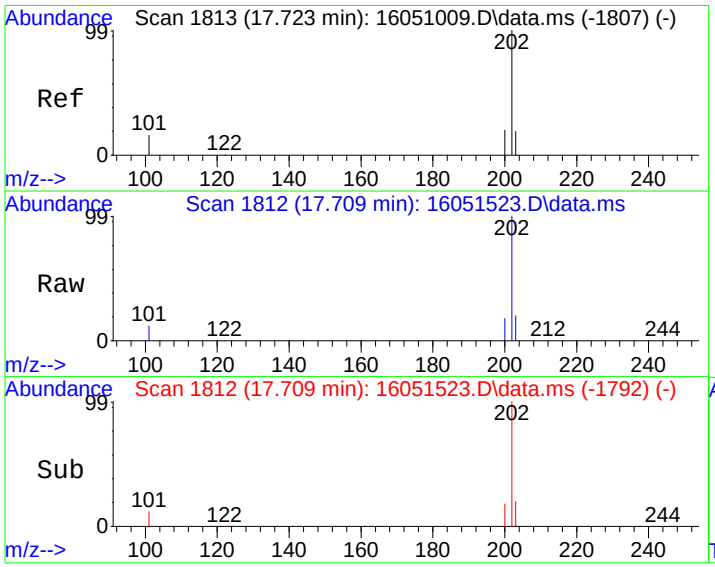


#14
Fluoranthene
Concen: 1159.41 ug/kg
RT: 17.065 min Scan# 1764
Delta R.T. 0.000 min
Lab File: 16051523.D
Acq: 16 May 2016 1:18 am

Tgt Ion:202 Resp: 1117427

Ion	Ratio	Lower	Upper
202	100		
101	18.0	0.0	32.0

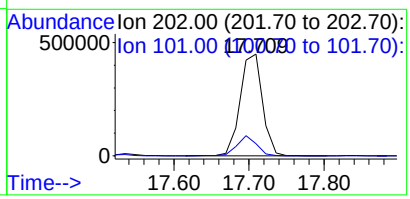


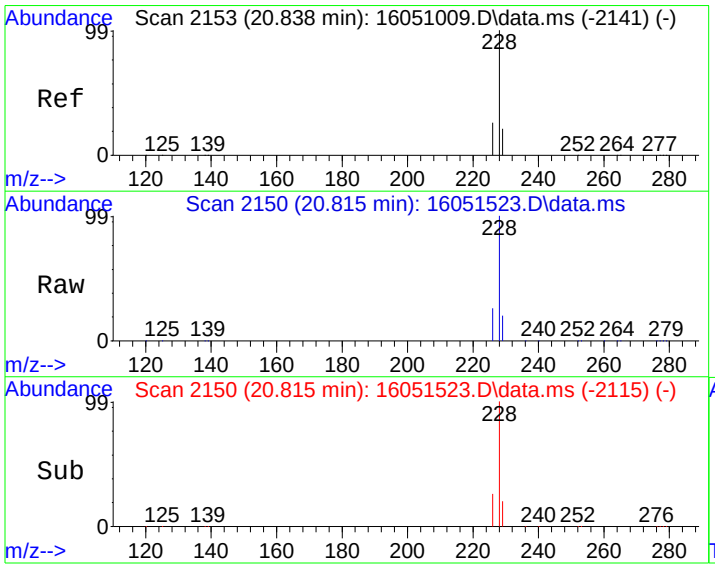


#15
Pyrene
Concen: 961.36 ug/kg
RT: 17.709 min Scan# 1812
Delta R.T. 0.014 min
Lab File: 16051523.D
Acq: 16 May 2016 1:18 am

Tgt Ion:202 Resp: 929335

Ion	Ratio	Lower	Upper
202	100		
101	12.0	0.0	35.9

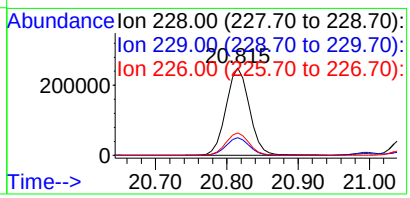


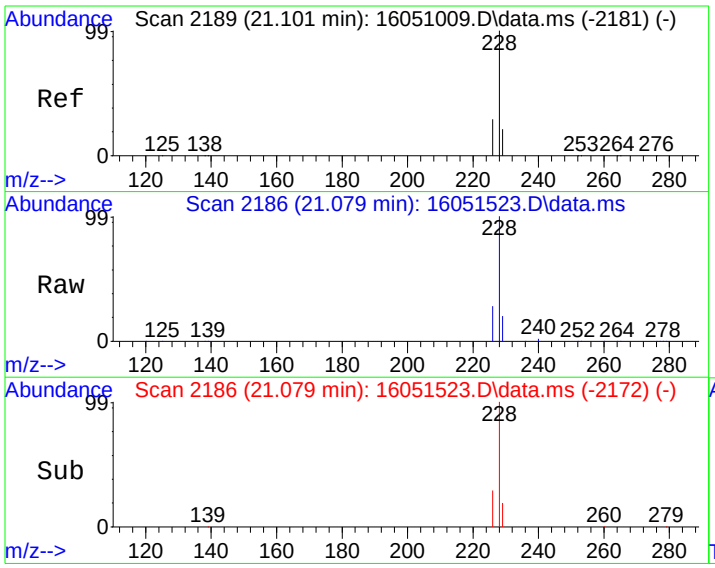


#18
Benzo[a]anthracene
Concen: 699.05 ug/kg
RT: 20.815 min Scan# 2150
Delta R.T. 0.009 min
Lab File: 16051523.D
Acq: 16 May 2016 1:18 am

Tgt Ion:228 Resp: 566644

Ion	Ratio	Lower	Upper
228	100		
229	20.1	0.7	40.7
226	25.8	5.9	45.9

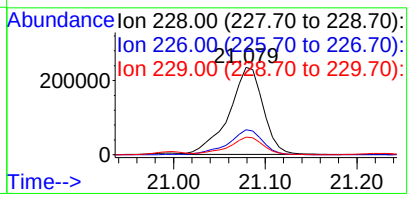


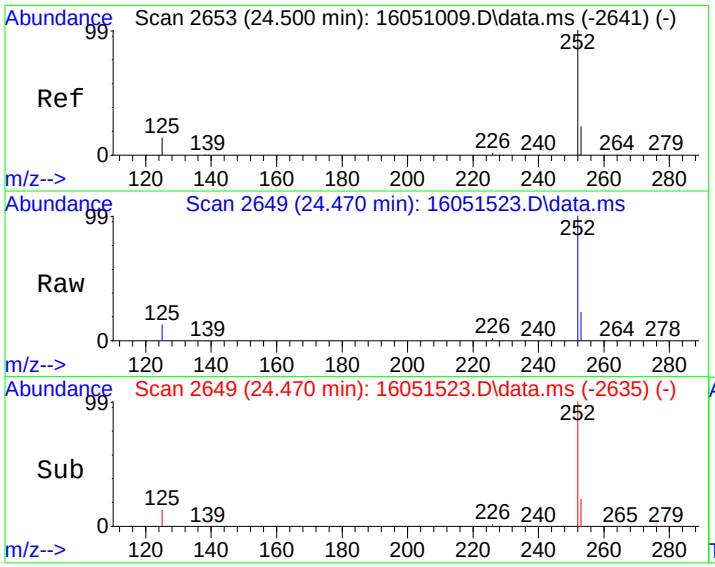


#19
Chrysene
Concen: 815.96 ug/kg
RT: 21.079 min Scan# 2186
Delta R.T. 0.002 min
Lab File: 16051523.D
Acq: 16 May 2016 1:18 am

Tgt Ion:228 Resp: 605476

Ion	Ratio	Lower	Upper
228	100		
226	28.4	8.8	48.8
229	20.2	0.5	40.5

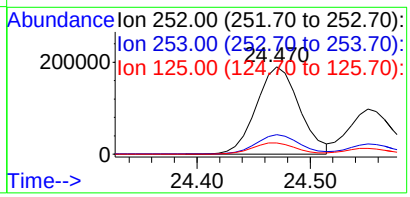


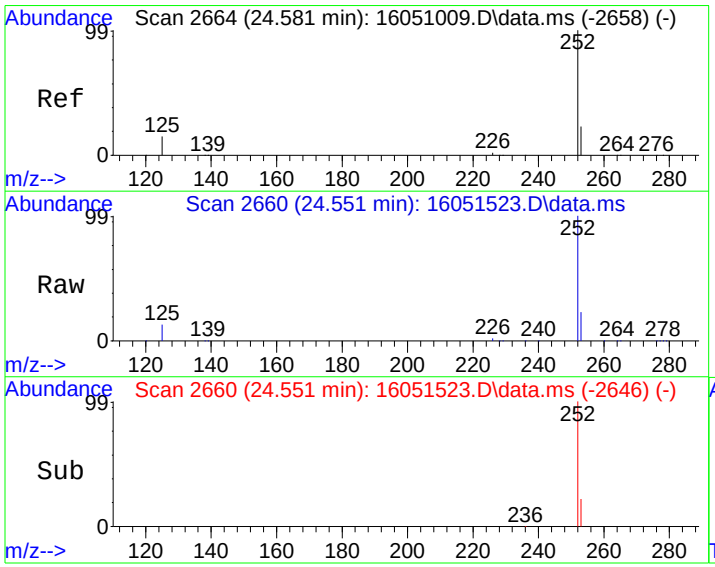


#21
Benzo[b]fluoranthene
Concen: 690.33 ug/kg
RT: 24.470 min Scan# 2649
Delta R.T. 0.002 min
Lab File: 16051523.D
Acq: 16 May 2016 1:18 am

Tgt Ion:252 Resp: 500665

Ion	Ratio	Lower	Upper
252	100		
253	22.2	2.6	42.6
125	12.9	0.0	33.8

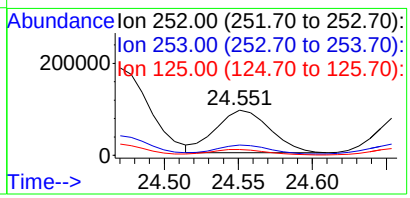


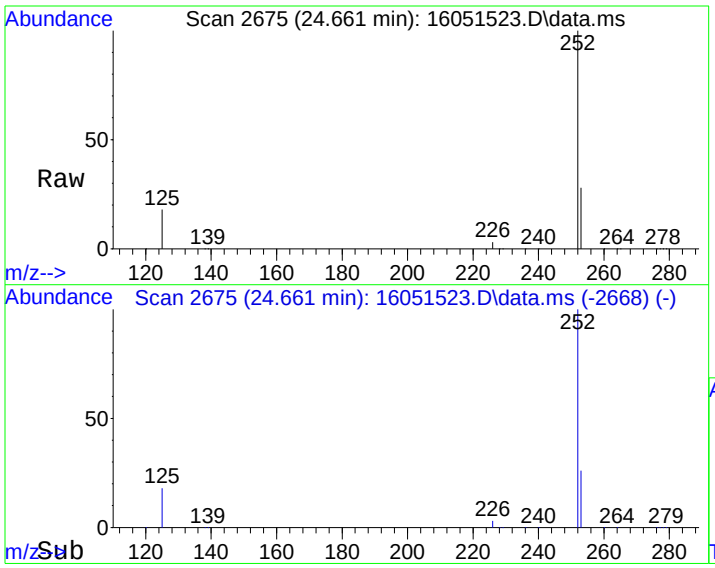


#22
Benzo[k]fluoranthene
Concen: 404.52 ug/kg
RT: 24.551 min Scan# 2660
Delta R.T. 0.002 min
Lab File: 16051523.D
Acq: 16 May 2016 1:18 am

Tgt Ion:252 Resp: 235310

Ion	Ratio	Lower	Upper
252	100		
253	21.1	2.8	42.8
125	13.0	0.0	34.7

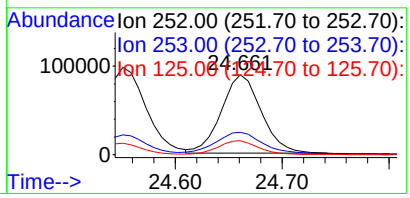


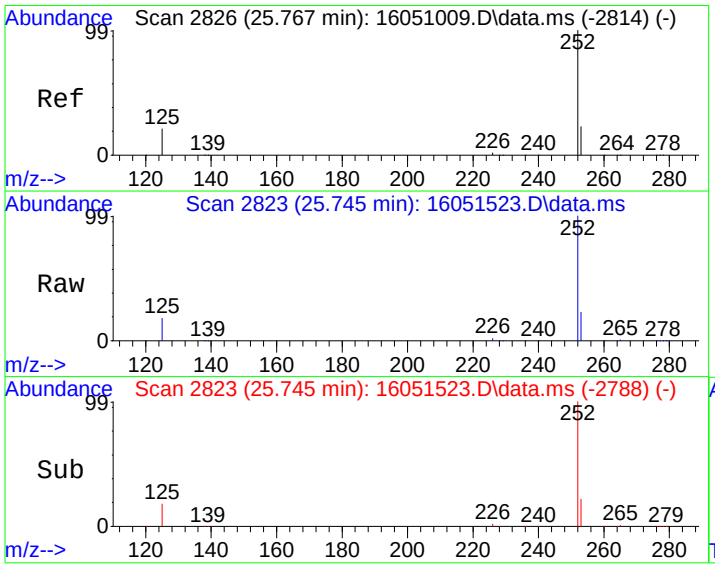


#23
Benzo(j)fluoranthene
Concen: 389.46 ug/kg
RT: 24.661 min Scan# 2675
Delta R.T. 0.002 min
Lab File: 16051523.D
Acq: 16 May 2016 1:18 am

Tgt Ion:252 Resp: 228981

Ion	Ratio	Lower	Upper
252	100		
253	31.1	2.3	42.3
125	17.5	0.0	39.2

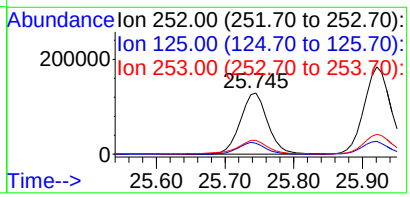


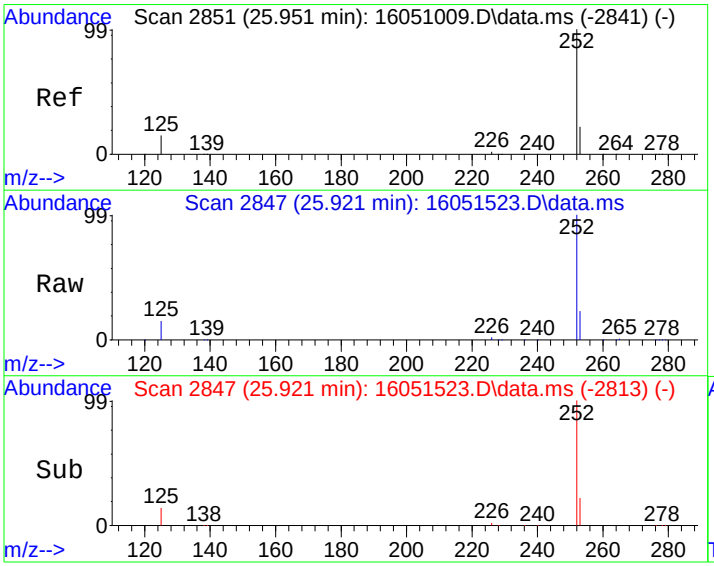


#24
Benzo(e)pyrene
Concen: 511.83 ug/kg
RT: 25.745 min Scan# 2823
Delta R.T. 0.009 min
Lab File: 16051523.D
Acq: 16 May 2016 1:18 am

Tgt Ion:252 Resp: 356286

Ion	Ratio	Lower	Upper
252	100		
125	18.9	0.8	40.8
253	24.1	2.4	42.4

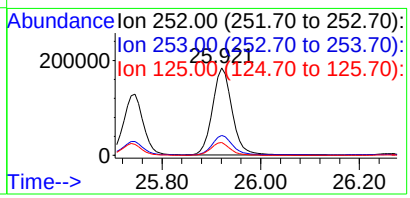


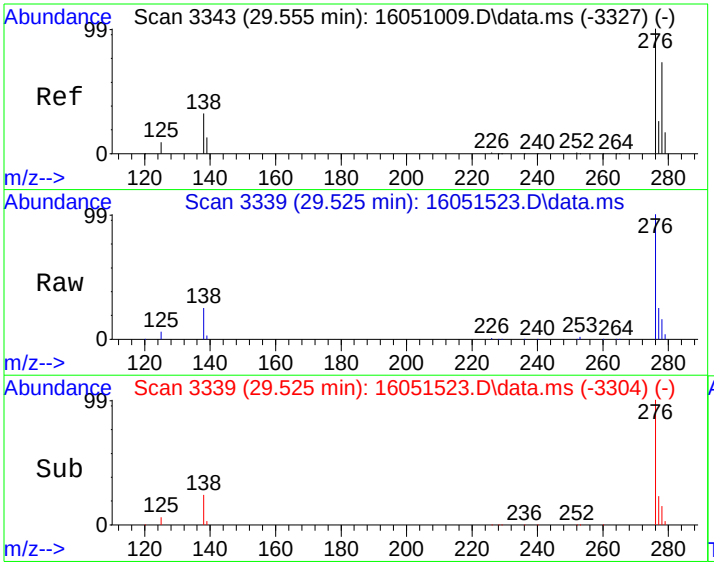


#25
Benzo[a]pyrene
Concen: 760.70 ug/kg
RT: 25.921 min Scan# 2847
Delta R.T. 0.002 min
Lab File: 16051523.D
Acq: 16 May 2016 1:18 am

Tgt Ion:252 Resp: 507062

Ion	Ratio	Lower	Upper
252	100		
253	22.4	2.5	42.5
125	14.5	0.0	35.5

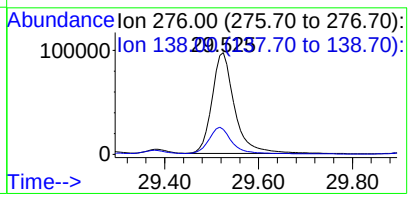


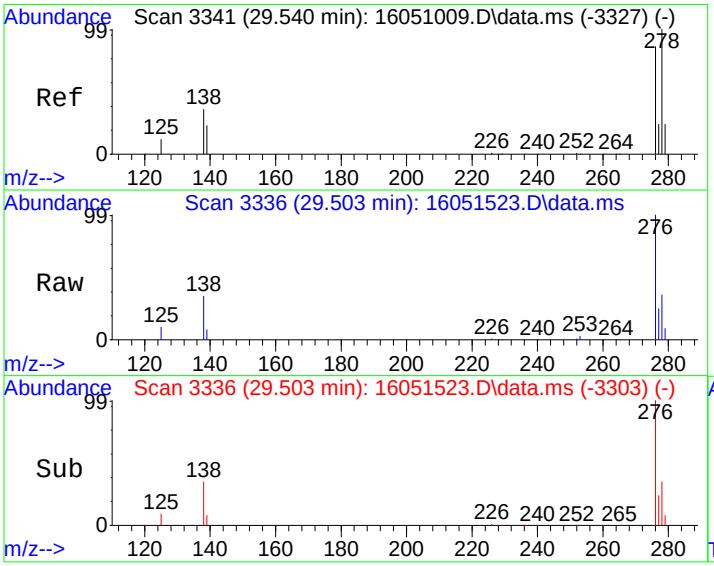


#26
Indeno[1,2,3-cd]pyrene
Concen: 435.16 ug/kg
RT: 29.525 min Scan# 3339
Delta R.T. 0.009 min
Lab File: 16051523.D
Acq: 16 May 2016 1:18 am

Tgt Ion:276 Resp: 321360

Ion	Ratio	Lower	Upper
276	100		
138	24.4	12.0	52.0

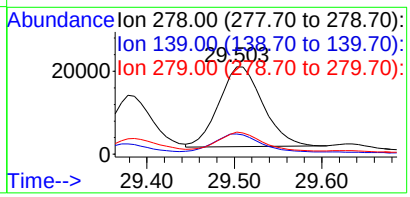


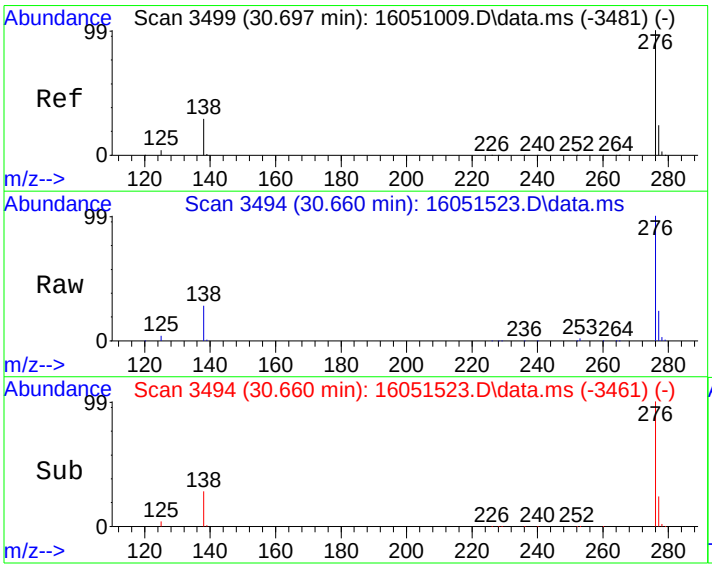


#27
Dibenz[a,h]anthracene
Concen: 111.84 ug/kg
RT: 29.503 min Scan# 3336
Delta R.T. -0.006 min
Lab File: 16051523.D
Acq: 16 May 2016 1:18 am

Tgt Ion:278 Resp: 67334

Ion	Ratio	Lower	Upper
278	100		
139	22.8	2.9	42.9
279	23.5	4.4	44.4

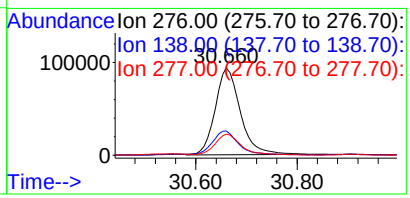




#28
Benzo[g,h,i]perylene
Concen: 500.43 ug/kg
RT: 30.660 min Scan# 3494
Delta R.T. -0.006 min
Lab File: 16051523.D
Acq: 16 May 2016 1:18 am

Tgt Ion:276 Resp: 322472

Ion	Ratio	Lower	Upper
276	100		
138	27.5	9.3	49.3
277	24.0	4.3	44.3



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051524.D
Acq On : 16 May 2016 1:55 am
Operator :
Sample : 1605074-25A
Misc : SAMP
ALS Vial : 14 Sample Multiplier: 10

Quant Time: May 16 13:07:41 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.276	136	1620032	4000.00	ug/kg	104
6) Acenaphthene-d10	12.862	164	1018346	4000.00	ug/kg	104
11) Phenanthrene-d10	14.983	188	2594207	4000.00	ug/kg	84
16) Chrysene-d12	20.998	240	2983219	4000.00	ug/kg	85
20) Perylene-d12	26.265	264	2601217	4000.00	ug/kg	88

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.765	172	25264	79.35	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.98%#			
17) 4-Terphenyl-d14	17.601	244	53741	77.97	ug/kg	0.01
Spiked Amount 4000.000	Range 51 - 135		Recovery = 1.95%#			

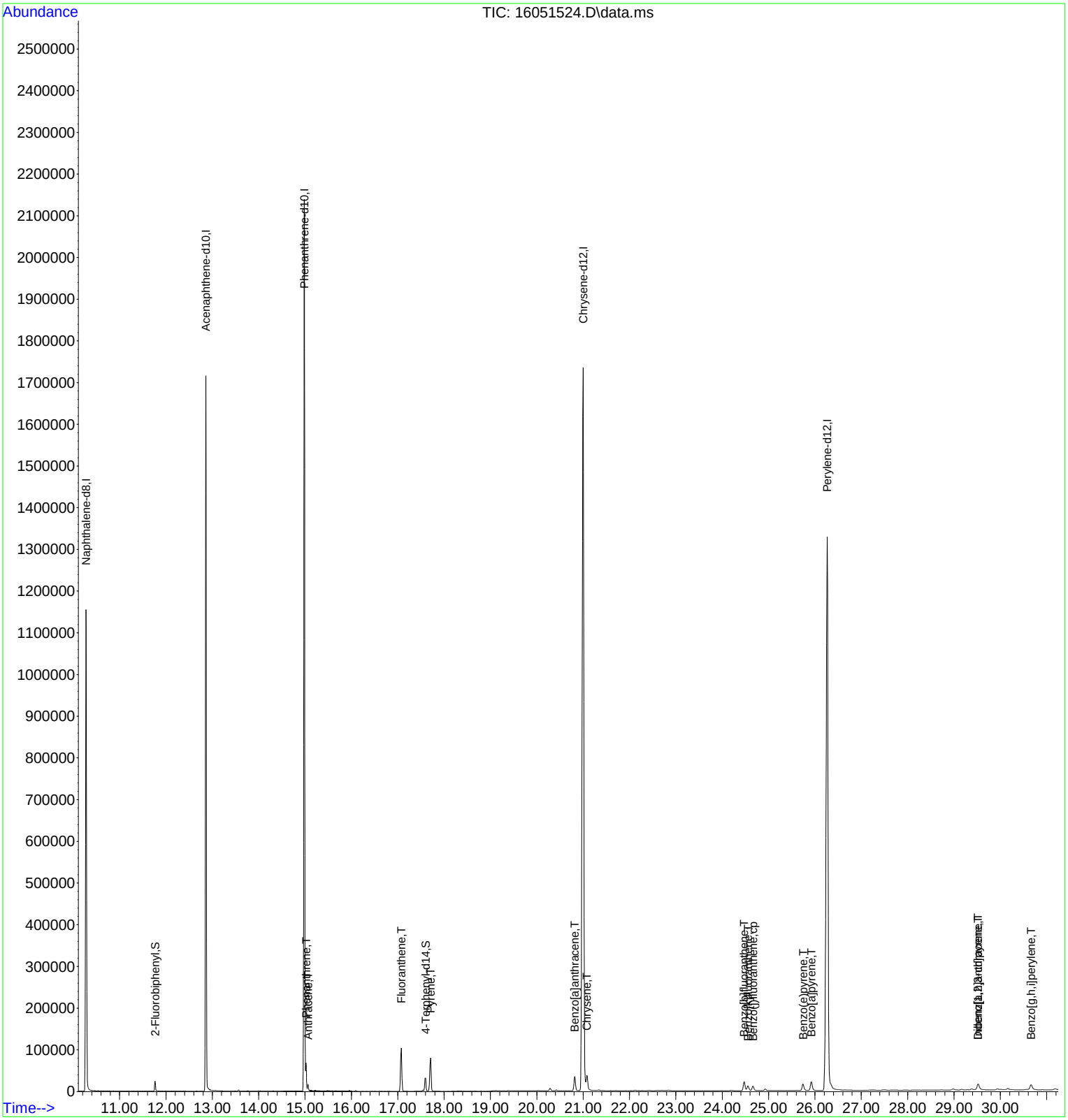
Target Compounds						Qvalue
12) Phenanthrene	15.021	178	56296	74.98	ug/kg	97
13) Anthracene	15.063	178	14403	17.71	ug/kg	97
14) Fluoranthene	17.078	202	125814	128.04	ug/kg	95
15) Pyrene	17.709	202	101393	102.88	ug/kg	93
18) Benzo[a]anthracene	20.815	228	54616	65.13	ug/kg	99
19) Chrysene	21.079	228	56676	73.83	ug/kg	99
21) Benzo[b]fluoranthene	24.471	252	43056	58.12	ug/kg	99
22) Benzo[k]fluoranthene	24.551	252	20833	35.06	ug/kg	96
23) Benzo(j)fluoranthene	24.661	252	20737	34.53	ug/kg	88
24) Benzo(e)pyrene	25.745	252	31536	44.35	ug/kg	95
25) Benzo[a]pyrene	25.921	252	44969	66.05	ug/kg	98
26) Indeno[1,2,3-cd]pyrene	29.525	276	28104	37.26	ug/kg	87
27) Dibenz[a,h]anthracene	29.510	278	6283	10.22	ug/kg	97
28) Benzo[g,h,i]perylene	30.660	276	29101	44.21	ug/kg	99

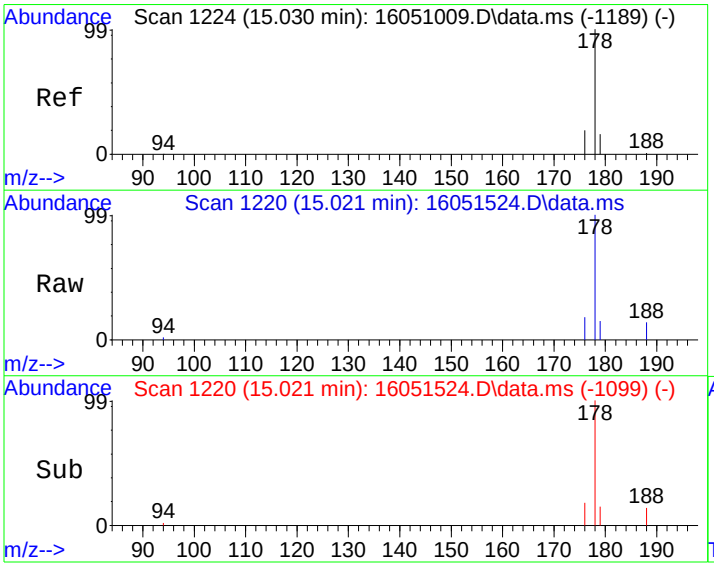
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051524.D
Acq On : 16 May 2016 1:55 am
Operator :
Sample : 1605074-25A
Misc : SAMP
ALS Vial : 14 Sample Multiplier: 10

Quant Time: May 16 13:07:41 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

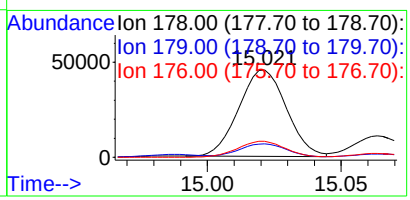


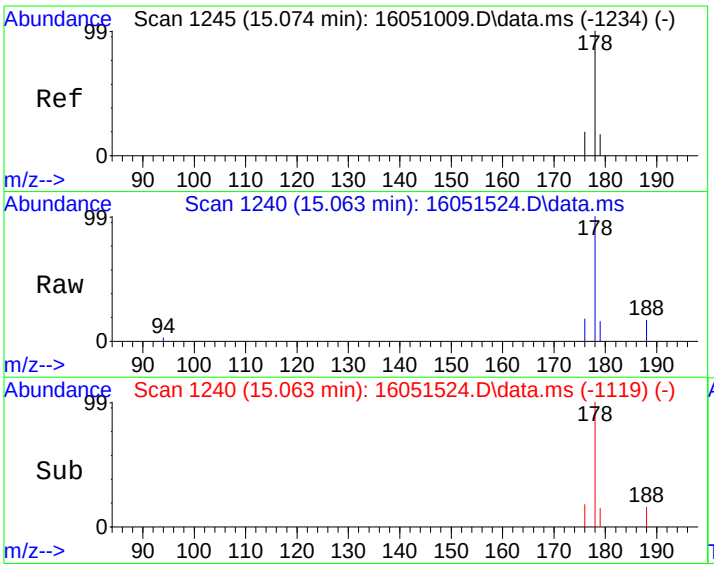


#12
Phenanthrene
Concen: 74.98 ug/kg
RT: 15.021 min Scan# 1220
Delta R.T. 0.005 min
Lab File: 16051524.D
Acq: 16 May 2016 1:55 am

Tgt Ion:178 Resp: 56296

Ion	Ratio	Lower	Upper
178	100		
179	14.8	0.0	36.4
176	18.3	0.0	39.2

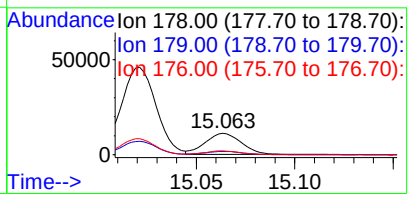


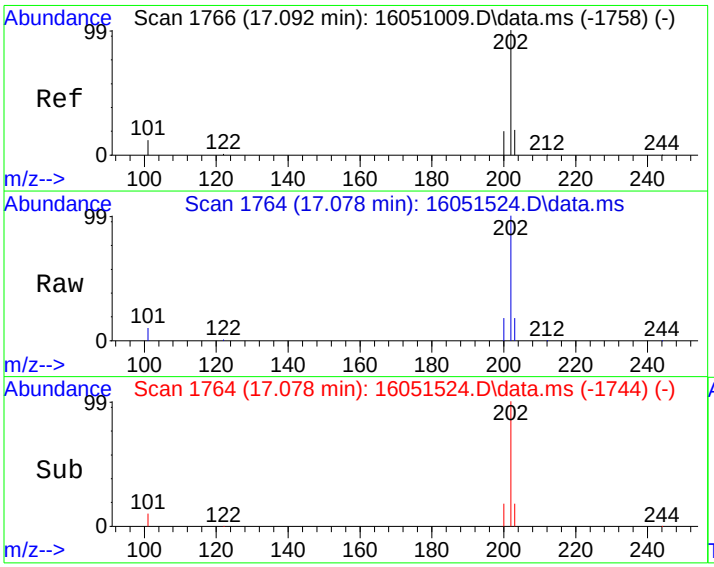


#13
Anthracene
Concen: 17.71 ug/kg
RT: 15.063 min Scan# 1240
Delta R.T. 0.005 min
Lab File: 16051524.D
Acq: 16 May 2016 1:55 am

Tgt Ion:178 Resp: 14403

Ion	Ratio	Lower	Upper
178	100		
179	15.1	0.0	36.5
176	17.7	0.0	38.6

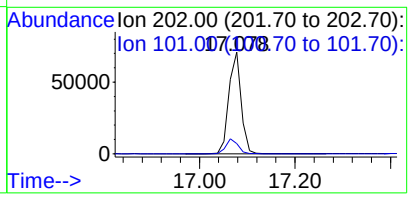


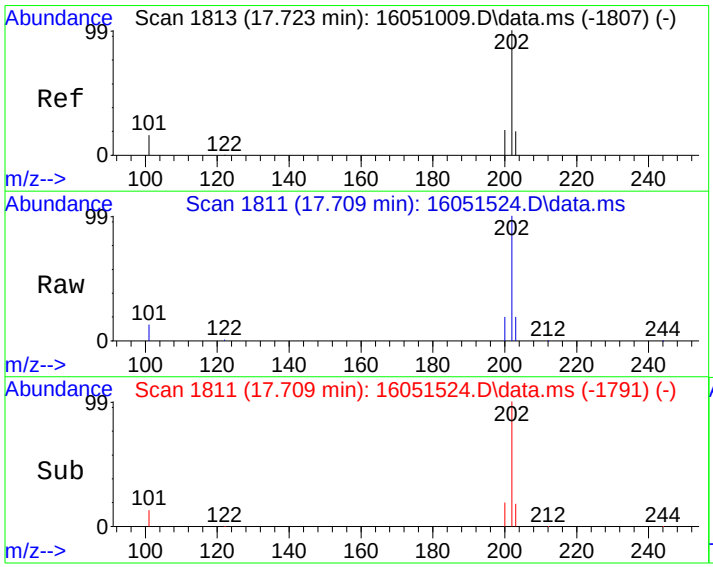


#14
Fluoranthene
Concen: 128.04 ug/kg
RT: 17.078 min Scan# 1764
Delta R.T. 0.013 min
Lab File: 16051524.D
Acq: 16 May 2016 1:55 am

Tgt Ion:202 Resp: 125814

Ion	Ratio	Lower	Upper
202	100		
101	10.1	0.0	32.0

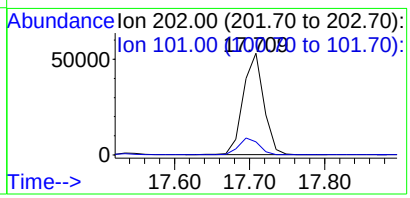


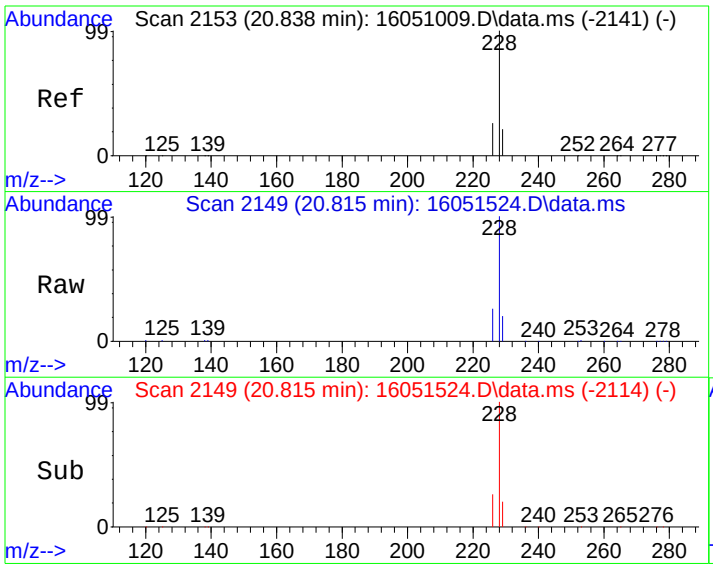


#15
Pyrene
Concen: 102.88 ug/kg
RT: 17.709 min Scan# 1811
Delta R.T. 0.013 min
Lab File: 16051524.D
Acq: 16 May 2016 1:55 am

Tgt Ion:202 Resp: 101393

Ion	Ratio	Lower	Upper
202	100		
101	12.9	0.0	35.9

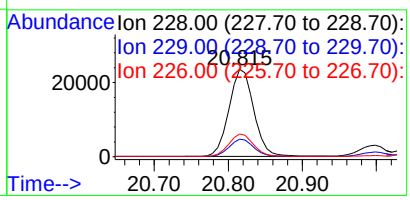


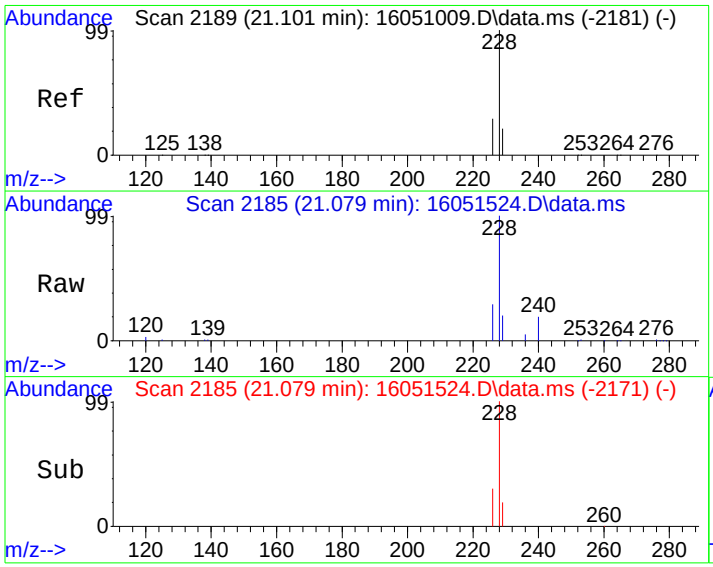


#18
Benzo[a]anthracene
Concen: 65.13 ug/kg
RT: 20.815 min Scan# 2149
Delta R.T. 0.009 min
Lab File: 16051524.D
Acq: 16 May 2016 1:55 am

Tgt Ion:228 Resp: 54616

Ion	Ratio	Lower	Upper
228	100		
229	19.8	0.7	40.7
226	26.0	5.9	45.9

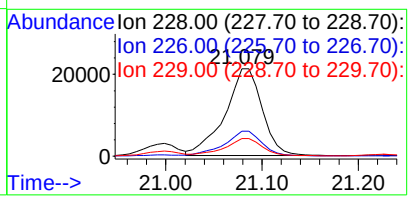


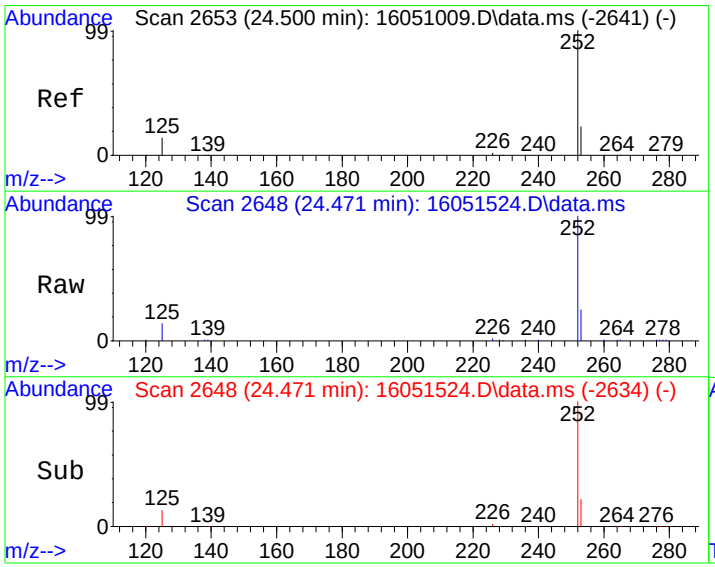


#19
Chrysene
Concen: 73.83 ug/kg
RT: 21.079 min Scan# 2185
Delta R.T. 0.002 min
Lab File: 16051524.D
Acq: 16 May 2016 1:55 am

Tgt Ion:228 Resp: 56676

Ion	Ratio	Lower	Upper
228	100		
226	28.5	8.8	48.8
229	19.8	0.5	40.5

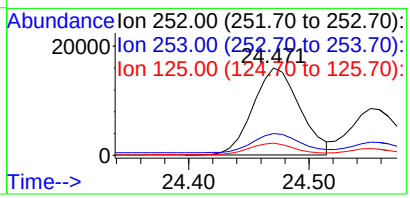


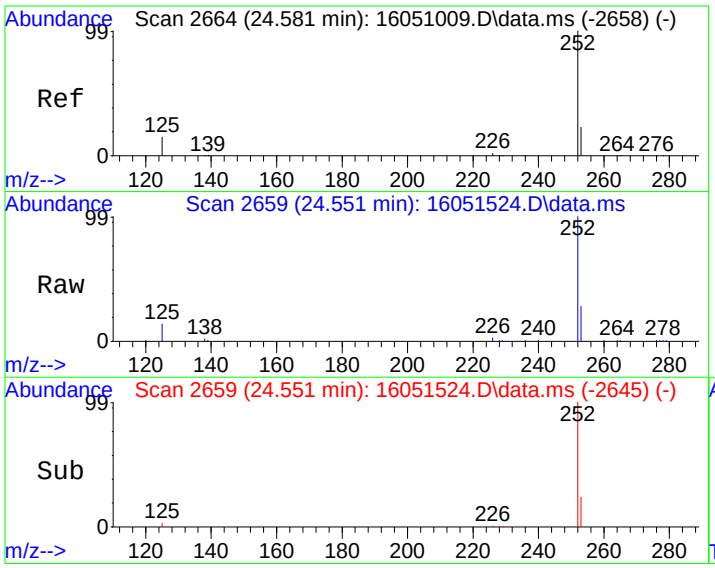


#21
Benzo[b]fluoranthene
Concen: 58.12 ug/kg
RT: 24.471 min Scan# 2648
Delta R.T. 0.002 min
Lab File: 16051524.D
Acq: 16 May 2016 1:55 am

Tgt Ion:252 Resp: 43056

Ion	Ratio	Lower	Upper
252	100		
253	21.9	2.6	42.6
125	13.4	0.0	33.8

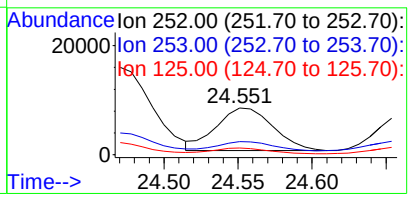


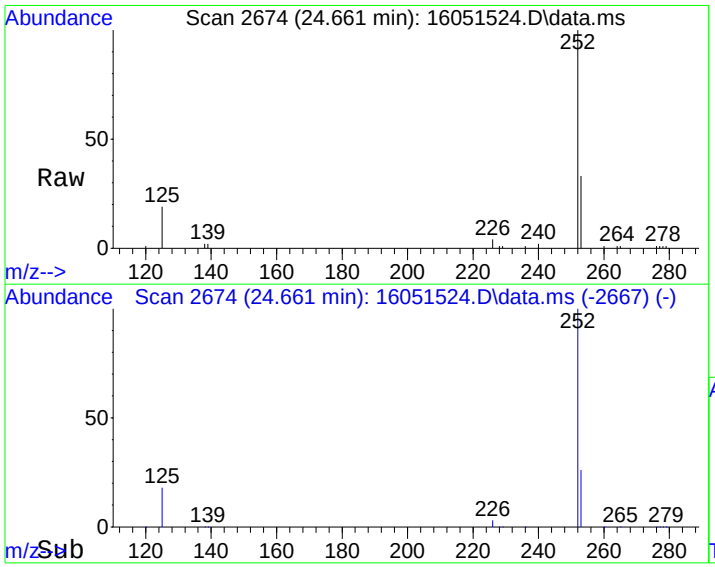


#22
Benzo[k]fluoranthene
Concen: 35.06 ug/kg
RT: 24.551 min Scan# 2659
Delta R.T. 0.002 min
Lab File: 16051524.D
Acq: 16 May 2016 1:55 am

Tgt Ion:252 Resp: 20833

Ion	Ratio	Lower	Upper
252	100		
253	21.1	2.8	42.8
125	13.0	0.0	34.7

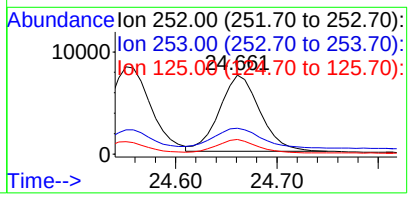


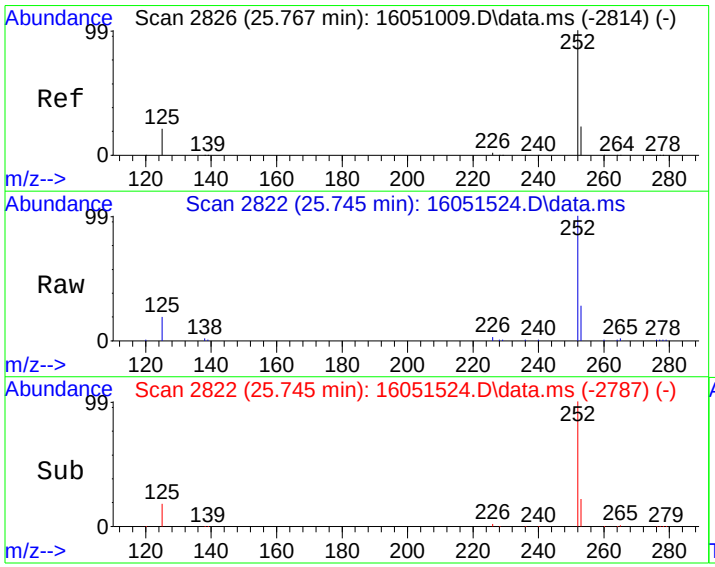


#23
Benzo(j)fluoranthene
Concen: 34.53 ug/kg
RT: 24.661 min Scan# 2674
Delta R.T. 0.002 min
Lab File: 16051524.D
Acq: 16 May 2016 1:55 am

Tgt Ion:252 Resp: 20737

Ion	Ratio	Lower	Upper
252	100		
253	30.7	2.3	42.3
125	17.1	0.0	39.2

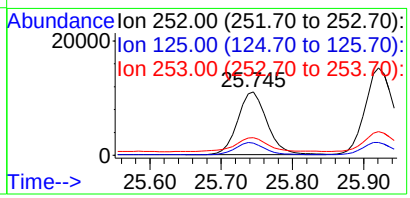


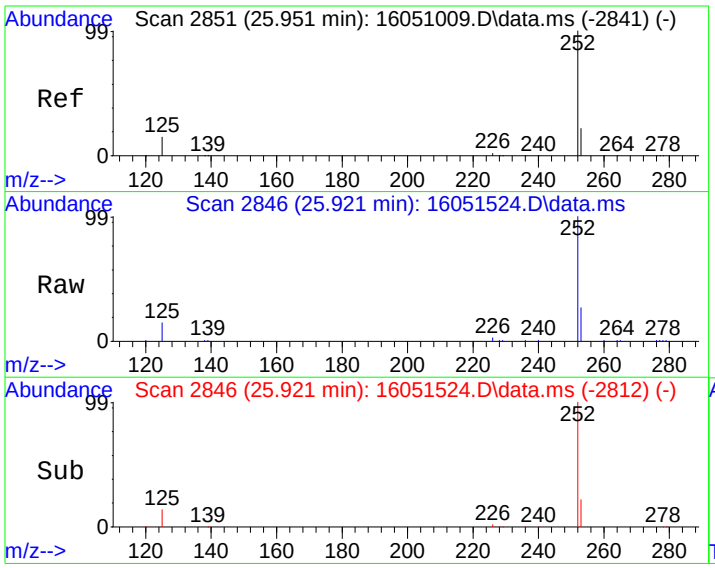


#24
Benzo(e)pyrene
Concen: 44.35 ug/kg
RT: 25.745 min Scan# 2822
Delta R.T. 0.009 min
Lab File: 16051524.D
Acq: 16 May 2016 1:55 am

Tgt Ion:252 Resp: 31536

Ion	Ratio	Lower	Upper
252	100		
125	19.0	0.8	40.8
253	25.2	2.4	42.4

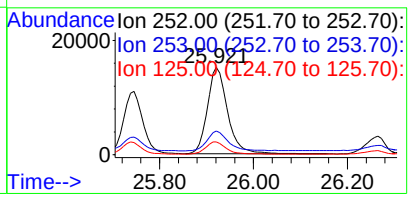


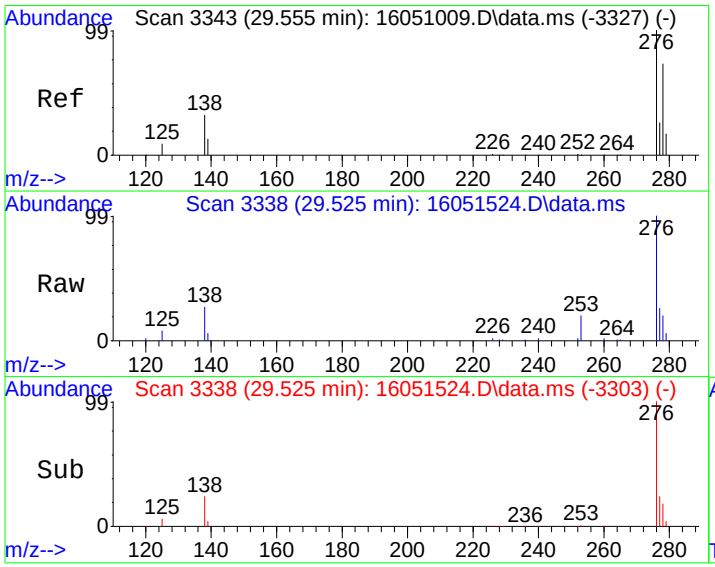


#25
Benzo[a]pyrene
Concen: 66.05 ug/kg
RT: 25.921 min Scan# 2846
Delta R.T. 0.002 min
Lab File: 16051524.D
Acq: 16 May 2016 1:55 am

Tgt Ion:252 Resp: 44969

Ion	Ratio	Lower	Upper
252	100		
253	22.7	2.5	42.5
125	14.1	0.0	35.5

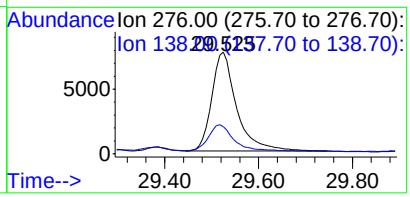


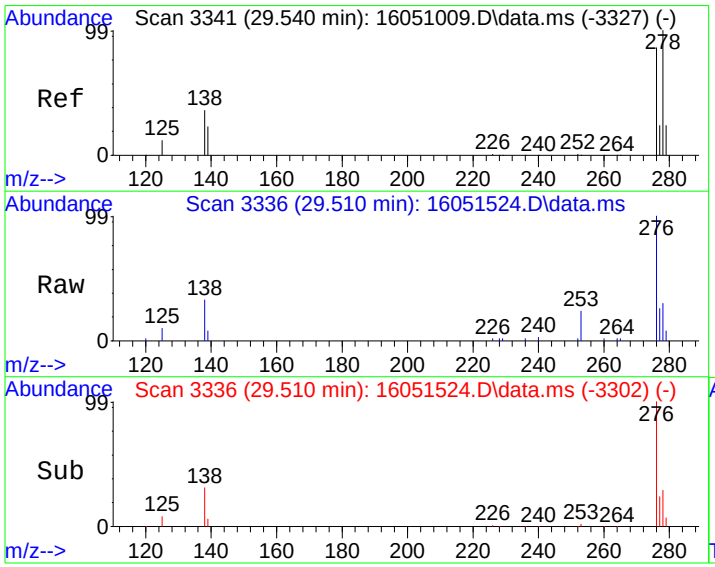


#26
Indeno[1,2,3-cd]pyrene
Concen: 37.26 ug/kg
RT: 29.525 min Scan# 3338
Delta R.T. 0.009 min
Lab File: 16051524.D
Acq: 16 May 2016 1:55 am

Tgt Ion:276 Resp: 28104

Ion	Ratio	Lower	Upper
276	100		
138	24.9	12.0	52.0

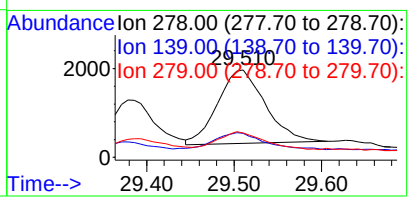


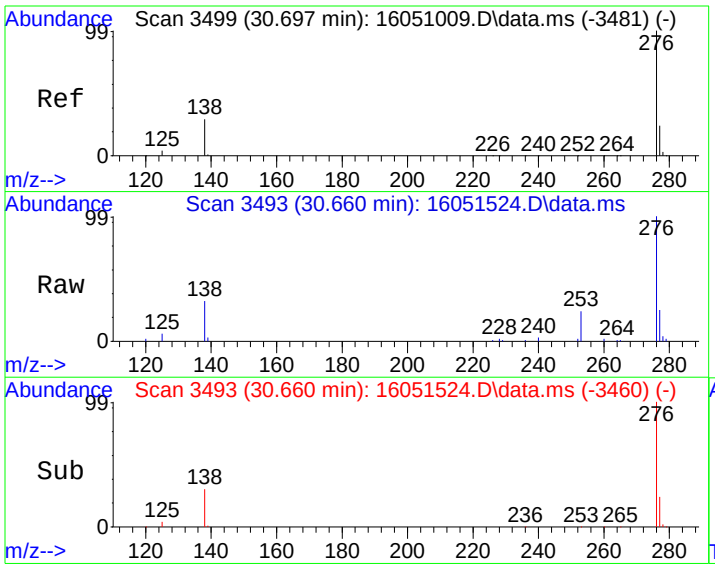


#27
Dibenz[a,h]anthracene
Concen: 10.22 ug/kg
RT: 29.510 min Scan# 3336
Delta R.T. 0.002 min
Lab File: 16051524.D
Acq: 16 May 2016 1:55 am

Tgt Ion:278 Resp: 6283

Ion	Ratio	Lower	Upper
278	100		
139	22.8	2.9	42.9
279	21.4	4.4	44.4

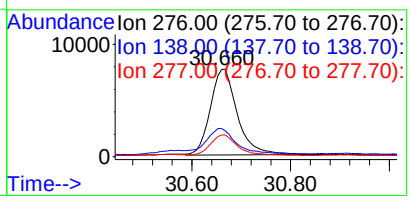




#28
Benzo[g,h,i]perylene
Concen: 44.21 ug/kg
RT: 30.660 min Scan# 3493
Delta R.T. -0.006 min
Lab File: 16051524.D
Acq: 16 May 2016 1:55 am

Tgt Ion:276 Resp: 29101

Ion	Ratio	Lower	Upper
276	100		
138	29.6	9.3	49.3
277	23.9	4.3	44.3



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051525.D
Acq On : 16 May 2016 2:32 am
Operator :
Sample : 1605074-26A
Misc : SAMP
ALS Vial : 15 Sample Multiplier: 10

Quant Time: May 16 13:07:49 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.276	136	1552405	4000.00	ug/kg	99
6) Acenaphthene-d10	12.861	164	979610	4000.00	ug/kg	100
11) Phenanthrene-d10	14.985	188	2450342	4000.00	ug/kg	79
16) Chrysene-d12	20.998	240	2878294	4000.00	ug/kg	82
20) Perylene-d12	26.265	264	2508136	4000.00	ug/kg	85

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.765	172	25160	82.46	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.06%#			
17) 4-Terphenyl-d14	17.601	244	52141	78.40	ug/kg	0.01
Spiked Amount 4000.000	Range 51 - 135		Recovery = 1.96%#			

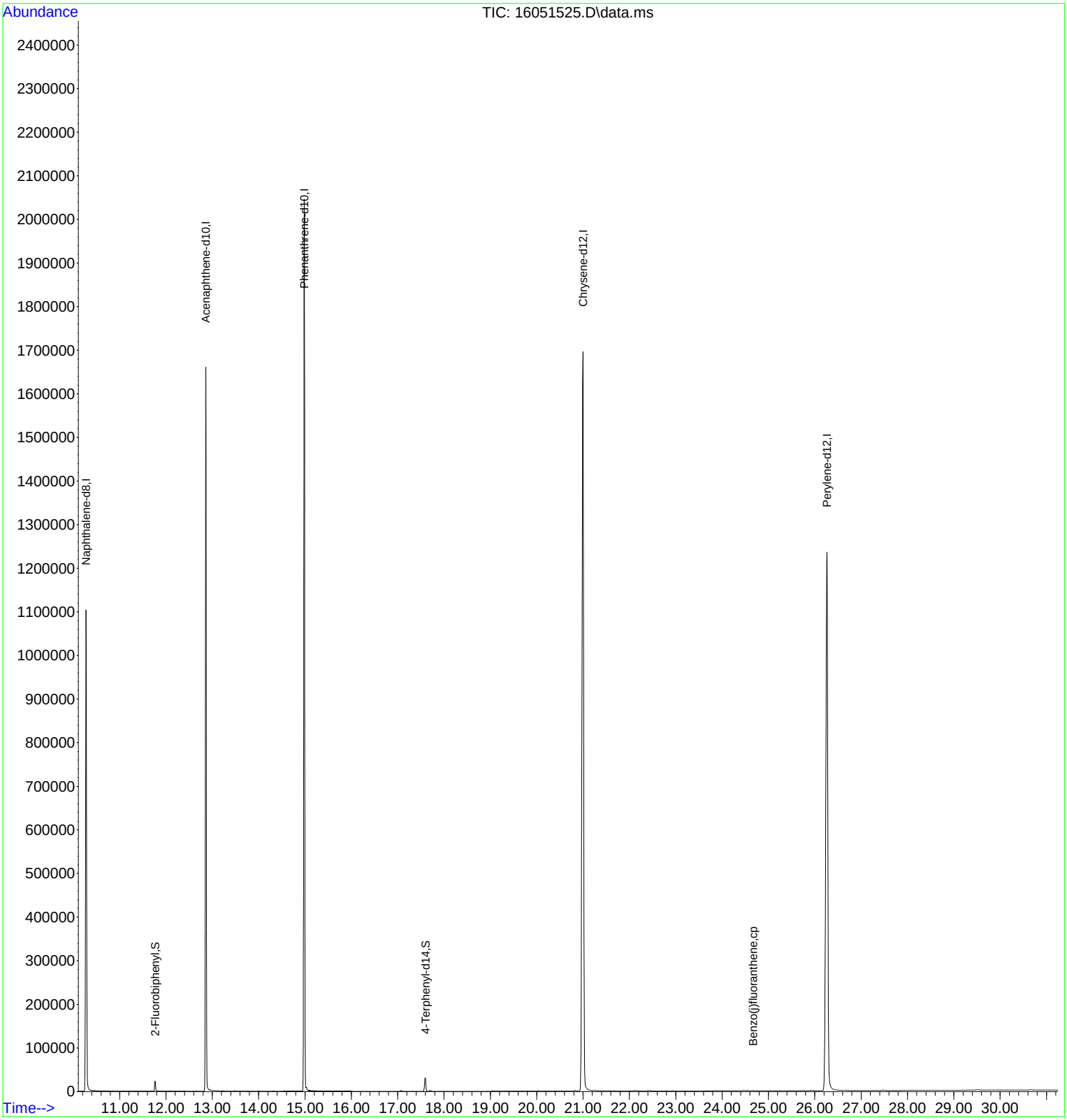
Target Compounds						Qvalue
23) Benzo(j)fluoranthene	24.661	252	882	1.52	ug/kg	81

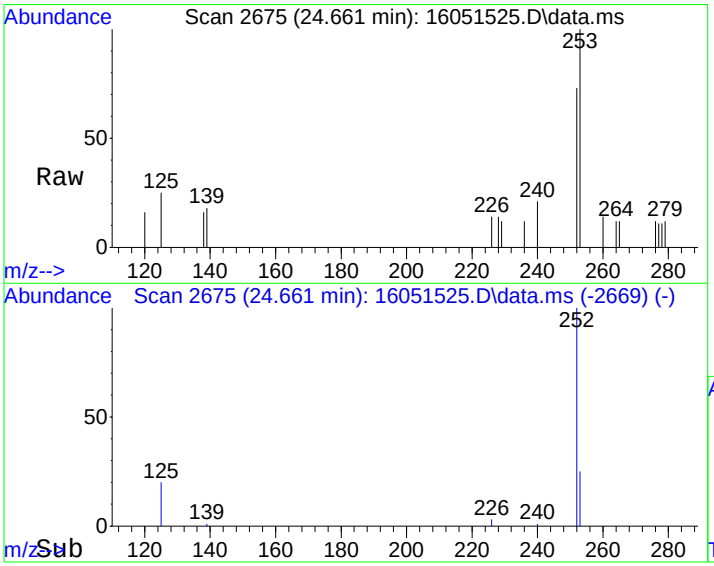
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051525.D
Acq On : 16 May 2016 2:32 am
Operator :
Sample : 1605074-26A
Misc : SAMP
ALS Vial : 15 Sample Multiplier: 10

Quant Time: May 16 13:07:49 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

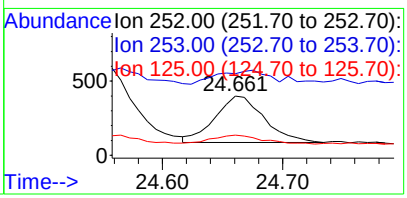




#23
Benzo(j)fluoranthene
Concen: 1.52 ug/kg
RT: 24.661 min Scan# 2675
Delta R.T. 0.001 min
Lab File: 16051525.D
Acq: 16 May 2016 2:32 am

Tgt Ion:252 Resp: 882

Ion	Ratio	Lower	Upper
252	100		
253	37.5	2.3	42.3
125	21.0	0.0	39.2



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051526.D
Acq On : 16 May 2016 3:08 am
Operator :
Sample : 1605074-13AMS
Misc : MS
ALS Vial : 16 Sample Multiplier: 20

Quant Time: May 16 13:06:00 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.275	136	1616201	4000.00	ug/kg	103
6) Acenaphthene-d10	12.861	164	1024733	4000.00	ug/kg	105
11) Phenanthrene-d10	14.984	188	2632997	4000.00	ug/kg	85
16) Chrysene-d12	20.997	240	2897091	4000.00	ug/kg	83
20) Perylene-d12	26.264	264	2559320	4000.00	ug/kg	86

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.764	172	11839	37.27	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 0.93%#			
17) 4-Terphenyl-d14	17.588	244	24865	37.15	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery = 0.93%#			

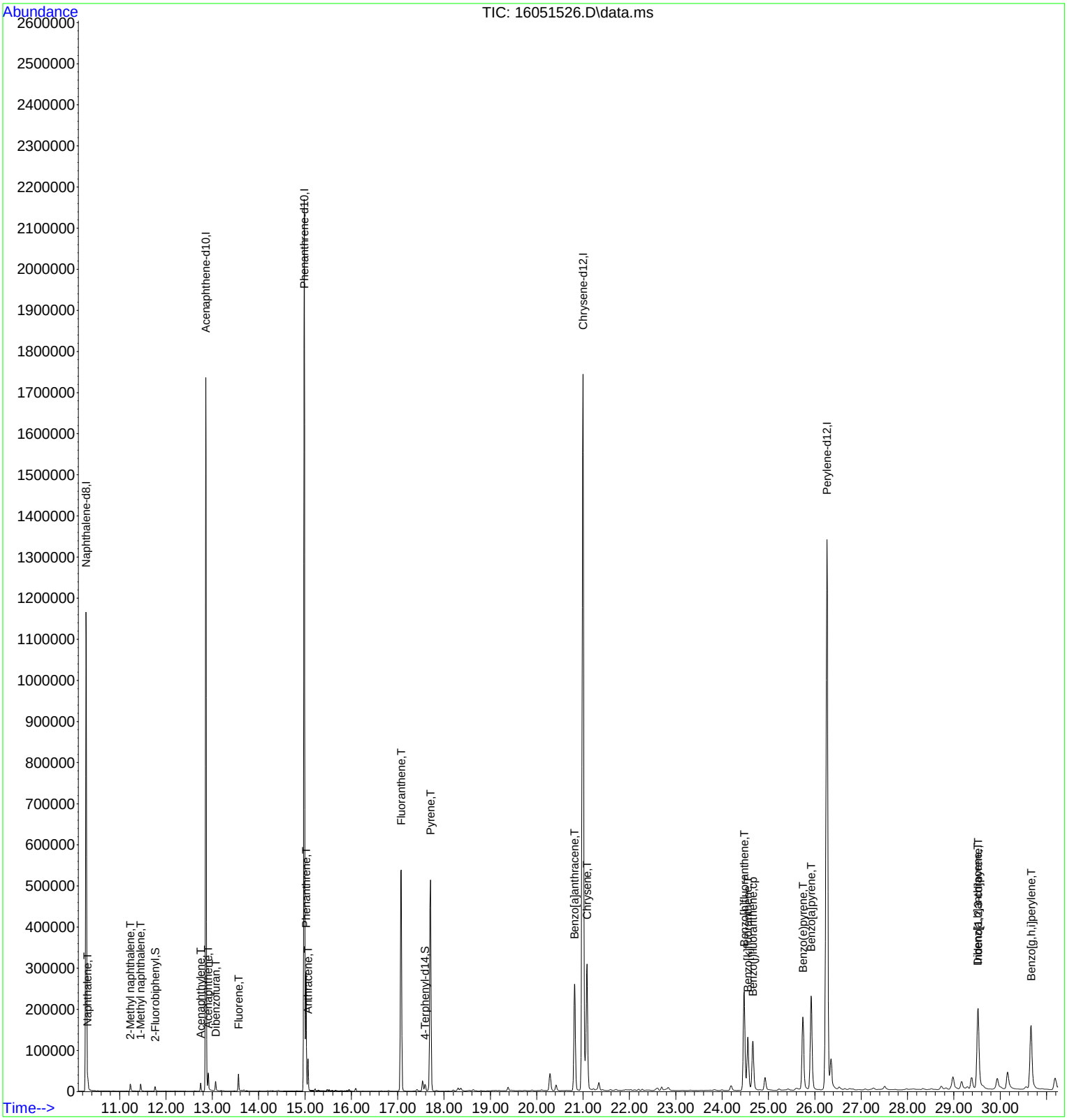
Target Compounds						Qvalue
2) Naphthalene	10.312	128	23163	59.14	ug/kg	99
3) 2-Methyl naphthalene	11.229	142	12777	50.79	ug/kg	98
4) 1-Methyl naphthalene	11.451	142	11398	46.37	ug/kg	98
7) Acenaphthylene	12.748	152	19319	40.12	ug/kg	99
8) Acenaphthene	12.910	153	19210	63.04	ug/kg	98
9) Dibenzofuran	13.072	168	23672	48.10	ug/kg	100
10) Fluorene	13.563	166	22227	48.03	ug/kg	99
12) Phenanthrene	15.020	178	271240	355.93	ug/kg	98
13) Anthracene	15.064	178	74620	90.38	ug/kg	97
14) Fluoranthene	17.079	202	716583	718.53	ug/kg	95
15) Pyrene	17.709	202	663640	663.45	ug/kg	93
18) Benzo[a]anthracene	20.814	228	420461	516.29	ug/kg	99
19) Chrysene	21.085	228	499814	670.43	ug/kg	99
21) Benzo[b]fluoranthene	24.477	252	469984	644.82	ug/kg	98
22) Benzo[k]fluoranthene	24.557	252	221625	379.11	ug/kg	95
23) Benzo(j)fluoranthene	24.667	252	217574	368.22	ug/kg	90
24) Benzo(e)pyrene	25.744	252	347049	496.09	ug/kg	97
25) Benzo[a]pyrene	25.920	252	459941	686.59	ug/kg	99
26) Indeno[1,2,3-cd]pyrene	29.524	276	341200	459.74	ug/kg	89
27) Dibenz[a,h]anthracene	29.509	278	93498	154.53	ug/kg	97
28) Benzo[g,h,i]perylene	30.666	276	332870	514.00	ug/kg	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051526.D
Acq On : 16 May 2016 3:08 am
Operator :
Sample : 1605074-13AMS
Misc : MS
ALS Vial : 16 Sample Multiplier: 20

Quant Time: May 16 13:06:00 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051527.D
Acq On : 16 May 2016 3:45 am
Operator :
Sample : 1605074-13AMSD
Misc : MSD
ALS Vial : 17 Sample Multiplier: 20

Quant Time: May 16 13:06:03 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.277	136	1573136	4000.00	ug/kg	101
6) Acenaphthene-d10	12.862	164	1003282	4000.00	ug/kg	103
11) Phenanthrene-d10	14.985	188	2564812	4000.00	ug/kg	83
16) Chrysene-d12	20.998	240	2817061	4000.00	ug/kg	81
20) Perylene-d12	26.265	264	2472534	4000.00	ug/kg	83

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.766	172	12786	41.35	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.03%#			
17) 4-Terphenyl-d14	17.589	244	26271	40.36	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery = 1.01%#			

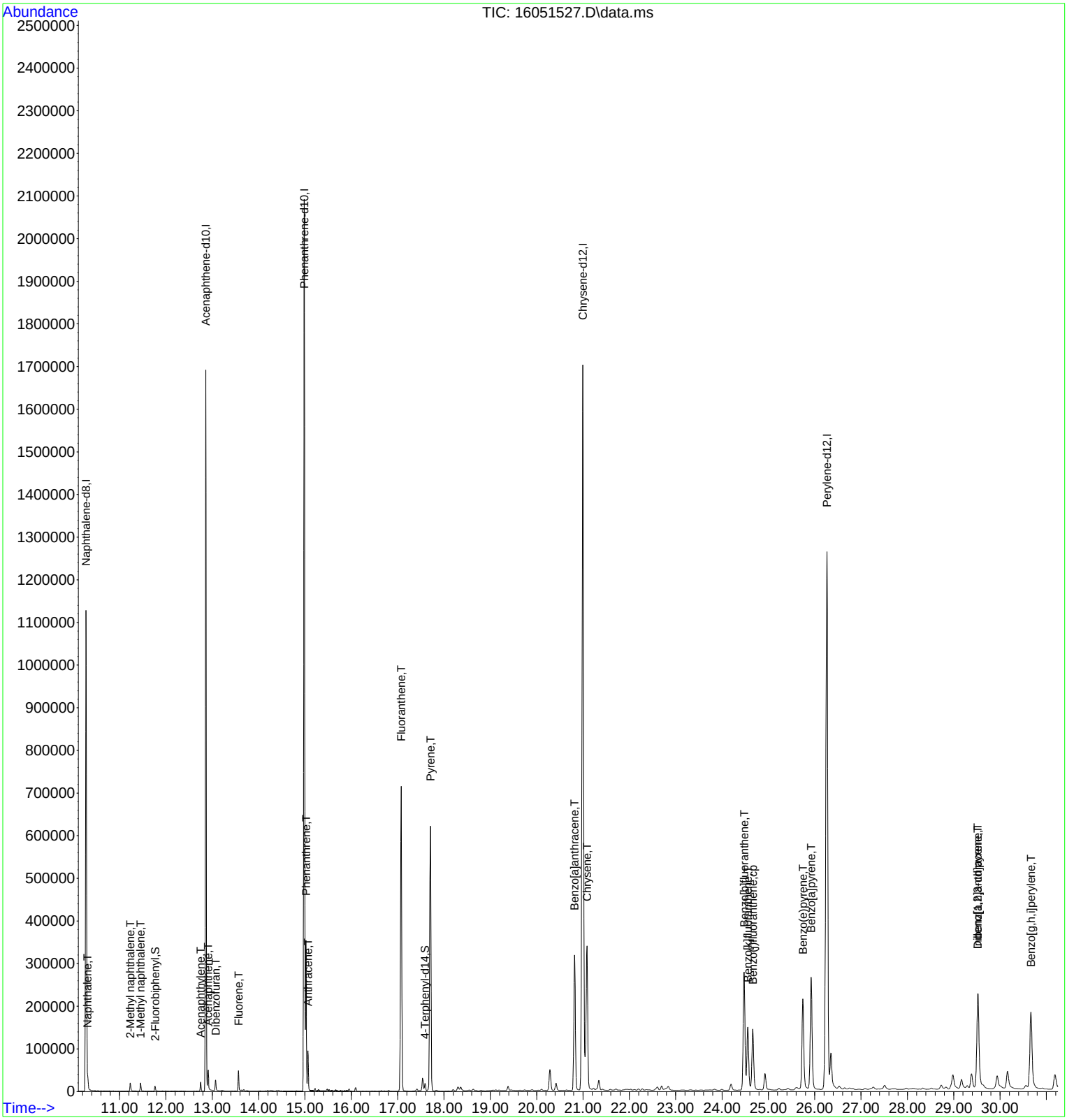
Target Compounds						Qvalue
2) Naphthalene	10.314	128	26564	69.68	ug/kg	100
3) 2-Methyl naphthalene	11.231	142	13621	55.30	ug/kg	99
4) 1-Methyl naphthalene	11.453	142	12098	50.57	ug/kg	100
7) Acenaphthylene	12.749	152	20683	43.87	ug/kg	99
8) Acenaphthene	12.911	153	21341	71.53	ug/kg	99
9) Dibenzofuran	13.073	168	26038	54.04	ug/kg	97
10) Fluorene	13.564	166	25504	56.29	ug/kg	99
12) Phenanthrene	15.021	178	328796	442.93	ug/kg	98
13) Anthracene	15.065	178	90374	112.37	ug/kg	97
14) Fluoranthene	17.079	202	878841	904.66	ug/kg	97
15) Pyrene	17.710	202	786161	806.83	ug/kg	94
18) Benzo[a]anthracene	20.815	228	501130	632.83	ug/kg	99
19) Chrysene	21.086	228	577491	796.63	ug/kg	99
21) Benzo[b]fluoranthene	24.478	252	553860	786.57	ug/kg	98
22) Benzo[k]fluoranthene	24.558	252	255872	453.05	ug/kg	95
23) Benzo(j)fluoranthene	24.661	252	251054	439.80	ug/kg	89
24) Benzo(e)pyrene	25.745	252	407836	603.44	ug/kg	97
25) Benzo[a]pyrene	25.921	252	532634	823.01	ug/kg	99
26) Indeno[1,2,3-cd]pyrene	29.525	276	391709	546.32	ug/kg	88
27) Dibenz[a,h]anthracene	29.510	278	104856	179.38	ug/kg	97
28) Benzo[g,h,i]perylene	30.668	276	389256	622.17	ug/kg	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051527.D
Acq On : 16 May 2016 3:45 am
Operator :
Sample : 1605074-13AMSD
Misc : MSD
ALS Vial : 17 Sample Multiplier: 20

Quant Time: May 16 13:06:03 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051529.D
Acq On : 16 May 2016 4:58 am
Operator :
Sample : ICV2-160515
Misc : ICV
ALS Vial : 19 Sample Multiplier: 1

Quant Time: May 16 13:06:05 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

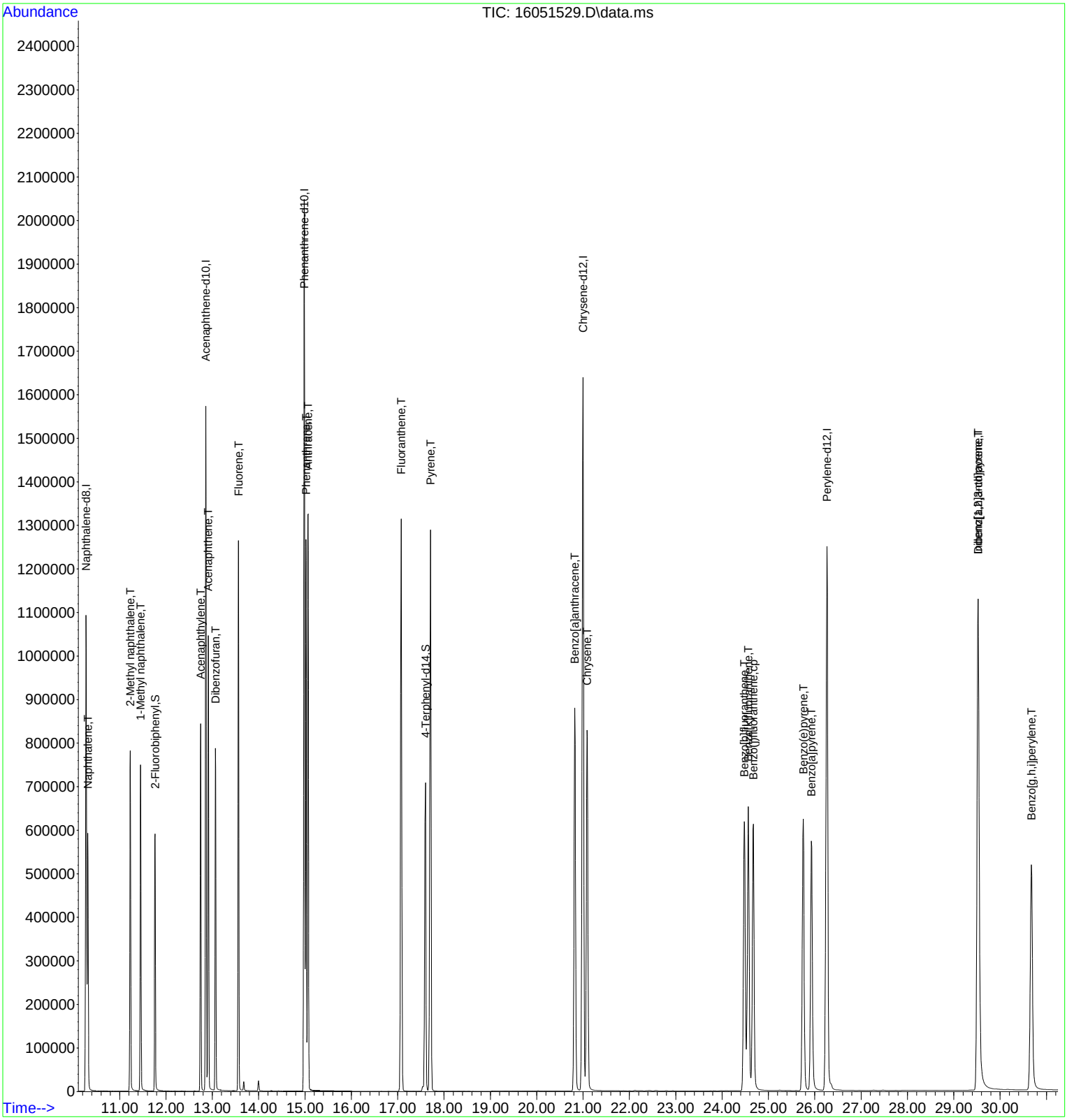
Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.276	136	1521675	4000.00	ug/kg	97
6) Acenaphthene-d10	12.862	164	931213	4000.00	ug/kg	95
11) Phenanthrene-d10	14.985	188	2475631	4000.00	ug/kg	80
16) Chrysene-d12	20.998	240	2732203	4000.00	ug/kg	78
20) Perylene-d12	26.265	264	2376034	4000.00	ug/kg	80
System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.765	172	560797	1875.16	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 46.88%			
17) 4-Terphenyl-d14	17.601	244	1119961	1774.10	ug/kg	0.01
Spiked Amount 4000.000	Range 51 - 135		Recovery = 44.35%#			
Target Compounds						Qvalue
2) Naphthalene	10.313	128	661752	1794.44	ug/kg	100
3) 2-Methyl naphthalene	11.230	142	484014	1939.70	ug/kg	99
4) 1-Methyl naphthalene	11.452	142	442547	1912.32	ug/kg	99
7) Acenaphthylene	12.749	152	802884	1834.73	ug/kg	100
8) Acenaphthene	12.911	153	495871	1790.61	ug/kg	99
9) Dibenzofuran	13.073	168	748344	1673.40	ug/kg	95
10) Fluorene	13.564	166	683245	1624.63	ug/kg	99
12) Phenanthrene	15.022	178	1233624	1721.72	ug/kg	99
13) Anthracene	15.067	178	1298504	1672.73	ug/kg	99
14) Fluoranthene	17.078	202	1530504	1632.21	ug/kg	100
15) Pyrene	17.709	202	1527649	1624.29	ug/kg	99
18) Benzo[a]anthracene	20.823	228	1392466	1813.02	ug/kg	99
19) Chrysene	21.086	228	1275596	1814.30	ug/kg	99
21) Benzo[b]fluoranthene	24.485	252	1257398	1858.23	ug/kg	99
22) Benzo[k]fluoranthene	24.566	252	1135868	2092.88	ug/kg	98
23) Benzo(j)fluoranthene	24.675	252	1086640	1980.90	ug/kg	98
24) Benzo(e)pyrene	25.752	252	1176794	1811.93	ug/kg	98
25) Benzo[a]pyrene	25.928	252	1158331	1862.51	ug/kg	99
26) Indeno[1,2,3-cd]pyrene	29.532	276	1325162	1923.29	ug/kg	99
27) Dibenz[a,h]anthracene	29.517	278	1110238	1976.50	ug/kg	99
28) Benzo[g,h,i]perylene	30.675	276	1119032	1861.26	ug/kg	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051529.D
Acq On : 16 May 2016 4:58 am
Operator :
Sample : ICV2-160515
Misc : ICV
ALS Vial : 19 Sample Multiplier: 1

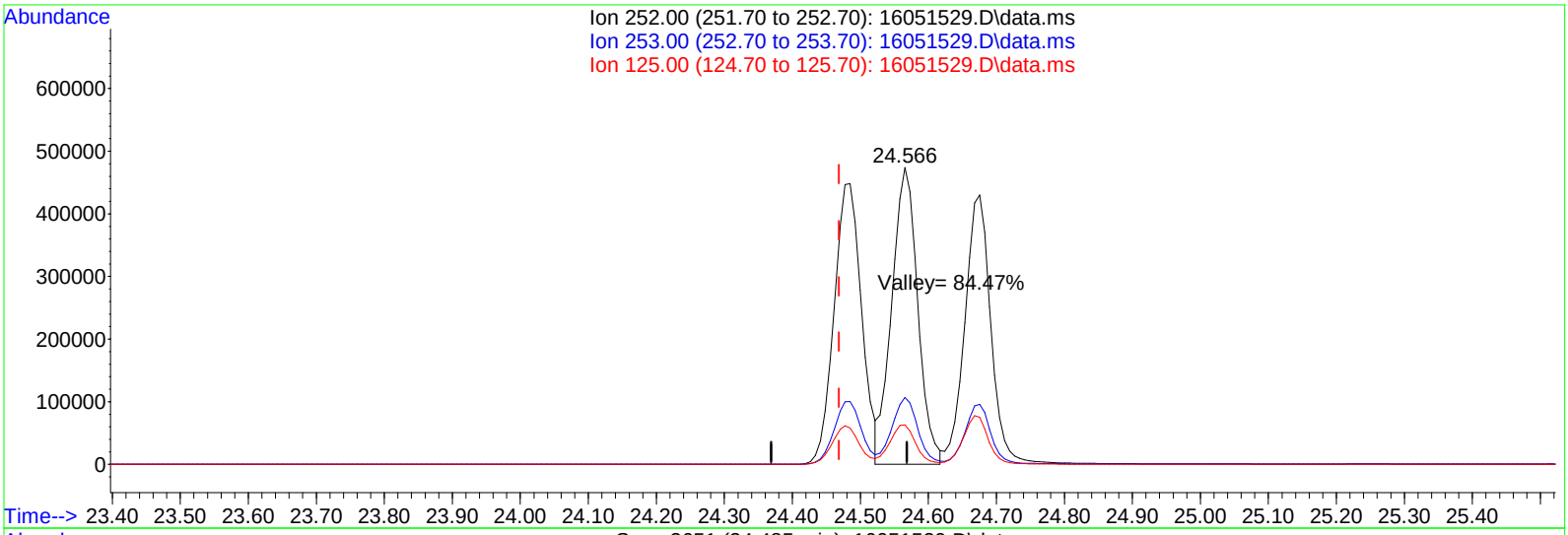
Quant Time: May 16 13:06:05 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

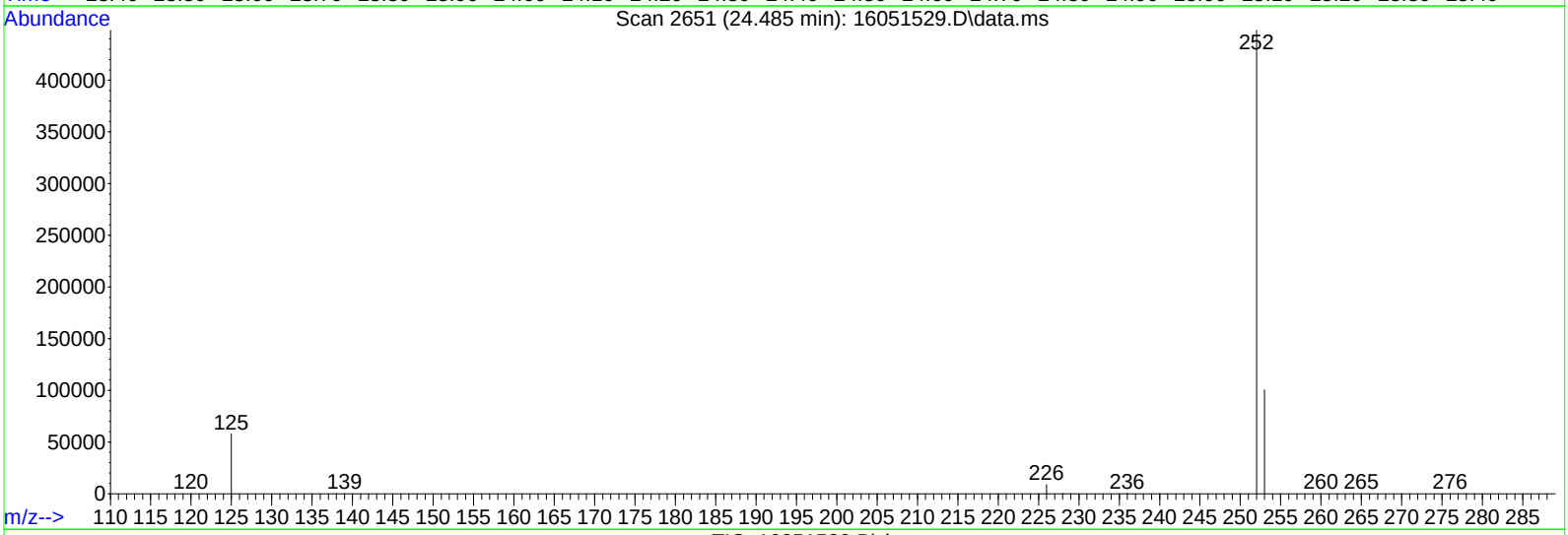


Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051529.D
Acq On : 16 May 2016 4:58 am
Operator :
Sample : ICV2-160515
Misc : ICV
ALS Vial : 19 Sample Multiplier: 1

Quant Time: May 16 05:30:05 2016
Quant Method : C:\MSDCHEM\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration





TIC: 16051529.D\data.ms

(21) Benzo[b]fluoranthene (T)

24.485min (+0.016) 1858.23ug/kg

response 1257398

Ion	Exp%	Act%
252.00	100	100
253.00	22.60	22.29
125.00	13.80	12.89
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051531.D
Acq On : 16 May 2016 6:12 am
Operator :
Sample : SB-160515
Misc : SBLK
ALS Vial : 21 Sample Multiplier: 1

Quant Time: May 16 13:06:09 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.275	136	1536361	4000.00	ug/kg	98
6) Acenaphthene-d10	12.861	164	1003554	4000.00	ug/kg	103
11) Phenanthrene-d10	14.984	188	2570739	4000.00	ug/kg	83
16) Chrysene-d12	20.998	240	2753509	4000.00	ug/kg	79
20) Perylene-d12	26.257	264	2334647	4000.00	ug/kg	79

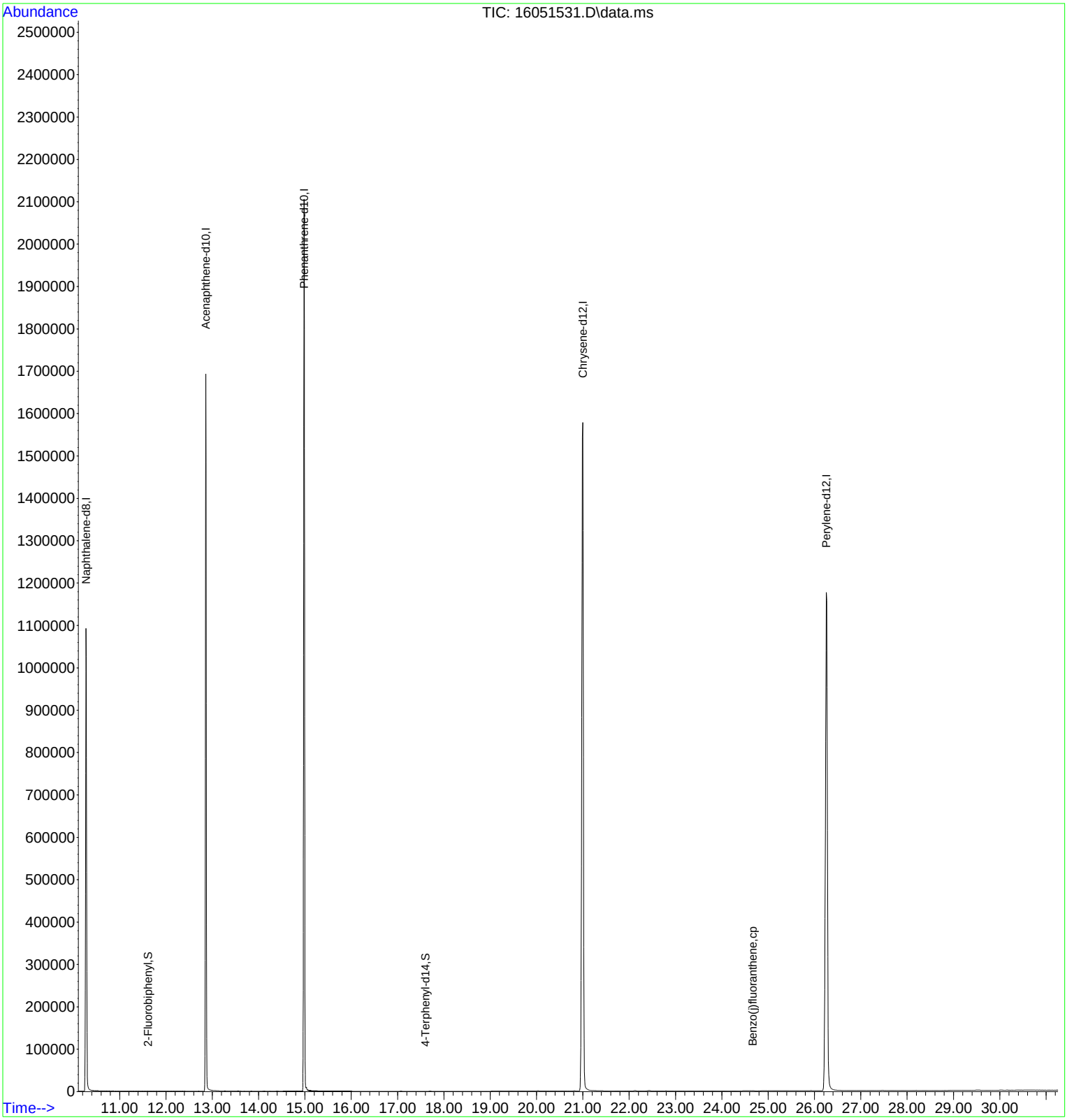
System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.616	172	2	0.01	ug/kg	-0.14
Spiked Amount 4000.000	Range 40 - 140		Recovery = 0.00%#			
17) 4-Terphenyl-d14	17.603	244	295	0.46	ug/kg	0.01
Spiked Amount 4000.000	Range 51 - 135		Recovery = 0.01%#			

Target Compounds						Qvalue
23) Benzo(j)fluoranthene	24.660	252	259	0.48	ug/kg	81

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051531.D
Acq On : 16 May 2016 6:12 am
Operator :
Sample : SB-160515
Misc : SBLK
ALS Vial : 21 Sample Multiplier: 1

Quant Time: May 16 13:06:09 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051532.D
Acq On : 16 May 2016 6:48 am
Operator :
Sample : 1605074-27A
Misc : SAMP
ALS Vial : 22 Sample Multiplier: 10

Quant Time: May 16 13:07:53 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.276	136	1536124	4000.00	ug/kg	98
6) Acenaphthene-d10	12.862	164	986055	4000.00	ug/kg	101
11) Phenanthrene-d10	14.983	188	2498355	4000.00	ug/kg	80
16) Chrysene-d12	20.991	240	2744456	4000.00	ug/kg	79
20) Perylene-d12	26.258	264	2384982	4000.00	ug/kg	80

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.765	172	23756	78.69	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.97%#			
17) 4-Terphenyl-d14	17.588	244	47084	74.25	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery = 1.86%#			

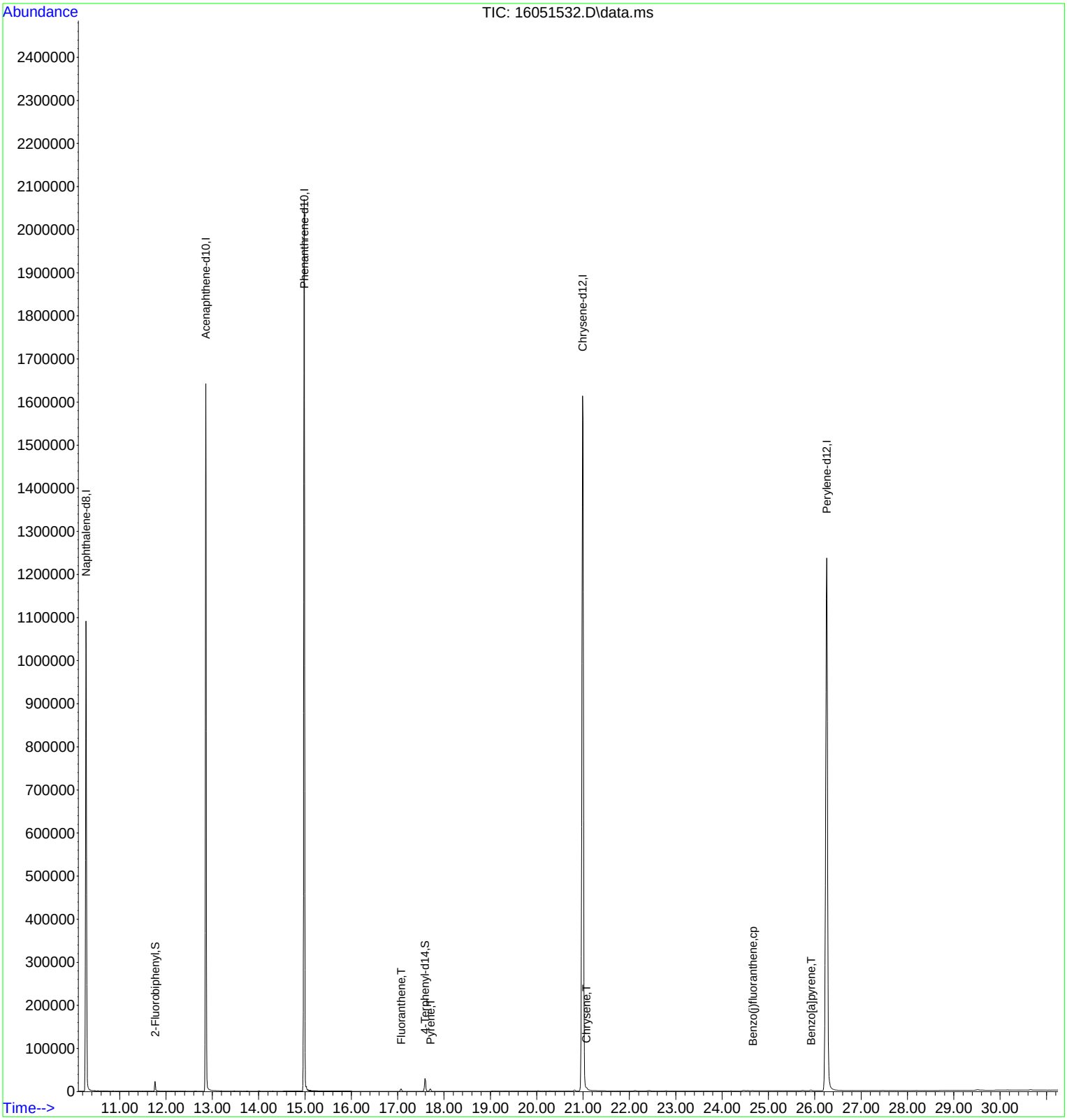
Target Compounds						Qvalue
14) Fluoranthene	17.078	202	7627	8.06	ug/kg	95
15) Pyrene	17.709	202	7653	8.06	ug/kg	92
19) Chrysene	21.079	228	4752	6.73	ug/kg	99
23) Benzo(j)fluoranthene	24.661	252	1506	2.74	ug/kg	90
25) Benzo[a]pyrene	25.921	252	3607	5.78	ug/kg	97

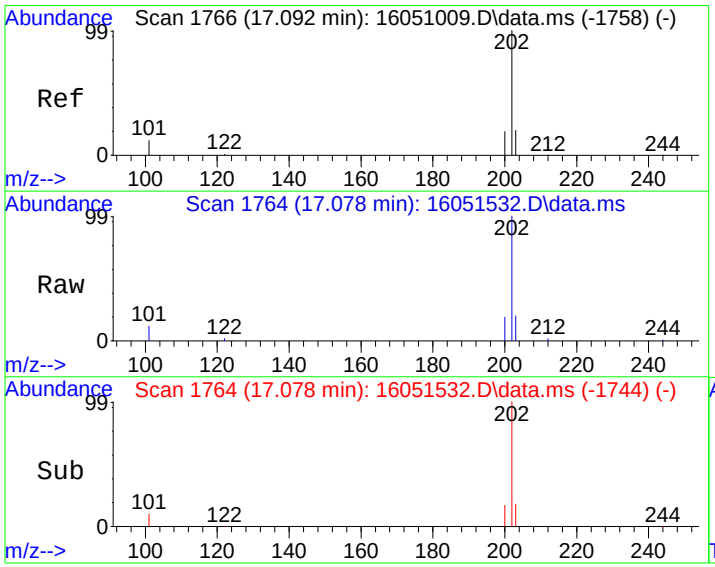
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051532.D
Acq On : 16 May 2016 6:48 am
Operator :
Sample : 1605074-27A
Misc : SAMP
ALS Vial : 22 Sample Multiplier: 10

Quant Time: May 16 13:07:53 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

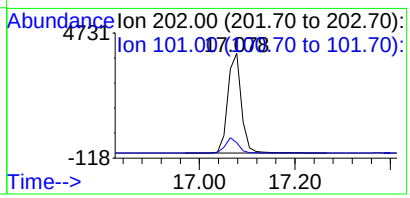


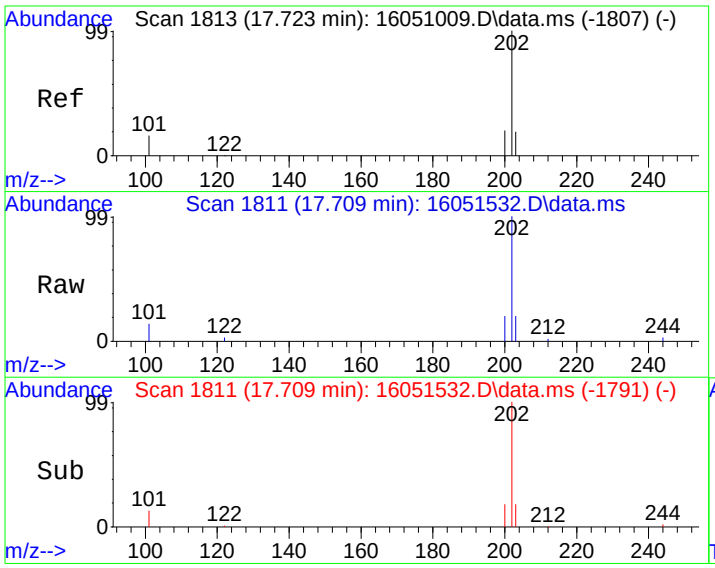


#14
Fluoranthene
Concen: 8.06 ug/kg
RT: 17.078 min Scan# 1764
Delta R.T. 0.013 min
Lab File: 16051532.D
Acq: 16 May 2016 6:48 am

Tgt Ion:202 Resp: 7627

Ion	Ratio	Lower	Upper
202	100		
101	10.2	0.0	32.0

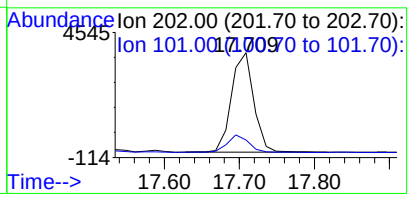


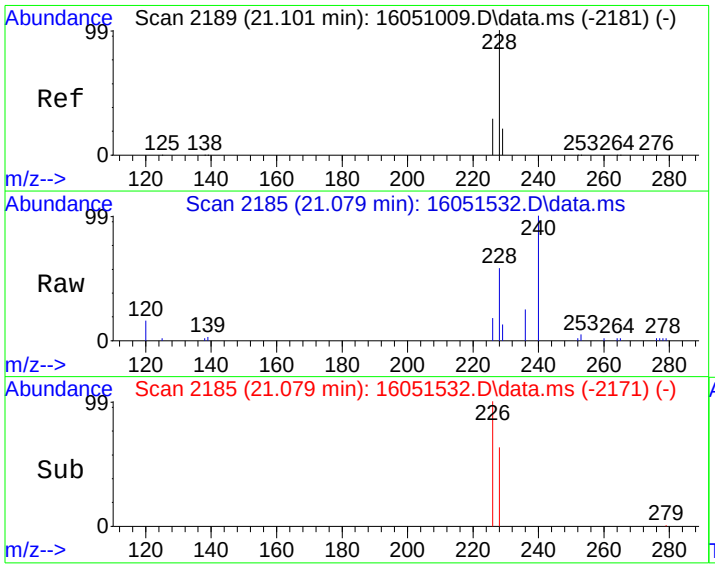


#15
Pyrene
Concen: 8.06 ug/kg
RT: 17.709 min Scan# 1811
Delta R.T. 0.013 min
Lab File: 16051532.D
Acq: 16 May 2016 6:48 am

Tgt Ion:202 Resp: 7653

Ion	Ratio	Lower	Upper
202	100		
101	12.5	0.0	35.9

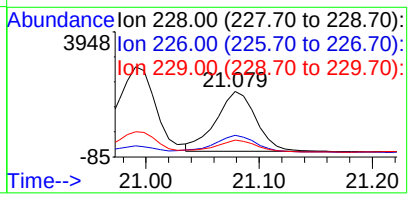


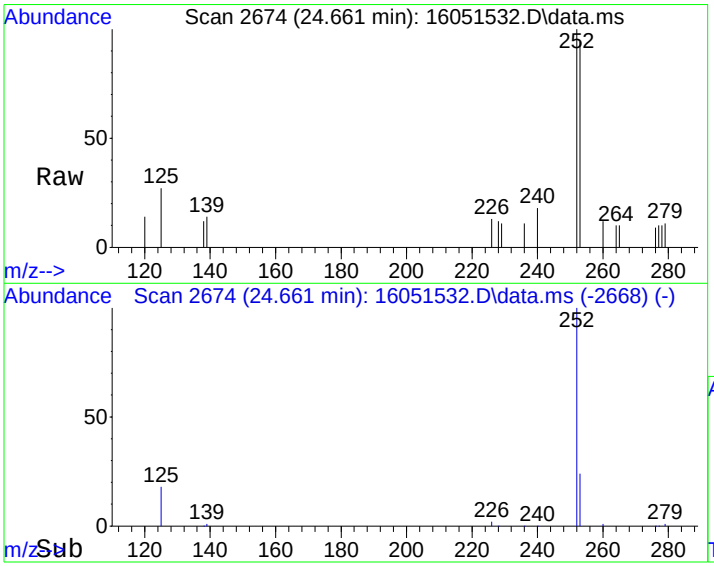


#19
Chrysene
Concen: 6.73 ug/kg
RT: 21.079 min Scan# 2185
Delta R.T. 0.001 min
Lab File: 16051532.D
Acq: 16 May 2016 6:48 am

Tgt Ion:228 Resp: 4752

Ion	Ratio	Lower	Upper
228	100		
226	28.0	8.8	48.8
229	20.0	0.5	40.5

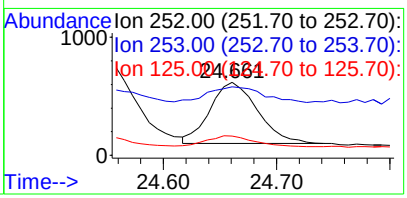


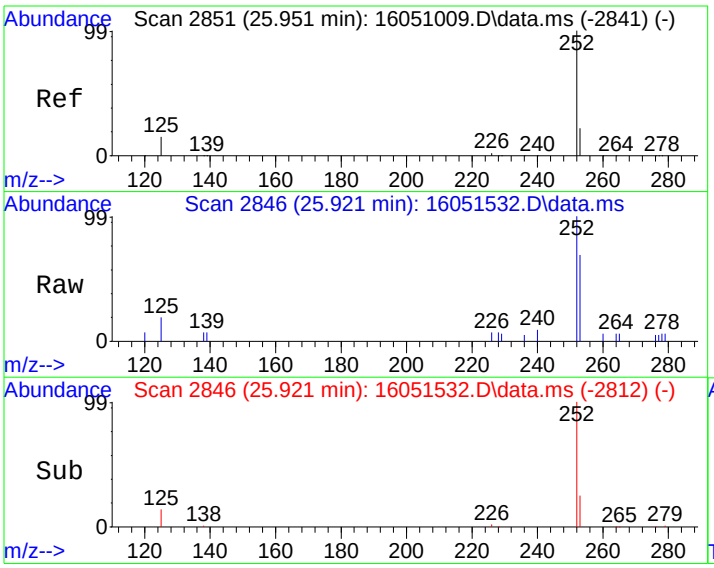


#23
Benzo(j)fluoranthene
Concen: 2.74 ug/kg
RT: 24.661 min Scan# 2674
Delta R.T. 0.001 min
Lab File: 16051532.D
Acq: 16 May 2016 6:48 am

Tgt Ion:252 Resp: 1506

Ion	Ratio	Lower	Upper
252	100		
253	29.4	2.3	42.3
125	17.3	0.0	39.2

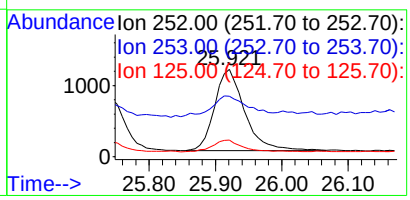




#25
Benzo[a]pyrene
Concen: 5.78 ug/kg
RT: 25.921 min Scan# 2846
Delta R.T. 0.001 min
Lab File: 16051532.D
Acq: 16 May 2016 6:48 am

Tgt Ion:252 Resp: 3607

Ion	Ratio	Lower	Upper
252	100		
253	23.8	2.5	42.5
125	14.1	0.0	35.5



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051533.D
Acq On : 16 May 2016 7:25 am
Operator :
Sample : 1605074-28A
Misc : SAMP
ALS Vial : 23 Sample Multiplier: 10

Quant Time: May 16 13:07:57 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.273	136	1554630	4000.00	ug/kg	100
6) Acenaphthene-d10	12.861	164	992708	4000.00	ug/kg	102
11) Phenanthrene-d10	14.983	188	2527352	4000.00	ug/kg	81
16) Chrysene-d12	20.998	240	2767922	4000.00	ug/kg	79
20) Perylene-d12	26.264	264	2423625	4000.00	ug/kg	82

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.762	172	49462	161.88	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 4.05%#			
17) 4-Terphenyl-d14	17.589	244	100139	156.58	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery = 3.91%#			

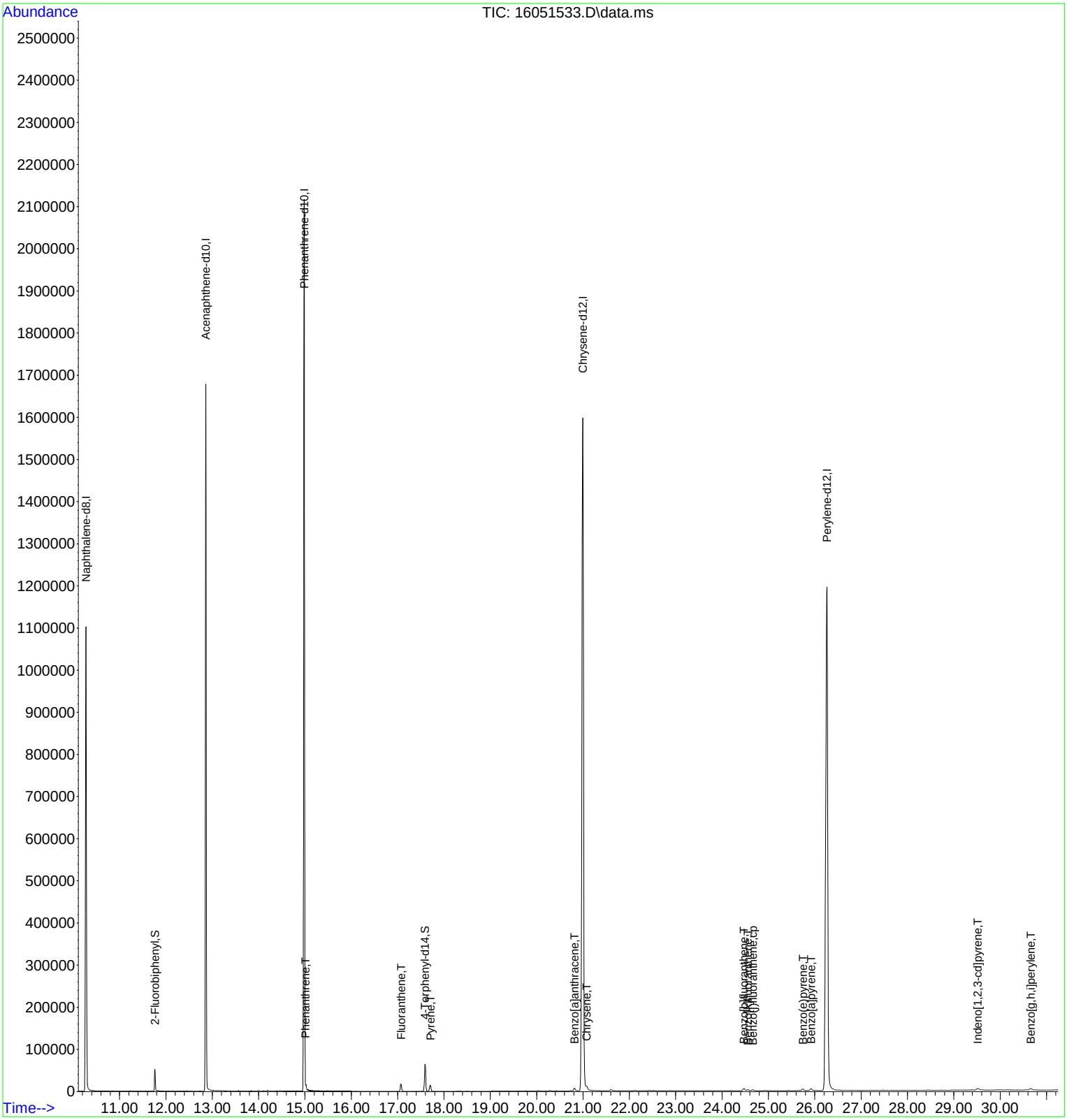
Target Compounds						Qvalue
12) Phenanthrene	15.019	178	7498	10.25	ug/kg	98
14) Fluoranthene	17.079	202	23019	24.05	ug/kg	93
15) Pyrene	17.709	202	19518	20.33	ug/kg	91
18) Benzo[a]anthracene	20.814	228	10497	13.49	ug/kg	100
19) Chrysene	21.078	228	12174	17.09	ug/kg	99
21) Benzo[b]fluoranthene	24.470	252	10852	15.72	ug/kg	98
22) Benzo[k]fluoranthene	24.550	252	5172	9.34	ug/kg	93
23) Benzo(j)fluoranthene	24.660	252	4820	8.61	ug/kg	92
24) Benzo(e)pyrene	25.744	252	8143	12.29	ug/kg	93
25) Benzo[a]pyrene	25.920	252	10386	16.37	ug/kg	97
26) Indeno[1,2,3-cd]pyrene	29.517	276	8006	11.39	ug/kg	88
28) Benzo[g,h,i]perylene	30.659	276	8277	13.50	ug/kg	97

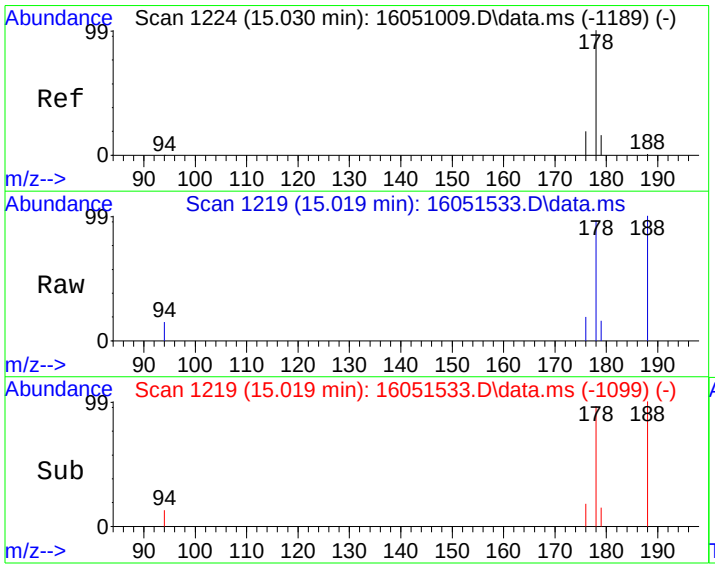
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051533.D
Acq On : 16 May 2016 7:25 am
Operator :
Sample : 1605074-28A
Misc : SAMP
ALS Vial : 23 Sample Multiplier: 10

Quant Time: May 16 13:07:57 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

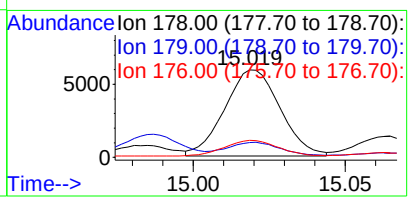


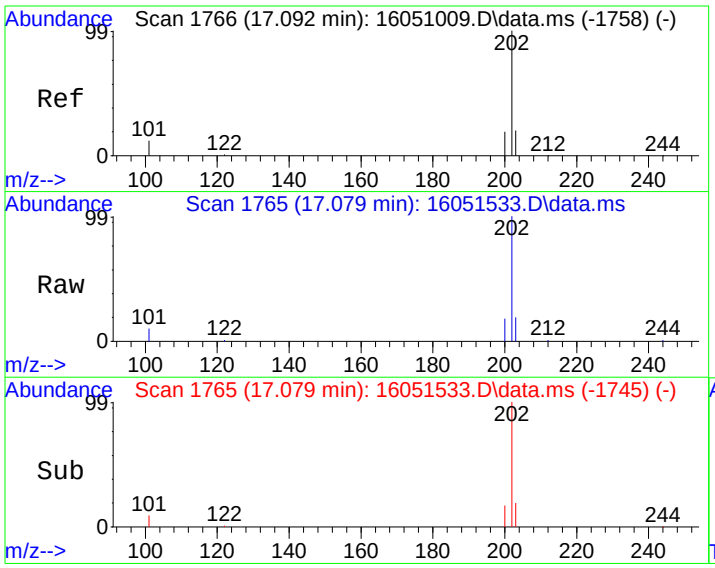


#12
Phenanthrene
Concen: 10.25 ug/kg
RT: 15.019 min Scan# 1219
Delta R.T. 0.003 min
Lab File: 16051533.D
Acq: 16 May 2016 7:25 am

Tgt Ion:178 Resp: 7498

Ion	Ratio	Lower	Upper
178	100		
179	15.5	0.0	36.4
176	18.5	0.0	39.2

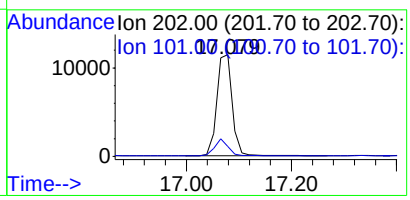


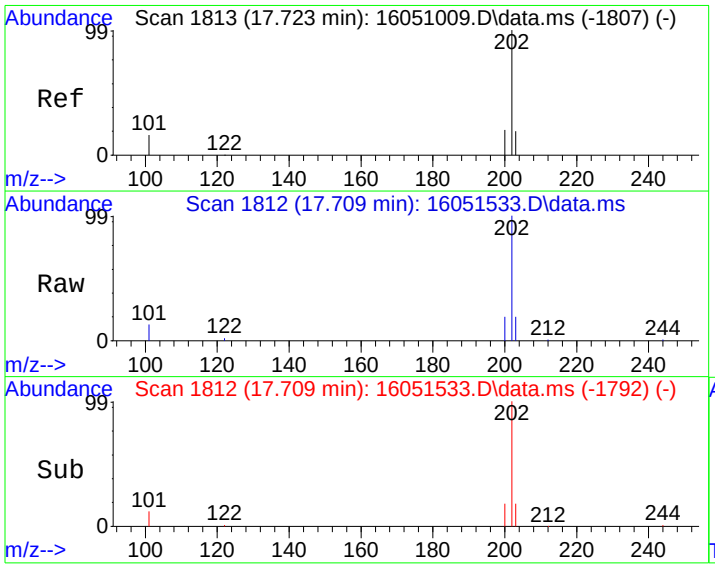


#14
Fluoranthene
Concen: 24.05 ug/kg
RT: 17.079 min Scan# 1765
Delta R.T. 0.014 min
Lab File: 16051533.D
Acq: 16 May 2016 7:25 am

Tgt Ion:202 Resp: 23019

Ion	Ratio	Lower	Upper
202	100		
101	9.2	0.0	32.0

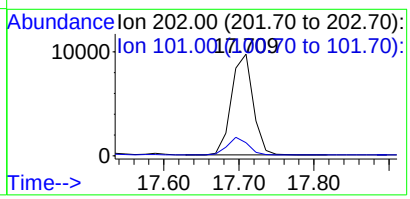


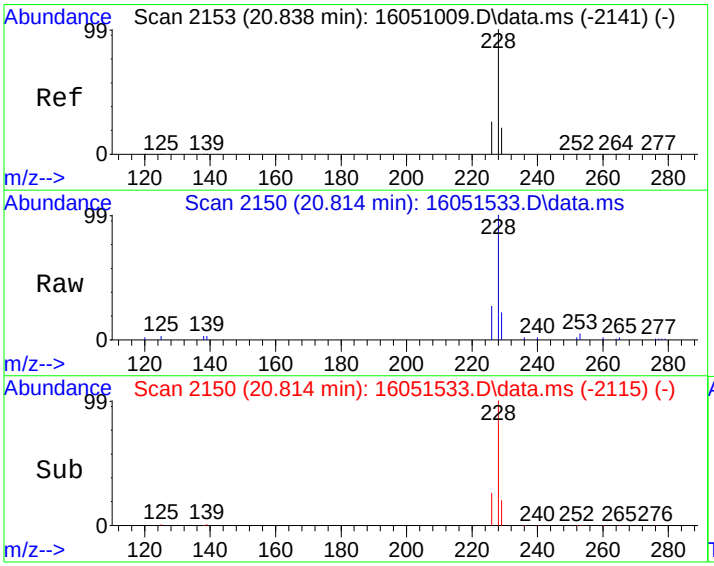


#15
Pyrene
Concen: 20.33 ug/kg
RT: 17.709 min Scan# 1812
Delta R.T. 0.014 min
Lab File: 16051533.D
Acq: 16 May 2016 7:25 am

Tgt Ion:202 Resp: 19518

Ion	Ratio	Lower	Upper
202	100		
101	12.0	0.0	35.9

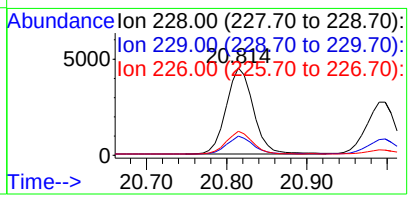


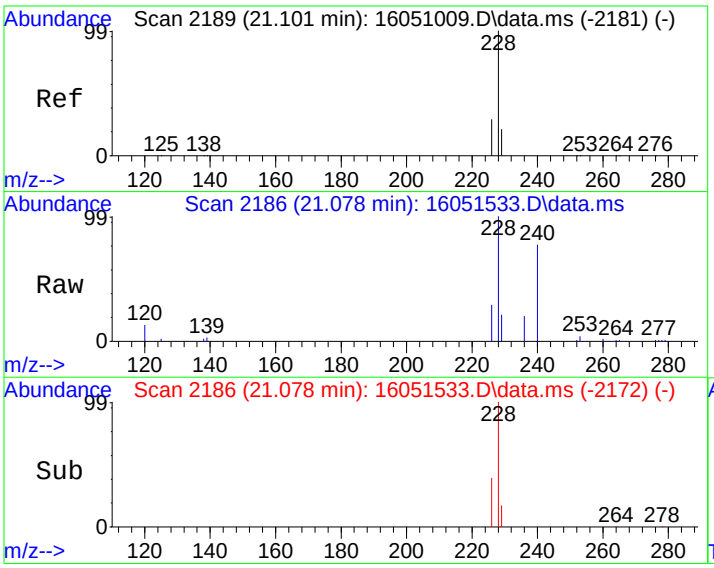


#18
Benzo[a]anthracene
Concen: 13.49 ug/kg
RT: 20.814 min Scan# 2150
Delta R.T. 0.008 min
Lab File: 16051533.D
Acq: 16 May 2016 7:25 am

Tgt Ion:228 Resp: 10497

Ion	Ratio	Lower	Upper
228	100		
229	20.6	0.7	40.7
226	26.1	5.9	45.9

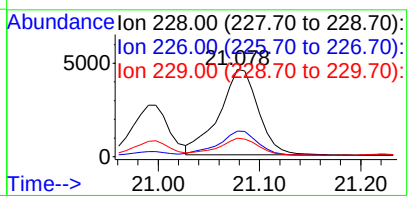


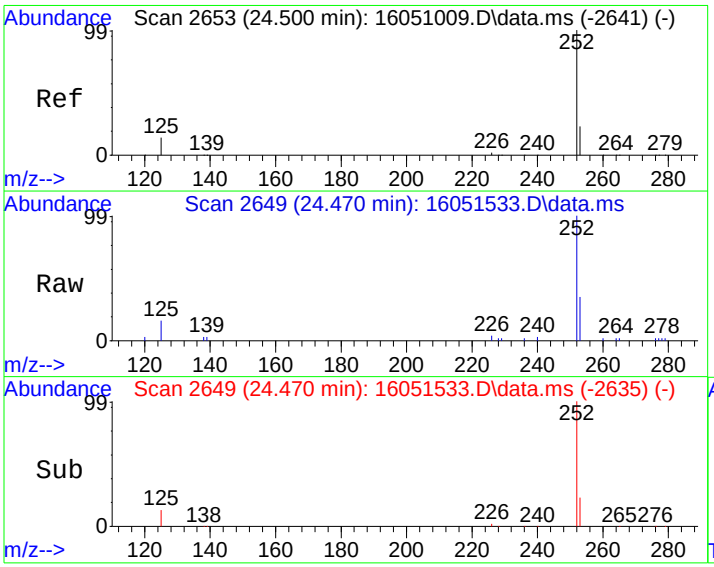


#19
Chrysene
Concen: 17.09 ug/kg
RT: 21.078 min Scan# 2186
Delta R.T. 0.001 min
Lab File: 16051533.D
Acq: 16 May 2016 7:25 am

Tgt Ion:228 Resp: 12174

Ion	Ratio	Lower	Upper
228	100		
226	28.4	8.8	48.8
229	20.1	0.5	40.5

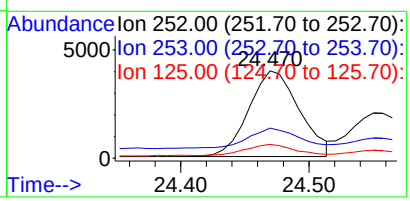


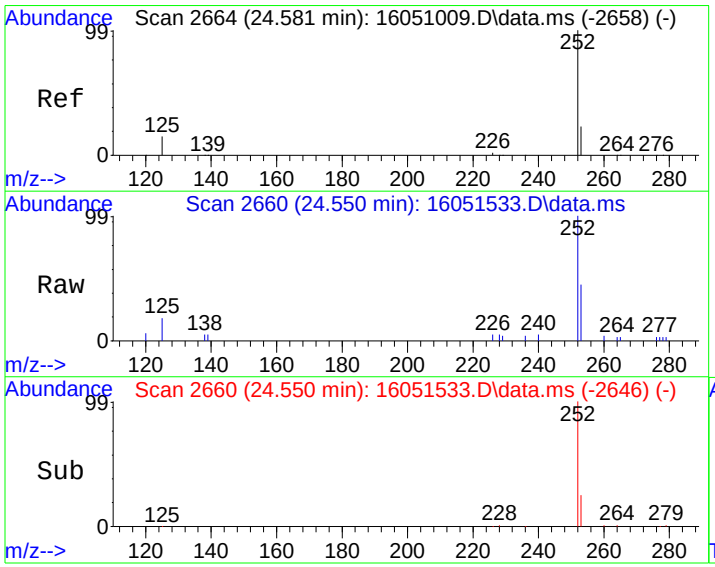


#21
Benzo[b]fluoranthene
Concen: 15.72 ug/kg
RT: 24.470 min Scan# 2649
Delta R.T. 0.001 min
Lab File: 16051533.D
Acq: 16 May 2016 7:25 am

Tgt Ion:252 Resp: 10852

Ion	Ratio	Lower	Upper
252	100		
253	23.3	2.6	42.6
125	12.8	0.0	33.8

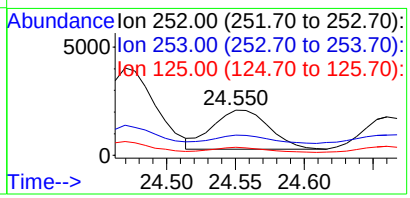


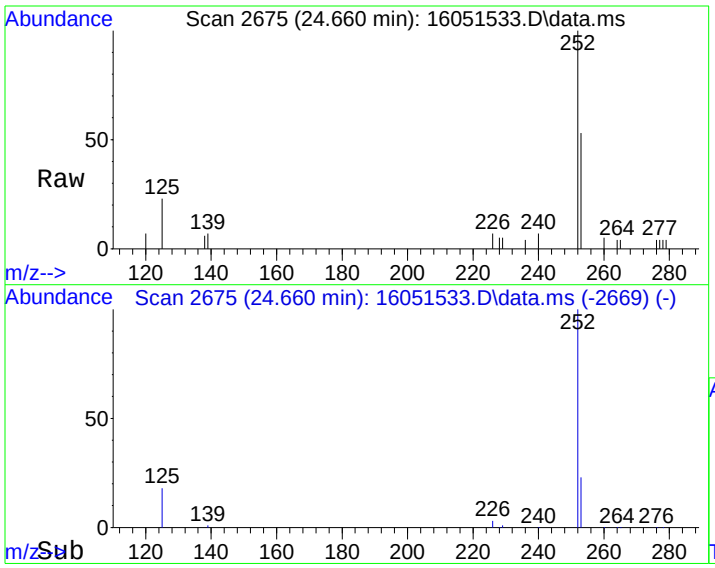


#22
Benzo[k]fluoranthene
Concen: 9.34 ug/kg
RT: 24.550 min Scan# 2660
Delta R.T. 0.001 min
Lab File: 16051533.D
Acq: 16 May 2016 7:25 am

Tgt Ion:252 Resp: 5172

Ion	Ratio	Lower	Upper
252	100		
253	18.6	2.8	42.8
125	12.7	0.0	34.7

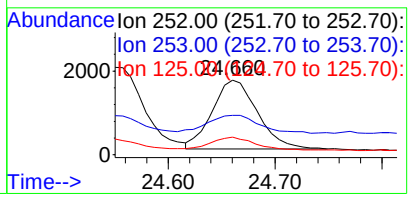


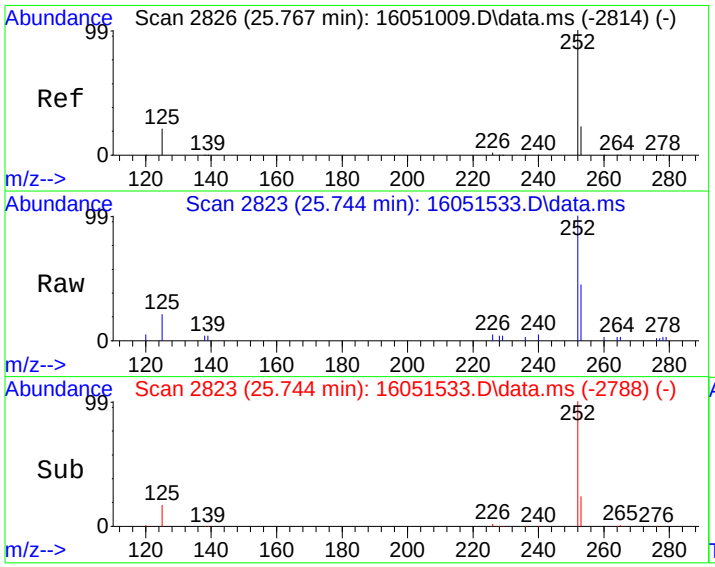


#23
Benzo(j)fluoranthene
Concen: 8.61 ug/kg
RT: 24.660 min Scan# 2675
Delta R.T. 0.001 min
Lab File: 16051533.D
Acq: 16 May 2016 7:25 am

Tgt Ion:252 Resp: 4820

Ion	Ratio	Lower	Upper
252	100		
253	28.3	2.3	42.3
125	18.3	0.0	39.2

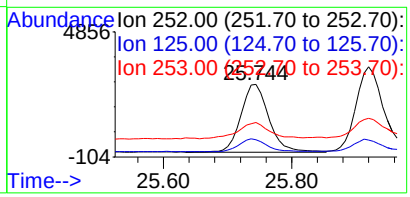


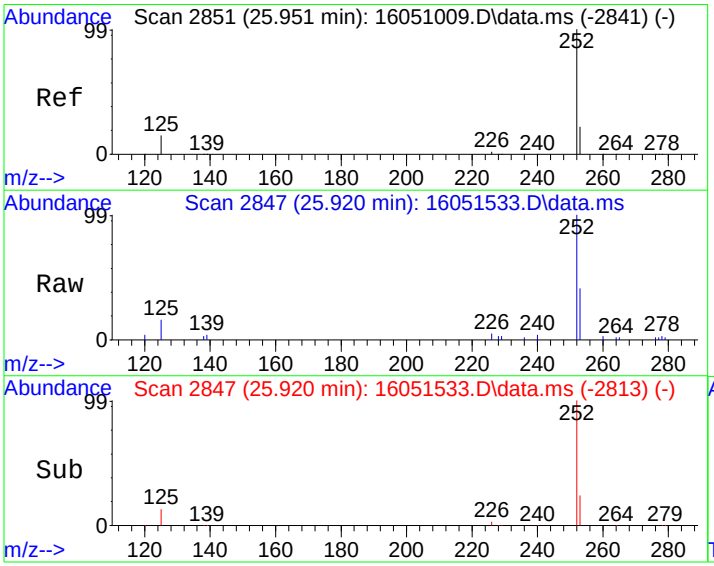


#24
Benzo(e)pyrene
Concen: 12.29 ug/kg
RT: 25.744 min Scan# 2823
Delta R.T. 0.008 min
Lab File: 16051533.D
Acq: 16 May 2016 7:25 am

Tgt Ion:252 Resp: 8143

Ion	Ratio	Lower	Upper
252	100		
125	18.8	0.8	40.8
253	27.3	2.4	42.4

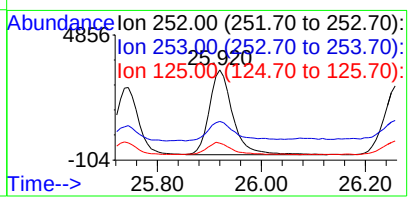


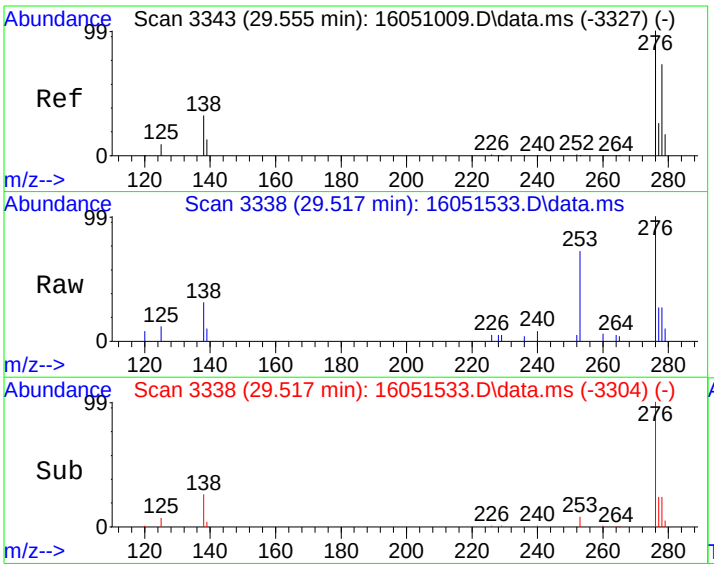


#25
Benzo[a]pyrene
Concen: 16.37 ug/kg
RT: 25.920 min Scan# 2847
Delta R.T. 0.001 min
Lab File: 16051533.D
Acq: 16 May 2016 7:25 am

Tgt Ion:252 Resp: 10386

Ion	Ratio	Lower	Upper
252	100		
253	23.0	2.5	42.5
125	13.3	0.0	35.5

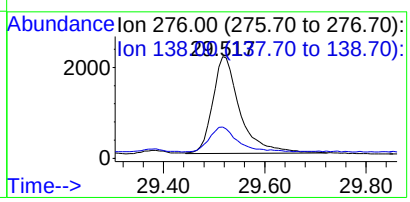


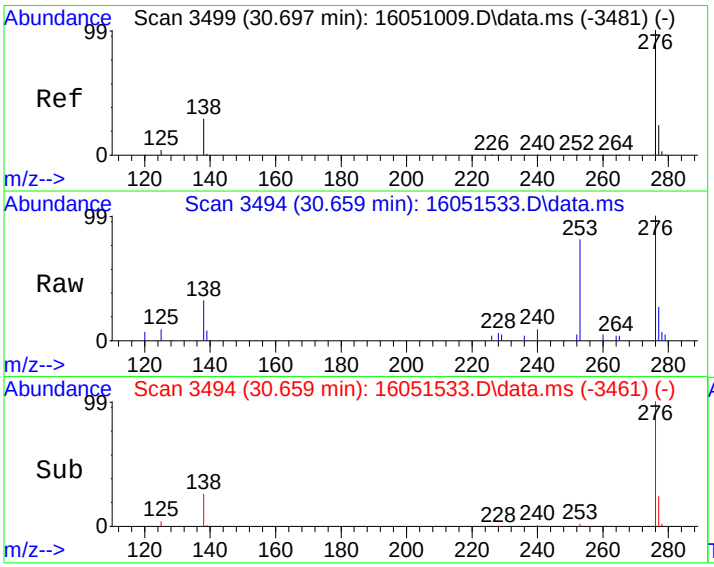


#26
Indeno[1,2,3-cd]pyrene
Concen: 11.39 ug/kg
RT: 29.517 min Scan# 3338
Delta R.T. 0.001 min
Lab File: 16051533.D
Acq: 16 May 2016 7:25 am

Tgt Ion:276 Resp: 8006

Ion	Ratio	Lower	Upper
276	100		
138	25.3	12.0	52.0

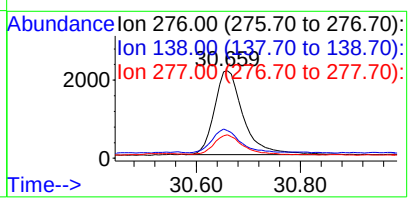




#28
Benzo[g,h,i]perylene
Concen: 13.50 ug/kg
RT: 30.659 min Scan# 3494
Delta R.T. -0.007 min
Lab File: 16051533.D
Acq: 16 May 2016 7:25 am

Tgt Ion:276 Resp: 8277

Ion	Ratio	Lower	Upper
276	100		
138	26.4	9.3	49.3
277	23.9	4.3	44.3



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051534.D
Acq On : 16 May 2016 8:02 am
Operator :
Sample : 1605074-29A
Misc : SAMP
ALS Vial : 24 Sample Multiplier: 10

Quant Time: May 16 13:08:04 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.276	136	1537631	4000.00	ug/kg	98
6) Acenaphthene-d10	12.861	164	996082	4000.00	ug/kg	102
11) Phenanthrene-d10	14.983	188	2539245	4000.00	ug/kg	82
16) Chrysene-d12	20.997	240	2692388	4000.00	ug/kg	77
20) Perylene-d12	26.257	264	2385646	4000.00	ug/kg	80

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.765	172	25015	82.78	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.07%#			
17) 4-Terphenyl-d14	17.589	244	49124	78.97	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery = 1.97%#			

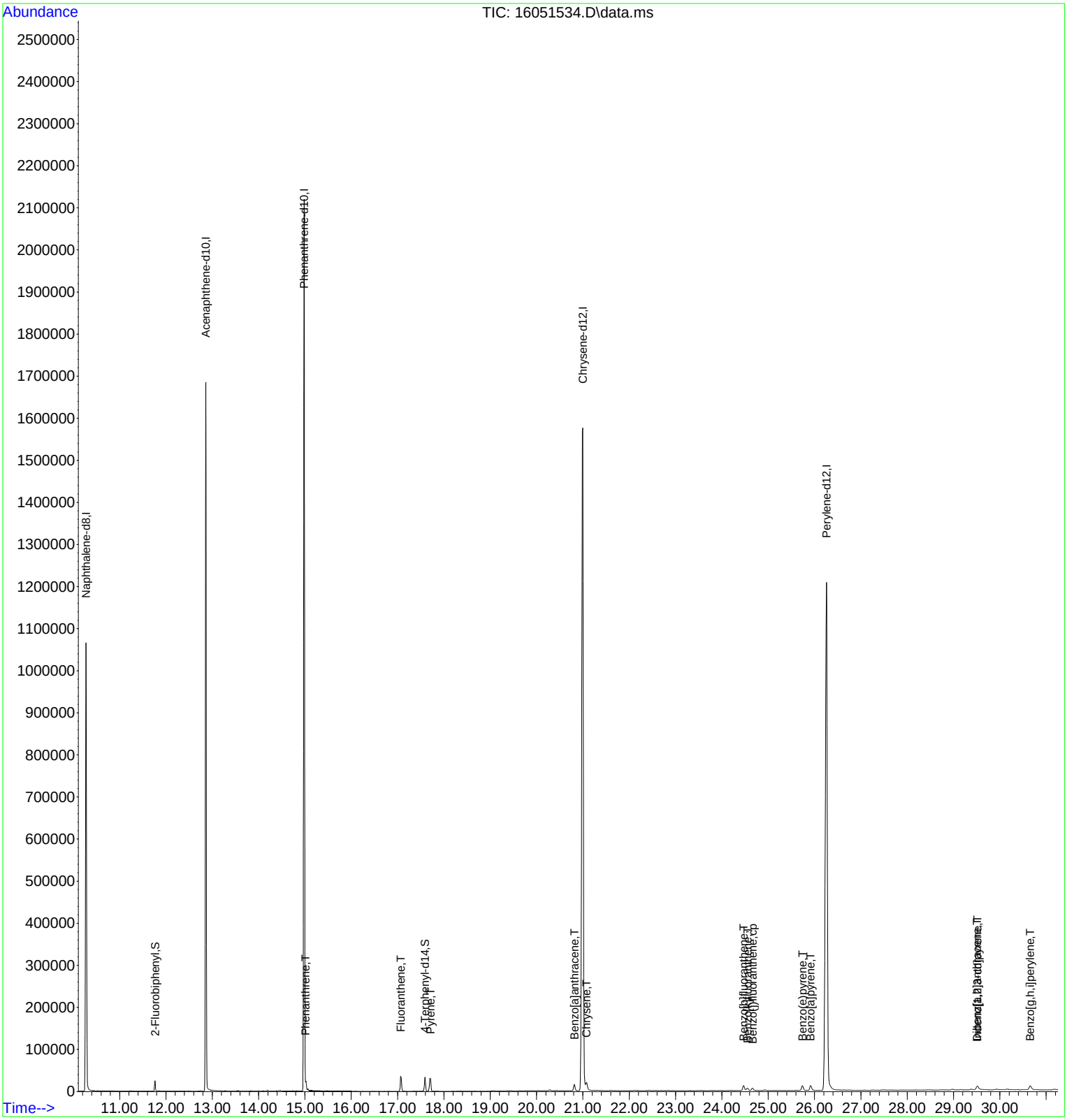
Target Compounds						Qvalue
12) Phenanthrene	15.019	178	16190	22.03	ug/kg	98
14) Fluoranthene	17.066	202	45958	47.78	ug/kg	87
15) Pyrene	17.710	202	42894	44.47	ug/kg	90
18) Benzo[a]anthracene	20.814	228	24680	32.61	ug/kg	99
19) Chrysene	21.078	228	28870	41.67	ug/kg	100
21) Benzo[b]fluoranthene	24.469	252	24791	36.49	ug/kg	98
22) Benzo[k]fluoranthene	24.550	252	10904	20.01	ug/kg	97
23) Benzo(j)fluoranthene	24.660	252	10841	19.68	ug/kg	90
24) Benzo(e)pyrene	25.737	252	23112	35.44	ug/kg	95
25) Benzo[a]pyrene	25.920	252	24652	39.48	ug/kg	97
26) Indeno[1,2,3-cd]pyrene	29.516	276	17812	25.75	ug/kg	88
27) Dibenz[a,h]anthracene	29.502	278	5011	8.88	ug/kg	95
28) Benzo[g,h,i]perylene	30.659	276	21800	36.11	ug/kg	97

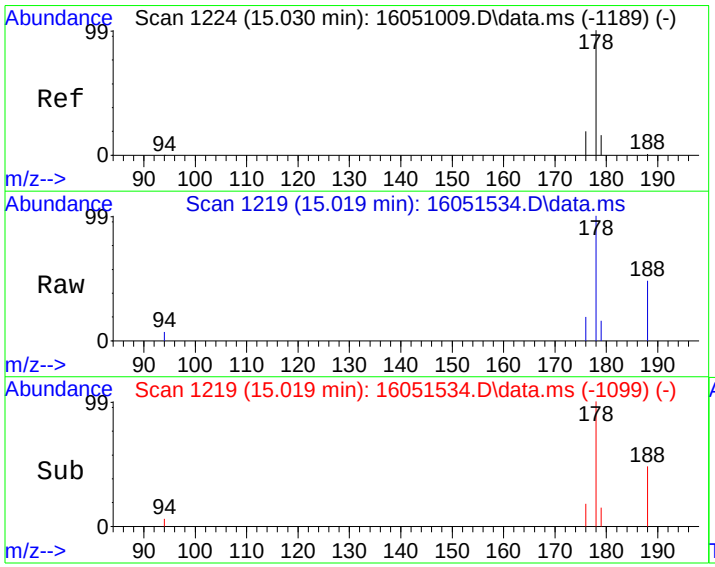
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051534.D
Acq On : 16 May 2016 8:02 am
Operator :
Sample : 1605074-29A
Misc : SAMP
ALS Vial : 24 Sample Multiplier: 10

Quant Time: May 16 13:08:04 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

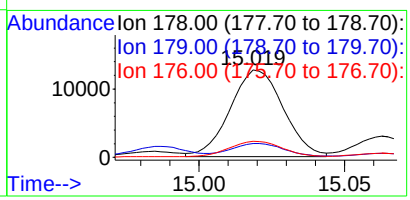


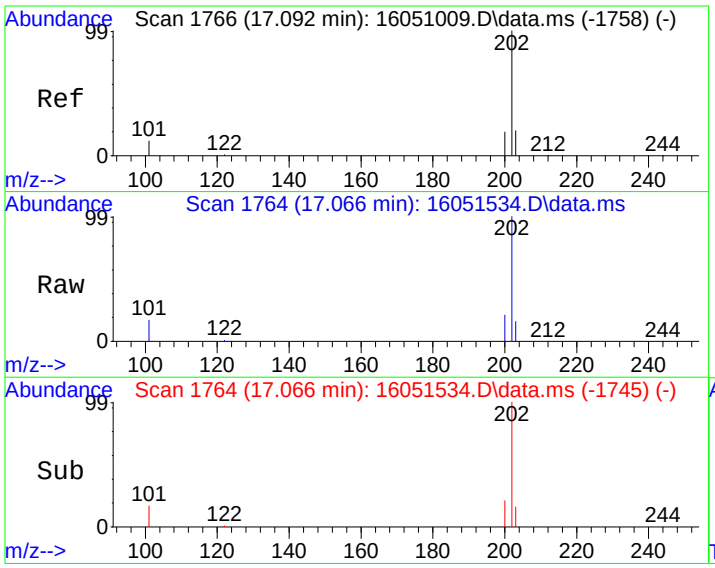


#12
Phenanthrene
Concen: 22.03 ug/kg
RT: 15.019 min Scan# 1219
Delta R.T. 0.003 min
Lab File: 16051534.D
Acq: 16 May 2016 8:02 am

Tgt Ion:178 Resp: 16190

Ion	Ratio	Lower	Upper
178	100		
179	15.1	0.0	36.4
176	18.4	0.0	39.2

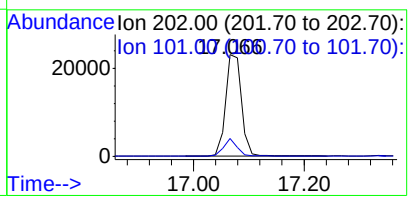


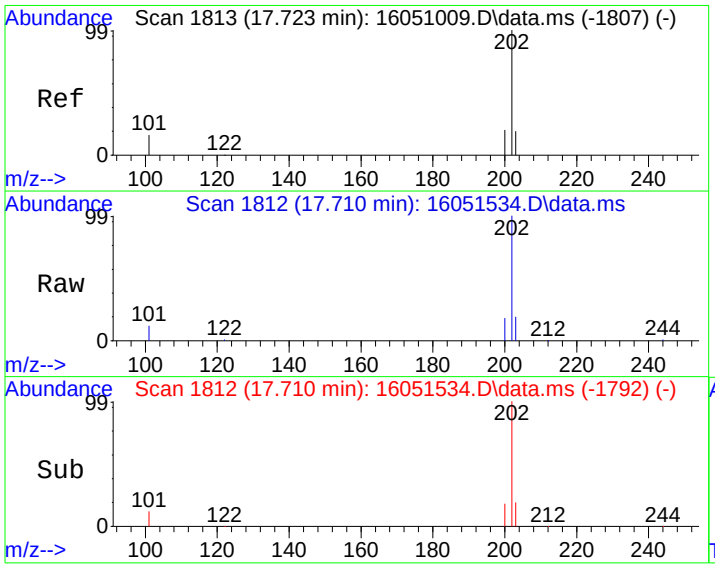


#14
Fluoranthene
Concen: 47.78 ug/kg
RT: 17.066 min Scan# 1764
Delta R.T. 0.001 min
Lab File: 16051534.D
Acq: 16 May 2016 8:02 am

Tgt Ion:202 Resp: 45958

Ion	Ratio	Lower	Upper
202	100		
101	17.1	0.0	32.0

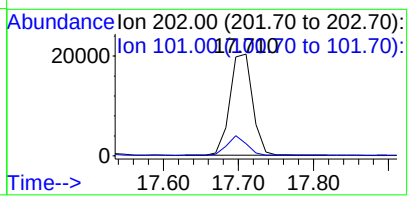


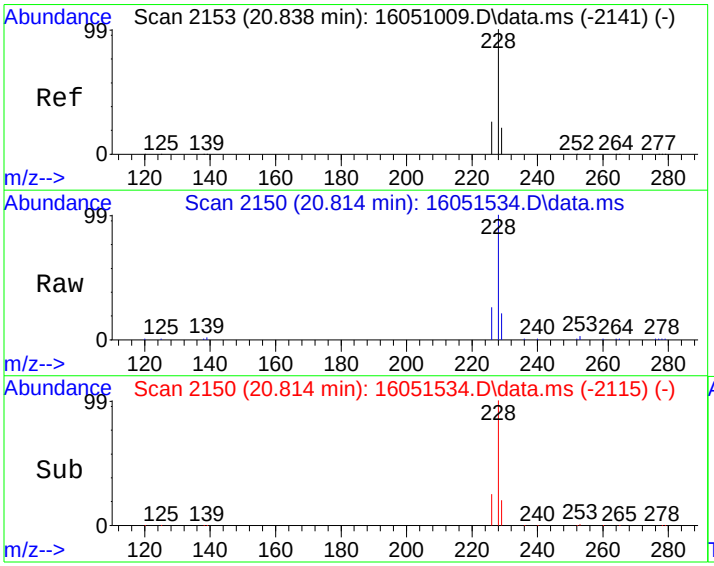


#15
Pyrene
Concen: 44.47 ug/kg
RT: 17.710 min Scan# 1812
Delta R.T. 0.014 min
Lab File: 16051534.D
Acq: 16 May 2016 8:02 am

Tgt Ion:202 Resp: 42894

Ion	Ratio	Lower	Upper
202	100		
101	11.6	0.0	35.9

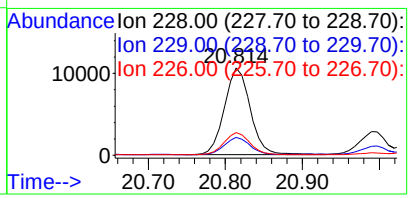


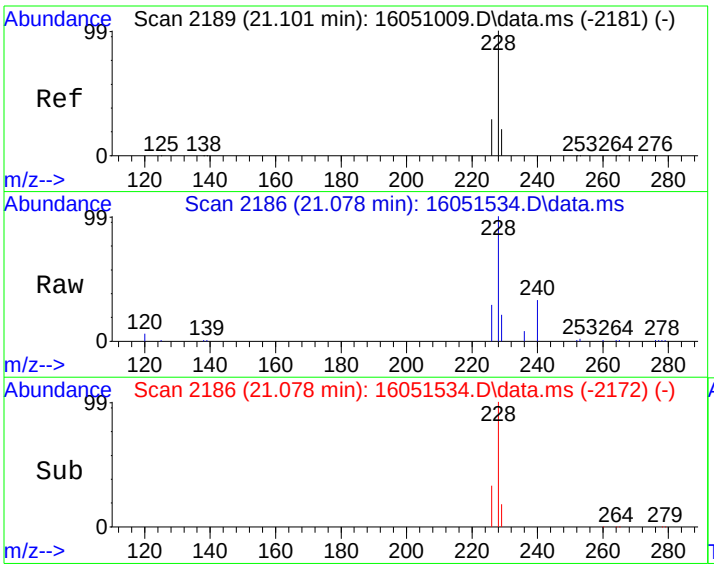


#18
Benzo[a]anthracene
Concen: 32.61 ug/kg
RT: 20.814 min Scan# 2150
Delta R.T. 0.008 min
Lab File: 16051534.D
Acq: 16 May 2016 8:02 am

Tgt Ion:228 Resp: 24680

Ion	Ratio	Lower	Upper
228	100		
229	19.9	0.7	40.7
226	25.6	5.9	45.9

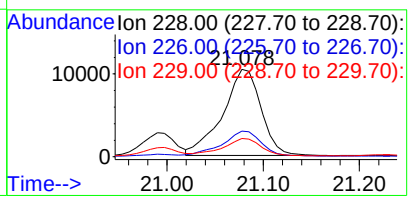


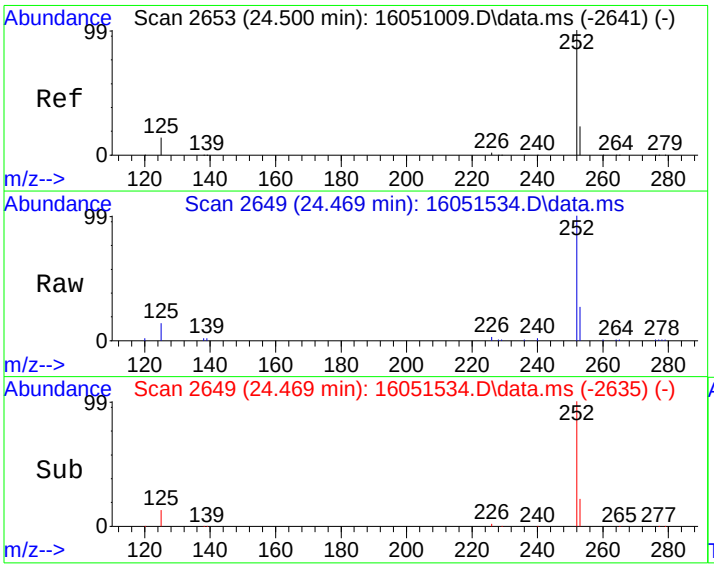


#19
Chrysene
Concen: 41.67 ug/kg
RT: 21.078 min Scan# 2186
Delta R.T. 0.000 min
Lab File: 16051534.D
Acq: 16 May 2016 8:02 am

Tgt Ion:228 Resp: 28870

Ion	Ratio	Lower	Upper
228	100		
226	28.8	8.8	48.8
229	20.0	0.5	40.5

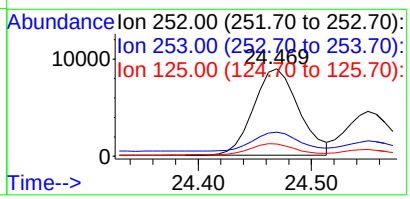


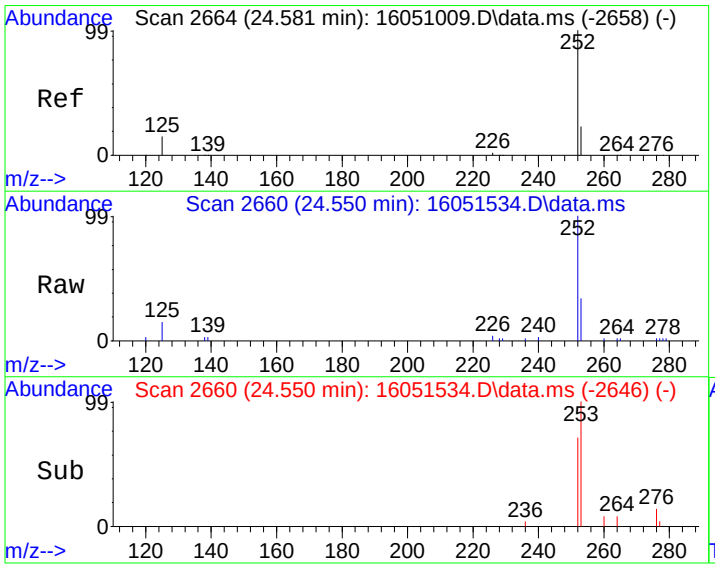


#21
Benzo[b]fluoranthene
Concen: 36.49 ug/kg
RT: 24.469 min Scan# 2649
Delta R.T. 0.000 min
Lab File: 16051534.D
Acq: 16 May 2016 8:02 am

Tgt Ion:252 Resp: 24791

Ion	Ratio	Lower	Upper
252	100		
253	21.8	2.6	42.6
125	12.3	0.0	33.8

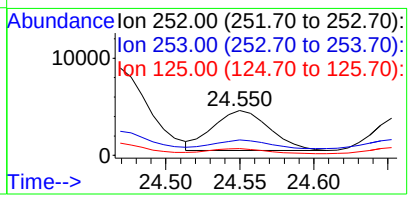


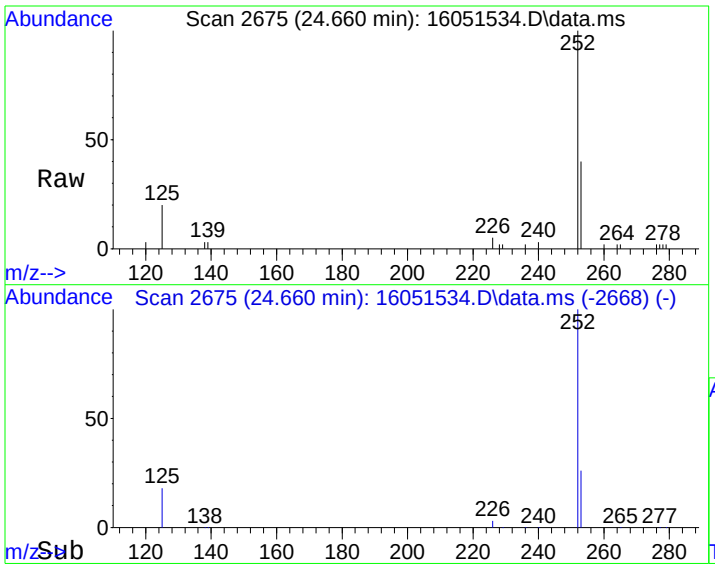


#22
Benzo[k]fluoranthene
Concen: 20.01 ug/kg
RT: 24.550 min Scan# 2660
Delta R.T. 0.000 min
Lab File: 16051534.D
Acq: 16 May 2016 8:02 am

Tgt Ion:252 Resp: 10904

Ion	Ratio	Lower	Upper
252	100		
253	21.8	2.8	42.8
125	12.8	0.0	34.7

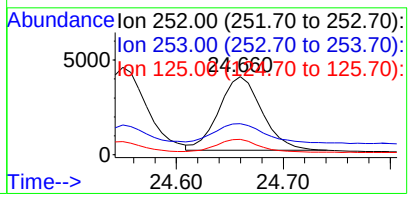


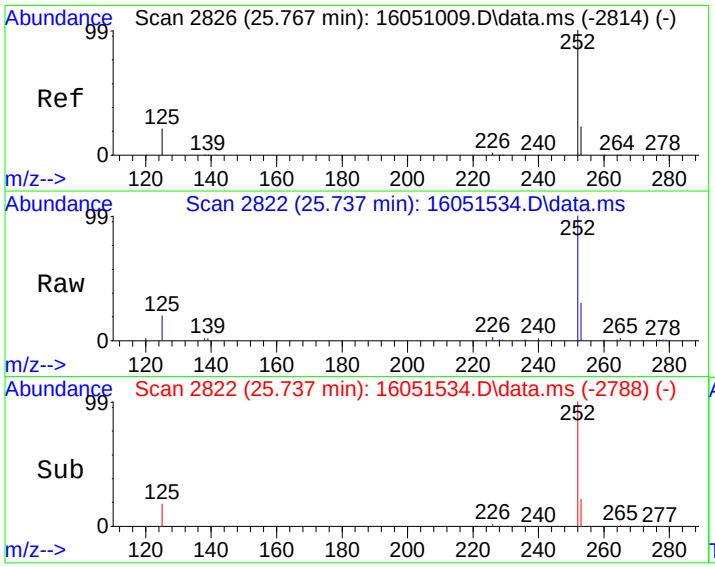


#23
Benzo(j)fluoranthene
Concen: 19.68 ug/kg
RT: 24.660 min Scan# 2675
Delta R.T. 0.000 min
Lab File: 16051534.D
Acq: 16 May 2016 8:02 am

Tgt Ion:252 Resp: 10841

Ion	Ratio	Lower	Upper
252	100		
253	29.3	2.3	42.3
125	17.1	0.0	39.2

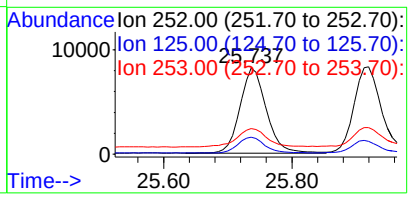


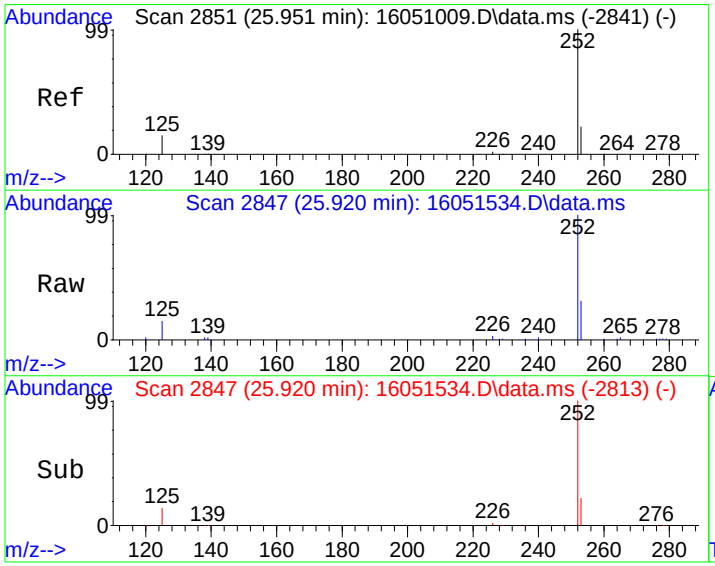


#24
Benzo(e)pyrene
Concen: 35.44 ug/kg
RT: 25.737 min Scan# 2822
Delta R.T. 0.000 min
Lab File: 16051534.D
Acq: 16 May 2016 8:02 am

Tgt Ion:252 Resp: 23112

Ion	Ratio	Lower	Upper
252	100		
125	19.1	0.8	40.8
253	25.3	2.4	42.4

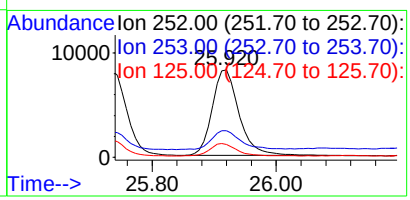


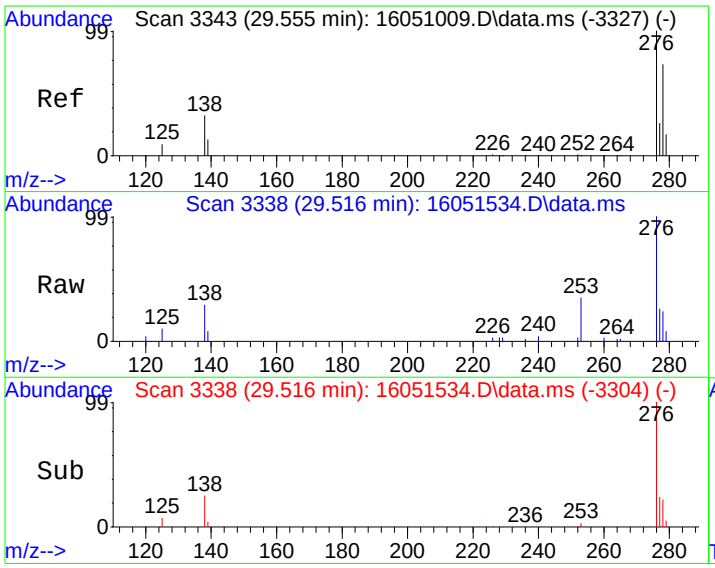


#25
Benzo[a]pyrene
Concen: 39.48 ug/kg
RT: 25.920 min Scan# 2847
Delta R.T. 0.000 min
Lab File: 16051534.D
Acq: 16 May 2016 8:02 am

Tgt Ion:252 Resp: 24652

Ion	Ratio	Lower	Upper
252	100		
253	21.9	2.5	42.5
125	13.4	0.0	35.5

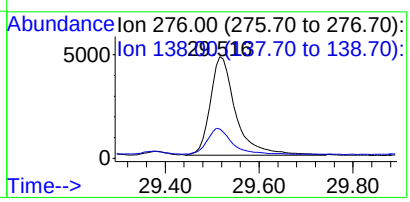


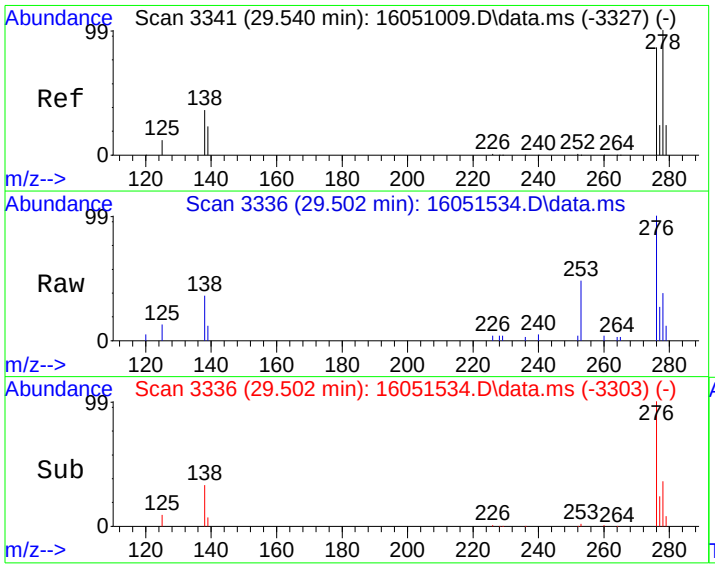


#26
Indeno[1,2,3-cd]pyrene
Concen: 25.75 ug/kg
RT: 29.516 min Scan# 3338
Delta R.T. 0.000 min
Lab File: 16051534.D
Acq: 16 May 2016 8:02 am

Tgt Ion:276 Resp: 17812

Ion	Ratio	Lower	Upper
276	100		
138	25.5	12.0	52.0

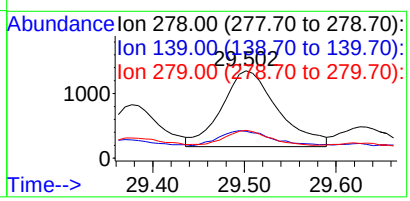


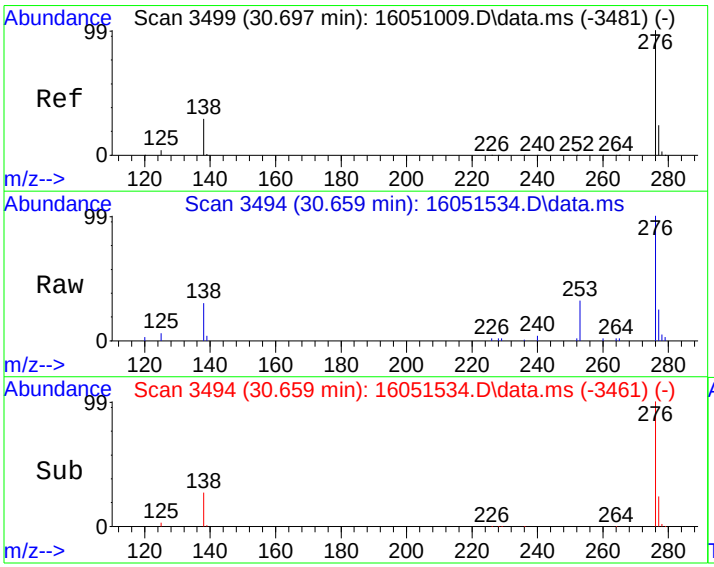


#27
Dibenz[a,h]anthracene
Concen: 8.88 ug/kg
RT: 29.502 min Scan# 3336
Delta R.T. -0.007 min
Lab File: 16051534.D
Acq: 16 May 2016 8:02 am

Tgt Ion:278 Resp: 5011

Ion	Ratio	Lower	Upper
278	100		
139	20.6	2.9	42.9
279	22.1	4.4	44.4

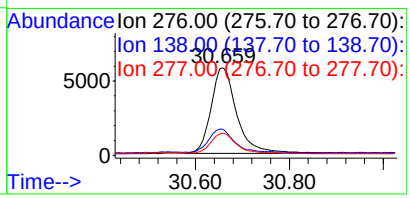




#28
Benzo[g,h,i]perylene
Concen: 36.11 ug/kg
RT: 30.659 min Scan# 3494
Delta R.T. -0.007 min
Lab File: 16051534.D
Acq: 16 May 2016 8:02 am

Tgt Ion:276 Resp: 21800

Ion	Ratio	Lower	Upper
276	100		
138	27.2	9.3	49.3
277	23.8	4.3	44.3



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051535.D
Acq On : 16 May 2016 8:49 am
Operator :
Sample : 1605074-30A
Misc : SAMP
ALS Vial : 25 Sample Multiplier: 10

Quant Time: May 16 13:08:11 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.276	136	1730388	4000.00	ug/kg	111
6) Acenaphthene-d10	12.860	164	1146286	4000.00	ug/kg	117
11) Phenanthrene-d10	14.984	188	2528698	4000.00	ug/kg	81
16) Chrysene-d12	20.998	240	2674908	4000.00	ug/kg	77
20) Perylene-d12	26.264	264	2525766	4000.00	ug/kg	85

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.765	172	26449	77.77	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.94%#			
17) 4-Terphenyl-d14	17.601	244	41730	67.52	ug/kg	0.01
Spiked Amount 4000.000	Range 51 - 135		Recovery = 1.69%#			

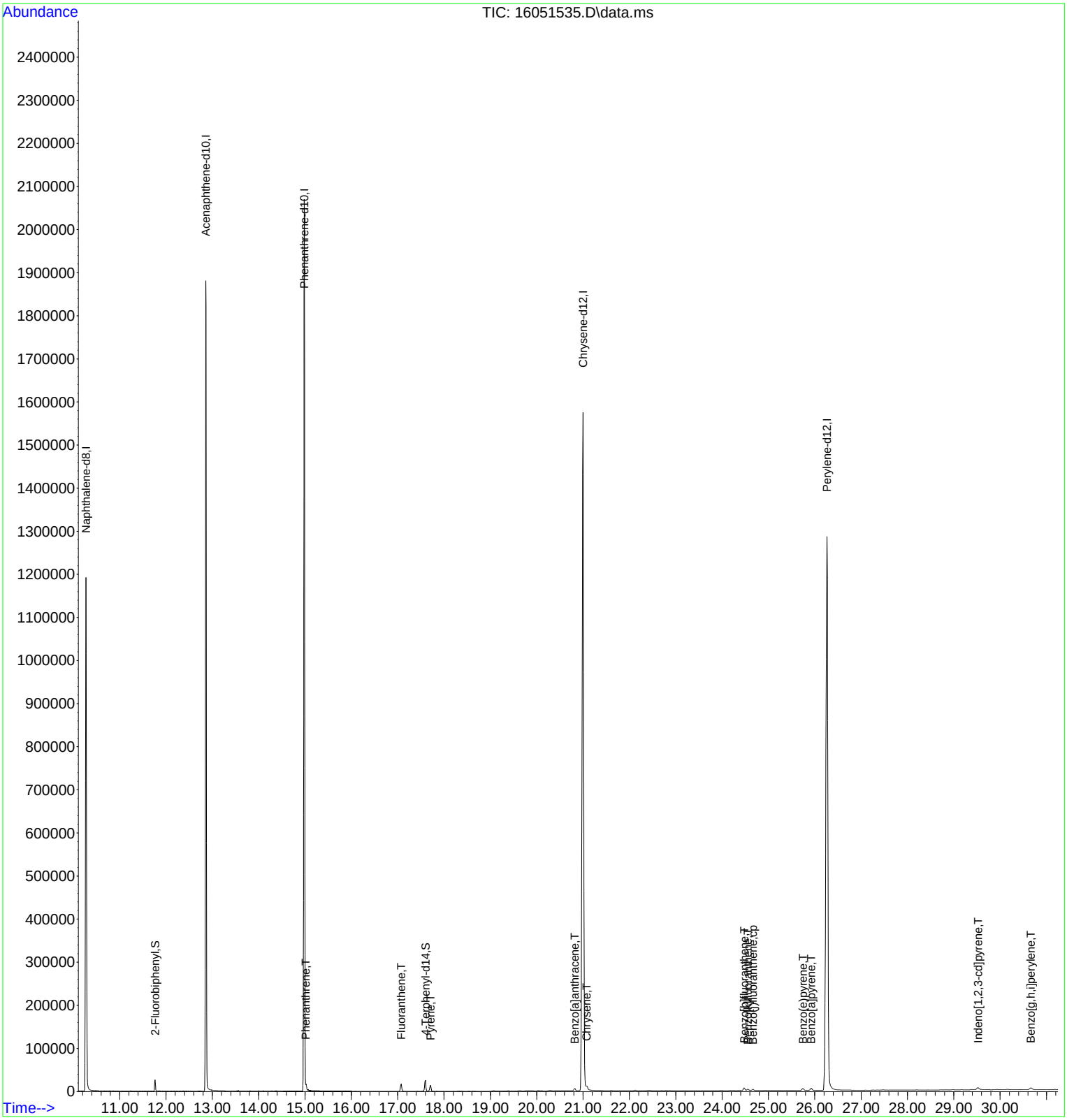
Target Compounds						Qvalue
12) Phenanthrene	15.022	178	8327	11.38	ug/kg	97
14) Fluoranthene	17.078	202	20765	21.68	ug/kg	98
15) Pyrene	17.708	202	17483	18.20	ug/kg	95
18) Benzo[a]anthracene	20.822	228	9144	12.16	ug/kg	98
19) Chrysene	21.086	228	12173	17.68	ug/kg	99
21) Benzo[b]fluoranthene	24.477	252	12394	17.23	ug/kg	96
22) Benzo[k]fluoranthene	24.558	252	5534	9.59	ug/kg	92
23) Benzo(j)fluoranthene	24.668	252	5208	8.93	ug/kg	89
24) Benzo(e)pyrene	25.744	252	9363	13.56	ug/kg	90
25) Benzo[a]pyrene	25.920	252	11011	16.66	ug/kg	97
26) Indeno[1,2,3-cd]pyrene	29.524	276	9566	13.06	ug/kg	88
28) Benzo[g,h,i]perylene	30.659	276	10119	15.83	ug/kg	98

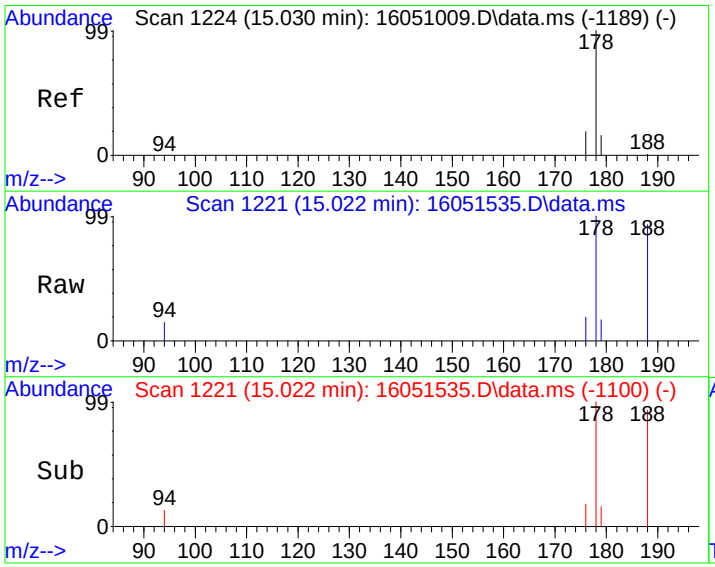
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051535.D
Acq On : 16 May 2016 8:49 am
Operator :
Sample : 1605074-30A
Misc : SAMP
ALS Vial : 25 Sample Multiplier: 10

Quant Time: May 16 13:08:11 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

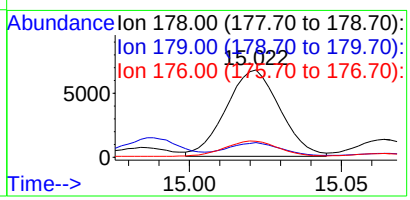


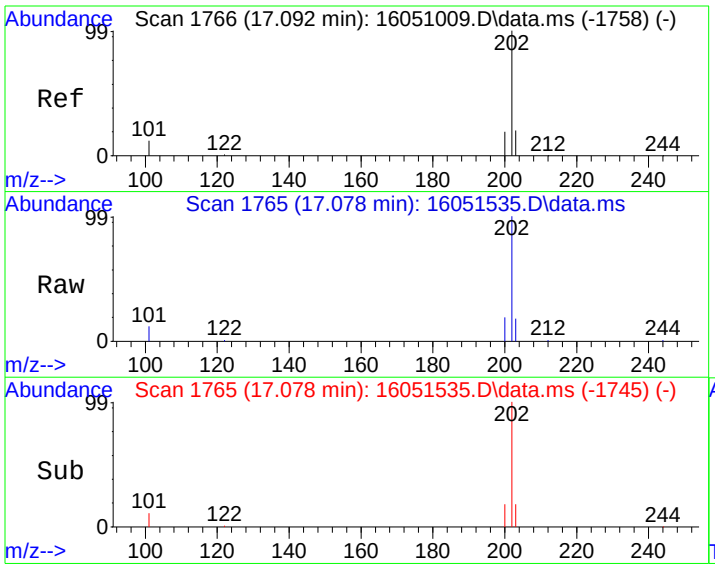


#12
Phenanthrene
Concen: 11.38 ug/kg
RT: 15.022 min Scan# 1221
Delta R.T. 0.006 min
Lab File: 16051535.D
Acq: 16 May 2016 8:49 am

Tgt Ion:178 Resp: 8327

Ion	Ratio	Lower	Upper
178	100		
179	15.4	0.0	36.4
176	17.9	0.0	39.2

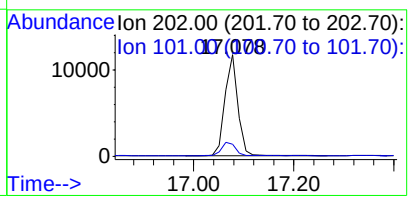


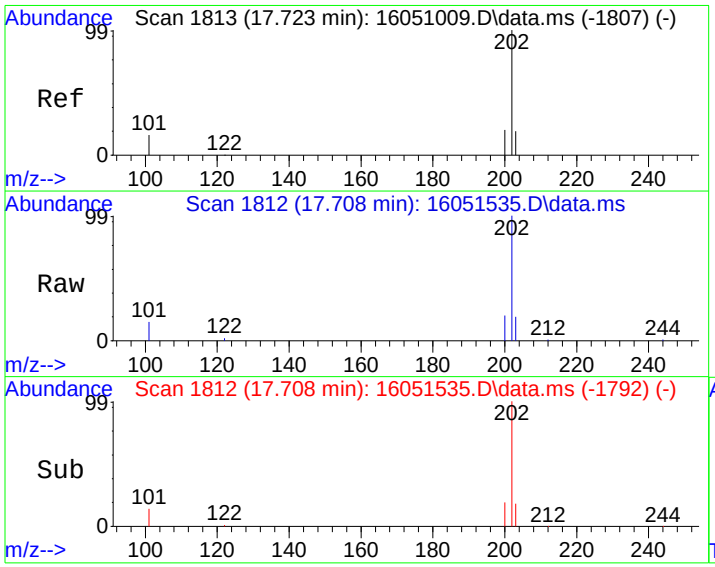


#14
Fluoranthene
Concen: 21.68 ug/kg
RT: 17.078 min Scan# 1765
Delta R.T. 0.012 min
Lab File: 16051535.D
Acq: 16 May 2016 8:49 am

Tgt Ion:202 Resp: 20765

Ion	Ratio	Lower	Upper
202	100		
101	11.2	0.0	32.0

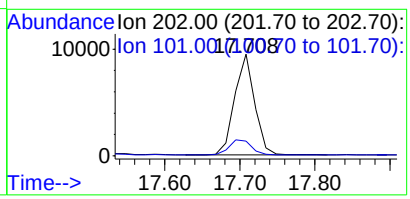


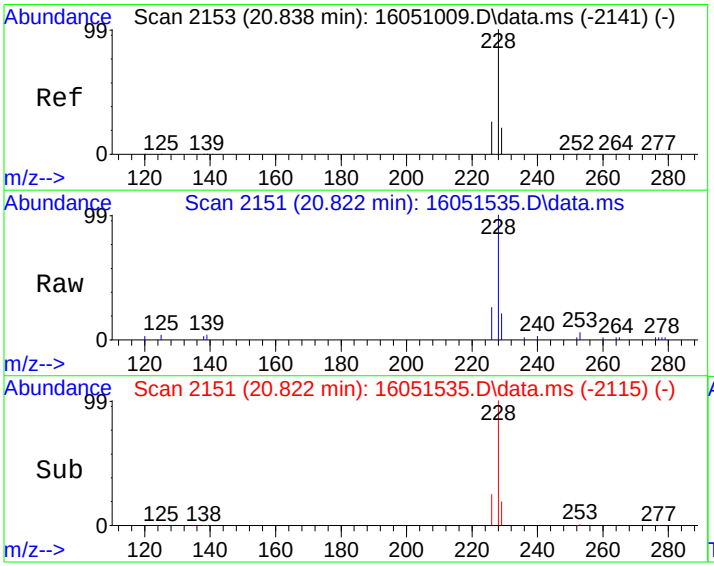


#15
Pyrene
Concen: 18.20 ug/kg
RT: 17.708 min Scan# 1812
Delta R.T. 0.012 min
Lab File: 16051535.D
Acq: 16 May 2016 8:49 am

Tgt Ion:202 Resp: 17483

Ion	Ratio	Lower	Upper
202	100		
101	13.7	0.0	35.9

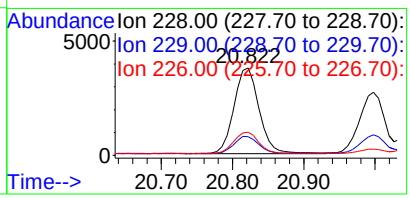


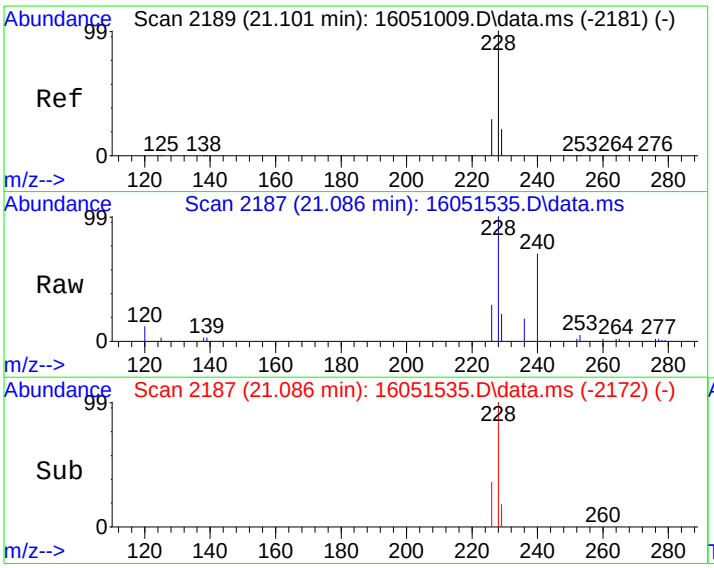


#18
Benzo[a]anthracene
Concen: 12.16 ug/kg
RT: 20.822 min Scan# 2151
Delta R.T. 0.016 min
Lab File: 16051535.D
Acq: 16 May 2016 8:49 am

Tgt Ion:228 Resp: 9144

Ion	Ratio	Lower	Upper
228	100		
229	19.5	0.7	40.7
226	25.0	5.9	45.9

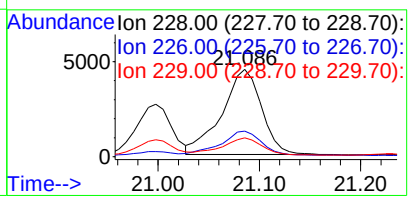


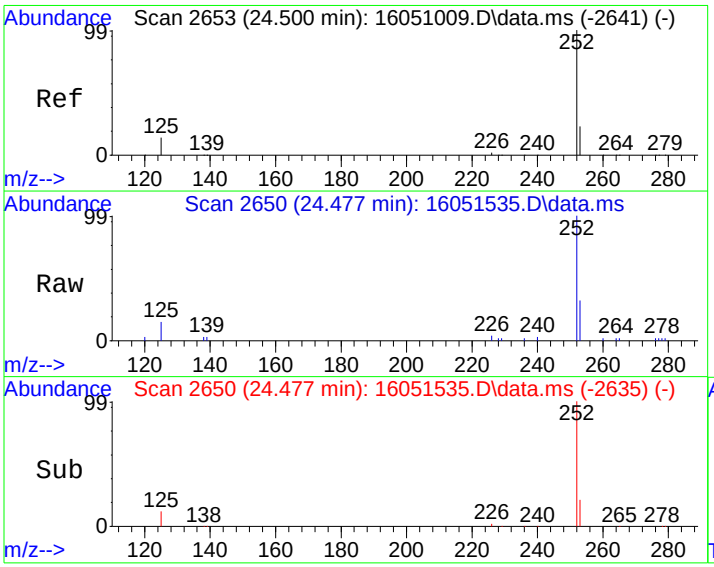


#19
Chrysene
Concen: 17.68 ug/kg
RT: 21.086 min Scan# 2187
Delta R.T. 0.008 min
Lab File: 16051535.D
Acq: 16 May 2016 8:49 am

Tgt Ion:228 Resp: 12173

Ion	Ratio	Lower	Upper
228	100		
226	28.2	8.8	48.8
229	20.3	0.5	40.5

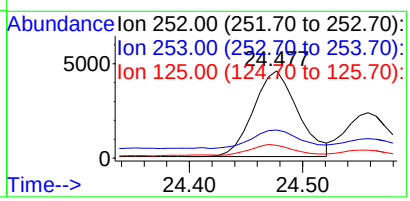


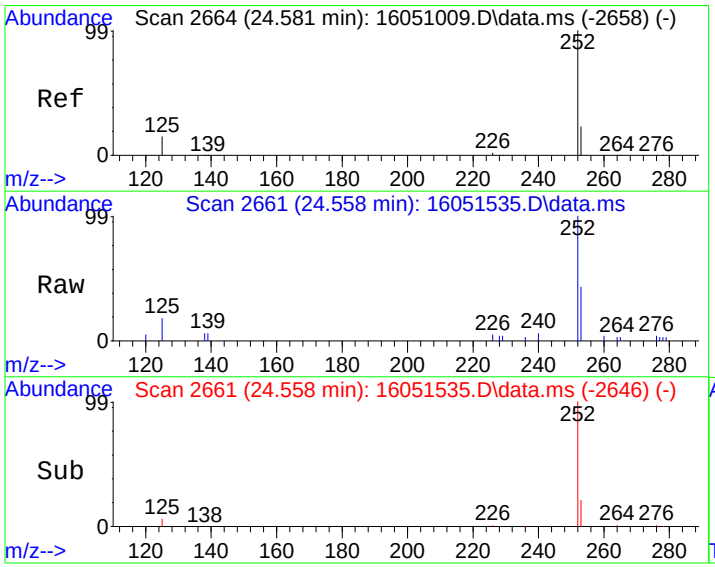


#21
Benzo[b]fluoranthene
Concen: 17.23 ug/kg
RT: 24.477 min Scan# 2650
Delta R.T. 0.008 min
Lab File: 16051535.D
Acq: 16 May 2016 8:49 am

Tgt Ion:252 Resp: 12394

Ion	Ratio	Lower	Upper
252	100		
253	21.1	2.6	42.6
125	11.5	0.0	33.8

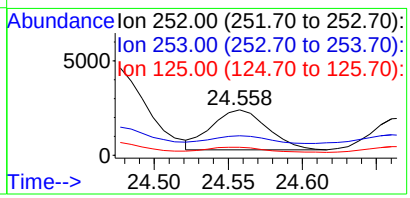


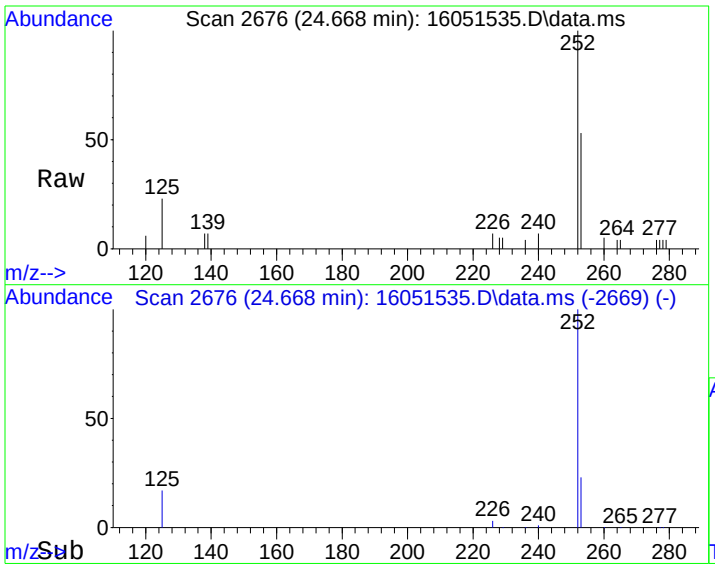


#22
Benzo[k]fluoranthene
Concen: 9.59 ug/kg
RT: 24.558 min Scan# 2661
Delta R.T. 0.008 min
Lab File: 16051535.D
Acq: 16 May 2016 8:49 am

Tgt Ion:252 Resp: 5534

Ion	Ratio	Lower	Upper
252	100		
253	18.4	2.8	42.8
125	12.1	0.0	34.7

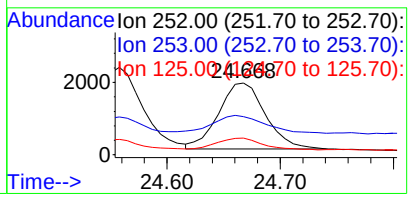


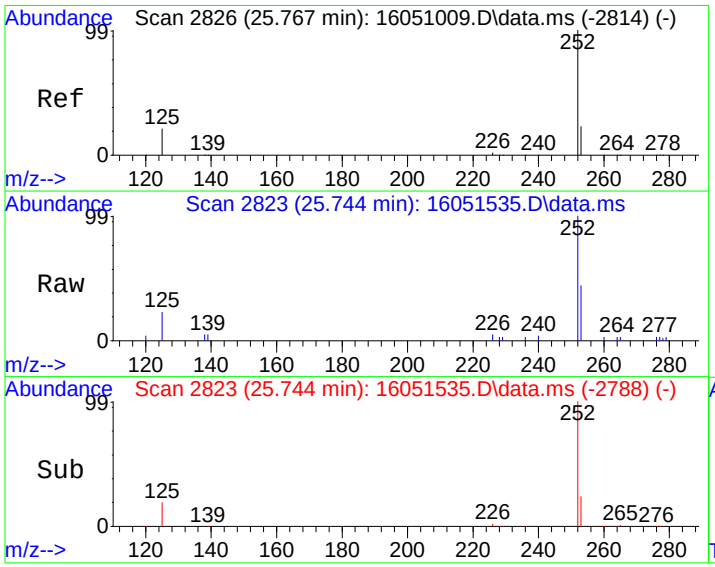


#23
Benzo(j)fluoranthene
Concen: 8.93 ug/kg
RT: 24.668 min Scan# 2676
Delta R.T. 0.008 min
Lab File: 16051535.D
Acq: 16 May 2016 8:49 am

Tgt Ion:252 Resp: 5208

Ion	Ratio	Lower	Upper
252	100		
253	30.0	2.3	42.3
125	17.2	0.0	39.2

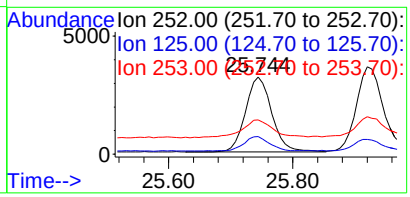


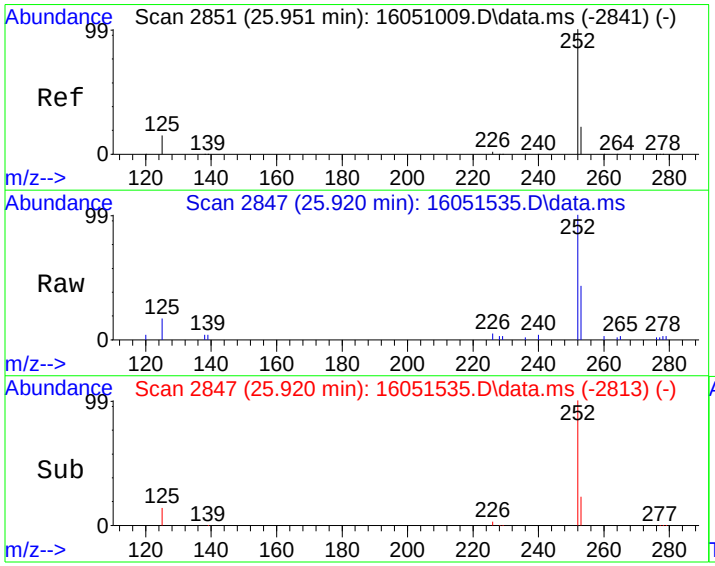


#24
Benzo(e)pyrene
Concen: 13.56 ug/kg
RT: 25.744 min Scan# 2823
Delta R.T. 0.008 min
Lab File: 16051535.D
Acq: 16 May 2016 8:49 am

Tgt Ion:252 Resp: 9363

Ion	Ratio	Lower	Upper
252	100		
125	18.9	0.8	40.8
253	29.7	2.4	42.4

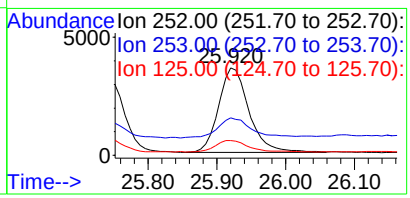


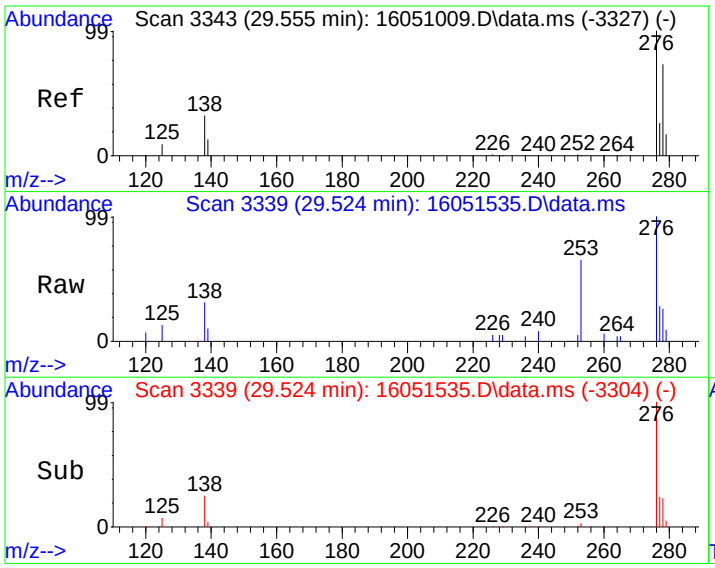


#25
Benzo[a]pyrene
Concen: 16.66 ug/kg
RT: 25.920 min Scan# 2847
Delta R.T. 0.001 min
Lab File: 16051535.D
Acq: 16 May 2016 8:49 am

Tgt Ion:252 Resp: 11011

Ion	Ratio	Lower	Upper
252	100		
253	23.0	2.5	42.5
125	13.4	0.0	35.5

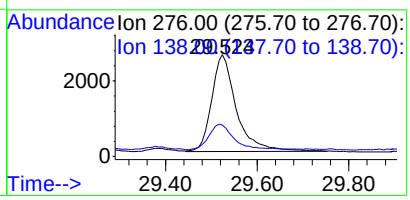


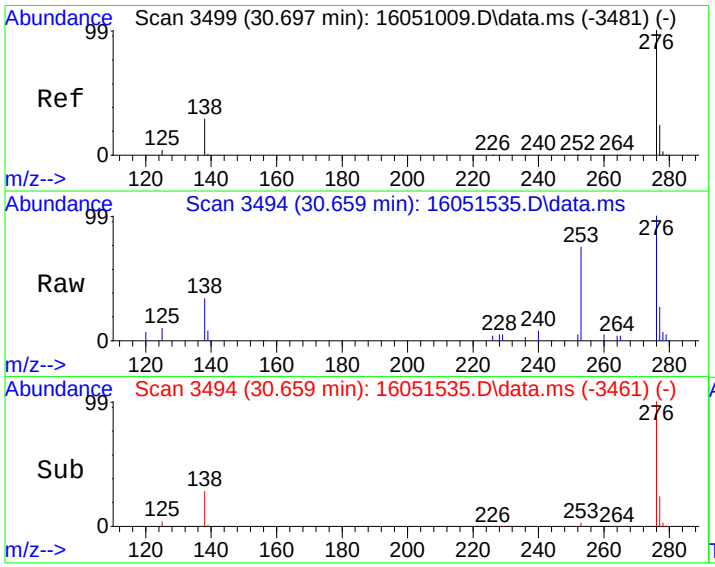


#26
Indeno[1,2,3-cd]pyrene
Concen: 13.06 ug/kg
RT: 29.524 min Scan# 3339
Delta R.T. 0.008 min
Lab File: 16051535.D
Acq: 16 May 2016 8:49 am

Tgt Ion:276 Resp: 9566

Ion	Ratio	Lower	Upper
276	100		
138	25.4	12.0	52.0

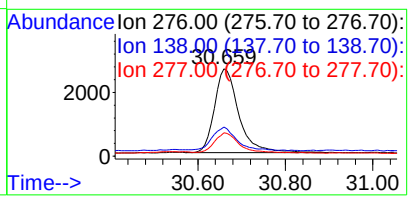




#28
Benzo[g,h,i]perylene
Concen: 15.83 ug/kg
RT: 30.659 min Scan# 3494
Delta R.T. -0.006 min
Lab File: 16051535.D
Acq: 16 May 2016 8:49 am

Tgt Ion:276 Resp: 10119

Ion	Ratio	Lower	Upper
276	100		
138	27.7	9.3	49.3
277	24.5	4.3	44.3



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051536.D
Acq On : 16 May 2016 9:26 am
Operator :
Sample : 1605074-31A
Misc : SAMP
ALS Vial : 26 Sample Multiplier: 10

Quant Time: May 16 13:08:18 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.276	136	1623498	4000.00	ug/kg	104
6) Acenaphthene-d10	12.861	164	1064835	4000.00	ug/kg	109
11) Phenanthrene-d10	14.983	188	2713565	4000.00	ug/kg	87
16) Chrysene-d12	20.991	240	2878727	4000.00	ug/kg	82
20) Perylene-d12	26.258	264	2539845	4000.00	ug/kg	86

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.761	172	24714	77.45	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.94%#			
17) 4-Terphenyl-d14	17.588	244	49691	74.71	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery = 1.87%#			

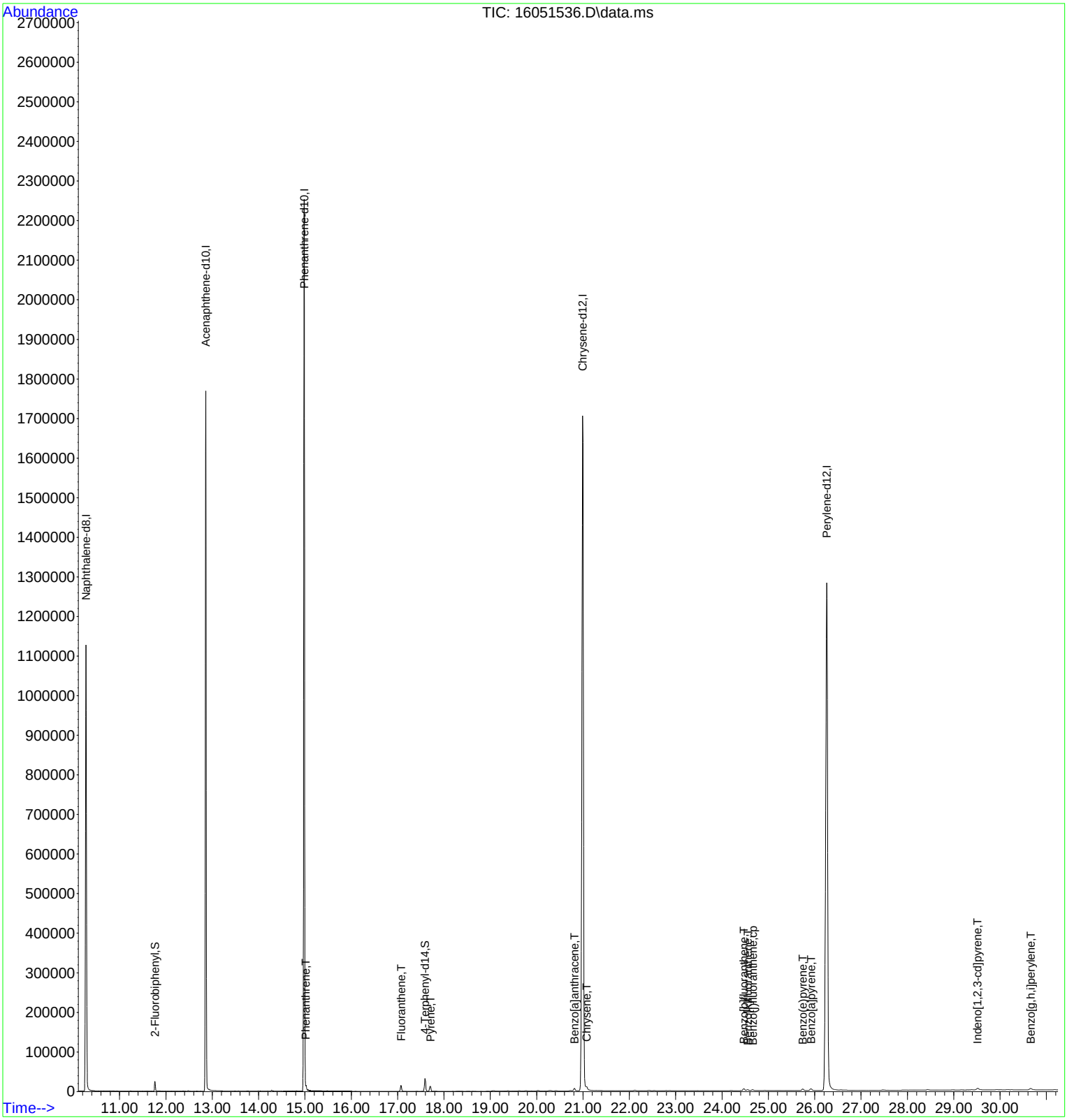
Target Compounds						Qvalue
12) Phenanthrene	15.019	178	6593	8.39	ug/kg	98
14) Fluoranthene	17.079	202	20190	19.64	ug/kg	93
15) Pyrene	17.709	202	17464	16.94	ug/kg	90
18) Benzo[a]anthracene	20.815	228	9859	12.18	ug/kg	98
19) Chrysene	21.079	228	11010	14.86	ug/kg	100
21) Benzo[b]fluoranthene	24.471	252	10424	14.41	ug/kg	96
22) Benzo[k]fluoranthene	24.551	252	4879	8.41	ug/kg	93
23) Benzo(j)fluoranthene	24.661	252	4464	7.61	ug/kg	92
24) Benzo(e)pyrene	25.738	252	7646	11.01	ug/kg	94
25) Benzo[a]pyrene	25.921	252	9952	14.97	ug/kg	97
26) Indeno[1,2,3-cd]pyrene	29.517	276	7864	10.68	ug/kg	87
28) Benzo[g,h,i]perylene	30.660	276	7986	12.43	ug/kg	97

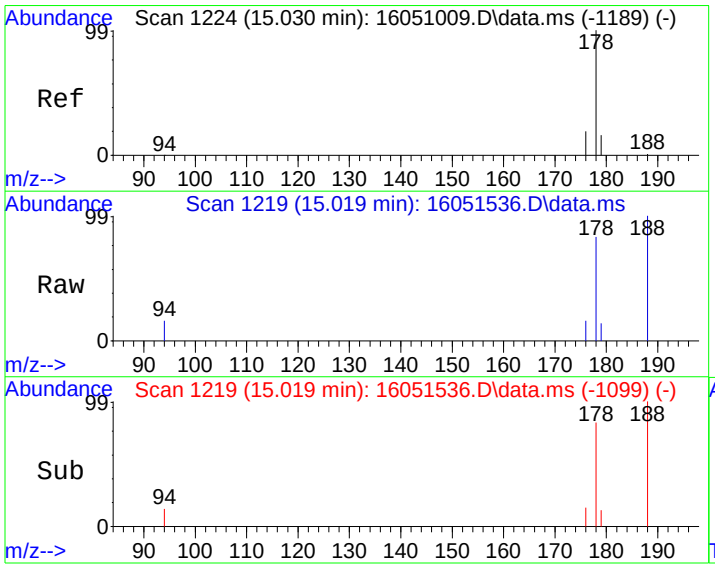
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051536.D
Acq On : 16 May 2016 9:26 am
Operator :
Sample : 1605074-31A
Misc : SAMP
ALS Vial : 26 Sample Multiplier: 10

Quant Time: May 16 13:08:18 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

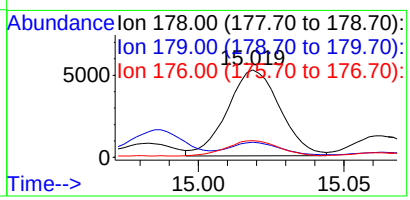


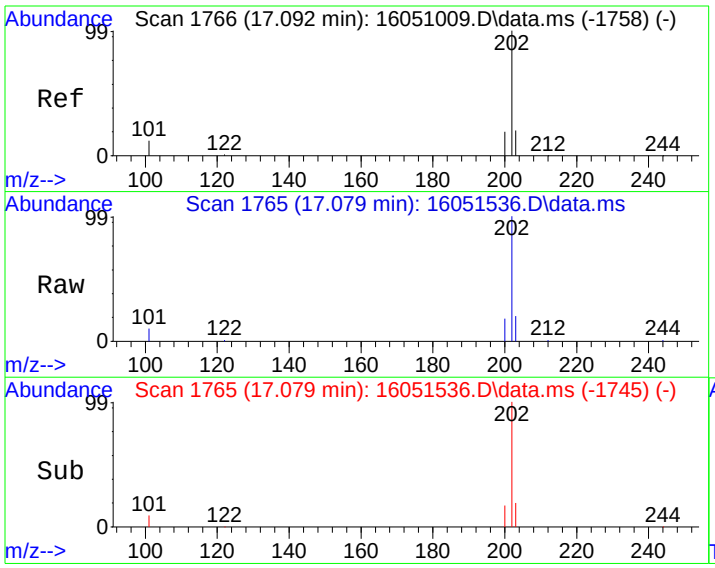


#12
Phenanthrene
Concen: 8.39 ug/kg
RT: 15.019 min Scan# 1219
Delta R.T. 0.003 min
Lab File: 16051536.D
Acq: 16 May 2016 9:26 am

Tgt Ion:178 Resp: 6593

Ion	Ratio	Lower	Upper
178	100		
179	15.2	0.0	36.4
176	18.4	0.0	39.2

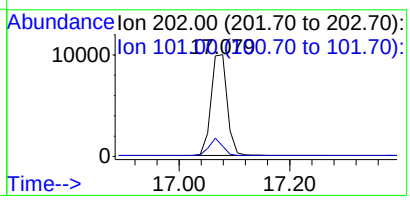


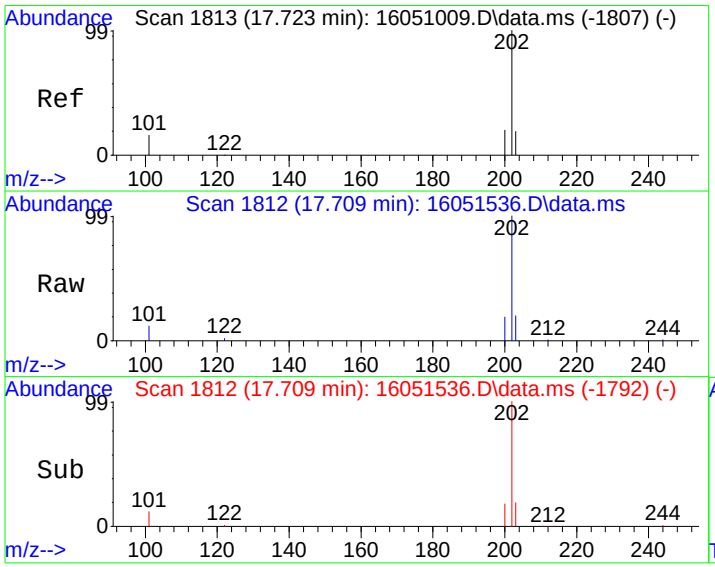


#14
Fluoranthene
Concen: 19.64 ug/kg
RT: 17.079 min Scan# 1765
Delta R.T. 0.013 min
Lab File: 16051536.D
Acq: 16 May 2016 9:26 am

Tgt Ion:202 Resp: 20190

Ion	Ratio	Lower	Upper
202	100		
101	9.3	0.0	32.0

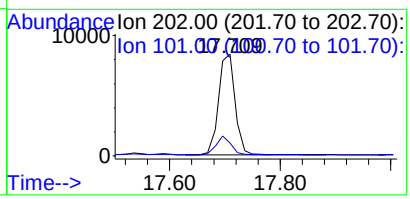


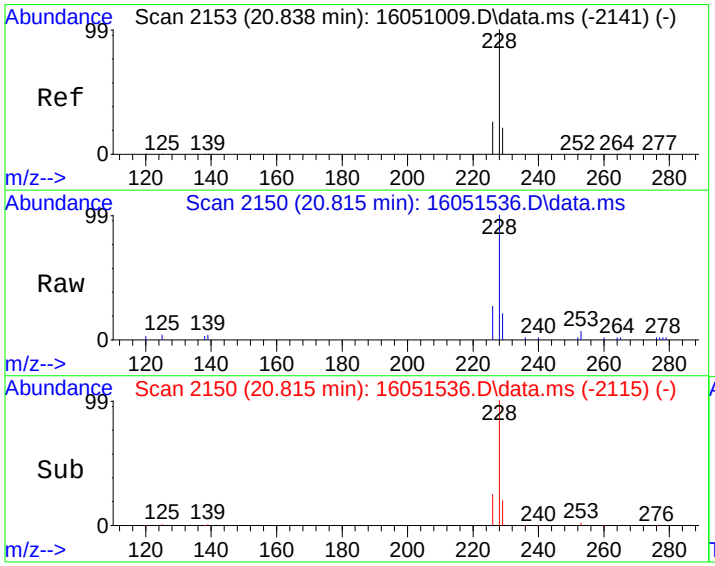


#15
Pyrene
Concen: 16.94 ug/kg
RT: 17.709 min Scan# 1812
Delta R.T. 0.013 min
Lab File: 16051536.D
Acq: 16 May 2016 9:26 am

Tgt Ion:202 Resp: 17464

Ion	Ratio	Lower	Upper
202	100		
101	11.6	0.0	35.9

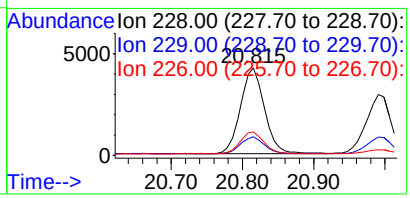


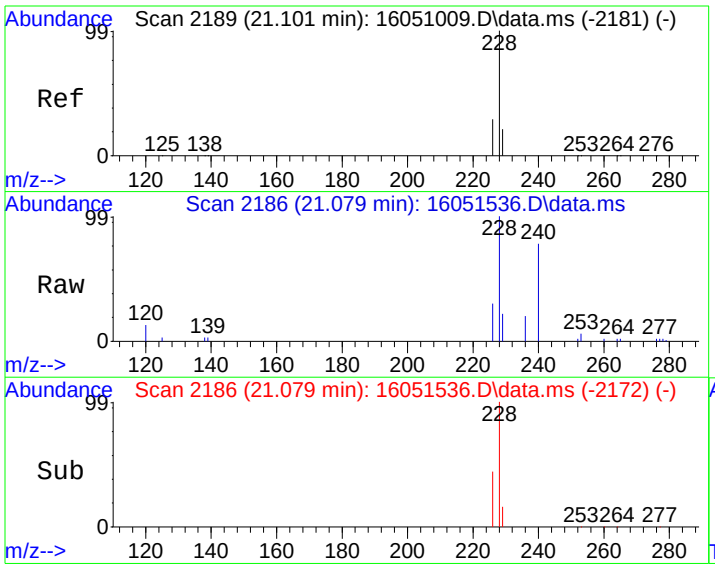


#18
Benzo[a]anthracene
Concen: 12.18 ug/kg
RT: 20.815 min Scan# 2150
Delta R.T. 0.009 min
Lab File: 16051536.D
Acq: 16 May 2016 9:26 am

Tgt Ion:228 Resp: 9859

Ion	Ratio	Lower	Upper
228	100		
229	19.5	0.7	40.7
226	25.1	5.9	45.9

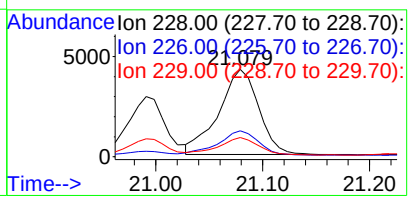


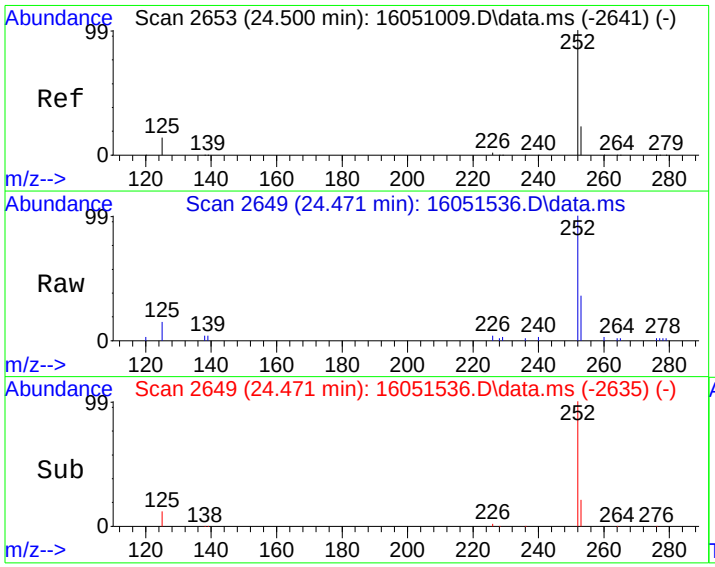


#19
Chrysene
Concen: 14.86 ug/kg
RT: 21.079 min Scan# 2186
Delta R.T. 0.002 min
Lab File: 16051536.D
Acq: 16 May 2016 9:26 am

Tgt Ion:228 Resp: 11010

Ion	Ratio	Lower	Upper
228	100		
226	28.8	8.8	48.8
229	20.4	0.5	40.5

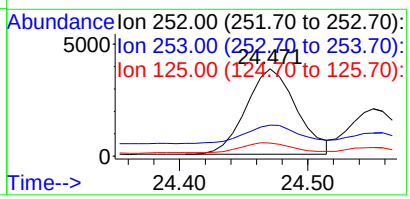


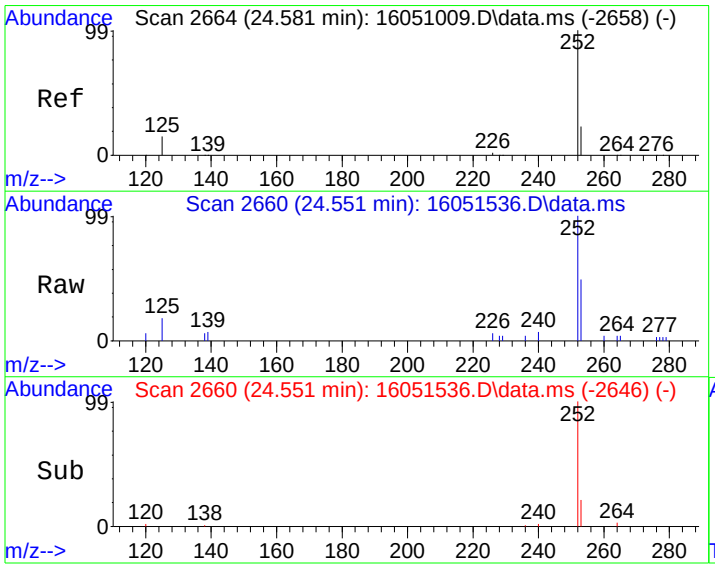


#21
Benzo[b]fluoranthene
Concen: 14.41 ug/kg
RT: 24.471 min Scan# 2649
Delta R.T. 0.002 min
Lab File: 16051536.D
Acq: 16 May 2016 9:26 am

Tgt Ion:252 Resp: 10424

Ion	Ratio	Lower	Upper
252	100		
253	21.2	2.6	42.6
125	11.3	0.0	33.8

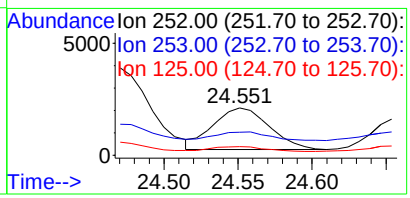


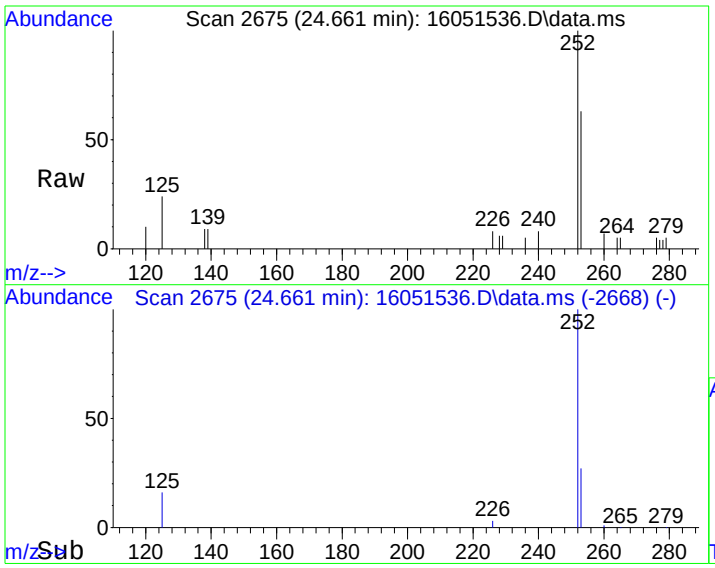


#22
Benzo[k]fluoranthene
Concen: 8.41 ug/kg
RT: 24.551 min Scan# 2660
Delta R.T. 0.002 min
Lab File: 16051536.D
Acq: 16 May 2016 9:26 am

Tgt Ion:252 Resp: 4879

Ion	Ratio	Lower	Upper
252	100		
253	19.9	2.8	42.8
125	11.1	0.0	34.7

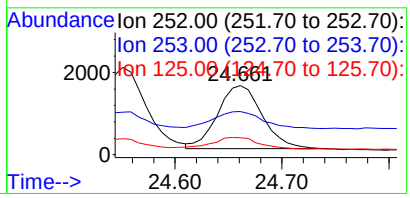


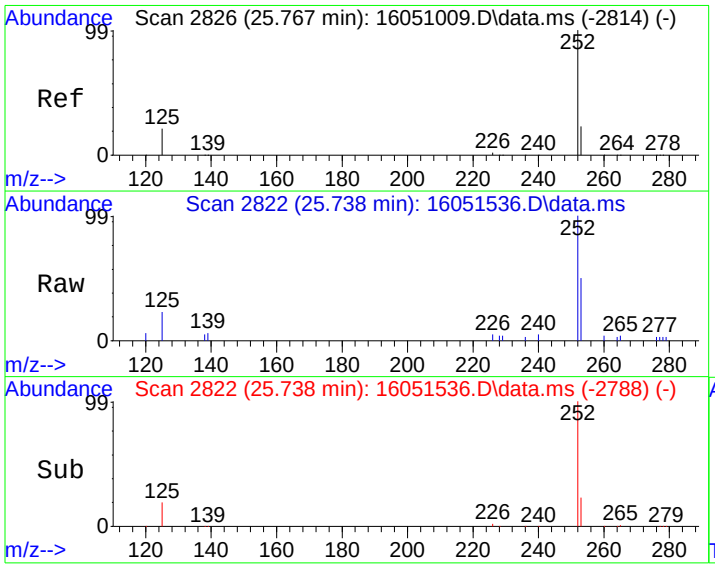


#23
Benzo(j)fluoranthene
Concen: 7.61 ug/kg
RT: 24.661 min Scan# 2675
Delta R.T. 0.002 min
Lab File: 16051536.D
Acq: 16 May 2016 9:26 am

Tgt Ion:252 Resp: 4464

Ion	Ratio	Lower	Upper
252	100		
253	29.3	2.3	42.3
125	19.6	0.0	39.2

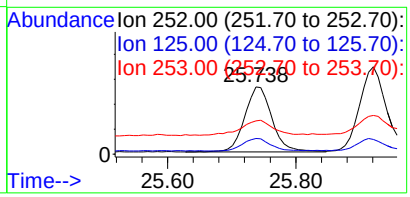


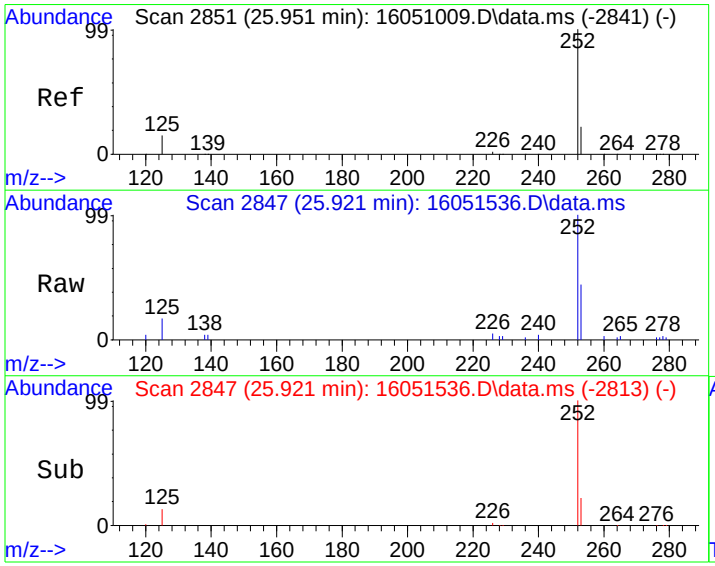


#24
Benzo(e)pyrene
Concen: 11.01 ug/kg
RT: 25.738 min Scan# 2822
Delta R.T. 0.002 min
Lab File: 16051536.D
Acq: 16 May 2016 9:26 am

Tgt Ion:252 Resp: 7646

Ion	Ratio	Lower	Upper
252	100		
125	19.5	0.8	40.8
253	26.5	2.4	42.4

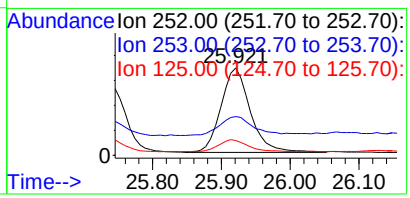


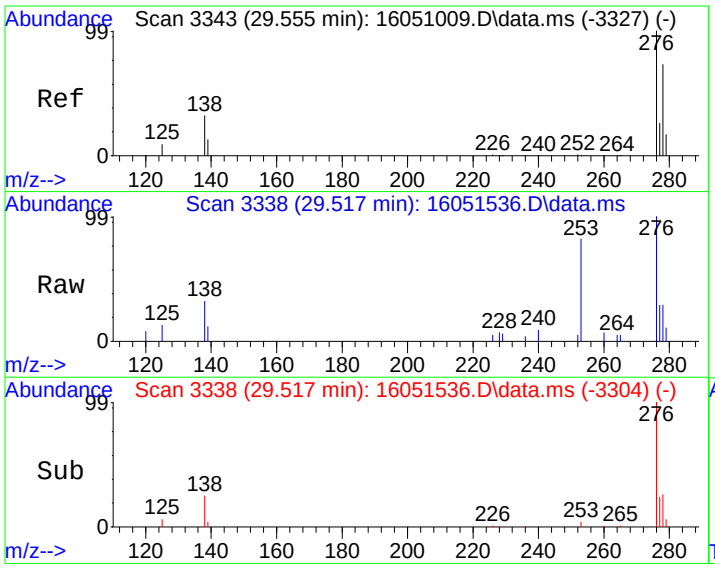


#25
Benzo[a]pyrene
Concen: 14.97 ug/kg
RT: 25.921 min Scan# 2847
Delta R.T. 0.002 min
Lab File: 16051536.D
Acq: 16 May 2016 9:26 am

Tgt Ion:252 Resp: 9952

Ion	Ratio	Lower	Upper
252	100		
253	22.2	2.5	42.5
125	13.0	0.0	35.5

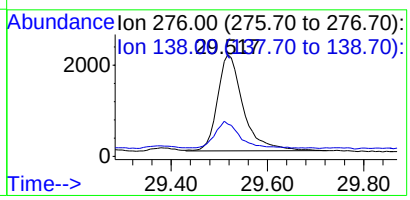


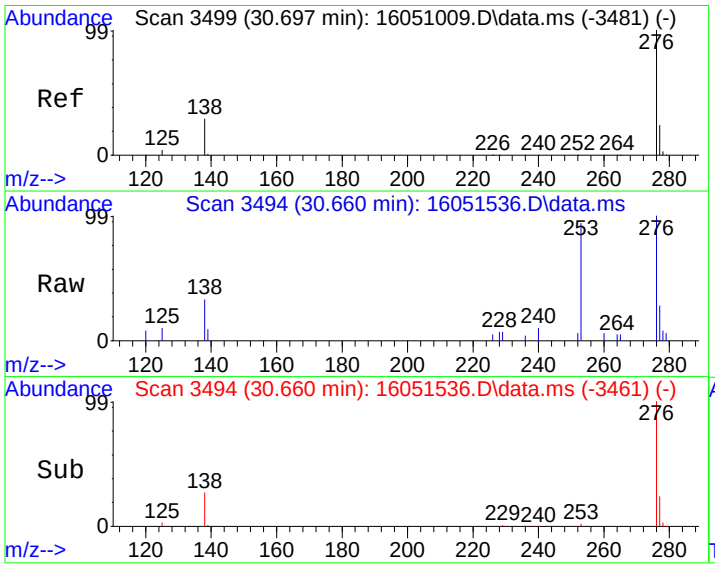


#26
Indeno[1,2,3-cd]pyrene
Concen: 10.68 ug/kg
RT: 29.517 min Scan# 3338
Delta R.T. 0.002 min
Lab File: 16051536.D
Acq: 16 May 2016 9:26 am

Tgt Ion:276 Resp: 7864

Ion	Ratio	Lower	Upper
276	100		
138	24.8	12.0	52.0

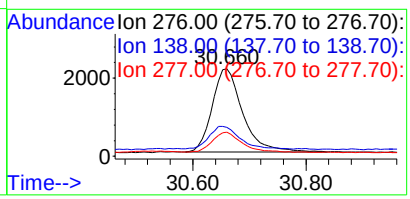




#28
Benzo[g,h,i]perylene
Concen: 12.43 ug/kg
RT: 30.660 min Scan# 3494
Delta R.T. -0.006 min
Lab File: 16051536.D
Acq: 16 May 2016 9:26 am

Tgt Ion:276 Resp: 7986

Ion	Ratio	Lower	Upper
276	100		
138	26.3	9.3	49.3
277	24.0	4.3	44.3



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051537.D
Acq On : 16 May 2016 10:03 am
Operator :
Sample : 1605074-32A
Misc : SAMP
ALS Vial : 27 Sample Multiplier: 10

Quant Time: May 16 13:08:25 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.273	136	1640703	4000.00	ug/kg	105
6) Acenaphthene-d10	12.861	164	1096305	4000.00	ug/kg	112
11) Phenanthrene-d10	14.982	188	2720215	4000.00	ug/kg	88
16) Chrysene-d12	20.992	240	2882819	4000.00	ug/kg	82
20) Perylene-d12	26.258	264	2560316	4000.00	ug/kg	86

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.762	172	26876	83.35	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.08%#			
17) 4-Terphenyl-d14	17.589	244	51390	77.15	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery = 1.93%#			

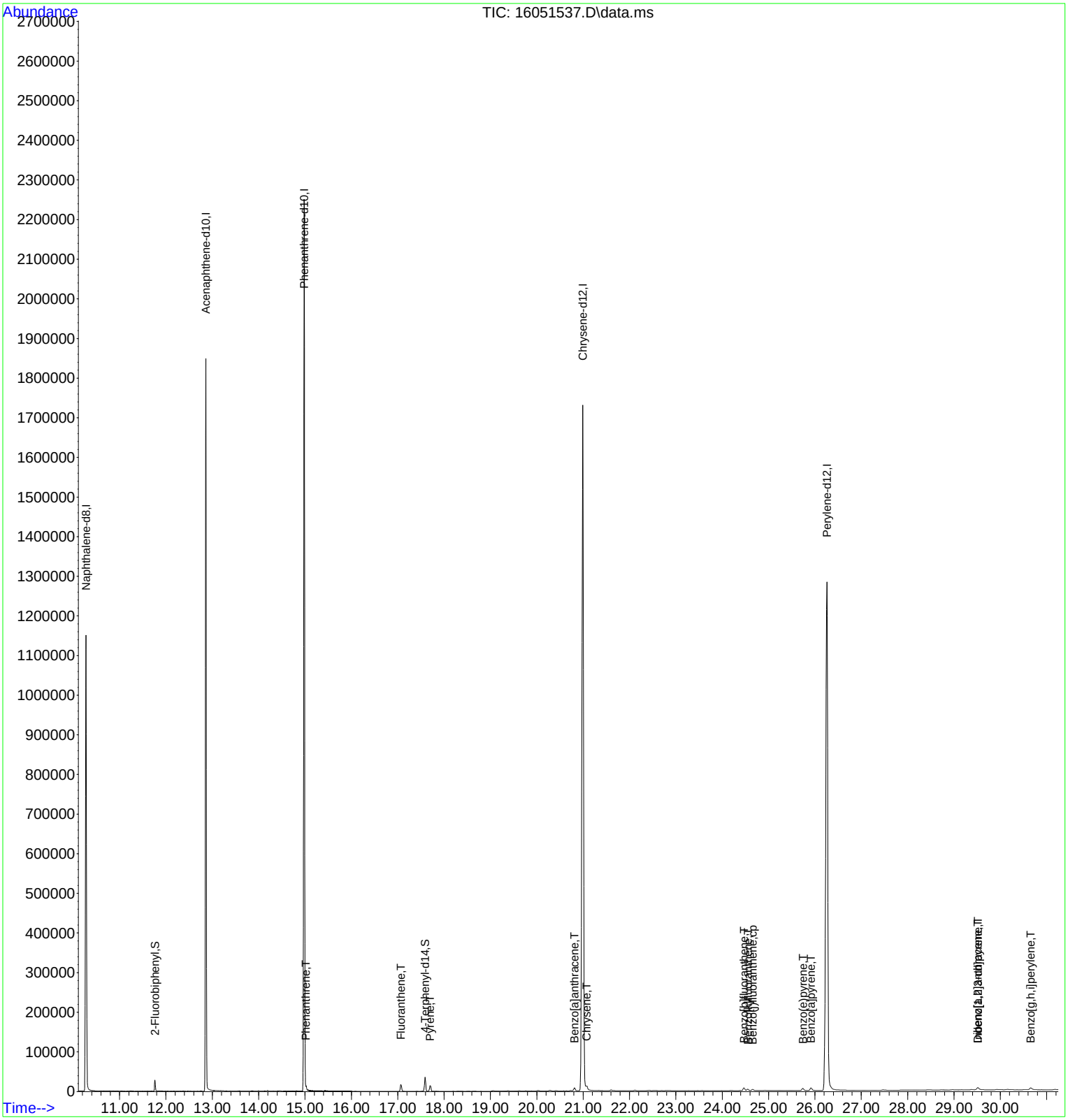
Target Compounds						Qvalue
12) Phenanthrene	15.020	178	5378	6.83	ug/kg	97
14) Fluoranthene	17.065	202	21999	21.35	ug/kg	88
15) Pyrene	17.696	202	19673	19.04	ug/kg	92
18) Benzo[a]anthracene	20.816	228	12222	15.08	ug/kg	98
19) Chrysene	21.080	228	14799	19.95	ug/kg	99
21) Benzo[b]fluoranthene	24.471	252	14490	19.87	ug/kg	97
22) Benzo[k]fluoranthene	24.552	252	6470	11.06	ug/kg	94
23) Benzo(j)fluoranthene	24.662	252	6303	10.66	ug/kg	87
24) Benzo(e)pyrene	25.738	252	10860	15.52	ug/kg	92
25) Benzo[a]pyrene	25.914	252	14292	21.33	ug/kg	99
26) Indeno[1,2,3-cd]pyrene	29.518	276	10794	14.54	ug/kg	88
27) Dibenz[a,h]anthracene	29.503	278	3304	5.46	ug/kg	98
28) Benzo[g,h,i]perylene	30.661	276	11303	17.45	ug/kg	96

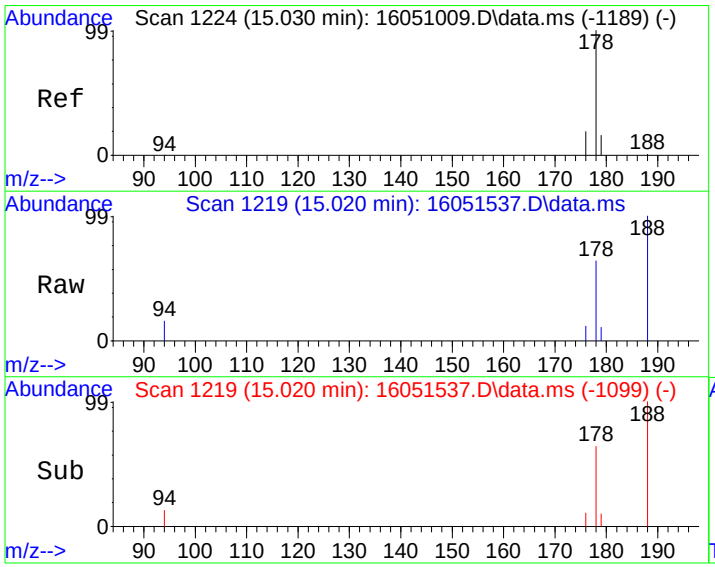
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051537.D
Acq On : 16 May 2016 10:03 am
Operator :
Sample : 1605074-32A
Misc : SAMP
ALS Vial : 27 Sample Multiplier: 10

Quant Time: May 16 13:08:25 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

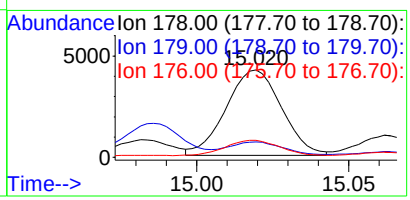


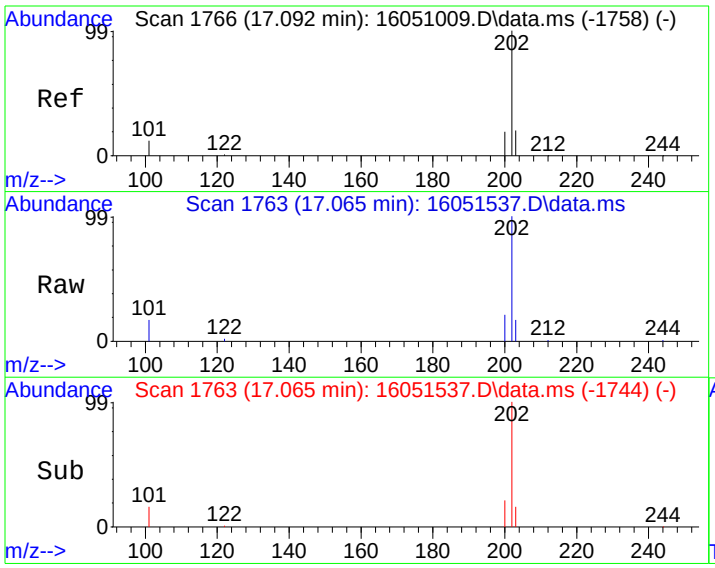


#12
Phenanthrene
Concen: 6.83 ug/kg
RT: 15.020 min Scan# 1219
Delta R.T. 0.004 min
Lab File: 16051537.D
Acq: 16 May 2016 10:03 am

Tgt Ion:178 Resp: 5378

Ion	Ratio	Lower	Upper
178	100		
179	15.2	0.0	36.4
176	18.1	0.0	39.2

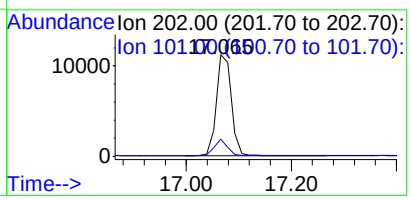


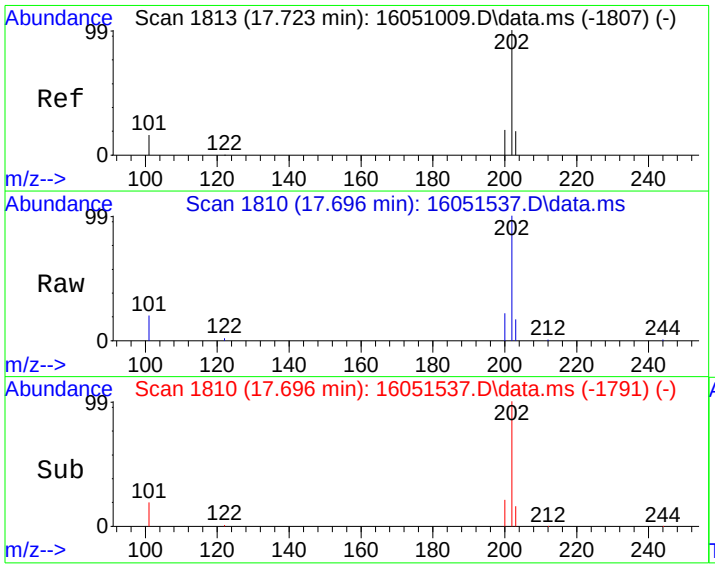


#14
Fluoranthene
Concen: 21.35 ug/kg
RT: 17.065 min Scan# 1763
Delta R.T. 0.000 min
Lab File: 16051537.D
Acq: 16 May 2016 10:03 am

Tgt Ion:202 Resp: 21999

Ion	Ratio	Lower	Upper
202	100		
101	16.5	0.0	32.0

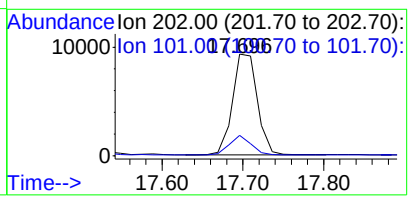


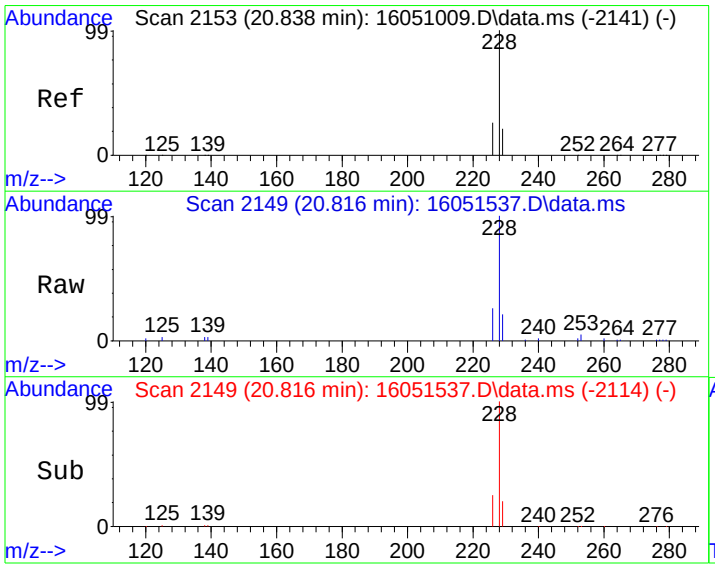


#15
Pyrene
Concen: 19.04 ug/kg
RT: 17.696 min Scan# 1810
Delta R.T. 0.000 min
Lab File: 16051537.D
Acq: 16 May 2016 10:03 am

Tgt Ion:202 Resp: 19673

Ion	Ratio	Lower	Upper
202	100		
101	19.4	0.0	35.9

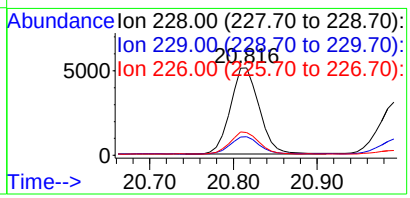


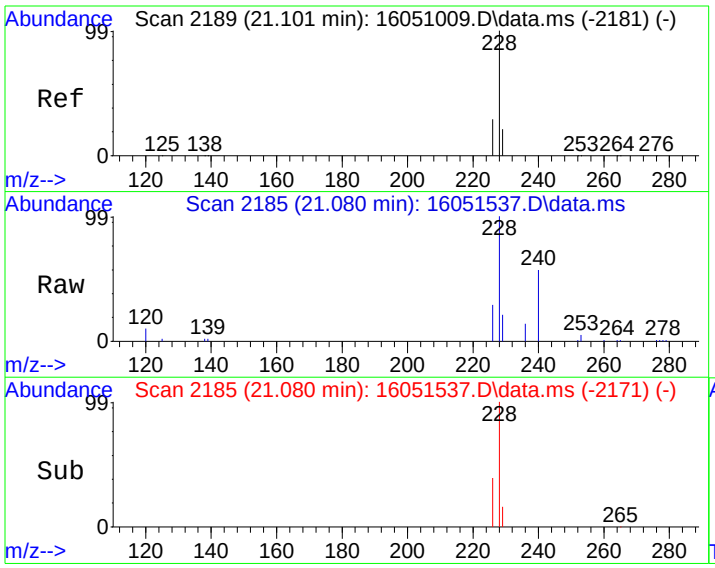


#18
Benzo[a]anthracene
Concen: 15.08 ug/kg
RT: 20.816 min Scan# 2149
Delta R.T. 0.010 min
Lab File: 16051537.D
Acq: 16 May 2016 10:03 am

Tgt Ion:228 Resp: 12222

Ion	Ratio	Lower	Upper
228	100		
229	20.0	0.7	40.7
226	24.9	5.9	45.9

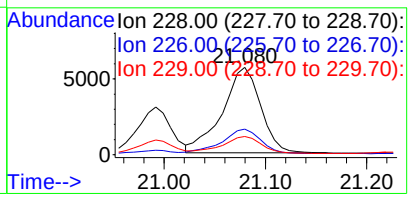


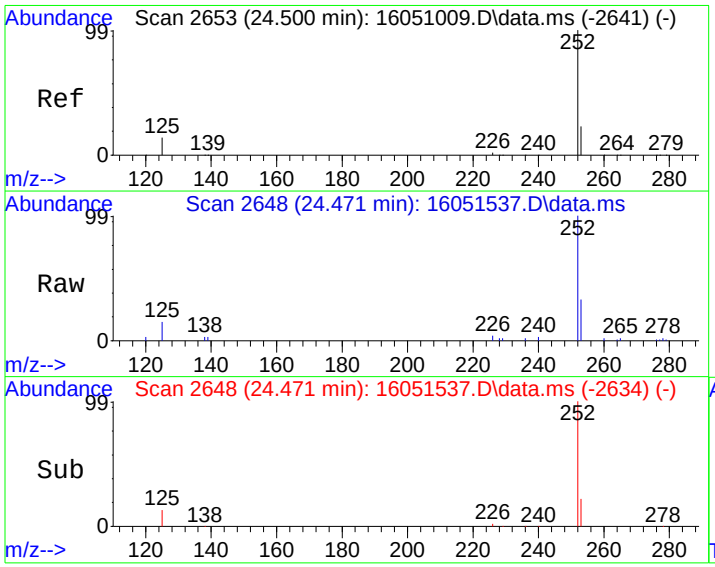


#19
Chrysene
Concen: 19.95 ug/kg
RT: 21.080 min Scan# 2185
Delta R.T. 0.002 min
Lab File: 16051537.D
Acq: 16 May 2016 10:03 am

Tgt Ion:228 Resp: 14799

Ion	Ratio	Lower	Upper
228	100		
226	28.5	8.8	48.8
229	19.6	0.5	40.5

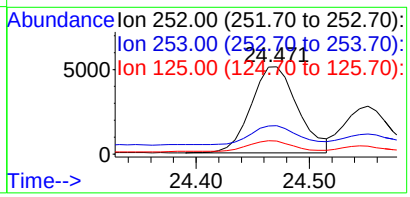


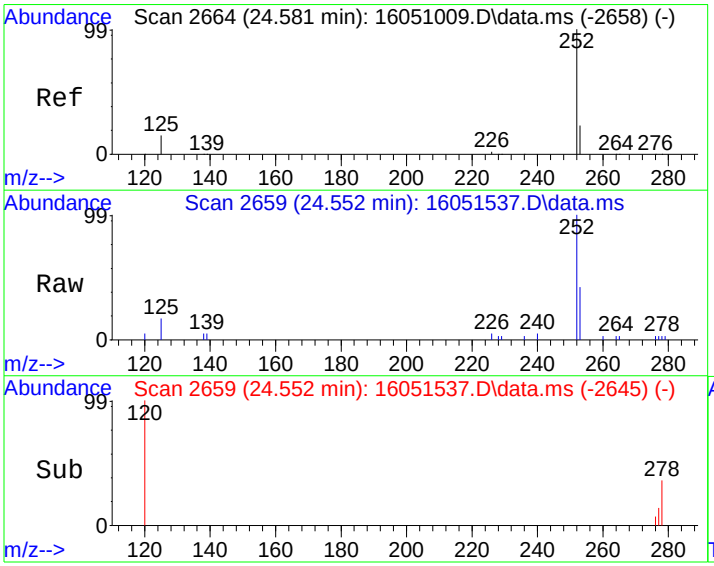


#21
Benzo[b]fluoranthene
Concen: 19.87 ug/kg
RT: 24.471 min Scan# 2648
Delta R.T. 0.002 min
Lab File: 16051537.D
Acq: 16 May 2016 10:03 am

Tgt Ion:252 Resp: 14490

Ion	Ratio	Lower	Upper
252	100		
253	22.0	2.6	42.6
125	11.9	0.0	33.8

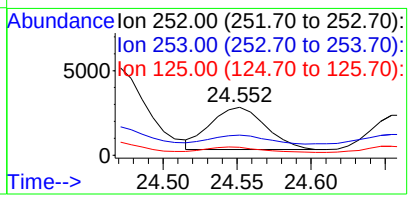


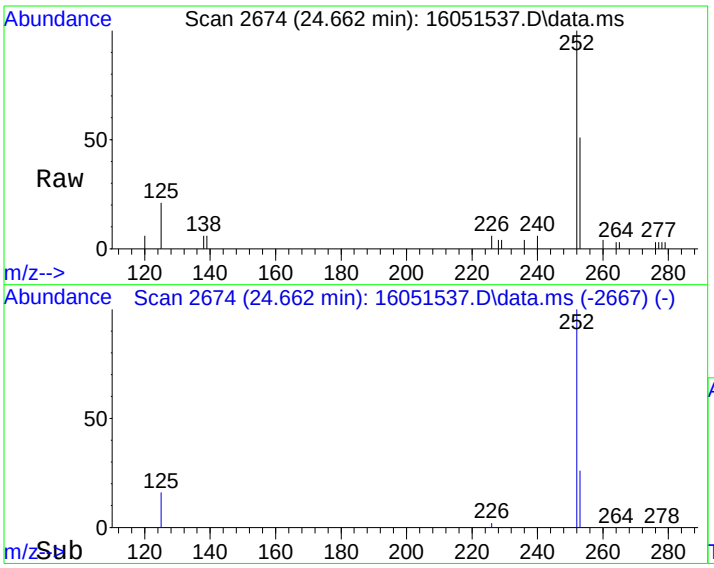


#22
Benzo[k]fluoranthene
Concen: 11.06 ug/kg
RT: 24.552 min Scan# 2659
Delta R.T. 0.002 min
Lab File: 16051537.D
Acq: 16 May 2016 10:03 am

Tgt Ion:252 Resp: 6470

Ion	Ratio	Lower	Upper
252	100		
253	20.4	2.8	42.8
125	12.1	0.0	34.7

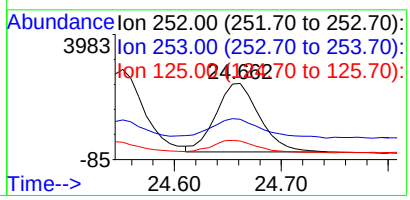


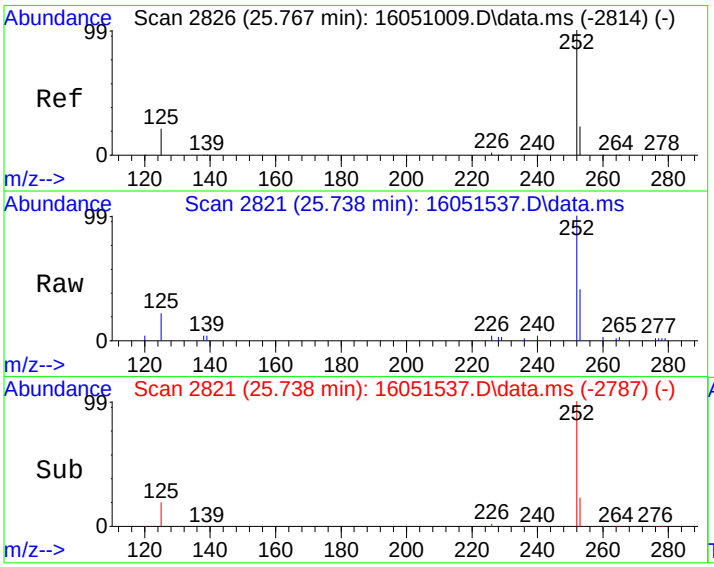


#23
Benzo(j)fluoranthene
Concen: 10.66 ug/kg
RT: 24.662 min Scan# 2674
Delta R.T. 0.002 min
Lab File: 16051537.D
Acq: 16 May 2016 10:03 am

Tgt Ion:252 Resp: 6303

Ion	Ratio	Lower	Upper
252	100		
253	32.8	2.3	42.3
125	18.0	0.0	39.2

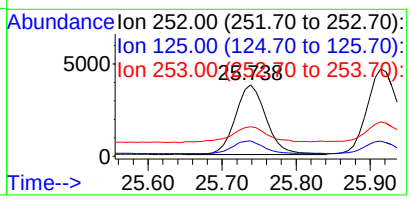


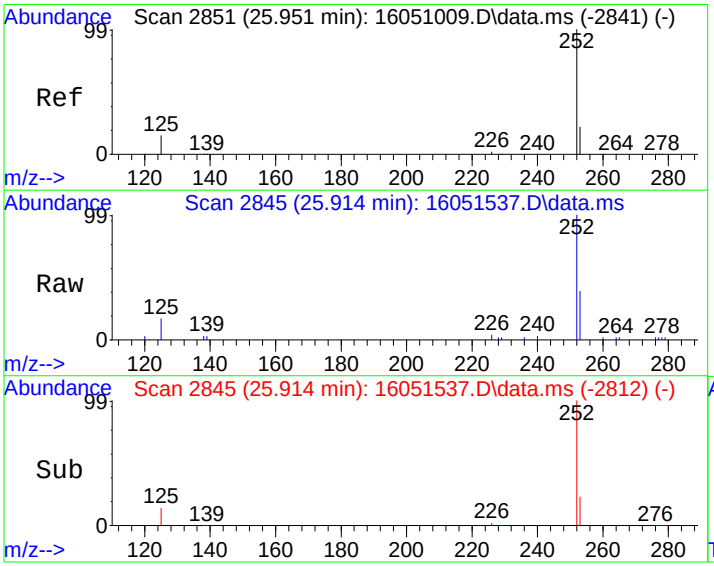


#24
Benzo(e)pyrene
Concen: 15.52 ug/kg
RT: 25.738 min Scan# 2821
Delta R.T. 0.002 min
Lab File: 16051537.D
Acq: 16 May 2016 10:03 am

Tgt Ion:252 Resp: 10860

Ion	Ratio	Lower	Upper
252	100		
125	19.0	0.8	40.8
253	28.2	2.4	42.4

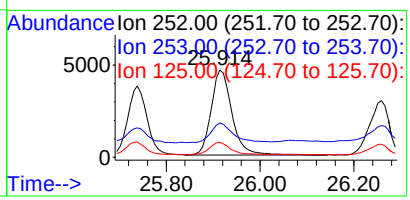


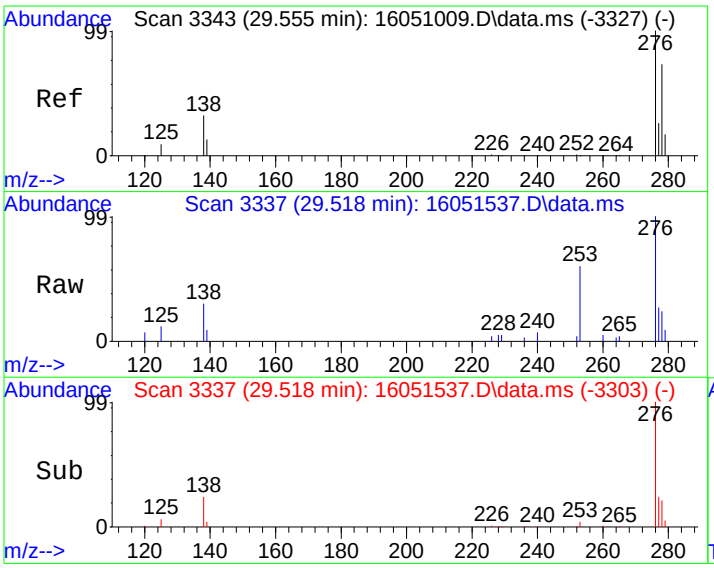


#25
Benzo[a]pyrene
Concen: 21.33 ug/kg
RT: 25.914 min Scan# 2845
Delta R.T. -0.005 min
Lab File: 16051537.D
Acq: 16 May 2016 10:03 am

Tgt Ion:252 Resp: 14292

Ion	Ratio	Lower	Upper
252	100		
253	22.9	2.5	42.5
125	14.6	0.0	35.5

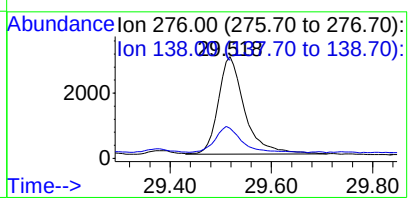


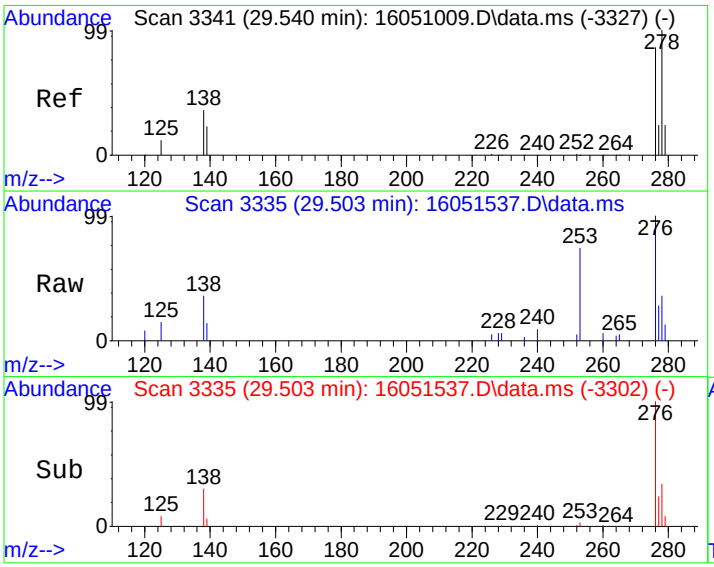


#26
Indeno[1,2,3-cd]pyrene
Concen: 14.54 ug/kg
RT: 29.518 min Scan# 3337
Delta R.T. 0.002 min
Lab File: 16051537.D
Acq: 16 May 2016 10:03 am

Tgt Ion:276 Resp: 10794

Ion	Ratio	Lower	Upper
276	100		
138	25.0	12.0	52.0

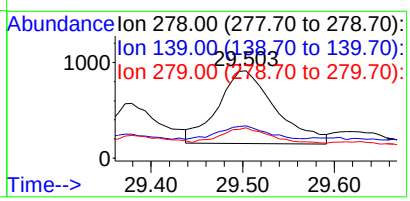


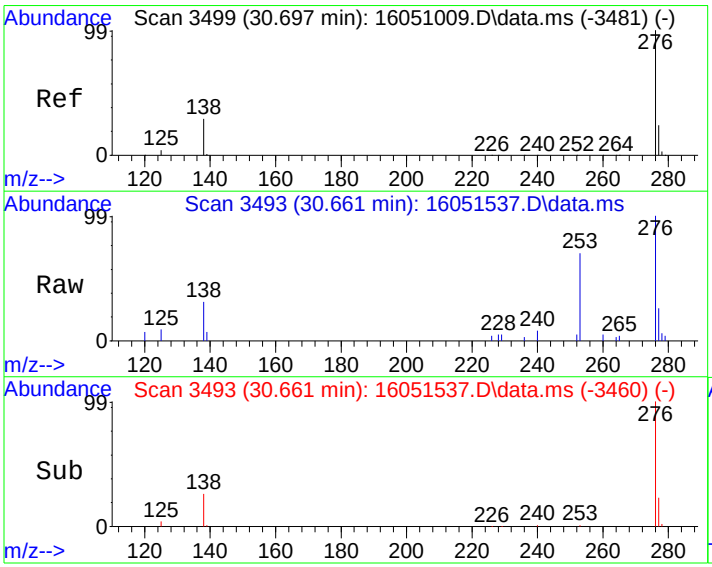


#27
Dibenz[a,h]anthracene
Concen: 5.46 ug/kg
RT: 29.503 min Scan# 3335
Delta R.T. -0.005 min
Lab File: 16051537.D
Acq: 16 May 2016 10:03 am

Tgt Ion:278 Resp: 3304

Ion	Ratio	Lower	Upper
278	100		
139	21.2	2.9	42.9
279	24.1	4.4	44.4

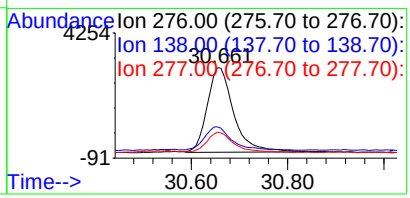




#28
Benzo[g,h,i]perylene
Concen: 17.45 ug/kg
RT: 30.661 min Scan# 3493
Delta R.T. -0.005 min
Lab File: 16051537.D
Acq: 16 May 2016 10:03 am

Tgt Ion:276 Resp: 11303

Ion	Ratio	Lower	Upper
276	100		
138	26.3	9.3	49.3
277	23.0	4.3	44.3



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051538.D
Acq On : 16 May 2016 10:40 am
Operator :
Sample : 1605074-36A
Misc : SAMP
ALS Vial : 28 Sample Multiplier: 10

Quant Time: May 16 13:08:32 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.276	136	1627770	4000.00	ug/kg	104
6) Acenaphthene-d10	12.862	164	1081260	4000.00	ug/kg	111
11) Phenanthrene-d10	14.983	188	2640047	4000.00	ug/kg	85
16) Chrysene-d12	20.991	240	2818597	4000.00	ug/kg	81
20) Perylene-d12	26.258	264	2469250	4000.00	ug/kg	83

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.761	172	27672	86.50	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.16%#			
17) 4-Terphenyl-d14	17.588	244	54239	83.28	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery = 2.08%#			

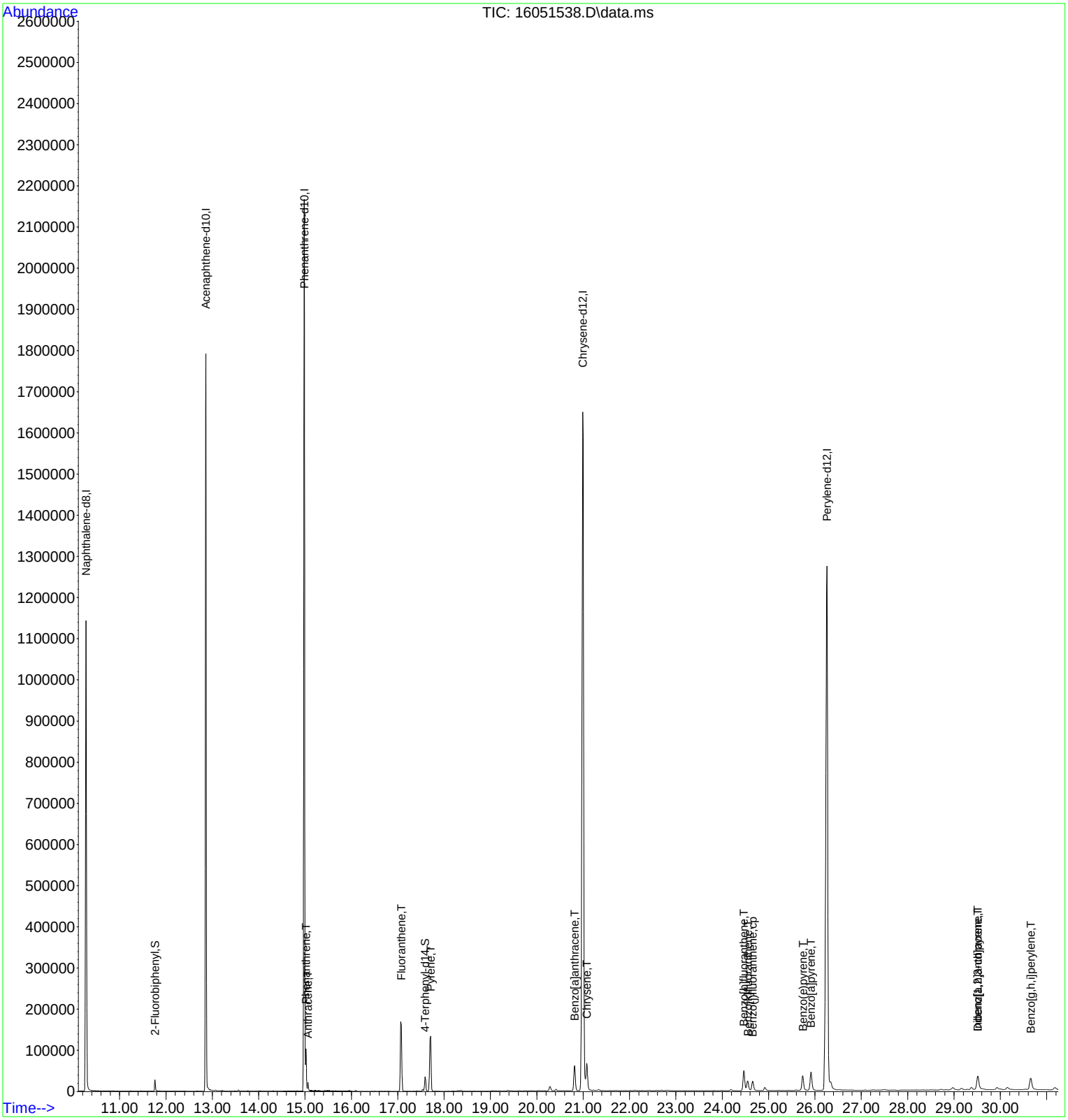
Target Compounds						Qvalue
12) Phenanthrene	15.019	178	90450	118.38	ug/kg	97
13) Anthracene	15.063	178	18478	22.32	ug/kg	98
14) Fluoranthene	17.078	202	222481	222.49	ug/kg	93
15) Pyrene	17.708	202	182258	181.72	ug/kg	92
18) Benzo[a]anthracene	20.815	228	99854	126.03	ug/kg	99
19) Chrysene	21.079	228	107792	148.61	ug/kg	99
21) Benzo[b]fluoranthene	24.463	252	95572	135.91	ug/kg	98
22) Benzo[k]fluoranthene	24.551	252	41762	74.04	ug/kg	94
23) Benzo(j)fluoranthene	24.654	252	42149	73.94	ug/kg	89
24) Benzo(e)pyrene	25.738	252	68205	101.05	ug/kg	95
25) Benzo[a]pyrene	25.913	252	91990	142.33	ug/kg	99
26) Indeno[1,2,3-cd]pyrene	29.517	276	64167	89.61	ug/kg	86
27) Dibenz[a,h]anthracene	29.503	278	14643	25.08	ug/kg	96
28) Benzo[g,h,i]perylene	30.653	276	64835	103.77	ug/kg	97

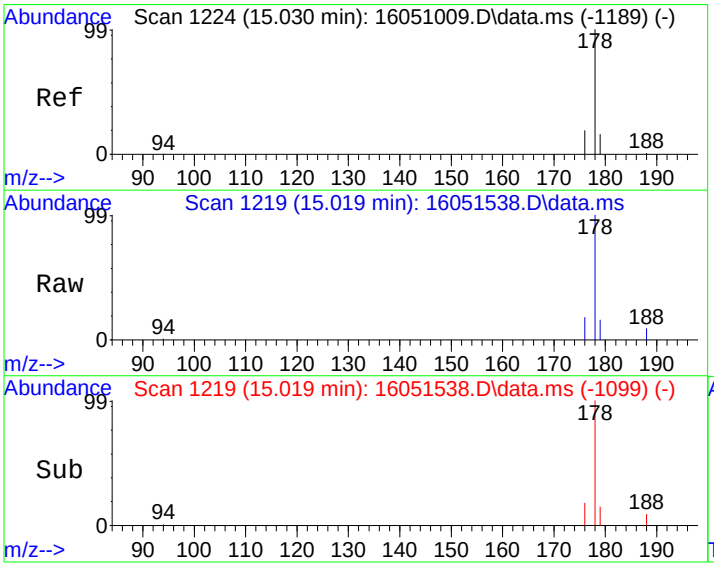
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051538.D
Acq On : 16 May 2016 10:40 am
Operator :
Sample : 1605074-36A
Misc : SAMP
ALS Vial : 28 Sample Multiplier: 10

Quant Time: May 16 13:08:32 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

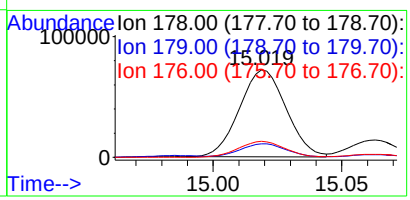


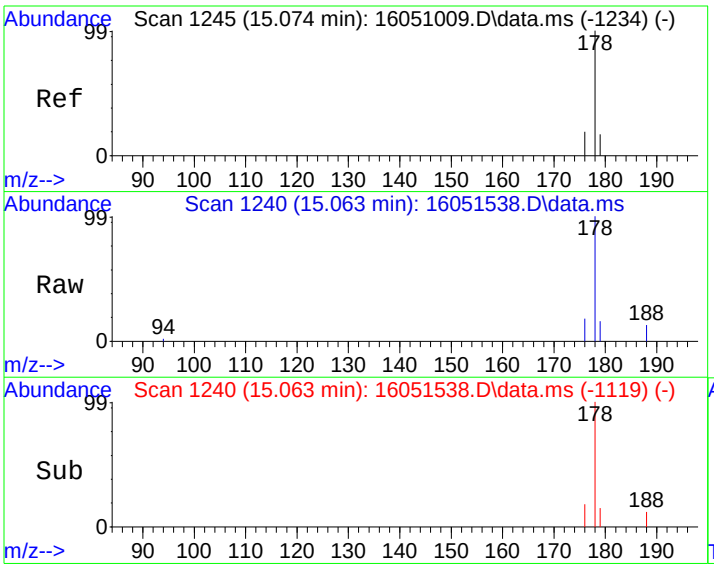


#12
Phenanthrene
Concen: 118.38 ug/kg
RT: 15.019 min Scan# 1219
Delta R.T. 0.003 min
Lab File: 16051538.D
Acq: 16 May 2016 10:40 am

Tgt Ion:178 Resp: 90450

Ion	Ratio	Lower	Upper
178	100		
179	15.0	0.0	36.4
176	18.3	0.0	39.2

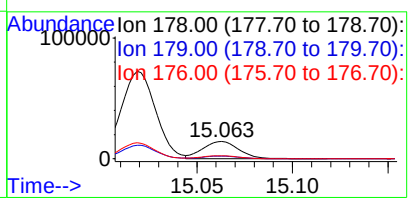


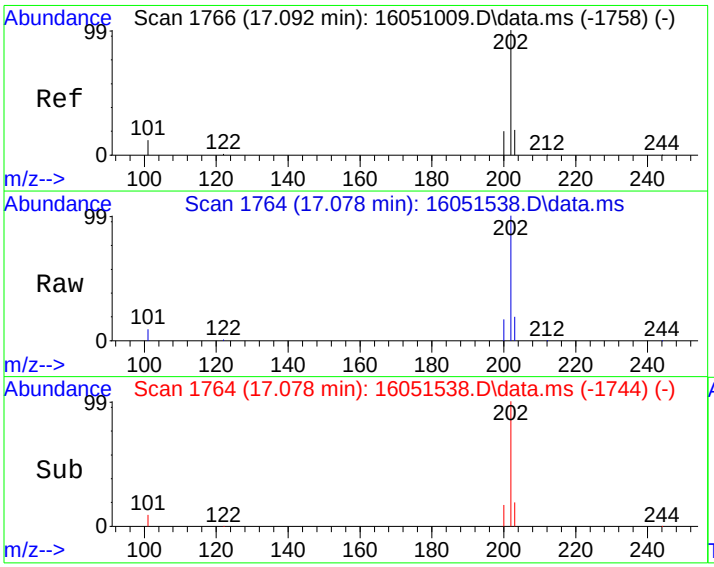


#13
Anthracene
Concen: 22.32 ug/kg
RT: 15.063 min Scan# 1240
Delta R.T. 0.005 min
Lab File: 16051538.D
Acq: 16 May 2016 10:40 am

Tgt Ion:178 Resp: 18478

Ion	Ratio	Lower	Upper
178	100		
179	15.4	0.0	36.5
176	17.5	0.0	38.6

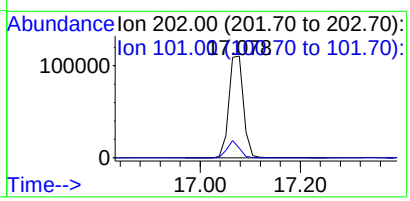


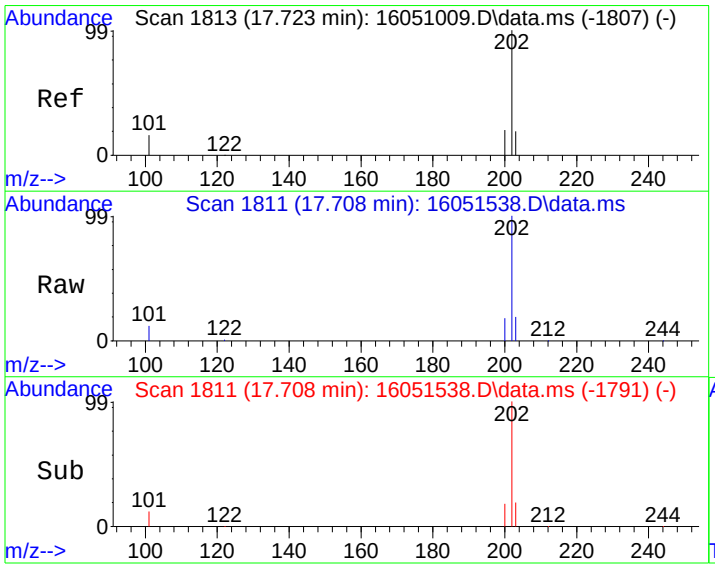


#14
Fluoranthene
Concen: 222.49 ug/kg
RT: 17.078 min Scan# 1764
Delta R.T. 0.013 min
Lab File: 16051538.D
Acq: 16 May 2016 10:40 am

Tgt Ion:202 Resp: 222481

Ion	Ratio	Lower	Upper
202	100		
101	9.3	0.0	32.0

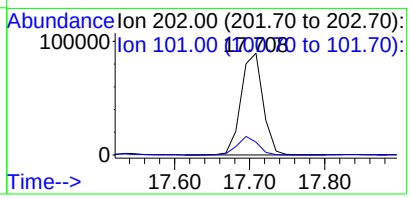


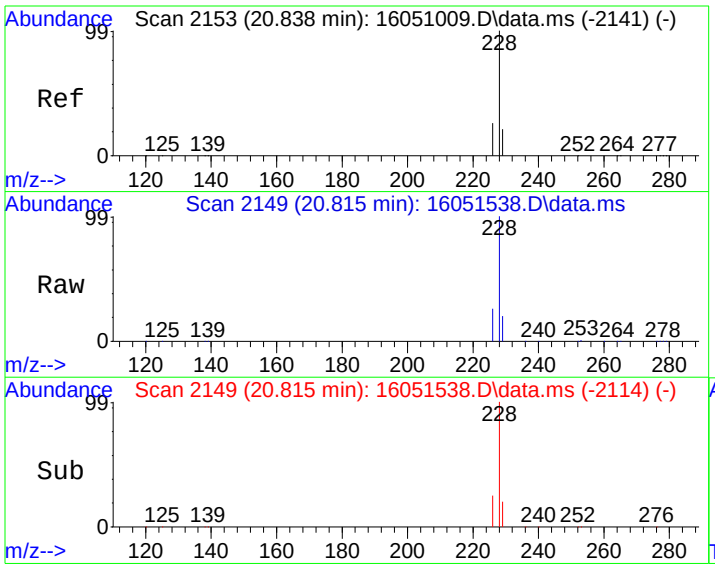


#15
Pyrene
Concen: 181.72 ug/kg
RT: 17.708 min Scan# 1811
Delta R.T. 0.013 min
Lab File: 16051538.D
Acq: 16 May 2016 10:40 am

Tgt Ion:202 Resp: 182258

Ion	Ratio	Lower	Upper
202	100		
101	12.4	0.0	35.9

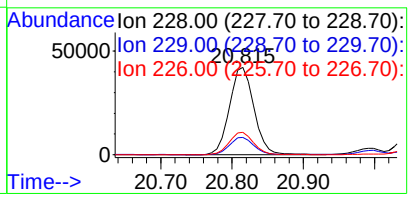


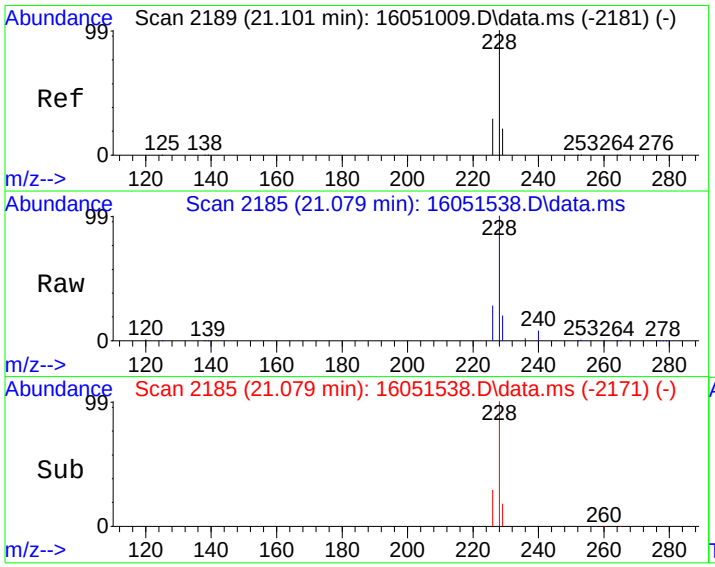


#18
Benzo[a]anthracene
Concen: 126.03 ug/kg
RT: 20.815 min Scan# 2149
Delta R.T. 0.009 min
Lab File: 16051538.D
Acq: 16 May 2016 10:40 am

Tgt Ion:228 Resp: 99854

Ion	Ratio	Lower	Upper
228	100		
229	19.7	0.7	40.7
226	25.4	5.9	45.9

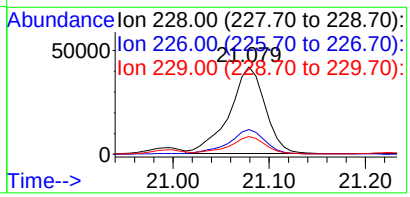


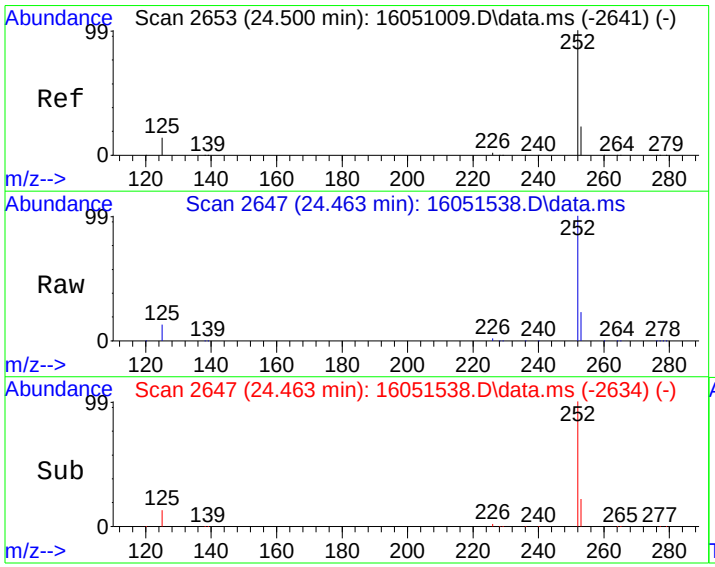


#19
Chrysene
Concen: 148.61 ug/kg
RT: 21.079 min Scan# 2185
Delta R.T. 0.002 min
Lab File: 16051538.D
Acq: 16 May 2016 10:40 am

Tgt Ion:228 Resp: 107792

Ion	Ratio	Lower	Upper
228	100		
226	28.3	8.8	48.8
229	19.9	0.5	40.5

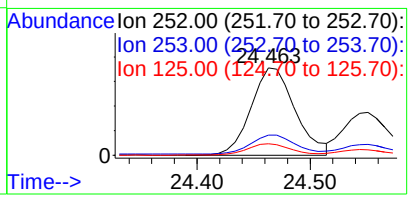


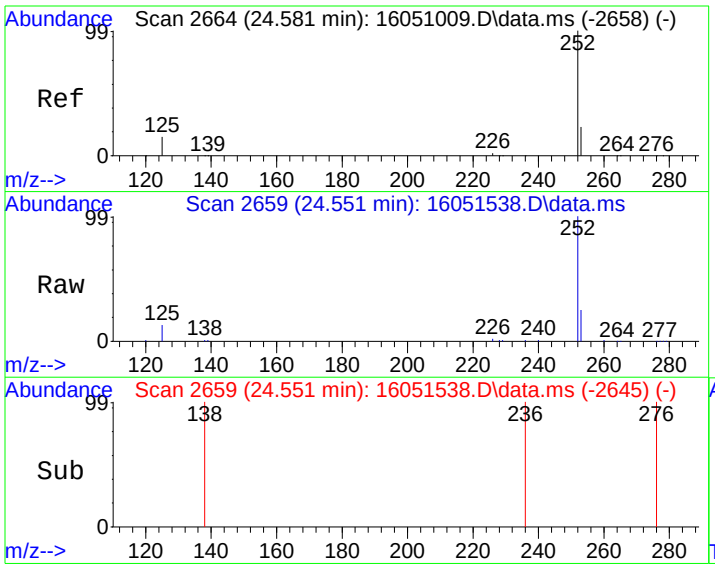


#21
Benzo[b]fluoranthene
Concen: 135.91 ug/kg
RT: 24.463 min Scan# 2647
Delta R.T. -0.006 min
Lab File: 16051538.D
Acq: 16 May 2016 10:40 am

Tgt Ion:252 Resp: 95572

Ion	Ratio	Lower	Upper
252	100		
253	21.7	2.6	42.6
125	13.2	0.0	33.8

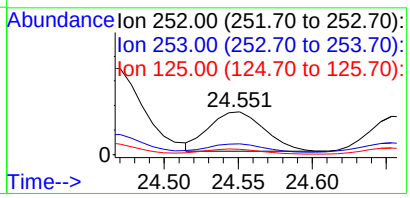


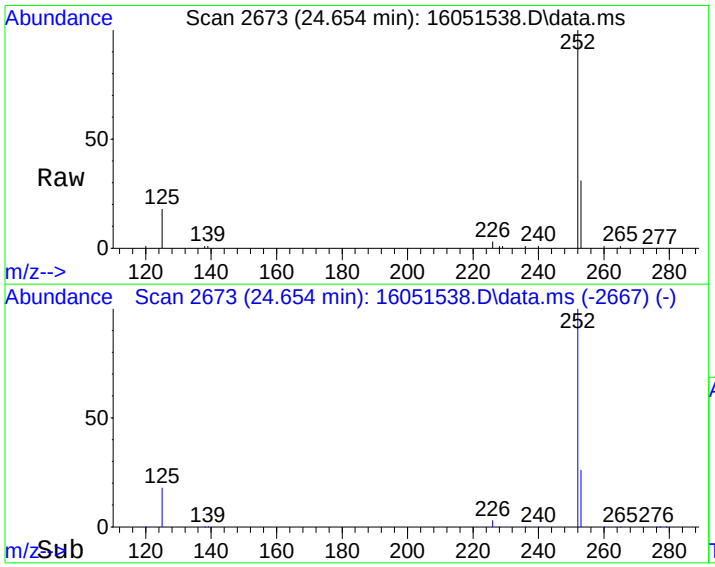


#22
Benzo[k]fluoranthene
Concen: 74.04 ug/kg
RT: 24.551 min Scan# 2659
Delta R.T. 0.002 min
Lab File: 16051538.D
Acq: 16 May 2016 10:40 am

Tgt Ion:252 Resp: 41762

Ion	Ratio	Lower	Upper
252	100		
253	20.1	2.8	42.8
125	12.4	0.0	34.7

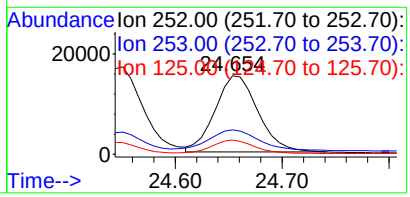


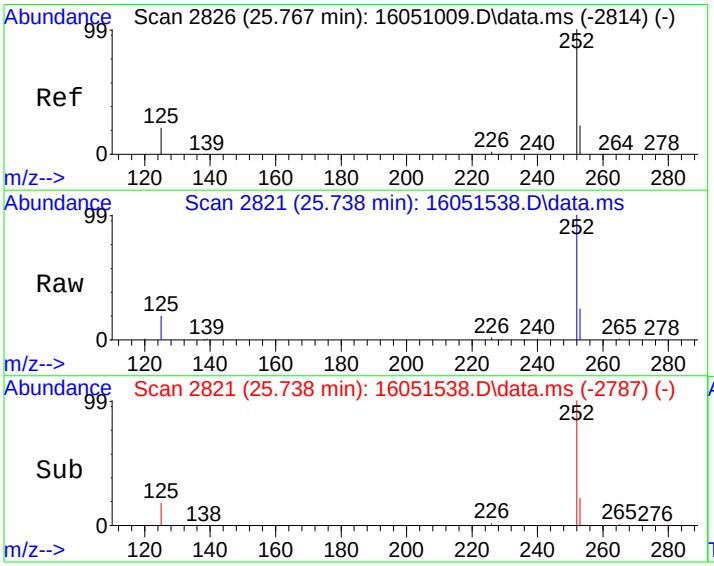


#23
Benzo(j)fluoranthene
Concen: 73.94 ug/kg
RT: 24.654 min Scan# 2673
Delta R.T. -0.006 min
Lab File: 16051538.D
Acq: 16 May 2016 10:40 am

Tgt Ion:252 Resp: 42149

Ion	Ratio	Lower	Upper
252	100		
253	30.8	2.3	42.3
125	17.7	0.0	39.2

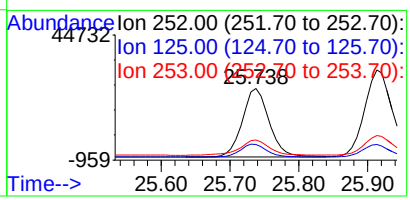


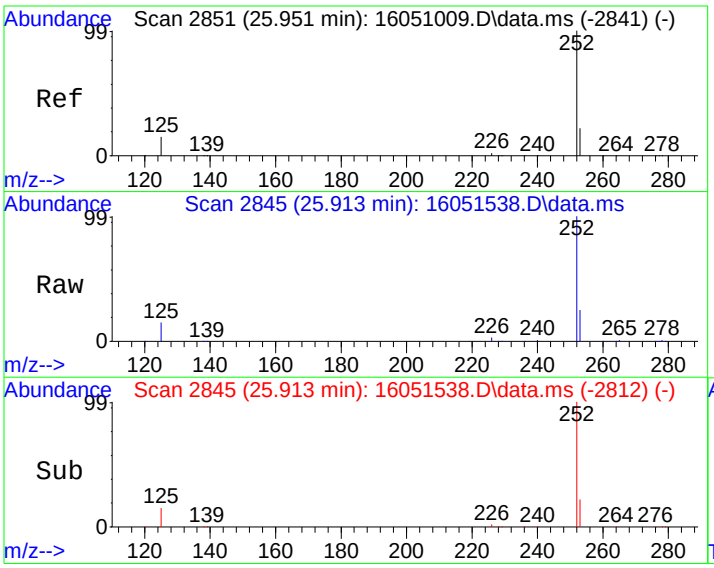


#24
Benzo(e)pyrene
Concen: 101.05 ug/kg
RT: 25.738 min Scan# 2821
Delta R.T. 0.002 min
Lab File: 16051538.D
Acq: 16 May 2016 10:40 am

Tgt Ion:252 Resp: 68205

Ion	Ratio	Lower	Upper
252	100		
125	18.8	0.8	40.8
253	24.7	2.4	42.4

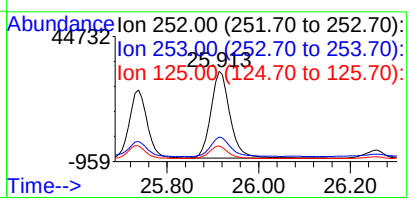


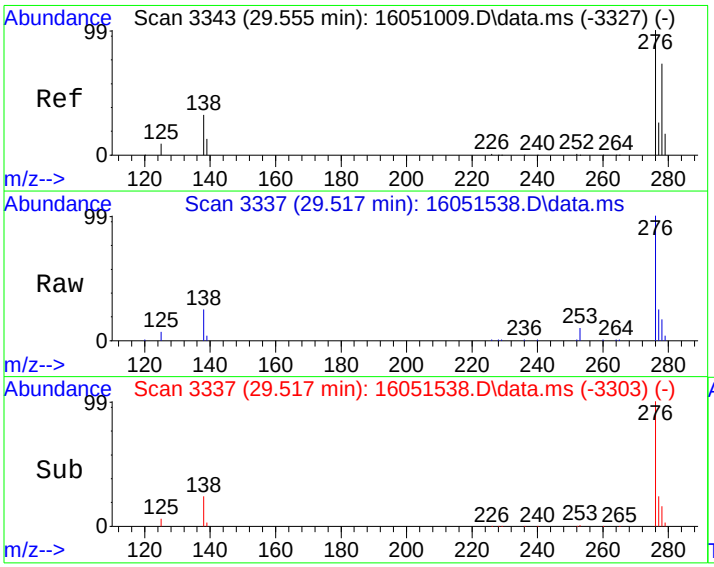


#25
Benzo[a]pyrene
Concen: 142.33 ug/kg
RT: 25.913 min Scan# 2845
Delta R.T. -0.006 min
Lab File: 16051538.D
Acq: 16 May 2016 10:40 am

Tgt Ion:252 Resp: 91990

Ion	Ratio	Lower	Upper
252	100		
253	22.4	2.5	42.5
125	14.5	0.0	35.5

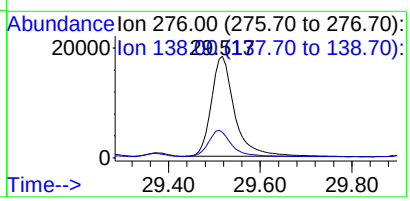


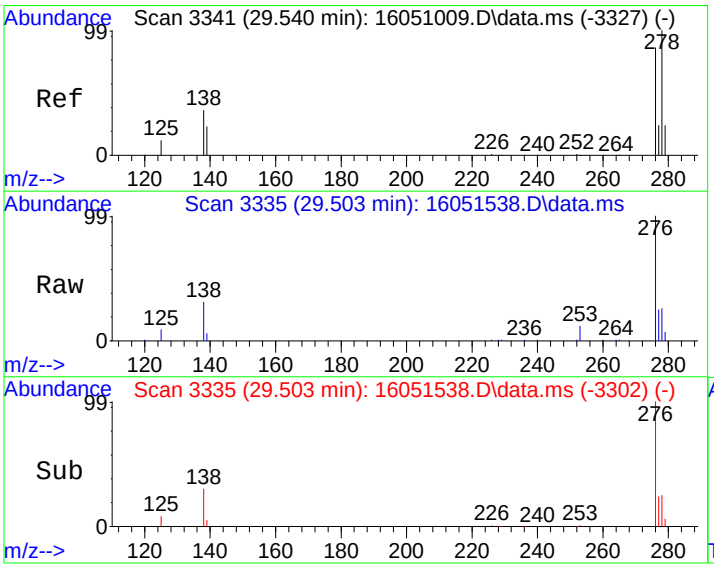


#26
Indeno[1,2,3-cd]pyrene
Concen: 89.61 ug/kg
RT: 29.517 min Scan# 3337
Delta R.T. 0.002 min
Lab File: 16051538.D
Acq: 16 May 2016 10:40 am

Tgt Ion:276 Resp: 64167

Ion	Ratio	Lower	Upper
276	100		
138	24.3	12.0	52.0

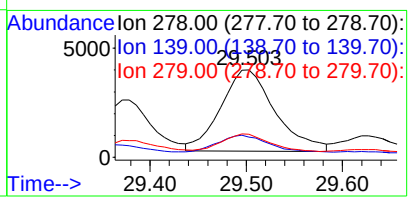


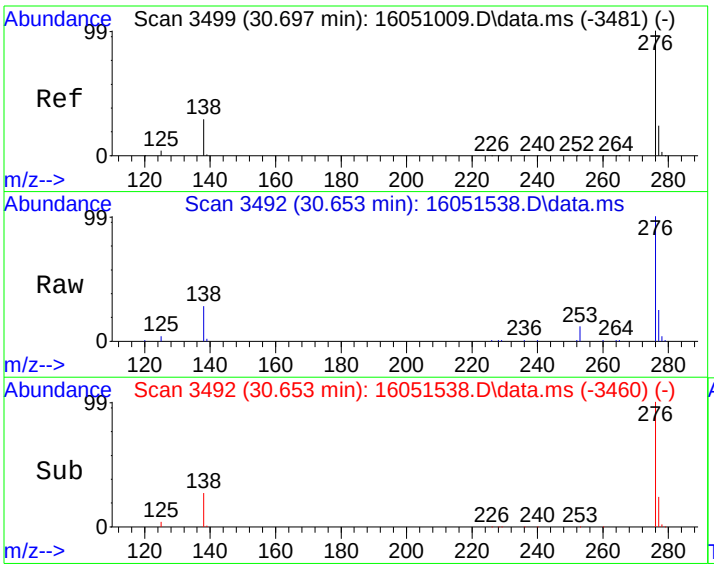


#27
Dibenz[a,h]anthracene
Concen: 25.08 ug/kg
RT: 29.503 min Scan# 3335
Delta R.T. -0.006 min
Lab File: 16051538.D
Acq: 16 May 2016 10:40 am

Tgt Ion:278 Resp: 14643

Ion	Ratio	Lower	Upper
278	100		
139	19.9	2.9	42.9
279	22.9	4.4	44.4

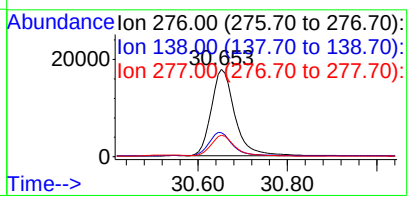




#28
Benzo[g,h,i]perylene
Concen: 103.77 ug/kg
RT: 30.653 min Scan# 3492
Delta R.T. -0.013 min
Lab File: 16051538.D
Acq: 16 May 2016 10:40 am

Tgt Ion:276 Resp: 64835

Ion	Ratio	Lower	Upper
276	100		
138	26.6	9.3	49.3
277	24.0	4.3	44.3



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051539.D
Acq On : 16 May 2016 11:16 am
Operator :
Sample : 1605074-37A
Misc : SAMP
ALS Vial : 29 Sample Multiplier: 10

Quant Time: May 16 13:08:40 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.276	136	1618773	4000.00	ug/kg	104
6) Acenaphthene-d10	12.861	164	1103287	4000.00	ug/kg	113
11) Phenanthrene-d10	14.983	188	2721500	4000.00	ug/kg	88
16) Chrysene-d12	20.991	240	2759623	4000.00	ug/kg	79
20) Perylene-d12	26.257	264	2451774	4000.00	ug/kg	83

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.761	172	27524	86.51	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.16%#			
17) 4-Terphenyl-d14	17.588	244	51324	80.49	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery = 2.01%#			

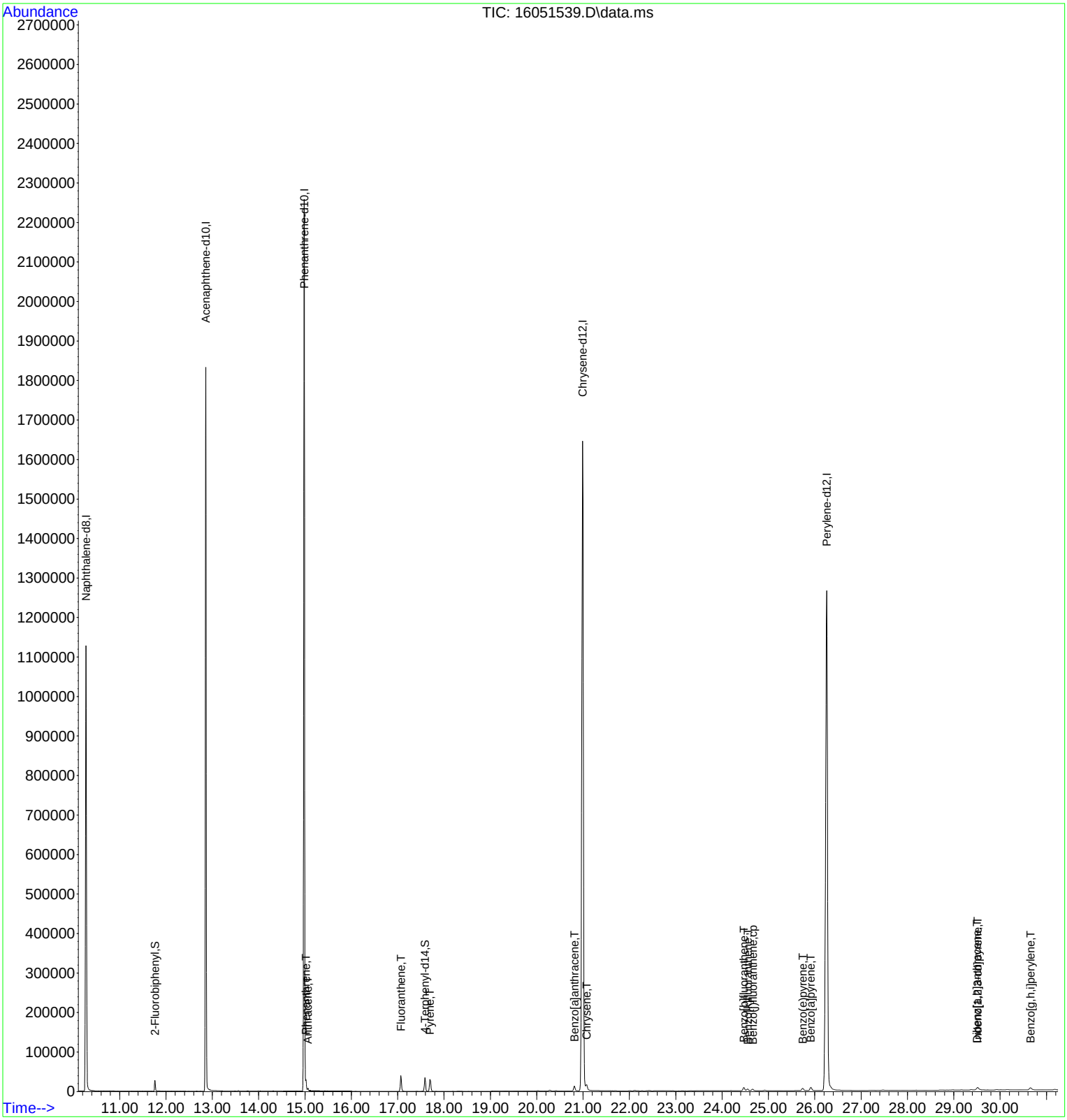
Target Compounds						Qvalue
12) Phenanthrene	15.018	178	21534	27.34	ug/kg	98
13) Anthracene	15.063	178	5285	6.19	ug/kg	96
14) Fluoranthene	17.065	202	49423	47.95	ug/kg	90
15) Pyrene	17.696	202	39825	38.52	ug/kg	92
18) Benzo[a]anthracene	20.815	228	19736	25.44	ug/kg	98
19) Chrysene	21.079	228	20508	28.88	ug/kg	98
21) Benzo[b]fluoranthene	24.470	252	17206	24.64	ug/kg	97
22) Benzo[k]fluoranthene	24.551	252	7981	14.25	ug/kg	96
23) Benzo(j)fluoranthene	24.661	252	7727	13.65	ug/kg	91
24) Benzo(e)pyrene	25.737	252	12465	18.60	ug/kg	94
25) Benzo[a]pyrene	25.913	252	18395	28.66	ug/kg	99
26) Indeno[1,2,3-cd]pyrene	29.517	276	12599	17.72	ug/kg	90
27) Dibenz[a,h]anthracene	29.495	278	4099	7.07	ug/kg	94
28) Benzo[g,h,i]perylene	30.660	276	12833	20.69	ug/kg	94

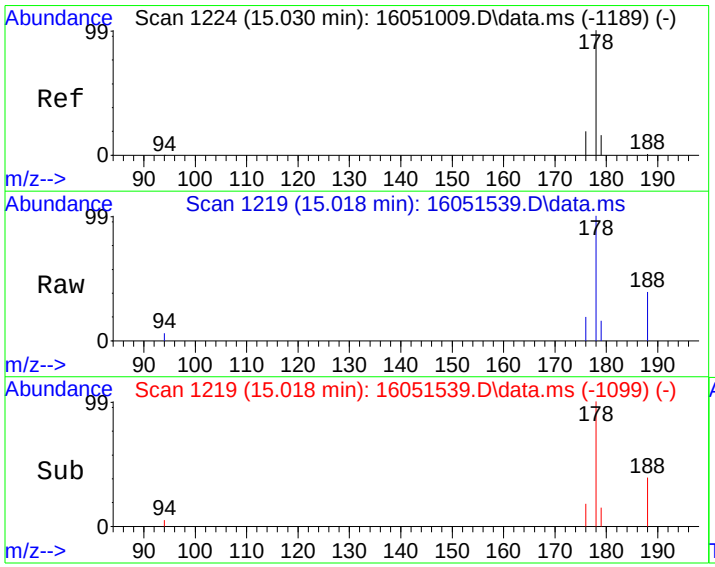
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051539.D
Acq On : 16 May 2016 11:16 am
Operator :
Sample : 1605074-37A
Misc : SAMP
ALS Vial : 29 Sample Multiplier: 10

Quant Time: May 16 13:08:40 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

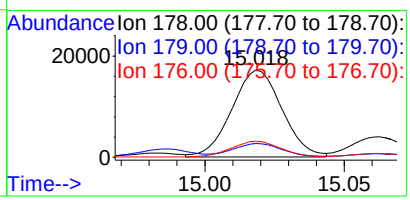


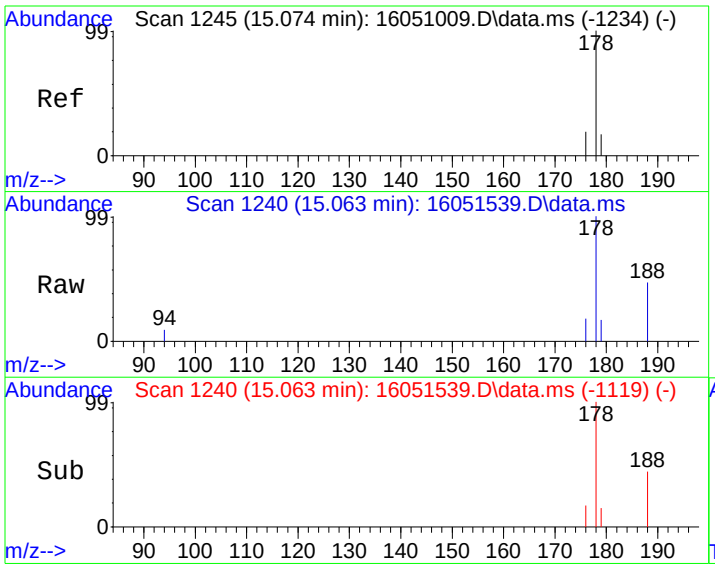


#12
Phenanthrene
Concen: 27.34 ug/kg
RT: 15.018 min Scan# 1219
Delta R.T. 0.002 min
Lab File: 16051539.D
Acq: 16 May 2016 11:16 am

Tgt Ion:178 Resp: 21534

Ion	Ratio	Lower	Upper
178	100		
179	15.0	0.0	36.4
176	18.5	0.0	39.2

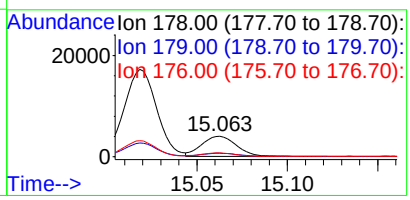


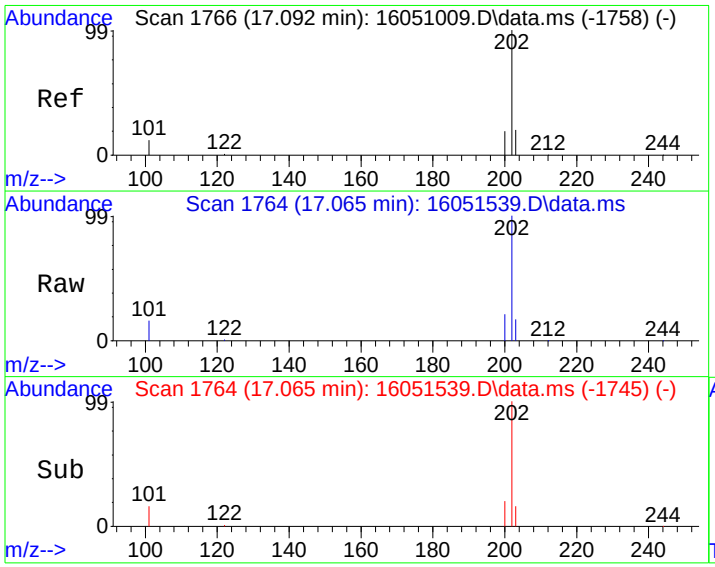


#13
Anthracene
Concen: 6.19 ug/kg
RT: 15.063 min Scan# 1240
Delta R.T. 0.004 min
Lab File: 16051539.D
Acq: 16 May 2016 11:16 am

Tgt Ion:178 Resp: 5285

Ion	Ratio	Lower	Upper
178	100		
179	15.0	0.0	36.5
176	17.0	0.0	38.6

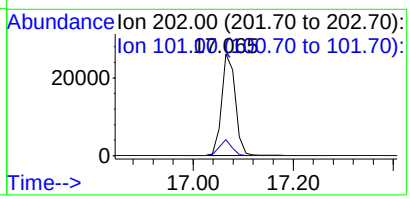


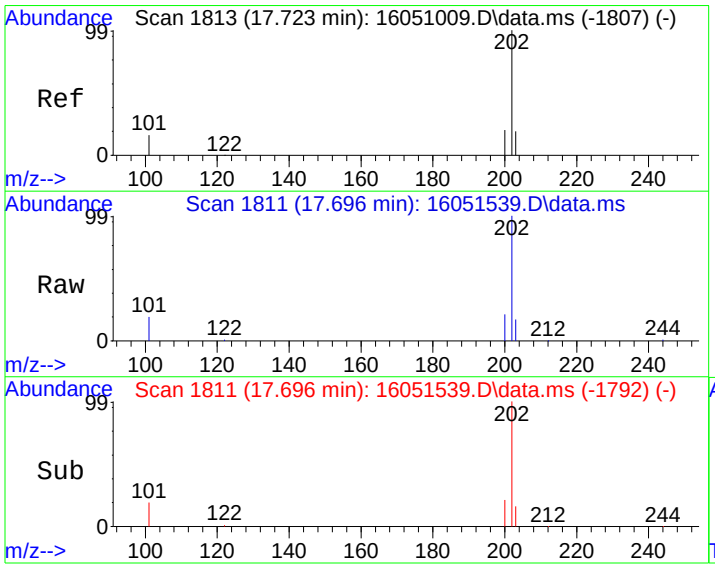


#14
Fluoranthene
Concen: 47.95 ug/kg
RT: 17.065 min Scan# 1764
Delta R.T. -0.000 min
Lab File: 16051539.D
Acq: 16 May 2016 11:16 am

Tgt Ion:202 Resp: 49423

Ion	Ratio	Lower	Upper
202	100		
101	15.8	0.0	32.0

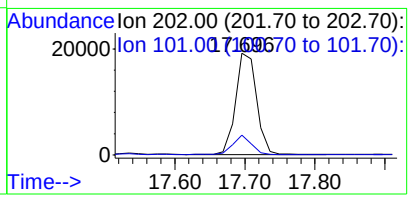


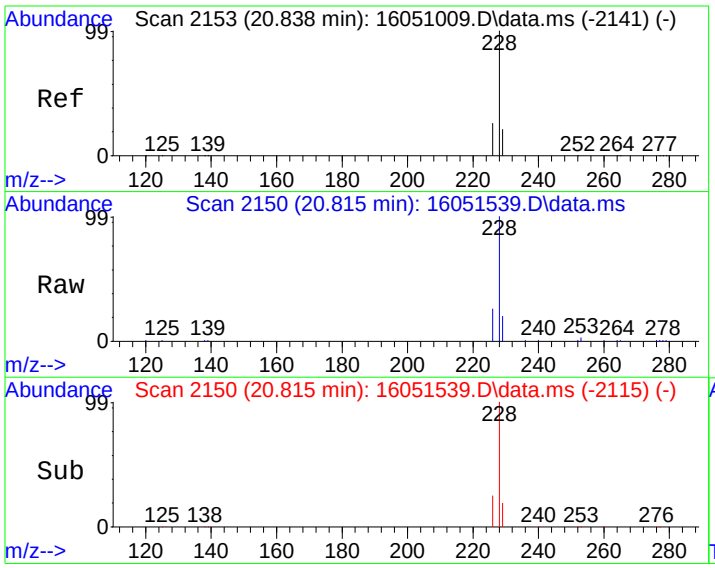


#15
Pyrene
Concen: 38.52 ug/kg
RT: 17.696 min Scan# 1811
Delta R.T. -0.000 min
Lab File: 16051539.D
Acq: 16 May 2016 11:16 am

Tgt Ion:202 Resp: 39825

Ion	Ratio	Lower	Upper
202	100		
101	19.2	0.0	35.9

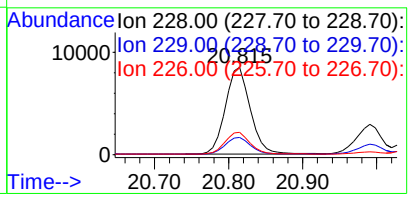


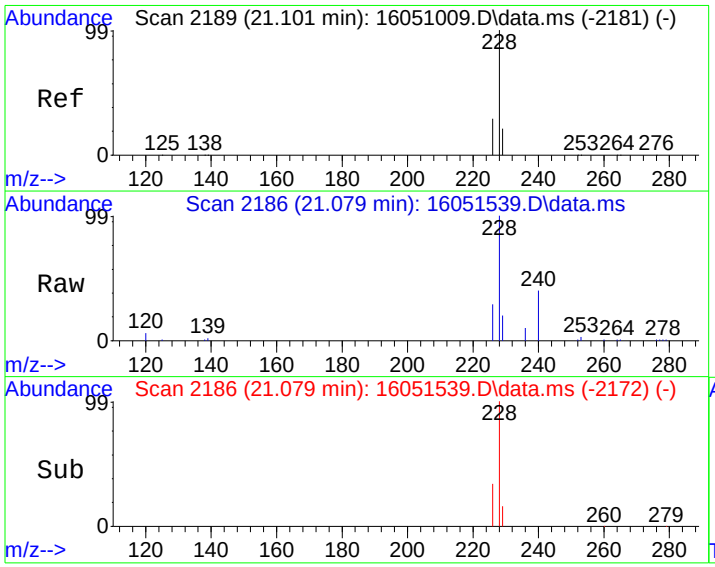


#18
Benzo[a]anthracene
Concen: 25.44 ug/kg
RT: 20.815 min Scan# 2150
Delta R.T. 0.009 min
Lab File: 16051539.D
Acq: 16 May 2016 11:16 am

Tgt Ion:228 Resp: 19736

Ion	Ratio	Lower	Upper
228	100		
229	19.3	0.7	40.7
226	25.0	5.9	45.9

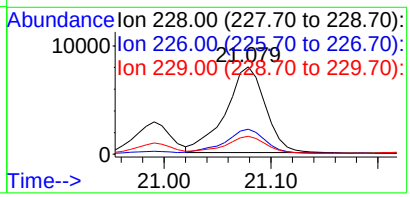


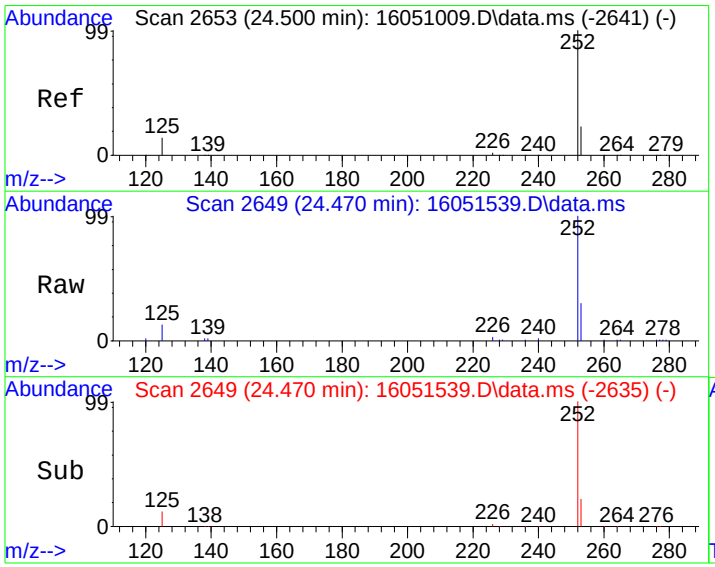


#19
Chrysene
Concen: 28.88 ug/kg
RT: 21.079 min Scan# 2186
Delta R.T. 0.001 min
Lab File: 16051539.D
Acq: 16 May 2016 11:16 am

Tgt Ion:228 Resp: 20508

Ion	Ratio	Lower	Upper
228	100		
226	28.2	8.8	48.8
229	19.6	0.5	40.5

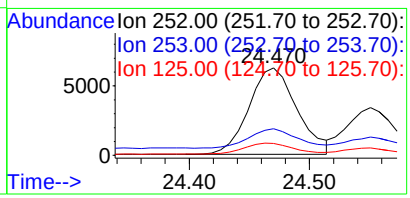


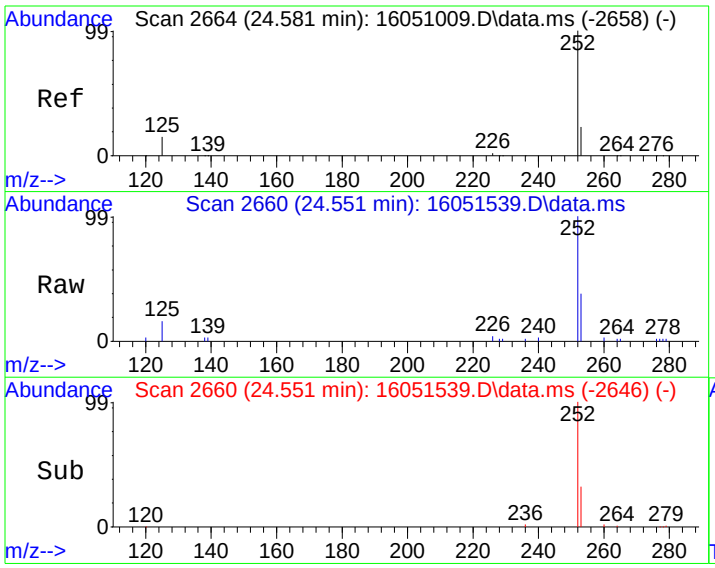


#21
Benzo[b]fluoranthene
Concen: 24.64 ug/kg
RT: 24.470 min Scan# 2649
Delta R.T. 0.001 min
Lab File: 16051539.D
Acq: 16 May 2016 11:16 am

Tgt Ion:252 Resp: 17206

Ion	Ratio	Lower	Upper
252	100		
253	21.9	2.6	42.6
125	12.0	0.0	33.8

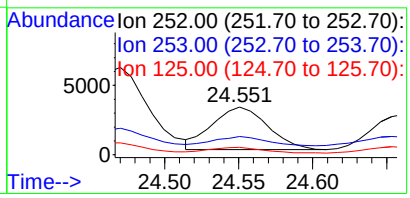


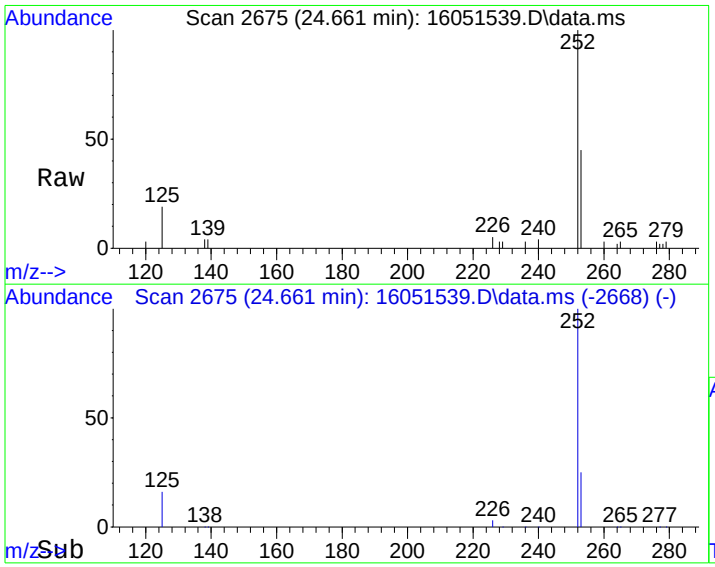


#22
Benzo[k]fluoranthene
Concen: 14.25 ug/kg
RT: 24.551 min Scan# 2660
Delta R.T. 0.001 min
Lab File: 16051539.D
Acq: 16 May 2016 11:16 am

Tgt Ion:252 Resp: 7981

Ion	Ratio	Lower	Upper
252	100		
253	20.8	2.8	42.8
125	13.3	0.0	34.7

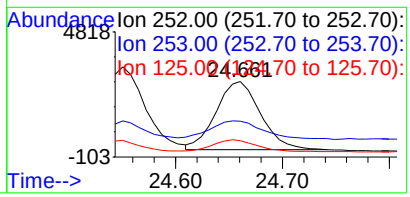


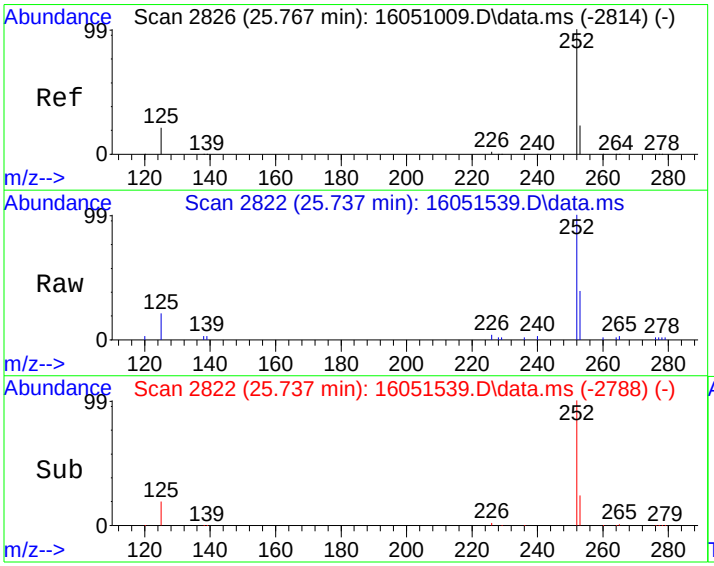


#23
Benzo(j)fluoranthene
Concen: 13.65 ug/kg
RT: 24.661 min Scan# 2675
Delta R.T. 0.001 min
Lab File: 16051539.D
Acq: 16 May 2016 11:16 am

Tgt Ion:252 Resp: 7727

Ion	Ratio	Lower	Upper
252	100		
253	28.8	2.3	42.3
125	17.1	0.0	39.2

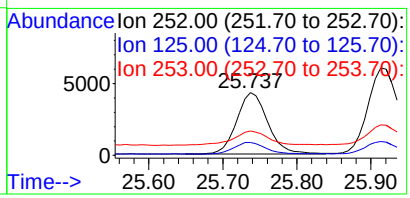


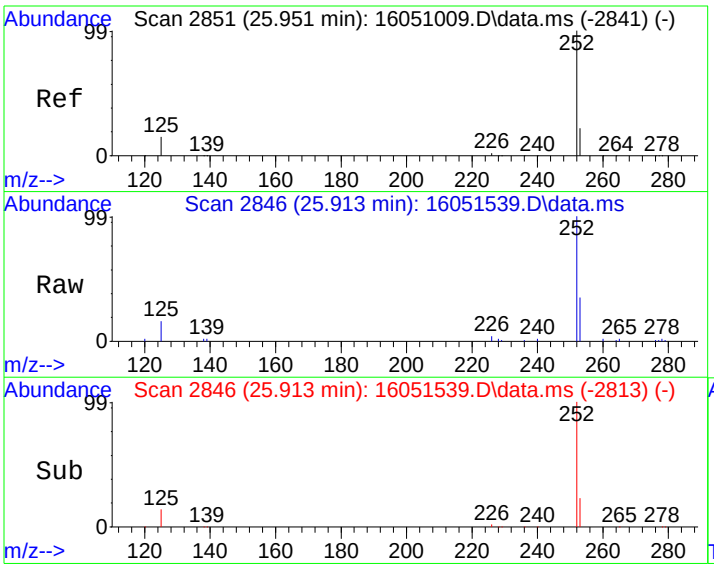


#24
Benzo(e)pyrene
Concen: 18.60 ug/kg
RT: 25.737 min Scan# 2822
Delta R.T. 0.001 min
Lab File: 16051539.D
Acq: 16 May 2016 11:16 am

Tgt Ion:252 Resp: 12465

Ion	Ratio	Lower	Upper
252	100		
125	19.5	0.8	40.8
253	26.3	2.4	42.4

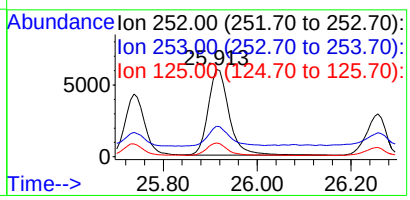


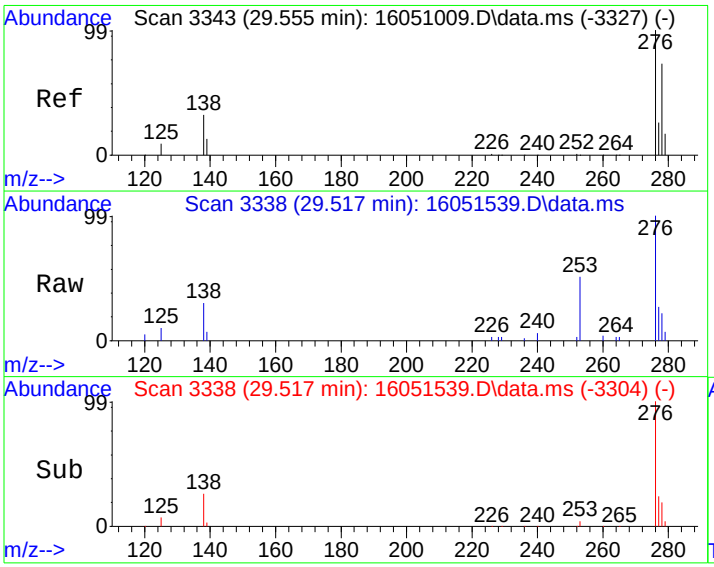


#25
Benzo[a]pyrene
Concen: 28.66 ug/kg
RT: 25.913 min Scan# 2846
Delta R.T. -0.006 min
Lab File: 16051539.D
Acq: 16 May 2016 11:16 am

Tgt Ion:252 Resp: 18395

Ion	Ratio	Lower	Upper
252	100		
253	22.6	2.5	42.5
125	14.4	0.0	35.5

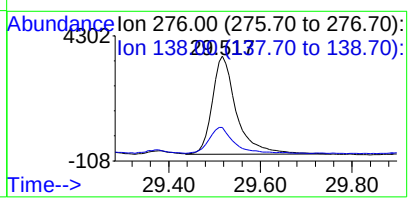


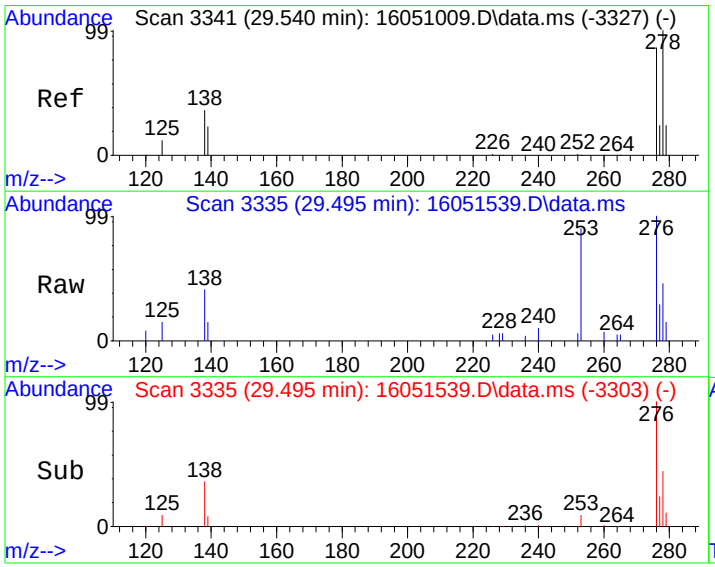


#26
Indeno[1,2,3-cd]pyrene
Concen: 17.72 ug/kg
RT: 29.517 min Scan# 3338
Delta R.T. 0.001 min
Lab File: 16051539.D
Acq: 16 May 2016 11:16 am

Tgt Ion:276 Resp: 12599

Ion	Ratio	Lower	Upper
276	100		
138	26.7	12.0	52.0

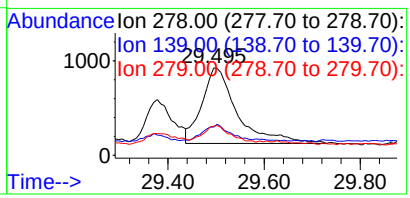


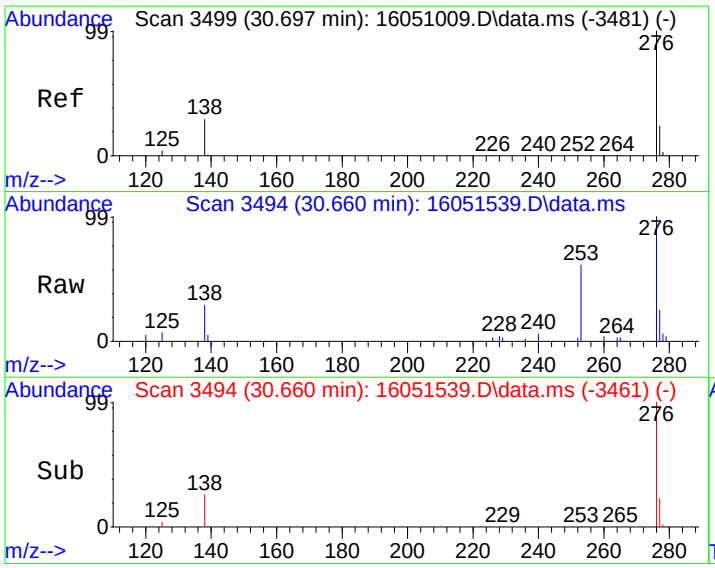


#27
Dibenz[a,h]anthracene
Concen: 7.07 ug/kg
RT: 29.495 min Scan# 3335
Delta R.T. -0.013 min
Lab File: 16051539.D
Acq: 16 May 2016 11:16 am

Tgt Ion:278 Resp: 4099

Ion	Ratio	Lower	Upper
278	100		
139	17.5	2.9	42.9
279	23.4	4.4	44.4

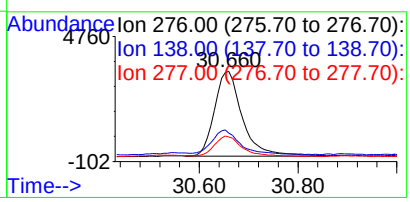




#28
Benzo[g,h,i]perylene
Concen: 20.69 ug/kg
RT: 30.660 min Scan# 3494
Delta R.T. -0.006 min
Lab File: 16051539.D
Acq: 16 May 2016 11:16 am

Tgt Ion:276 Resp: 12833

Ion	Ratio	Lower	Upper
276	100		
138	24.8	9.3	49.3
277	22.9	4.3	44.3



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051540.D
Acq On : 16 May 2016 11:53 am
Operator :
Sample : 1605074-38A
Misc : SAMP
ALS Vial : 30 Sample Multiplier: 10

Quant Time: May 16 13:08:48 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.272	136	1616679	4000.00	ug/kg	103
6) Acenaphthene-d10	12.861	164	1098307	4000.00	ug/kg	112
11) Phenanthrene-d10	14.982	188	2733877	4000.00	ug/kg	88
16) Chrysene-d12	20.990	240	2778292	4000.00	ug/kg	79
20) Perylene-d12	26.257	264	2451796	4000.00	ug/kg	83

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.762	172	25249	79.46	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.99%#			
17) 4-Terphenyl-d14	17.589	244	49084	76.46	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery = 1.91%#			

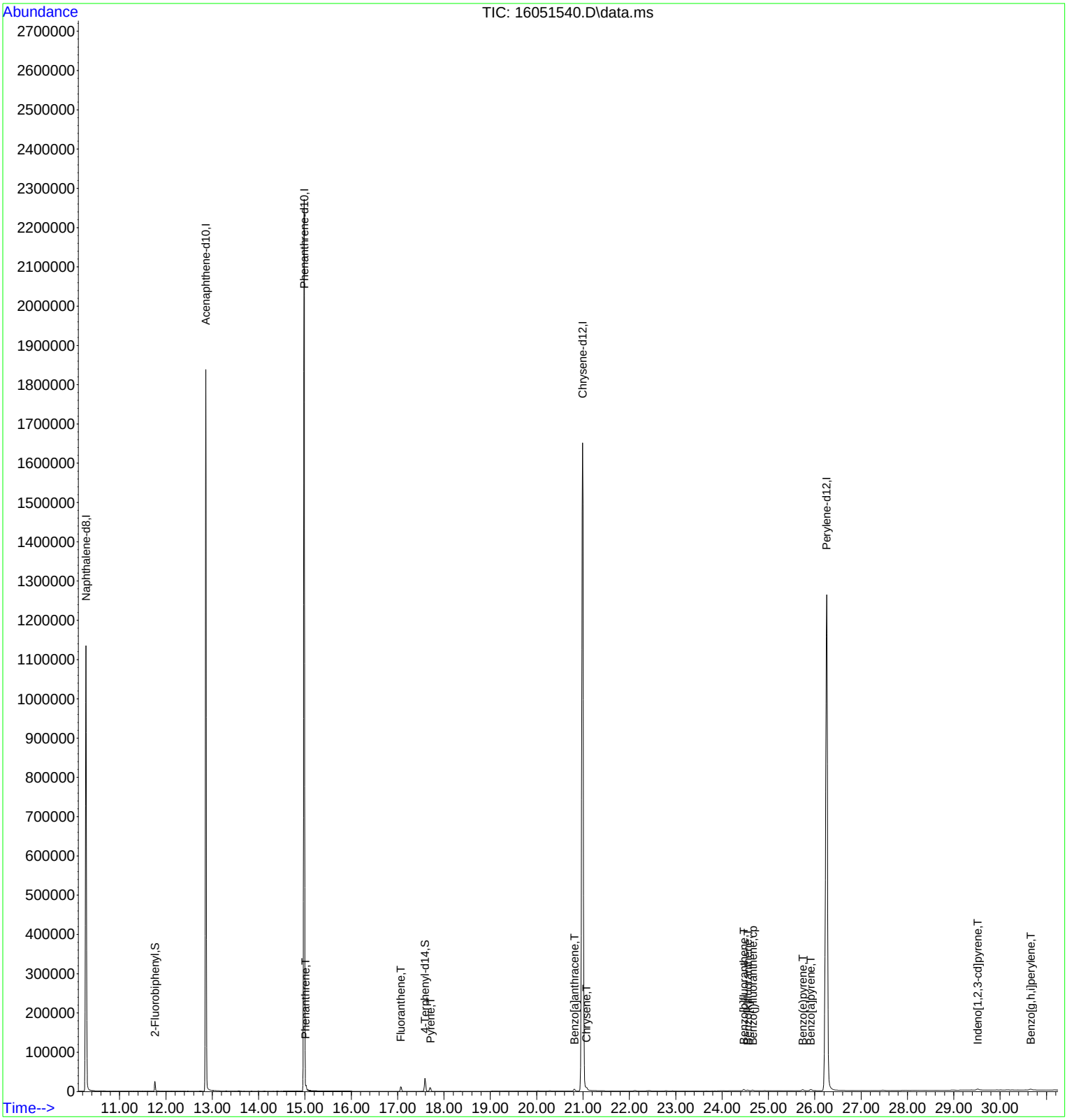
Target Compounds						Qvalue
12) Phenanthrene	15.018	178	6433	8.13	ug/kg	97
14) Fluoranthene	17.065	202	15809	15.27	ug/kg	89
15) Pyrene	17.709	202	13243	12.75	ug/kg	90
18) Benzo[a]anthracene	20.814	228	7177	9.19	ug/kg	98
19) Chrysene	21.078	228	8341	11.67	ug/kg	98
21) Benzo[b]fluoranthene	24.470	252	7333	10.50	ug/kg	97
22) Benzo[k]fluoranthene	24.550	252	3334	5.95	ug/kg	95
23) Benzo(j)fluoranthene	24.660	252	3050	5.39	ug/kg	95
24) Benzo(e)pyrene	25.737	252	5464	8.15	ug/kg	91
25) Benzo[a]pyrene	25.913	252	6894	10.74	ug/kg	99
26) Indeno[1,2,3-cd]pyrene	29.517	276	5420	7.62	ug/kg	89
28) Benzo[g,h,i]perylene	30.659	276	5912	9.53	ug/kg	96

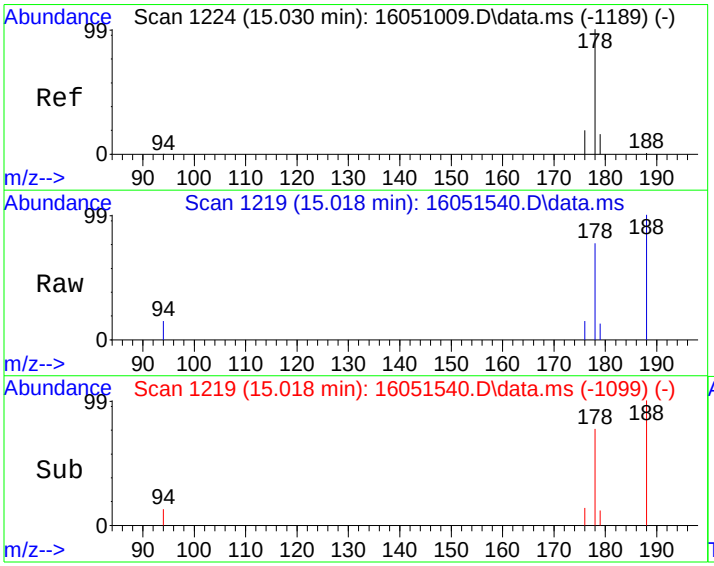
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051540.D
Acq On : 16 May 2016 11:53 am
Operator :
Sample : 1605074-38A
Misc : SAMP
ALS Vial : 30 Sample Multiplier: 10

Quant Time: May 16 13:08:48 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

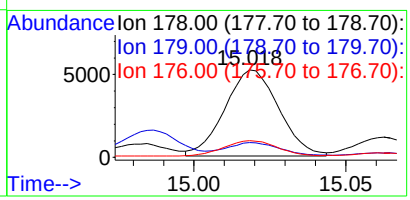


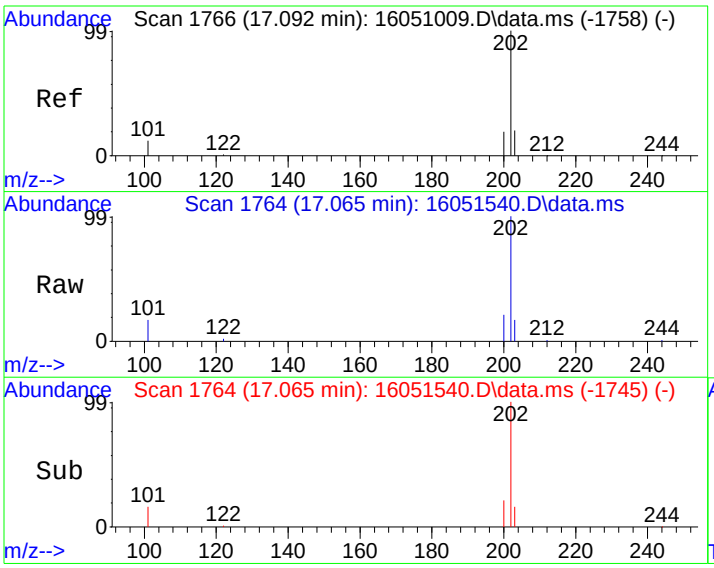


#12
Phenanthrene
Concen: 8.13 ug/kg
RT: 15.018 min Scan# 1219
Delta R.T. 0.002 min
Lab File: 16051540.D
Acq: 16 May 2016 11:53 am

Tgt Ion:178 Resp: 6433

Ion	Ratio	Lower	Upper
178	100		
179	15.0	0.0	36.4
176	18.1	0.0	39.2

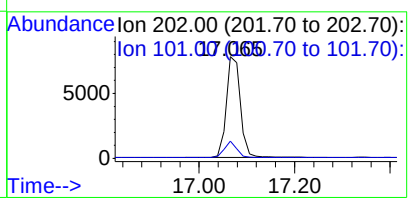


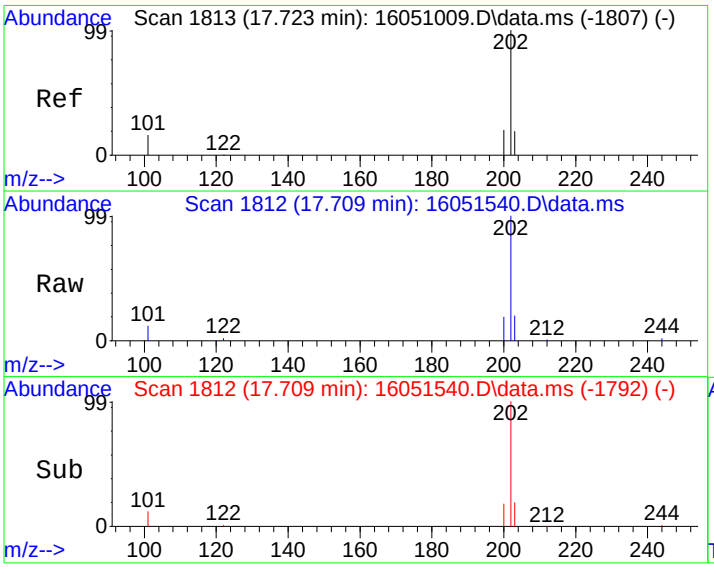


#14
Fluoranthene
Concen: 15.27 ug/kg
RT: 17.065 min Scan# 1764
Delta R.T. 0.000 min
Lab File: 16051540.D
Acq: 16 May 2016 11:53 am

Tgt Ion:202 Resp: 15809

Ion	Ratio	Lower	Upper
202	100		
101	16.4	0.0	32.0

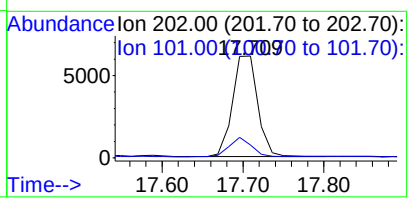


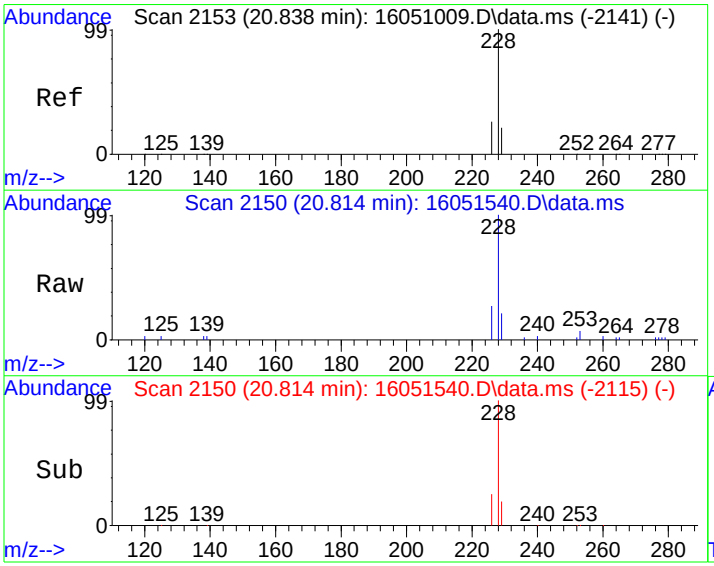


#15
Pyrene
Concen: 12.75 ug/kg
RT: 17.709 min Scan# 1812
Delta R.T. 0.014 min
Lab File: 16051540.D
Acq: 16 May 2016 11:53 am

Tgt Ion:202 Resp: 13243

Ion	Ratio	Lower	Upper
202	100		
101	11.5	0.0	35.9

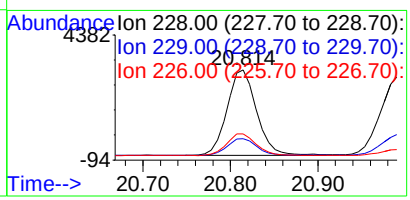


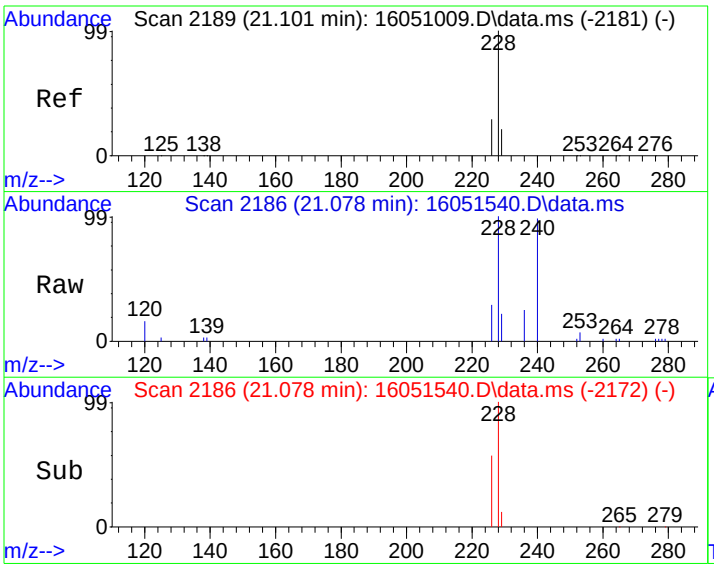


#18
Benzo[a]anthracene
Concen: 9.19 ug/kg
RT: 20.814 min Scan# 2150
Delta R.T. 0.008 min
Lab File: 16051540.D
Acq: 16 May 2016 11:53 am

Tgt Ion:228 Resp: 7177

Ion	Ratio	Lower	Upper
228	100		
229	19.6	0.7	40.7
226	25.2	5.9	45.9

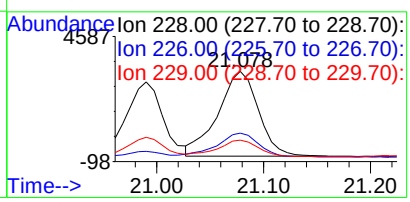


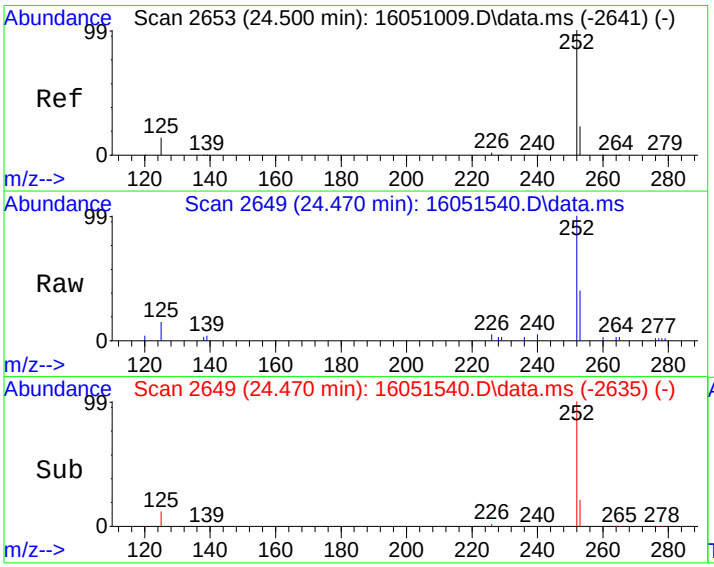


#19
Chrysene
Concen: 11.67 ug/kg
RT: 21.078 min Scan# 2186
Delta R.T. 0.001 min
Lab File: 16051540.D
Acq: 16 May 2016 11:53 am

Tgt Ion:228 Resp: 8341

Ion	Ratio	Lower	Upper
228	100		
226	27.7	8.8	48.8
229	19.7	0.5	40.5

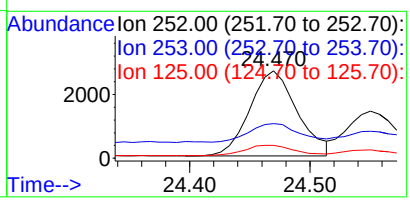


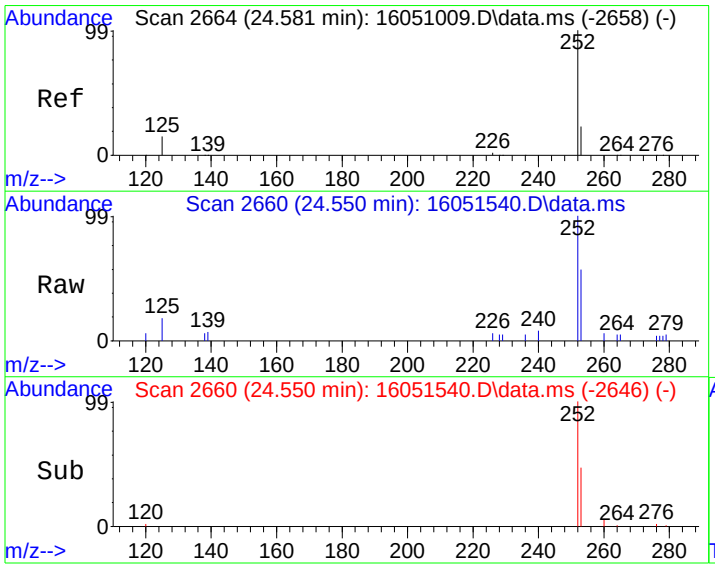


#21
Benzo[b]fluoranthene
Concen: 10.50 ug/kg
RT: 24.470 min Scan# 2649
Delta R.T. 0.001 min
Lab File: 16051540.D
Acq: 16 May 2016 11:53 am

Tgt Ion:252 Resp: 7333

Ion	Ratio	Lower	Upper
252	100		
253	21.3	2.6	42.6
125	11.8	0.0	33.8

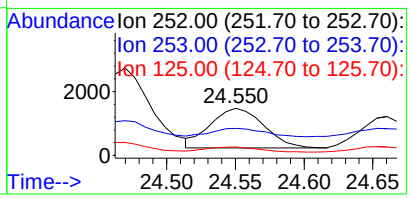


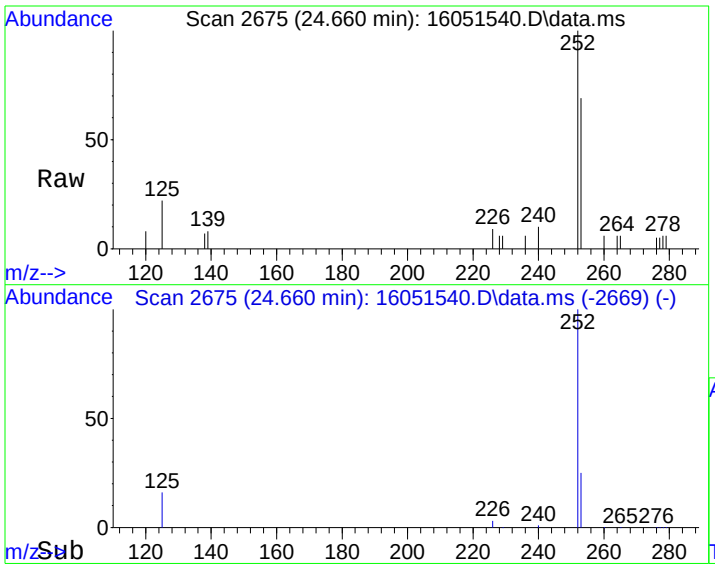


#22
Benzo[k]fluoranthene
Concen: 5.95 ug/kg
RT: 24.550 min Scan# 2660
Delta R.T. 0.001 min
Lab File: 16051540.D
Acq: 16 May 2016 11:53 am

Tgt Ion:252 Resp: 3334

Ion	Ratio	Lower	Upper
252	100		
253	20.5	2.8	42.8
125	12.7	0.0	34.7

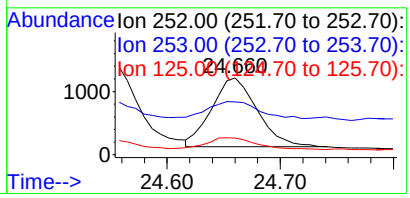


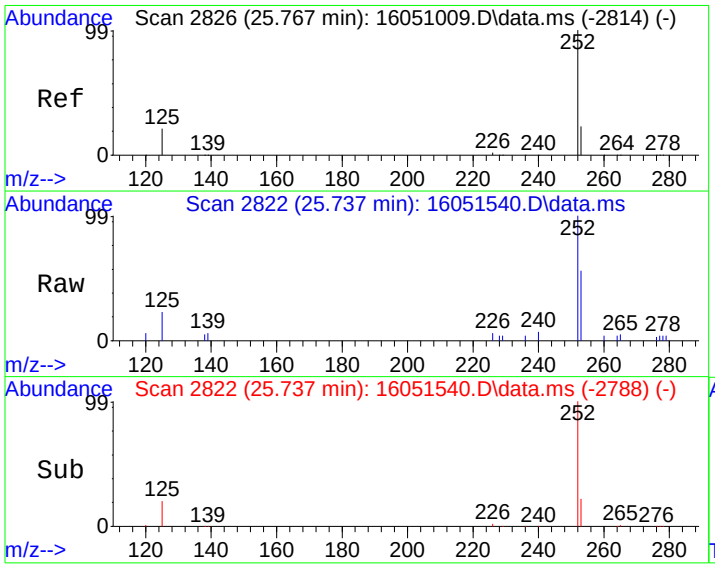


#23
Benzo(j)fluoranthene
Concen: 5.39 ug/kg
RT: 24.660 min Scan# 2675
Delta R.T. 0.001 min
Lab File: 16051540.D
Acq: 16 May 2016 11:53 am

Tgt Ion:252 Resp: 3050

Ion	Ratio	Lower	Upper
252	100		
253	26.1	2.3	42.3
125	18.9	0.0	39.2

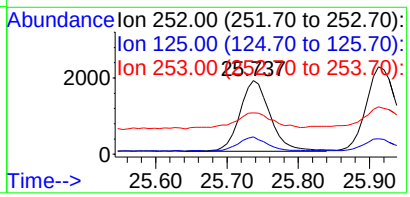


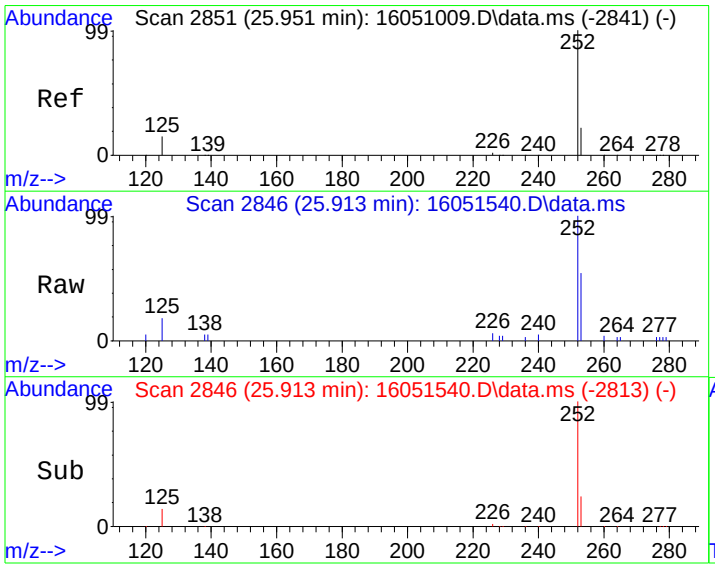


#24
Benzo(e)pyrene
Concen: 8.15 ug/kg
RT: 25.737 min Scan# 2822
Delta R.T. 0.001 min
Lab File: 16051540.D
Acq: 16 May 2016 11:53 am

Tgt Ion:252 Resp: 5464

Ion	Ratio	Lower	Upper
252	100		
125	19.5	0.8	40.8
253	29.2	2.4	42.4

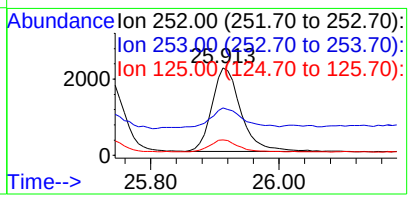


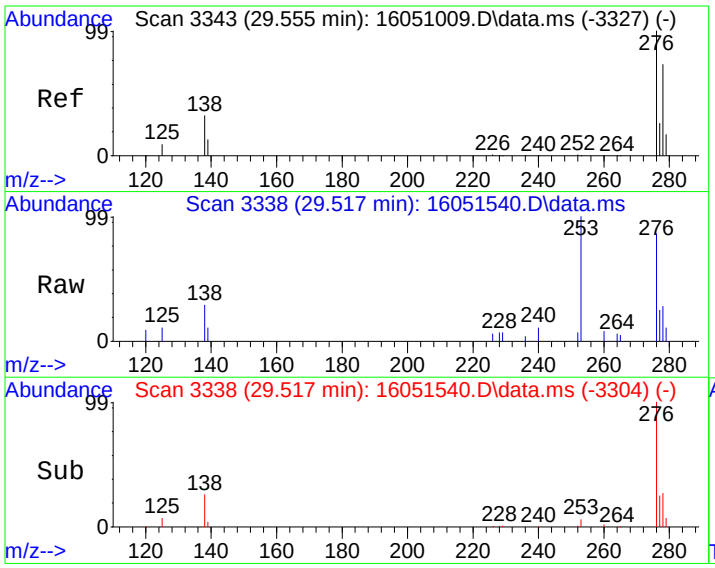


#25
Benzo[a]pyrene
Concen: 10.74 ug/kg
RT: 25.913 min Scan# 2846
Delta R.T. -0.006 min
Lab File: 16051540.D
Acq: 16 May 2016 11:53 am

Tgt Ion:252 Resp: 6894

Ion	Ratio	Lower	Upper
252	100		
253	22.6	2.5	42.5
125	14.0	0.0	35.5

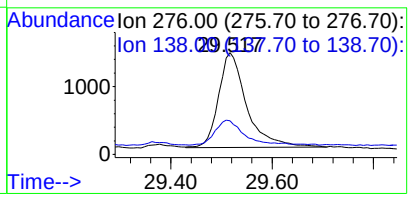


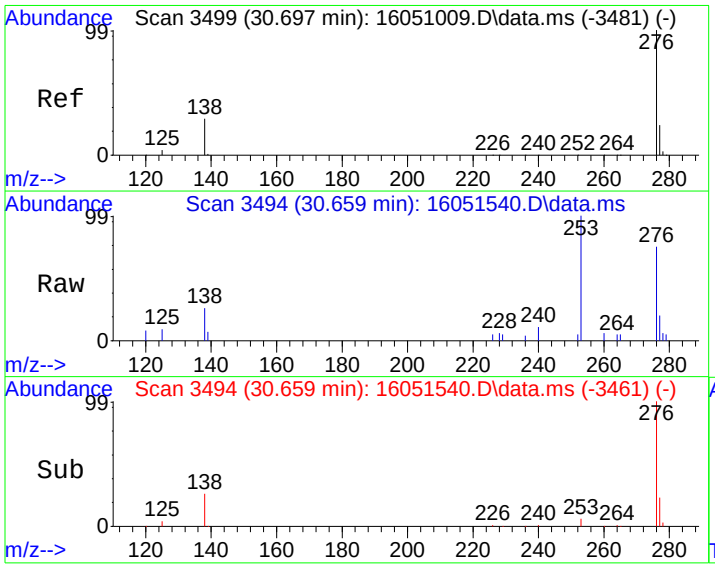


#26
Indeno[1,2,3-cd]pyrene
Concen: 7.62 ug/kg
RT: 29.517 min Scan# 3338
Delta R.T. 0.001 min
Lab File: 16051540.D
Acq: 16 May 2016 11:53 am

Tgt Ion:276 Resp: 5420

Ion	Ratio	Lower	Upper
276	100		
138	25.7	12.0	52.0

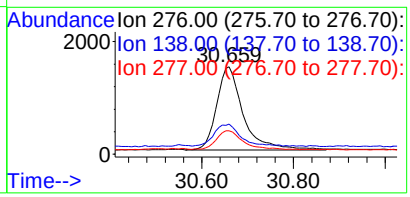




#28
Benzo[g,h,i]perylene
Concen: 9.53 ug/kg
RT: 30.659 min Scan# 3494
Delta R.T. -0.006 min
Lab File: 16051540.D
Acq: 16 May 2016 11:53 am

Tgt Ion:276 Resp: 5912

Ion	Ratio	Lower	Upper
276	100		
138	26.8	9.3	49.3
277	22.4	4.3	44.3



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051541.D
Acq On : 16 May 2016 12:30 pm
Operator :
Sample : CCV1-160515
Misc : CCV
ALS Vial : 31 Sample Multiplier: 1

Quant Time: May 16 13:06:12 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

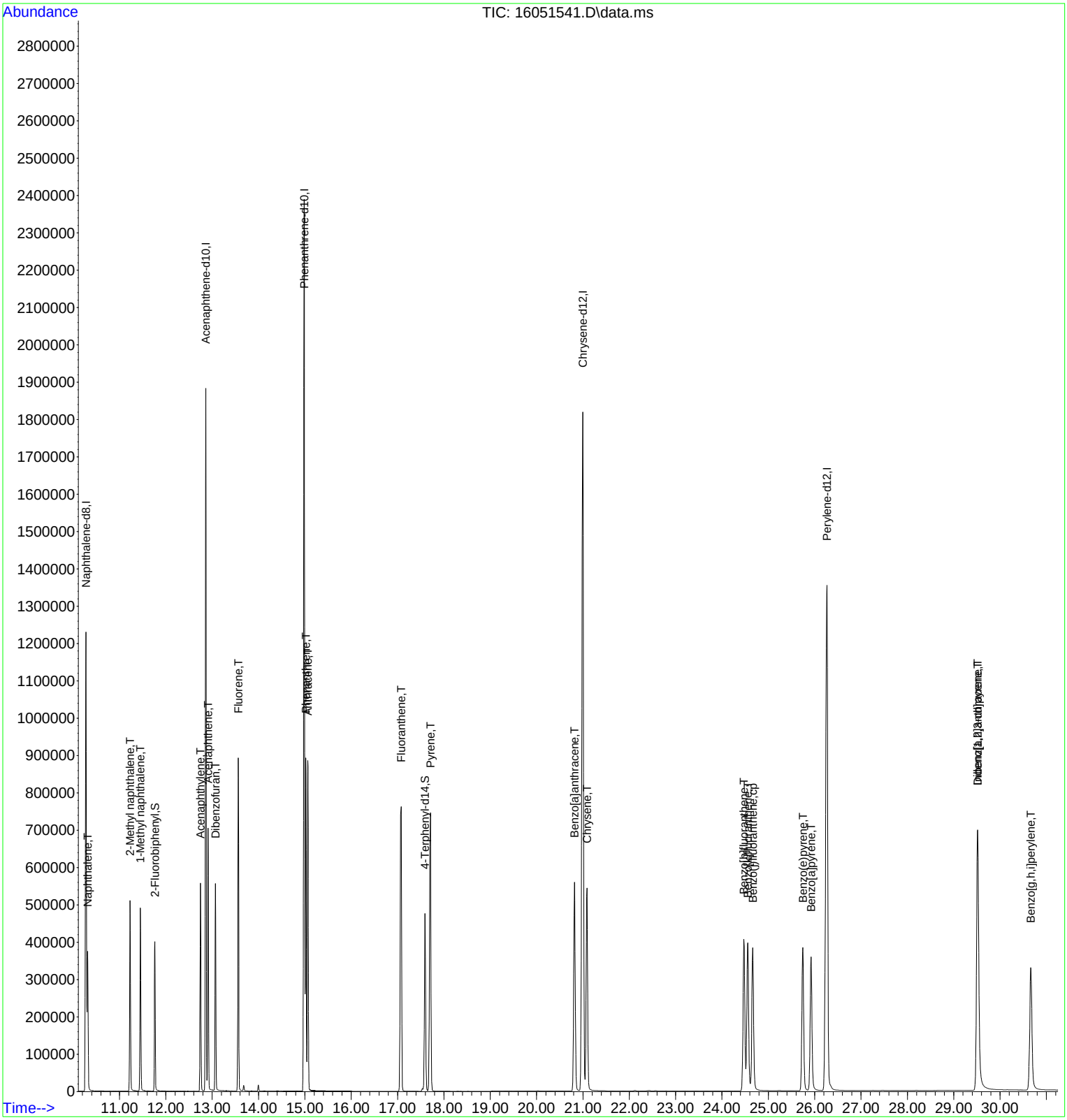
Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.274	136	1705223	4000.00	ug/kg	109
6) Acenaphthene-d10	12.862	164	1104161	4000.00	ug/kg	113
11) Phenanthrene-d10	14.984	188	2925646	4000.00	ug/kg	94
16) Chrysene-d12	20.999	240	3143008	4000.00	ug/kg	90
20) Perylene-d12	26.266	264	2745281	4000.00	ug/kg	93
System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.763	172	365803	1091.49	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 27.29%#			
17) 4-Terphenyl-d14	17.589	244	721266	993.20	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery = 24.83%#			
Target Compounds						Qvalue
2) Naphthalene	10.311	128	424389	1026.93	ug/kg	100
3) 2-Methyl naphthalene	11.228	142	311757	1108.56	ug/kg	99
4) 1-Methyl naphthalene	11.451	142	285535	1101.03	ug/kg	99
7) Acenaphthylene	12.749	152	542767	1046.04	ug/kg	99
8) Acenaphthene	12.911	153	334745	1019.44	ug/kg	99
9) Dibenzofuran	13.068	168	515294	971.78	ug/kg	93
10) Fluorene	13.564	166	481274	965.13	ug/kg	99
12) Phenanthrene	15.022	178	846124	999.26	ug/kg	99
13) Anthracene	15.064	178	862600	940.28	ug/kg	99
14) Fluoranthene	17.079	202	993598	896.64	ug/kg	94
15) Pyrene	17.709	202	980381	882.06	ug/kg	94
18) Benzo[a]anthracene	20.816	228	872166	987.15	ug/kg	99
19) Chrysene	21.087	228	803240	993.13	ug/kg	99
21) Benzo[b]fluoranthene	24.471	252	790196	1010.71	ug/kg	99
22) Benzo[k]fluoranthene	24.559	252	702166	1119.75	ug/kg	97
23) Benzo(j)fluoranthene	24.662	252	687742	1085.10	ug/kg	98
24) Benzo(e)pyrene	25.746	252	735759	980.49	ug/kg	98
25) Benzo[a]pyrene	25.921	252	718632	1000.09	ug/kg	98
26) Indeno[1,2,3-cd]pyrene	29.525	276	837871	1052.49	ug/kg	94
27) Dibenz[a,h]anthracene	29.511	278	699755	1078.19	ug/kg	97
28) Benzo[g,h,i]perylene	30.668	276	708605	1020.08	ug/kg	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160515\
Data File : 16051541.D
Acq On : 16 May 2016 12:30 pm
Operator :
Sample : CCV1-160515
Misc : CCV
ALS Vial : 31 Sample Multiplier: 1

Quant Time: May 16 13:06:12 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration



GCMS8_160516A
For

DHL Work Order
1605074

Lab Data Review Check List
EPA Method 8270 / 625 - PAH: Polynuclear Aromatic Hydrocarbons

Project Number(s): SEE RUN LOG.	**Run ID: GCMS8_160516A**
Batch Number(s): SEE RUN LOG.	**SOP:** ORGANICS-PAH-01
Matrix: SEE RUN LOG.	

Review Item	Yes	No	N/A	2nd Level Review
Data Folder Contents 1. Is the Prep Batch Report included? Check and record the following: ***Prep Start/End Dates, Sample Amounts, Bottle #s***	X			x
2. Are the reagents and spikes listed on the Prep Batch Report current with a valid expiration date? ***All standard/QC sample preparations shall be documented in LIMS***	X			
3. Is the Run Log and instrument sequence included? ***Check the Test Code, Sample Type, Batch ID, and Analysis Date/Time***	X			
4. Is the System Verification - Tune Report included? ***Date/Tme of Tune starts 12-hour analysis window***	X			
5. Is the Evaluate Continuing Calibration Report included?	X			

Daily Demonstration of Performance

QC items that do not meet method/SOP/project requirements will be described on the run log. All variances that impact data quality will be described in the Variance/Comment Section on page 2.

Review Item	Frequency	Limits	Pass	Fail (List Batch/Sample) **See Run Log**	2nd Level Review
Tune	Before ICAL Every 12 hours	See Tune Eval Report	X		x
Resolution Check - Benzo(b) and Benzo(k)phenanthrene	Before ICAL Every 12 hours	Benzo(b) and Benzo(k) Valley > 50%	X		
Initial Calibration Curve (ICAL) (minimum: 5 Standards)	Prior to samples and when ICV fails	Avg. RF - %RSD ≤ 15% Curve (COD) - R^2 ≥ 0.990	X		
SSCV - (Second Source)	After calibration (ICAL)	80-120%	X		
ICV - (Daily Initial Cal Verification)	Every 12 hours	ISTDs Area% (50-200%) Surrogates %R (See LIMS) Analytes %R (80-120%)	X		

Review Item	Frequency	Limits	Pass	Fail	N/A	Review
Method Blank (MB) System Blank (SYS Blank)	Every Batch (MB) Daily (SYS BL)	< MDL / <½ RL (DoD) or <1/10 the sample/reg limit	X			x
Lab Control Sample (LCS)	Every Batch	See LIMS			X	
Lab Control Sample Dup (LCSD)	Insufficient sample Sample Matrix	See LIMS			X	
LCSD - RPD	Every LCS/LCSD	≤ 30 (Aq/Soil/DoD)			X	
Field Samples	Up to 20 per prep batch	ISTDs Area% (50-200%) Surrogates %R (See LIMS) RRT ± 0.06 RRT Standard Q value > 70 - check for #	X			
Matrix Spike (MS)	Every Batch/20 samples	See LIMS			X	
Matrix Spike Duplicate (MSD) (MSD is N/A for Method 625)	Every Prep Batch except Method 625	See LIMS			X	
MSD - RPD (MSD is N/A for Method 625)	Every MS/MSD except Method 625	≤ 30 (Aq/Soil/DoD)			X	

Lab Data Review Check List
EPA Method 8270 / 625 - PAH: Polynuclear Aromatic Hydrocarbons

Review Item	Criteria	Yes	No	N/A	2nd Level Review
Sample Analysis	7 days (Aq) - extraction			X	
1. Are all sample hold times met?	14 days (Soil) - extraction	X			
	40 days analysis	X			
2. Are all manual integrations signed (Before & After) and printouts included ? Put in LIMS Comment Section ***Include MI form for DoD work***	Before & After - signed Comment Section in LIMS MI Form - DoD only			X	x
3. Are all samples with concentrations > the highest standard used for calibration diluted and reanalyzed?	> highest standard	X			
Review Item #3 is N/A ONLY if all sample results are within Calibration range or NO if dilution is in different folder					
4. Is mass spectra reviewed/verified if Q value is <70 and/or # flag for results >MDL?	Q value <70 - All hits	X			x
5. Are ALL reported analytes > MDL (+ J flags) circled by the analyst?		X	**Return to analyst if NO**		
VARIANCE REPORT					
QC items that do not meet method/SOP/project requirements will be described on the run log. All variances that impact data quality will be described in this section.					
NON-CONFORMANCES / VARIANCE 1. Are all non-conformances included and noted?	All deviations from the method and SOP that affect data quality	X			x
2. Are all corrective actions included?				X	
3. Does the variance require approval by the Technical Director/General Manager/QA Manager?				X	

Approved by: Date:

Description and Corrective Actions of QC items that do not meet method/SOP/project requirements:

****INCLUDE VARIANCE ITEM / REASON / CORRECTIVE ACTION / IMPACT ON DATA****

VARIANCE ITEM	REASON	CORRECTIVE ACTION
___ Hold Time exceeded (7D/14D-Ext/40D-Analysis)	___ Sample Received out of HT	___ Reanalyze QC to confirm
___ ICV out of control (±20%)	___ Carryover from previous run	___ Recalibrate
___ MB/SYS BL out of control (> MDL / >½ RL)	___ Cross contamination	___ Reprep/Reanalyze sample
___ LCS ___ LCSD out of control (See LIMS)	___ Lab Artifact	___ Reprep/Reanalyze Batch
___ RPD out of control for LCS/LCSD (>30)	___ Prep Spike error (describe)	___ Reanalyze Batch/Sample/QC
___ MS ___ MSD out of control (See LIMS)	___ High Levels of target analytes	___ Verify H2O/reagents are clean
___ RPD out of control for MS/MSD (>30)	___ High Levels of non-targets	___ Reanalyze sample to confirm
___ Internal Standard(s) out of control	___ Insufficient sample for QC	___ Sample results ND w/ dilution
___ Multiple Surrogates out of control	___ Prep Error	___ Client notified and approved
___ No MS/MSD prepared - LCS/LCSD used instead	___ Analytical Error	___ Flag data / Case narrative
___ Missing QC (other than MS/MSD)	___ Client Request	___ Instrument Maintenance
___ QC sample(s) was mis-spiked	___ Other (describe below)	___ Accept data
___ Other (describe below)		

___ Cannot reanalyze (HT out/Lack of Sample)

General Comments and Impact on Data:

See run log.

Analyst: Karyn Lane Date: 5/17/2016 10:16

Second-Level Review: Janice Whitt Date: 5/26/2016

REVIEWED BY
By Janice Whitt at 3:09:34 PM, 5/26/2016

DHL Analytical, Inc.

Run ID: GCMS8_160516A **Run No.:** 85841

Analytical Run Date: 5/16/2016 **InstrumentID:** GCMS8

Analyst: Karyn Lane **Column:** Rtx-5Sil MS (30m x 0.25mm ID x 0.5µm df)

Calibration ID: 658 **Column ID:** 0.18mm

Column Length: 20m

Cal Comments: PAH160510.M

SampID	DF	TestCode	SampType	Batch ID	Analysis Date/Time	Q	Comments
DFTPP-160516	1	PAH_LL_SDOD1	TUNE	R85841	5/16/2016 1:07:00 PM		
ICV-160516	1	PAH_LL_SDOD1	ICV	R85841	5/16/2016 1:44:00 PM		
SBLK-160516	1	PAH_LL_SDOD1	SBLK	75151	5/16/2016 3:35:00 PM		
1605096-18A	10	PAH_LL_SDOD1	SAMP	75151	5/16/2016 4:12:00 PM		
1605096-19A	10	PAH_LL_SDOD1	SAMP	75151	5/16/2016 4:48:00 PM		
1605096-20A	10	PAH_LL_SDOD1	SAMP	75151	5/16/2016 5:25:00 PM		All samples in this batch run at 10x - detection limit is sufficient and is approved by project managers.
1605096-21A	10	PAH_LL_SDOD1	SAMP	75151	5/16/2016 6:02:00 PM		
1605096-01A	10	PAH_LL_SDOD1	SAMP	75151	5/16/2016 6:39:00 PM		
1605096-02A	10	PAH_LL_SDOD1	SAMP	75151	5/16/2016 7:15:00 PM		
1605096-03A	10	PAH_LL_SDOD1	SAMP	75151	5/16/2016 7:52:00 PM		
1605096-13A	10	PAH_LL_SDOD1	SAMP	75151	5/16/2016 8:29:00 PM		
1605096-22A	10	PAH_LL_SDOD1	SAMP	75151	5/16/2016 9:05:00 PM		
1605096-15A	10	PAH_LL_SDOD1	SAMP	75151	5/16/2016 9:42:00 PM		
1605096-16A	10	PAH_LL_SDOD1	SAMP	75151	5/16/2016 10:19:00 PM		
1605096-17A	10	PAH_LL_SDOD1	SAMP	75151	5/16/2016 10:56:00 PM		
CCV-160516	1	PAH_LL_SDOD1	CCV	R85841	5/16/2016 11:33:00 PM		
DFTPP2-160516	1	PAH_LL_SDOD1	TUNE	R85841	5/17/2016 12:09:00 AM		
ICV2-160516	1	PAH_LL_SDOD1	ICV	R85841	5/17/2016 12:46:00 AM		Reporting Indeno(1,2,3-cd)pyrene only - original run in GCMS6_160515A.
SBLK2-160516	1	PAH_LL_SDOD1	SBLK	75113	5/17/2016 1:23:00 AM		
1605074-07A	10	PAH_LL_SDOD1	SAMP	75113	5/17/2016 2:00:00 AM		
1605074-08A	10	PAH_LL_SDOD1	SAMP	75113	5/17/2016 2:37:00 AM		
1605074-09A	10	PAH_LL_SDOD1	SAMP	75113	5/17/2016 3:14:00 AM		
1605074-10A	20	PAH_LL_SDOD1	SAMP	75113	5/17/2016 3:50:00 AM		
1605074-11A	10	PAH_LL_SDOD1	SAMP	75113	5/17/2016 4:28:00 AM		
1605074-12A	10	PAH_LL_SDOD1	SAMP	75113	5/17/2016 5:05:00 AM		
1605074-14A	10	PAH_LL_SDOD1	SAMP	75113	5/17/2016 5:42:00 AM		
1605074-15A	10	PAH_LL_SDOD1	SAMP	75113	5/17/2016 6:18:00 AM		

Std ID	Std Name	Type	Exp. Date
DFTPP160509	2.5 PPM 525 TUNE STD.	TUNE	05/07/2017
PAHCCV-160509	1 PPM PAH CCV STANDARD	CCV	08/07/2016
PAHICV160509	2 PPM PAH ICV	ICV	08/07/2016
SVI150810-08	4000 PPM INTERNAL STANDAR	ALL	07/21/2016

DHL Analytical, Inc.

Run ID: GCMS8_160516A **Run No.:** 85841

1605074-16A	10	PAH_LL_SDOD1	SAMP	75113	5/17/2016 6:55:00 AM		
CCV2-160516	1	PAH_LL_SDOD1	CCV	R85841	5/17/2016 7:32:00 AM		

Std ID	Std Name	Type	Exp. Date
DFTPP160509	2.5 PPM 525 TUNE STD.	TUNE	05/07/2017
PAHCCV-160509	1 PPM PAH CCV STANDARD	CCV	08/07/2016
PAHICV160509	2 PPM PAH ICV	ICV	08/07/2016
SVI150810-08	4000 PPM INTERNAL STANDAR	ALL	07/21/2016

Sequence Name: C:\msdchem\1\sequence\160516.S
Comment:
Operator:
Data Path: C:\MSDCHEM\1\DATA\160516\
Instrument Name: GCMS #8
Instrument Control Pre-Seq Cmd:
Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:
Data Analysis Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line			Sample Name/Misc Info		
1)	Sample	1	16051601	DFTPPPAH	DFTPP-160516
2)	Sample	2	16051602	PAH160510	ICV-160516
3)	Sample	3	16051603	PAH160510	MB-75746
4)	Sample	4	16051604	PAH160510	1605098-42B
5)	Sample	5	16051605	PAH160510	SBLK-160516
6)	Sample	6	16051606	PAH160510	1605096-18A
7)	Sample	7	16051607	PAH160510	1605096-19A
8)	Sample	8	16051608	PAH160510	1605096-20A
9)	Sample	9	16051609	PAH160510	1605096-21A
10)	Sample	10	16051610	PAH160510	1605096-01A
11)	Sample	11	16051611	PAH160510	1605096-02A
12)	Sample	12	16051612	PAH160510	1605096-03A
13)	Sample	13	16051613	PAH160510	1605096-13A
14)	Sample	14	16051614	PAH160510	1605096-22A
15)	Sample	15	16051615	PAH160510	1605096-15A
16)	Sample	16	16051616	PAH160510	1605096-16A
17)	Sample	17	16051617	PAH160510	1605096-17A
18)	Sample	18	16051618	PAH160510	CCV-160516
19)	Sample	19	16051619	DFTPPPAH	DFTPP2-160516
20)	Sample	20	16051620	PAH160510	ICV2-160516
21)	Sample	21	16051621	PAH160510	SBLK2-160516
22)	Sample	22	16051622	PAH160510	1605074-07A
23)	Sample	23	16051623	PAH160510	1605074-08A
24)	Sample	24	16051624	PAH160510	1605074-09A
25)	Sample	25	16051625	PAH160510	1605074-10A
26)	Sample	26	16051626	PAH160510	1605074-11A
27)	Sample	27	16051627	PAH160510	1605074-12A
28)	Sample	28	16051628	PAH160510	1605074-14A
29)	Sample	29	16051629	PAH160510	1605074-15A
30)	Sample	30	16051630	PAH160510	1605074-16A
31)	Sample	18	16051631	PAH160510	CCV2-160516

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/11/2016 1:33:32 PM**
Digestion:
Prep End Date: **5/11/2016 4:20:00 PM**

Prep Batch **75113** Prep Code: **3550_PAHDOD** Technician: **Duston Bezner**

Prep Factor Units: **mL/g**

Equipment List

Turbo-Vap # 1,2,3
Balance # 25
Sonicators # 1,2,3,4

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605071-50A	Soil		10.11	10	0.989	1 of 1	
1605071-51A	Soil		10.3	10	0.971	1 of 1	
1605071-52A	Soil		10.05	10	0.995	1 of 1	
1605071-53A	Soil		10.02	10	0.998	3 of 3	
1605071-53AMS	Soil		10.08	10	0.992	31 of	
1605071-53AMSD	Soil		10.02	10	0.998	2 of	
1605071-54A	Soil		10.04	10	0.996	1 of 1	
1605074-01A	Soil		10.07	10	0.993	1 of 1	
1605074-02A	Soil		10	10	1.000	1 of 1	
1605074-03A	Soil		10.01	10	0.999	1 of 1	
1605074-04A	Soil		10.35	10	0.966	1 of 1	
1605074-05A	Soil		10.07	10	0.993	1 of 1	
1605074-06A	Soil		10.15	10	0.985	1 of 1	
1605074-07A	Soil		10.05	10	0.995	1 of 1	
1605074-08A	Soil		10.3	10	0.971	1 of 1	
1605074-09A	Soil		10.05	10	0.995	1 of 1	
1605074-10A	Soil		10.01	10	0.999	1 of 1	
1605074-11A	Soil		10.04	10	0.996	1 of 1	
1605074-12A	Soil		10.85	10	0.922	1 of 1	
1605074-14A	Soil		10.11	10	0.989	1 of 1	
1605074-15A	Soil		10.02	10	0.998	1 of 1	
1605074-16A	Soil		10.06	10	0.994	1 of 1	
LCS-75113	Soil		10	10	1.000	of	
MB-75113	Soil		10	10	1.000	of	

Number	Reagent Name	Amt	Units	Exp. Da
9927	purified sodium sulfate	10	g	07/04/2016
10169	Methylene Chloride	8	ml	03/15/2026
10214	Whatman 41 Filter	1	filter	03/30/2026
10343	1:1 MeCl2/Acetone	120	ml	05/09/2026

Spk ID	Spike Name	SampType	Amt (mL or g)	Exp. Date
PAHPREP160509	200 PPM PAH Spike Mix	LCS/MS/MSD	0.05	11/07/2016
SVPREP160510	40 PPM Surrogate Standard	ALL	0.25	08/08/2016

REVIEWED BY
By Janice Whitt at 11:21:40 AM, 5/23/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/11/2016 1:33:32 PM**
Digestion:
Prep End Date: 5/11/16 4:20PM

Prep Batch **75113** Prep Code: **3550_PAHDOD** Technician: **Duston Bezner**

Prep Factor Units: **mL/g**

Equipment List
Turbo-Vap # 1,2,3
Balance # 25
Sonicators # 1,2,3,4

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605071-50A	Soil		10	10 .11	1.000	1 of 1	
1605071-51A	Soil		10	10 .30	1.000	1 of 1	
1605071-52A	Soil		10	10 .05	1.000	1 of 1	
1605071-53A	Soil		10	10 .02	1.000	3 of 3	
1605071-53AMS	Soil		10	~~10 .04~~	1.000	3,1 of .08	
1605071-53AMSD	Soil		10	~~10 .65~~	1.000	~~.012~~ of .02	
1605071-54A	Soil		10	10 .04	1.000	1 of 1	
1605074-01A	Soil		10	10 .07	1.000	1 of 1	
1605074-02A	Soil		10	10 .00	1.000	1 of 1	
1605074-03A	Soil		10	10 .01	1.000	1 of 1	
1605074-04A	Soil		10	10 .35	1.000	1 of 1	
1605074-05A	Soil		10	10 .07	1.000	1 of 1	
1605074-06A	Soil		10	10 .15	1.000	1 of 1	
1605074-07A	Soil		10	10 .05	1.000	1 of 1	
1605074-08A	Soil		10	10 .30	1.000	1 of 1	
1605074-09A	Soil		10	10 .05	1.000	1 of 1	
1605074-10A	Soil		10	10 .01	1.000	1 of 1	
1605074-11A	Soil		10	10 .04	1.000	1 of 1	
1605074-12A	Soil		10	10 .55	1.000	1 of 1	
1605074-14A	Soil		10	10 .11	1.000	1 of 1	
1605074-15A	Soil		10	10 .02	1.000	1 of 1	
1605074-16A	Soil		10	10 .06	1.000	1 of 1	
LCS-75113	Soil		10	10	1.000	of	
MB-75113	Soil		10	10	1.000	of	

Number	Reagent Name	Amt	Units	Exp. Da
9927	purified sodium sulfate	10	g	07/04/2016
10169	Methylene Chloride	8	ml	03/15/2026
10214	Whatman 41 Filter	1	filter	03/30/2026
10343	1:1 MeCl2/Acetone	120	ml	05/09/2026

Spk ID	Spike Name	SampType	Amt (mL or g)	Exp. Date
PAHPREP160509	200 PPM PAH Spike Mix	LCS/MS/MSD	0.05	11/07/2016
SVPREP160510	40 PPM Surrogate Standard	ALL	0.25	08/08/2016

REVIEWED BY
By Janice Whitt at 11:21:38 AM, 5/23/2016

5/11/16 AK 5/11/16 5/11/16

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/6/2016 4:59:48 PM**
Digestion: **Start: 5/6/2016 5:30:00 PM / Stop: 5/9/2016 9:00:00 AM**
Prep End Date: **5/9/2016 5:00:00 PM**

Prep Factor Units: **mL/**

Prep Batch **74988** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker**

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605071-01A	Soil		0	0	#Num!	1 of 1	
1605071-02A	Soil		0	0	#Num!	1 of 1	
1605071-03A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605071-04A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605071-05A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605071-06A	Soil		0	0	#Num!	1 of 1	
1605071-07A	Soil		0	0	#Num!	1 of 1	
1605071-08A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605071-09A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605071-10A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605071-11A	Soil		0	0	#Num!	1 of 1	
1605071-12A	Soil		0	0	#Num!	1 of 1	
1605071-13A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605071-14A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605071-15A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605071-40A	Soil		0	0	#Num!	1 of 1	
1605071-41A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						

REVIEWED BY
By Janice Whitt at 11:21:45 AM, 5/23/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/6/2016 4:59:48 PM**
Digestion: **Start: 5/6/2016 5:30:00 PM / Stop: 5/9/2016 9:00:00 AM**
Prep End Date: **5/9/2016 5:00:00 PM**

Prep Batch **74988** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker**

Prep Factor Units: mL/

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605071-42A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605071-43A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605071-44A	Soil		0	0	#Num!	1 of 1	
1605071-45A	Soil		0	0	#Num!	1 of 1	
1605071-46A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605071-47A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605071-48A	Soil		0	0	#Num!	1 of 1	
1605071-49A	Soil		0	0	#Num!	1 of 1	
1605071-50A	Soil		0	0	#Num!	1 of 1	
1605071-51A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605071-52A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605071-53A	Soil		0	0	#Num!	of 3	
	Extra sample was subsampled for MS/MSD						
1605071-54A	Soil		0	0	#Num!	1 of 1	

REVIEWED BY
By Janice Whitt at 11:21:48 AM, 5/23/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/9/2016 9:45:00 AM**
Digestion: **Start: 5/9/2016 11:00:00 AM / Stop: 5/10/2016 10:00:00 AM**
Prep End Date: **5/10/2016 7:00:00 PM**

Prep Factor Units: **mL/**

Prep Batch **75016** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker**

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605074-01A	Soil		0	0	#Num!	1 of 1	
1605074-02A	Soil		0	0	#Num!	1 of 1	
1605074-03A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subdampling - hard clay						
1605074-04A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subdampling - hard clay						
1605074-05A	Soil		0	0	#Num!	1 of 1	
1605074-06A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605074-07A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605074-08A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605074-09A	Soil		0	0	#Num!	1 of 1	
1605074-10A	Soil		0	0	#Num!	1 of 1	
1605074-11A	Soil		0	0	#Num!	1 of 1	
	Sieved only no sub sampling - hard clay						
1605074-12A	Soil		0	0	#Num!	1 of 1	
	Sieved only no sub sampling - hard clay						
1605074-13A	Soil		0	0	#Num!	of 3	
	Extra subsampled for MS/MSD						
1605074-14A	Soil		0	0	#Num!	1 of 1	
1605074-15A	Soil		0	0	#Num!	1 of 1	
1605074-16A	Soil		0	0	#Num!	1 of 1	
1605074-17A	Soil		0	0	#Num!	1 of 1	
1605074-18A	Soil		0	0	#Num!	1 of 1	
1605074-19A	Soil		0	0	#Num!	1 of 1	

REVIEWED BY
By Janice Whitt at 11:22:20 AM, 5/23/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/9/2016 9:45:00 AM**
Digestion: **Start: 5/9/2016 11:00:00 AM / Stop: 5/10/2016 10:00:00 AM**
Prep End Date: **5/10/2016 7:00:00 PM**

Prep Factor Units: mL/

Prep Batch **75016** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker**

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #			Cleanup
1605074-20A	Soil		0	0	#Num!	1	of	1	
1605074-21A	Soil		0	0	#Num!	1	of	1	
1605074-22A	Soil		0	0	#Num!	1	of	1	
1605074-23A	Soil		0	0	#Num!	1	of	1	
1605074-24A	Soil		0	0	#Num!	1	of	1	
1605074-25A	Soil		0	0	#Num!	1	of	1	
1605074-26A	Soil		0	0	#Num!		of	3	
	Extra subsampled for MS/MSD								
1605074-27A	Soil		0	0	#Num!	1	of	1	
1605074-36A	Soil		0	0	#Num!	1	of	1	
1605074-37A	Soil		0	0	#Num!	1	of	1	
	Sieved only no subsampling - hard clay								
1605074-38A	Soil		0	0	#Num!	1	of	1	
	Sieved only no subsampling - hard clay								
1605074-39A	Soil		0	0	#Num!	1	of	1	
1605074-40A	Soil		0	0	#Num!	1	of	1	
1605074-41A	Soil		0	0	#Num!	1	of	1	
	Sieved only no subsampling - hard clay								
1605074-42A	Soil		0	0	#Num!	1	of	1	
	Sieved only no subsampling - hard clay								
1605074-43A	Soil		0	0	#Num!	1	of	1	
	Sieved only no subsampling - hard clay								
1605074-44A	Soil		0	0	#Num!		of	3	
	Extra subsampled for MS/MSD								
1605074-45A	Soil		0	0	#Num!	1	of	1	
	Sieved only no subsampling - hard clay								

REVIEWED BY
By Janice Whitt at 11:22:22 AM, 5/23/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/9/2016 9:45:00 AM**
Digestion: **Start: 5/9/2016 11:00:00 AM / Stop: 5/10/2016 10:00:00 AM**
Prep End Date: **5/10/2016 7:00:00 PM**

Prep Batch **75016** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker**

Prep Factor Units: **mL/**

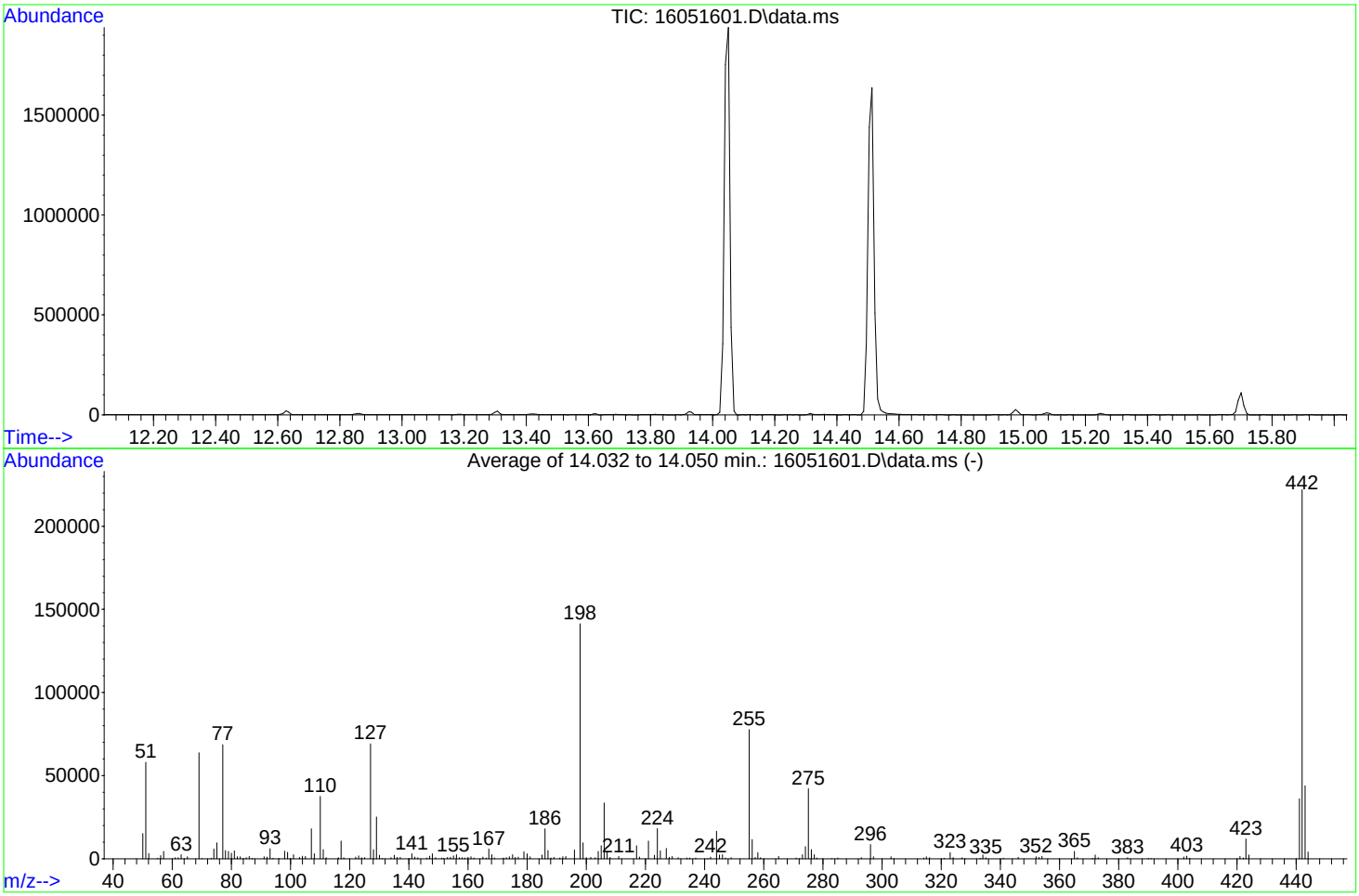
Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605074-46A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605074-47A	Soil		0	0	#Num!	1 of 1	

REVIEWED BY
By Janice Whitt at 11:22:23 AM, 5/23/2016

Data Path : C:\msdchem\1\DATA\160516\
Data File : 16051601.D
Acq On : 16 May 2016 1:07 pm
Operator :
Sample : DFTPP-160516
Misc : TUNE
ALS Vial : 1 Sample Multiplier: 1

Integration File: RTEINT.P

Method : C:\msdchem\1\METHODS\DFTPPPAH.M
Title : CLP BNA Calibration - Large Volume Injection
Last Update : Thu Aug 27 07:24:43 2015



AutoFind: Scans 435, 436, 437; Background Corrected with Scan 431

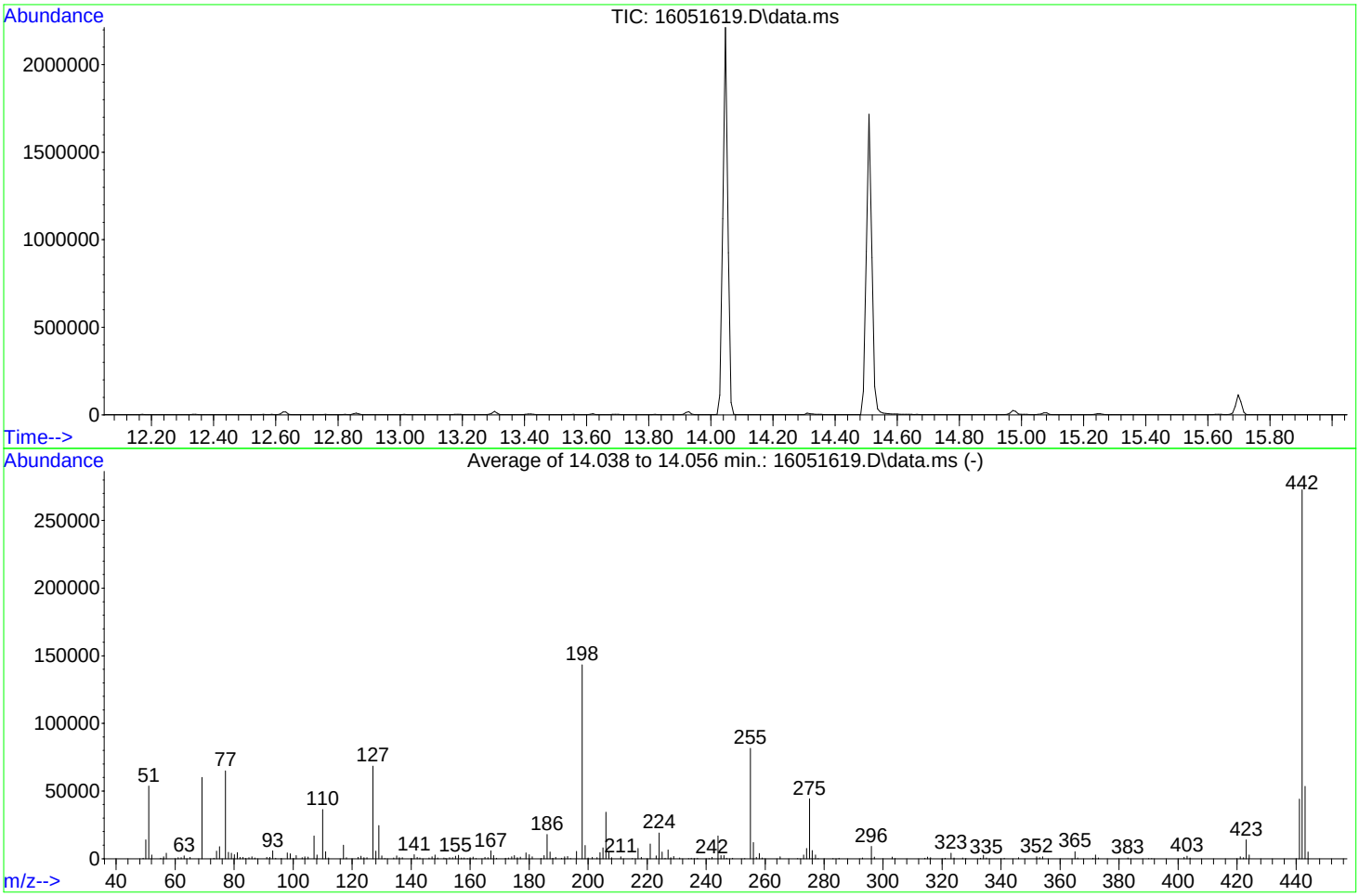
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	41.0	58034	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	45.1	63736	PASS
70	69	0.00	2	0.3	178	PASS
127	198	10	80	48.8	69072	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	141400	PASS
199	198	5	9	6.8	9662	PASS
275	198	10	60	29.7	42024	PASS
365	198	1	200	3.1	4343	PASS
441	442	0.01	24	16.3	36105	PASS
442	198	50	400	157.0	222008	PASS
443	442	15	24	19.8	43922	PASS

REVIEWED BY
By Janice Whitt at 2:44:34 PM, 5/26/2016

Data Path : C:\msdchem\1\DATA\160516\
Data File : 16051619.D
Acq On : 17 May 2016 12:09 am
Operator :
Sample : DFTPP2-160516
Misc : TUNE
ALS Vial : 19 Sample Multiplier: 1

Integration File: RTEINT.P

Method : C:\msdchem\1\METHODS\DFTPPPAH.M
Title : CLP BNA Calibration - Large Volume Injection
Last Update : Thu Aug 27 07:24:43 2015



AutoFind: Scans 436, 437, 438; Background Corrected with Scan 432

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	37.4	53699	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	41.9	60058	PASS
70	69	0.00	2	0.0	0	PASS
127	198	10	80	47.7	68376	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	143421	PASS
199	198	5	9	6.8	9693	PASS
275	198	10	60	30.9	44277	PASS
365	198	1	200	3.6	5209	PASS
441	442	0.01	24	16.1	43968	PASS
442	198	50	400	190.2	272802	PASS
443	442	15	24	19.6	53457	PASS

REVIEWED BY
By Janice Whitt at 2:44:39 PM, 5/26/2016

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160516\
Data File : 16051602.D
Acq On : 16 May 2016 1:44 pm
Operator :
Sample : ICV-160516
Misc : ICV
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 17 08:36:20 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.276	136	1732028	4000.00	ug/kg	111
6) Acenaphthene-d10	12.862	164	1079431	4000.00	ug/kg	110
11) Phenanthrene-d10	14.986	188	2964091	4000.00	ug/kg	95
16) Chrysene-d12	20.999	240	3113513	4000.00	ug/kg	89
20) Perylene-d12	26.266	264	2763281	4000.00	ug/kg	93

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.761	172	666722	1958.59	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	48.96%		
17) 4-Terphenyl-d14	17.602	244	1340515	1863.41	ug/kg	0.01
Spiked Amount 4000.000	Range 51 - 135		Recovery =	46.59%#		

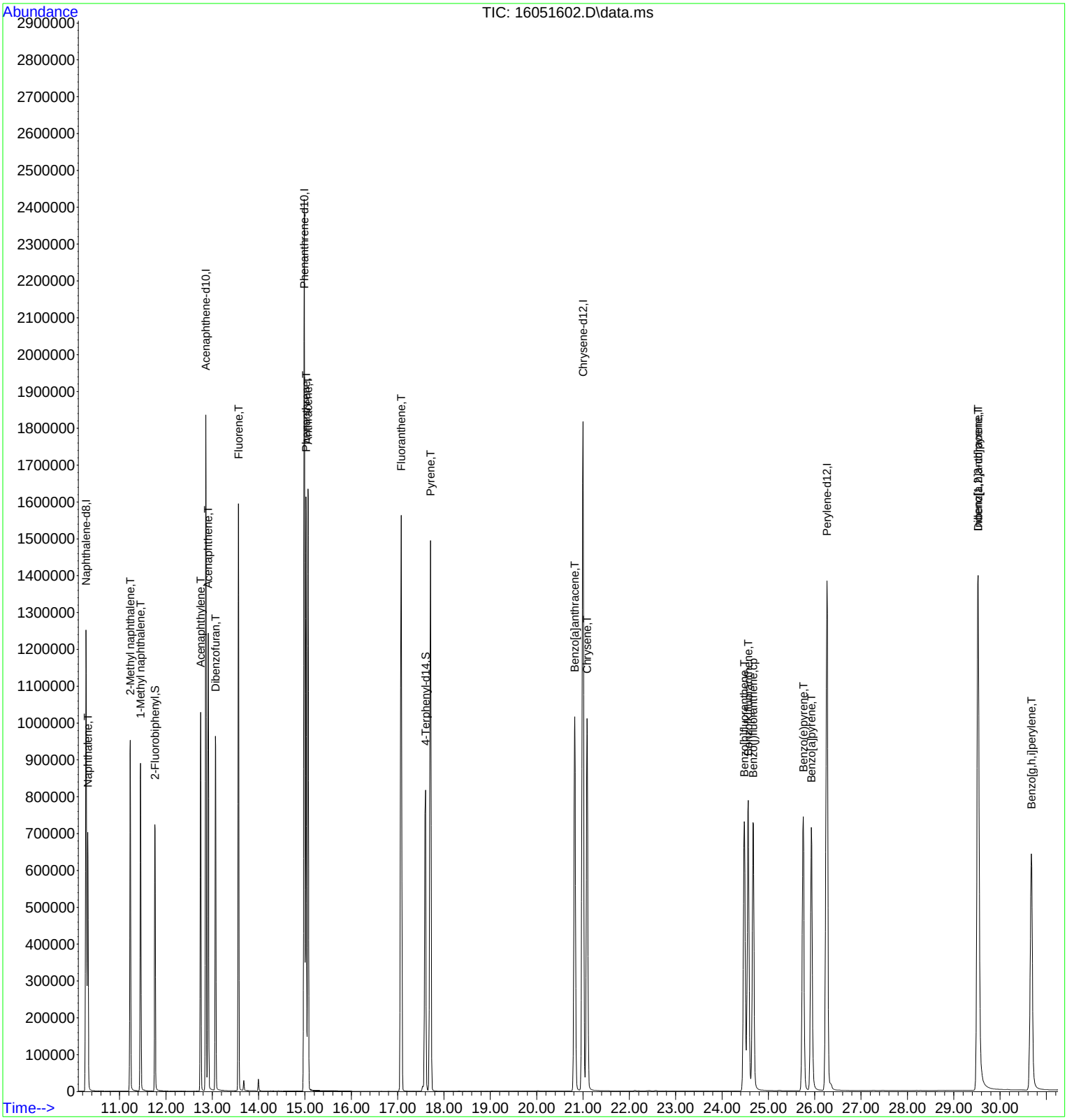
Target Compounds						Qvalue
2) Naphthalene	10.313	128	796962	1898.62	ug/kg	100
3) 2-Methyl naphthalene	11.231	142	578469	2038.21	ug/kg	100
4) 1-Methyl naphthalene	11.453	142	532365	2021.05	ug/kg	100
7) Acenaphthylene	12.749	152	977941	1927.91	ug/kg	100
8) Acenaphthene	12.911	153	605777	1887.12	ug/kg	100
9) Dibenzofuran	13.073	168	923904	1782.29	ug/kg	96
10) Fluorene	13.564	166	856266	1756.47	ug/kg	100
12) Phenanthrene	15.024	178	1564393	1823.56	ug/kg	100
13) Anthracene	15.066	178	1596137	1717.30	ug/kg	100
14) Fluoranthene	17.078	202	1832257	1632.01	ug/kg	99
15) Pyrene	17.709	202	1805590	1603.45	ug/kg	99
18) Benzo[a]anthracene	20.823	228	1658387	1894.81	ug/kg	100
19) Chrysene	21.087	228	1513214	1888.68	ug/kg	100
21) Benzo[b]fluoranthene	24.486	252	1516297	1926.80	ug/kg	99
22) Benzo[k]fluoranthene	24.566	252	1368434	2168.05	ug/kg	98
23) Benzo(j)fluoranthene	24.676	252	1312150	2056.78	ug/kg	98
24) Benzo(e)pyrene	25.753	252	1417814	1877.10	ug/kg	98
25) Benzo[a]pyrene	25.929	252	1393350	1926.43	ug/kg	99
26) Indeno[1,2,3-cd]pyrene	29.532	276	1624076	2026.79	ug/kg	97
27) Dibenz[a,h]anthracene	29.518	278	1359288	2080.75	ug/kg	99
28) Benzo[g,h,i]perylene	30.675	276	1383596	1978.79	ug/kg	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160516\
Data File : 16051602.D
Acq On : 16 May 2016 1:44 pm
Operator :
Sample : ICV-160516
Misc : ICV
ALS Vial : 2 Sample Multiplier: 1

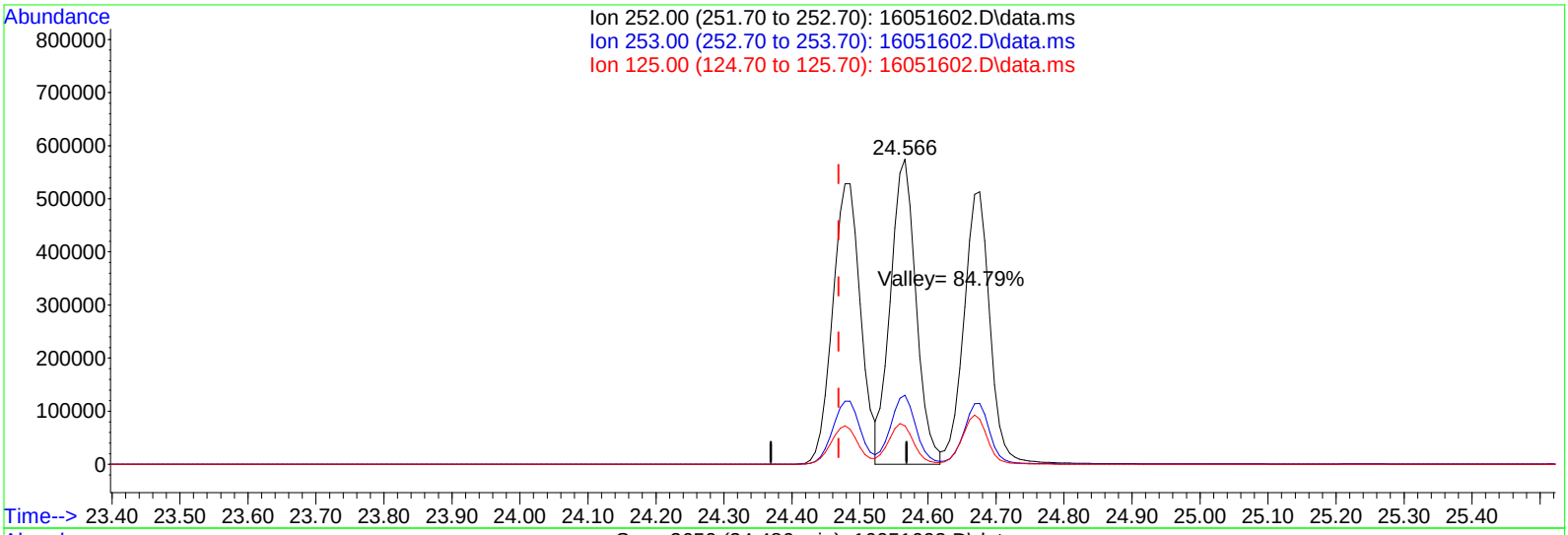
Quant Time: May 17 08:36:20 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

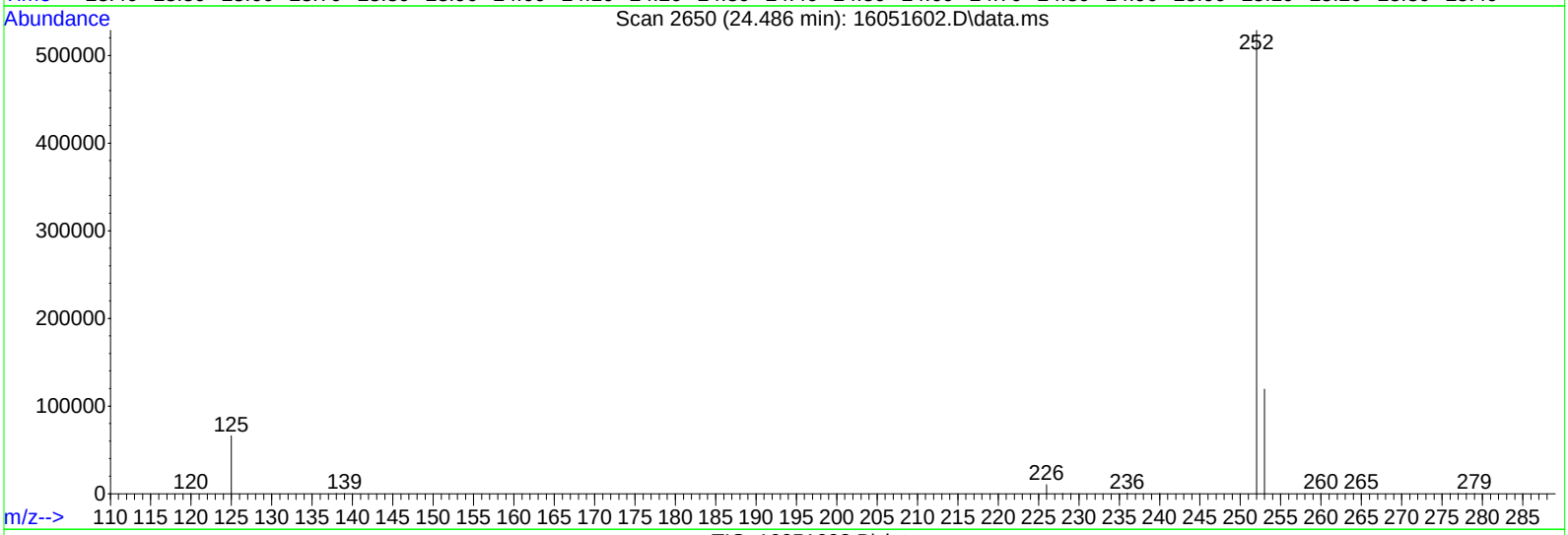


Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\160516\
Data File : 16051602.D
Acq On : 16 May 2016 1:44 pm
Operator :
Sample : ICV-160516
Misc : ICV
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 16 14:15:56 2016
Quant Method : C:\MSDCHEM\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration





TIC: 16051602.D\data.ms

(21) Benzo[b]fluoranthene (T)

24.486min (+0.017) 1926.80ug/kg

response 1516297

Ion	Exp%	Act%
252.00	100	100
253.00	22.60	22.44
125.00	13.80	12.50
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160516\
Data File : 16051605.D
Acq On : 16 May 2016 3:35 pm
Operator :
Sample : SBLK-160516
Misc : SBLK
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 17 08:36:22 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.281	136	1699828	4000.00	ug/kg	109
6) Acenaphthene-d10	12.865	164	1198296	4000.00	ug/kg	123
11) Phenanthrene-d10	14.988	188	3057557	4000.00	ug/kg	98
16) Chrysene-d12	20.999	240	3051188	4000.00	ug/kg	87
20) Perylene-d12	26.266	264	2642779	4000.00	ug/kg	89

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.774	172	69	0.21	ug/kg	0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery = 0.01%#			
17) 4-Terphenyl-d14	17.602	244	490	0.70	ug/kg	0.01
Spiked Amount 4000.000	Range 51 - 135		Recovery = 0.02%#			

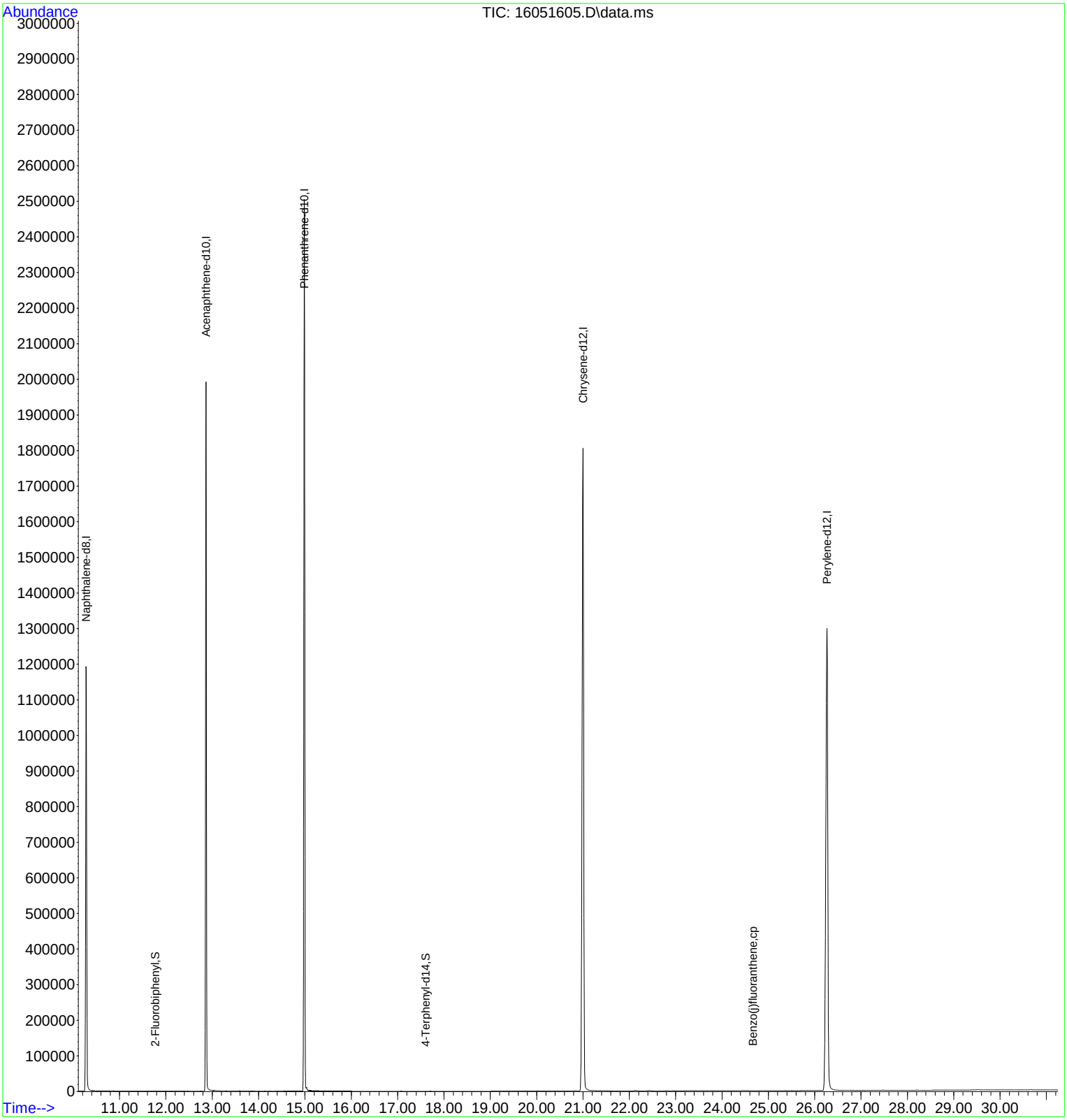
Target Compounds						Qvalue
23) Benzo(j)fluoranthene	24.662	252	386	0.63	ug/kg#	69

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160516\
Data File : 16051605.D
Acq On : 16 May 2016 3:35 pm
Operator :
Sample : SBLK-160516
Misc : SBLK
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 17 08:36:22 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160516\
Data File : 16051618.D
Acq On : 16 May 2016 11:33 pm
Operator :
Sample : CCV-160516
Misc : CCV
ALS Vial : 18 Sample Multiplier: 1

Quant Time: May 17 08:36:25 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.276	136	1680985	4000.00	ug/kg	108
6) Acenaphthene-d10	12.861	164	1154925	4000.00	ug/kg	118
11) Phenanthrene-d10	14.985	188	2979977	4000.00	ug/kg	96
16) Chrysene-d12	20.998	240	2990290	4000.00	ug/kg	86
20) Perylene-d12	26.265	264	2678084	4000.00	ug/kg	90

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.761	172	368814	1116.34	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	27.91%#		
17) 4-Terphenyl-d14	17.601	244	702763	1017.14	ug/kg	0.01
Spiked Amount 4000.000	Range 51 - 135		Recovery =	25.43%#		

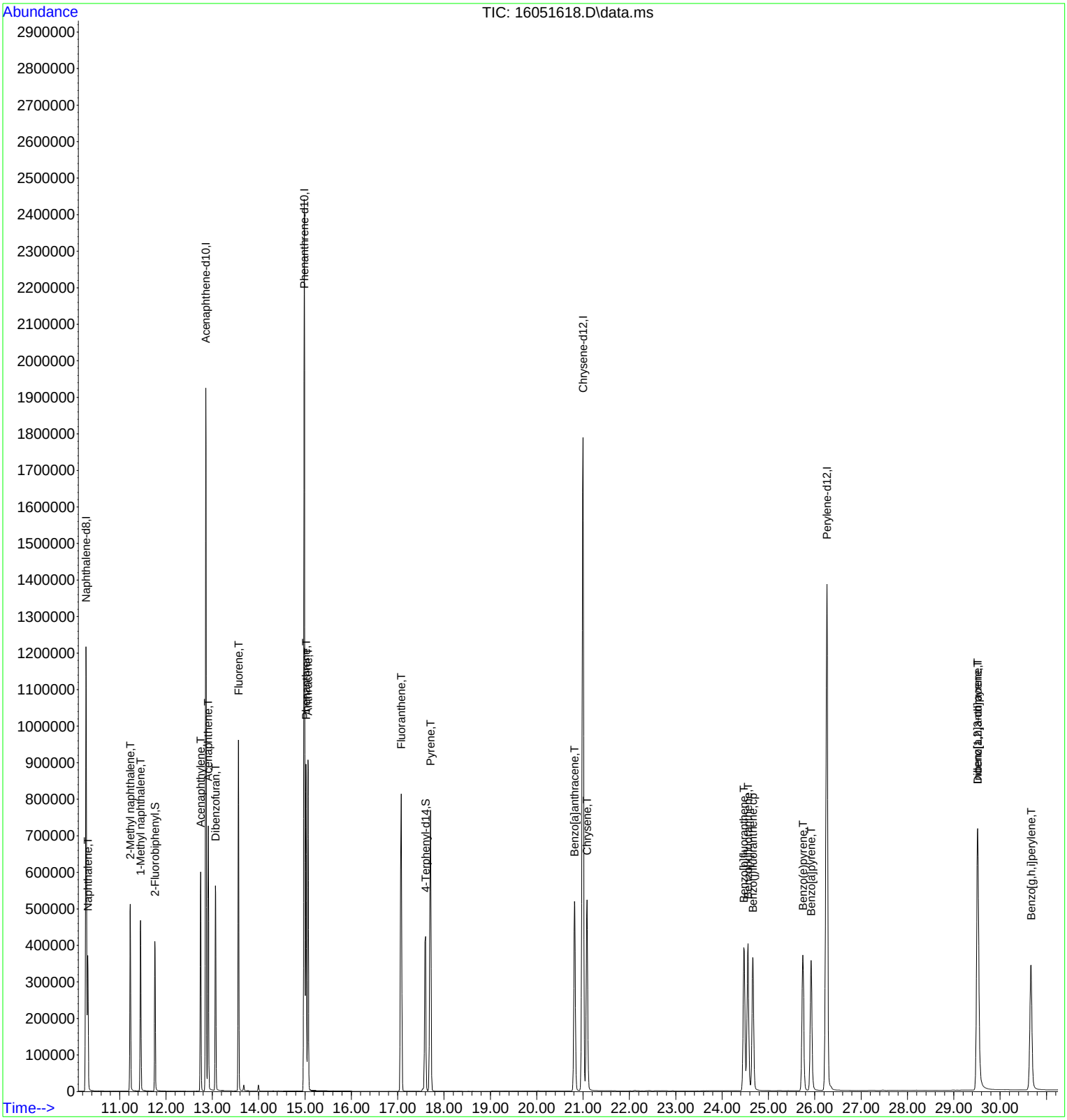
Target Compounds						Qvalue
2) Naphthalene	10.313	128	418987	1028.47	ug/kg	100
3) 2-Methyl naphthalene	11.230	142	312505	1127.36	ug/kg	99
4) 1-Methyl naphthalene	11.452	142	284886	1114.37	ug/kg	100
7) Acenaphthylene	12.748	152	565512	1041.97	ug/kg	99
8) Acenaphthene	12.910	153	350949	1021.81	ug/kg	99
9) Dibenzofuran	13.073	168	541312	975.98	ug/kg	95
10) Fluorene	13.564	166	504416	967.08	ug/kg	99
12) Phenanthrene	15.023	178	859790	996.88	ug/kg	99
13) Anthracene	15.065	178	875467	936.90	ug/kg	99
14) Fluoranthene	17.078	202	972630	861.71	ug/kg	98
15) Pyrene	17.708	202	946262	835.84	ug/kg	97
18) Benzo[a]anthracene	20.815	228	836016	994.56	ug/kg	99
19) Chrysene	21.086	228	766247	995.78	ug/kg	99
21) Benzo[b]fluoranthene	24.470	252	771957	1012.16	ug/kg	99
22) Benzo[k]fluoranthene	24.558	252	698349	1141.61	ug/kg	97
23) Benzo(j)fluoranthene	24.668	252	665905	1077.00	ug/kg	98
24) Benzo(e)pyrene	25.745	252	718926	982.09	ug/kg	98
25) Benzo[a]pyrene	25.921	252	703897	1004.16	ug/kg	99
26) Indeno[1,2,3-cd]pyrene	29.525	276	844505	1087.44	ug/kg	94
27) Dibenz[a,h]anthracene	29.510	278	707987	1118.24	ug/kg	97
28) Benzo[g,h,i]perylene	30.667	276	718345	1060.05	ug/kg	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160516\
Data File : 16051618.D
Acq On : 16 May 2016 11:33 pm
Operator :
Sample : CCV-160516
Misc : CCV
ALS Vial : 18 Sample Multiplier: 1

Quant Time: May 17 08:36:25 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160516\
Data File : 16051620.D
Acq On : 17 May 2016 12:46 am
Operator :
Sample : ICV2-160516
Misc : ICV
ALS Vial : 20 Sample Multiplier: 1

Quant Time: May 17 08:36:29 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.277	136	1681575	4000.00	ug/kg	108
6) Acenaphthene-d10	12.862	164	1074547	4000.00	ug/kg	110
11) Phenanthrene-d10	14.986	188	2914003	4000.00	ug/kg	94
16) Chrysene-d12	20.998	240	3021910	4000.00	ug/kg	86
20) Perylene-d12	26.265	264	2676560	4000.00	ug/kg	90

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.762	172	646994	1957.66	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 48.94%			
17) 4-Terphenyl-d14	17.601	244	1292696	1851.41	ug/kg	0.01
Spiked Amount 4000.000	Range 51 - 135		Recovery = 46.29%#			

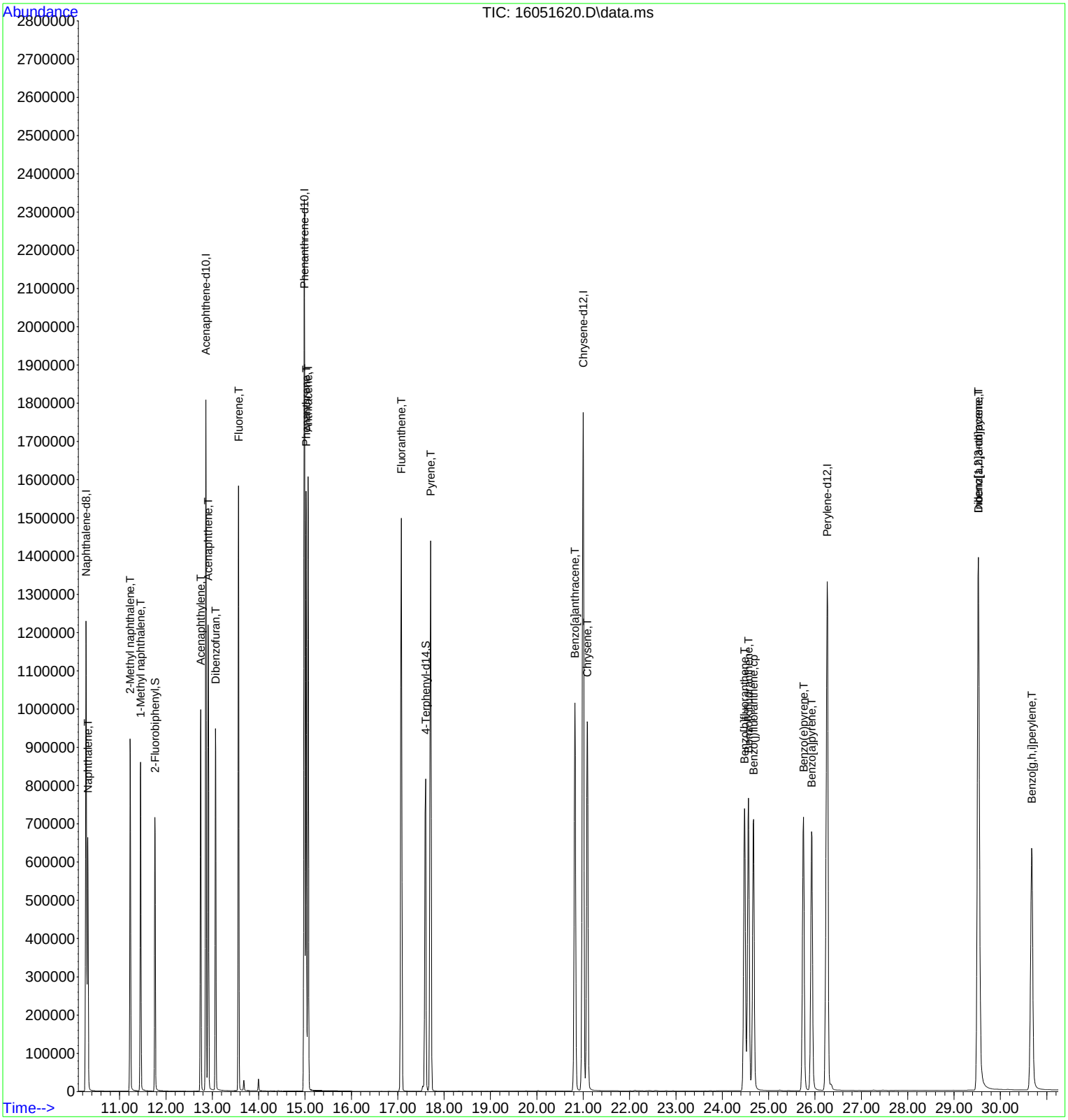
Target Compounds						Qvalue
2) Naphthalene	10.314	128	771200	1892.37	ug/kg	100
3) 2-Methyl naphthalene	11.227	142	562879	2042.86	ug/kg	97
4) 1-Methyl naphthalene	11.453	142	517085	2021.94	ug/kg	100
7) Acenaphthylene	12.749	152	968219	1917.42	ug/kg	100
8) Acenaphthene	12.911	153	597261	1869.04	ug/kg	100
9) Dibenzofuran	13.073	168	911689	1766.72	ug/kg	96
10) Fluorene	13.564	166	845841	1742.97	ug/kg	99
12) Phenanthrene	15.024	178	1529676	1813.74	ug/kg	100
13) Anthracene	15.066	178	1561652	1709.08	ug/kg	100
14) Fluoranthene	17.078	202	1766800	1600.76	ug/kg	99
15) Pyrene	17.709	202	1747538	1578.57	ug/kg	100
18) Benzo[a]anthracene	20.822	228	1600074	1883.60	ug/kg	100
19) Chrysene	21.086	228	1462953	1881.29	ug/kg	100
21) Benzo[b]fluoranthene	24.485	252	1482377	1944.73	ug/kg	99
22) Benzo[k]fluoranthene	24.565	252	1337296	2187.36	ug/kg	98
23) Benzo(j)fluoranthene	24.675	252	1274362	2062.27	ug/kg	98
24) Benzo(e)pyrene	25.752	252	1379006	1884.87	ug/kg	98
25) Benzo[a]pyrene	25.928	252	1351638	1929.31	ug/kg	99
26) Indeno[1,2,3-cd]pyrene	29.532	276	1602528	2064.70	ug/kg	99
27) Dibenz[a,h]anthracene	29.524	278	1342041	2120.91	ug/kg	96
28) Benzo[g,h,i]perylene	30.675	276	1360602	2008.96	ug/kg	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160516\
Data File : 16051620.D
Acq On : 17 May 2016 12:46 am
Operator :
Sample : ICV2-160516
Misc : ICV
ALS Vial : 20 Sample Multiplier: 1

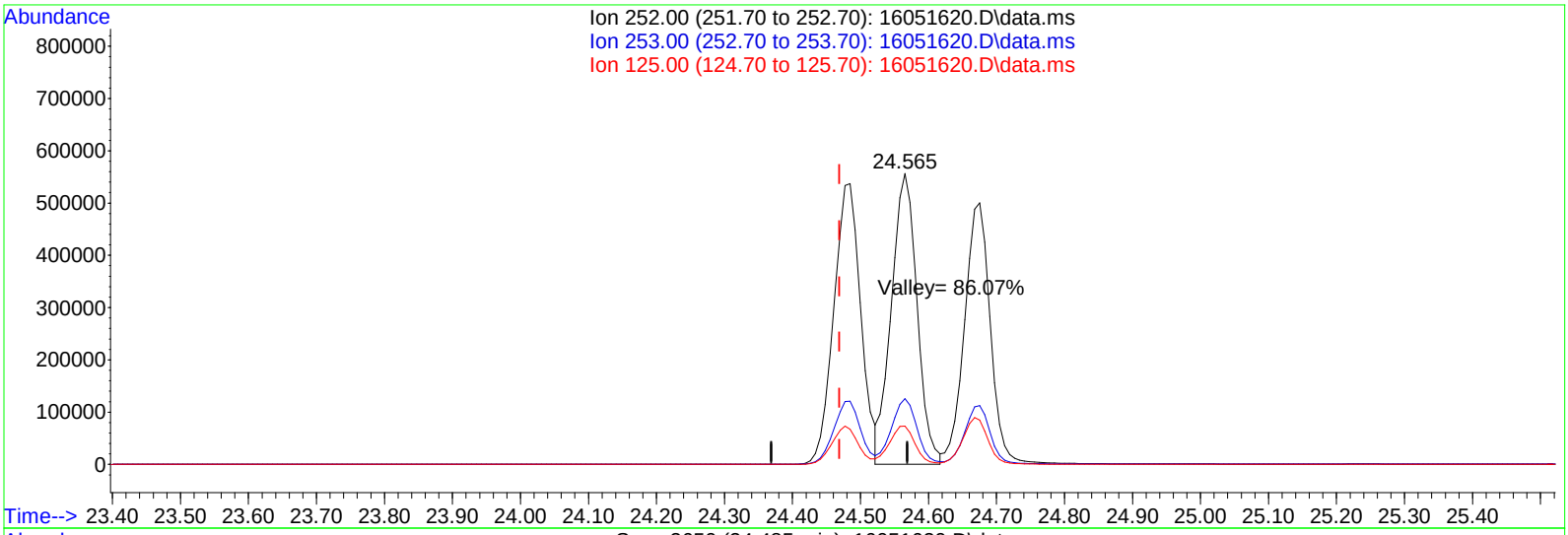
Quant Time: May 17 08:36:29 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

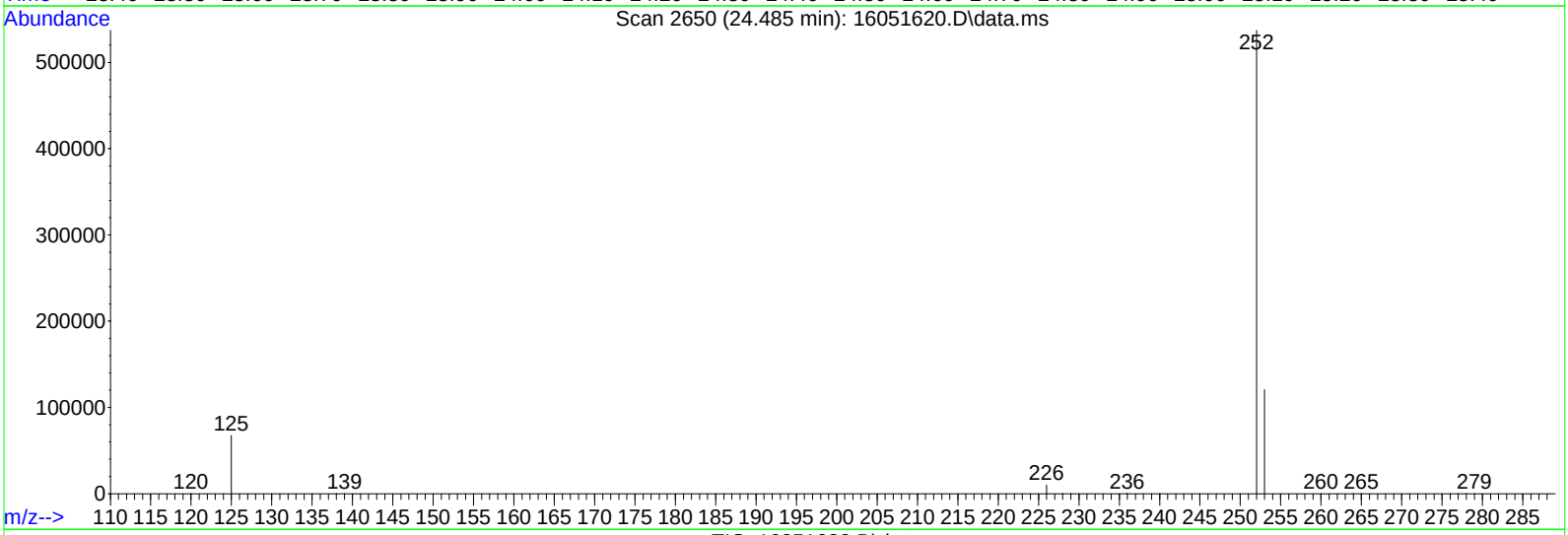


Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\160516\
Data File : 16051620.D
Acq On : 17 May 2016 12:46 am
Operator :
Sample : ICV2-160516
Misc : ICV
ALS Vial : 20 Sample Multiplier: 1

Quant Time: May 17 01:18:06 2016
Quant Method : C:\MSDCHEM\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration





TIC: 16051620.D\data.ms

(21) Benzo[b]fluoranthene (T)

24.485min (+0.016) 1944.73ug/kg

response 1482377

Ion	Exp%	Act%
252.00	100	100
253.00	22.60	22.36
125.00	13.80	12.55
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160516\
Data File : 16051621.D
Acq On : 17 May 2016 1:23 am
Operator :
Sample : SBLK2-160516
Misc : SBLK
ALS Vial : 21 Sample Multiplier: 1

Quant Time: May 17 08:36:31 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.276	136	1606387	4000.00	ug/kg	103
6) Acenaphthene-d10	12.862	164	1206965	4000.00	ug/kg	124
11) Phenanthrene-d10	14.985	188	2880922	4000.00	ug/kg	93
16) Chrysene-d12	20.998	240	2880483	4000.00	ug/kg	82
20) Perylene-d12	26.265	264	2589845	4000.00	ug/kg	87

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.769	172	32	0.10	ug/kg	0.01
Spiked Amount 4000.000	Range 40 - 140		Recovery = 0.00%#			
17) 4-Terphenyl-d14	17.602	244	149	0.22	ug/kg	0.01
Spiked Amount 4000.000	Range 51 - 135		Recovery = 0.01%#			

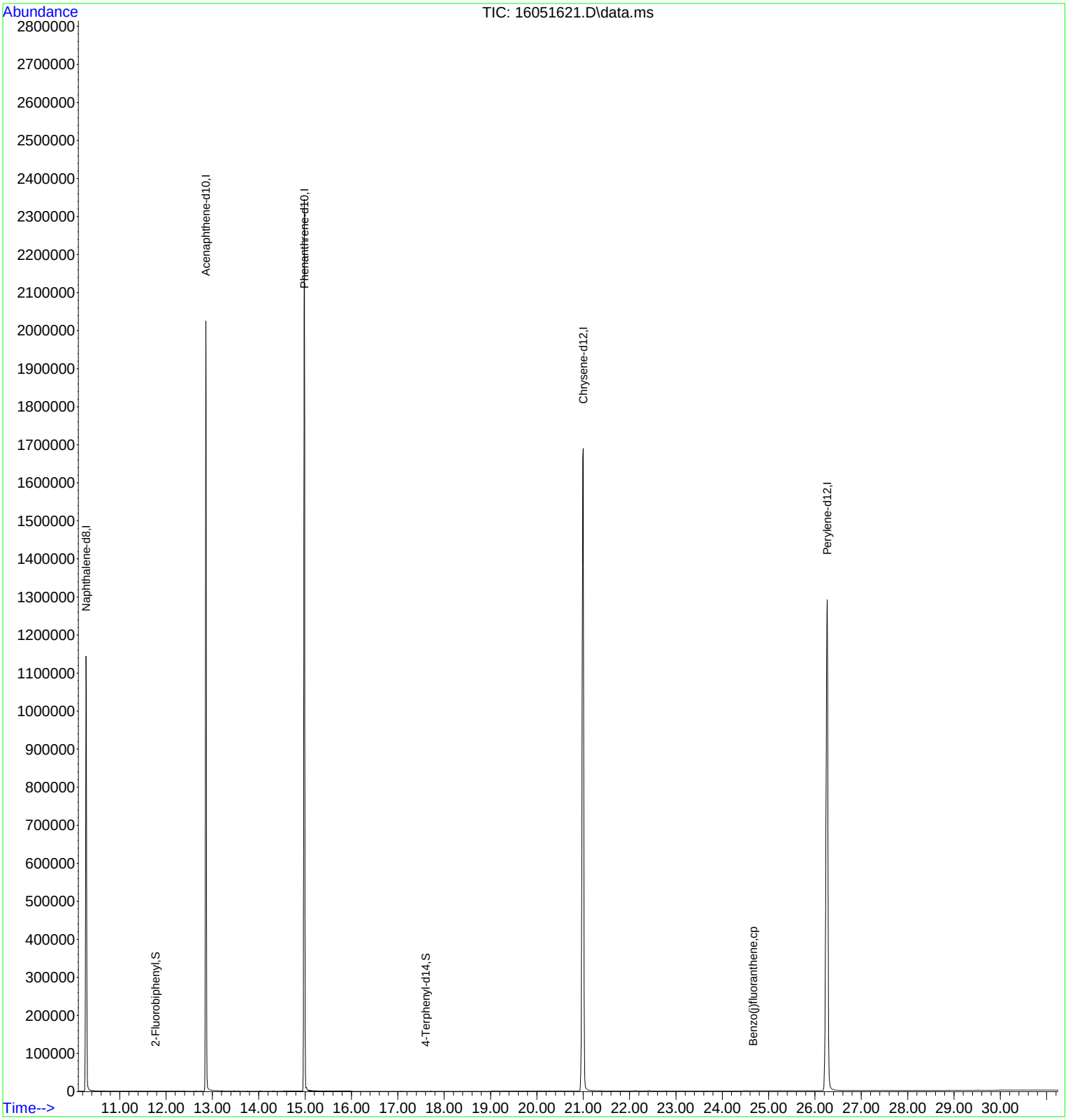
Target Compounds						Qvalue
23) Benzo(j)fluoranthene	24.661	252	856	1.43	ug/kg	86

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160516\
Data File : 16051621.D
Acq On : 17 May 2016 1:23 am
Operator :
Sample : SBLK2-160516
Misc : SBLK
ALS Vial : 21 Sample Multiplier: 1

Quant Time: May 17 08:36:31 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160516\
Data File : 16051622.D
Acq On : 17 May 2016 2:00 am
Operator :
Sample : 1605074-07A
Misc : SAMP
ALS Vial : 22 Sample Multiplier: 10

Quant Time: May 17 08:38:31 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

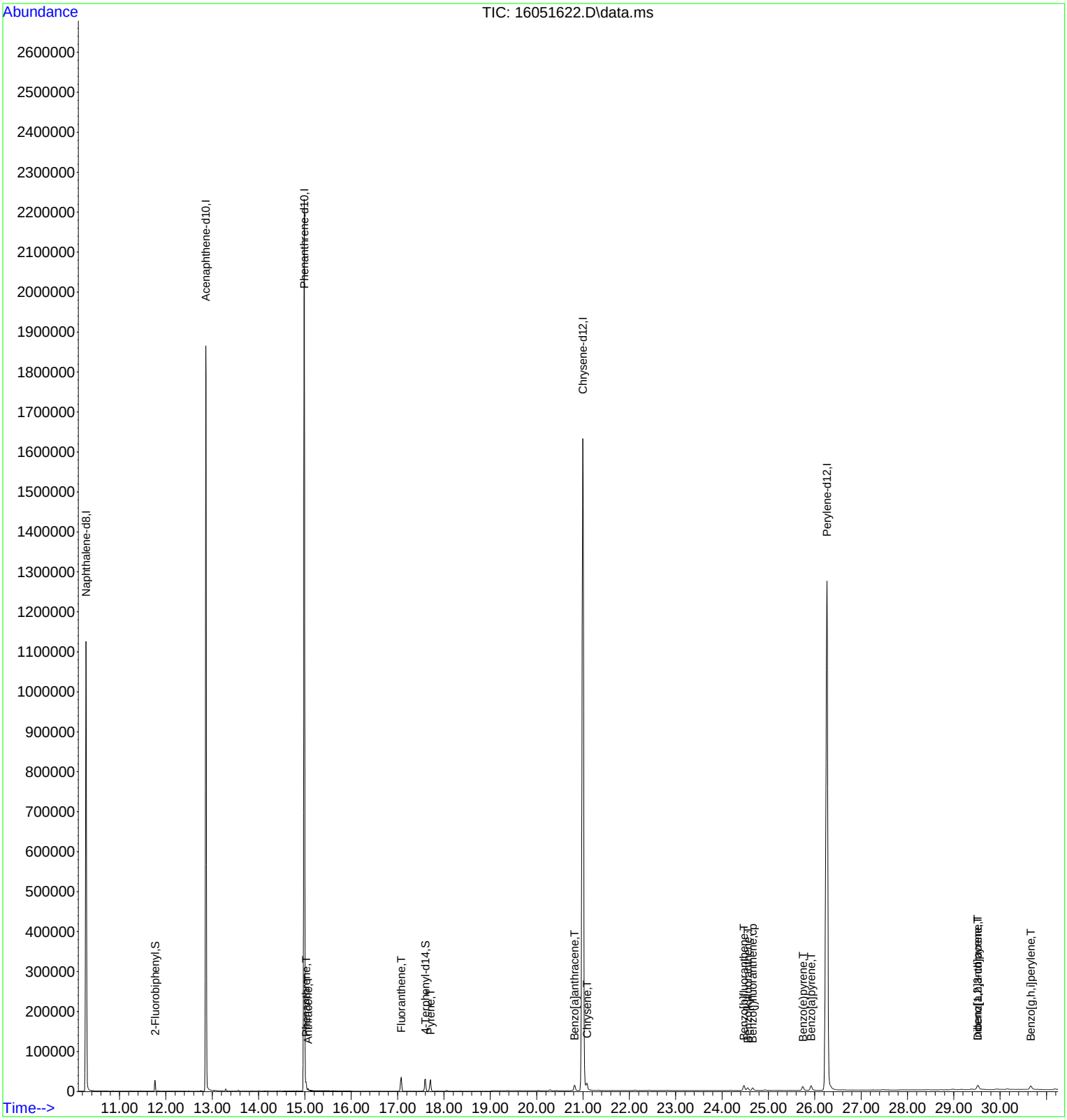
Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.278	136	1568751	4000.00	ug/kg	100
6) Acenaphthene-d10	12.861	164	1132876	4000.00	ug/kg	116
11) Phenanthrene-d10	14.985	188	2753877	4000.00	ug/kg	89
16) Chrysene-d12	20.998	240	2777492	4000.00	ug/kg	79
20) Perylene-d12	26.265	264	2494388	4000.00	ug/kg	84
System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.767	172	27565	89.40	ug/kg	0.01
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.24%#			
17) 4-Terphenyl-d14	17.601	244	50729	79.05	ug/kg	0.01
Spiked Amount 4000.000	Range 51 - 135		Recovery = 1.98%#			
Target Compounds						Qvalue
12) Phenanthrene	15.023	178	15507	19.46	ug/kg	97
13) Anthracene	15.065	178	4527	5.24	ug/kg	97
14) Fluoranthene	17.077	202	42695	40.93	ug/kg	97
15) Pyrene	17.708	202	37070	35.43	ug/kg	93
18) Benzo[a]anthracene	20.815	228	22325	28.59	ug/kg	98
19) Chrysene	21.086	228	25627	35.86	ug/kg	99
21) Benzo[b]fluoranthene	24.470	252	24631	34.67	ug/kg	97
22) Benzo[k]fluoranthene	24.558	252	12317	21.62	ug/kg	95
23) Benzo(j)fluoranthene	24.661	252	12250	21.27	ug/kg	89
24) Benzo(e)pyrene	25.745	252	18918	27.75	ug/kg	95
25) Benzo[a]pyrene	25.920	252	24046	36.83	ug/kg	98
26) Indeno[1,2,3-cd]pyrene	29.524	276	19901	27.51	ug/kg	86
27) Dibenz[a,h]anthracene	29.510	278	6661	11.30	ug/kg	99
28) Benzo[g,h,i]perylene	30.660	276	20593	32.63	ug/kg	96

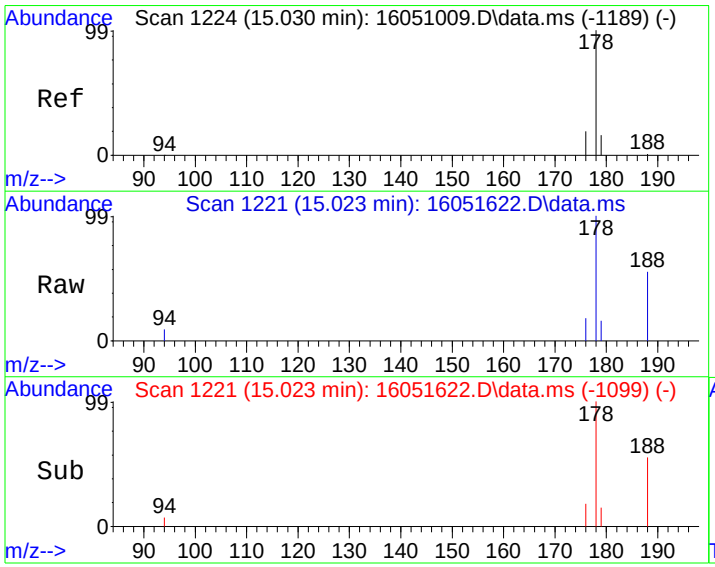
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160516\
Data File : 16051622.D
Acq On : 17 May 2016 2:00 am
Operator :
Sample : 1605074-07A
Misc : SAMP
ALS Vial : 22 Sample Multiplier: 10

Quant Time: May 17 08:38:31 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

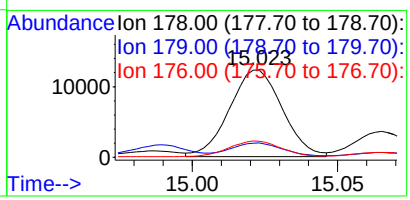


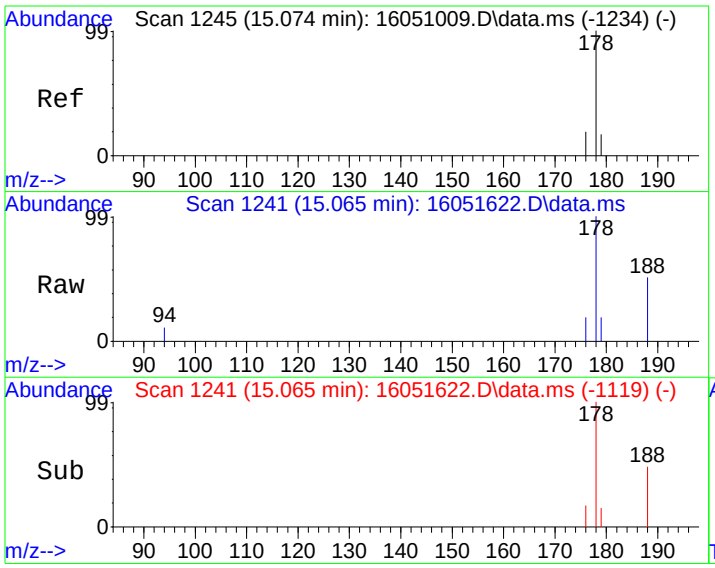


#12
Phenanthrene
Concen: 19.46 ug/kg
RT: 15.023 min Scan# 1221
Delta R.T. 0.007 min
Lab File: 16051622.D
Acq: 17 May 2016 2:00 am

Tgt Ion:178 Resp: 15507

Ion	Ratio	Lower	Upper
178	100		
179	15.2	0.0	36.4
176	18.1	0.0	39.2

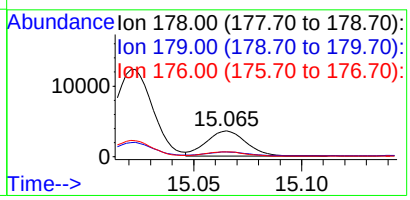


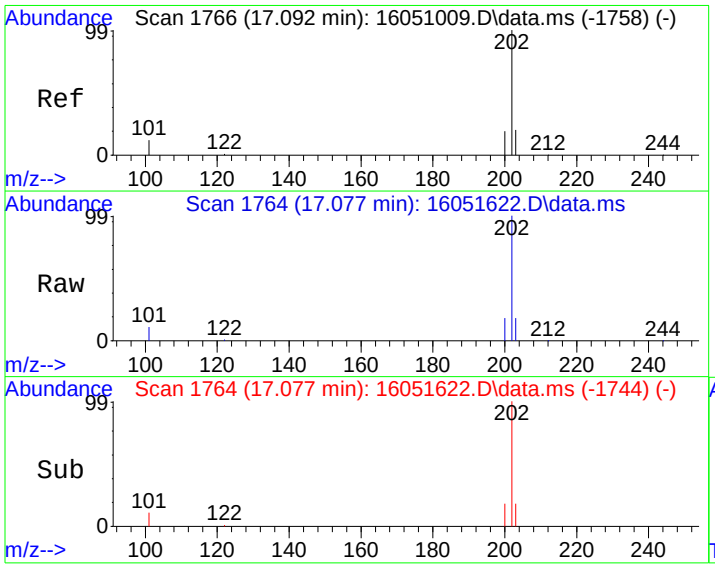


#13
Anthracene
Concen: 5.24 ug/kg
RT: 15.065 min Scan# 1241
Delta R.T. 0.007 min
Lab File: 16051622.D
Acq: 17 May 2016 2:00 am

Tgt Ion:178 Resp: 4527

Ion	Ratio	Lower	Upper
178	100		
179	15.4	0.0	36.5
176	17.0	0.0	38.6

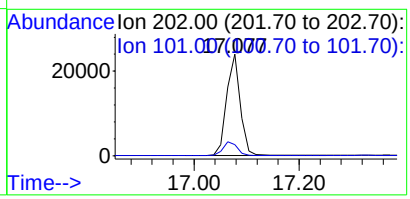


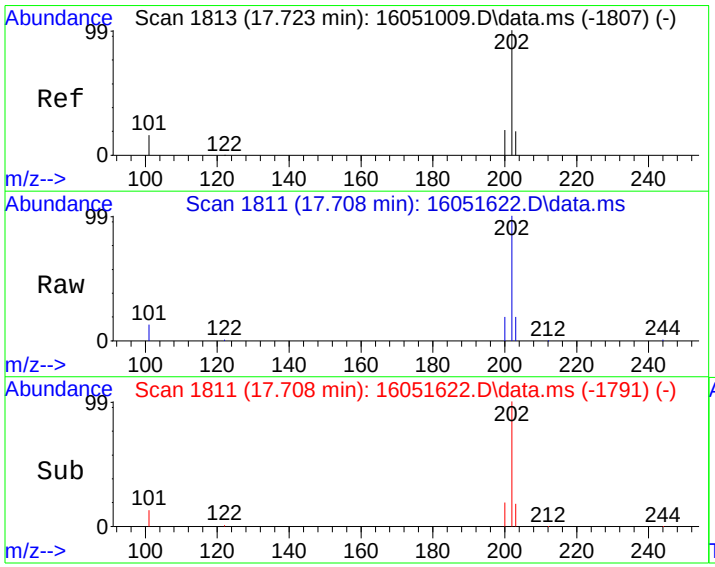


#14
Fluoranthene
Concen: 40.93 ug/kg
RT: 17.077 min Scan# 1764
Delta R.T. 0.012 min
Lab File: 16051622.D
Acq: 17 May 2016 2:00 am

Tgt Ion:202 Resp: 42695

Ion	Ratio	Lower	Upper
202	100		
101	10.8	0.0	32.0

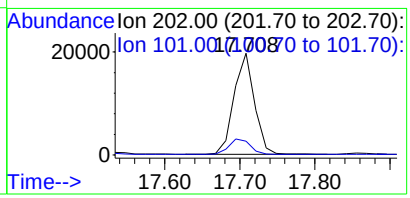


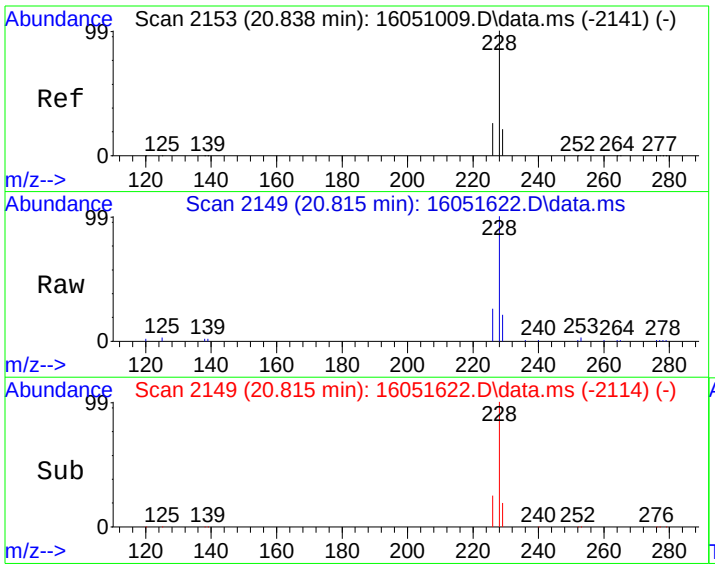


#15
Pyrene
Concen: 35.43 ug/kg
RT: 17.708 min Scan# 1811
Delta R.T. 0.012 min
Lab File: 16051622.D
Acq: 17 May 2016 2:00 am

Tgt Ion:202 Resp: 37070

Ion	Ratio	Lower	Upper
202	100		
101	13.0	0.0	35.9

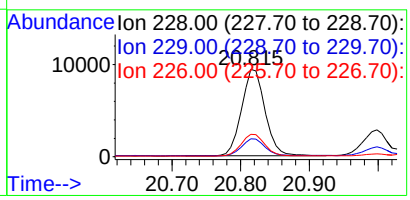


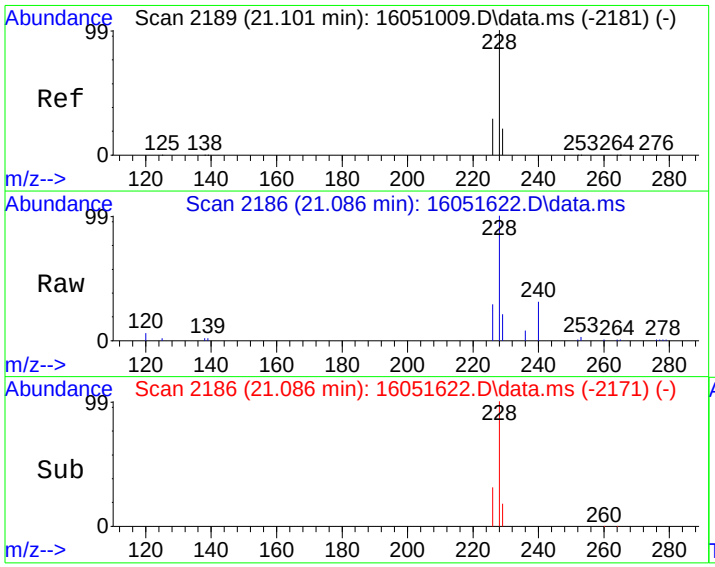


#18
Benzo[a]anthracene
Concen: 28.59 ug/kg
RT: 20.815 min Scan# 2149
Delta R.T. 0.009 min
Lab File: 16051622.D
Acq: 17 May 2016 2:00 am

Tgt Ion:228 Resp: 22325

Ion	Ratio	Lower	Upper
228	100		
229	19.5	0.7	40.7
226	25.1	5.9	45.9

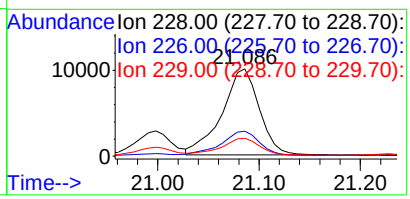


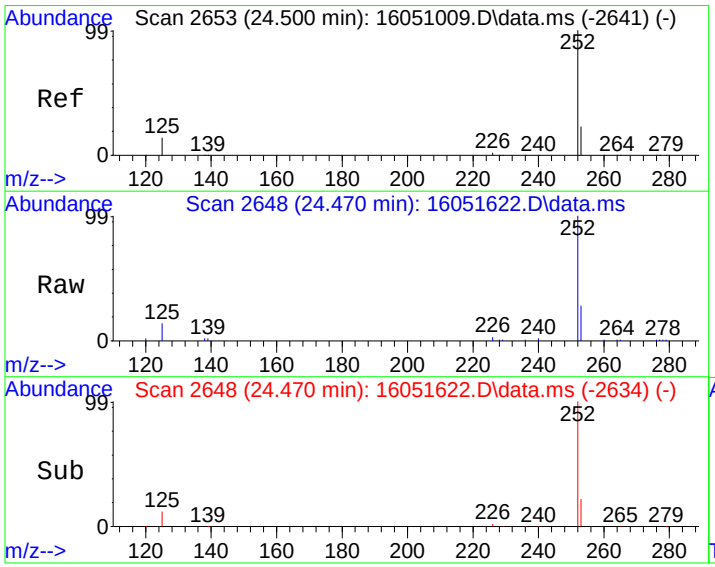


#19
Chrysene
Concen: 35.86 ug/kg
RT: 21.086 min Scan# 2186
Delta R.T. 0.009 min
Lab File: 16051622.D
Acq: 17 May 2016 2:00 am

Tgt Ion:228 Resp: 25627

Ion	Ratio	Lower	Upper
228	100		
226	28.2	8.8	48.8
229	19.7	0.5	40.5

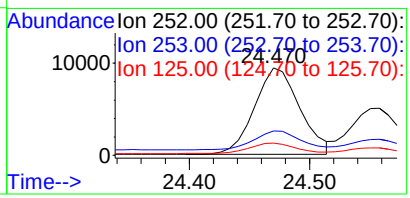


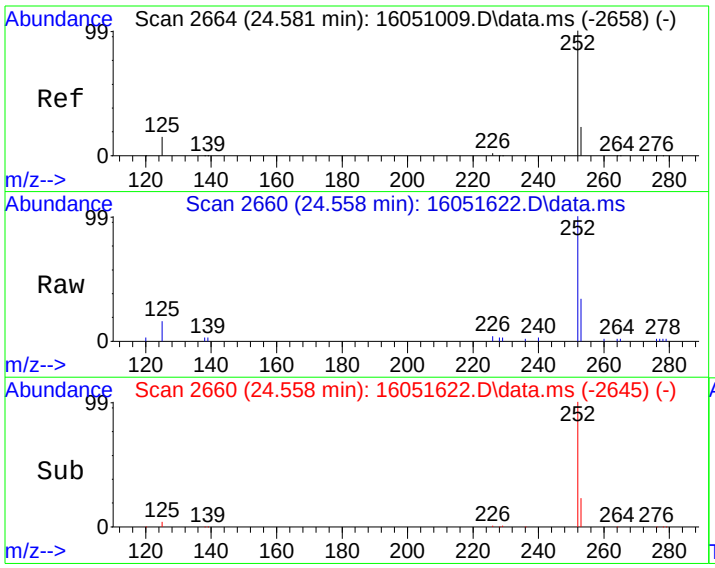


#21
Benzo[b]fluoranthene
Concen: 34.67 ug/kg
RT: 24.470 min Scan# 2648
Delta R.T. 0.001 min
Lab File: 16051622.D
Acq: 17 May 2016 2:00 am

Tgt Ion:252 Resp: 24631

Ion	Ratio	Lower	Upper
252	100		
253	21.8	2.6	42.6
125	12.0	0.0	33.8

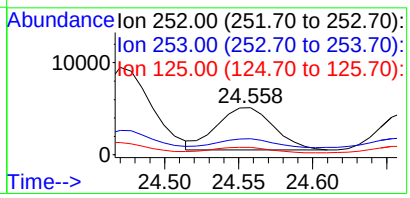


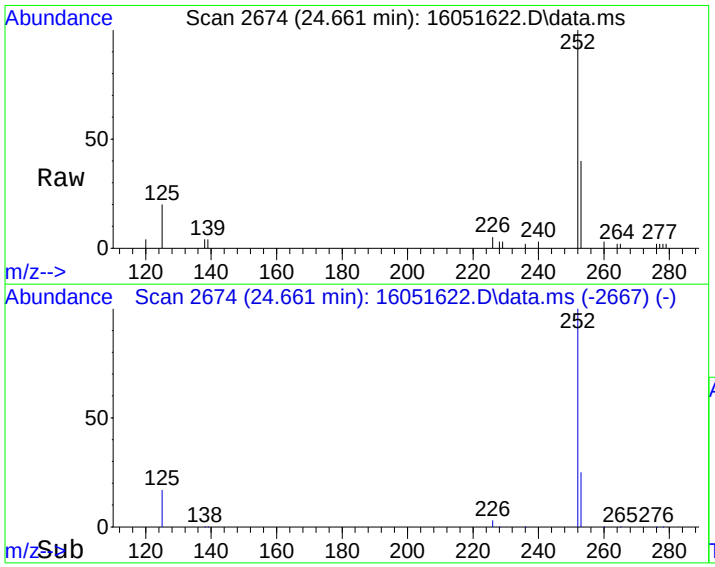


#22
Benzo[k]fluoranthene
Concen: 21.62 ug/kg
RT: 24.558 min Scan# 2660
Delta R.T. 0.009 min
Lab File: 16051622.D
Acq: 17 May 2016 2:00 am

Tgt Ion:252 Resp: 12317

Ion	Ratio	Lower	Upper
252	100		
253	20.5	2.8	42.8
125	12.4	0.0	34.7

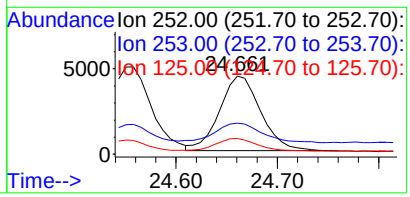


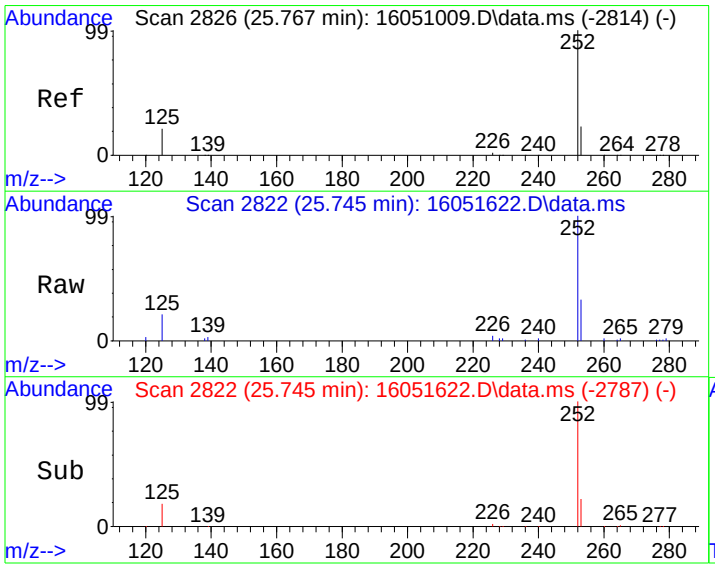


#23
Benzo(j)fluoranthene
Concen: 21.27 ug/kg
RT: 24.661 min Scan# 2674
Delta R.T. 0.001 min
Lab File: 16051622.D
Acq: 17 May 2016 2:00 am

Tgt Ion:252 Resp: 12250

Ion	Ratio	Lower	Upper
252	100		
253	29.6	2.3	42.3
125	16.7	0.0	39.2

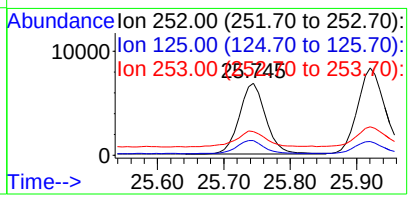


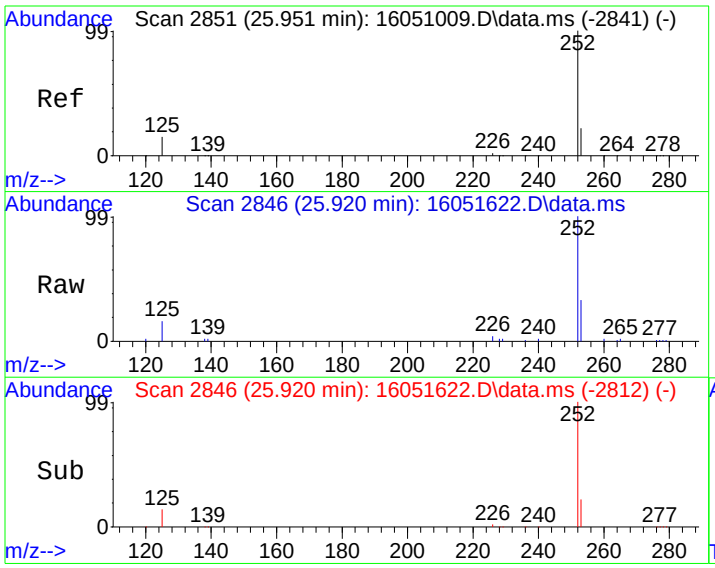


#24
Benzo(e)pyrene
Concen: 27.75 ug/kg
RT: 25.745 min Scan# 2822
Delta R.T. 0.009 min
Lab File: 16051622.D
Acq: 17 May 2016 2:00 am

Tgt Ion:252 Resp: 18918

Ion	Ratio	Lower	Upper
252	100		
125	19.4	0.8	40.8
253	25.7	2.4	42.4

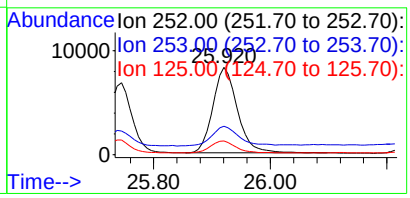


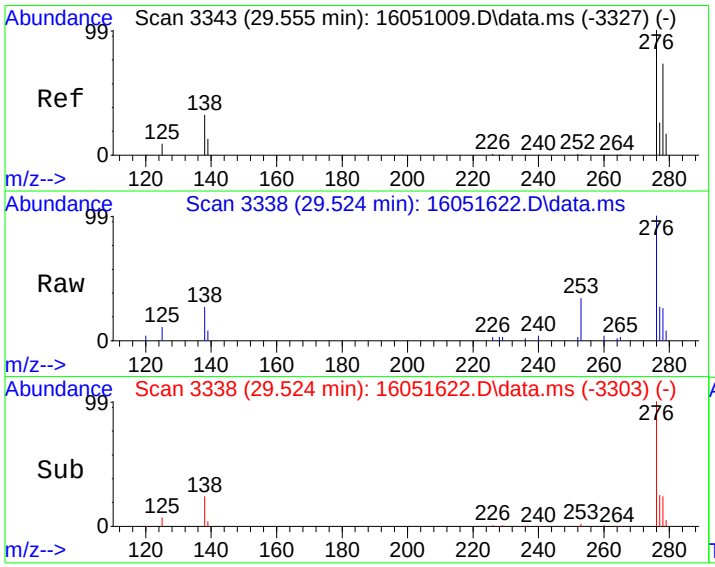


#25
Benzo[a]pyrene
Concen: 36.83 ug/kg
RT: 25.920 min Scan# 2846
Delta R.T. 0.001 min
Lab File: 16051622.D
Acq: 17 May 2016 2:00 am

Tgt Ion:252 Resp: 24046

Ion	Ratio	Lower	Upper
252	100		
253	22.7	2.5	42.5
125	13.9	0.0	35.5

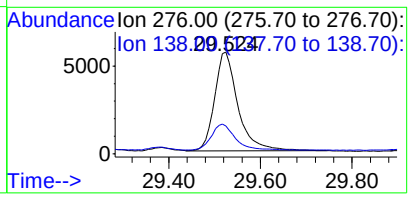


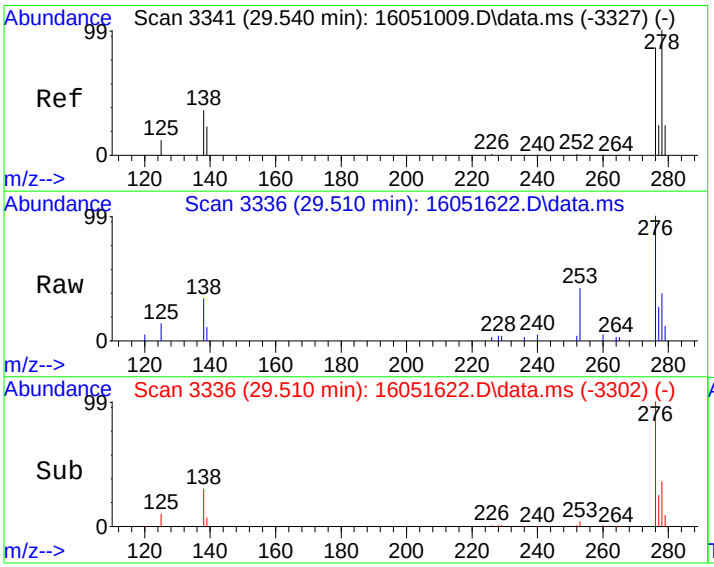


#26
Indeno[1,2,3-cd]pyrene
Concen: 27.51 ug/kg
RT: 29.524 min Scan# 3338
Delta R.T. 0.009 min
Lab File: 16051622.D
Acq: 17 May 2016 2:00 am

Tgt Ion:276 Resp: 19901

Ion	Ratio	Lower	Upper
276	100		
138	24.4	12.0	52.0

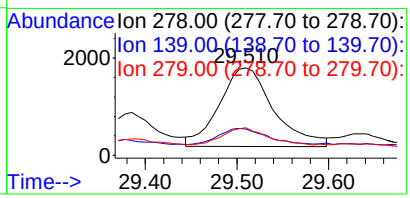


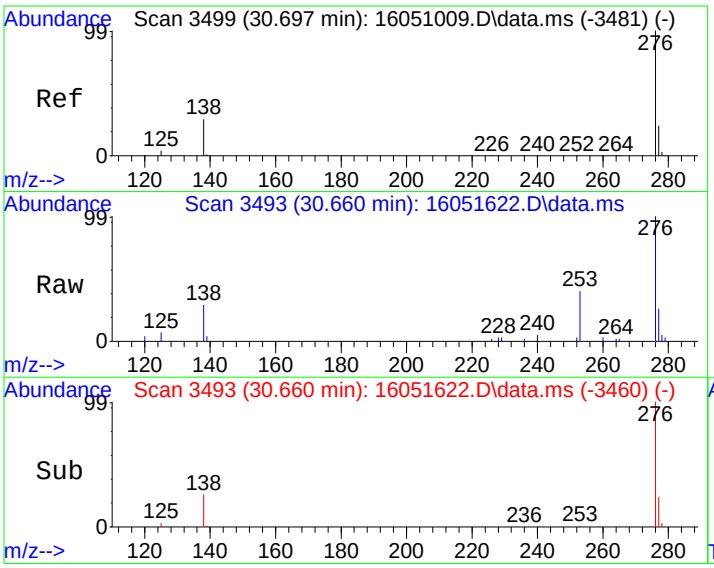


#27
Dibenz[a,h]anthracene
Concen: 11.30 ug/kg
RT: 29.510 min Scan# 3336
Delta R.T. 0.001 min
Lab File: 16051622.D
Acq: 17 May 2016 2:00 am

Tgt Ion:278 Resp: 6661

Ion	Ratio	Lower	Upper
278	100		
139	21.9	2.9	42.9
279	23.9	4.4	44.4

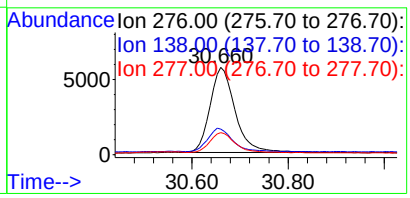




#28
Benzo[g,h,i]perylene
Concen: 32.63 ug/kg
RT: 30.660 min Scan# 3493
Delta R.T. -0.006 min
Lab File: 16051622.D
Acq: 17 May 2016 2:00 am

Tgt Ion:276 Resp: 20593

Ion	Ratio	Lower	Upper
276	100		
138	26.3	9.3	49.3
277	23.7	4.3	44.3



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160516\
Data File : 16051623.D
Acq On : 17 May 2016 2:37 am
Operator :
Sample : 1605074-08A
Misc : SAMP
ALS Vial : 23 Sample Multiplier: 10

Quant Time: May 17 08:38:39 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.275	136	1606932	4000.00	ug/kg	103
6) Acenaphthene-d10	12.866	164	1176268	4000.00	ug/kg	120
11) Phenanthrene-d10	14.987	188	2802175	4000.00	ug/kg	90
16) Chrysene-d12	20.997	240	2889366	4000.00	ug/kg	83
20) Perylene-d12	26.264	264	2595689	4000.00	ug/kg	88

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.765	172	27318	86.50	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.16%#			
17) 4-Terphenyl-d14	17.603	244	50514	75.67	ug/kg	0.01
Spiked Amount 4000.000	Range 51 - 135		Recovery = 1.89%#			

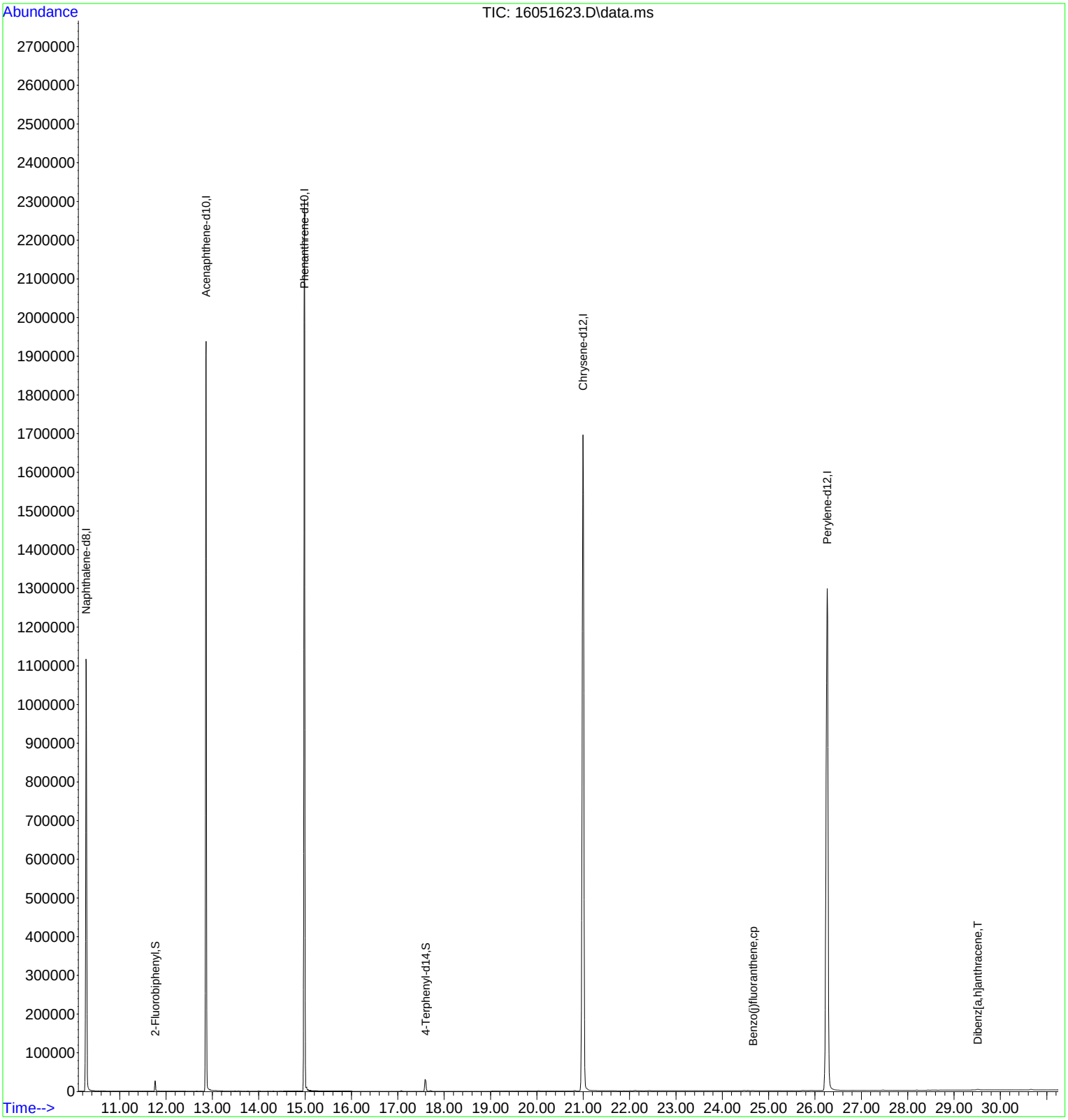
Target Compounds						Qvalue
23) Benzo(j)fluoranthene	24.660	252	1511	2.52	ug/kg	99
27) Dibenz[a,h]anthracene	29.509	278	3314	5.40	ug/kg	89

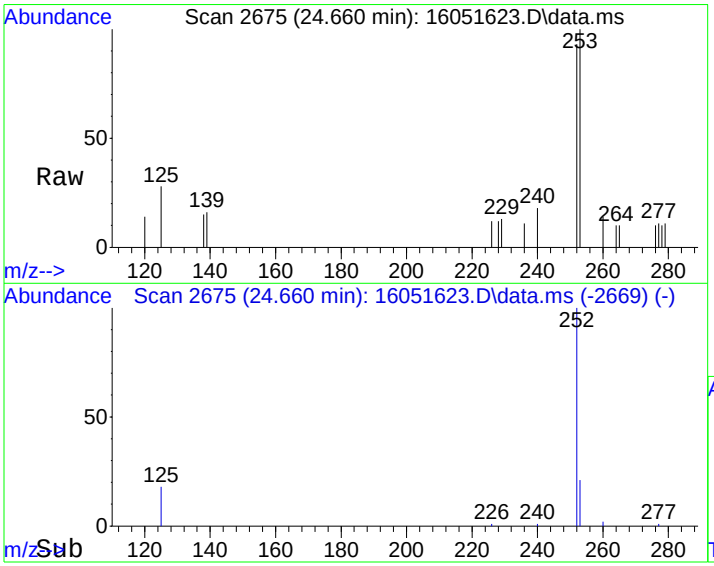
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160516\
Data File : 16051623.D
Acq On : 17 May 2016 2:37 am
Operator :
Sample : 1605074-08A
Misc : SAMP
ALS Vial : 23 Sample Multiplier: 10

Quant Time: May 17 08:38:39 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

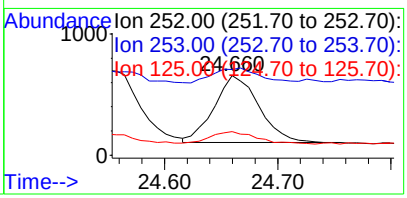


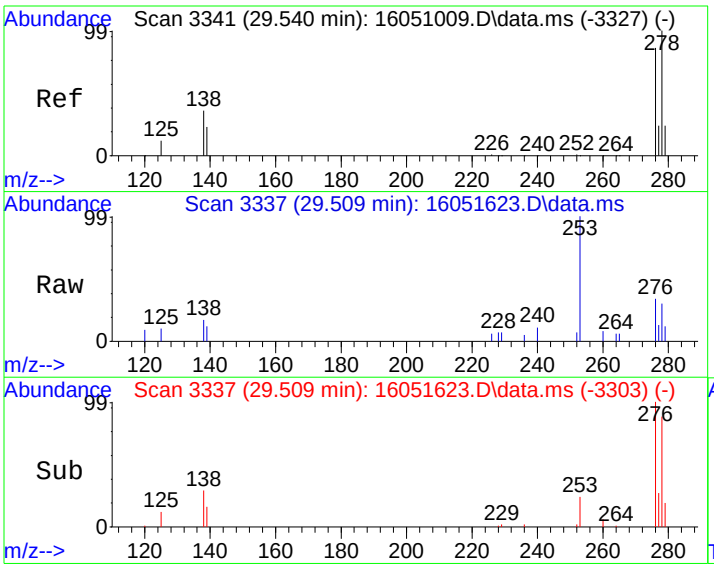


#23
Benzo(j)fluoranthene
Concen: 2.52 ug/kg
RT: 24.660 min Scan# 2675
Delta R.T. 0.000 min
Lab File: 16051623.D
Acq: 17 May 2016 2:37 am

Tgt Ion:252 Resp: 1511

Ion	Ratio	Lower	Upper
252	100		
253	23.3	2.3	42.3
125	19.3	0.0	39.2

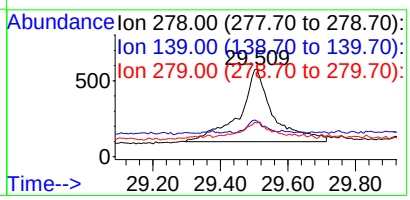




#27
Dibenz[a,h]anthracene
Concen: 5.40 ug/kg
RT: 29.509 min Scan# 3337
Delta R.T. 0.000 min
Lab File: 16051623.D
Acq: 17 May 2016 2:37 am

Tgt Ion:278 Resp: 3314

Ion	Ratio	Lower	Upper
278	100		
139	15.5	2.9	42.9
279	21.0	4.4	44.4



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160516\
Data File : 16051624.D
Acq On : 17 May 2016 3:14 am
Operator :
Sample : 1605074-09A
Misc : SAMP
ALS Vial : 24 Sample Multiplier: 10

Quant Time: May 17 08:38:43 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

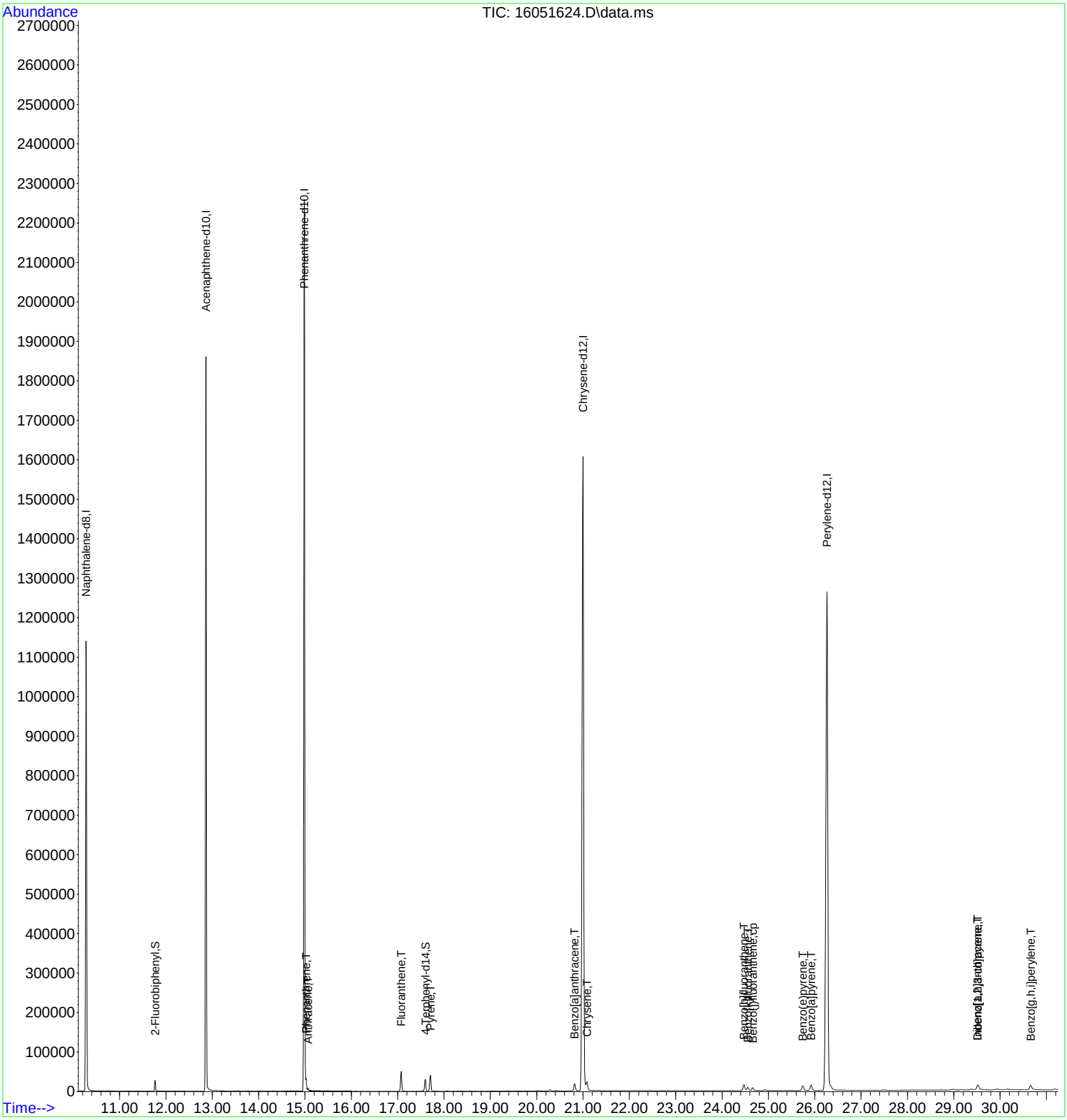
Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.276	136	1595560	4000.00	ug/kg	102
6) Acenaphthene-d10	12.867	164	1150864	4000.00	ug/kg	118
11) Phenanthrene-d10	14.986	188	2761368	4000.00	ug/kg	89
16) Chrysene-d12	20.999	240	2740965	4000.00	ug/kg	78
20) Perylene-d12	26.266	264	2485465	4000.00	ug/kg	84
System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.765	172	27725	88.41	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.21%#			
17) 4-Terphenyl-d14	17.602	244	50331	79.47	ug/kg	0.01
Spiked Amount 4000.000	Range 51 - 135		Recovery = 1.99%#			
Target Compounds						Qvalue
12) Phenanthrene	15.021	178	24344	30.46	ug/kg	97
13) Anthracene	15.063	178	5354	6.18	ug/kg	97
14) Fluoranthene	17.079	202	62443	59.70	ug/kg	96
15) Pyrene	17.710	202	52130	49.69	ug/kg	93
18) Benzo[a]anthracene	20.816	228	29788	38.66	ug/kg	98
19) Chrysene	21.087	228	34612	49.07	ug/kg	99
21) Benzo[b]fluoranthene	24.471	252	31731	44.83	ug/kg	98
22) Benzo[k]fluoranthene	24.552	252	15023	26.46	ug/kg	96
23) Benzo(j)fluoranthene	24.661	252	14607	25.46	ug/kg	90
24) Benzo(e)pyrene	25.738	252	24088	35.46	ug/kg	95
25) Benzo[a]pyrene	25.921	252	30592	47.02	ug/kg	99
26) Indeno[1,2,3-cd]pyrene	29.525	276	24054	33.37	ug/kg	85
27) Dibenz[a,h]anthracene	29.503	278	6708	11.42	ug/kg	97
28) Benzo[g,h,i]perylene	30.661	276	24675	39.23	ug/kg	96

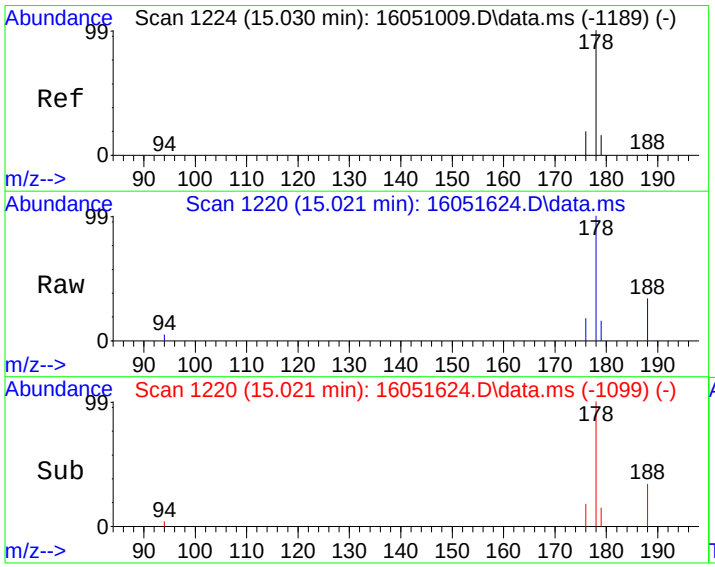
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160516\
Data File : 16051624.D
Acq On : 17 May 2016 3:14 am
Operator :
Sample : 1605074-09A
Misc : SAMP
ALS Vial : 24 Sample Multiplier: 10

Quant Time: May 17 08:38:43 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

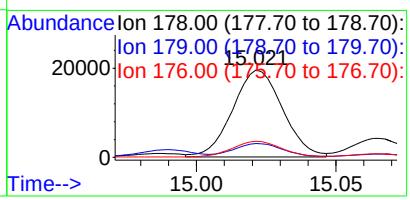


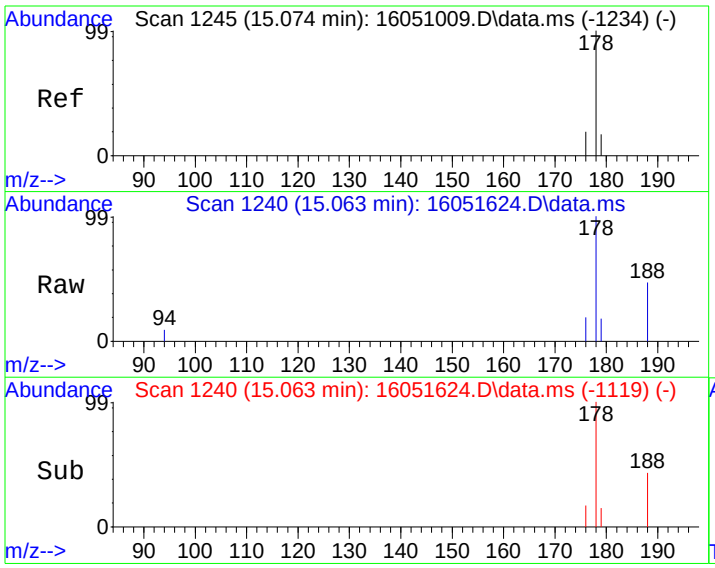


#12
Phenanthrene
Concen: 30.46 ug/kg
RT: 15.021 min Scan# 1220
Delta R.T. 0.005 min
Lab File: 16051624.D
Acq: 17 May 2016 3:14 am

Tgt Ion:178 Resp: 24344

Ion	Ratio	Lower	Upper
178	100		
179	14.9	0.0	36.4
176	18.3	0.0	39.2

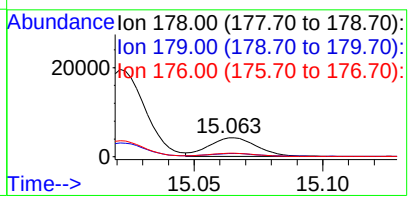


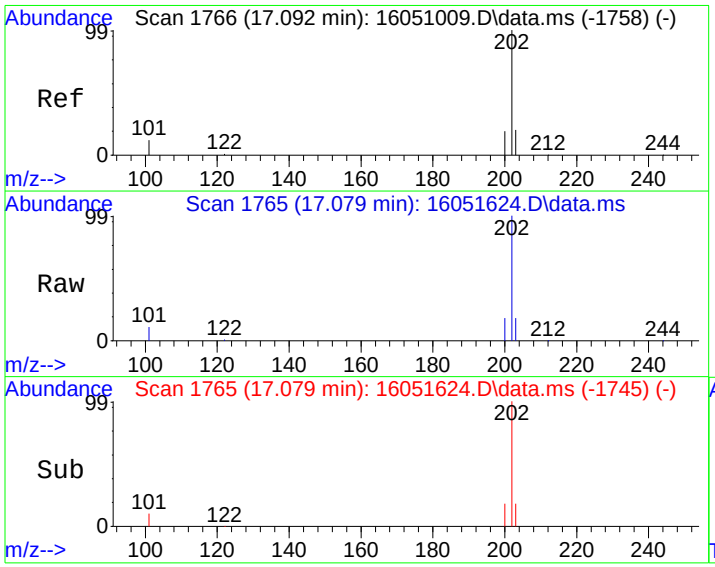


#13
Anthracene
Concen: 6.18 ug/kg
RT: 15.063 min Scan# 1240
Delta R.T. 0.005 min
Lab File: 16051624.D
Acq: 17 May 2016 3:14 am

Tgt Ion:178 Resp: 5354

Ion	Ratio	Lower	Upper
178	100		
179	15.2	0.0	36.5
176	17.2	0.0	38.6

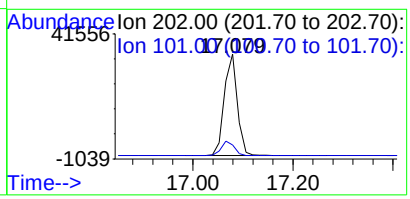


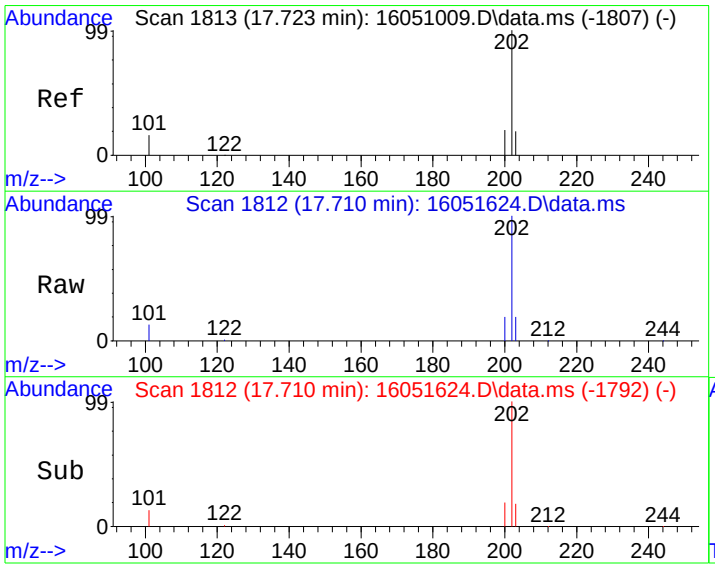


#14
Fluoranthene
Concen: 59.70 ug/kg
RT: 17.079 min Scan# 1765
Delta R.T. 0.014 min
Lab File: 16051624.D
Acq: 17 May 2016 3:14 am

Tgt Ion:202 Resp: 62443

Ion	Ratio	Lower	Upper
202	100		
101	10.4	0.0	32.0

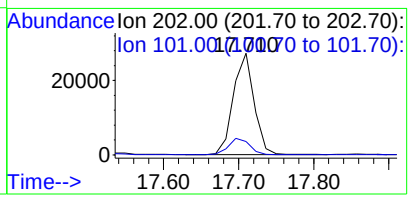


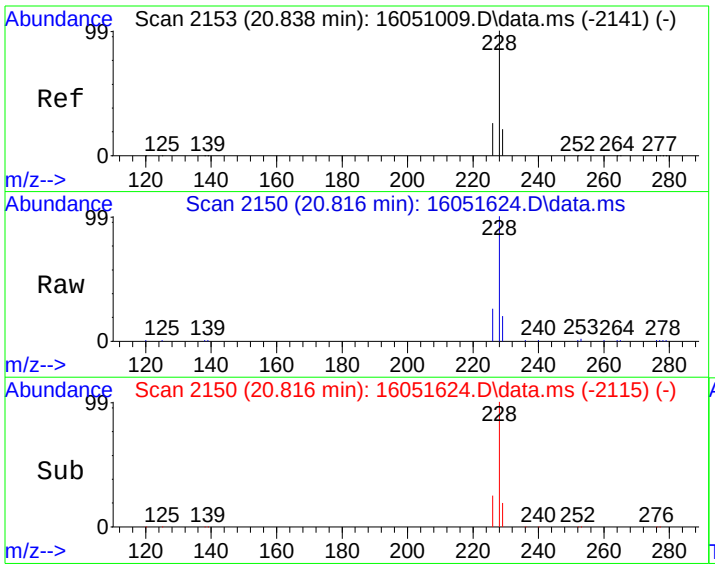


#15
Pyrene
Concen: 49.69 ug/kg
RT: 17.710 min Scan# 1812
Delta R.T. 0.014 min
Lab File: 16051624.D
Acq: 17 May 2016 3:14 am

Tgt Ion:202 Resp: 52130

Ion	Ratio	Lower	Upper
202	100		
101	13.1	0.0	35.9

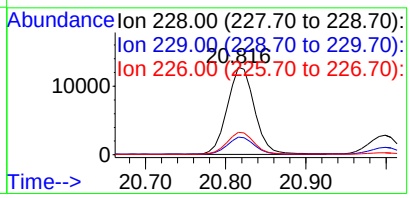


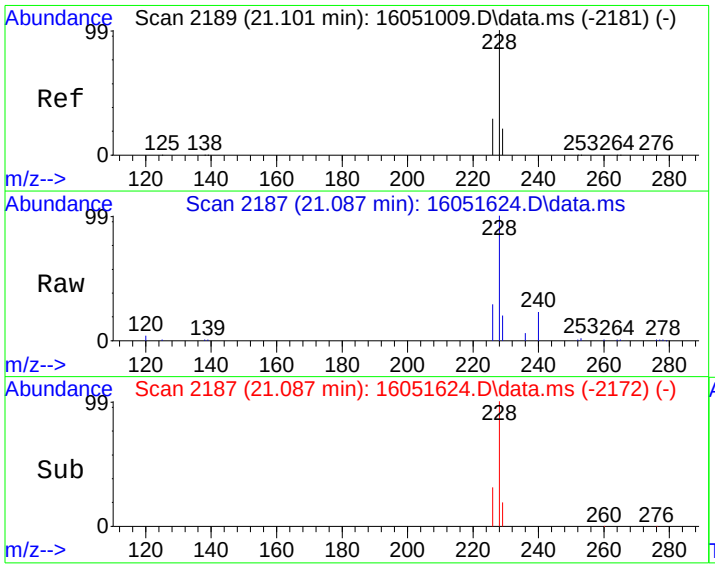


#18
Benzo[a]anthracene
Concen: 38.66 ug/kg
RT: 20.816 min Scan# 2150
Delta R.T. 0.009 min
Lab File: 16051624.D
Acq: 17 May 2016 3:14 am

Tgt Ion:228 Resp: 29788

Ion	Ratio	Lower	Upper
228	100		
229	19.5	0.7	40.7
226	25.4	5.9	45.9

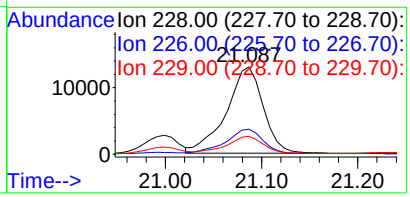


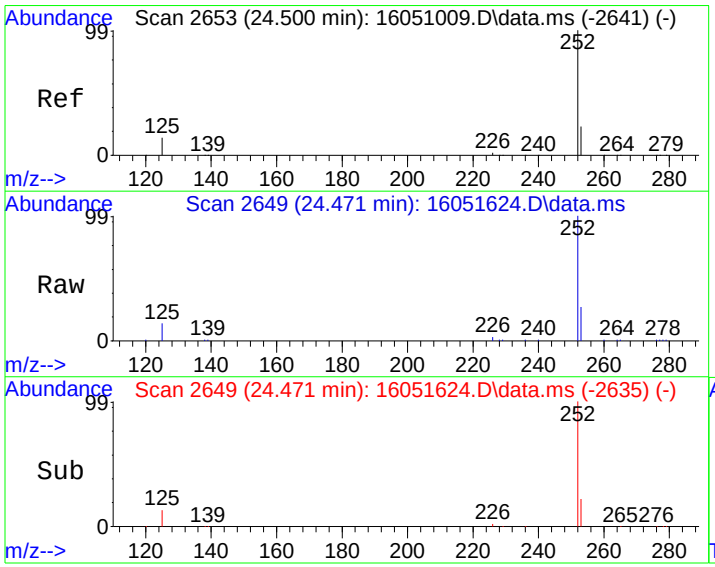


#19
Chrysene
Concen: 49.07 ug/kg
RT: 21.087 min Scan# 2187
Delta R.T. 0.009 min
Lab File: 16051624.D
Acq: 17 May 2016 3:14 am

Tgt Ion:228 Resp: 34612

Ion	Ratio	Lower	Upper
228	100		
226	28.3	8.8	48.8
229	19.8	0.5	40.5

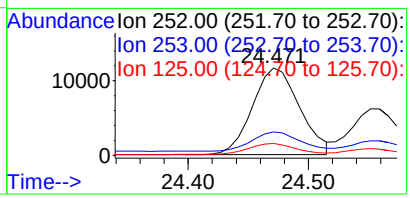


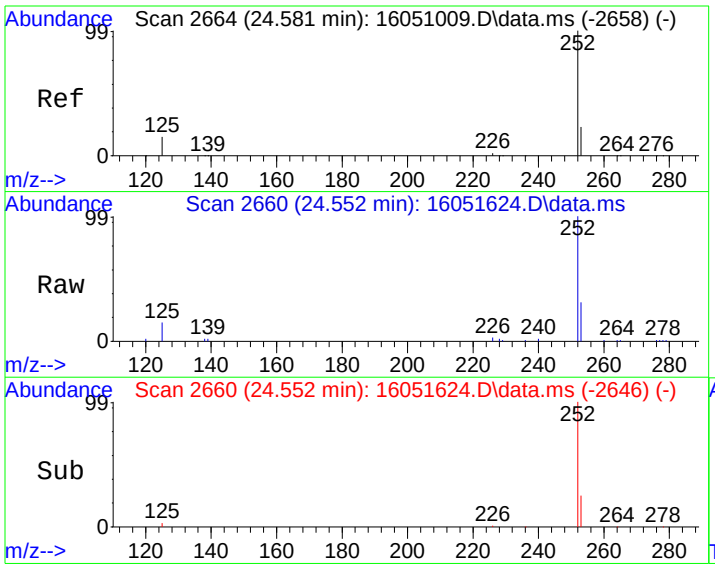


#21
Benzo[b]fluoranthene
Concen: 44.83 ug/kg
RT: 24.471 min Scan# 2649
Delta R.T. 0.002 min
Lab File: 16051624.D
Acq: 17 May 2016 3:14 am

Tgt Ion:252 Resp: 31731

Ion	Ratio	Lower	Upper
252	100		
253	22.2	2.6	42.6
125	12.6	0.0	33.8

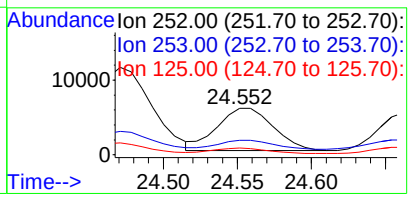


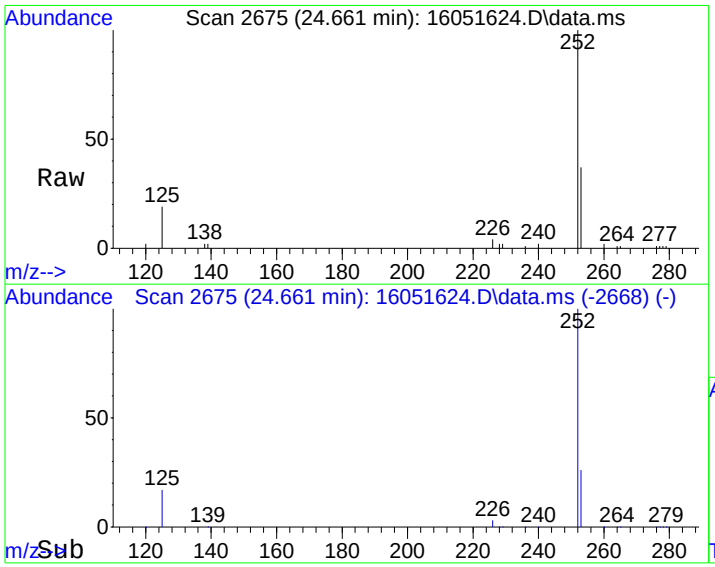


#22
Benzo[k]fluoranthene
Concen: 26.46 ug/kg
RT: 24.552 min Scan# 2660
Delta R.T. 0.002 min
Lab File: 16051624.D
Acq: 17 May 2016 3:14 am

Tgt Ion:252 Resp: 15023

Ion	Ratio	Lower	Upper
252	100		
253	21.2	2.8	42.8
125	13.1	0.0	34.7

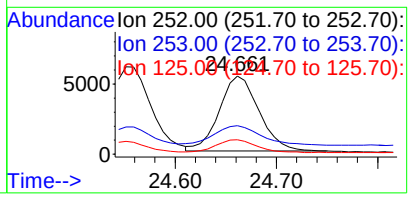


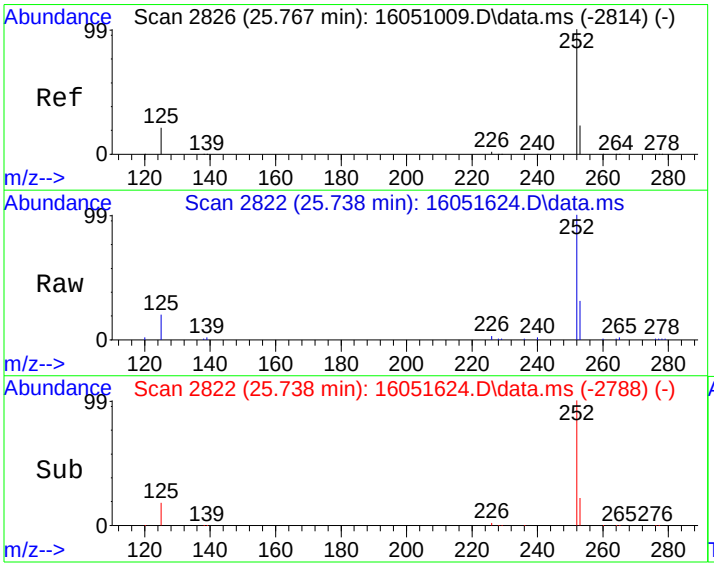


#23
Benzo(j)fluoranthene
Concen: 25.46 ug/kg
RT: 24.661 min Scan# 2675
Delta R.T. 0.002 min
Lab File: 16051624.D
Acq: 17 May 2016 3:14 am

Tgt Ion:252 Resp: 14607

Ion	Ratio	Lower	Upper
252	100		
253	29.8	2.3	42.3
125	17.2	0.0	39.2

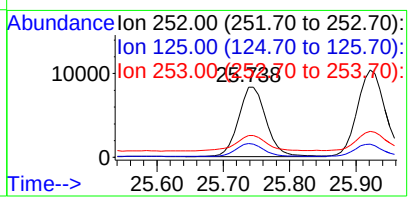


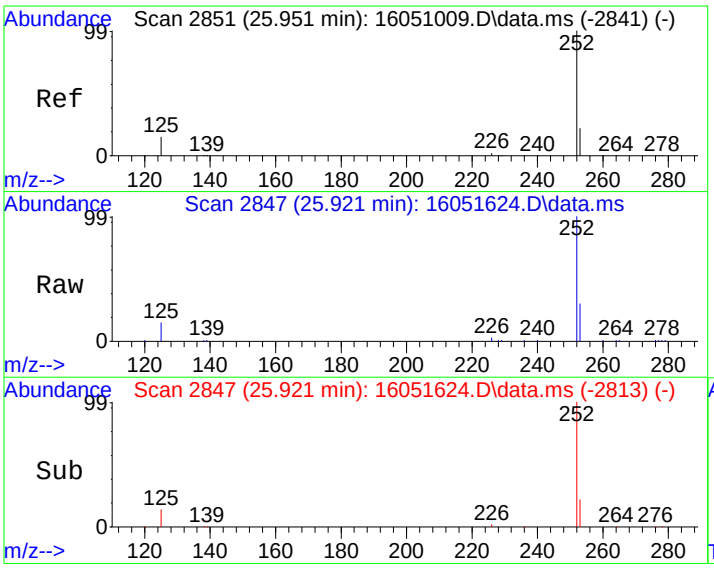


#24
Benzo(e)pyrene
Concen: 35.46 ug/kg
RT: 25.738 min Scan# 2822
Delta R.T. 0.002 min
Lab File: 16051624.D
Acq: 17 May 2016 3:14 am

Tgt Ion:252 Resp: 24088

Ion	Ratio	Lower	Upper
252	100		
125	18.5	0.8	40.8
253	24.8	2.4	42.4

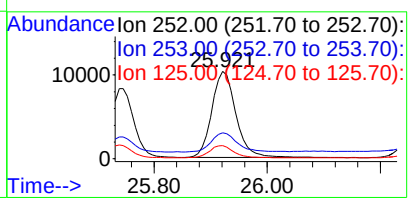


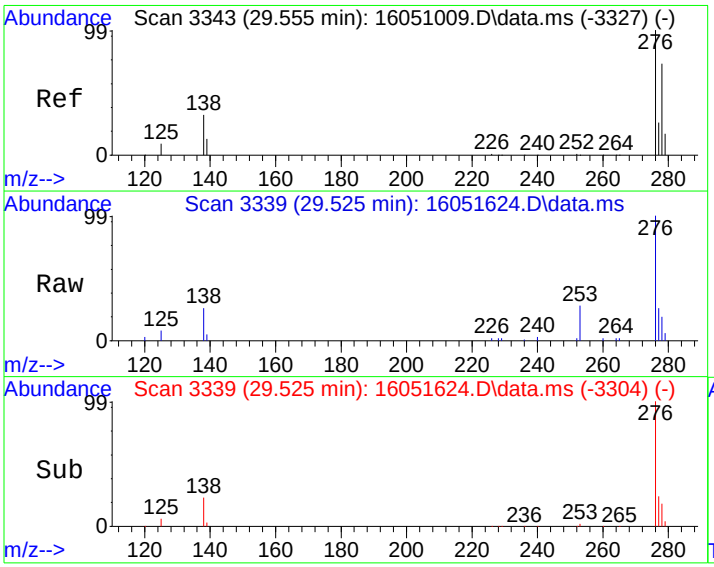


#25
Benzo[a]pyrene
Concen: 47.02 ug/kg
RT: 25.921 min Scan# 2847
Delta R.T. 0.002 min
Lab File: 16051624.D
Acq: 17 May 2016 3:14 am

Tgt Ion:252 Resp: 30592

Ion	Ratio	Lower	Upper
252	100		
253	22.4	2.5	42.5
125	14.1	0.0	35.5

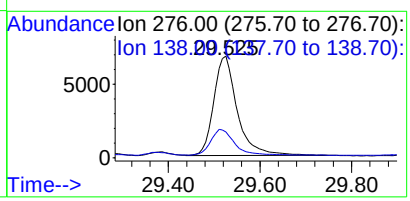


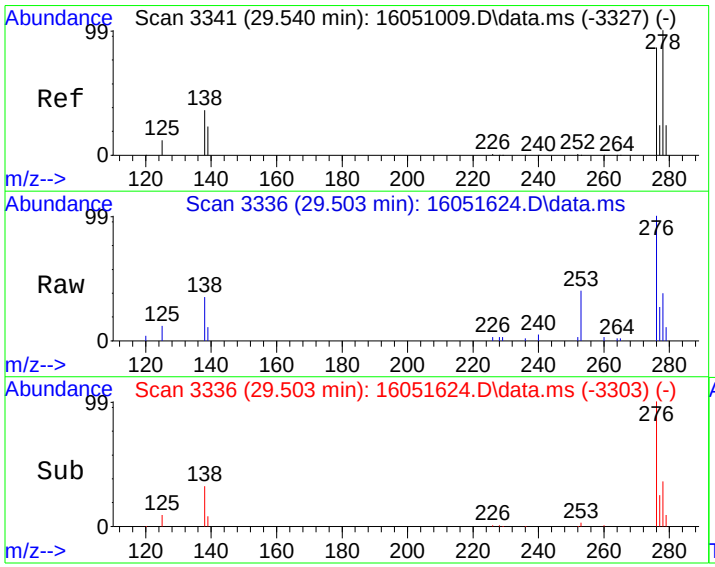


#26
Indeno[1,2,3-cd]pyrene
Concen: 33.37 ug/kg
RT: 29.525 min Scan# 3339
Delta R.T. 0.009 min
Lab File: 16051624.D
Acq: 17 May 2016 3:14 am

Tgt Ion:276 Resp: 24054

Ion	Ratio	Lower	Upper
276	100		
138	23.6	12.0	52.0

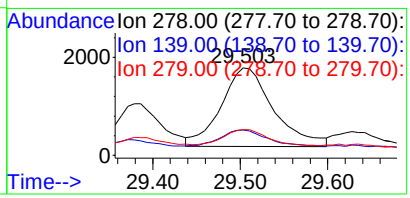


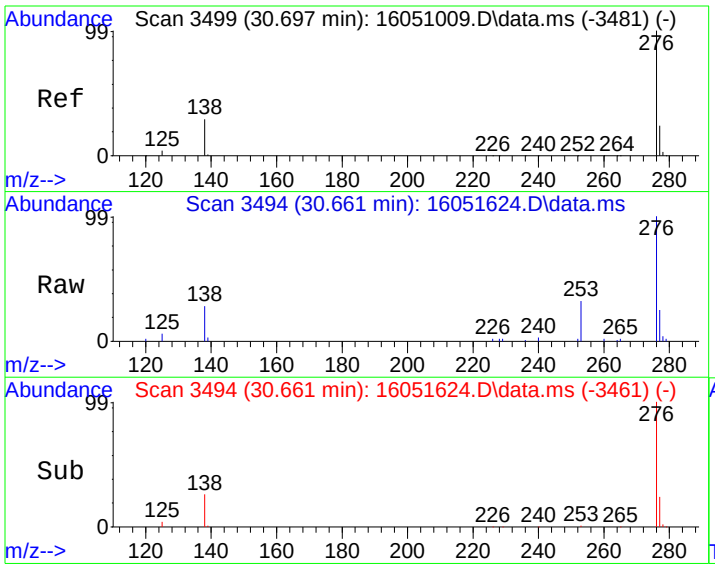


#27
Dibenz[a,h]anthracene
Concen: 11.42 ug/kg
RT: 29.503 min Scan# 3336
Delta R.T. -0.005 min
Lab File: 16051624.D
Acq: 17 May 2016 3:14 am

Tgt Ion:278 Resp: 6708

Ion	Ratio	Lower	Upper
278	100		
139	22.9	2.9	42.9
279	21.9	4.4	44.4

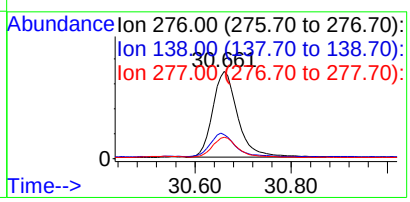




#28
Benzo[g,h,i]perylene
Concen: 39.23 ug/kg
RT: 30.661 min Scan# 3494
Delta R.T. -0.005 min
Lab File: 16051624.D
Acq: 17 May 2016 3:14 am

Tgt Ion:276 Resp: 24675

Ion	Ratio	Lower	Upper
276	100		
138	25.8	9.3	49.3
277	23.4	4.3	44.3



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160516\
Data File : 16051625.D
Acq On : 17 May 2016 3:50 am
Operator :
Sample : 1605074-10A
Misc : SAMP
ALS Vial : 25 Sample Multiplier: 20

Quant Time: May 17 08:38:50 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.278	136	1815391	4000.00	ug/kg	116
6) Acenaphthene-d10	12.867	164	1365747	4000.00	ug/kg	140
11) Phenanthrene-d10	14.988	188	3150929	4000.00	ug/kg	101
16) Chrysene-d12	20.999	240	3001882	4000.00	ug/kg	86
20) Perylene-d12	26.266	264	2780984	4000.00	ug/kg	94

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.767	172	14717	41.25	ug/kg	0.01
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.03%#		
17) 4-Terphenyl-d14	17.602	244	25866	37.29	ug/kg	0.01
Spiked Amount 4000.000	Range 51 - 135		Recovery =	0.93%#		

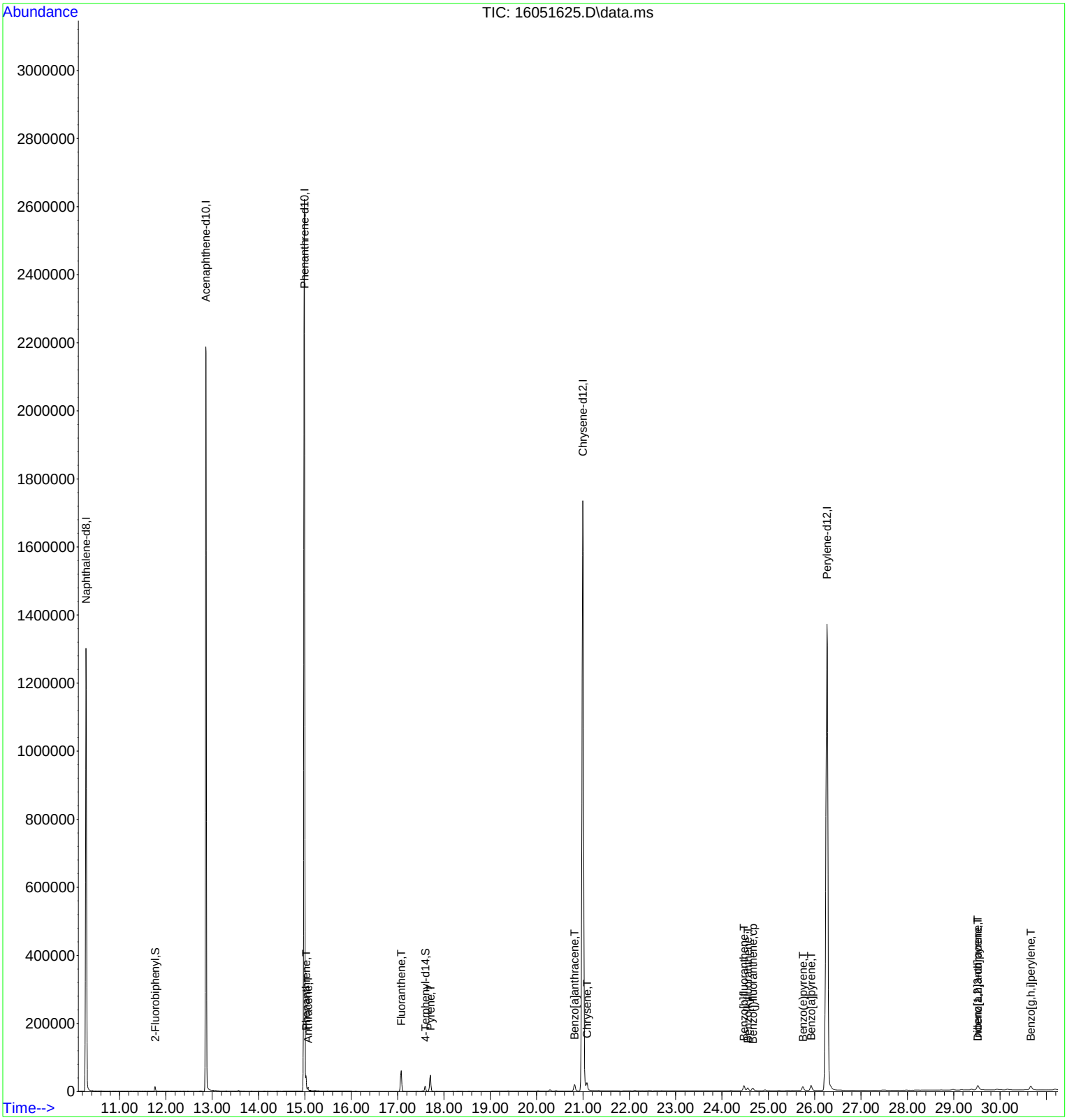
Target Compounds						Qvalue
12) Phenanthrene	15.023	178	36012	39.49	ug/kg	98
13) Anthracene	15.066	178	8717	8.82	ug/kg	97
14) Fluoranthene	17.079	202	73946	61.96	ug/kg	96
15) Pyrene	17.709	202	61983	51.78	ug/kg	93
18) Benzo[a]anthracene	20.816	228	31643	37.50	ug/kg	98
19) Chrysene	21.087	228	34310	44.42	ug/kg	99
21) Benzo[b]fluoranthene	24.471	252	30761	38.84	ug/kg	99
22) Benzo[k]fluoranthene	24.559	252	14241	22.42	ug/kg	95
23) Benzo(j)fluoranthene	24.661	252	14704	22.90	ug/kg	90
24) Benzo(e)pyrene	25.746	252	23703	31.18	ug/kg	95
25) Benzo[a]pyrene	25.921	252	32116	44.12	ug/kg	98
26) Indeno[1,2,3-cd]pyrene	29.525	276	23852	29.58	ug/kg	85
27) Dibenz[a,h]anthracene	29.511	278	6680	10.16	ug/kg	95
28) Benzo[g,h,i]perylene	30.661	276	24795	35.24	ug/kg	97

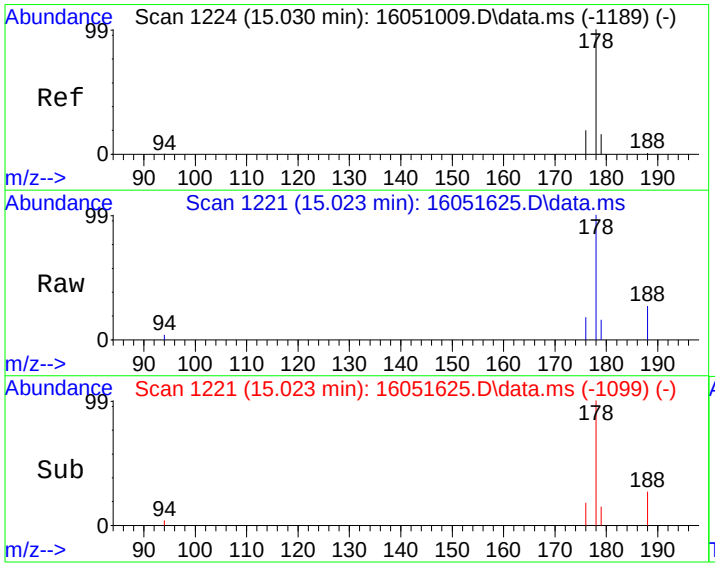
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160516\
Data File : 16051625.D
Acq On : 17 May 2016 3:50 am
Operator :
Sample : 1605074-10A
Misc : SAMP
ALS Vial : 25 Sample Multiplier: 20

Quant Time: May 17 08:38:50 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

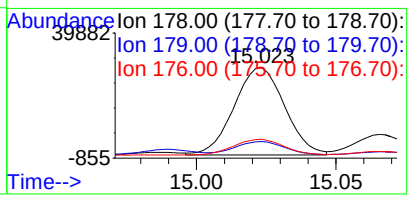


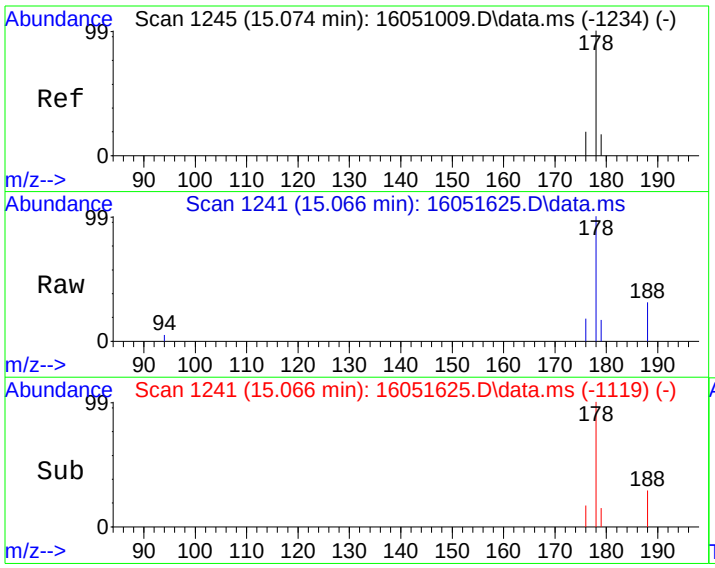


#12
Phenanthrene
Concen: 39.49 ug/kg
RT: 15.023 min Scan# 1221
Delta R.T. 0.007 min
Lab File: 16051625.D
Acq: 17 May 2016 3:50 am

Tgt Ion:178 Resp: 36012

Ion	Ratio	Lower	Upper
178	100		
179	15.0	0.0	36.4
176	18.4	0.0	39.2

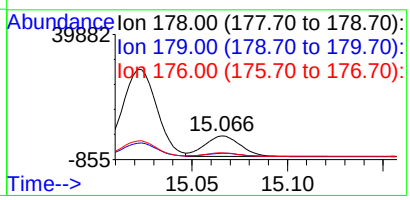


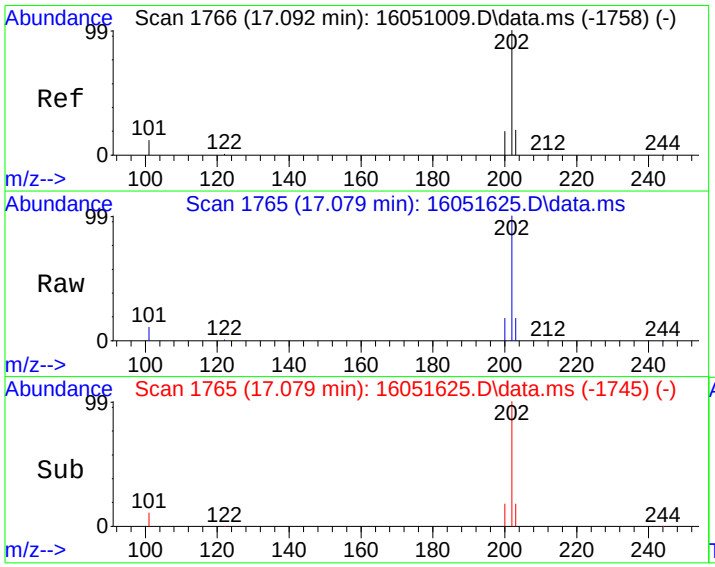


#13
Anthracene
Concen: 8.82 ug/kg
RT: 15.066 min Scan# 1241
Delta R.T. 0.007 min
Lab File: 16051625.D
Acq: 17 May 2016 3:50 am

Tgt Ion:178 Resp: 8717

Ion	Ratio	Lower	Upper
178	100		
179	15.2	0.0	36.5
176	17.5	0.0	38.6

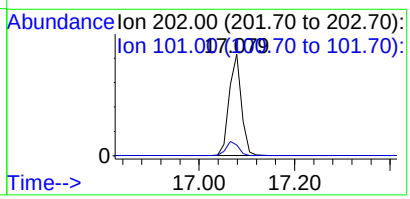


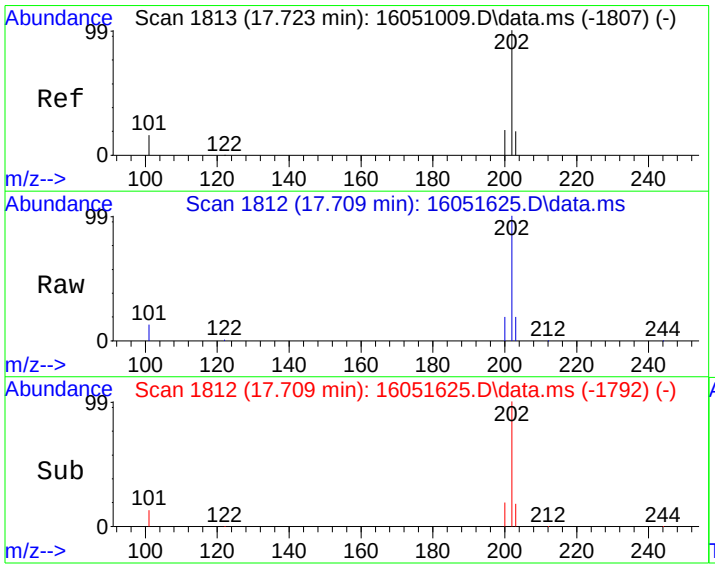


#14
Fluoranthene
Concen: 61.96 ug/kg
RT: 17.079 min Scan# 1765
Delta R.T. 0.014 min
Lab File: 16051625.D
Acq: 17 May 2016 3:50 am

Tgt Ion:202 Resp: 73946

Ion	Ratio	Lower	Upper
202	100		
101	10.5	0.0	32.0

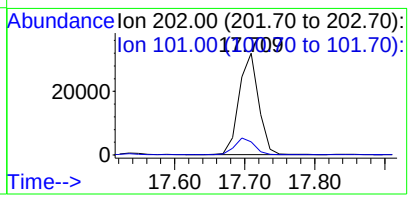


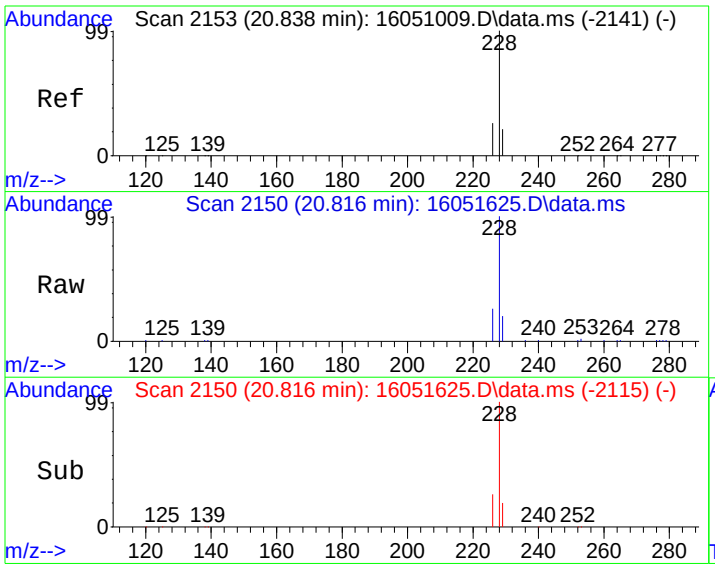


#15
Pyrene
Concen: 51.78 ug/kg
RT: 17.709 min Scan# 1812
Delta R.T. 0.014 min
Lab File: 16051625.D
Acq: 17 May 2016 3:50 am

Tgt Ion:202 Resp: 61983

Ion	Ratio	Lower	Upper
202	100		
101	12.8	0.0	35.9

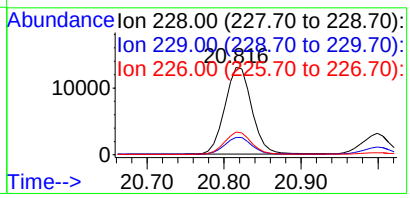


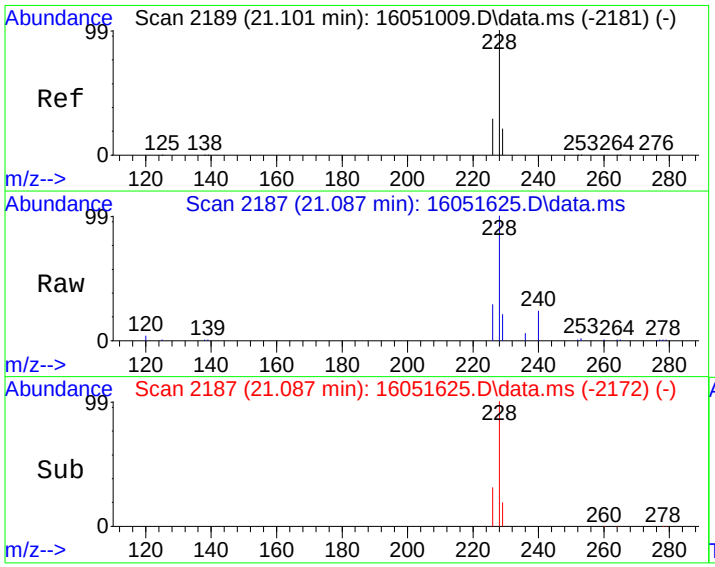


#18
Benzo[a]anthracene
Concen: 37.50 ug/kg
RT: 20.816 min Scan# 2150
Delta R.T. 0.009 min
Lab File: 16051625.D
Acq: 17 May 2016 3:50 am

Tgt Ion:228 Resp: 31643

Ion	Ratio	Lower	Upper
228	100		
229	19.4	0.7	40.7
226	25.6	5.9	45.9

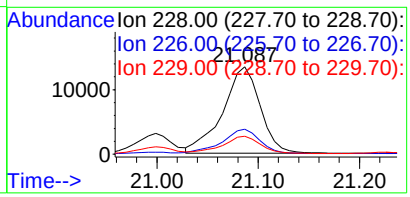


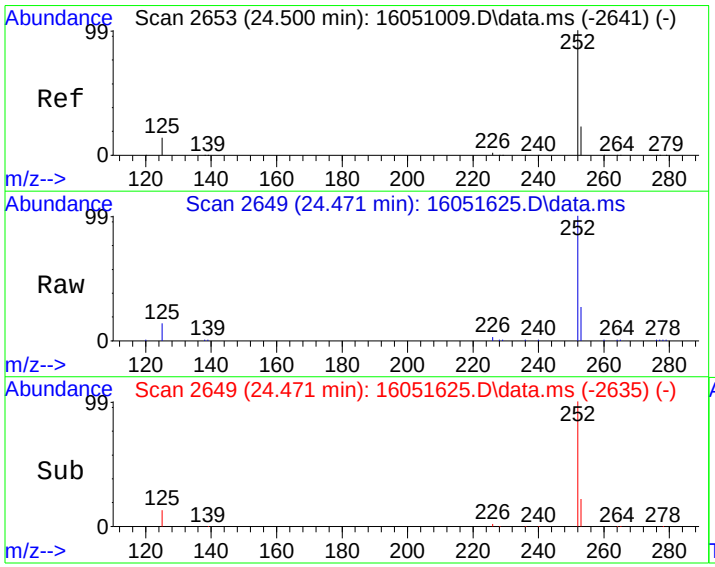


#19
Chrysene
Concen: 44.42 ug/kg
RT: 21.087 min Scan# 2187
Delta R.T. 0.009 min
Lab File: 16051625.D
Acq: 17 May 2016 3:50 am

Tgt Ion:228 Resp: 34310

Ion	Ratio	Lower	Upper
228	100		
226	28.2	8.8	48.8
229	20.0	0.5	40.5

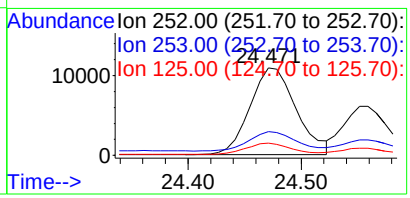


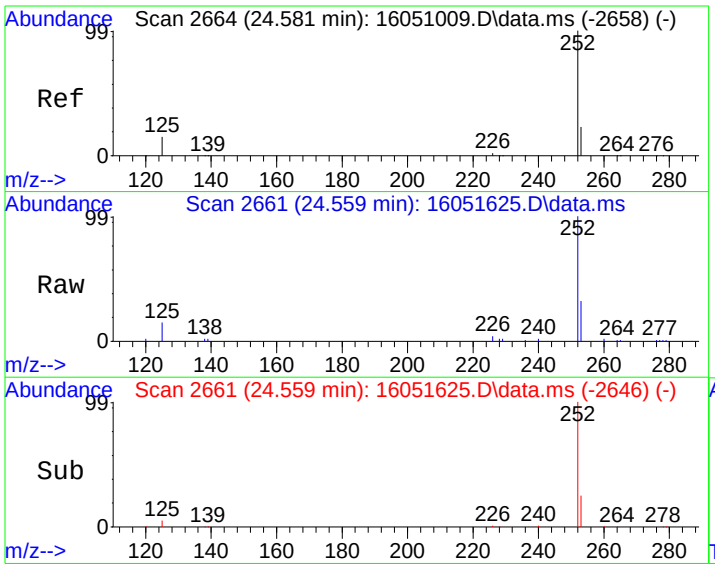


#21
Benzo[b]fluoranthene
Concen: 38.84 ug/kg
RT: 24.471 min Scan# 2649
Delta R.T. 0.002 min
Lab File: 16051625.D
Acq: 17 May 2016 3:50 am

Tgt Ion:252 Resp: 30761

Ion	Ratio	Lower	Upper
252	100		
253	22.2	2.6	42.6
125	12.8	0.0	33.8

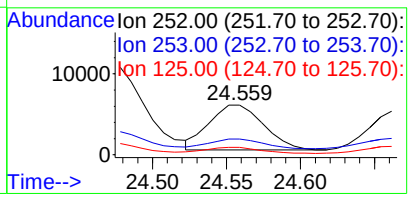


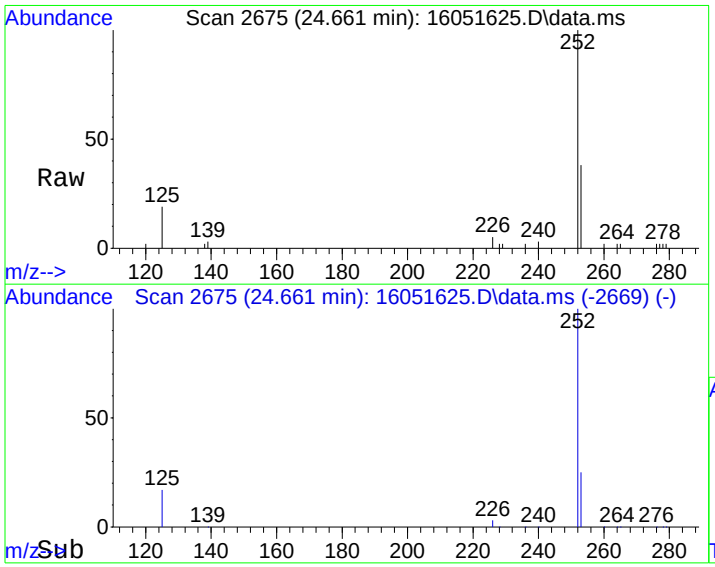


#22
Benzo[k]fluoranthene
Concen: 22.42 ug/kg
RT: 24.559 min Scan# 2661
Delta R.T. 0.009 min
Lab File: 16051625.D
Acq: 17 May 2016 3:50 am

Tgt Ion:252 Resp: 14241

Ion	Ratio	Lower	Upper
252	100		
253	20.6	2.8	42.8
125	12.7	0.0	34.7

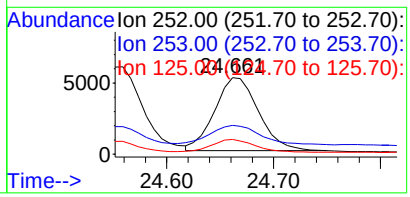


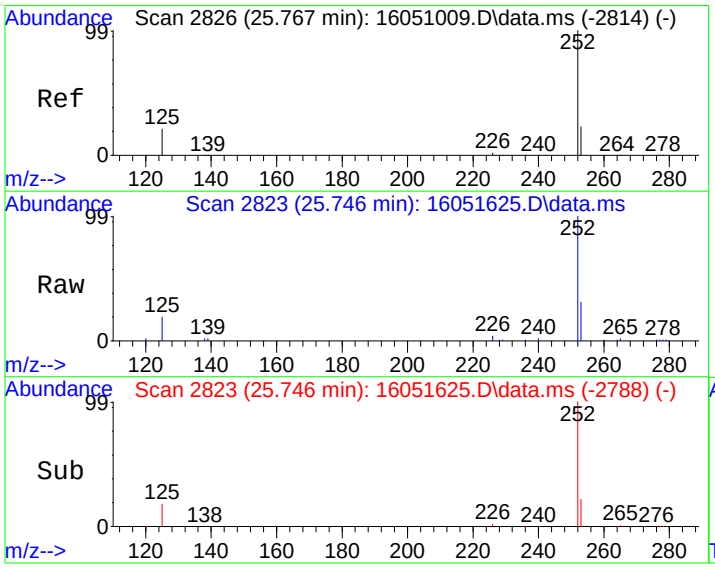


#23
Benzo(j)fluoranthene
Concen: 22.90 ug/kg
RT: 24.661 min Scan# 2675
Delta R.T. 0.002 min
Lab File: 16051625.D
Acq: 17 May 2016 3:50 am

Tgt Ion:252 Resp: 14704

Ion	Ratio	Lower	Upper
252	100		
253	29.7	2.3	42.3
125	17.3	0.0	39.2

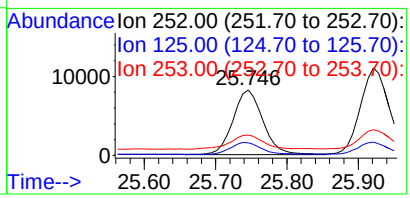


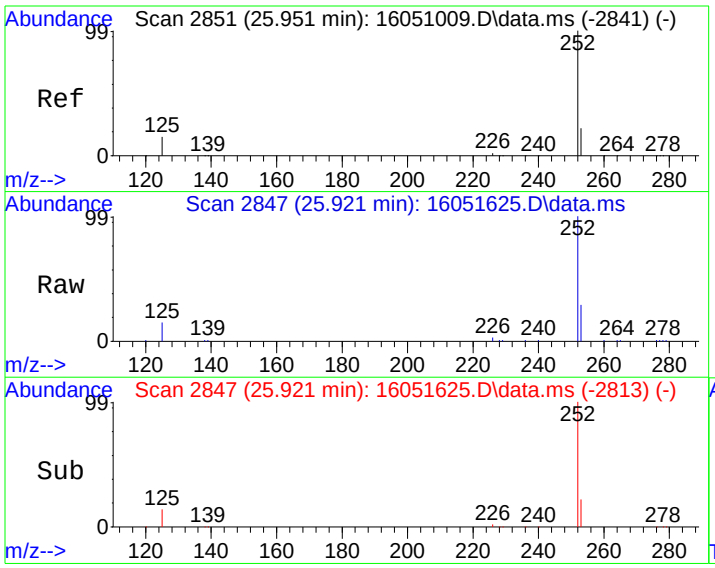


#24
Benzo(e)pyrene
Concen: 31.18 ug/kg
RT: 25.746 min Scan# 2823
Delta R.T. 0.009 min
Lab File: 16051625.D
Acq: 17 May 2016 3:50 am

Tgt Ion:252 Resp: 23703

Ion	Ratio	Lower	Upper
252	100		
125	18.6	0.8	40.8
253	24.6	2.4	42.4

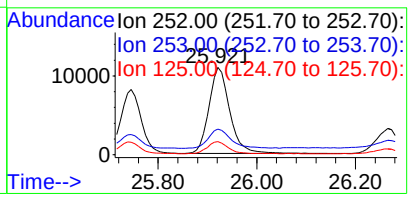


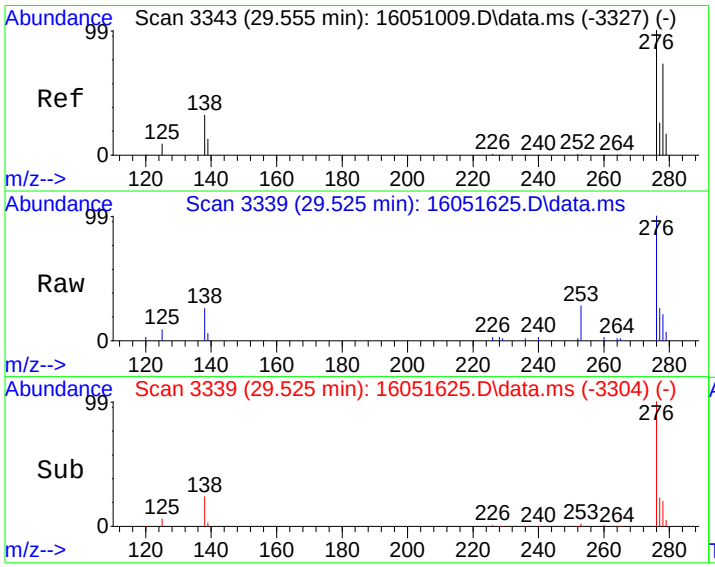


#25
Benzo[a]pyrene
Concen: 44.12 ug/kg
RT: 25.921 min Scan# 2847
Delta R.T. 0.002 min
Lab File: 16051625.D
Acq: 17 May 2016 3:50 am

Tgt Ion:252 Resp: 32116

Ion	Ratio	Lower	Upper
252	100		
253	22.2	2.5	42.5
125	14.2	0.0	35.5

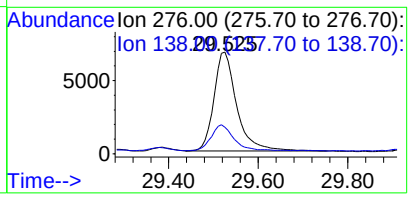


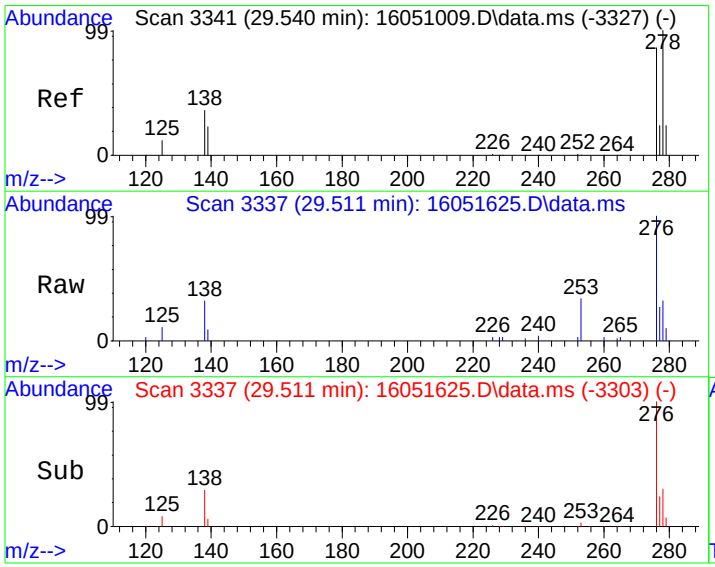


#26
Indeno[1,2,3-cd]pyrene
Concen: 29.58 ug/kg
RT: 29.525 min Scan# 3339
Delta R.T. 0.009 min
Lab File: 16051625.D
Acq: 17 May 2016 3:50 am

Tgt Ion:276 Resp: 23852

Ion	Ratio	Lower	Upper
276	100		
138	23.8	12.0	52.0

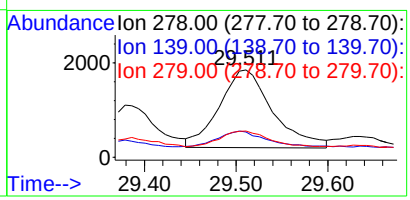


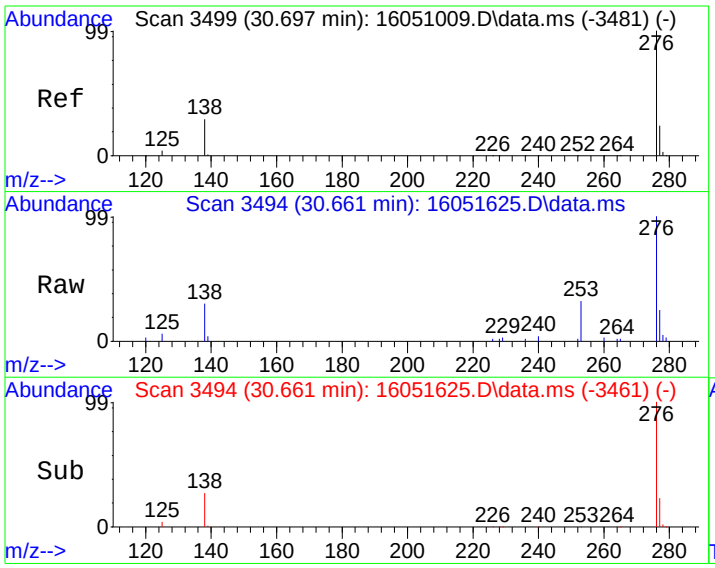


#27
Dibenz[a,h]anthracene
Concen: 10.16 ug/kg
RT: 29.511 min Scan# 3337
Delta R.T. 0.002 min
Lab File: 16051625.D
Acq: 17 May 2016 3:50 am

Tgt Ion:278 Resp: 6680

Ion	Ratio	Lower	Upper
278	100		
139	20.6	2.9	42.9
279	21.9	4.4	44.4

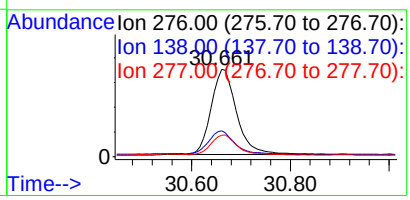




#28
Benzo[g,h,i]perylene
Concen: 35.24 ug/kg
RT: 30.661 min Scan# 3494
Delta R.T. -0.005 min
Lab File: 16051625.D
Acq: 17 May 2016 3:50 am

Tgt Ion:276 Resp: 24795

Ion	Ratio	Lower	Upper
276	100		
138	27.3	9.3	49.3
277	23.2	4.3	44.3



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160516\
Data File : 16051626.D
Acq On : 17 May 2016 4:28 am
Operator :
Sample : 1605074-11A
Misc : SAMP
ALS Vial : 26 Sample Multiplier: 10

Quant Time: May 17 08:38:58 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

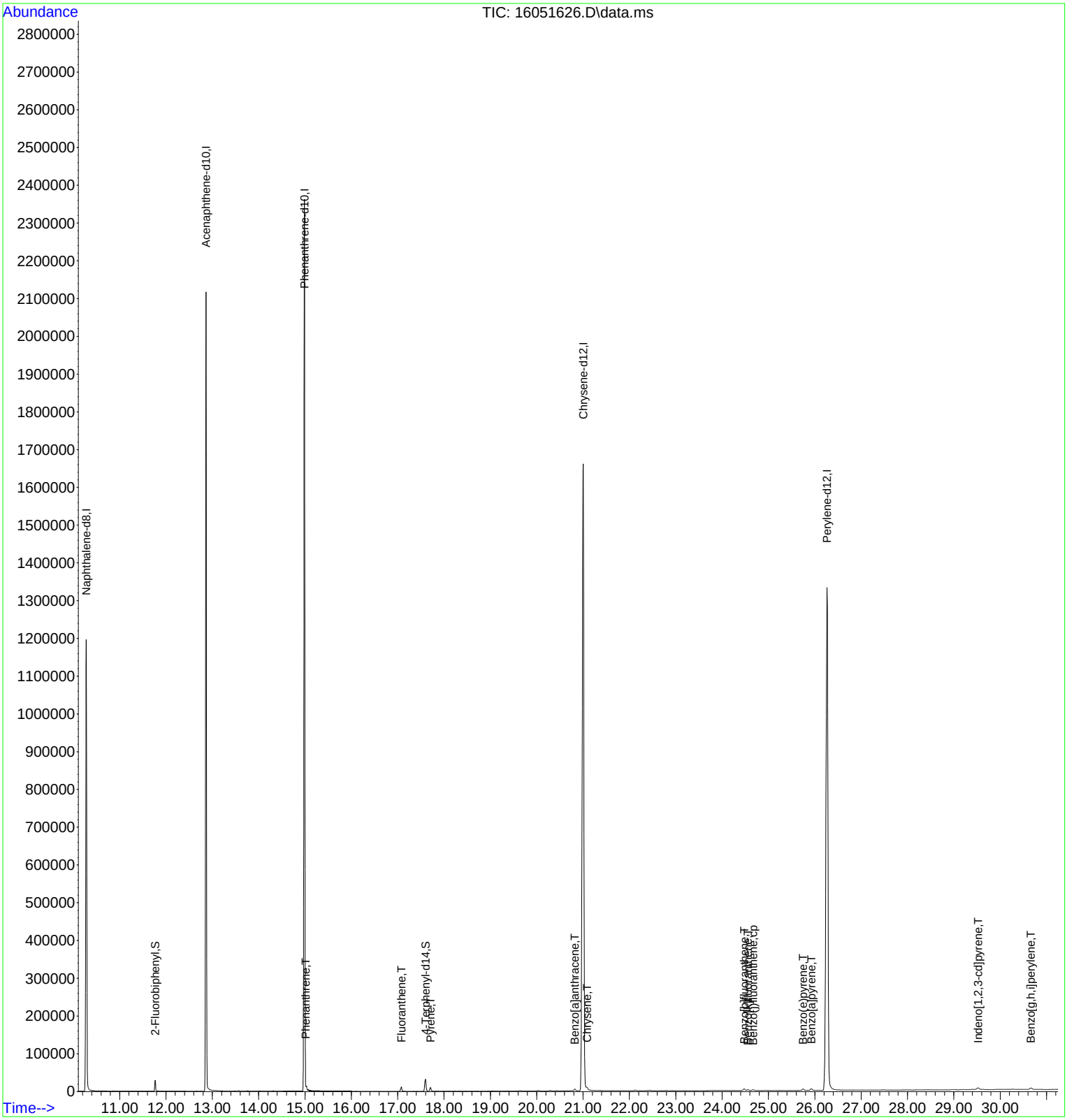
Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.279	136	1667641	4000.00	ug/kg	107
6) Acenaphthene-d10	12.866	164	1256748	4000.00	ug/kg	129
11) Phenanthrene-d10	14.986	188	2863330	4000.00	ug/kg	92
16) Chrysene-d12	21.004	240	2888470	4000.00	ug/kg	83
20) Perylene-d12	26.264	264	2635394	4000.00	ug/kg	89
System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.768	172	29146	88.93	ug/kg	0.01
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.22%#			
17) 4-Terphenyl-d14	17.602	244	52182	78.19	ug/kg	0.01
Spiked Amount 4000.000	Range 51 - 135		Recovery = 1.95%#			
Target Compounds						Qvalue
12) Phenanthrene	15.022	178	5025	6.06	ug/kg	97
14) Fluoranthene	17.079	202	14444	13.32	ug/kg	98
15) Pyrene	17.710	202	12912	11.87	ug/kg	94
18) Benzo[a]anthracene	20.821	228	8012	9.87	ug/kg	98
19) Chrysene	21.085	228	9341	12.57	ug/kg	99
21) Benzo[b]fluoranthene	24.477	252	9839	13.11	ug/kg	98
22) Benzo[k]fluoranthene	24.557	252	4957	8.23	ug/kg	93
23) Benzo(j)fluoranthene	24.667	252	4793	7.88	ug/kg	91
24) Benzo(e)pyrene	25.744	252	7800	10.83	ug/kg	95
25) Benzo[a]pyrene	25.927	252	9536	13.82	ug/kg	95
26) Indeno[1,2,3-cd]pyrene	29.523	276	8487	11.11	ug/kg	88
28) Benzo[g,h,i]perylene	30.666	276	9144	13.71	ug/kg	95

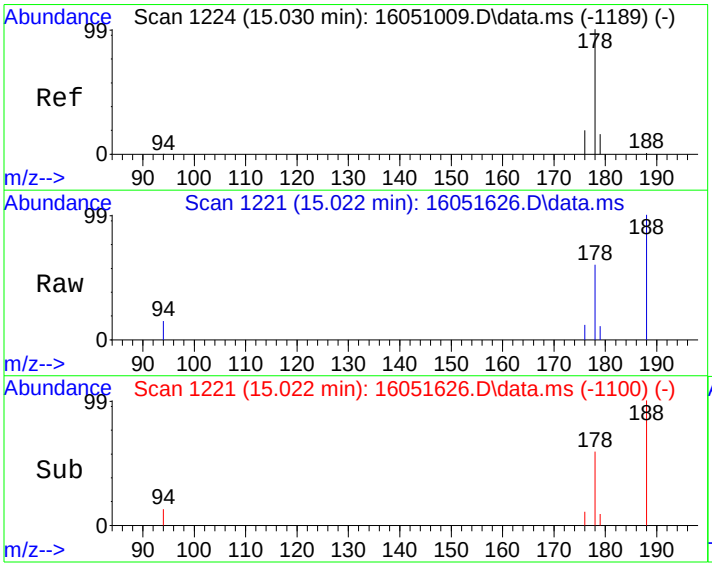
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160516\
Data File : 16051626.D
Acq On : 17 May 2016 4:28 am
Operator :
Sample : 1605074-11A
Misc : SAMP
ALS Vial : 26 Sample Multiplier: 10

Quant Time: May 17 08:38:58 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

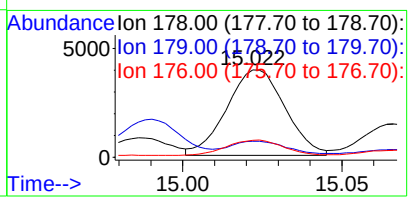


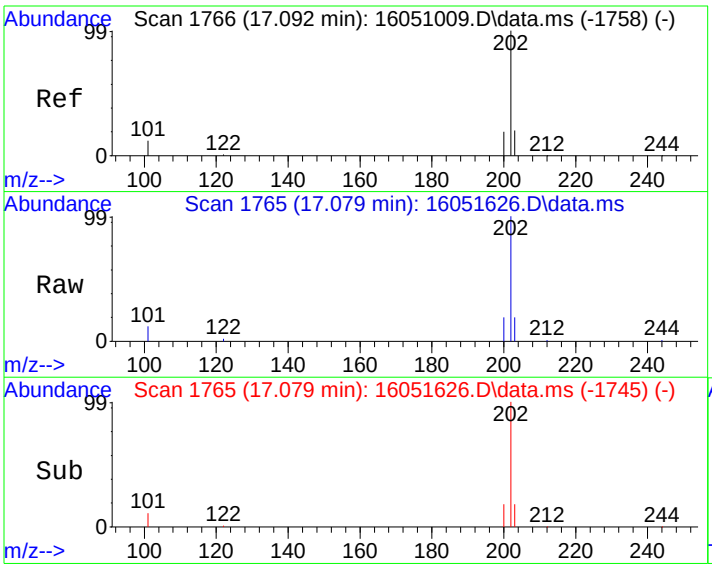


#12
Phenanthrene
Concen: 6.06 ug/kg
RT: 15.022 min Scan# 1221
Delta R.T. 0.006 min
Lab File: 16051626.D
Acq: 17 May 2016 4:28 am

Tgt Ion:178 Resp: 5025

Ion	Ratio	Lower	Upper
178	100		
179	15.1	0.0	36.4
176	18.2	0.0	39.2

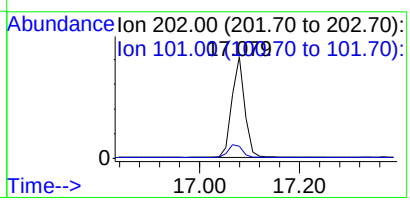


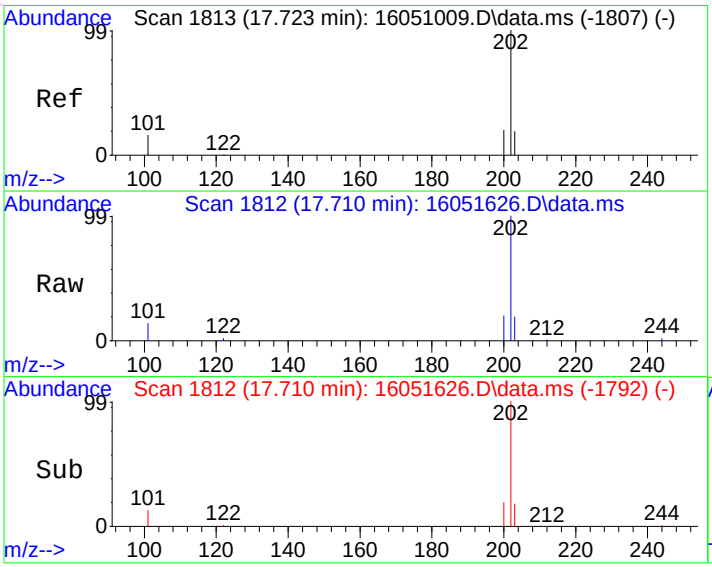


#14
Fluoranthene
Concen: 13.32 ug/kg
RT: 17.079 min Scan# 1765
Delta R.T. 0.014 min
Lab File: 16051626.D
Acq: 17 May 2016 4:28 am

Tgt Ion:202 Resp: 14444

Ion	Ratio	Lower	Upper
202	100		
101	11.1	0.0	32.0

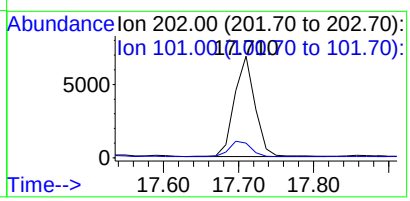


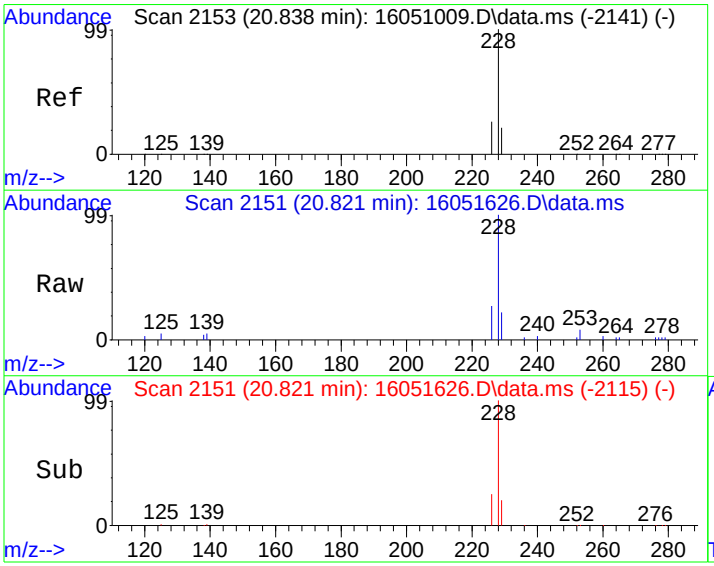


#15
Pyrene
Concen: 11.87 ug/kg
RT: 17.710 min Scan# 1812
Delta R.T. 0.014 min
Lab File: 16051626.D
Acq: 17 May 2016 4:28 am

Tgt Ion:202 Resp: 12912

Ion	Ratio	Lower	Upper
202	100		
101	13.3	0.0	35.9

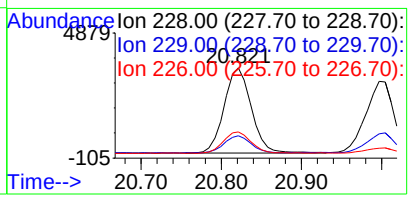


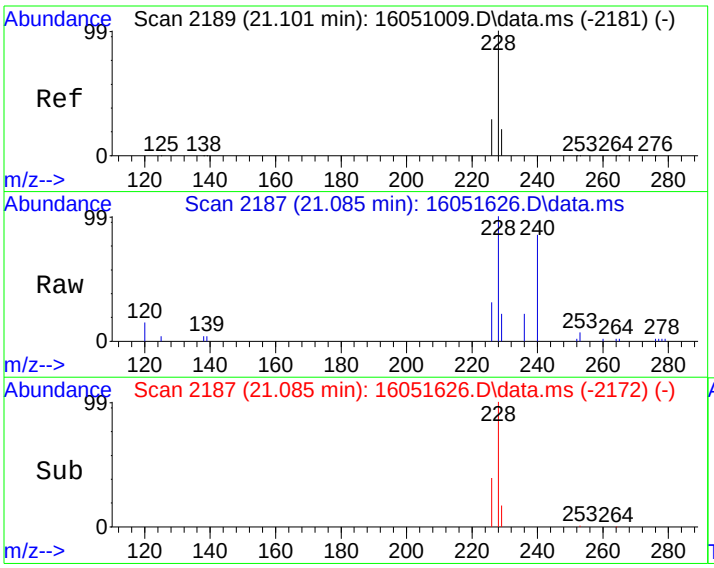


#18
Benzo[a]anthracene
Concen: 9.87 ug/kg
RT: 20.821 min Scan# 2151
Delta R.T. 0.015 min
Lab File: 16051626.D
Acq: 17 May 2016 4:28 am

Tgt Ion:228 Resp: 8012

Ion	Ratio	Lower	Upper
228	100		
229	20.0	0.7	40.7
226	25.1	5.9	45.9

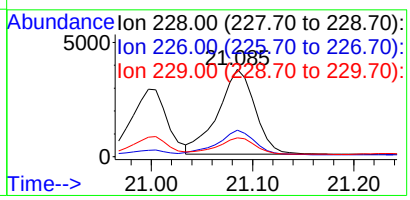


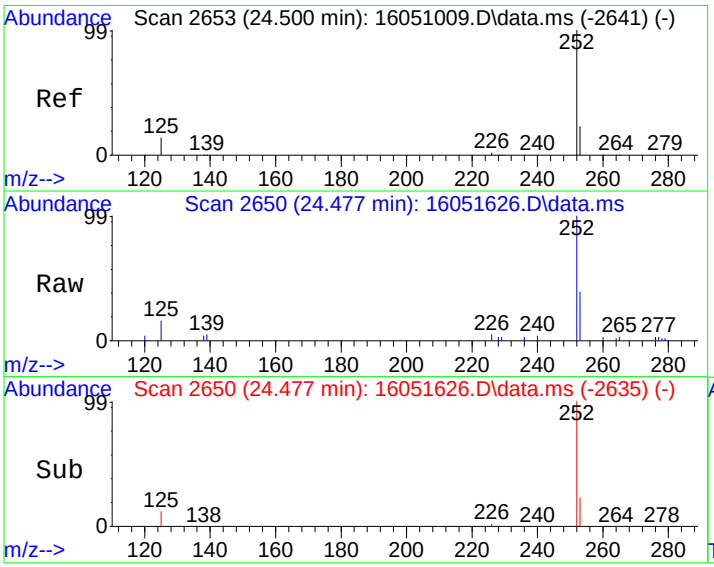


#19
Chrysene
Concen: 12.57 ug/kg
RT: 21.085 min Scan# 2187
Delta R.T. 0.008 min
Lab File: 16051626.D
Acq: 17 May 2016 4:28 am

Tgt Ion:228 Resp: 9341

Ion	Ratio	Lower	Upper
228	100		
226	29.0	8.8	48.8
229	19.3	0.5	40.5

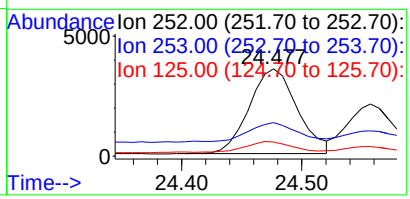


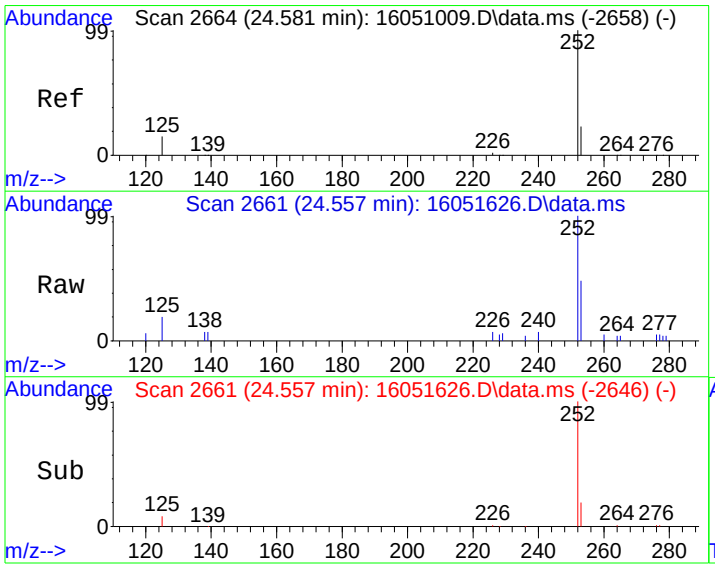


#21
Benzo[b]fluoranthene
Concen: 13.11 ug/kg
RT: 24.477 min Scan# 2650
Delta R.T. 0.008 min
Lab File: 16051626.D
Acq: 17 May 2016 4:28 am

Tgt Ion:252 Resp: 9839

Ion	Ratio	Lower	Upper
252	100		
253	22.5	2.6	42.6
125	11.7	0.0	33.8

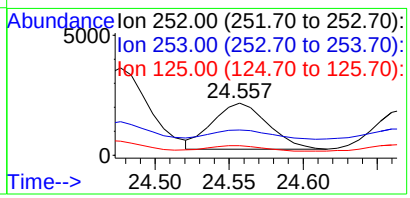


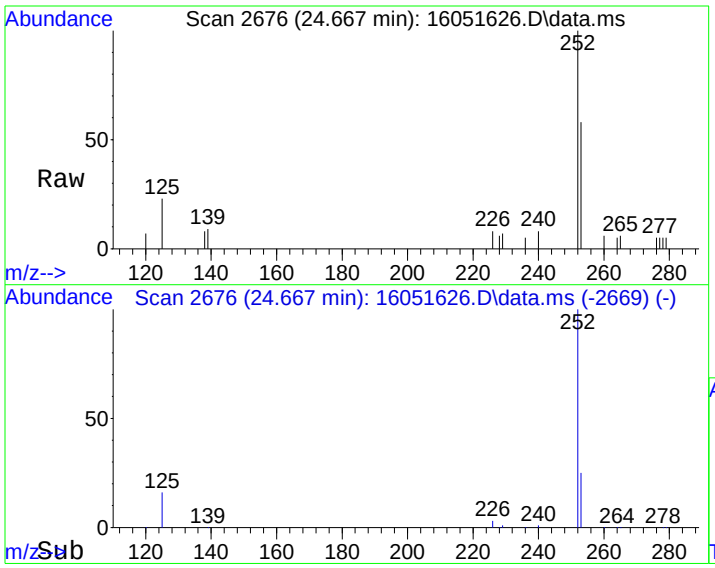


#22
Benzo[k]fluoranthene
Concen: 8.23 ug/kg
RT: 24.557 min Scan# 2661
Delta R.T. 0.008 min
Lab File: 16051626.D
Acq: 17 May 2016 4:28 am

Tgt Ion:252 Resp: 4957

Ion	Ratio	Lower	Upper
252	100		
253	19.2	2.8	42.8
125	12.0	0.0	34.7

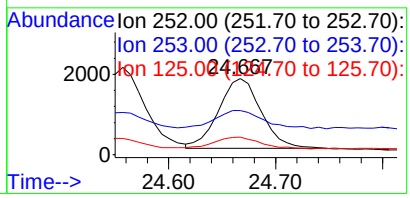


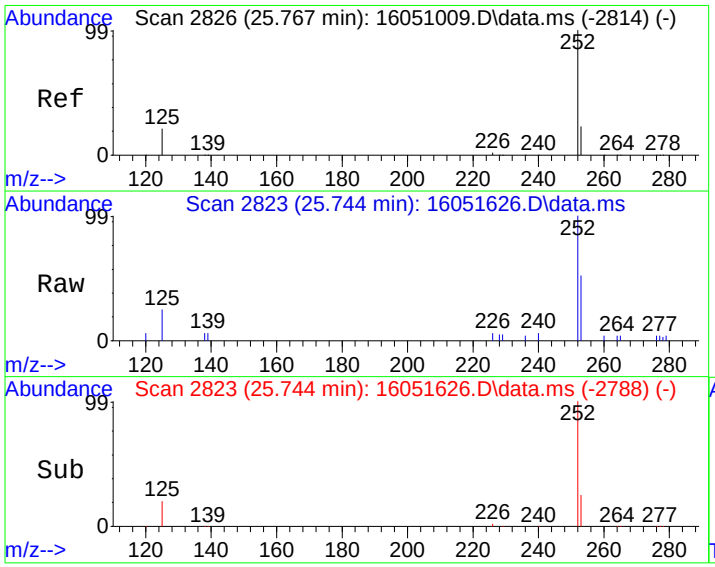


#23
Benzo(j)fluoranthene
Concen: 7.88 ug/kg
RT: 24.667 min Scan# 2676
Delta R.T. 0.008 min
Lab File: 16051626.D
Acq: 17 May 2016 4:28 am

Tgt Ion:252 Resp: 4793

Ion	Ratio	Lower	Upper
252	100		
253	29.5	2.3	42.3
125	18.4	0.0	39.2

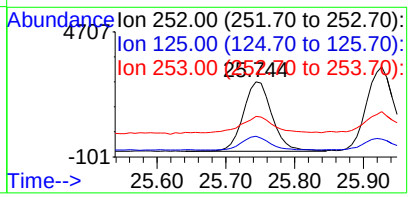


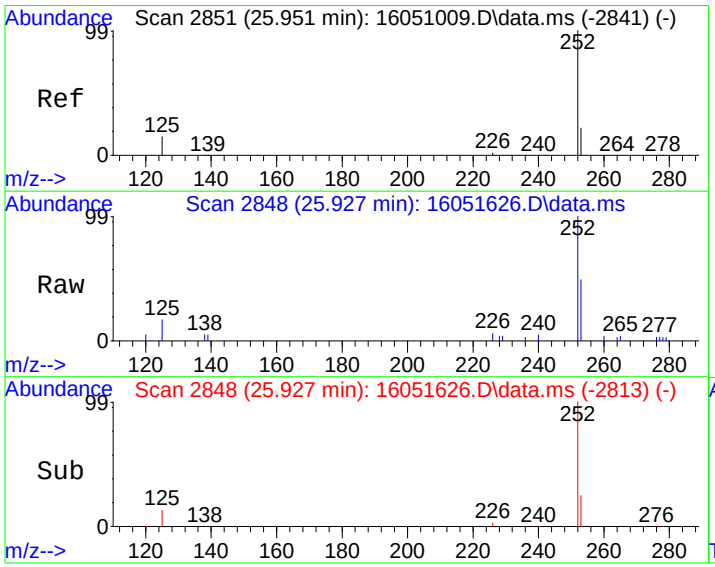


#24
Benzo(e)pyrene
Concen: 10.83 ug/kg
RT: 25.744 min Scan# 2823
Delta R.T. 0.008 min
Lab File: 16051626.D
Acq: 17 May 2016 4:28 am

Tgt Ion:252 Resp: 7800

Ion	Ratio	Lower	Upper
252	100		
125	19.1	0.8	40.8
253	25.8	2.4	42.4

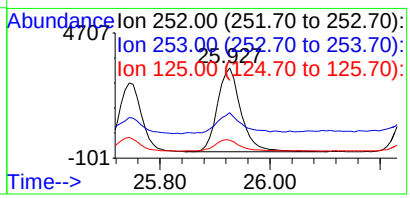


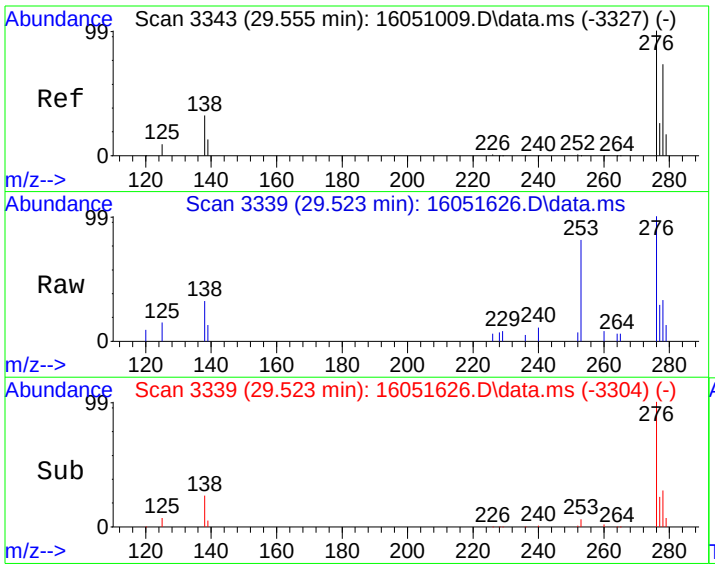


#25
Benzo[a]pyrene
Concen: 13.82 ug/kg
RT: 25.927 min Scan# 2848
Delta R.T. 0.008 min
Lab File: 16051626.D
Acq: 17 May 2016 4:28 am

Tgt Ion:252 Resp: 9536

Ion	Ratio	Lower	Upper
252	100		
253	24.3	2.5	42.5
125	12.6	0.0	35.5

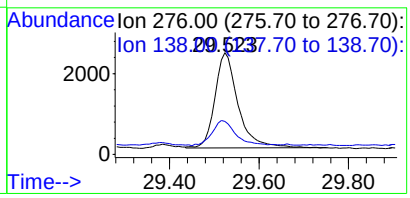


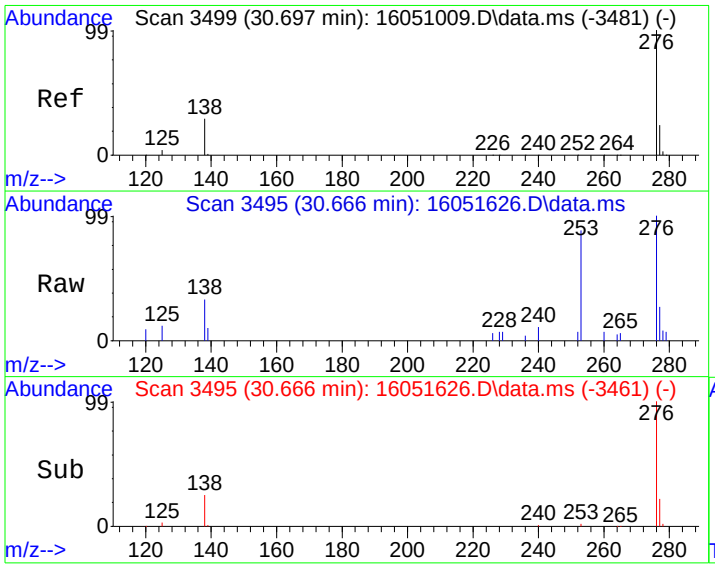


#26
Indeno[1,2,3-cd]pyrene
Concen: 11.11 ug/kg
RT: 29.523 min Scan# 3339
Delta R.T. 0.008 min
Lab File: 16051626.D
Acq: 17 May 2016 4:28 am

Tgt Ion:276 Resp: 8487

Ion	Ratio	Lower	Upper
276	100		
138	25.1	12.0	52.0

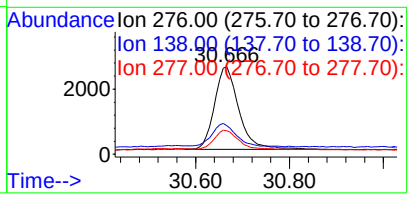




#28
Benzo[g,h,i]perylene
Concen: 13.71 ug/kg
RT: 30.666 min Scan# 3495
Delta R.T. 0.000 min
Lab File: 16051626.D
Acq: 17 May 2016 4:28 am

Tgt Ion:276 Resp: 9144

Ion	Ratio	Lower	Upper
276	100		
138	25.8	9.3	49.3
277	22.8	4.3	44.3



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160516\
Data File : 16051627.D
Acq On : 17 May 2016 5:05 am
Operator :
Sample : 1605074-12A
Misc : SAMP
ALS Vial : 27 Sample Multiplier: 10

Quant Time: May 17 08:39:04 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.276	136	1678170	4000.00	ug/kg	107
6) Acenaphthene-d10	12.862	164	1277924	4000.00	ug/kg	131
11) Phenanthrene-d10	14.986	188	2868833	4000.00	ug/kg	92
16) Chrysene-d12	20.999	240	2797689	4000.00	ug/kg	80
20) Perylene-d12	26.266	264	2611583	4000.00	ug/kg	88

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.765	172	30307	91.89	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.30%#			
17) 4-Terphenyl-d14	17.602	244	50005	77.36	ug/kg	0.01
Spiked Amount 4000.000	Range 51 - 135		Recovery = 1.93%#			

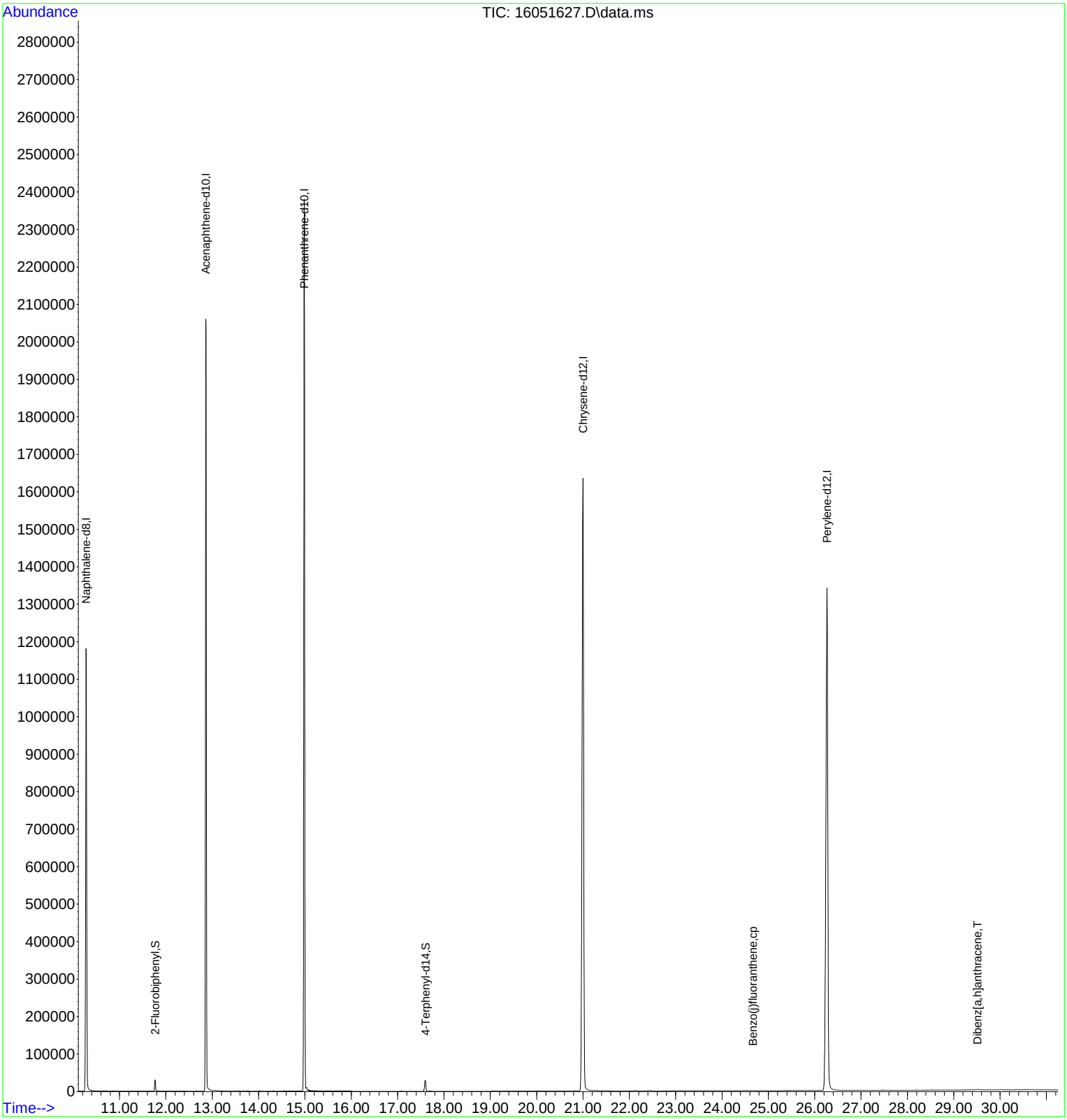
Target Compounds						Qvalue
23) Benzo(j)fluoranthene	24.662	252	930	1.54	ug/kg	85
27) Dibenz[a,h]anthracene	29.503	278	3385	5.48	ug/kg	87

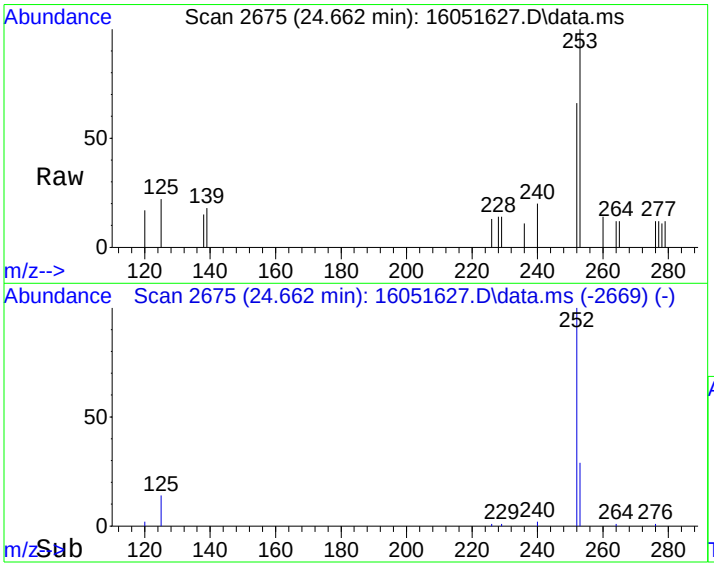
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160516\
Data File : 16051627.D
Acq On : 17 May 2016 5:05 am
Operator :
Sample : 1605074-12A
Misc : SAMP
ALS Vial : 27 Sample Multiplier: 10

Quant Time: May 17 08:39:04 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

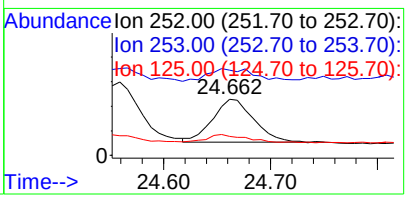


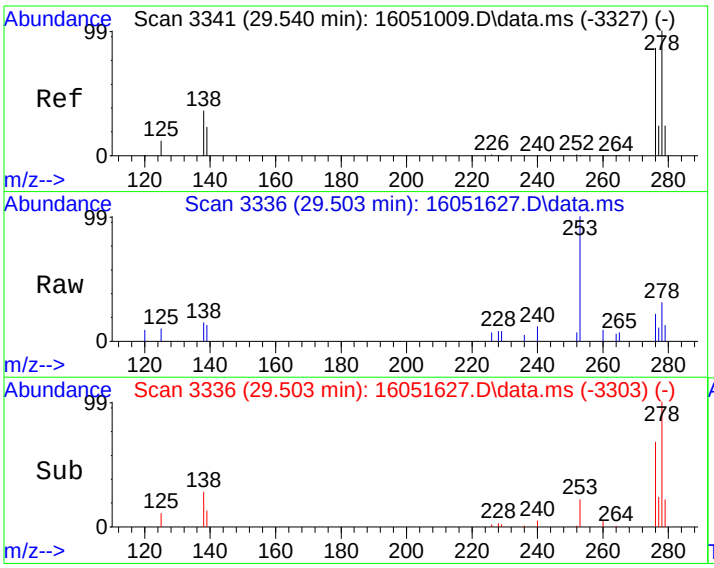


#23
Benzo(j)fluoranthene
Concen: 1.54 ug/kg
RT: 24.662 min Scan# 2675
Delta R.T. 0.002 min
Lab File: 16051627.D
Acq: 17 May 2016 5:05 am

Tgt Ion:252 Resp: 930

Ion	Ratio	Lower	Upper
252	100		
253	33.2	2.3	42.3
125	16.2	0.0	39.2

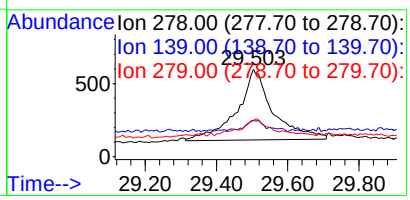




#27
Dibenz[a,h]anthracene
Concen: 5.48 ug/kg
RT: 29.503 min Scan# 3336
Delta R.T. -0.005 min
Lab File: 16051627.D
Acq: 17 May 2016 5:05 am

Tgt Ion:278 Resp: 3385

Ion	Ratio	Lower	Upper
278	100		
139	14.9	2.9	42.9
279	20.1	4.4	44.4



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160516\
Data File : 16051628.D
Acq On : 17 May 2016 5:42 am
Operator :
Sample : 1605074-14A
Misc : SAMP
ALS Vial : 28 Sample Multiplier: 10

Quant Time: May 17 08:39:09 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

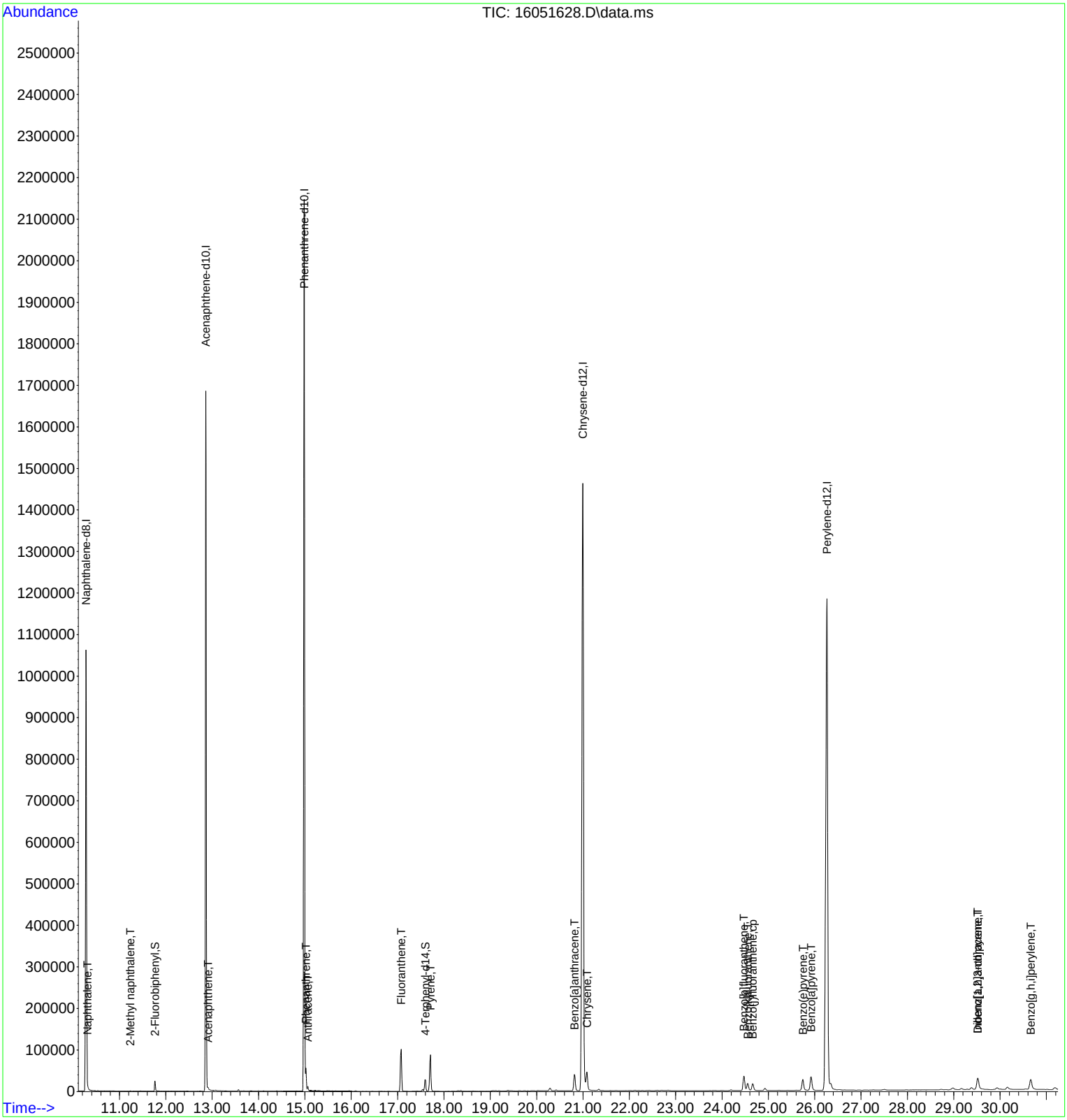
Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.278	136	1475586	4000.00	ug/kg	94
6) Acenaphthene-d10	12.862	164	1021367	4000.00	ug/kg	105
11) Phenanthrene-d10	14.985	188	2610102	4000.00	ug/kg	84
16) Chrysene-d12	20.998	240	2522891	4000.00	ug/kg	72
20) Perylene-d12	26.265	264	2310732	4000.00	ug/kg	78
System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.767	172	24977	86.13	ug/kg	0.01
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.15%#			
17) 4-Terphenyl-d14	17.602	244	47069	80.75	ug/kg	0.01
Spiked Amount 4000.000	Range 51 - 135		Recovery = 2.02%#			
Target Compounds						Qvalue
2) Naphthalene	10.315	128	2108	5.89	ug/kg	99
3) 2-Methyl naphthalene	11.236	142	449	5.25	ug/kg	94
8) Acenaphthene	12.911	153	1792	5.90	ug/kg	98
12) Phenanthrene	15.021	178	43982	58.22	ug/kg	97
13) Anthracene	15.063	178	9511	11.62	ug/kg	98
14) Fluoranthene	17.078	202	127556	129.02	ug/kg	95
15) Pyrene	17.709	202	111680	112.63	ug/kg	93
18) Benzo[a]anthracene	20.815	228	63453	89.47	ug/kg	99
19) Chrysene	21.086	228	73426	113.10	ug/kg	99
21) Benzo[b]fluoranthene	24.470	252	68336	103.84	ug/kg	98
22) Benzo[k]fluoranthene	24.551	252	31133	58.98	ug/kg	96
23) Benzo(j)fluoranthene	24.661	252	30977	58.07	ug/kg	89
24) Benzo(e)pyrene	25.745	252	51717	81.88	ug/kg	95
25) Benzo[a]pyrene	25.921	252	69446	114.82	ug/kg	98
26) Indeno[1,2,3-cd]pyrene	29.517	276	51382	76.68	ug/kg	90
27) Dibenz[a,h]anthracene	29.510	278	12508	22.90	ug/kg	96
28) Benzo[g,h,i]perylene	30.660	276	54263	92.80	ug/kg	96

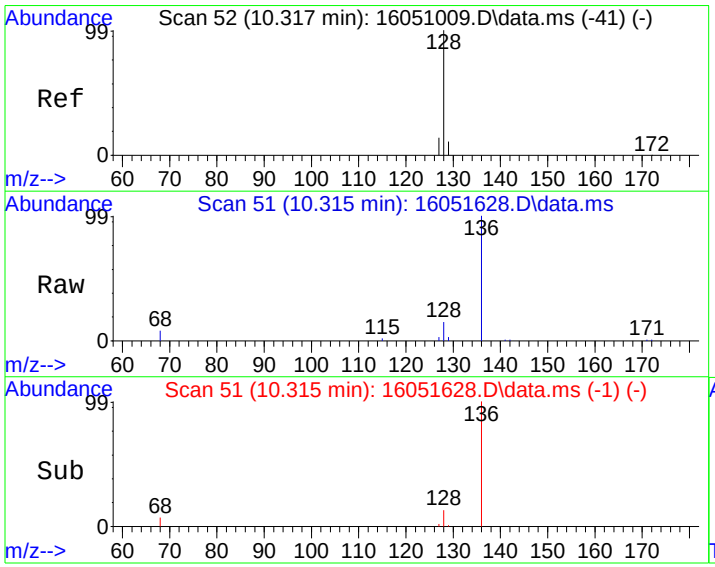
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160516\
Data File : 16051628.D
Acq On : 17 May 2016 5:42 am
Operator :
Sample : 1605074-14A
Misc : SAMP
ALS Vial : 28 Sample Multiplier: 10

Quant Time: May 17 08:39:09 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

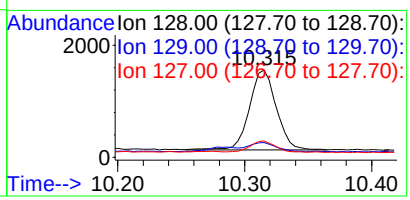


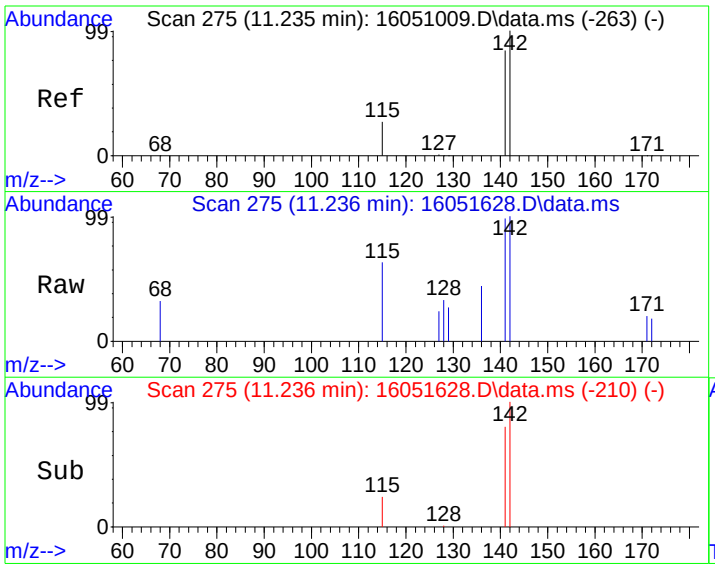


#2
Naphthalene
Concen: 5.89 ug/kg
RT: 10.315 min Scan# 51
Delta R.T. 0.011 min
Lab File: 16051628.D
Acq: 17 May 2016 5:42 am

Tgt Ion:128 Resp: 2108

Ion	Ratio	Lower	Upper
128	100		
129	11.5	0.0	31.3
127	14.2	0.0	33.5

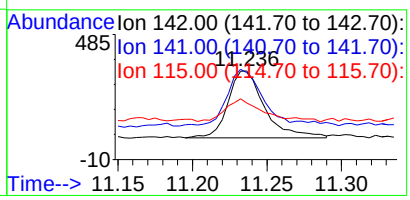


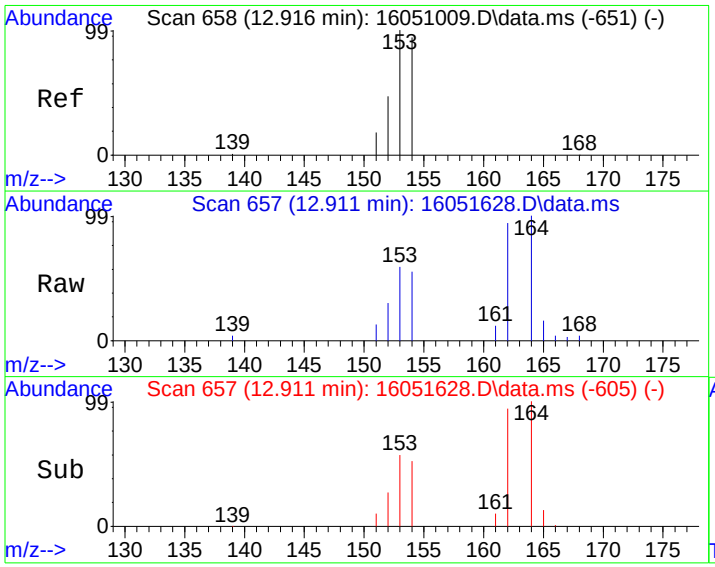


#3
2-Methyl naphthalene
Concen: 5.25 ug/kg
RT: 11.236 min Scan# 275
Delta R.T. 0.015 min
Lab File: 16051628.D
Acq: 17 May 2016 5:42 am

Tgt Ion:142 Resp: 449

Ion	Ratio	Lower	Upper
142	100		
141	78.1	63.9	103.9
115	24.9	6.7	46.7

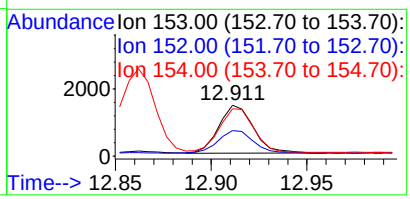


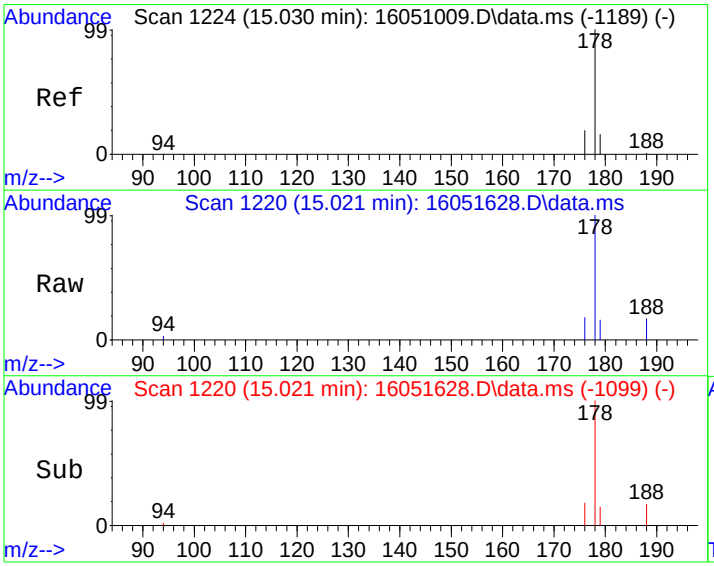


#8
Acenaphthene
Concen: 5.90 ug/kg
RT: 12.911 min Scan# 657
Delta R.T. 0.006 min
Lab File: 16051628.D
Acq: 17 May 2016 5:42 am

Tgt Ion:153 Resp: 1792

Ion	Ratio	Lower	Upper
153	100		
152	46.8	27.2	67.2
154	91.3	74.3	114.3

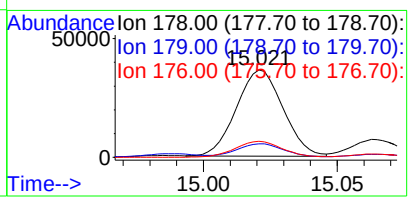


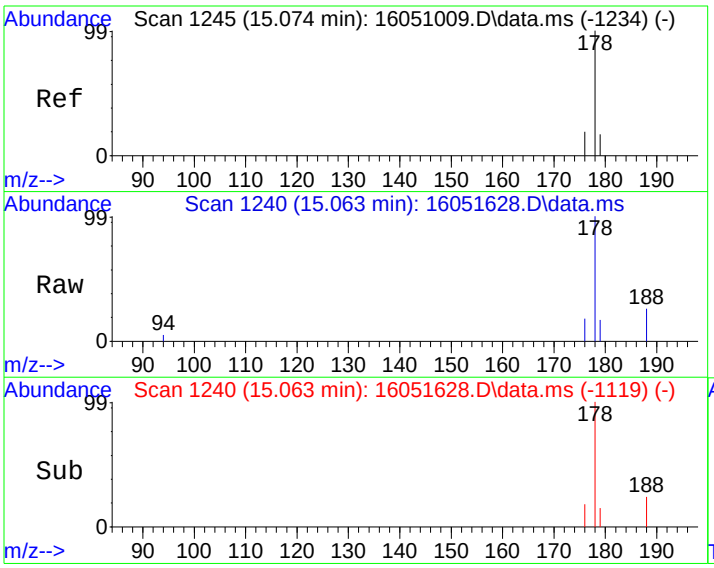


#12
Phenanthrene
Concen: 58.22 ug/kg
RT: 15.021 min Scan# 1220
Delta R.T. 0.005 min
Lab File: 16051628.D
Acq: 17 May 2016 5:42 am

Tgt Ion:178 Resp: 43982

Ion	Ratio	Lower	Upper
178	100		
179	15.0	0.0	36.4
176	18.3	0.0	39.2

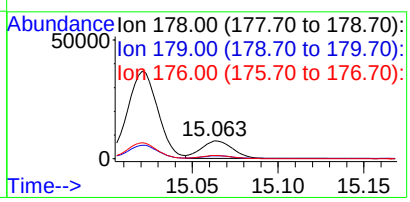


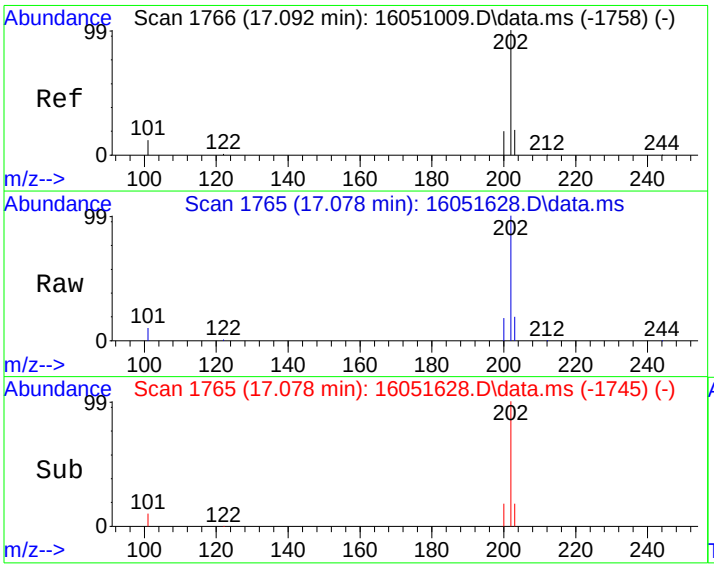


#13
Anthracene
Concen: 11.62 ug/kg
RT: 15.063 min Scan# 1240
Delta R.T. 0.005 min
Lab File: 16051628.D
Acq: 17 May 2016 5:42 am

Tgt Ion:178 Resp: 9511

Ion	Ratio	Lower	Upper
178	100		
179	15.4	0.0	36.5
176	17.6	0.0	38.6

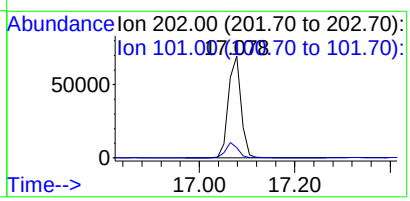


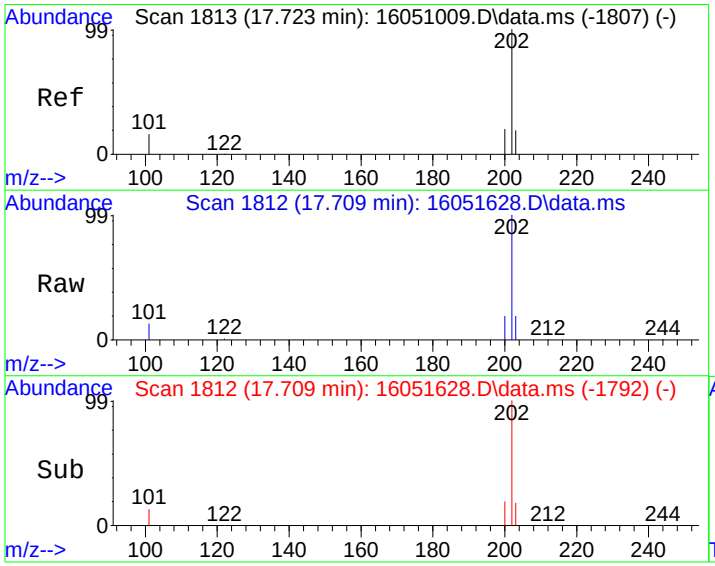


#14
Fluoranthene
Concen: 129.02 ug/kg
RT: 17.078 min Scan# 1765
Delta R.T. 0.013 min
Lab File: 16051628.D
Acq: 17 May 2016 5:42 am

Tgt Ion:202 Resp: 127556

Ion	Ratio	Lower	Upper
202	100		
101	10.0	0.0	32.0

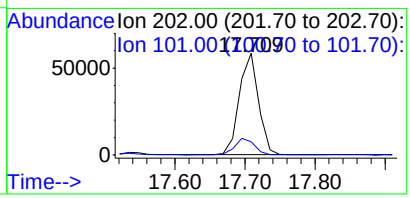


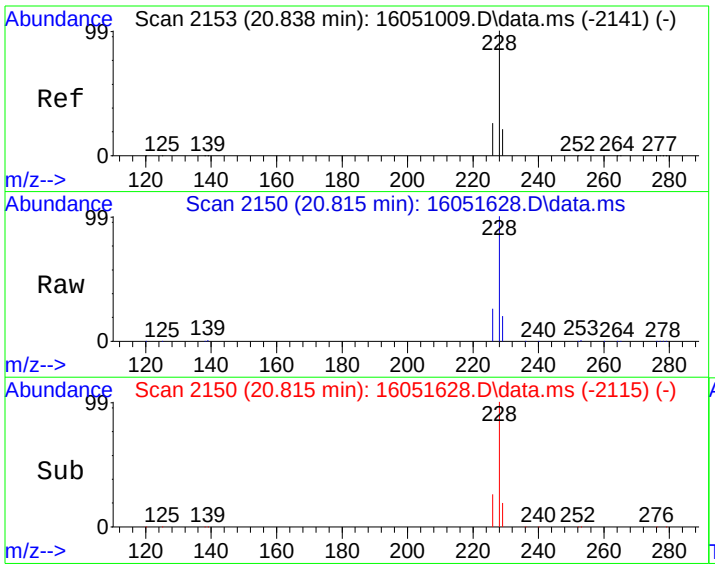


#15
Pyrene
Concen: 112.63 ug/kg
RT: 17.709 min Scan# 1812
Delta R.T. 0.013 min
Lab File: 16051628.D
Acq: 17 May 2016 5:42 am

Tgt Ion:202 Resp: 111680

Ion	Ratio	Lower	Upper
202	100		
101	12.8	0.0	35.9

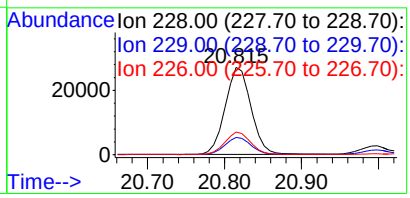


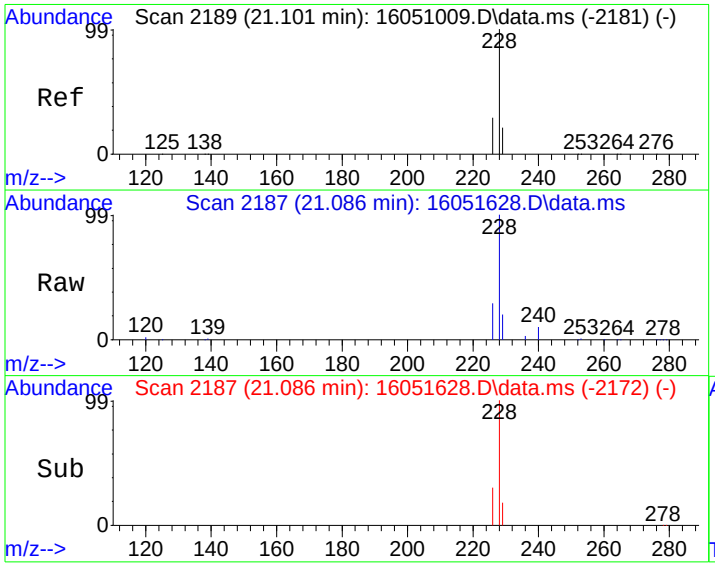


#18
Benzo[a]anthracene
Concen: 89.47 ug/kg
RT: 20.815 min Scan# 2150
Delta R.T. 0.009 min
Lab File: 16051628.D
Acq: 17 May 2016 5:42 am

Tgt Ion:228 Resp: 63453

Ion	Ratio	Lower	Upper
228	100		
229	19.6	0.7	40.7
226	25.7	5.9	45.9

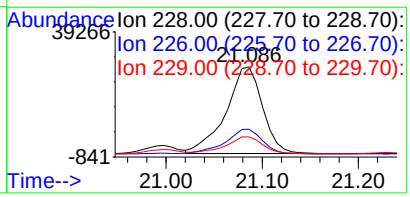


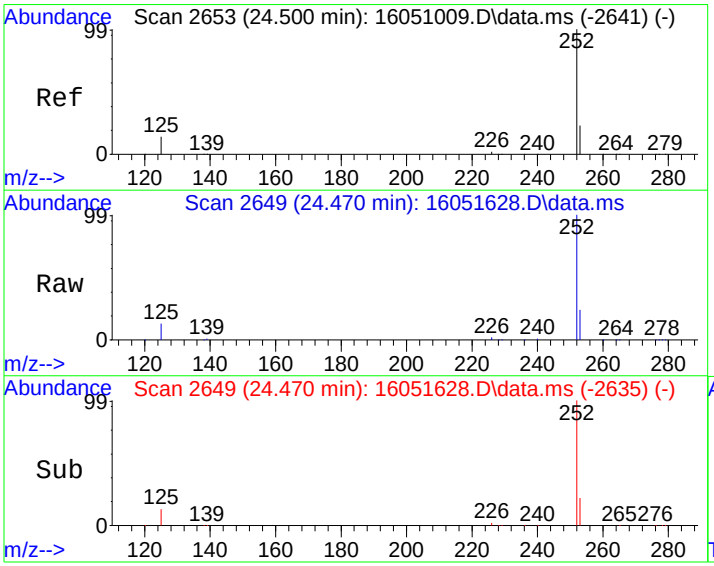


#19
Chrysene
Concen: 113.10 ug/kg
RT: 21.086 min Scan# 2187
Delta R.T. 0.009 min
Lab File: 16051628.D
Acq: 17 May 2016 5:42 am

Tgt Ion:228 Resp: 73426

Ion	Ratio	Lower	Upper
228	100		
226	28.4	8.8	48.8
229	19.7	0.5	40.5

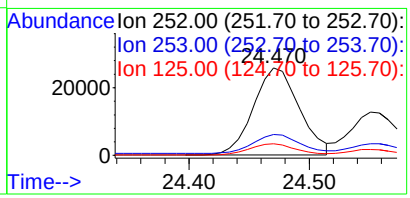


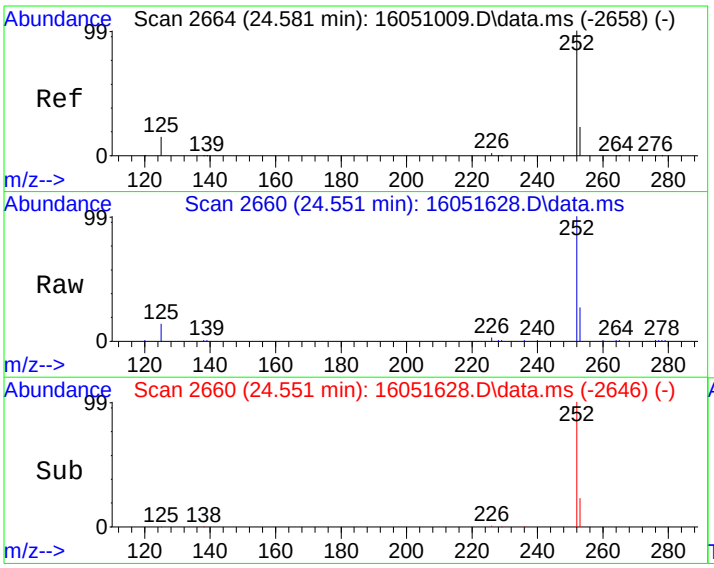


#21
Benzo[b]fluoranthene
Concen: 103.84 ug/kg
RT: 24.470 min Scan# 2649
Delta R.T. 0.001 min
Lab File: 16051628.D
Acq: 17 May 2016 5:42 am

Tgt Ion:252 Resp: 68336

Ion	Ratio	Lower	Upper
252	100		
253	21.8	2.6	42.6
125	12.8	0.0	33.8

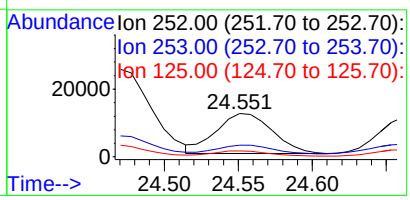


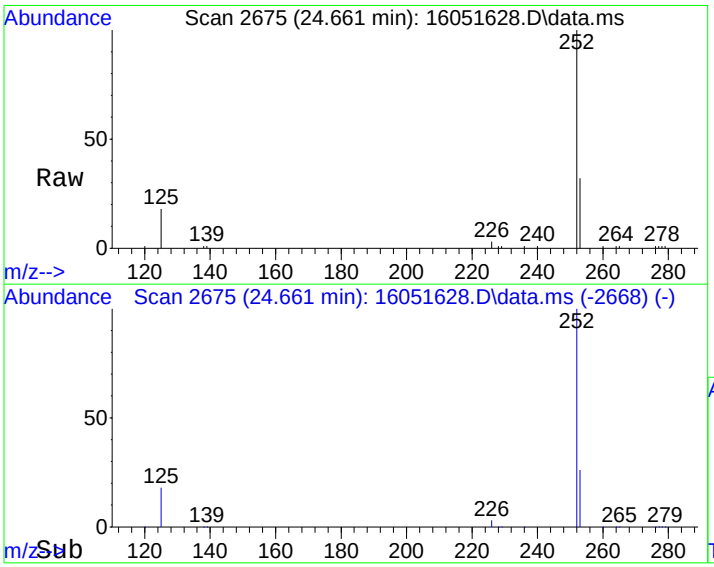


#22
Benzo[k]fluoranthene
Concen: 58.98 ug/kg
RT: 24.551 min Scan# 2660
Delta R.T. 0.002 min
Lab File: 16051628.D
Acq: 17 May 2016 5:42 am

Tgt Ion:252 Resp: 31133

Ion	Ratio	Lower	Upper
252	100		
253	21.0	2.8	42.8
125	13.0	0.0	34.7

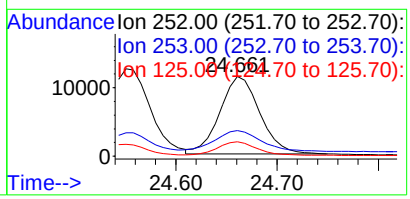


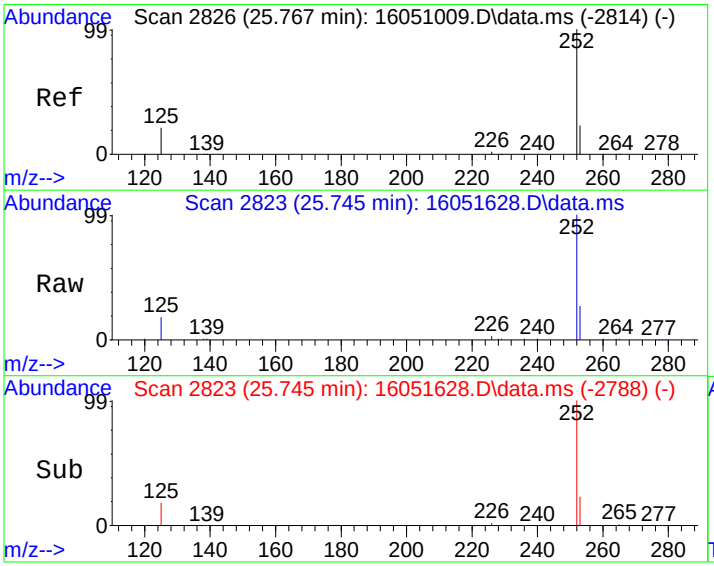


#23
Benzo(j)fluoranthene
Concen: 58.07 ug/kg
RT: 24.661 min Scan# 2675
Delta R.T. 0.001 min
Lab File: 16051628.D
Acq: 17 May 2016 5:42 am

Tgt Ion:252 Resp: 30977

Ion	Ratio	Lower	Upper
252	100		
253	30.6	2.3	42.3
125	17.1	0.0	39.2

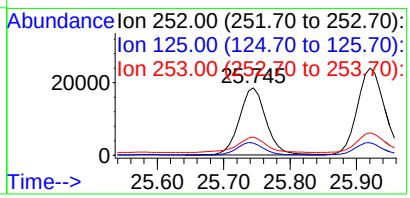


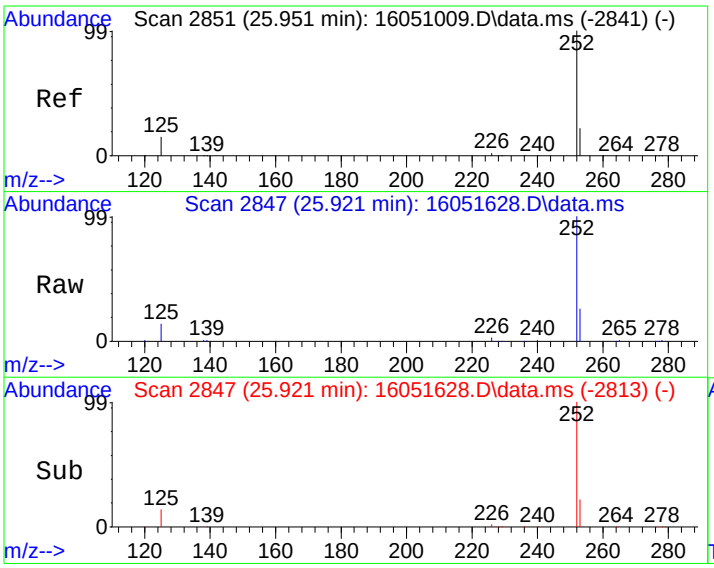


#24
Benzo(e)pyrene
Concen: 81.88 ug/kg
RT: 25.745 min Scan# 2823
Delta R.T. 0.009 min
Lab File: 16051628.D
Acq: 17 May 2016 5:42 am

Tgt Ion:252 Resp: 51717

Ion	Ratio	Lower	Upper
252	100		
125	18.5	0.8	40.8
253	24.6	2.4	42.4

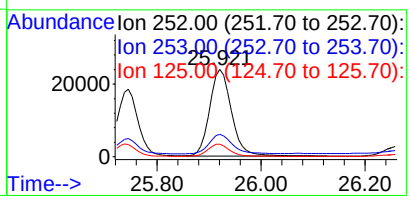


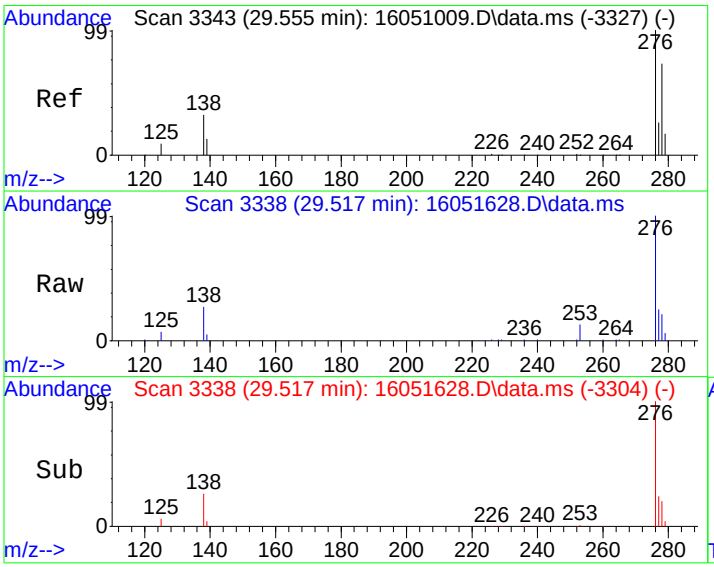


#25
Benzo[a]pyrene
Concen: 114.82 ug/kg
RT: 25.921 min Scan# 2847
Delta R.T. 0.002 min
Lab File: 16051628.D
Acq: 17 May 2016 5:42 am

Tgt Ion:252 Resp: 69446

Ion	Ratio	Lower	Upper
252	100		
253	22.4	2.5	42.5
125	13.9	0.0	35.5

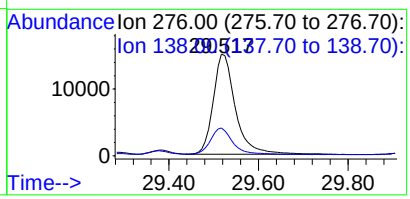


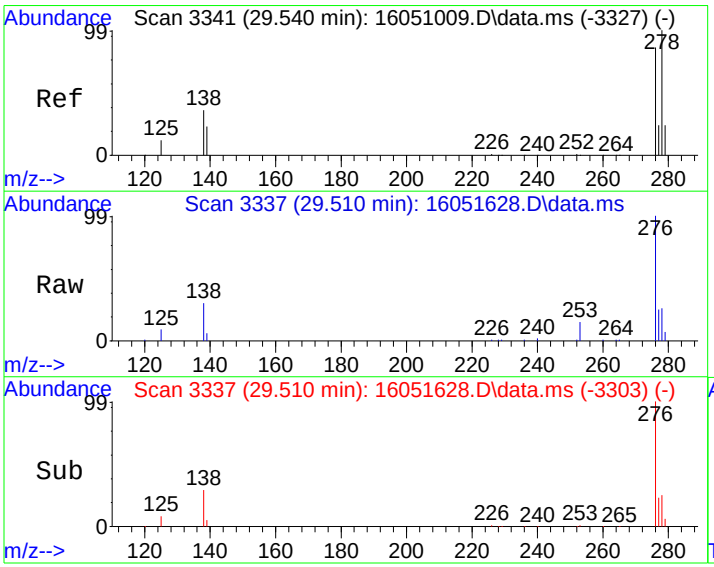


#26
Indeno[1,2,3-cd]pyrene
Concen: 76.68 ug/kg
RT: 29.517 min Scan# 3338
Delta R.T. 0.001 min
Lab File: 16051628.D
Acq: 17 May 2016 5:42 am

Tgt Ion:276 Resp: 51382

Ion	Ratio	Lower	Upper
276	100		
138	26.3	12.0	52.0

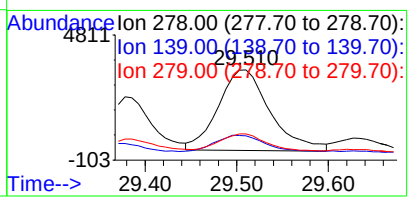


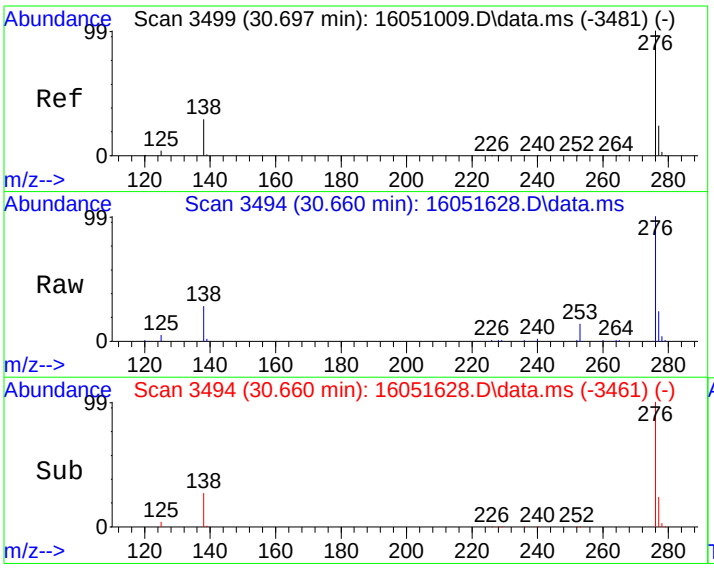


#27
Dibenz[a,h]anthracene
Concen: 22.90 ug/kg
RT: 29.510 min Scan# 3337
Delta R.T. 0.002 min
Lab File: 16051628.D
Acq: 17 May 2016 5:42 am

Tgt Ion:278 Resp: 12508

Ion	Ratio	Lower	Upper
278	100		
139	20.5	2.9	42.9
279	22.5	4.4	44.4

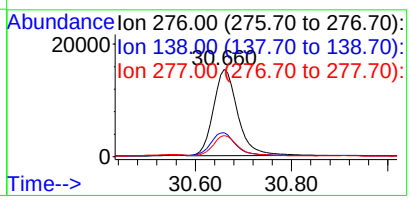




#28
Benzo[g,h,i]perylene
Concen: 92.80 ug/kg
RT: 30.660 min Scan# 3494
Delta R.T. -0.006 min
Lab File: 16051628.D
Acq: 17 May 2016 5:42 am

Tgt Ion:276 Resp: 54263

Ion	Ratio	Lower	Upper
276	100		
138	26.4	9.3	49.3
277	23.6	4.3	44.3



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160516\
Data File : 16051629.D
Acq On : 17 May 2016 6:18 am
Operator :
Sample : 1605074-15A
Misc : SAMP
ALS Vial : 29 Sample Multiplier: 10

Quant Time: May 17 08:39:18 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

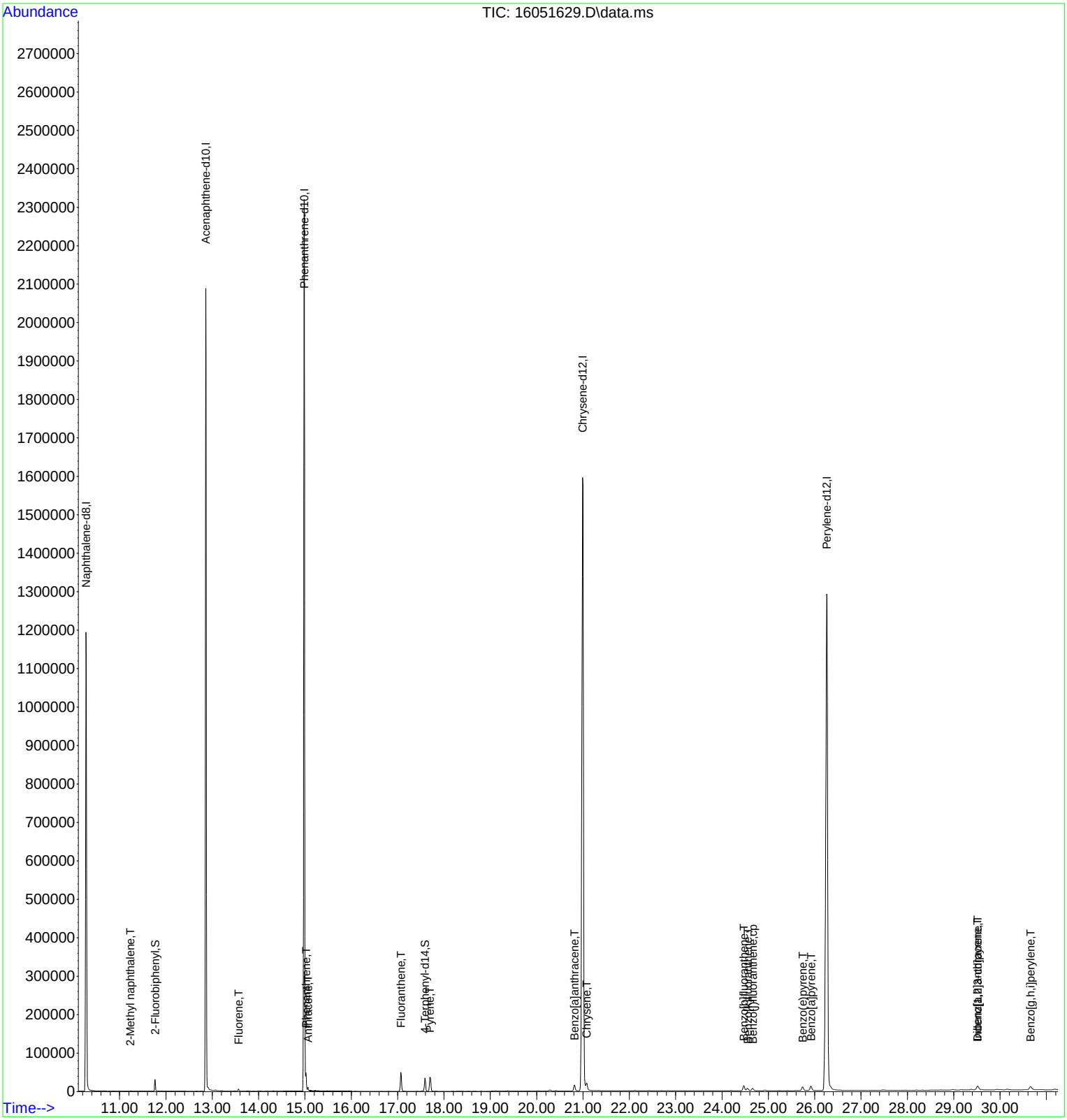
Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.276	136	1671636	4000.00	ug/kg	107
6) Acenaphthene-d10	12.862	164	1269650	4000.00	ug/kg	130
11) Phenanthrene-d10	14.983	188	2896719	4000.00	ug/kg	93
16) Chrysene-d12	20.999	240	2746073	4000.00	ug/kg	79
20) Perylene-d12	26.258	264	2509460	4000.00	ug/kg	85
System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.765	172	30607	93.16	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.33%#			
17) 4-Terphenyl-d14	17.589	244	51160	80.63	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery = 2.02%#			
Target Compounds						Qvalue
3) 2-Methyl naphthalene	11.235	142	481	5.15	ug/kg	92
10) Fluorene	13.564	166	3040	5.30	ug/kg	98
12) Phenanthrene	15.021	178	38374	45.77	ug/kg	97
13) Anthracene	15.063	178	8062	8.88	ug/kg	98
14) Fluoranthene	17.066	202	63162	57.57	ug/kg	88
15) Pyrene	17.696	202	49800	45.25	ug/kg	92
18) Benzo[a]anthracene	20.815	228	25194	32.64	ug/kg	99
19) Chrysene	21.079	228	28798	40.75	ug/kg	99
21) Benzo[b]fluoranthene	24.471	252	26210	36.67	ug/kg	99
22) Benzo[k]fluoranthene	24.551	252	11806	20.60	ug/kg	94
23) Benzo(j)fluoranthene	24.661	252	11411	19.70	ug/kg	90
24) Benzo(e)pyrene	25.738	252	19557	28.51	ug/kg	95
25) Benzo[a]pyrene	25.921	252	25394	38.66	ug/kg	98
26) Indeno[1,2,3-cd]pyrene	29.518	276	18986	26.09	ug/kg	88
27) Dibenz[a,h]anthracene	29.503	278	6561	11.06	ug/kg	97
28) Benzo[g,h,i]perylene	30.660	276	20113	31.67	ug/kg	97

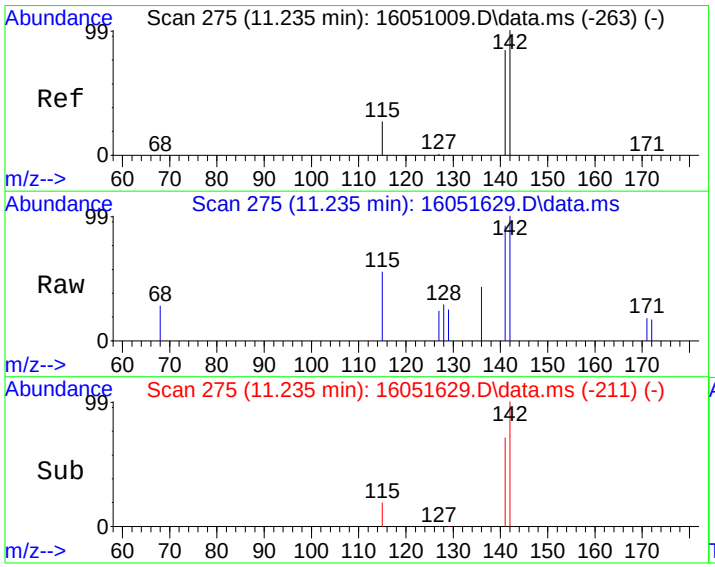
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160516\
Data File : 16051629.D
Acq On : 17 May 2016 6:18 am
Operator :
Sample : 1605074-15A
Misc : SAMP
ALS Vial : 29 Sample Multiplier: 10

Quant Time: May 17 08:39:18 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

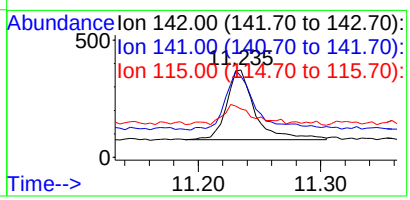


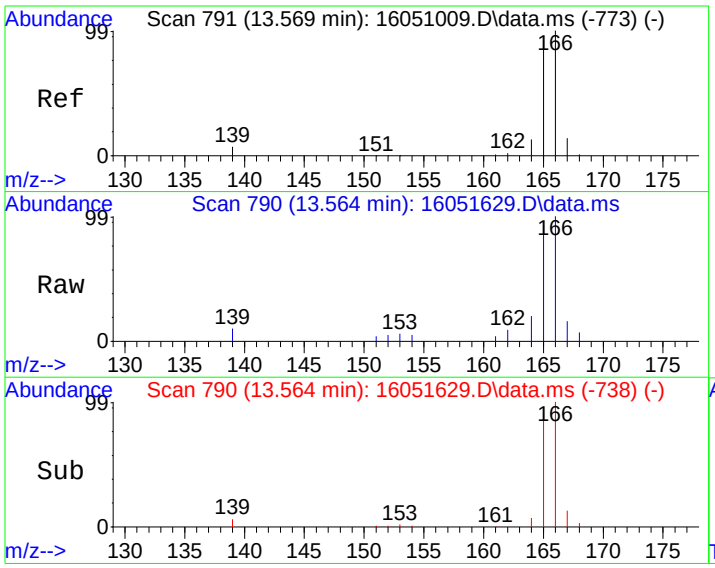


#3
2-Methyl naphthalene
Concen: 5.15 ug/kg
RT: 11.235 min Scan# 275
Delta R.T. 0.014 min
Lab File: 16051629.D
Acq: 17 May 2016 6:18 am

Tgt Ion:142 Resp: 481

Ion	Ratio	Lower	Upper
142	100		
141	75.8	63.9	103.9
115	23.2	6.7	46.7

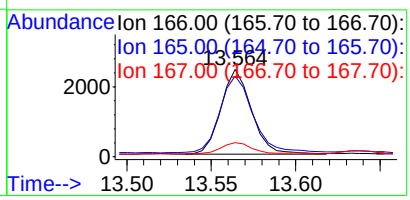


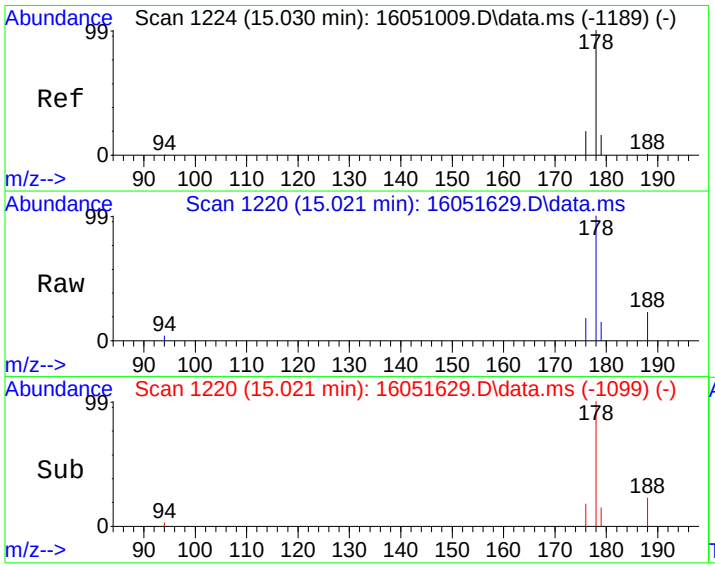


#10
Fluorene
Concen: 5.30 ug/kg
RT: 13.564 min Scan# 790
Delta R.T. 0.006 min
Lab File: 16051629.D
Acq: 17 May 2016 6:18 am

Tgt Ion:166 Resp: 3040

Ion	Ratio	Lower	Upper
166	100		
165	89.8	71.9	111.9
167	13.5	0.0	33.8

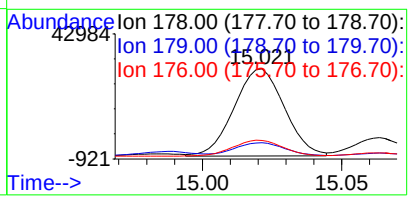


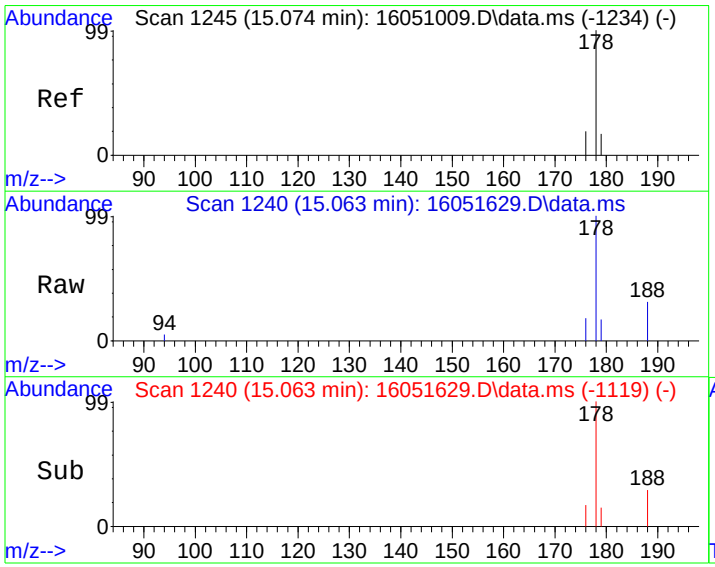


#12
Phenanthrene
Concen: 45.77 ug/kg
RT: 15.021 min Scan# 1220
Delta R.T. 0.005 min
Lab File: 16051629.D
Acq: 17 May 2016 6:18 am

Tgt Ion:178 Resp: 38374

Ion	Ratio	Lower	Upper
178	100		
179	14.8	0.0	36.4
176	18.3	0.0	39.2

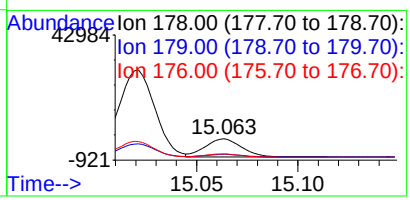


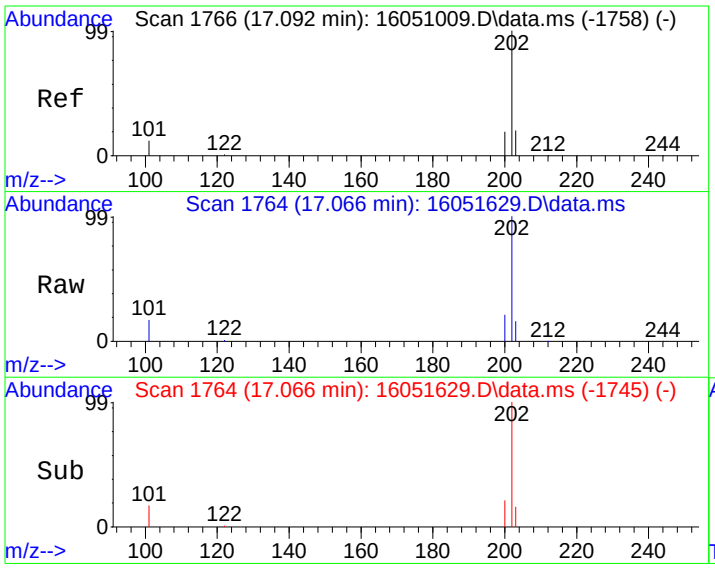


#13
Anthracene
Concen: 8.88 ug/kg
RT: 15.063 min Scan# 1240
Delta R.T. 0.005 min
Lab File: 16051629.D
Acq: 17 May 2016 6:18 am

Tgt Ion:178 Resp: 8062

Ion	Ratio	Lower	Upper
178	100		
179	15.5	0.0	36.5
176	17.4	0.0	38.6

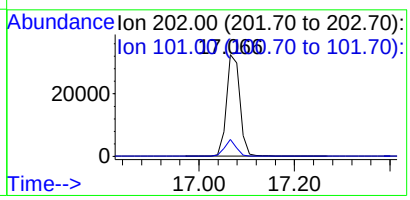


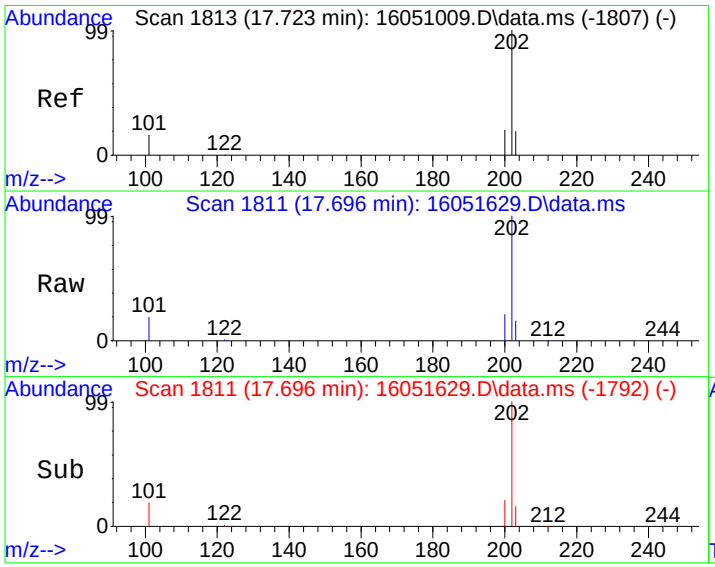


#14
Fluoranthene
Concen: 57.57 ug/kg
RT: 17.066 min Scan# 1764
Delta R.T. 0.000 min
Lab File: 16051629.D
Acq: 17 May 2016 6:18 am

Tgt Ion:202 Resp: 63162

Ion	Ratio	Lower	Upper
202	100		
101	16.6	0.0	32.0

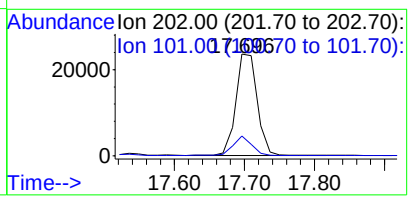


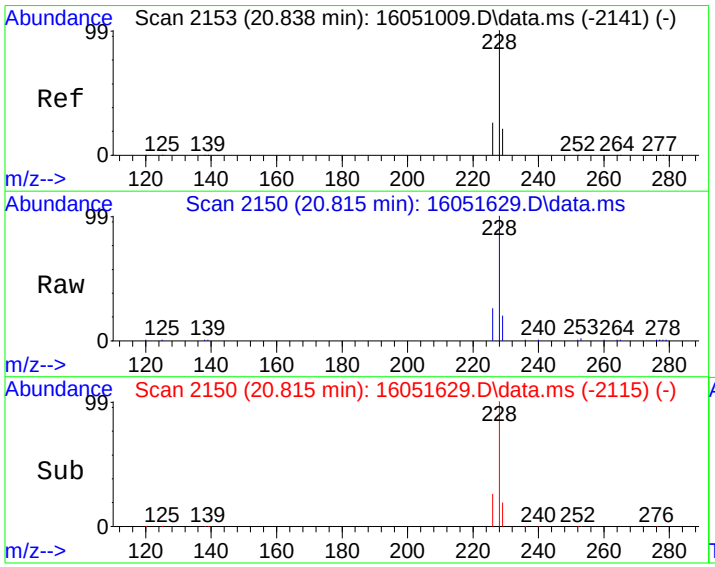


#15
Pyrene
Concen: 45.25 ug/kg
RT: 17.696 min Scan# 1811
Delta R.T. 0.000 min
Lab File: 16051629.D
Acq: 17 May 2016 6:18 am

Tgt Ion:202 Resp: 49800

Ion	Ratio	Lower	Upper
202	100		
101	19.2	0.0	35.9

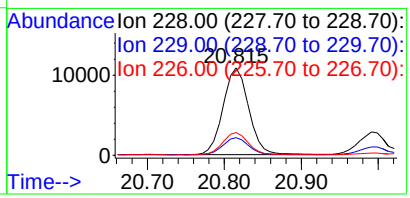


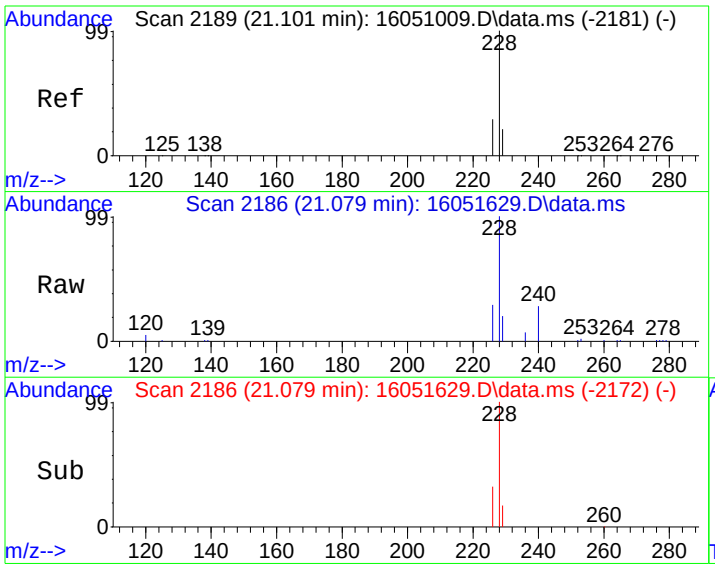


#18
Benzo[a]anthracene
Concen: 32.64 ug/kg
RT: 20.815 min Scan# 2150
Delta R.T. 0.009 min
Lab File: 16051629.D
Acq: 17 May 2016 6:18 am

Tgt Ion:228 Resp: 25194

Ion	Ratio	Lower	Upper
228	100		
229	19.7	0.7	40.7
226	25.7	5.9	45.9

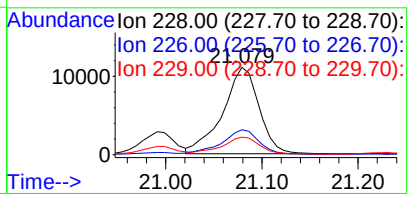


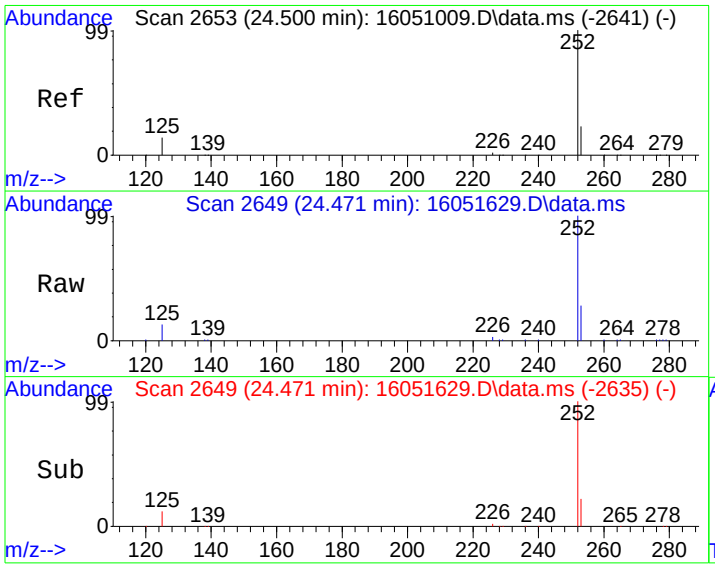


#19
Chrysene
Concen: 40.75 ug/kg
RT: 21.079 min Scan# 2186
Delta R.T. 0.002 min
Lab File: 16051629.D
Acq: 17 May 2016 6:18 am

Tgt Ion:228 Resp: 28798

Ion	Ratio	Lower	Upper
228	100		
226	28.4	8.8	48.8
229	19.8	0.5	40.5

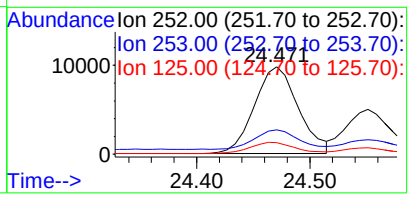


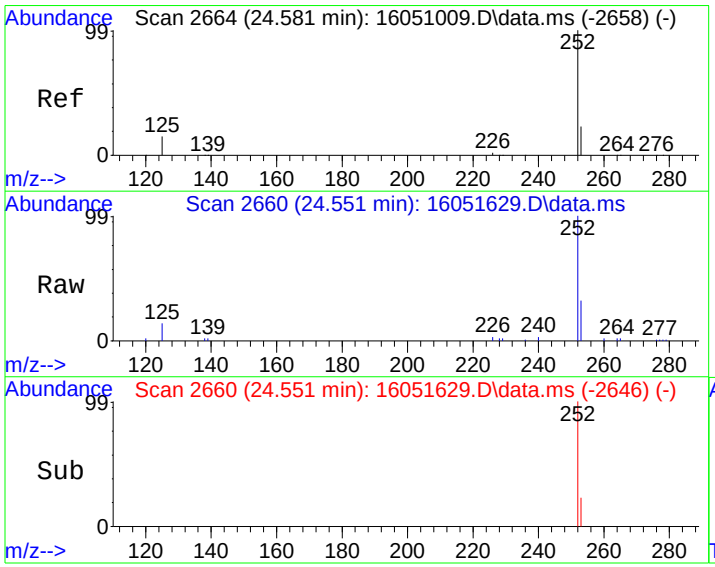


#21
Benzo[b]fluoranthene
Concen: 36.67 ug/kg
RT: 24.471 min Scan# 2649
Delta R.T. 0.002 min
Lab File: 16051629.D
Acq: 17 May 2016 6:18 am

Tgt Ion:252 Resp: 26210

Ion	Ratio	Lower	Upper
252	100		
253	22.7	2.6	42.6
125	12.5	0.0	33.8

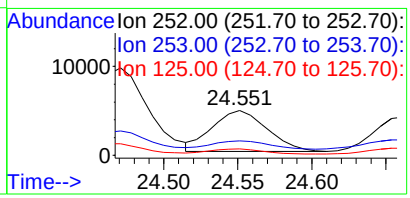


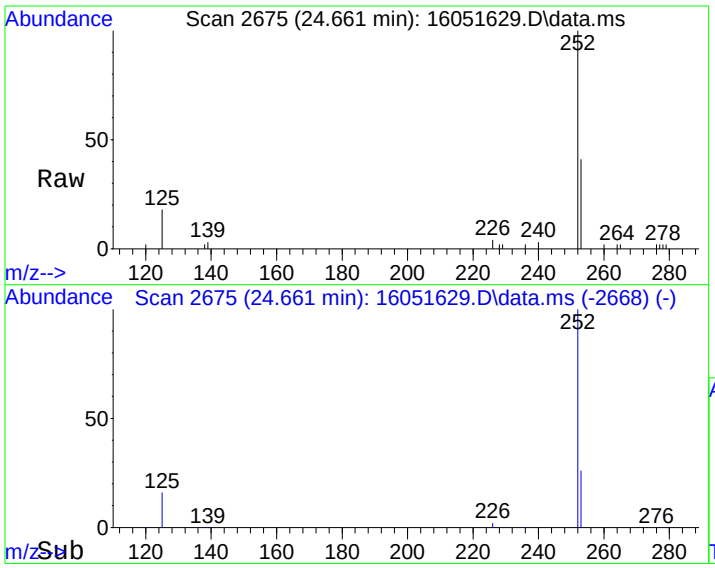


#22
Benzo[k]fluoranthene
Concen: 20.60 ug/kg
RT: 24.551 min Scan# 2660
Delta R.T. 0.002 min
Lab File: 16051629.D
Acq: 17 May 2016 6:18 am

Tgt Ion:252 Resp: 11806

Ion	Ratio	Lower	Upper
252	100		
253	19.5	2.8	42.8
125	12.3	0.0	34.7

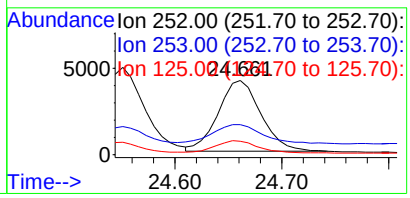


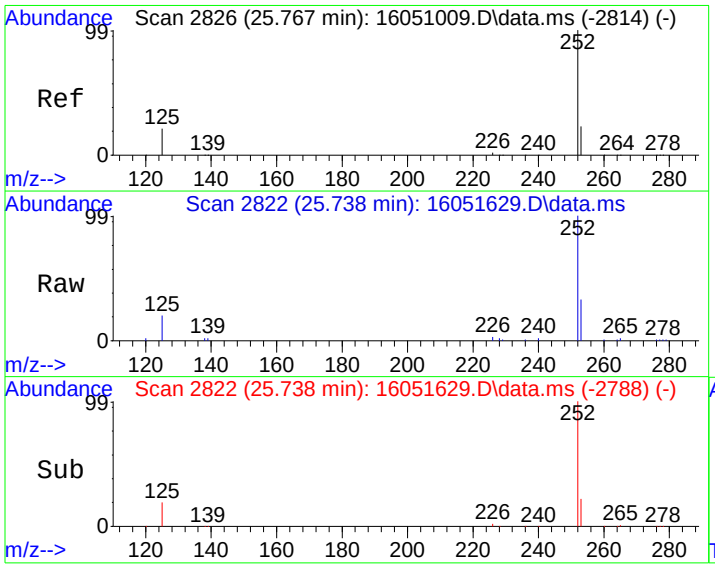


#23
Benzo(j)fluoranthene
Concen: 19.70 ug/kg
RT: 24.661 min Scan# 2675
Delta R.T. 0.002 min
Lab File: 16051629.D
Acq: 17 May 2016 6:18 am

Tgt Ion:252 Resp: 11411

Ion	Ratio	Lower	Upper
252	100		
253	29.2	2.3	42.3
125	17.0	0.0	39.2

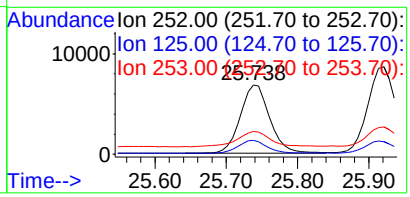


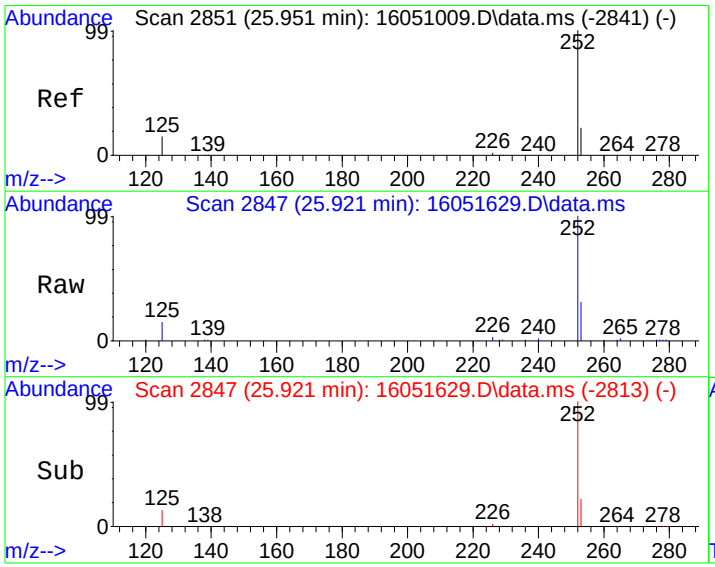


#24
Benzo(e)pyrene
Concen: 28.51 ug/kg
RT: 25.738 min Scan# 2822
Delta R.T. 0.002 min
Lab File: 16051629.D
Acq: 17 May 2016 6:18 am

Tgt Ion:252 Resp: 19557

Ion	Ratio	Lower	Upper
252	100		
125	18.8	0.8	40.8
253	25.5	2.4	42.4

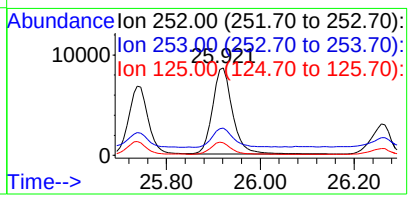


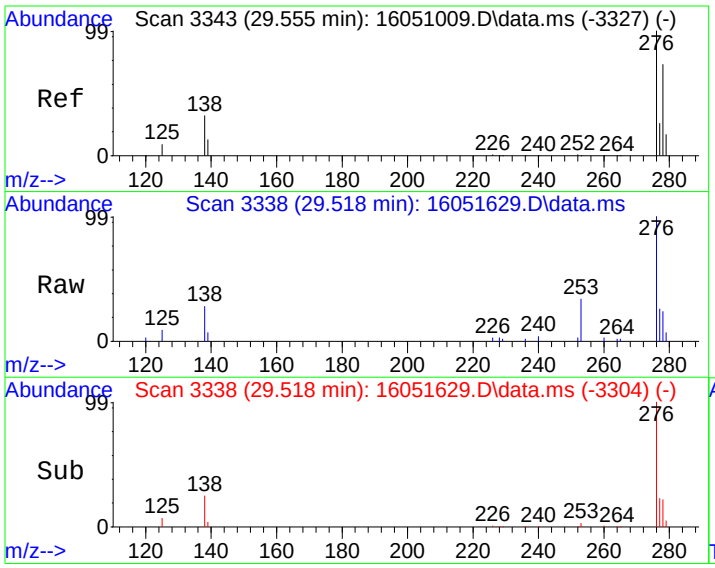


#25
Benzo[a]pyrene
Concen: 38.66 ug/kg
RT: 25.921 min Scan# 2847
Delta R.T. 0.002 min
Lab File: 16051629.D
Acq: 17 May 2016 6:18 am

Tgt Ion:252 Resp: 25394

Ion	Ratio	Lower	Upper
252	100		
253	22.2	2.5	42.5
125	13.5	0.0	35.5

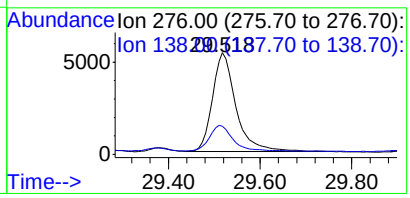


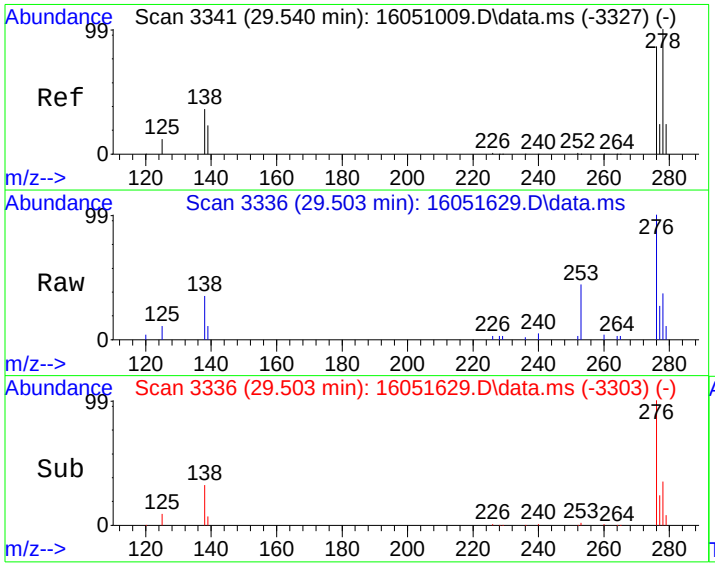


#26
Indeno[1,2,3-cd]pyrene
Concen: 26.09 ug/kg
RT: 29.518 min Scan# 3338
Delta R.T. 0.002 min
Lab File: 16051629.D
Acq: 17 May 2016 6:18 am

Tgt Ion:276 Resp: 18986

Ion	Ratio	Lower	Upper
276	100		
138	25.4	12.0	52.0

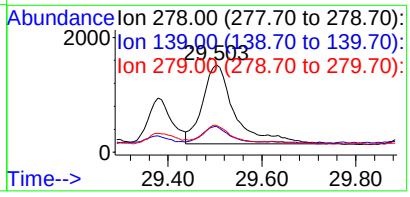


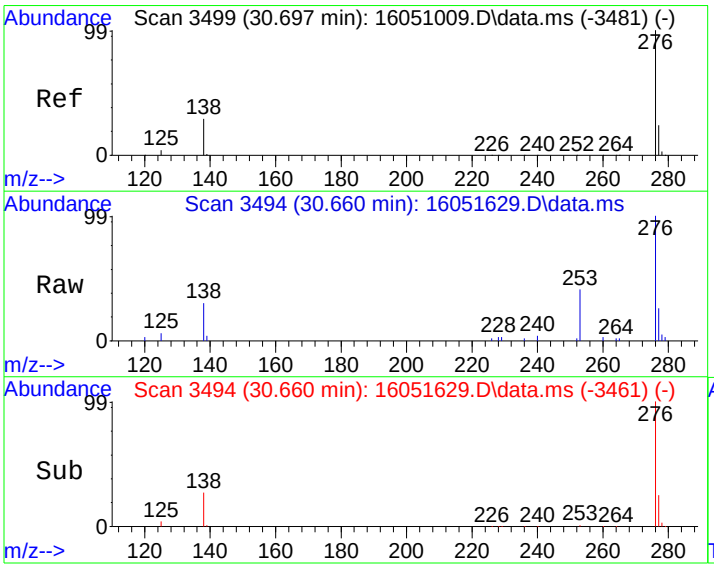


#27
Dibenz[a,h]anthracene
Concen: 11.06 ug/kg
RT: 29.503 min Scan# 3336
Delta R.T. -0.006 min
Lab File: 16051629.D
Acq: 17 May 2016 6:18 am

Tgt Ion:278 Resp: 6561

Ion	Ratio	Lower	Upper
278	100		
139	20.9	2.9	42.9
279	23.5	4.4	44.4

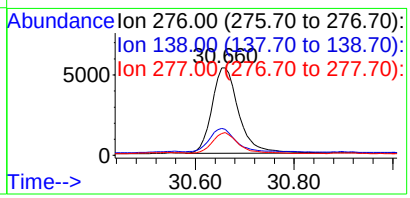




#28
Benzo[g,h,i]perylene
Concen: 31.67 ug/kg
RT: 30.660 min Scan# 3494
Delta R.T. -0.006 min
Lab File: 16051629.D
Acq: 17 May 2016 6:18 am

Tgt Ion:276 Resp: 20113

Ion	Ratio	Lower	Upper
276	100		
138	26.5	9.3	49.3
277	24.6	4.3	44.3



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160516\
Data File : 16051630.D
Acq On : 17 May 2016 6:55 am
Operator :
Sample : 1605074-16A
Misc : SAMP
ALS Vial : 30 Sample Multiplier: 10

Quant Time: May 17 08:39:25 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.275	136	1656747	4000.00	ug/kg	106
6) Acenaphthene-d10	12.860	164	1269867	4000.00	ug/kg	130
11) Phenanthrene-d10	14.984	188	2880635	4000.00	ug/kg	93
16) Chrysene-d12	20.992	240	2747711	4000.00	ug/kg	79
20) Perylene-d12	26.258	264	2493781	4000.00	ug/kg	84

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.764	172	30667	94.18	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	2.35%#		
17) 4-Terphenyl-d14	17.588	244	50846	80.09	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery =	2.00%#		

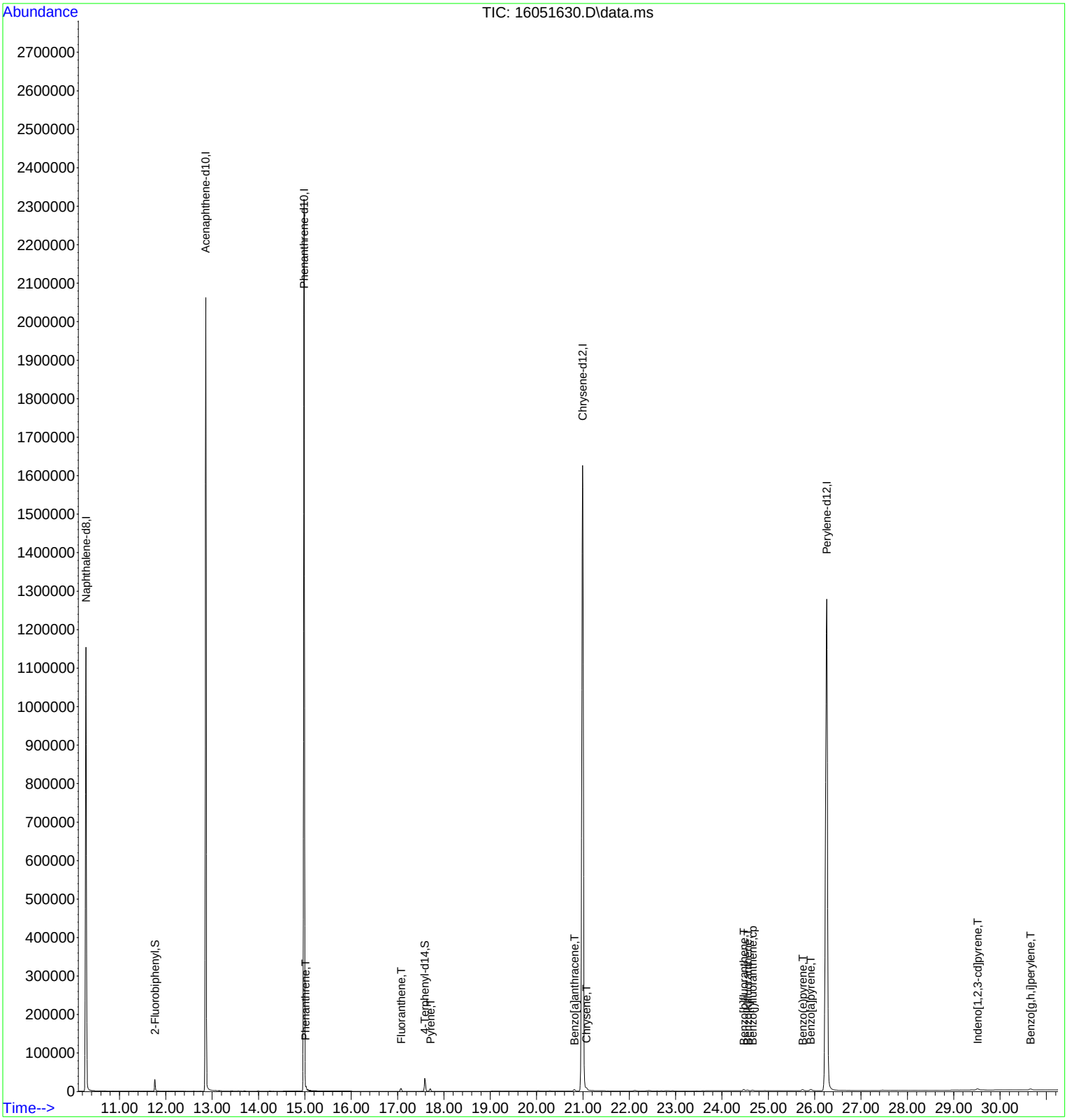
Target Compounds						Qvalue
12) Phenanthrene	15.020	178	4453	5.34	ug/kg	98
14) Fluoranthene	17.079	202	10443	9.57	ug/kg	93
15) Pyrene	17.709	202	9176	8.38	ug/kg	91
18) Benzo[a]anthracene	20.816	228	6116	7.92	ug/kg	99
19) Chrysene	21.080	228	7242	10.24	ug/kg	99
21) Benzo[b]fluoranthene	24.471	252	7299	10.28	ug/kg	98
22) Benzo[k]fluoranthene	24.552	252	3736	6.56	ug/kg	93
23) Benzo(j)fluoranthene	24.662	252	3439	5.97	ug/kg	89
24) Benzo(e)pyrene	25.738	252	5807	8.52	ug/kg	94
25) Benzo[a]pyrene	25.914	252	7109	10.89	ug/kg	99
26) Indeno[1,2,3-cd]pyrene	29.518	276	6247	8.64	ug/kg	90
28) Benzo[g,h,i]perylene	30.661	276	6582	10.43	ug/kg	95

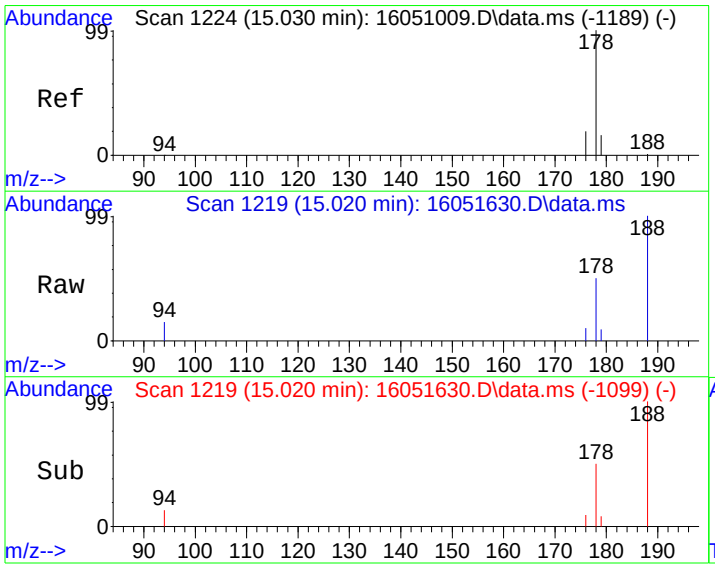
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160516\
Data File : 16051630.D
Acq On : 17 May 2016 6:55 am
Operator :
Sample : 1605074-16A
Misc : SAMP
ALS Vial : 30 Sample Multiplier: 10

Quant Time: May 17 08:39:25 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

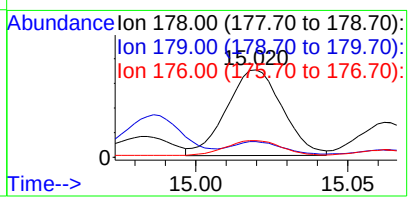


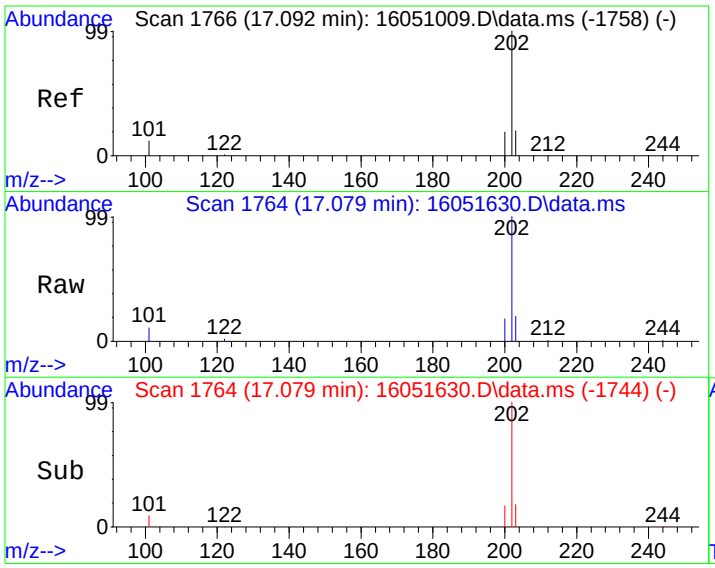


#12
Phenanthrene
Concen: 5.34 ug/kg
RT: 15.020 min Scan# 1219
Delta R.T. 0.004 min
Lab File: 16051630.D
Acq: 17 May 2016 6:55 am

Tgt Ion:178 Resp: 4453

Ion	Ratio	Lower	Upper
178	100		
179	15.4	0.0	36.4
176	18.0	0.0	39.2

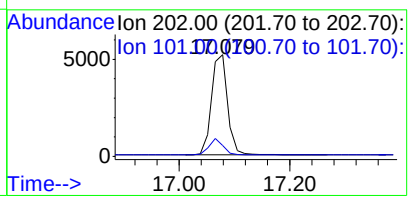


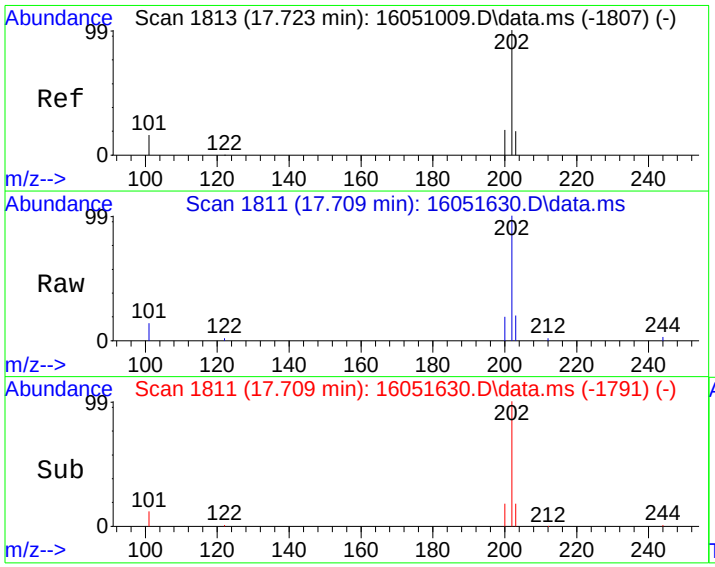


#14
Fluoranthene
Concen: 9.57 ug/kg
RT: 17.079 min Scan# 1764
Delta R.T. 0.013 min
Lab File: 16051630.D
Acq: 17 May 2016 6:55 am

Tgt Ion:202 Resp: 10443

Ion	Ratio	Lower	Upper
202	100		
101	9.4	0.0	32.0

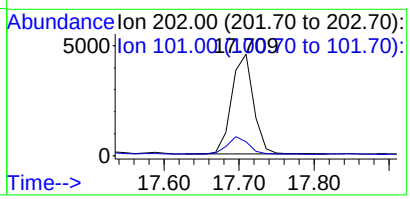


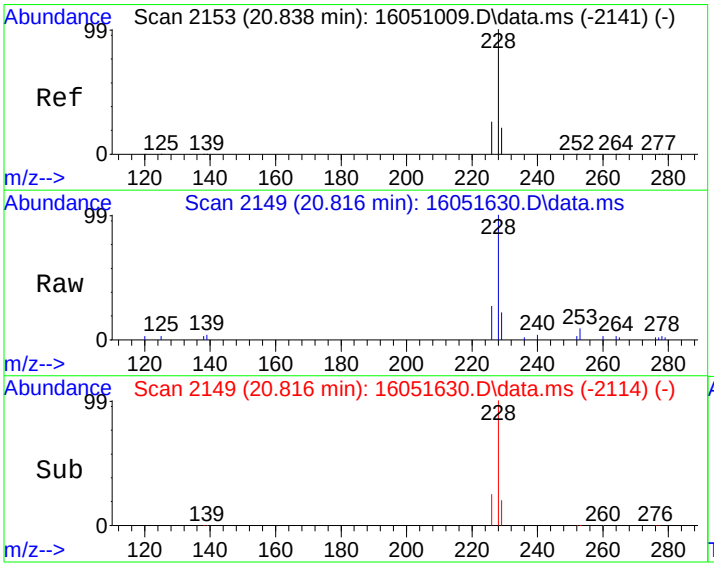


#15
Pyrene
Concen: 8.38 ug/kg
RT: 17.709 min Scan# 1811
Delta R.T. 0.013 min
Lab File: 16051630.D
Acq: 17 May 2016 6:55 am

Tgt Ion:202 Resp: 9176

Ion	Ratio	Lower	Upper
202	100		
101	12.3	0.0	35.9

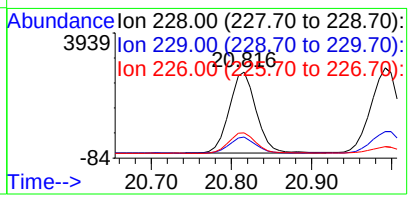


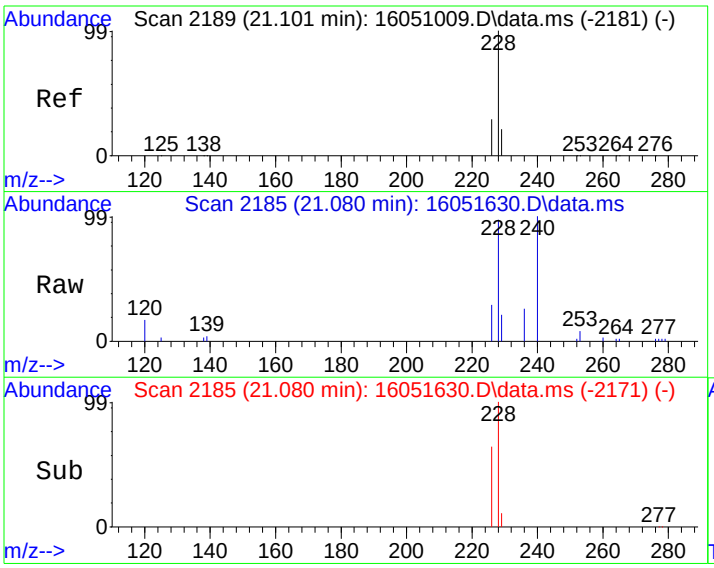


#18
Benzo[a]anthracene
Concen: 7.92 ug/kg
RT: 20.816 min Scan# 2149
Delta R.T. 0.010 min
Lab File: 16051630.D
Acq: 17 May 2016 6:55 am

Tgt Ion:228 Resp: 6116

Ion	Ratio	Lower	Upper
228	100		
229	19.9	0.7	40.7
226	25.5	5.9	45.9

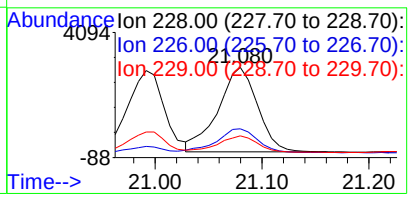


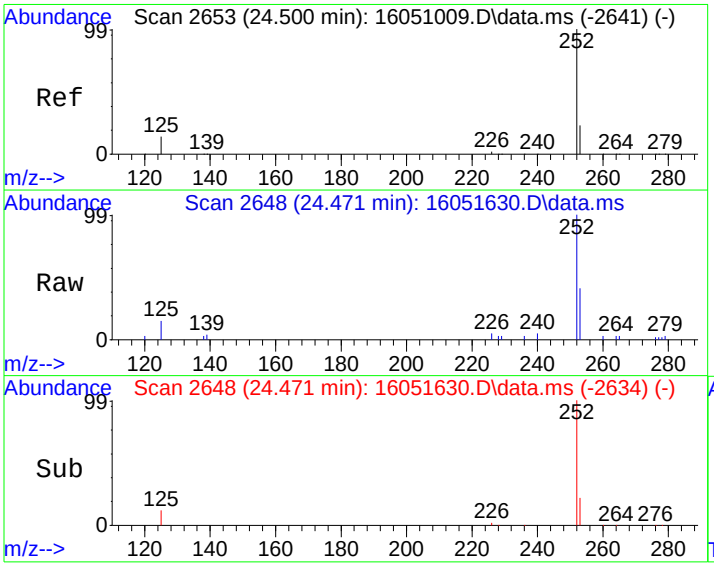


#19
Chrysene
Concen: 10.24 ug/kg
RT: 21.080 min Scan# 2185
Delta R.T. 0.002 min
Lab File: 16051630.D
Acq: 17 May 2016 6:55 am

Tgt Ion:228 Resp: 7242

Ion	Ratio	Lower	Upper
228	100		
226	28.3	8.8	48.8
229	19.6	0.5	40.5

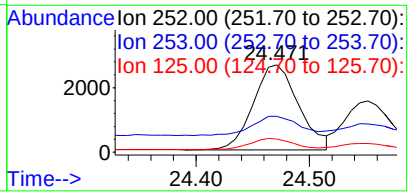


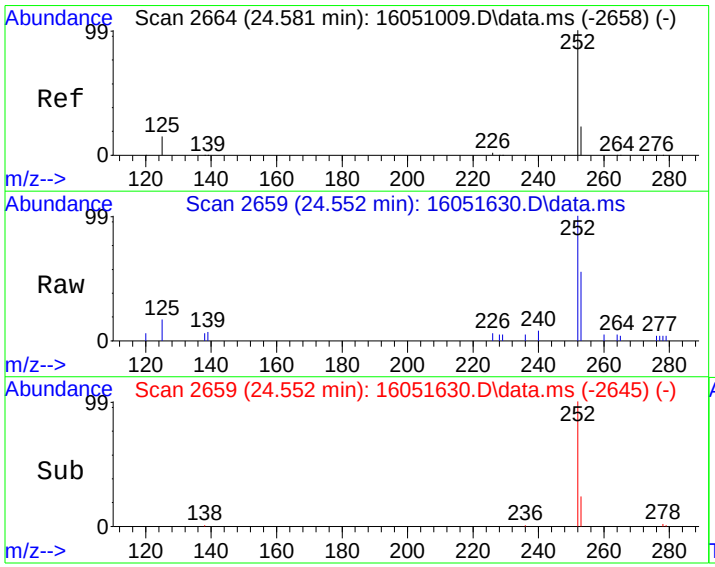


#21
Benzo[b]fluoranthene
Concen: 10.28 ug/kg
RT: 24.471 min Scan# 2648
Delta R.T. 0.002 min
Lab File: 16051630.D
Acq: 17 May 2016 6:55 am

Tgt Ion:252 Resp: 7299

Ion	Ratio	Lower	Upper
252	100		
253	22.3	2.6	42.6
125	12.3	0.0	33.8

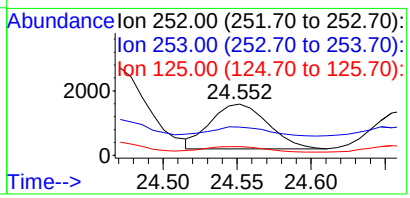


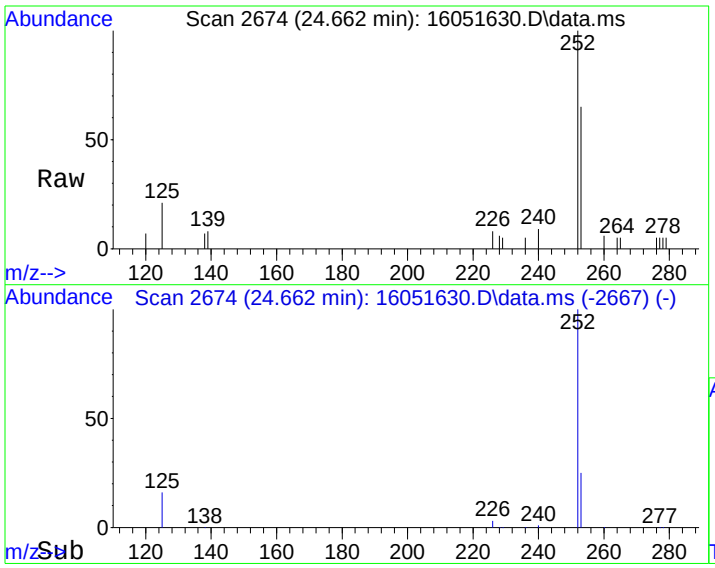


#22
Benzo[k]fluoranthene
Concen: 6.56 ug/kg
RT: 24.552 min Scan# 2659
Delta R.T. 0.002 min
Lab File: 16051630.D
Acq: 17 May 2016 6:55 am

Tgt Ion:252 Resp: 3736

Ion	Ratio	Lower	Upper
252	100		
253	19.3	2.8	42.8
125	12.4	0.0	34.7

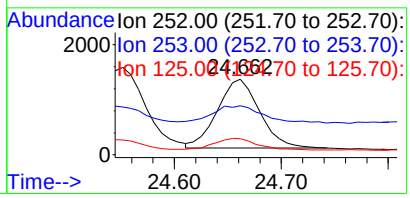


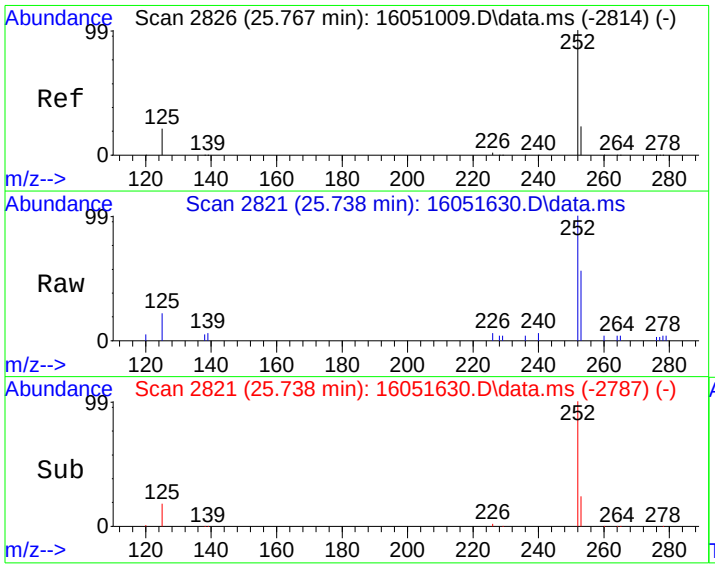


#23
Benzo(j)fluoranthene
Concen: 5.97 ug/kg
RT: 24.662 min Scan# 2674
Delta R.T. 0.002 min
Lab File: 16051630.D
Acq: 17 May 2016 6:55 am

Tgt Ion:252 Resp: 3439

Ion	Ratio	Lower	Upper
252	100		
253	30.2	2.3	42.3
125	16.7	0.0	39.2

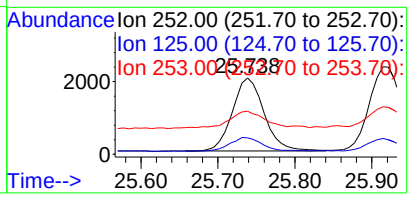


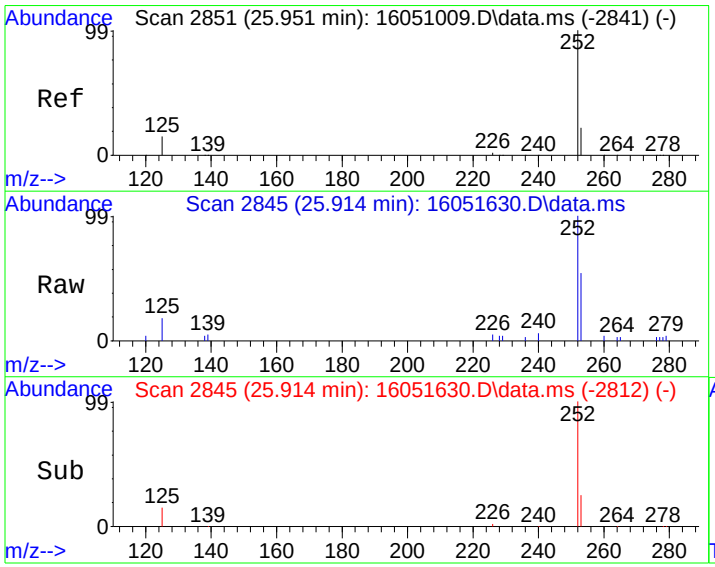


#24
Benzo(e)pyrene
Concen: 8.52 ug/kg
RT: 25.738 min Scan# 2821
Delta R.T. 0.002 min
Lab File: 16051630.D
Acq: 17 May 2016 6:55 am

Tgt Ion:252 Resp: 5807

Ion	Ratio	Lower	Upper
252	100		
125	19.1	0.8	40.8
253	26.7	2.4	42.4

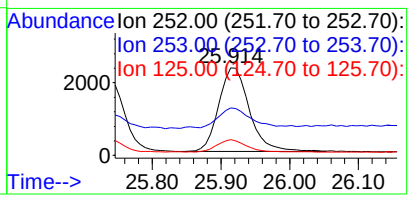


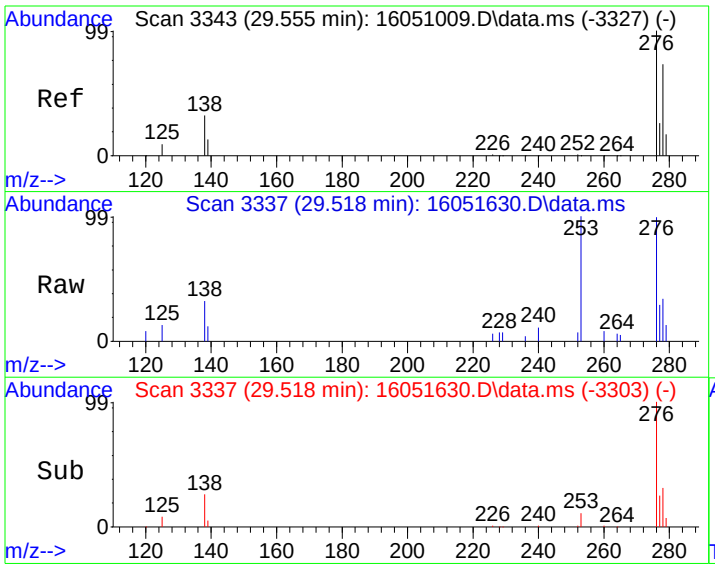


#25
Benzo[a]pyrene
Concen: 10.89 ug/kg
RT: 25.914 min Scan# 2845
Delta R.T. -0.005 min
Lab File: 16051630.D
Acq: 17 May 2016 6:55 am

Tgt Ion:252 Resp: 7109

Ion	Ratio	Lower	Upper
252	100		
253	23.2	2.5	42.5
125	15.0	0.0	35.5

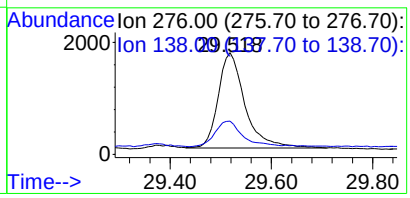


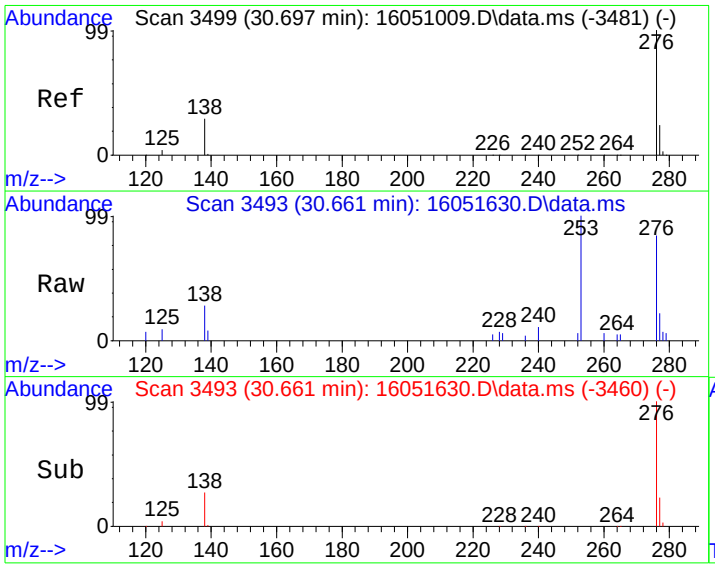


#26
Indeno[1,2,3-cd]pyrene
Concen: 8.64 ug/kg
RT: 29.518 min Scan# 3337
Delta R.T. 0.002 min
Lab File: 16051630.D
Acq: 17 May 2016 6:55 am

Tgt Ion:276 Resp: 6247

Ion	Ratio	Lower	Upper
276	100		
138	26.4	12.0	52.0

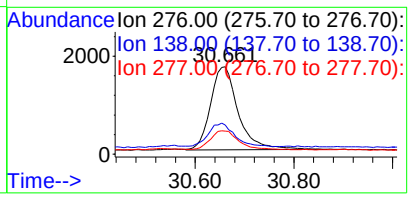




#28
Benzo[g,h,i]perylene
Concen: 10.43 ug/kg
RT: 30.661 min Scan# 3493
Delta R.T. -0.005 min
Lab File: 16051630.D
Acq: 17 May 2016 6:55 am

Tgt Ion:276 Resp: 6582

Ion	Ratio	Lower	Upper
276	100		
138	26.5	9.3	49.3
277	22.4	4.3	44.3



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160516\
Data File : 16051631.D
Acq On : 17 May 2016 7:32 am
Operator :
Sample : CCV2-160516
Misc : CCV
ALS Vial : 18 Sample Multiplier: 1

Quant Time: May 17 08:36:34 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration

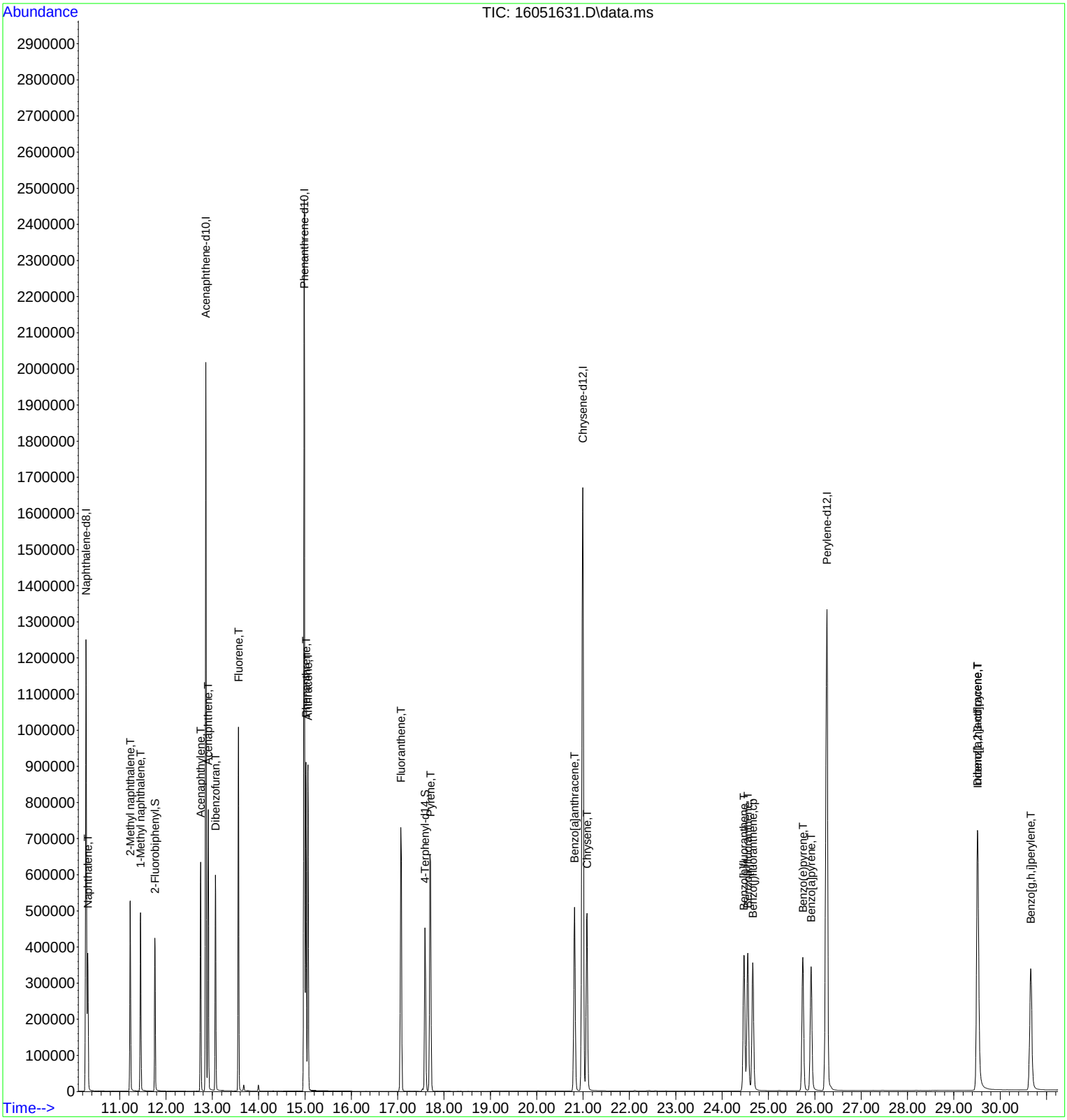
Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.275	136	1728083	4000.00	ug/kg	111
6) Acenaphthene-d10	12.861	164	1203861	4000.00	ug/kg	123
11) Phenanthrene-d10	14.984	188	3015405	4000.00	ug/kg	97
16) Chrysene-d12	20.997	240	2853119	4000.00	ug/kg	82
20) Perylene-d12	26.264	264	2647268	4000.00	ug/kg	89
System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.760	172	381290	1122.65	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	28.07%#		
17) 4-Terphenyl-d14	17.589	244	665311	1009.23	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery =	25.23%#		
Target Compounds						Qvalue
2) Naphthalene	10.312	128	429206	1024.84	ug/kg	100
3) 2-Methyl naphthalene	11.229	142	323278	1134.49	ug/kg	99
4) 1-Methyl naphthalene	11.451	142	296367	1127.69	ug/kg	100
7) Acenaphthylene	12.748	152	593588	1049.24	ug/kg	99
8) Acenaphthene	12.910	153	368649	1029.72	ug/kg	99
9) Dibenzofuran	13.067	168	571004	987.66	ug/kg	89
10) Fluorene	13.563	166	531793	978.12	ug/kg	99
12) Phenanthrene	15.020	178	872221	999.42	ug/kg	99
13) Anthracene	15.064	178	884311	935.25	ug/kg	98
14) Fluoranthene	17.066	202	920424	805.88	ug/kg	87
15) Pyrene	17.710	202	893797	780.23	ug/kg	90
18) Benzo[a]anthracene	20.814	228	788551	983.20	ug/kg	99
19) Chrysene	21.085	228	727388	990.73	ug/kg	99
21) Benzo[b]fluoranthene	24.476	252	748263	992.51	ug/kg	98
22) Benzo[k]fluoranthene	24.557	252	669400	1107.02	ug/kg	97
23) Benzo(j)fluoranthene	24.659	252	646388	1057.61	ug/kg	98
24) Benzo(e)pyrene	25.743	252	701813	969.88	ug/kg	98
25) Benzo[a]pyrene	25.919	252	685054	988.66	ug/kg	98
26) Indeno[1,2,3-cd]pyrene	29.523	276	845881	1101.89	ug/kg	93
27) Dibenz[a,h]anthracene	29.509	278	704627	1125.89	ug/kg	96
28) Benzo[g,h,i]perylene	30.666	276	724838	1082.08	ug/kg	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160516\
Data File : 16051631.D
Acq On : 17 May 2016 7:32 am
Operator :
Sample : CCV2-160516
Misc : CCV
ALS Vial : 18 Sample Multiplier: 1

Quant Time: May 17 08:36:34 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Fri May 13 12:50:28 2016
Response via : Initial Calibration



GCMS8_160518B
For

DHL Work Order
1605074

Lab Data Review Check List
EPA Method 8270 / 625 - PAH: Polynuclear Aromatic Hydrocarbons

SEE RUN LOG FOR ALL PROJECT AND BATCH NUMBERS AND MATRICES	Run ID: GCMS8_160518B
Batch Number(s): See Run Log. Matrix: See Run Log.	SOP: ORGANICS-PAH-01

Review Item	Yes	No	N/A	2nd Level Review
Data Folder Contents 1. Is the Prep Batch Report included? Check and record the following: ***Prep Start/End Dates, Sample Amounts, Bottle #s***	X			X
2. Are the reagents and spikes listed on the Prep Batch Report current with a valid expiration date? ***All standard/QC sample preparations shall be documented in LIMS***	X			
3. Is the Run Log and instrument sequence included? ***Check the Test Code, Sample Type, Batch ID, and Analysis Date/Time***	X			
4. Is the System Verification - Tune Report included? ***Date/Tme of Tune starts 12-hour analysis window***	X			
5. Is the Evaluate Continuing Calibration Report included?	X			

Daily Demonstration of Performance

QC items that do not meet method/SOP/project requirements will be described on the run log. All variances that impact data quality will be described in the Variance/Comment Section on page 2.

Review Item	Frequency	Limits	Pass	Fail (List Batch/Sample) **See Run Log**	2nd Level Review
Tune	Before ICAL Every 12 hours	See Tune Eval Report	X		X
Resolution Check - Benzo(b) and Benzo(k)phenanthrene	Before ICAL Every 12 hours	Benzo(b) and Benzo(k) Valley > 50%	X		
Initial Calibration Curve (ICAL) (minimum: 5 Standards)	Prior to samples and when ICV fails	Avg. RF - %RSD ≤ 15% Curve (COD) - R^2 ≥ 0.990	X		
SSCV - (Second Source)	After calibration (ICAL)	80-120%	X		
ICV - (Daily Initial Cal Verification)	Every 12 hours	ISTDs Area% (50-200%) Surrogates %R (See LIMS) Analytes %R (80-120%)	X		

Review Item	Frequency	Limits	Pass	Fail	N/A	Review
Method Blank (MB) System Blank (SYS Blank)	Every Batch (MB) Daily (SYS BL)	< MDL / <½ RL (DoD) or <1/10 the sample/reg limit	X			X
Lab Control Sample (LCS)	Every Batch	See LIMS	X			
Lab Control Sample Dup (LCSD)	Insufficient sample Sample Matrix	See LIMS			X	
LCSD - RPD	Every LCS/LCSD	≤ 30 (Aq/Soil/DoD)			X	
Field Samples	Up to 20 per prep batch	ISTDs Area% (50-200%) Surrogates %R (See LIMS) RRT ± 0.06 RRT Standard Q value > 70 - check for #	X			
Matrix Spike (MS)	Every Batch/20 samples	See LIMS			X	
Matrix Spike Duplicate (MSD) (MSD is N/A for Method 625)	Every Prep Batch except Method 625	See LIMS			X	
MSD - RPD (MSD is N/A for Method 625)	Every MS/MSD except Method 625	≤ 30 (Aq/Soil/DoD)			X	

Lab Data Review Check List
EPA Method 8270 / 625 - PAH: Polynuclear Aromatic Hydrocarbons

Review Item	Criteria	Yes	No	N/A	2nd Level Review
Sample Analysis 1. Are all sample hold times met?	7 days (Aq) - extraction	X			X
	14 days (Soil) - extraction			X	
	40 days analysis	X			
2. Are all manual integrations signed (Before & After) and printouts included ? Put in LIMS Comment Section ***Include MI form for DoD work***	Before & After - signed Comment Section in LIMS MI Form - DoD only			X	
3. Are all samples with concentrations > the highest standard used for calibration diluted and reanalyzed?	> highest standard			X	
Review Item #3 is N/A ONLY if all sample results are within Calibration range or NO if dilution is in different folder					
4. Is mass spectra reviewed/verified if Q value is <70 and/or # flag for results >MDL?	Q value <70 - All hits	X			X
5. Are ALL reported analytes > MDL (+ J flags) circled by the analyst?		X	**Return to analyst if NO**		
VARIANCE REPORT					
QC items that do not meet method/SOP/project requirements will be described on the run log. All variances that impact data quality will be described in this section.					
NON-CONFORMANCES / VARIANCE 1. Are all non-conformances included and noted?	All deviations from the method and SOP that affect data quality			X	X
2. Are all corrective actions included?				X	
3. Does the variance require approval by the Technical Director/General Manager/QA Manager?				X	

Approved by: Date:

Description and Corrective Actions of QC items that do not meet method/SOP/project requirements:

****INCLUDE VARIANCE ITEM / REASON / CORRECTIVE ACTION / IMPACT ON DATA****

VARIANCE ITEM	REASON	CORRECTIVE ACTION
___ Hold Time exceeded (7D/14D-Ext/40D-Analysis)	___ Sample Received out of HT	___ Reanalyze QC to confirm
___ ICV out of control (±20%)	___ Carryover from previous run	___ Recalibrate
___ MB/SYS BL out of control (> MDL / >½ RL)	___ Cross contamination	___ Reprep/Reanalyze sample
___ LCS __LCSD out of control (See LIMS)	___ Lab Artifact	___ Reprep/Reanalyze Batch
___ RPD out of control for LCS/LCSD (>30)	___ Prep Spike error (describe)	___ Reanalyze Batch/Sample/QC
___ MS ___ MSD out of control (See LIMS)	___ High Levels of target analytes	___ Verify H2O/reagents are clean
___ RPD out of control for MS/MSD (>30)	___ High Levels of non-targets	___ Reanalyze sample to confirm
___ Internal Standard(s) out of control	___ Insufficient sample for QC	___ Sample results ND w/ dilution
___ Multiple Surrogates out of control	___ Prep Error	___ Client notified and approved
___ No MS/MSD prepared - LCS/LCSD used instead	___ Analytical Error	X Flag data / Case narrative
X Missing QC (other than MS/MSD)	___ Client Request	___ Instrument Maintenance
___ QC sample(s) was mis-spiked	X Other (describe below)	___ Accept data
___ Other (describe below)		___ Cannot reanalyze (HT out/Lack of Sample)

General Comments and Impact on Data: **See Run Log.**

Equipment blanks - LCS and MB is only QC requirement.

Analyst: Karyn Lane Date: ***REVIEWED/APPROVED*** 5/19/2016

Second-Level Review: Date: ***By Sherri Herschmann at 4:06:35 PM, 5/23/2016*** **05/23/2016**

DHL Analytical, Inc.

Run ID: GCMS8_160518B **Run No.:** 85875

Analytical Run Date: 5/18/2016 **InstrumentID:** GCMS8

Analyst: Karyn Lane **Column:** Rtx-5Sil MS (30m x 0.25mm ID x 0.5µm df)

Calibration ID: 660 **Column ID:** 0.18mm

Column Length: 20m

Cal Comments: PAH160517.M

SampID	DF	TestCode	SampType	Batch ID	Analysis Date/Time	Q	Comments
DFTPP-160518	1	PAH_LL_WDOD1	TUNE	R85875	5/18/2016 8:58:00 AM		
ICV-160518	1	PAH_LL_WDOD1	ICV	R85875	5/18/2016 9:35:00 AM		Use DCS/LQV from GCMS8_160518A.
LCS-75146	1	PAH_LL_WDOD1	LCS	75146	5/18/2016 2:03:00 PM		Equipment blanks - LCS and MB is only QC requirement.
MB-75146	1	PAH_LL_WDOD1	MBLK	75146	5/18/2016 2:40:00 PM		
1605074-33B	1	PAH_LL_WDOD1	SAMP	75146	5/18/2016 3:17:00 PM		
1605074-34B	1	PAH_LL_WDOD1	SAMP	75146	5/18/2016 3:53:00 PM		
1605074-35B	1	PAH_LL_WDOD1	SAMP	75146	5/18/2016 4:30:00 PM		
1605096-36B	1	PAH_LL_WDOD1	SAMP	75146	5/18/2016 5:07:00 PM		
1605096-37B	1	PAH_LL_WDOD1	SAMP	75146	5/18/2016 5:44:00 PM		
1605096-44B	1	PAH_LL_WDOD1	SAMP	75146	5/18/2016 6:21:00 PM		
1605097-27B	1	PAH_LL_WDOD1	SAMP	75146	5/18/2016 6:58:00 PM		
1605097-30B	1	PAH_LL_WDOD1	SAMP	75146	5/18/2016 7:34:00 PM		
DFTPP2-160518	1	PAH_LL_WDOD1	TUNE	R85875	5/18/2016 8:11:00 PM		
ICV2-160518	1	PAH_LL_WDOD1	ICV	R85875	5/18/2016 8:49:00 PM		
SBLK-160518	1	PAH_LL_WDOD1	SBLK	75146	5/18/2016 10:03:00 PM		
1605098-42B	1	PAH_LL_WDOD1	SAMP	75146	5/18/2016 10:40:00 PM		
1605121-46B	1	PAH_LL_WDOD1	SAMP	75146	5/18/2016 11:17:00 PM		
1605121-47B	1	PAH_LL_WDOD1	SAMP	75146	5/18/2016 11:54:00 PM		
1605135-46B	1	PAH_LL_WDOD1	SAMP	75146	5/19/2016 12:31:00 AM		
1605144-16B	1	PAH_LL_WDOD1	SAMP	75146	5/19/2016 1:08:00 AM		
CCV-160520	1	PAH_LL_WDOD1	CCV	R85875	5/19/2016 2:59:00 AM		

Std ID	Std Name	Type	Exp. Date
DFTPP160509	2.5 PPM 525 TUNE STD.	TUNE	05/07/2017
PAHCCV-160509	1 PPM PAH CCV STANDARD	CCV	08/07/2016
PAHICV160509	2 PPM PAH ICV	ICV	08/07/2016
SVI150810-08	4000 PPM INTERNAL STANDAR	ALL	07/21/2016

REVIEWED/APPROVED

By Sherri Herschmann at 4:07:08 PM, 5/23/2016

Sequence Name: C:\msdchem\1\sequence\160518.S
Comment:
Operator:
Data Path: C:\MSDCHEM\1\DATA\160518\
Instrument Name: GCMS #8
Instrument Control Pre-Seq Cmd:
Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:
Data Analysis Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line		Sample Name/Misc Info		
1)	Sample	1	16051801 DFTPPPAH	DFTPP-160518
2)	Sample	2	16051802 PAH160517	ICV-160518
3)	Sample	3	16051803 PAH160517	DCS-75209
4)	Sample	4	16051804 PAH160517	LQV-75209
5)	Sample	5	16051805 PAH160517	LCS-75209
6)	Sample	6	16051806 PAH160517	LCSD-75209
7)	Sample	7	16051807 PAH160517	MB-75209
8)	Sample	8	16051808 PAH160517	1605142-01E
9)	Sample	9	16051809 PAH160517	LCS-75146
10)	Sample	10	16051810 PAH160517	MB-75146
11)	Sample	11	16051811 PAH160517	1605074-33B
12)	Sample	12	16051812 PAH160517	1605074-34B
13)	Sample	13	16051813 PAH160517	1605074-35B
14)	Sample	14	16051814 PAH160517	1605096-36B
15)	Sample	15	16051815 PAH160517	1605096-37B
16)	Sample	16	16051816 PAH160517	1605096-44B
17)	Sample	17	16051817 PAH160517	1605097-27B
18)	Sample	18	16051818 PAH160517	1605097-30B
19)	Sample	19	16051819 DFTPPPAH	DFTPP2-160518
20)	Sample	20	16051820 PAH160517	ICV2-160518
21)	Sample	21	16051821 PAH160517	SBLK
22)	Sample	22	16051822 PAH160517	SBLK-160518
23)	Sample	23	16051823 PAH160517	1605098-42B
24)	Sample	24	16051824 PAH160517	1605121-46B
25)	Sample	25	16051825 PAH160517	1605121-47B
26)	Sample	26	16051826 PAH160517	1605135-46B
27)	Sample	27	16051827 PAH160517	1605144-16B
28)	Sample	28	16051828 PAH160517	1605071-38A
29)	Sample	29	16051829 PAH160517	1605071-32A
30)	Sample	30	16051830 PAH160517	CCV-160520

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/13/2016 8:48:47 AM**
Digestion:
Prep End Date: 5/13/16 11:35AM

Prep Batch **75146** Prep Code: **3510_PAHDOD** Technician: **Duston Bezner**

Prep Factor Units: **mL/mL**

Equipment List
Turbo-Vap #1,2,3
Balance # 25, 29

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605074-33B	Equip Blank	6	500	1	0.002	1 of 1	532.2 - 212.6 = 319.6
1605074-34B	Equip Blank		500	1	0.002	1 of 1	535.8 - 213.4 = 322.4
1605074-35B	Equip Blank		500	1	0.002	1 of 1	~~358.0~~ 538.0 - 214.4 = 323.6
1605096-36B	Equip Blank		500	1	0.002	1 of	543.3 - 213.4 = 329.9
1605096-37B	Equip Blank		500	1	0.002	1 of 1	538.9 - 213.6 = 318.4
1605096-44B	Equip Blank		500	1	0.002	1 of 1	531.6 - 212.5 = 319.1
1605097-27B	Equip Blank		500	1	0.002	1 of 1	536.8 - 212.2 = 324.6
1605097-30B	Equip Blank		500	1	0.002	1 of 1	537.3 - 213.3 = 324.0
1605098-42B	Equip Blank		500	1	0.002	1 of 1	537.9 - 212.9 = ~~315.1~~ 325
1605121-46B	Equip Blank		500	1	0.002	1 of 1	526.8 - 213.4 = 313.4
1605121-47B	Equip Blank		500	1	0.002	1 of 1	528.7 - 212.3 = ~~308.7~~ 316.4
1605135-46B	Equip Blank		500	1	0.002	1 of 1	534.2 - 212.8 = 321.4
LCS-75146	Aqueous		500	1	0.002	of	738.3 - 238.3 = 500.0
~~LCSD-75146~~ 5/13/16	Aqueous		500	1	0.002	of	Insufficient Sample for MS/D 5/13/16
MB-75146	Aqueous		500	1	0.002	of	777.4 - 277.4 = 500.0

1605144-16B 6

536.0 - 214.7 = 321.3

Added @ 1:00PM 5/13/16.

REVIEWED/APPROVED
By Sherri Herschmann at 4:12:07 PM, 5/23/2016

Number	Reagent Name	Amt	Units	Exp. Da
7509	pH paper 0-14	1	paper	10/15/2025
9927	Purified Sodium Sulfate	10	g	07/04/2016
10169	Methylene Chloride	120	ml	03/15/2026
10214	Whatman 41 Filter	1	filter	03/30/2026

Spk ID	Spike Name	SampType	Amt (mL or g)	Exp. Date
PAHPREP160509	200 PPM PAH Spike Mix	LCS/LCSD	0.01	11/07/2016
SVPREP160510	40 PPM Surrogate Standard	ALL	0.1	08/08/2016

5/13/16 AR 5/13/16

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/13/2016 8:48:47 AM**
Digestion:
Prep End Date: **5/13/2016 2:10:17 PM**

Prep Batch **75146** Prep Code: **3510_PAHDOD** Technician: **Duston Bezner**

Prep Factor Units: **mL/mL**

Equipment List

Turbo-Vap #1,2,3
Balance # 25, 29

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605074-33B	Equip Blank	6	319.6	1	0.003	1 of 1	
1605074-34B	Equip Blank	6	322.4	1	0.003	1 of 1	
1605074-35B	Equip Blank	6	323.6	1	0.003	1 of 1	
1605096-36B	Equip Blank	6	329.9	1	0.003	1 of 1	
1605096-37B	Equip Blank	6	318.4	1	0.003	1 of 1	
1605096-44B	Equip Blank	6	319.1	1	0.003	1 of 1	
1605097-27B	Equip Blank	6	324.6	1	0.003	1 of 1	
1605097-30B	Equip Blank	6	324	1	0.003	1 of 1	
1605098-42B	Equip Blank	6	~~315.1~~ 325	1	0.003	1 of 1	
1605121-46B	Equip Blank	6	313.4	1	0.003	1 of 1	
1605121-47B	Equip Blank	6	~~308.7~~ 316.4	1	0.003	1 of 1	
1605135-46B	Equip Blank	6	321.4	1	0.003	1 of 1	
1605144-16B	Equip Blank	6	321.3	1	0.003	1 of 1	
LCS-75146	Aqueous	6	500	1	0.002	of	
MB-75146	Aqueous	6	500	1	0.002	of	

REVIEWED/APPROVED

By Sherri Herschmann at 4:15:47 PM, 5/23/2016

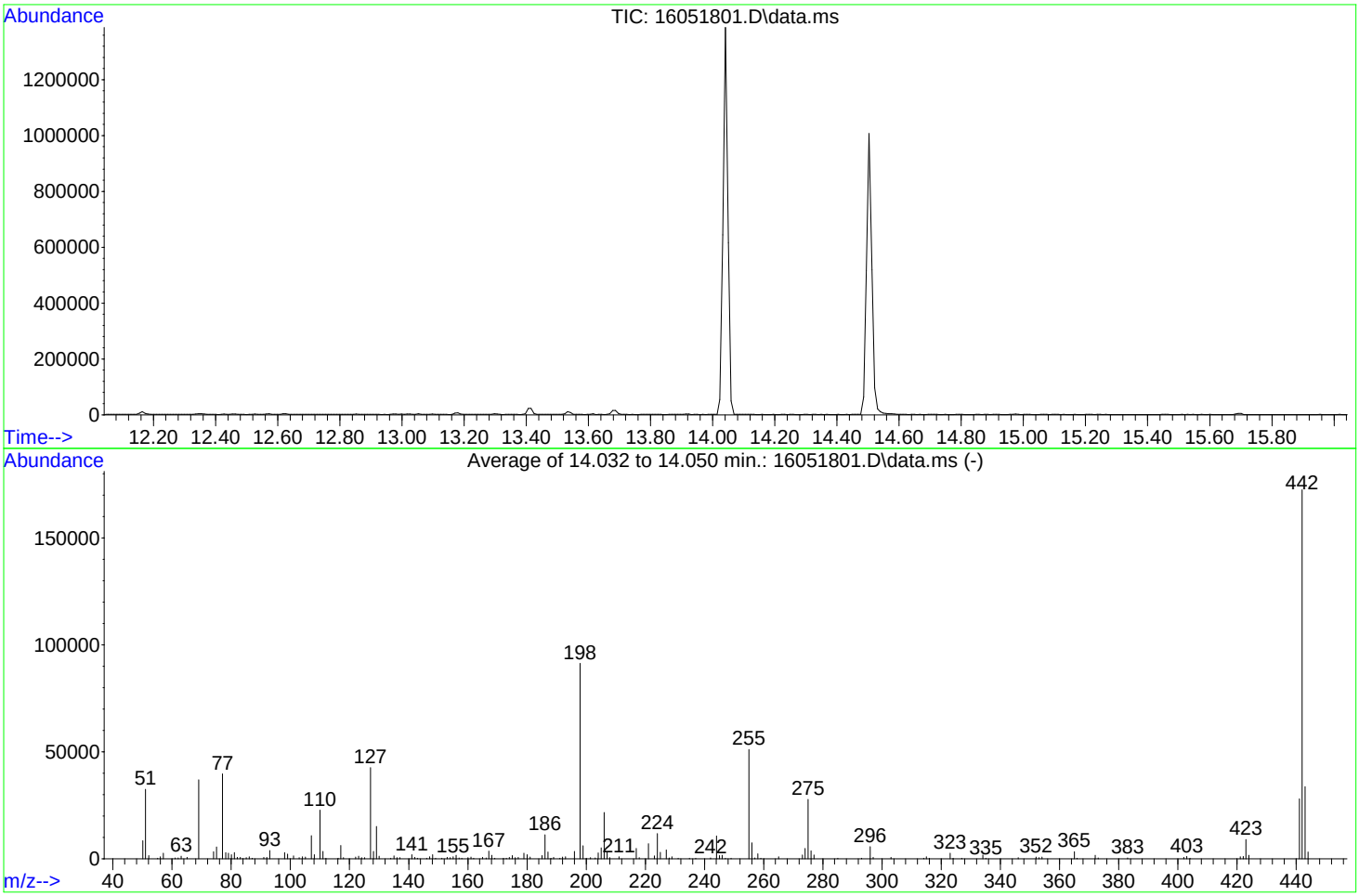
Number	Reagent Name	Amt	Units	Exp. Da
7509	pH paper 0-14	1	paper	10/15/2025
9927	Purified Sodium Sulfate	10	g	07/04/2016
10169	Methylene Chloride	120	ml	03/15/2026
10214	Whatman 41 Filter	1	filter	03/30/2026

Spk ID	Spike Name	SampType	Amt (mL or g)	Exp. Date
PAHPREP160509	200 PPM PAH Spike Mix	LCS/LCSD	0.01	11/07/2016
SVPREP160510	40 PPM Surrogate Standard	ALL	0.1	08/08/2016

Data Path : C:\msdchem\1\DATA\160518\
Data File : 16051801.D
Acq On : 18 May 2016 8:58 am
Operator :
Sample : DFTPP-160518
Misc : TUNE
ALS Vial : 1 Sample Multiplier: 1

Integration File: RTEINT.P

Method : C:\msdchem\1\METHODS\DFTPPPAH.M
Title : CLP BNA Calibration - Large Volume Injection
Last Update : Thu Aug 27 07:24:43 2015



AutoFind: Scans 435, 436, 437; Background Corrected with Scan 431

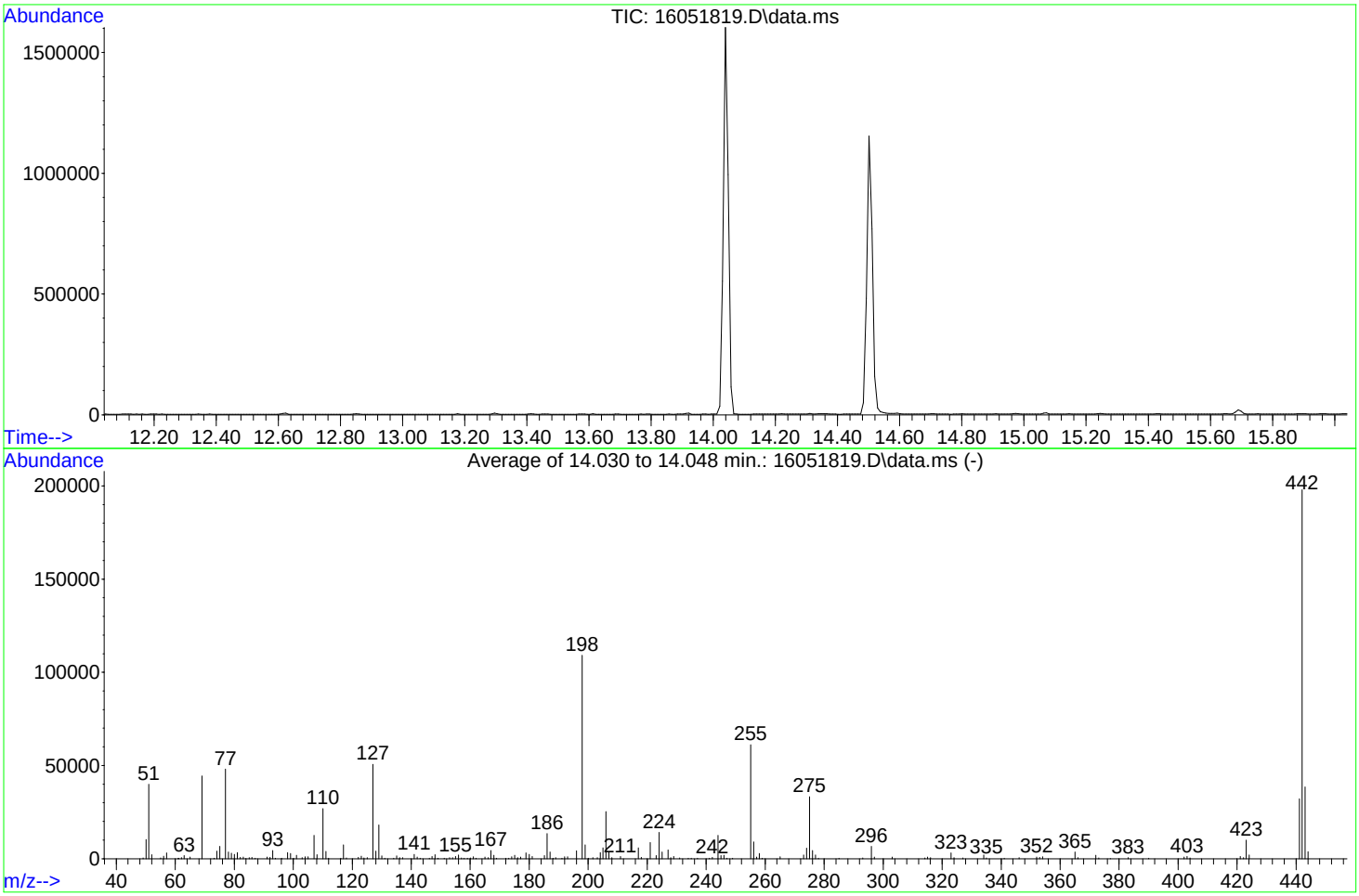
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	35.6	32471	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	40.5	36940	PASS
70	69	0.00	2	0.0	0	PASS
127	198	10	80	46.7	42606	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	91320	PASS
199	198	5	9	6.7	6088	PASS
275	198	10	60	30.3	27688	PASS
365	198	1	200	3.6	3268	PASS
441	442	0.01	24	16.3	28059	PASS
442	198	50	400	189.0	172605	PASS
443	442	15	24	19.6	33763	PASS

REVIEWED BY
By Janice Whitt at 2:34:46 PM, 5/19/2016

Data Path : C:\msdchem\1\DATA\160518\
Data File : 16051819.D
Acq On : 18 May 2016 8:11 pm
Operator :
Sample : DFTPP2-160518
Misc : TUNE
ALS Vial : 19 Sample Multiplier: 1

Integration File: RTEINT.P

Method : C:\msdchem\1\METHODS\DFTPPPAH.M
Title : CLP BNA Calibration - Large Volume Injection
Last Update : Thu Aug 27 07:24:43 2015



AutoFind: Scans 435, 436, 437; Background Corrected with Scan 431

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	36.6	39974	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	40.8	44482	PASS
70	69	0.00	2	0.0	0	PASS
127	198	10	80	46.4	50616	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	109152	PASS
199	198	5	9	6.8	7381	PASS
275	198	10	60	30.5	33283	PASS
365	198	1	200	3.4	3666	PASS
441	442	0.01	24	16.2	32122	PASS
442	198	50	400	181.4	197986	PASS
443	442	15	24	19.5	38521	PASS

REVIEWED BY
By Janice Whitt at 12:56:17 PM, 5/23/2016

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160518\
Data File : 16051802.D
Acq On : 18 May 2016 9:35 am
Operator :
Sample : ICV-160518
Misc : ICV
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 18 11:42:31 2016
Quant Method : C:\msdchem\1\METHODS\PAH160517.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 18 08:55:04 2016
Response via : Initial Calibration

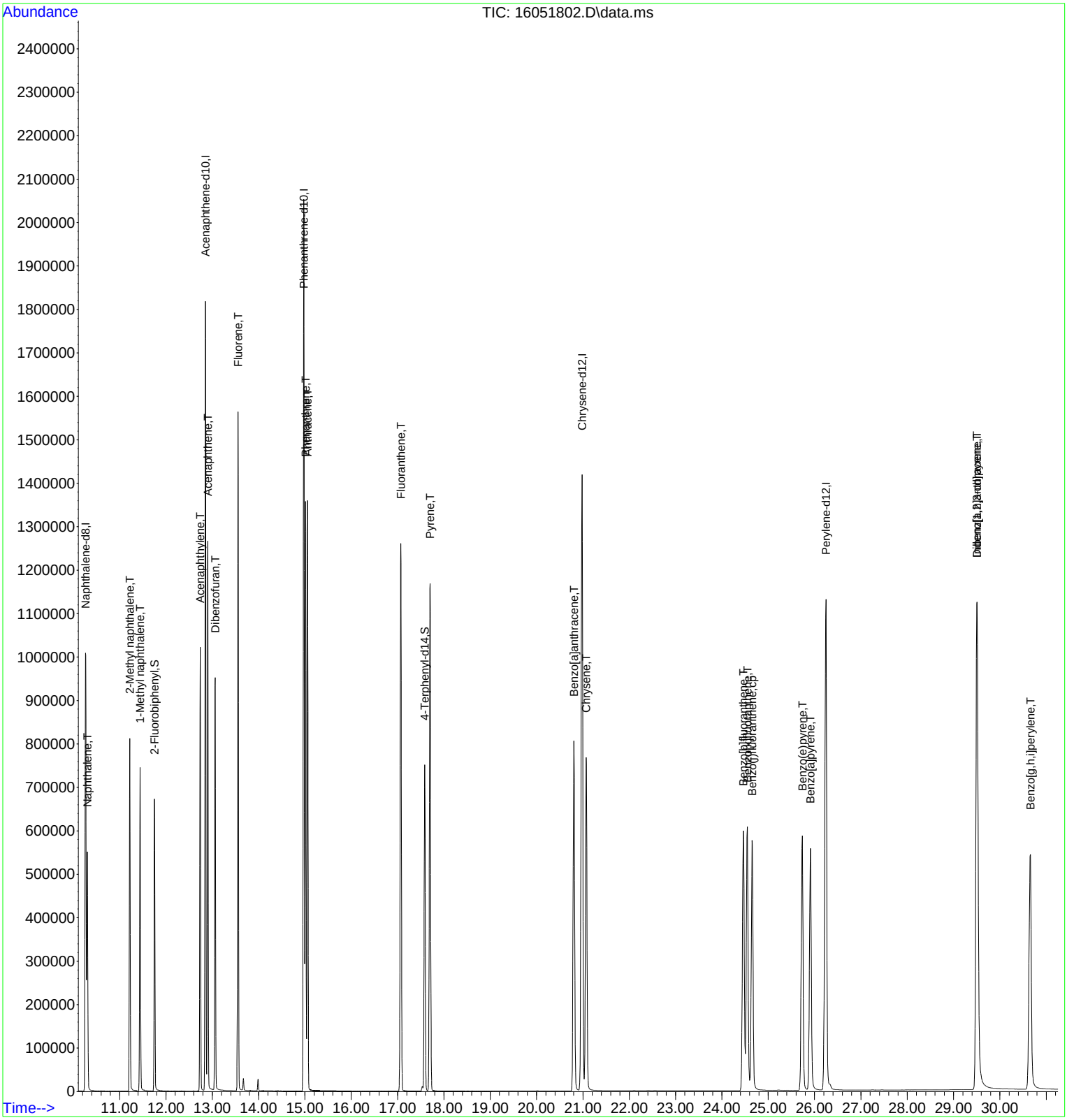
Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.263	136	1439270	4000.00	ug/kg	88
6) Acenaphthene-d10	12.851	164	1096742	4000.00	ug/kg	87
11) Phenanthrene-d10	14.976	188	2537779	4000.00	ug/kg	87
16) Chrysene-d12	20.981	240	2403266	4000.00	ug/kg	89
20) Perylene-d12	26.247	264	2183143	4000.00	ug/kg	88
System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.752	172	613046	1913.04	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 47.83%			
17) 4-Terphenyl-d14	17.584	244	1035464	2035.60	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery = 50.89%#			
Target Compounds						Qvalue
2) Naphthalene	10.300	128	645598	2002.26	ug/kg	100
3) 2-Methyl naphthalene	11.217	142	500194	1995.54	ug/kg	98
4) 1-Methyl naphthalene	11.444	142	460727	1942.42	ug/kg	99
7) Acenaphthylene	12.738	152	964211	2011.33	ug/kg	100
8) Acenaphthene	12.905	153	609340	2014.36	ug/kg	100
9) Dibenzofuran	13.062	168	927693	2013.19	ug/kg	99
10) Fluorene	13.553	166	845853	2023.03	ug/kg	100
12) Phenanthrene	15.014	178	1313221	1880.65	ug/kg	100
13) Anthracene	15.056	178	1326462	1877.33	ug/kg	100
14) Fluoranthene	17.068	202	1419444	2135.93	ug/kg	100
15) Pyrene	17.701	202	1398615	2140.87	ug/kg	99
18) Benzo[a]anthracene	20.805	228	1261556	2123.30	ug/kg	100
19) Chrysene	21.069	228	1160852	2112.58	ug/kg	100
21) Benzo[b]fluoranthene	24.460	252	1189531	2127.79	ug/kg	99
22) Benzo[k]fluoranthene	24.548	252	1074594	2120.12	ug/kg	100
23) Benzo(j)fluoranthene	24.651	252	1026600	2124.35	ug/kg	100
24) Benzo(e)pyrene	25.735	252	1119451	2121.93	ug/kg	100
25) Benzo[a]pyrene	25.910	252	1107058	2114.72	ug/kg	99
26) Indeno[1,2,3-cd]pyrene	29.514	276	1344214	2098.92	ug/kg	99
27) Dibenz[a,h]anthracene	29.500	278	1122117	2109.02	ug/kg	99
28) Benzo[g,h,i]perylene	30.657	276	1164995	2108.28	ug/kg	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160518\
Data File : 16051802.D
Acq On : 18 May 2016 9:35 am
Operator :
Sample : ICV-160518
Misc : ICV
ALS Vial : 2 Sample Multiplier: 1

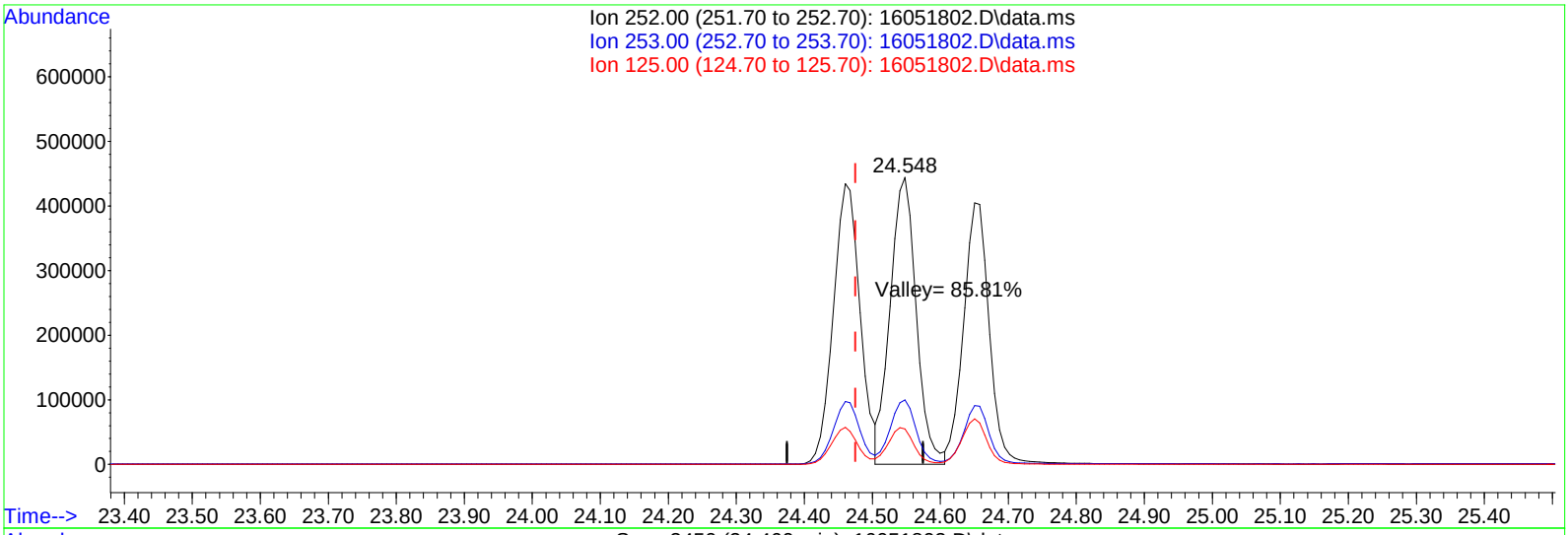
Quant Time: May 18 11:42:31 2016
Quant Method : C:\msdchem\1\METHODS\PAH160517.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 18 08:55:04 2016
Response via : Initial Calibration

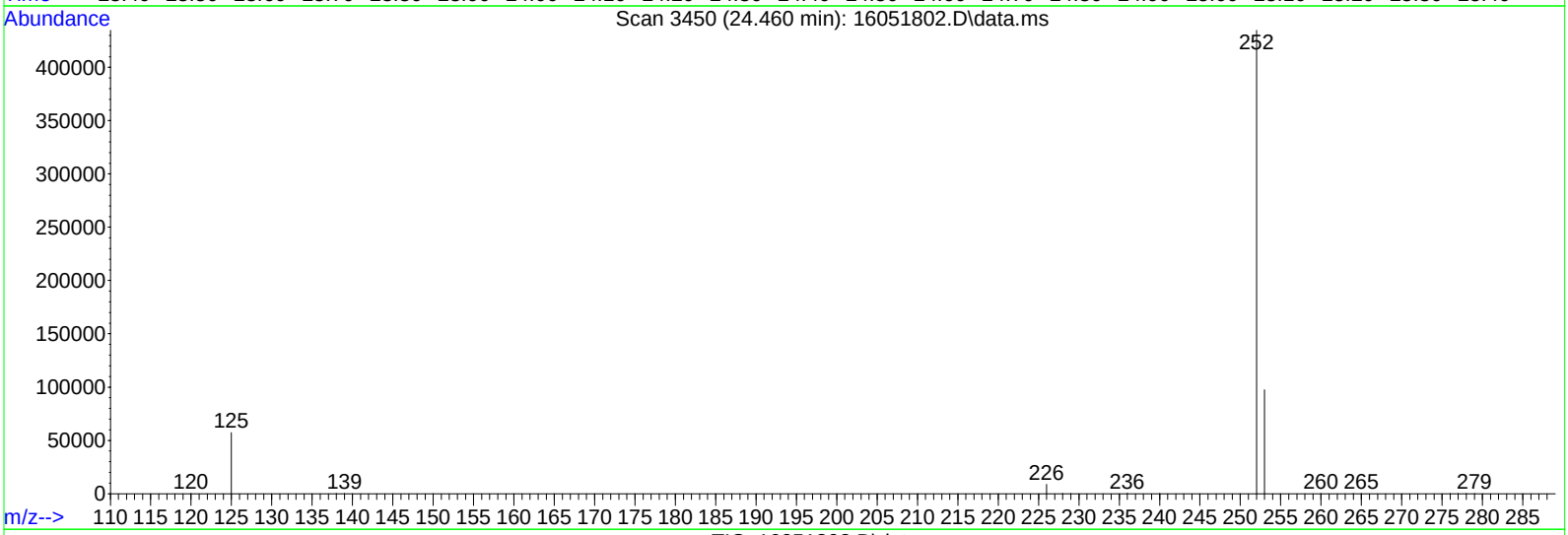


Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\160518\
Data File : 16051802.D
Acq On : 18 May 2016 9:35 am
Operator :
Sample : ICV-160518
Misc : ICV
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 18 11:42:31 2016
Quant Method : C:\msdchem\1\METHODS\PAH160517.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 18 08:55:04 2016
Response via : Initial Calibration





TIC: 16051802.D\data.ms

(21) Benzo[b]fluoranthene (T)

24.460min (-0.015) 2127.79ug/kg

response 1189531

Ion	Exp%	Act%
252.00	100	100
253.00	22.30	22.26
125.00	12.20	13.16
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160518\
Data File : 16051809.D
Acq On : 18 May 2016 2:03 pm
Operator :
Sample : LCS-75146
Misc : LCS
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 19 09:16:19 2016
Quant Method : C:\msdchem\1\METHODS\PAH160517.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 18 08:55:04 2016
Response via : Initial Calibration

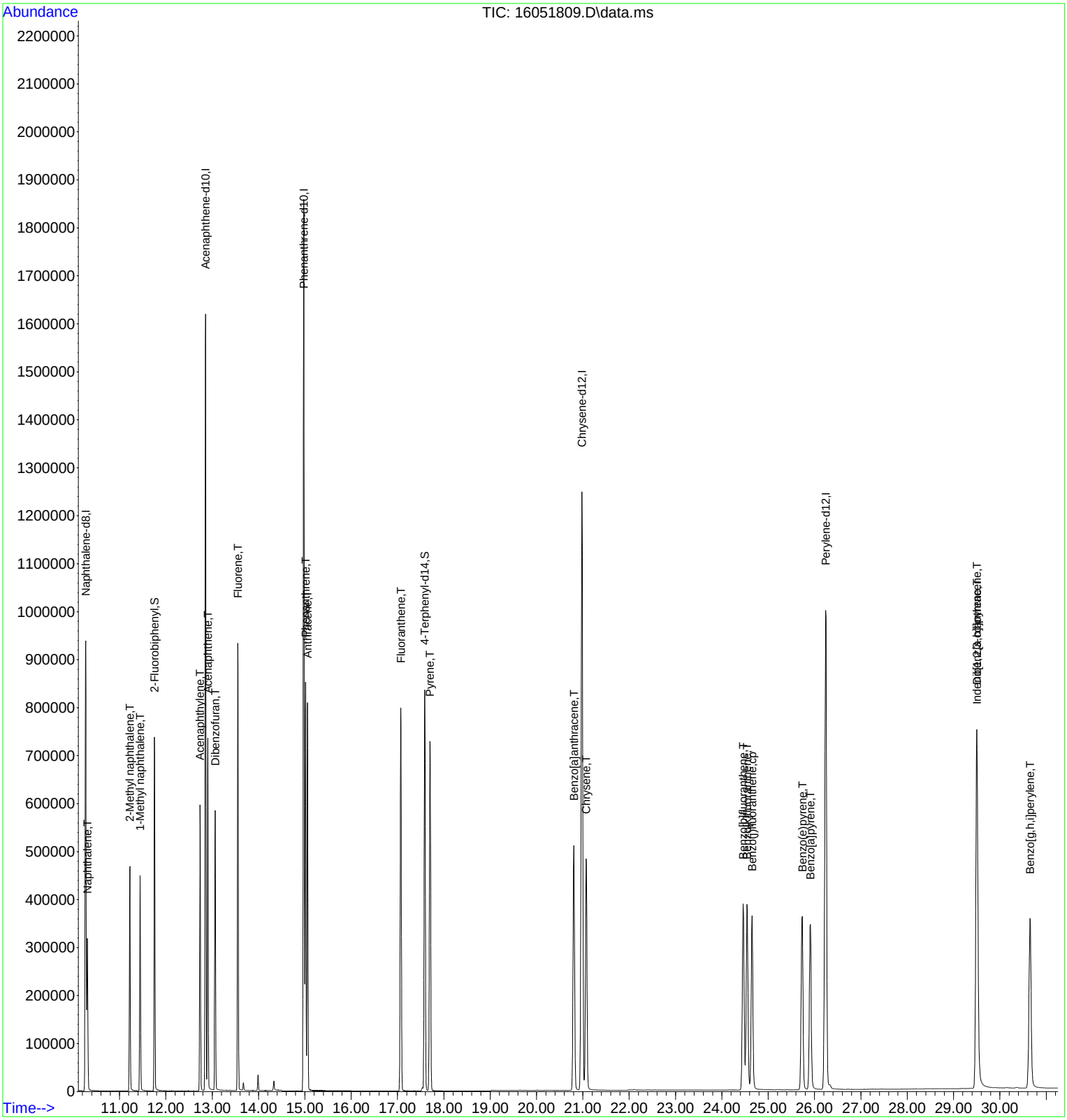
Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.269	136	1319910	4000.00	ug/kg	81
6) Acenaphthene-d10	12.857	164	979132	4000.00	ug/kg	78
11) Phenanthrene-d10	14.977	188	2285148	4000.00	ug/kg	78
16) Chrysene-d12	20.981	240	2110098	4000.00	ug/kg	78
20) Perylene-d12	26.241	264	1904087	4000.00	ug/kg	77
System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.754	172	657780	2238.26	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 55.96%			
17) 4-Terphenyl-d14	17.586	244	1177981	2637.52	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery = 65.94%			
Target Compounds						Qvalue
2) Naphthalene	10.306	128	366938	1240.93	ug/kg	99
3) 2-Methyl naphthalene	11.224	142	288325	1254.30	ug/kg	99
4) 1-Methyl naphthalene	11.446	142	267309	1228.89	ug/kg	99
7) Acenaphthylene	12.739	152	559567	1307.45	ug/kg	99
8) Acenaphthene	12.906	153	353590	1309.30	ug/kg	99
9) Dibenzofuran	13.063	168	539351	1311.04	ug/kg	99
10) Fluorene	13.554	166	507450	1359.45	ug/kg	100
12) Phenanthrene	15.015	178	815126	1296.39	ug/kg	99
13) Anthracene	15.057	178	785637	1234.83	ug/kg	99
14) Fluoranthene	17.070	202	887651	1454.69	ug/kg	99
15) Pyrene	17.700	202	872881	1459.82	ug/kg	98
18) Benzo[a]anthracene	20.805	228	787235	1485.78	ug/kg	100
19) Chrysene	21.069	228	729981	1491.09	ug/kg	100
21) Benzo[b]fluoranthene	24.461	252	762202	1545.20	ug/kg	99
22) Benzo[k]fluoranthene	24.541	252	688207	1542.68	ug/kg	99
23) Benzo(j)fluoranthene	24.651	252	630685	1475.70	ug/kg	100
24) Benzo(e)pyrene	25.735	252	687368	1472.95	ug/kg	100
25) Benzo[a]pyrene	25.911	252	693028	1503.32	ug/kg	100
26) Indeno[1,2,3-cd]pyrene	29.515	276	848810	1500.32	ug/kg	98
27) Dibenz[a,h]anthracene	29.500	278	709881	1508.82	ug/kg	99
28) Benzo[g,h,i]perylene	30.650	276	731582	1498.98	ug/kg	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160518\
Data File : 16051809.D
Acq On : 18 May 2016 2:03 pm
Operator :
Sample : LCS-75146
Misc : LCS
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 19 09:16:19 2016
Quant Method : C:\msdchem\1\METHODS\PAH160517.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 18 08:55:04 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160518\
Data File : 16051810.D
Acq On : 18 May 2016 2:40 pm
Operator :
Sample : MB-75146
Misc : MBLK
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 19 09:16:22 2016
Quant Method : C:\msdchem\1\METHODS\PAH160517.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 18 08:55:04 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.270	136	1390449	4000.00	ug/kg	85
6) Acenaphthene-d10	12.857	164	1037657	4000.00	ug/kg	83
11) Phenanthrene-d10	14.977	188	2466155	4000.00	ug/kg	84
16) Chrysene-d12	20.981	240	2313139	4000.00	ug/kg	85
20) Perylene-d12	26.248	264	2116938	4000.00	ug/kg	85

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.755	172	713716	2305.39	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	57.63%		
17) 4-Terphenyl-d14	17.590	244	1305557	2666.57	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery =	66.66%		

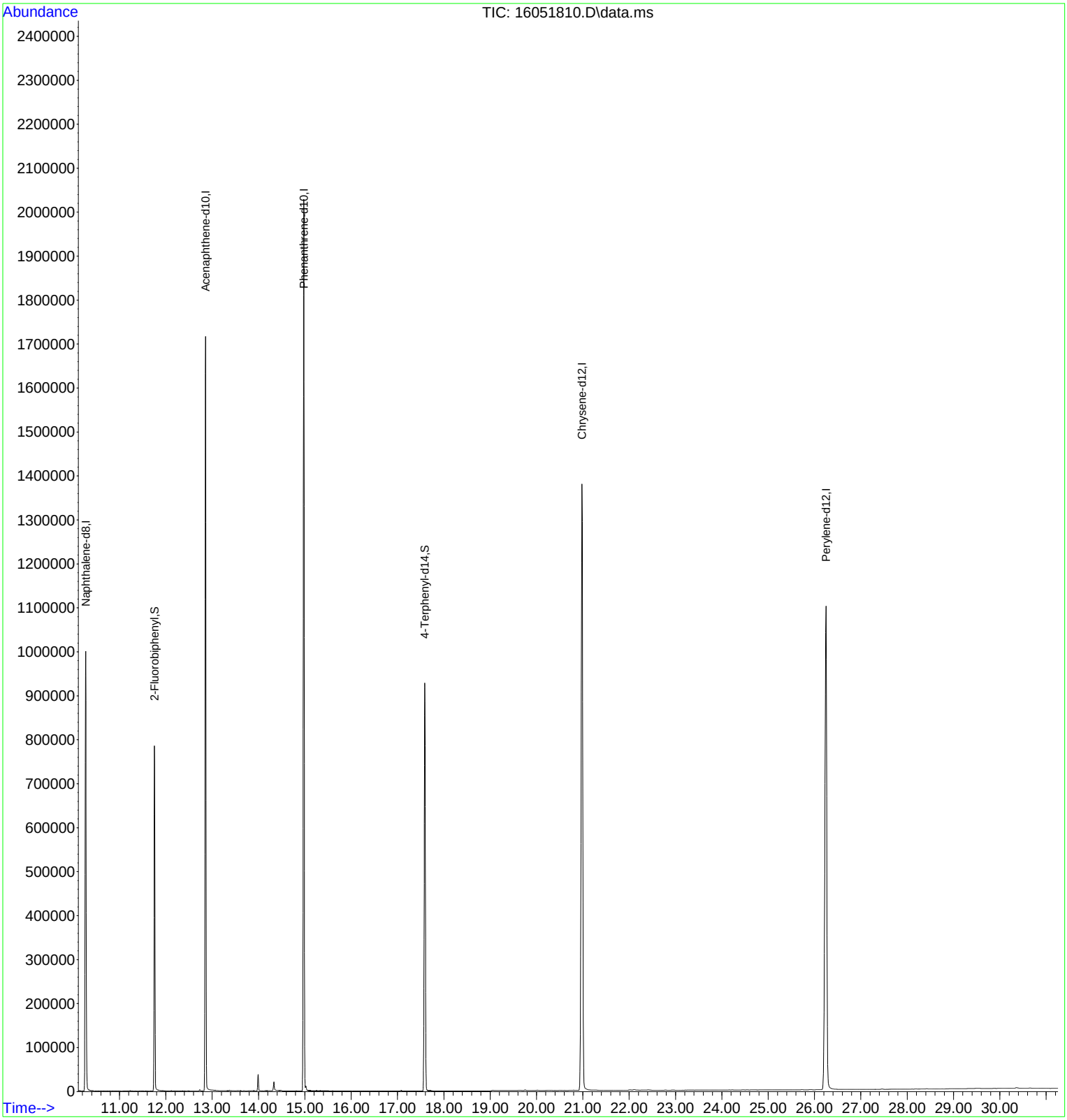
Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160518\
Data File : 16051810.D
Acq On : 18 May 2016 2:40 pm
Operator :
Sample : MB-75146
Misc : MBLK
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 19 09:16:22 2016
Quant Method : C:\msdchem\1\METHODS\PAH160517.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 18 08:55:04 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160518\
Data File : 16051811.D
Acq On : 18 May 2016 3:17 pm
Operator :
Sample : 1605074-33B
Misc : SAMP
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 19 09:17:57 2016
Quant Method : C:\msdchem\1\METHODS\PAH160517.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 18 08:55:04 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.270	136	1459129	4000.00	ug/kg	90
6) Acenaphthene-d10	12.857	164	1084540	4000.00	ug/kg	86
11) Phenanthrene-d10	14.977	188	2476897	4000.00	ug/kg	85
16) Chrysene-d12	20.981	240	2406183	4000.00	ug/kg	89
20) Perylene-d12	26.248	264	2166139	4000.00	ug/kg	87

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.759	172	849380	2614.46	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 65.36%			
17) 4-Terphenyl-d14	17.589	244	1506945	2958.89	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery = 73.97%			

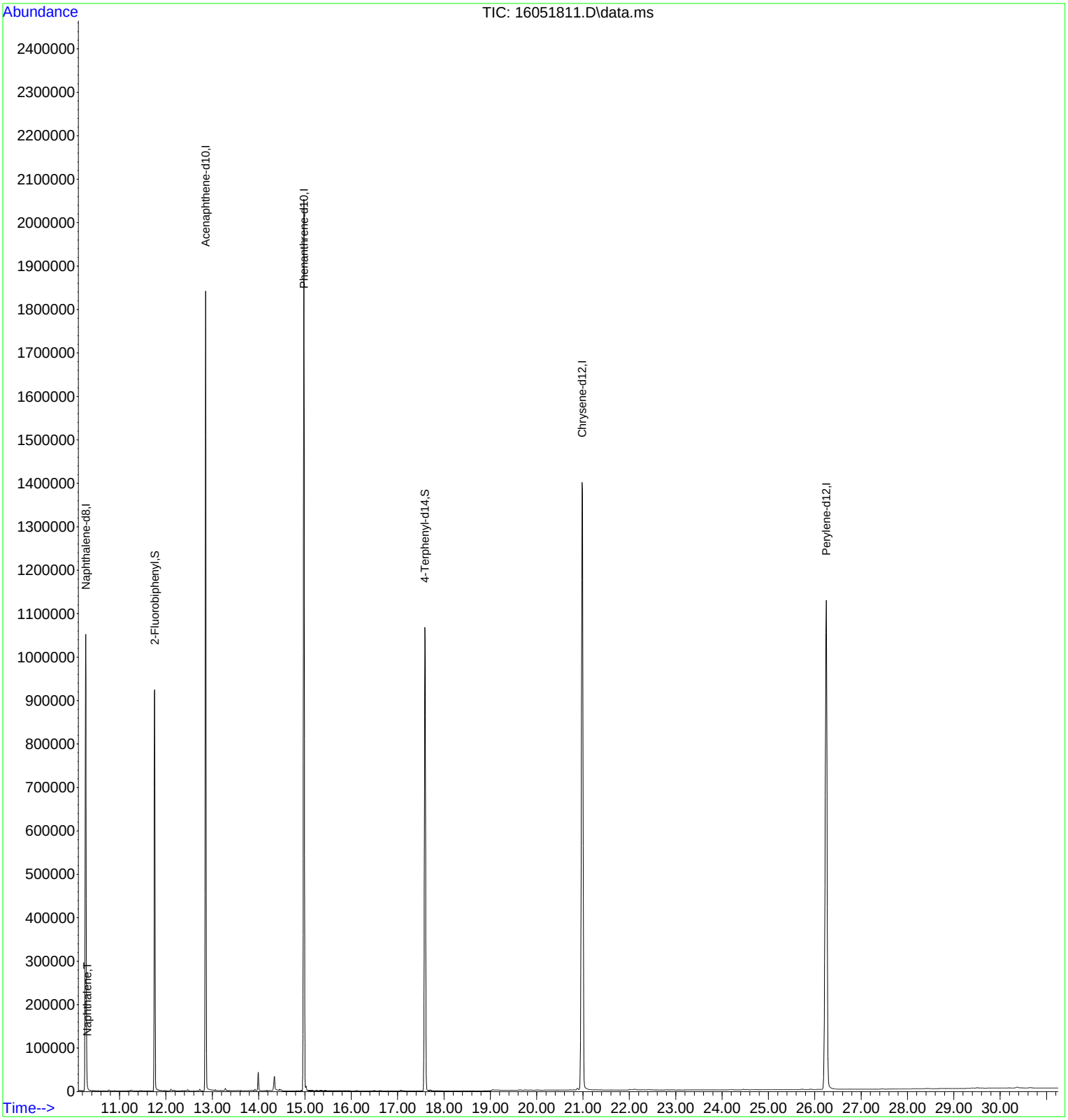
Target Compounds						Qvalue
2) Naphthalene	10.307	128	5188	15.87	ug/kg	96

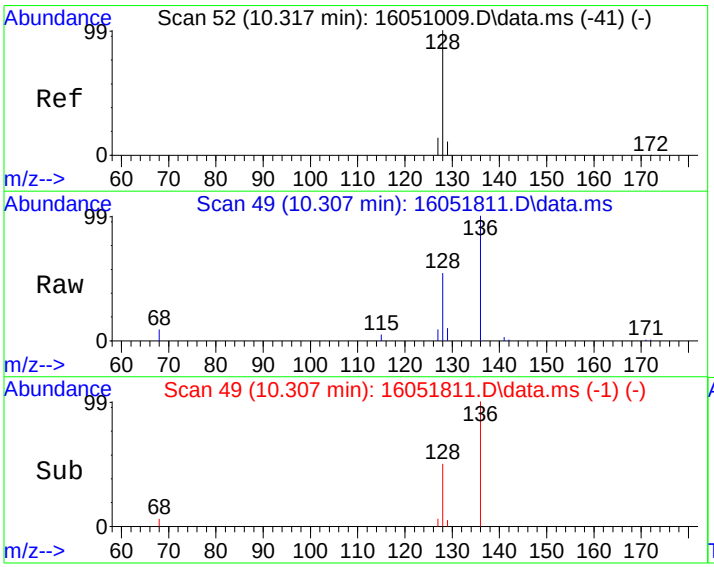
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160518\
Data File : 16051811.D
Acq On : 18 May 2016 3:17 pm
Operator :
Sample : 1605074-33B
Misc : SAMP
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 19 09:17:57 2016
Quant Method : C:\msdchem\1\METHODS\PAH160517.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 18 08:55:04 2016
Response via : Initial Calibration

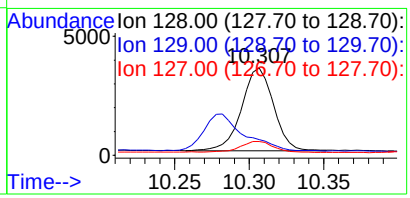




#2
Naphthalene
Concen: 15.87 ug/kg
RT: 10.307 min Scan# 49
Delta R.T. -0.003 min
Lab File: 16051811.D
Acq: 18 May 2016 3:17 pm

Tgt Ion:128 Resp: 5188

Ion	Ratio	Lower	Upper
128	100		
129	13.8	0.0	31.3
127	13.1	0.0	33.6



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160518\
Data File : 16051812.D
Acq On : 18 May 2016 3:53 pm
Operator :
Sample : 1605074-34B
Misc : SAMP
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 19 09:18:01 2016
Quant Method : C:\msdchem\1\METHODS\PAH160517.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 18 08:55:04 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.268	136	1423722	4000.00	ug/kg	87
6) Acenaphthene-d10	12.856	164	1075912	4000.00	ug/kg	86
11) Phenanthrene-d10	14.979	188	2449385	4000.00	ug/kg	84
16) Chrysene-d12	20.980	240	2326903	4000.00	ug/kg	86
20) Perylene-d12	26.247	264	2128314	4000.00	ug/kg	86

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.757	172	817145	2577.79	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 64.44%			
17) 4-Terphenyl-d14	17.591	244	1364975	2771.44	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery = 69.29%			

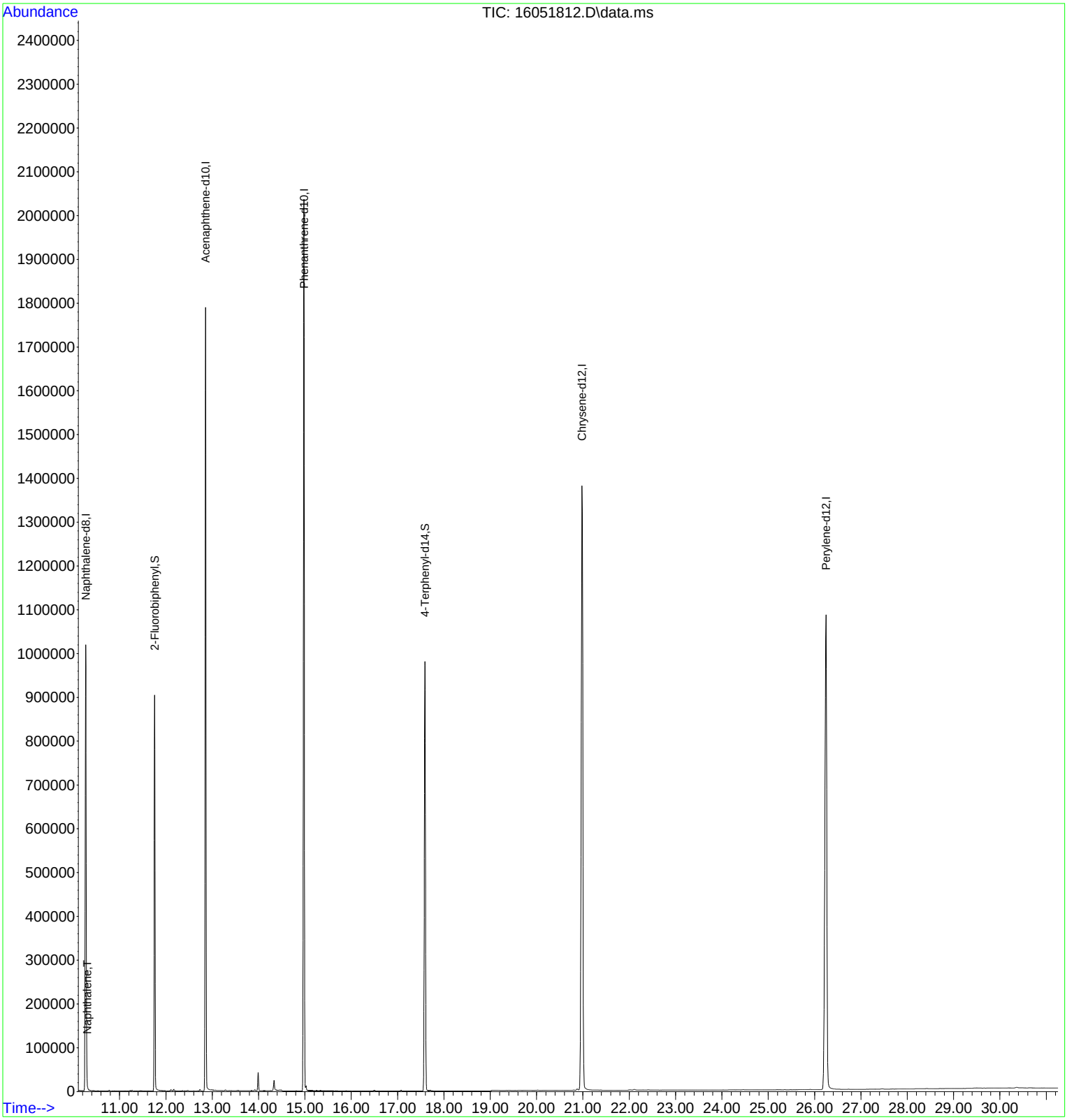
Target Compounds						Qvalue
2) Naphthalene	10.305	128	4690	14.70	ug/kg	97

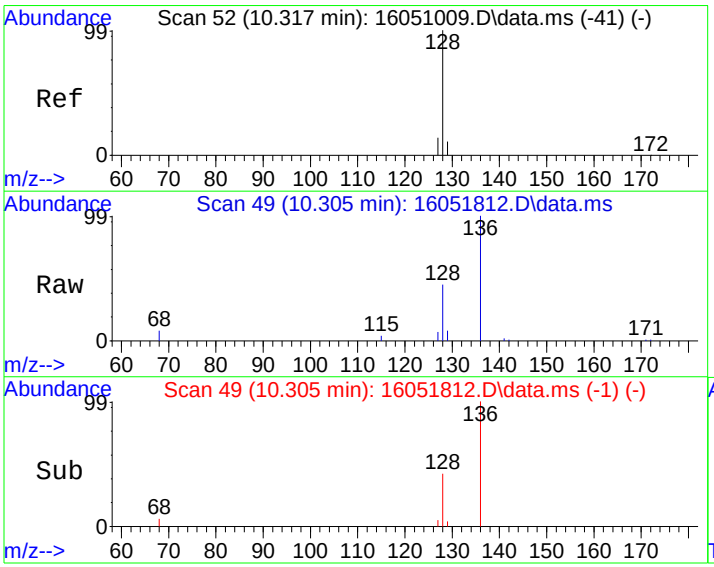
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160518\
Data File : 16051812.D
Acq On : 18 May 2016 3:53 pm
Operator :
Sample : 1605074-34B
Misc : SAMP
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 19 09:18:01 2016
Quant Method : C:\msdchem\1\METHODS\PAH160517.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 18 08:55:04 2016
Response via : Initial Calibration

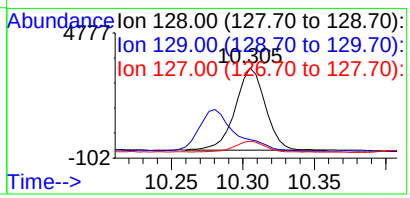




#2
Naphthalene
Concen: 14.70 ug/kg
RT: 10.305 min Scan# 49
Delta R.T. -0.005 min
Lab File: 16051812.D
Acq: 18 May 2016 3:53 pm

Tgt Ion:128 Resp: 4690

Ion	Ratio	Lower	Upper
128	100		
129	13.9	0.0	31.3
127	13.3	0.0	33.6



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160518\
Data File : 16051813.D
Acq On : 18 May 2016 4:30 pm
Operator :
Sample : 1605074-35B
Misc : SAMP
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 19 09:18:04 2016
Quant Method : C:\msdchem\1\METHODS\PAH160517.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 18 08:55:04 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.267	136	1471777	4000.00	ug/kg	90
6) Acenaphthene-d10	12.855	164	1107601	4000.00	ug/kg	88
11) Phenanthrene-d10	14.978	188	2507932	4000.00	ug/kg	86
16) Chrysene-d12	20.981	240	2396096	4000.00	ug/kg	88
20) Perylene-d12	26.247	264	2206146	4000.00	ug/kg	89

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.756	172	857341	2616.29	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	65.41%		
17) 4-Terphenyl-d14	17.590	244	1489284	2936.52	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery =	73.41%		

Target Compounds						Qvalue
2) Naphthalene	10.304	128	5080	15.41	ug/kg	96
12) Phenanthrene	15.014	178	4529	6.56	ug/kg	99
14) Fluoranthene	17.071	202	22085	29.72	ug/kg	98
15) Pyrene	17.701	202	19818	27.02	ug/kg	98
18) Benzo[a]anthracene	20.805	228	14857	22.10	ug/kg	99
19) Chrysene	21.069	228	18220	29.06	ug/kg	100
21) Benzo[b]fluoranthene	24.460	252	20135	32.56	ug/kg	99
22) Benzo[k]fluoranthene	24.541	252	9318	16.52	ug/kg	95
23) Benzo(j)fluoranthene	24.651	252	8260	13.06	ug/kg	92
24) Benzo(e)pyrene	25.727	252	13478	21.76	ug/kg	89
25) Benzo[a]pyrene	25.911	252	17087	29.22	ug/kg	99
26) Indeno[1,2,3-cd]pyrene	29.507	276	15462	20.08	ug/kg	92
28) Benzo[g,h,i]perylene	30.643	276	14344	21.68	ug/kg	99

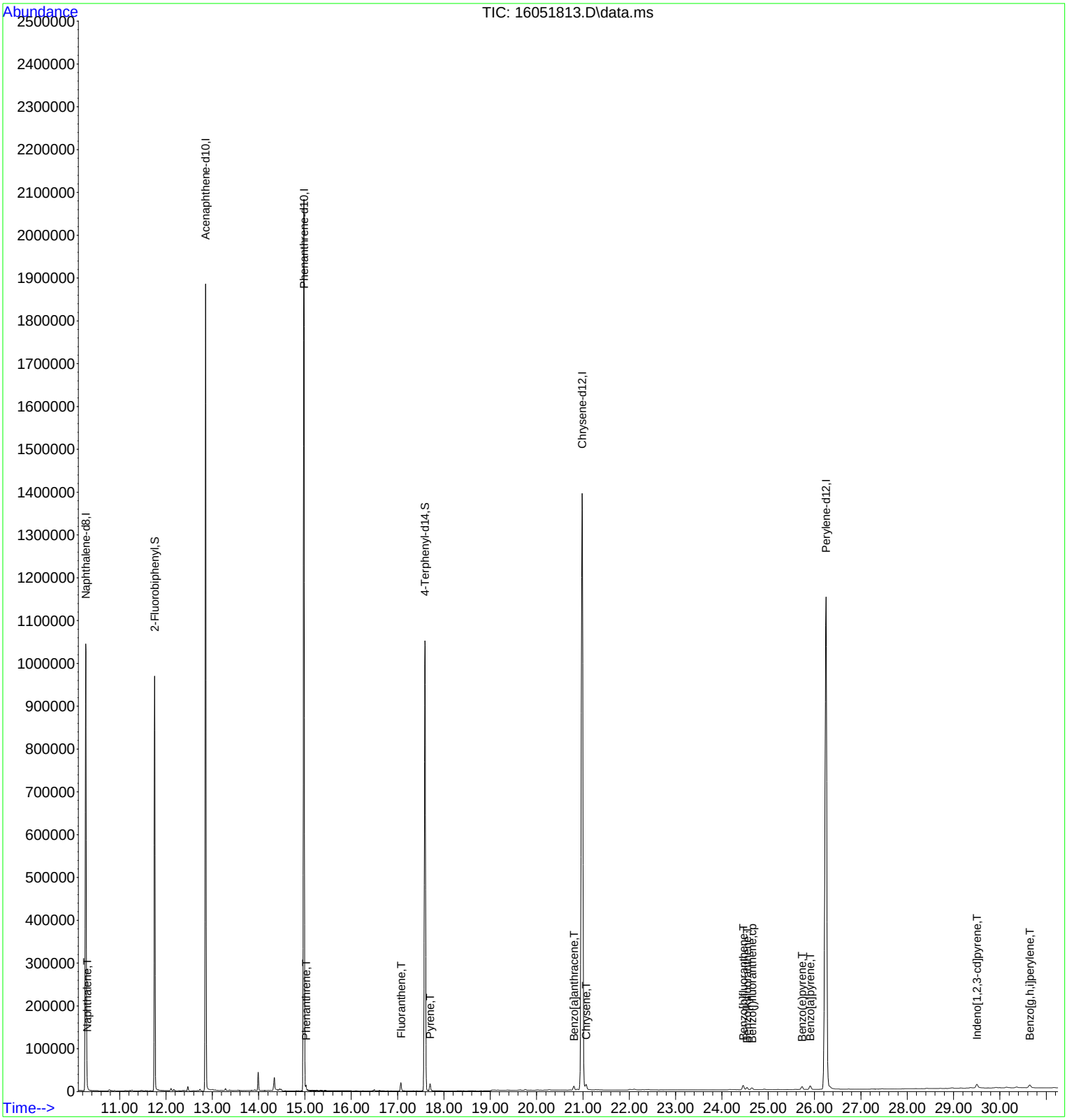
CONFIRMED
By Sherri Herschmann at 4:18:58 PM, 5/23/2016

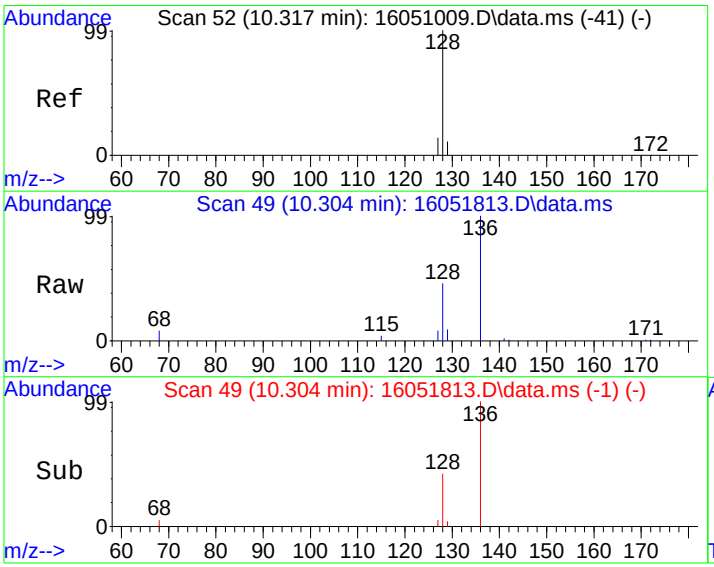
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160518\
Data File : 16051813.D
Acq On : 18 May 2016 4:30 pm
Operator :
Sample : 1605074-35B
Misc : SAMP
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 19 09:18:04 2016
Quant Method : C:\msdchem\1\METHODS\PAH160517.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 18 08:55:04 2016
Response via : Initial Calibration

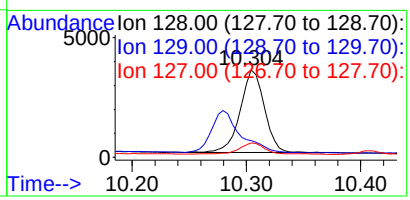


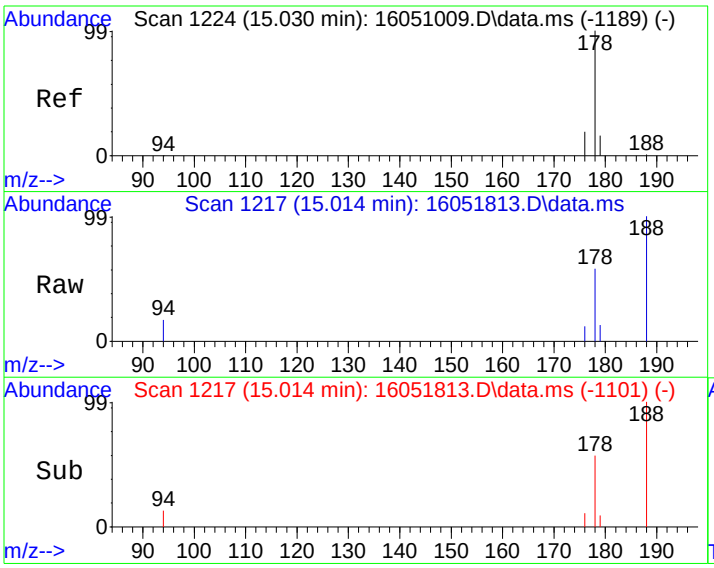


#2
Naphthalene
Concen: 15.41 ug/kg
RT: 10.304 min Scan# 49
Delta R.T. -0.005 min
Lab File: 16051813.D
Acq: 18 May 2016 4:30 pm

Tgt Ion:128 Resp: 5080

Ion	Ratio	Lower	Upper
128	100		
129	14.4	0.0	31.3
127	13.8	0.0	33.6

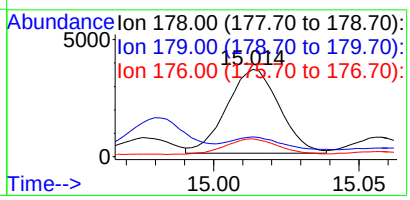


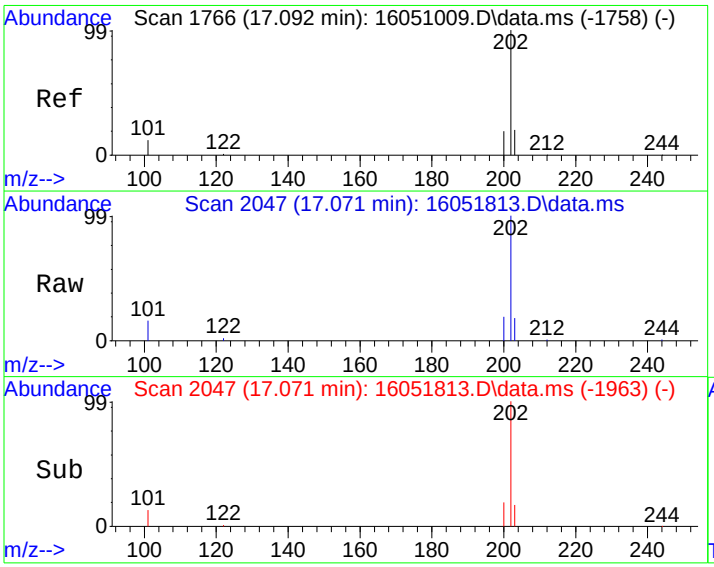


#12
Phenanthrene
Concen: 6.56 ug/kg
RT: 15.014 min Scan# 1217
Delta R.T. -0.006 min
Lab File: 16051813.D
Acq: 18 May 2016 4:30 pm

Tgt Ion:178 Resp: 4529

Ion	Ratio	Lower	Upper
178	100		
179	15.4	0.0	36.4
176	18.9	0.0	39.0

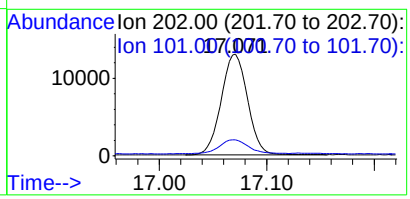


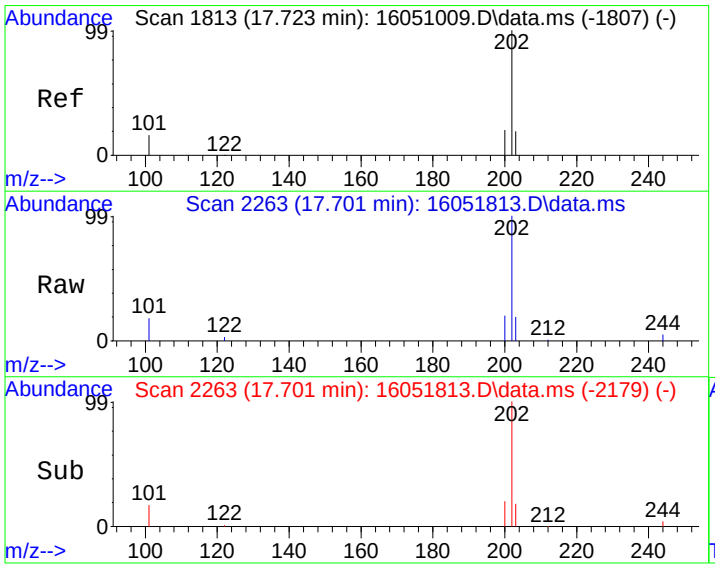


#14
Fluoranthene
Concen: 29.72 ug/kg
RT: 17.071 min Scan# 2047
Delta R.T. -0.005 min
Lab File: 16051813.D
Acq: 18 May 2016 4:30 pm

Tgt Ion:202 Resp: 22085

Ion	Ratio	Lower	Upper
202	100		
101	13.6	0.0	34.4

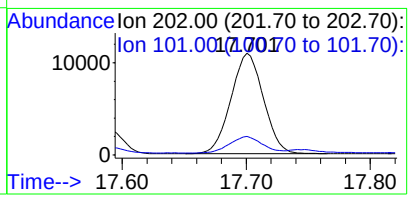


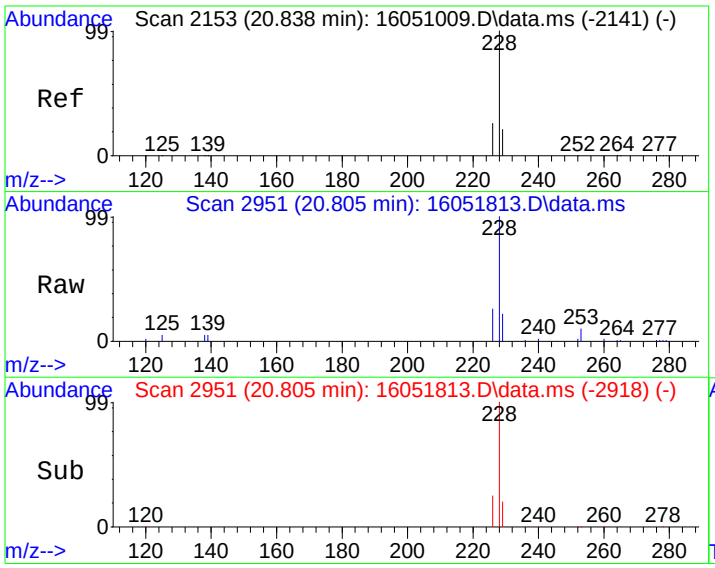


#15
Pyrene
Concen: 27.02 ug/kg
RT: 17.701 min Scan# 2263
Delta R.T. -0.005 min
Lab File: 16051813.D
Acq: 18 May 2016 4:30 pm

Tgt Ion:202 Resp: 19818

Ion	Ratio	Lower	Upper
202	100		
101	16.6	0.0	37.3

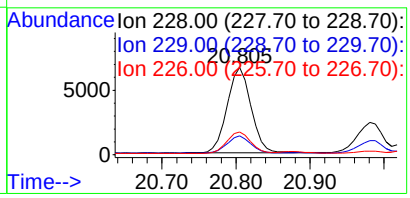


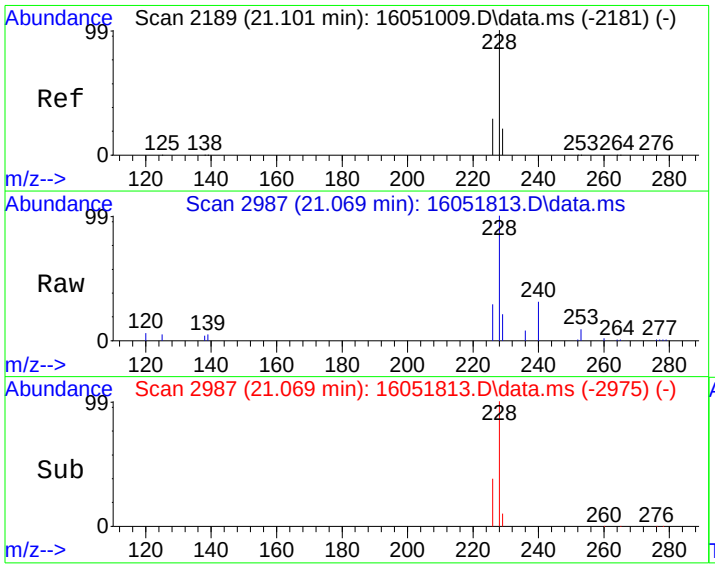


#18
Benzo[a]anthracene
Concen: 22.10 ug/kg
RT: 20.805 min Scan# 2951
Delta R.T. -0.007 min
Lab File: 16051813.D
Acq: 18 May 2016 4:30 pm

Tgt Ion:228 Resp: 14857

Ion	Ratio	Lower	Upper
228	100		
229	20.0	0.3	40.3
226	24.8	5.7	45.7

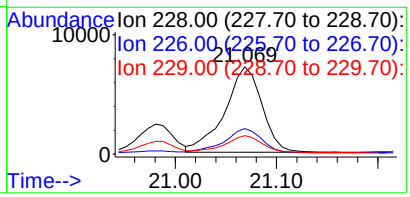


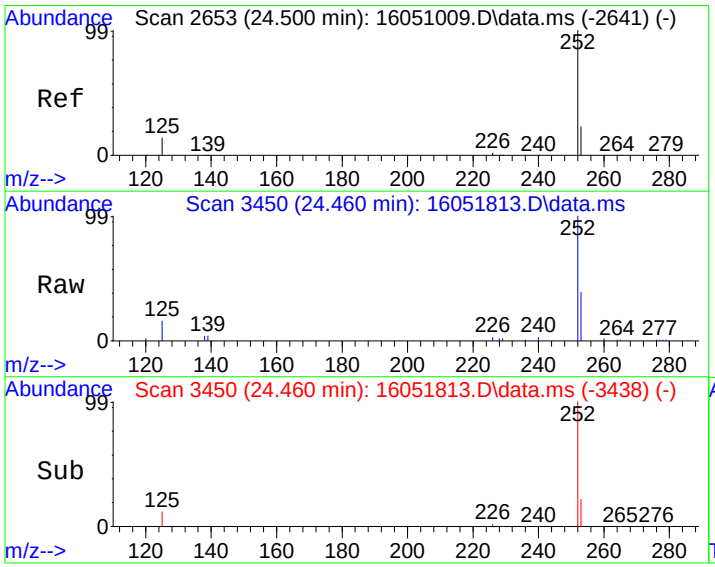


#19
Chrysene
Concen: 29.06 ug/kg
RT: 21.069 min Scan# 2987
Delta R.T. -0.014 min
Lab File: 16051813.D
Acq: 18 May 2016 4:30 pm

Tgt Ion:228 Resp: 18220

Ion	Ratio	Lower	Upper
228	100		
226	28.2	8.2	48.2
229	19.8	0.3	40.3

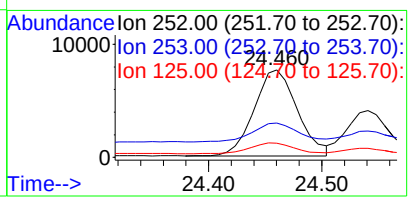


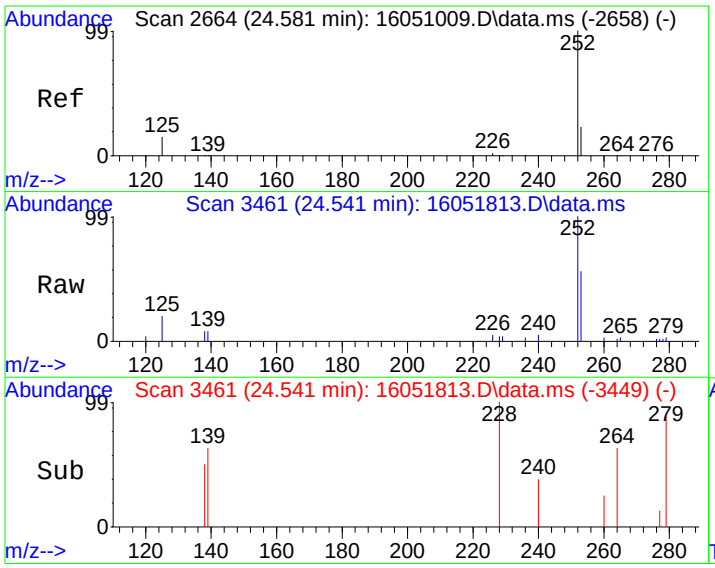


#21
Benzo[b]fluoranthene
Concen: 32.56 ug/kg
RT: 24.460 min Scan# 3450
Delta R.T. -0.015 min
Lab File: 16051813.D
Acq: 18 May 2016 4:30 pm

Tgt Ion:252 Resp: 20135

Ion	Ratio	Lower	Upper
252	100		
253	21.8	2.3	42.3
125	12.0	0.0	32.2

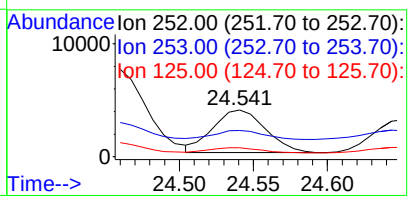


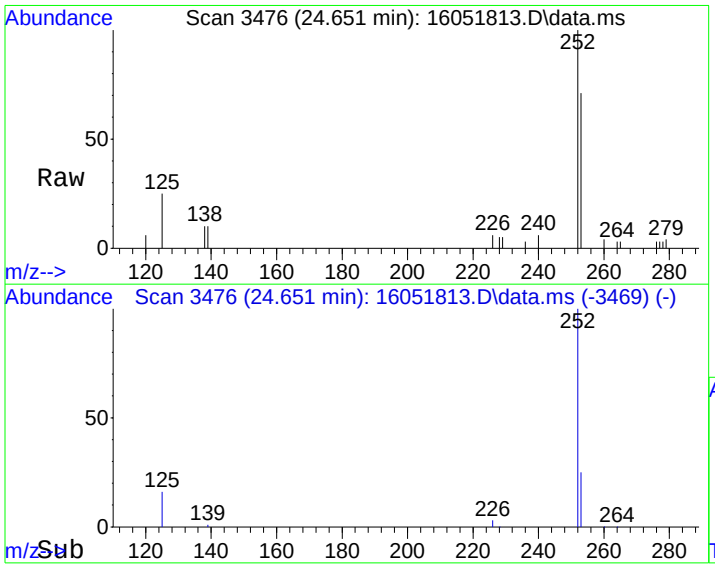


#22
Benzo[k]fluoranthene
Concen: 16.52 ug/kg
RT: 24.541 min Scan# 3461
Delta R.T. -0.014 min
Lab File: 16051813.D
Acq: 18 May 2016 4:30 pm

Tgt Ion:252 Resp: 9318

Ion	Ratio	Lower	Upper
252	100		
253	19.4	2.5	42.5
125	12.1	0.0	32.6

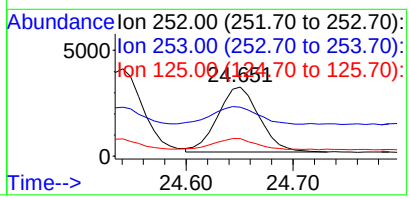


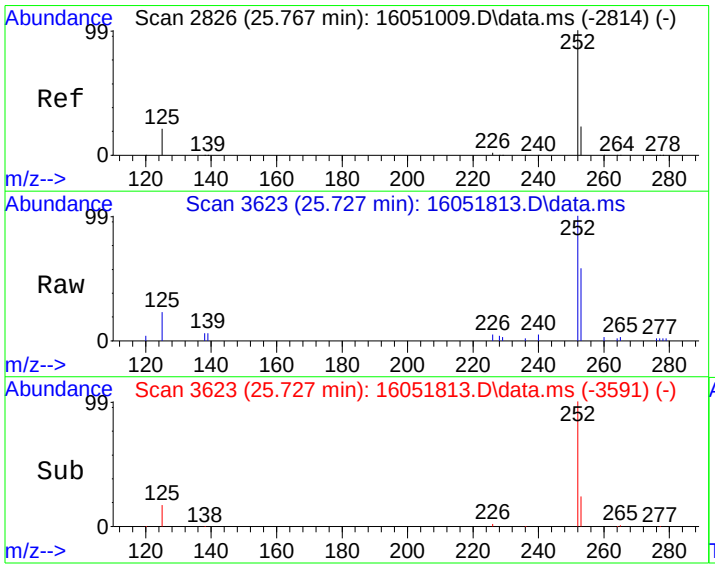


#23
Benzo(j)fluoranthene
Concen: 13.06 ug/kg
RT: 24.651 min Scan# 3476
Delta R.T. -0.014 min
Lab File: 16051813.D
Acq: 18 May 2016 4:30 pm

Tgt Ion:252 Resp: 8260

Ion	Ratio	Lower	Upper
252	100		
253	28.9	2.2	42.2
125	17.2	0.0	37.3

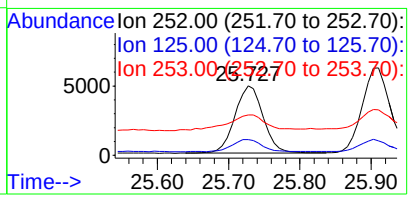


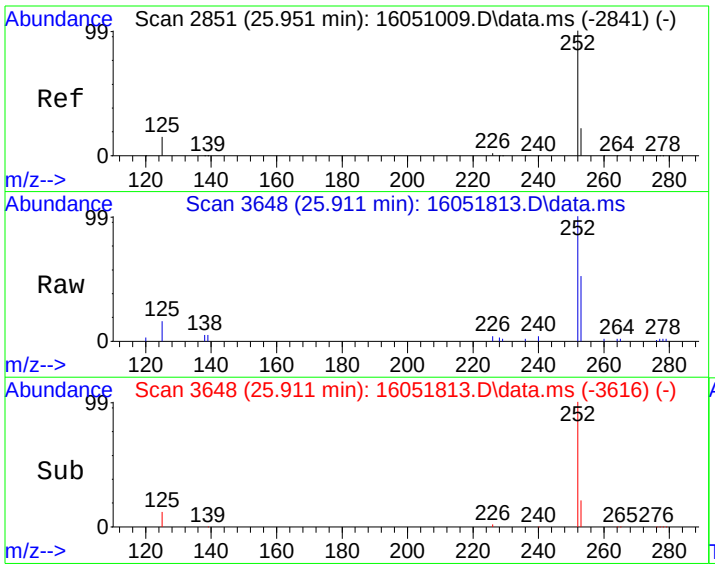


#24
Benzo(e)pyrene
Concen: 21.76 ug/kg
RT: 25.727 min Scan# 3623
Delta R.T. -0.015 min
Lab File: 16051813.D
Acq: 18 May 2016 4:30 pm

Tgt Ion:252 Resp: 13478

Ion	Ratio	Lower	Upper
252	100		
125	18.3	0.0	38.7
253	31.4	2.3	42.3

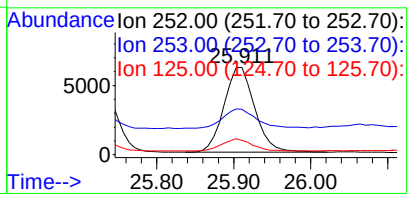


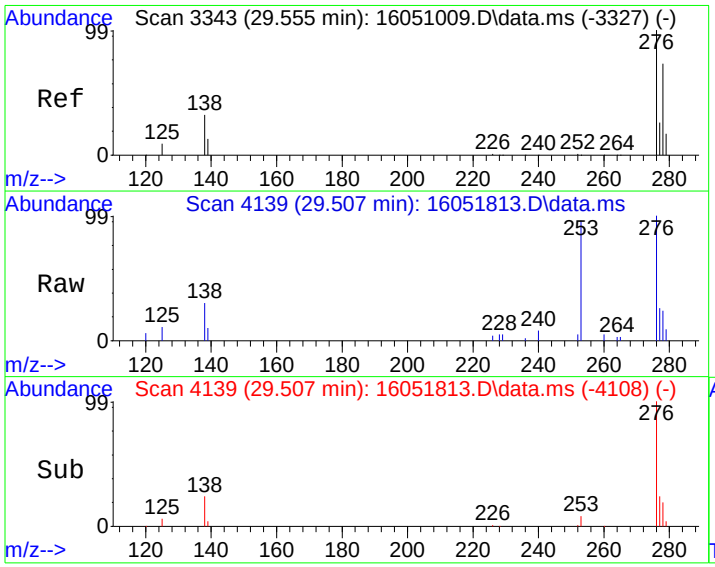


#25
Benzo[a]pyrene
Concen: 29.22 ug/kg
RT: 25.911 min Scan# 3648
Delta R.T. -0.014 min
Lab File: 16051813.D
Acq: 18 May 2016 4:30 pm

Tgt Ion:252 Resp: 17087

Ion	Ratio	Lower	Upper
252	100		
253	22.2	2.3	42.3
125	12.3	0.0	33.5

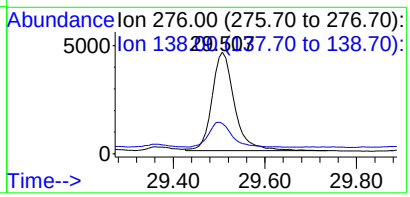


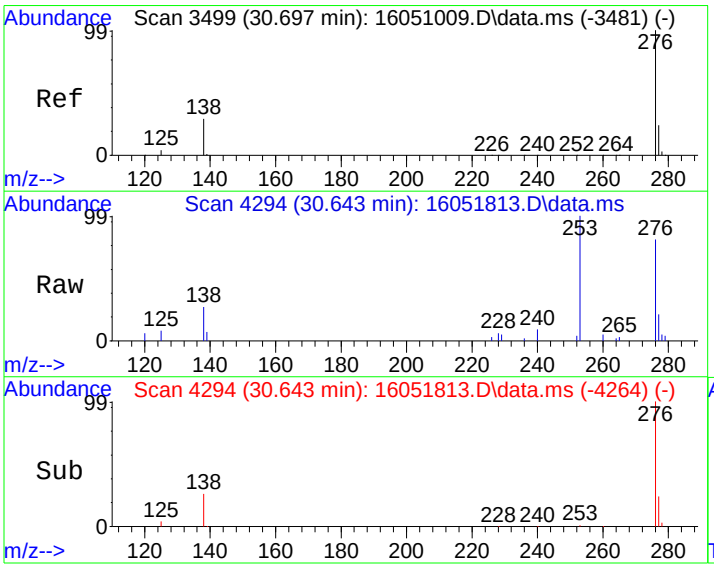


#26
Indeno[1,2,3-cd]pyrene
Concen: 20.08 ug/kg
RT: 29.507 min Scan# 4139
Delta R.T. -0.022 min
Lab File: 16051813.D
Acq: 18 May 2016 4:30 pm

Tgt Ion:276 Resp: 15462

Ion	Ratio	Lower	Upper
276	100		
138	24.1	8.3	48.3

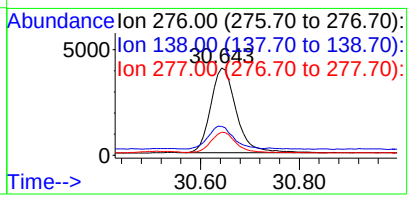




#28
Benzo[g,h,i]perylene
Concen: 21.68 ug/kg
RT: 30.643 min Scan# 4294
Delta R.T. -0.029 min
Lab File: 16051813.D
Acq: 18 May 2016 4:30 pm

Tgt Ion:276 Resp: 14344

Ion	Ratio	Lower	Upper
276	100		
138	26.8	5.8	45.8
277	24.3	4.4	44.4



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160518\
Data File : 16051820.D
Acq On : 18 May 2016 8:49 pm
Operator :
Sample : ICV2-160518
Misc : ICV
ALS Vial : 20 Sample Multiplier: 1

Quant Time: May 19 09:16:25 2016
Quant Method : C:\msdchem\1\METHODS\PAH160517.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 18 08:55:04 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.270	136	1541947	4000.00	ug/kg	95
6) Acenaphthene-d10	12.857	164	1207997	4000.00	ug/kg	96
11) Phenanthrene-d10	14.979	188	2731012	4000.00	ug/kg	93
16) Chrysene-d12	20.989	240	2535151	4000.00	ug/kg	94
20) Perylene-d12	26.248	264	2319324	4000.00	ug/kg	93

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.755	172	660318	1923.35	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	48.08%		
17) 4-Terphenyl-d14	17.587	244	1090974	2033.15	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery =	50.83%#		

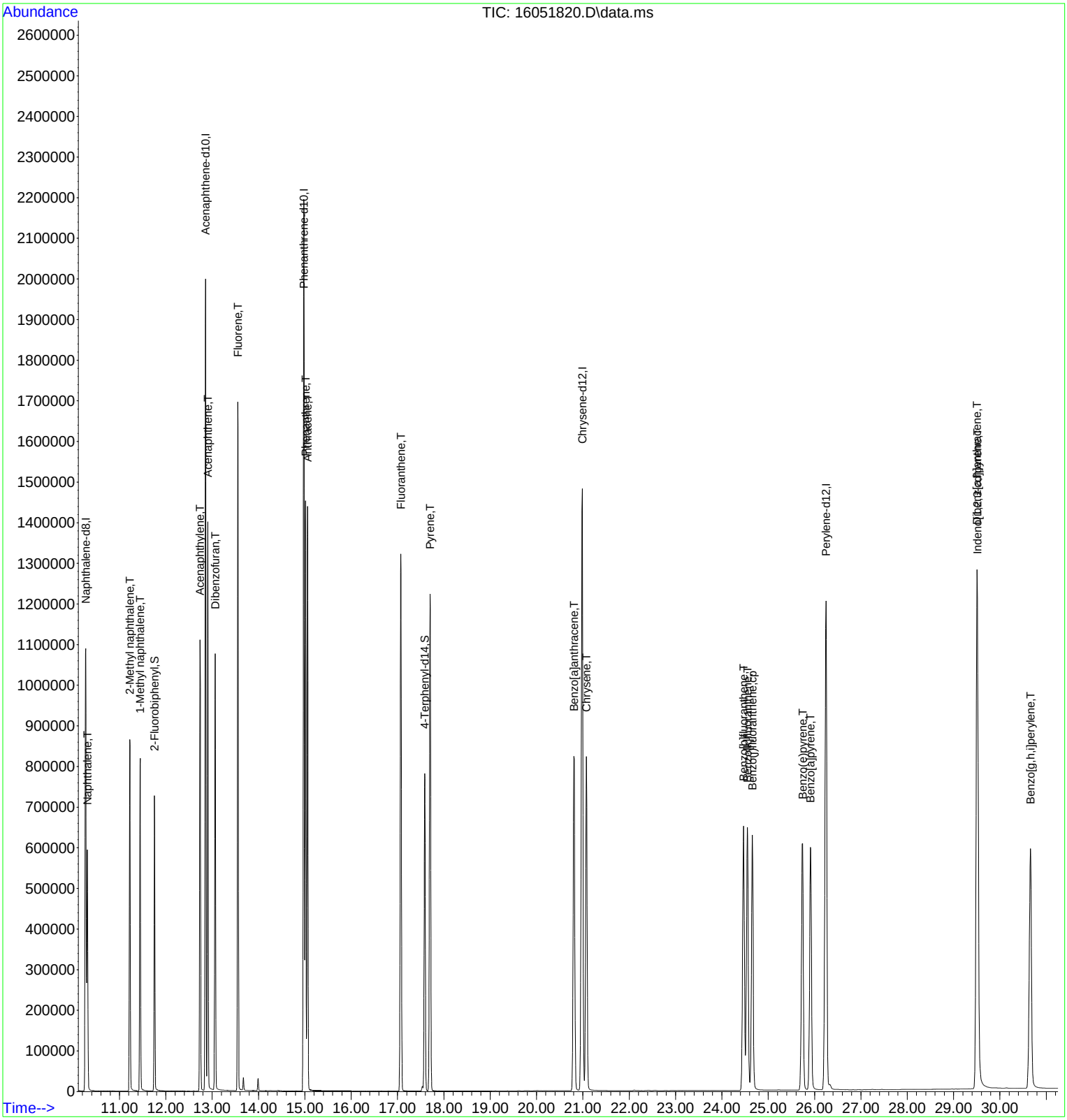
Target Compounds						Qvalue
2) Naphthalene	10.303	128	692653	2005.15	ug/kg	100
3) 2-Methyl naphthalene	11.224	142	543376	2023.46	ug/kg	99
4) 1-Methyl naphthalene	11.446	142	498034	1959.89	ug/kg	99
7) Acenaphthylene	12.739	152	1052817	1993.89	ug/kg	100
8) Acenaphthene	12.906	153	669198	2008.49	ug/kg	100
9) Dibenzofuran	13.064	168	1014806	1999.41	ug/kg	98
10) Fluorene	13.555	166	927758	2014.57	ug/kg	100
12) Phenanthrene	15.015	178	1399624	1862.57	ug/kg	100
13) Anthracene	15.059	178	1414791	1860.66	ug/kg	99
14) Fluoranthene	17.071	202	1484668	2072.21	ug/kg	99
15) Pyrene	17.704	202	1458241	2070.73	ug/kg	99
18) Benzo[a]anthracene	20.805	228	1322898	2110.03	ug/kg	100
19) Chrysene	21.076	228	1217225	2099.27	ug/kg	100
21) Benzo[b]fluoranthene	24.468	252	1259735	2120.76	ug/kg	100
22) Benzo[k]fluoranthene	24.549	252	1175849	2185.94	ug/kg	99
23) Benzo(j)fluoranthene	24.658	252	1091106	2125.31	ug/kg	100
24) Benzo(e)pyrene	25.742	252	1183382	2110.90	ug/kg	100
25) Benzo[a]pyrene	25.918	252	1185414	2132.02	ug/kg	100
26) Indeno[1,2,3-cd]pyrene	29.522	276	1433865	2107.85	ug/kg	98
27) Dibenz[a,h]anthracene	29.508	278	1204388	2131.84	ug/kg	99
28) Benzo[g,h,i]perylene	30.658	276	1254977	2139.12	ug/kg	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160518\
Data File : 16051820.D
Acq On : 18 May 2016 8:49 pm
Operator :
Sample : ICV2-160518
Misc : ICV
ALS Vial : 20 Sample Multiplier: 1

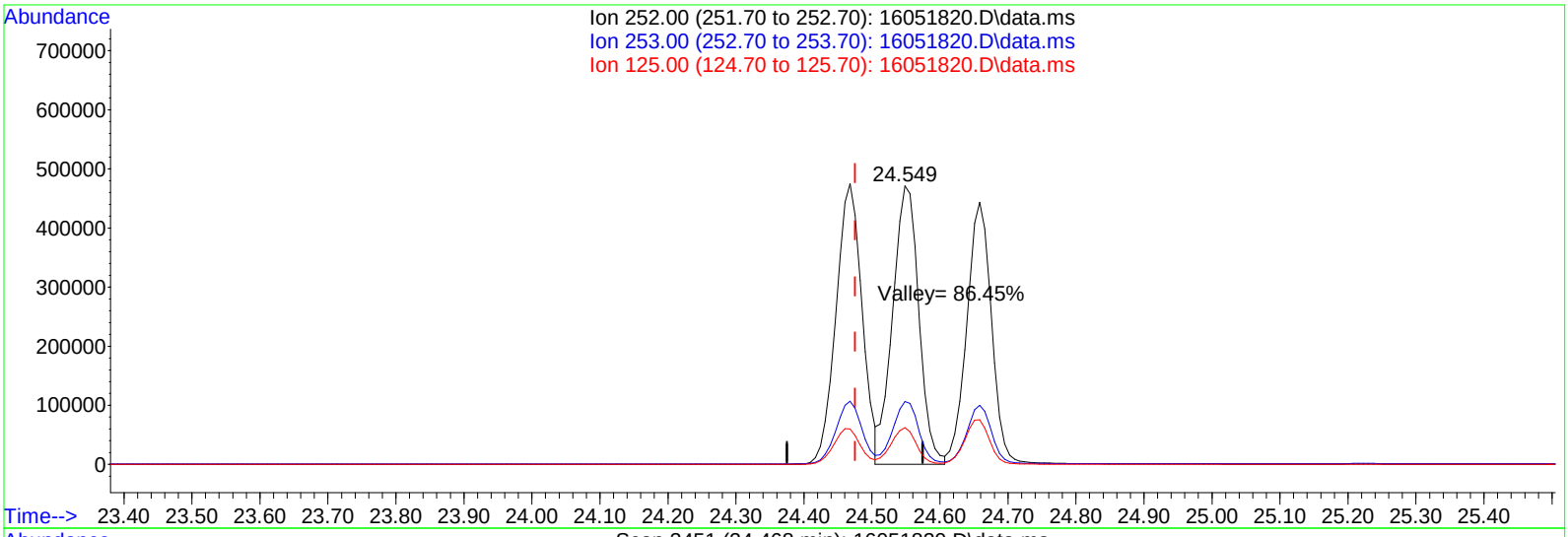
Quant Time: May 19 09:16:25 2016
Quant Method : C:\msdchem\1\METHODS\PAH160517.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 18 08:55:04 2016
Response via : Initial Calibration

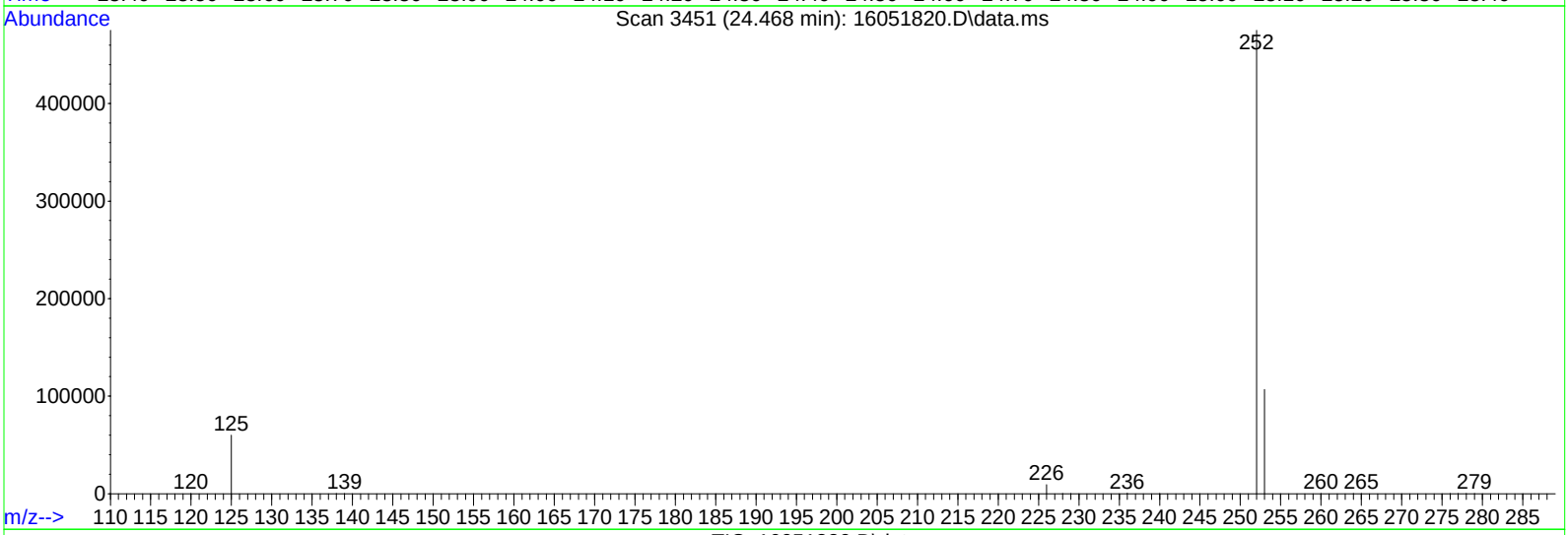


Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\160518\
Data File : 16051820.D
Acq On : 18 May 2016 8:49 pm
Operator :
Sample : ICV2-160518
Misc : ICV
ALS Vial : 20 Sample Multiplier: 1

Quant Time: May 18 21:20:24 2016
Quant Method : C:\MSDCHEM\1\METHODS\PAH160517.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 18 08:55:04 2016
Response via : Initial Calibration





TIC: 16051820.D\data.ms

(21) Benzo[b]fluoranthene (T)

24.468min (-0.007) 2120.76ug/kg

response 1259735

Ion	Exp%	Act%
252.00	100	100
253.00	22.30	22.27
125.00	12.20	12.57
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160518\
Data File : 16051822.D
Acq On : 18 May 2016 10:03 pm
Operator :
Sample : SBLK-160518
Misc : SBLK
ALS Vial : 22 Sample Multiplier: 1

Quant Time: May 19 09:16:28 2016
Quant Method : C:\msdchem\1\METHODS\PAH160517.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 18 08:55:04 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.268	136	1648675	4000.00	ug/kg	101
6) Acenaphthene-d10	12.857	164	1399121	4000.00	ug/kg	112
11) Phenanthrene-d10	14.977	188	2780441	4000.00	ug/kg	95
16) Chrysene-d12	20.980	240	2664039	4000.00	ug/kg	98
20) Perylene-d12	26.247	264	2504352	4000.00	ug/kg	101

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.761	172	70	0.19	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 0.00%#			
17) 4-Terphenyl-d14	17.592	244	276	0.49	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery = 0.01%#			

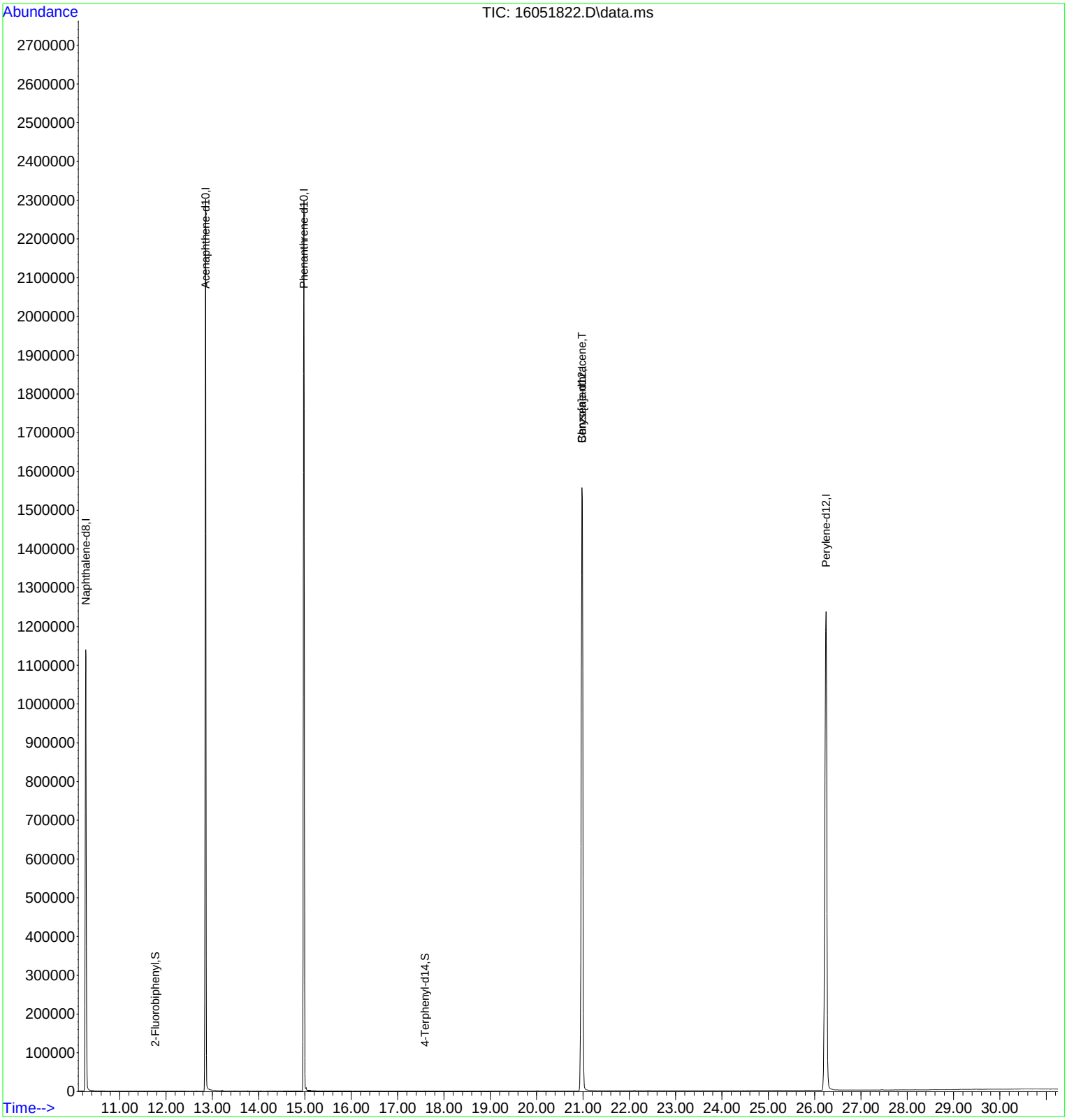
Target Compounds						Qvalue
18) Benzo[a]anthracene	20.980	228	6062	6.97	ug/kg	77

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160518\
Data File : 16051822.D
Acq On : 18 May 2016 10:03 pm
Operator :
Sample : SBLK-160518
Misc : SBLK
ALS Vial : 22 Sample Multiplier: 1

Quant Time: May 19 09:16:28 2016
Quant Method : C:\msdchem\1\METHODS\PAH160517.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 18 08:55:04 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160518\
Data File : 16051830.D
Acq On : 19 May 2016 2:59 am
Operator :
Sample : CCV-160520
Misc : CCV
ALS Vial : 30 Sample Multiplier: 1

Quant Time: May 19 09:16:31 2016
Quant Method : C:\msdchem\1\METHODS\PAH160517.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 18 08:55:04 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.270	136	1631750	4000.00	ug/kg	100
6) Acenaphthene-d10	12.857	164	1319311	4000.00	ug/kg	105
11) Phenanthrene-d10	14.979	188	2784459	4000.00	ug/kg	95
16) Chrysene-d12	20.987	240	2573498	4000.00	ug/kg	95
20) Perylene-d12	26.254	264	2394128	4000.00	ug/kg	96

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.759	172	363303	999.98	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 25.00%#			
17) 4-Terphenyl-d14	17.589	244	544298	999.25	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery = 24.98%#			

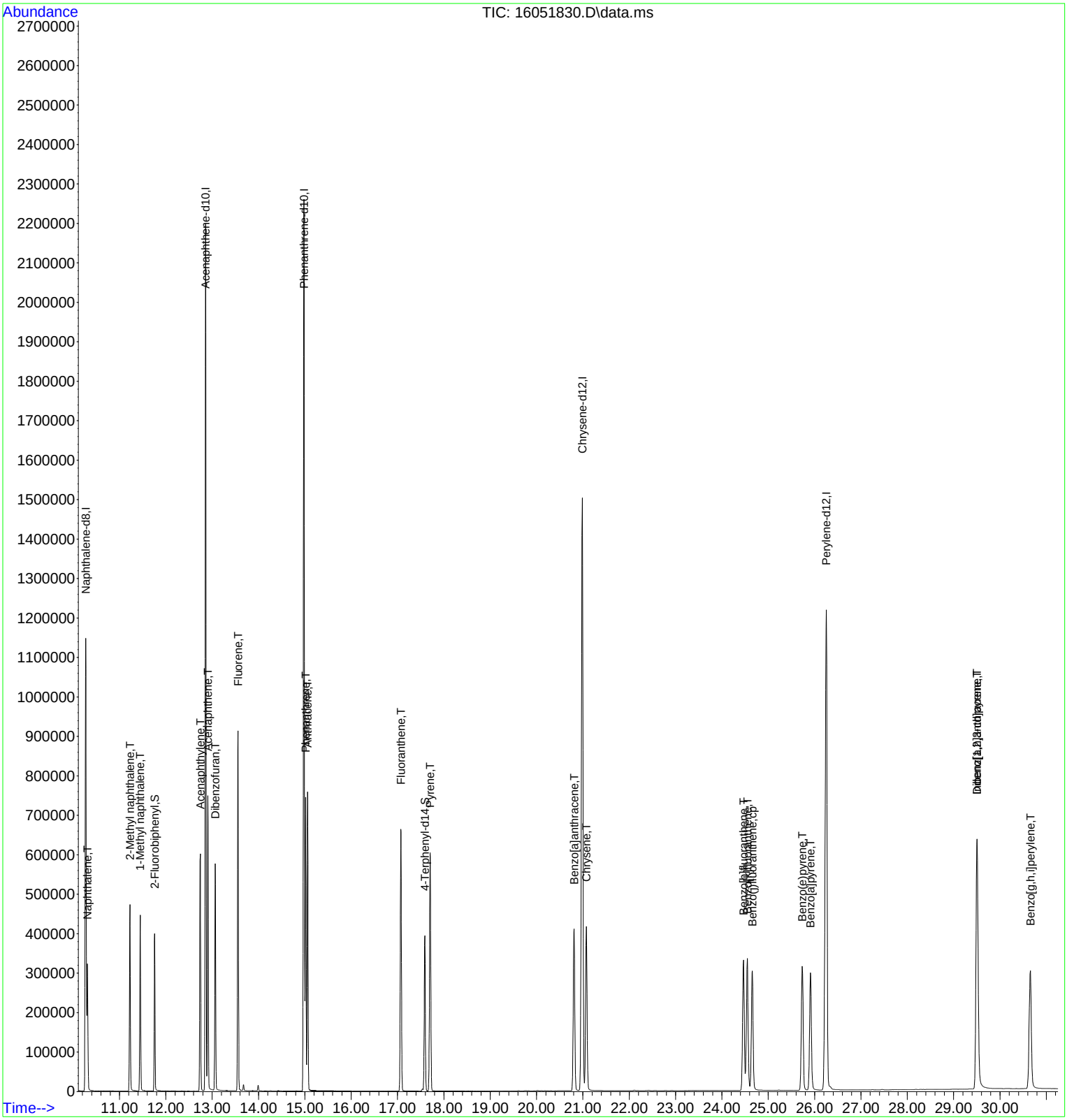
Target Compounds						Qvalue
2) Naphthalene	10.307	128	357903	979.07	ug/kg	100
3) 2-Methyl naphthalene	11.224	142	290768	1023.19	ug/kg	100
4) 1-Methyl naphthalene	11.446	142	267657	995.33	ug/kg	100
7) Acenaphthylene	12.744	152	575333	997.67	ug/kg	99
8) Acenaphthene	12.906	153	360034	989.41	ug/kg	98
9) Dibenzofuran	13.063	168	545327	983.77	ug/kg	91
10) Fluorene	13.559	166	492027	978.26	ug/kg	100
12) Phenanthrene	15.015	178	720203	940.02	ug/kg	99
13) Anthracene	15.059	178	727233	938.06	ug/kg	99
14) Fluoranthene	17.071	202	741258	983.41	ug/kg	100
15) Pyrene	17.703	202	725670	984.46	ug/kg	98
18) Benzo[a]anthracene	20.811	228	655624	1002.53	ug/kg	99
19) Chrysene	21.075	228	607054	1004.84	ug/kg	100
21) Benzo[b]fluoranthene	24.466	252	630356	1005.29	ug/kg	100
22) Benzo[k]fluoranthene	24.547	252	586004	1036.28	ug/kg	99
23) Benzo(j)fluoranthene	24.657	252	547475	1008.23	ug/kg	99
24) Benzo(e)pyrene	25.734	252	600311	1012.62	ug/kg	99
25) Benzo[a]pyrene	25.909	252	592256	1013.62	ug/kg	99
26) Indeno[1,2,3-cd]pyrene	29.513	276	732052	1018.20	ug/kg	99
27) Dibenz[a,h]anthracene	29.499	278	612851	1023.88	ug/kg	100
28) Benzo[g,h,i]perylene	30.656	276	630506	1016.87	ug/kg	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160518\
Data File : 16051830.D
Acq On : 19 May 2016 2:59 am
Operator :
Sample : CCV-160520
Misc : CCV
ALS Vial : 30 Sample Multiplier: 1

Quant Time: May 19 09:16:31 2016
Quant Method : C:\msdchem\1\METHODS\PAH160517.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 18 08:55:04 2016
Response via : Initial Calibration



GCMS8
Calibration Curve
For

DHL Work Order
1605074

CAL ID: 658

Method 8270 PAH Calibration Curve Sheet

Instrument ID: GCMS #8 **Calibration File Name:** PP160510.CAL

Target Concentration	Solvent Amount mL	Standard Preparation Stocks and Surrogate (µL/mL)	Final Volume mL
5 ppb	0.999	0.001 mL of 5000 ppb	1
10 ppb	0.998	0.002 mL of 5000 ppb	1
50 ppb	0.990	0.01 mL of 5000 ppb	1
100 ppb	0.980	0.02 mL of 5000 ppb	1
500 ppb	0.900	0.10 mL of 5000 ppb	1
1000 ppb	0.800	0.20 mL of 5000 ppb	1
2000 ppb	0.600	0.40 mL of 5000 ppb	1
5000 ppb	----	PAHCAL160510	10
SSCV 2500 ppb	0.500	0.50 mL of PAHSSCV160510-1	1
SSCV 2500 ppb	----	PAHSSCV160510-2	1

Standards Used for the Calibration Curve

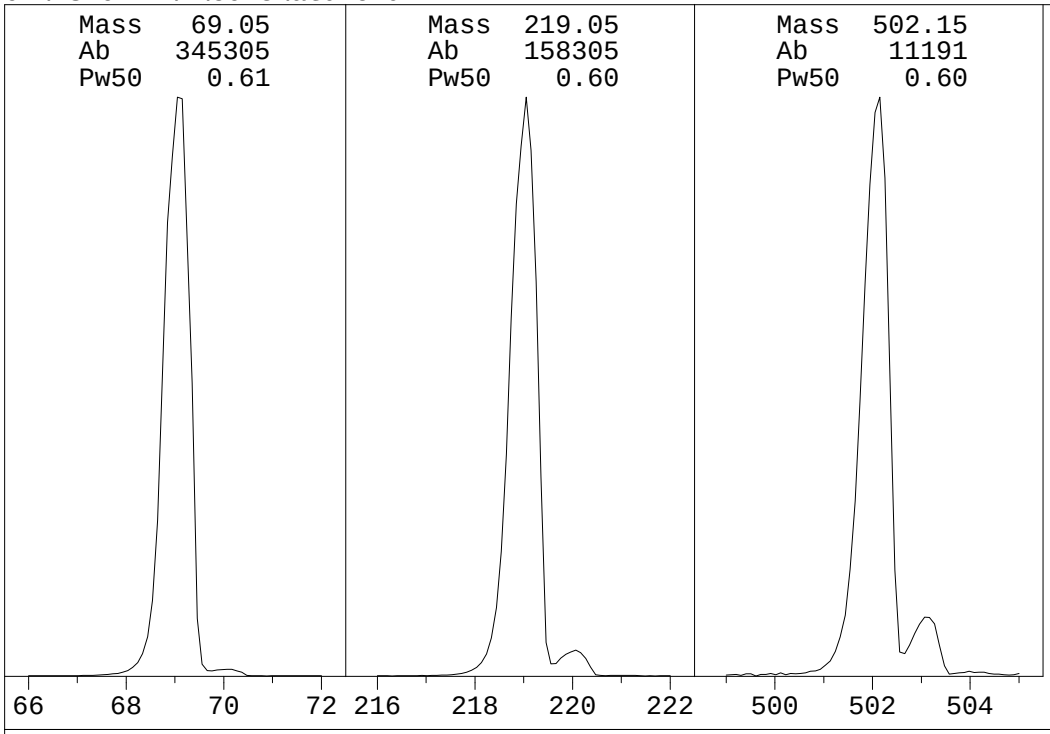
Primary Stock STDs	DHL Standard ID	Second Source (SS) Stock STDs	DHL Standard ID
5 PPM (5000 PPB) PAH CAL STD	**PAHCAL160510**	5PPM (5000PPB) PAH SSCV STD	**PAHSSCV160510-1**
		5PPM (5000PPB) PAH SSCV STD	**PAHSSCV160510-2**

Review Item	Acceptance Criteria	Yes	No	N/A	2nd Level Review
1. Are all standards within expiration dates?	Primary Stocks = 1 year Intermediate Standards = 6 months	X			x
2. Are all manual integrations listed on MI tracking form? **(DoD Projects only)**	Manual Integration Tracking Form			X	x
3. Does the tune and resolution check meet criteria?	Benzo(b) / Benzo(k)phenanthrene Valley > 50% See Tune Eval Report	X			x
4. Does the ICAL curve meet criteria? Use average CF only if %RSD < 15%	%RSD < 15% COD ≥ 0.990	X			x
5. Has the low point been reprocessed under the new ICAL curve and meets criteria?	70-130% recovery	X			x
6. Has the SSCV been analyzed and meets criteria?	80-120% recovery	X			x

Analyst: Don Winston Date: 05/11/16

Second-Level Review: Date: 05/13/16

Tue May 10 17:43:08 2016 Instrument: GCMS #8
C:\MSDCHEM\1\5973\atune.u

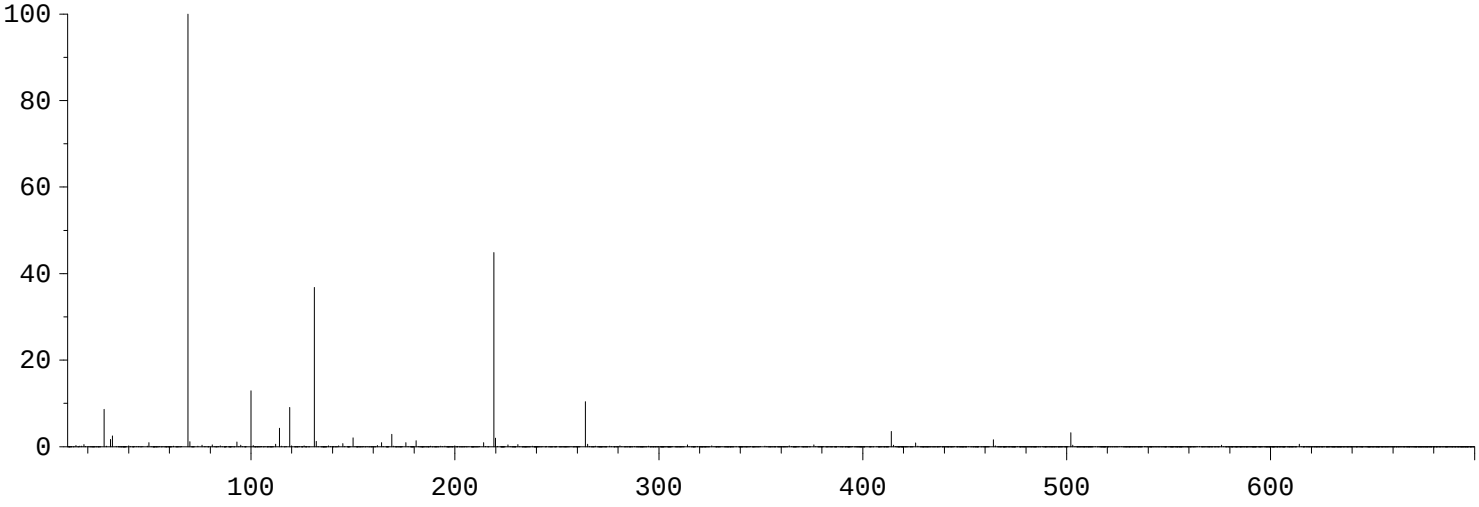


Ion Pol	POS	MassGain	48
		MassOffs	-11
Emission	34.6	AmuGain	2098
EIEnrgy	69.9	AmuOffs	132
Filament	2	Wid219	-0.001
		DC Pol	NEG
Repeller	37.83		
IonFcus	95.9	HEDEnab	ON
EntLens	12.0	EMVolts	1129
EntOffs	19.33		
		Samples	8
PFTBA	OPEN	Averages	3
		Stepsize	0.10

Zones:

MS Source	230	Foreline	42
MS Quad	150		

Scan: 10.00 - 700.00 Samples: 8 Thresh: 0 Step: 0.10
1104 peaks Base: 69.05 Abundance: 313856



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.05	313856	100.00	70.05	3636	1.16
219.05	140864	44.88	219.95	6244	4.43
502.05	10193	3.25	503.05	1021	10.02

Air/Water Check: H20~0.52% N2~8.62% O2~2.46% CO2~0.08% N2/H2O~1654.80%

Column Flow: Front: 0 Back: 1.887 ml/min. Interface Temp: 310

Ramp Criteria:
Ion Focus Maximum 125 volts using ion 219; EM Gain 4120
Repeller Maximum 38 volts using ion 502;

MassGain Values @Samples: 45@3 45@2 45@1 45@0 48@FS

TARGET MASS:	50	69	131	219	414	502	800
Amu Offset:	132.0	132.0	132.0	132.0	132.0	132.0	132.0
Entrance Lens Offset:	19.3	19.3	19.3	19.3	19.3	19.3	19.3

Response Factor Report GCMS #8

Method Path : C:\msdchem\1\METHODS\
Method File : PAH160510.M
Title : CLP BNA Calibration - Large Volume Injection
Last Update : Wed May 11 10:43:33 2016
Response Via : Initial Calibration

Calibration Files
1 =16051003.D 2 =16051004.D 3 =16051005.D 4 =16051006.D 5 =16051007.D 6 =16051008.D 7 =16051009.D
8 =16051010.D

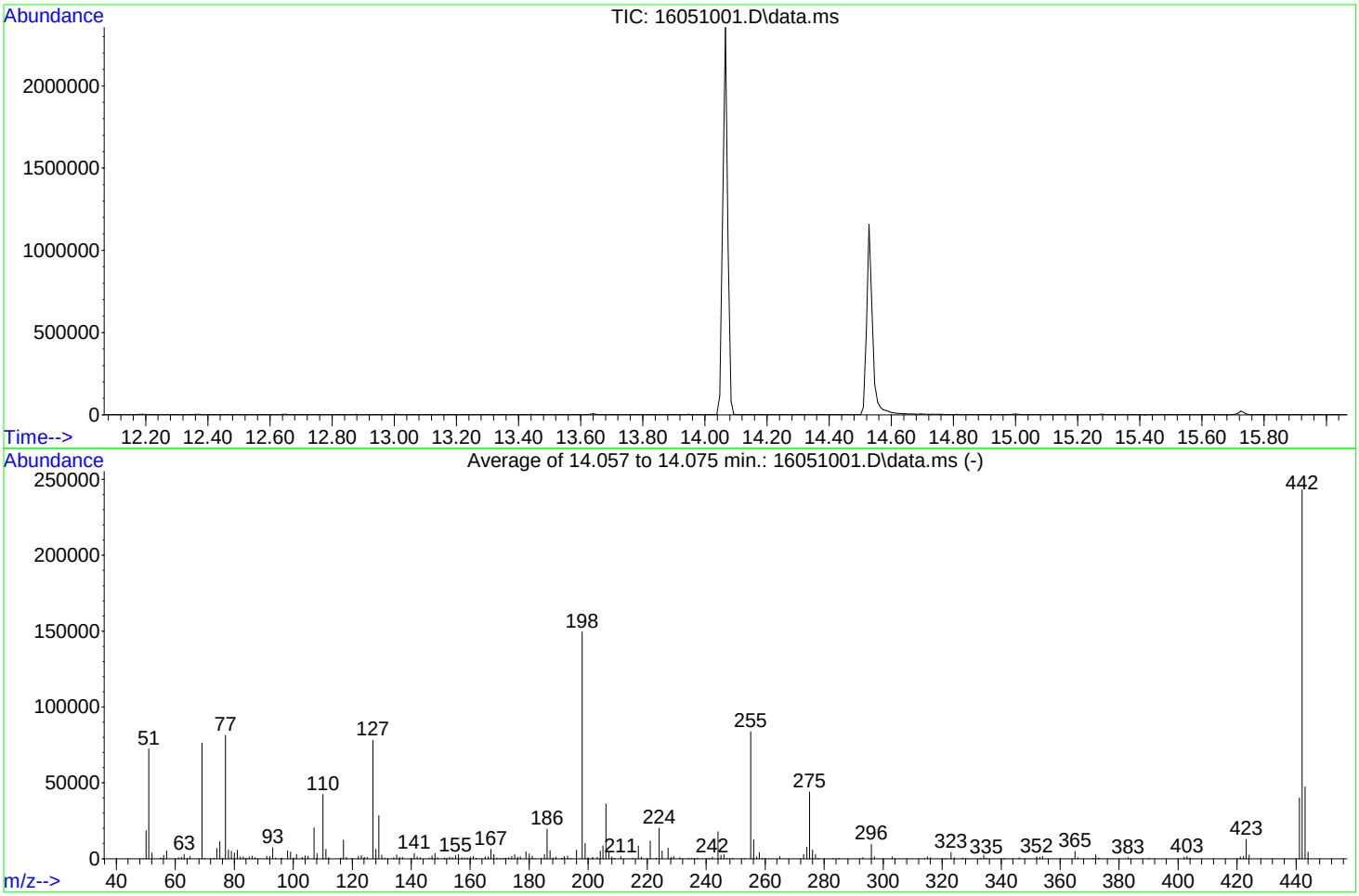
		Compound	1	2	3	4	5	6	7	8	Avg	%RSD	Fit	RSD/CF	Constant	Linear	Quad
1)	I	Naphthalene-d8	----------ISTD----------														
2)	T	Naphthalene	0.990	0.957	0.981	0.991	0.980	0.983	0.972	0.901	0.969	3.05	A	0.0305	0.0000	0.9694	0.0000
3)	T	2-Methyl napht...	0.422	0.448	0.511	0.539	0.631	0.672	0.671	0.637	0.566	17.63	*Q	0.9991	-0.0006	0.6679	-0.0223
4)	T	1-Methyl napht...	0.579	0.555	0.575	0.595	0.665	0.661	0.642	0.594	0.608	6.89	A	0.0689	0.0000	0.6083	0.0000
5)	S	2-Fluorobiphenyl	0.801	0.710	0.768	0.789	0.820	0.840	0.809	0.752	0.786	5.28	A	0.0528	0.0000	0.7862	0.0000
6)	I	Acenaphthene-d10	----------ISTD----------														
7)	T	Acenaphthylene	1.977	1.879	1.907	1.925	1.894	1.889	1.874	1.694	1.880	4.37	A	0.0437	0.0000	1.8797	0.0000
8)	T	Acenaphthene	1.251	1.184	1.210	1.217	1.191	1.200	1.179	1.085	1.190	4.04	A	0.0404	0.0000	1.1895	0.0000
9)	T	Dibenzofuran	2.007	1.939	1.988	1.985	1.943	1.925	1.867	1.713	1.921	4.94	A	0.0494	0.0000	1.9209	0.0000
10)	T	Fluorene	1.915	1.810	1.845	1.817	1.805	1.821	1.760	1.680	1.806	3.73	A	0.0373	0.0000	1.8065	0.0000
11)	I	Phenanthrene-d10	----------ISTD----------														
12)	T	Phenanthrene	1.345	1.221	1.191	1.165	1.134	1.129	1.104	0.971	1.158	9.20	A	0.0920	0.0000	1.1577	0.0000
13)	T	Anthracene	1.456	1.302	1.300	1.290	1.248	1.211	1.197	1.032	1.254	9.57	A	0.0957	0.0000	1.2543	0.0000
14)	T	Fluoranthene	1.832	1.581	1.558	1.594	1.510	1.453	1.427	1.165	1.515	12.40	A	0.1240	0.0000	1.5151	0.0000
15)	T	Pyrene	1.863	1.601	1.565	1.586	1.498	1.446	1.422	1.176	1.520	12.79	A	0.1279	0.0000	1.5196	0.0000
16)	I	Chrysene-d12	----------ISTD----------														
17)	S	4-Terphenyl-d14	1.049	0.947	0.949	0.924	0.908	0.894	0.798	0.924	8.11	A	0.0811	0.0000	0.9242	0.0000	
18)	T	Benzo[a]anthra...	1.301	1.142	1.093	1.121	1.113	1.121	1.111	0.994	1.124	7.50	A	0.0750	0.0000	1.1244	0.0000
19)	T	Chrysene	1.199	1.032	1.009	1.027	1.021	1.020	1.013	0.913	1.029	7.60	A	0.0760	0.0000	1.0293	0.0000
20)	I	Perylene-d12	----------ISTD----------														
21)	T	Benzo[b]fluora...	1.383	1.128	1.060	1.095	1.118	1.152	1.129	1.048	1.139	9.20	A	0.0920	0.0000	1.1392	0.0000
22)	T	Benzo[k]fluora...	0.881	0.783	0.823	0.900	0.988	1.003	1.014	0.917	0.914	9.26	A	0.0926	0.0000	0.9137	0.0000
23)	cp	Benzo(j)fluora...	0.888	0.814	0.891	0.945	0.980	0.988	0.984	0.897	0.923	6.69	A	0.0669	0.0000	0.9235	0.0000
24)	T	Benzo(e)pyrene	1.226	1.103	1.074	1.100	1.096	1.095	1.071	0.982	1.093	6.08	A	0.0608	0.0000	1.0934	0.0000
25)	T	Benzo[a]pyrene	1.183	1.057	1.005	1.025	1.036	1.053	1.045	0.972	1.047	5.91	A	0.0591	0.0000	1.0470	0.0000
26)	T	Indeno[1,2,3-c...	1.307	1.133	1.106	1.126	1.150	1.176	1.172	1.108	1.160	5.60	A	0.0560	0.0000	1.1599	0.0000
27)	T	Dibenz[a,h]ant...	0.964	1.011	0.896	0.907	0.935	0.968	0.973	0.911	0.946	4.23	A	0.0423	0.0000	0.9456	0.0000
28)	T	Benzo[g,h,i]pe...	1.171	1.003	0.975	0.985	0.988	1.008	1.006	0.962	1.012	6.54	A	0.0654	0.0000	1.0121	0.0000

(#) = Out of Range

Data Path : C:\msdchem\1\DATA\160510\
Data File : 16051001.D
Acq On : 10 May 2016 6:03 pm
Operator :
Sample : DFTPP-160510
Misc : TUNE
ALS Vial : 1 Sample Multiplier: 1

Integration File: RTEINT.P

Method : C:\msdchem\1\METHODS\DFTPPPAH.M
Title : CLP BNA Calibration - Large Volume Injection
Last Update : Thu Aug 27 07:24:43 2015



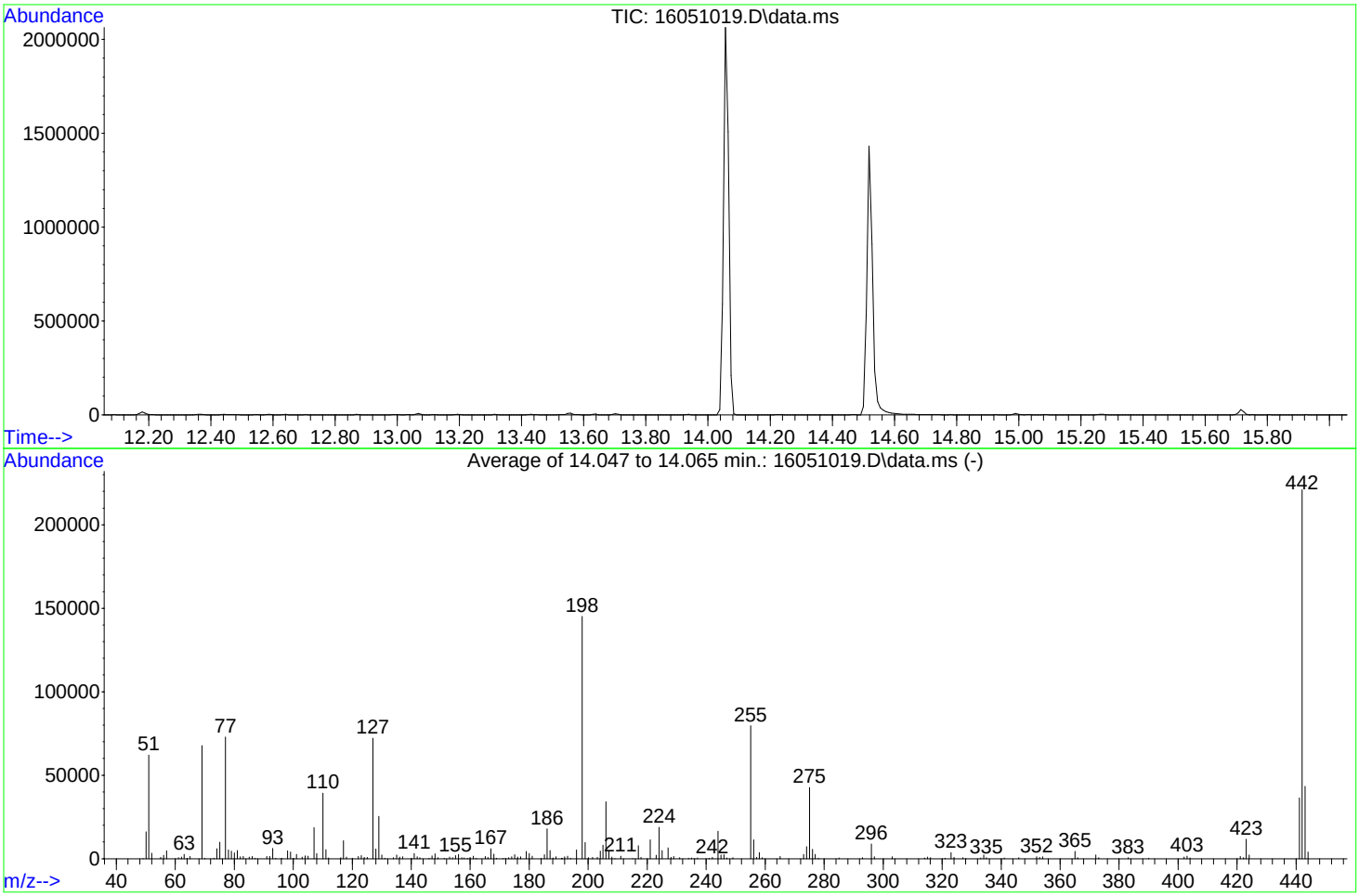
AutoFind: Scans 438, 439, 440; Background Corrected with Scan 434

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	48.3	72280	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	50.9	76210	PASS
70	69	0.00	2	0.3	215	PASS
127	198	10	80	52.2	78125	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	149602	PASS
199	198	5	9	6.7	10041	PASS
275	198	10	60	29.4	43976	PASS
365	198	1	200	3.3	4880	PASS
441	442	0.01	24	16.5	40030	PASS
442	198	50	400	162.6	243242	PASS
443	442	15	24	19.5	47348	PASS

Data Path : C:\msdchem\1\DATA\160510\
Data File : 16051019.D
Acq On : 11 May 2016 8:41 am
Operator :
Sample : DFTPP-160511
Misc : TUNE
ALS Vial : 1 Sample Multiplier: 1

Integration File: RTEINT.P

Method : C:\msdchem\1\METHODS\DFTPPPAH.M
Title : CLP BNA Calibration - Large Volume Injection
Last Update : Thu Aug 27 07:24:43 2015



AutoFind: Scans 437, 438, 439; Background Corrected with Scan 433

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	42.7	61954	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	46.7	67805	PASS
70	69	0.00	2	0.3	205	PASS
127	198	10	80	49.8	72253	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	145138	PASS
199	198	5	9	6.6	9630	PASS
275	198	10	60	29.3	42553	PASS
365	198	1	200	3.0	4358	PASS
441	442	0.01	24	16.4	36333	PASS
442	198	50	400	152.3	221042	PASS
443	442	15	24	19.6	43414	PASS

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160510\
Data File : 16051003.D
Acq On : 10 May 2016 7:16 pm
Operator :
Sample : PAH1-160510 5ppb
Misc : CAL1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 11 10:44:59 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 11 10:43:33 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.293	136	1579654	4000.00	ug/kg	98
6) Acenaphthene-d10	12.876	164	1063753	4000.00	ug/kg	102
11) Phenanthrene-d10	15.002	188	3341261	4000.00	ug/kg	99
16) Chrysene-d12	21.028	240	3890154	4000.00	ug/kg	104
20) Perylene-d12	26.302	264	3253488	4000.00	ug/kg	103

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.786	172	1581	5.09	ug/kg	0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery = 0.13%#			
17) 4-Terphenyl-d14	17.628	244	6680	7.43	ug/kg	0.01
Spiked Amount 4000.000	Range 51 - 135		Recovery = 0.19%#			

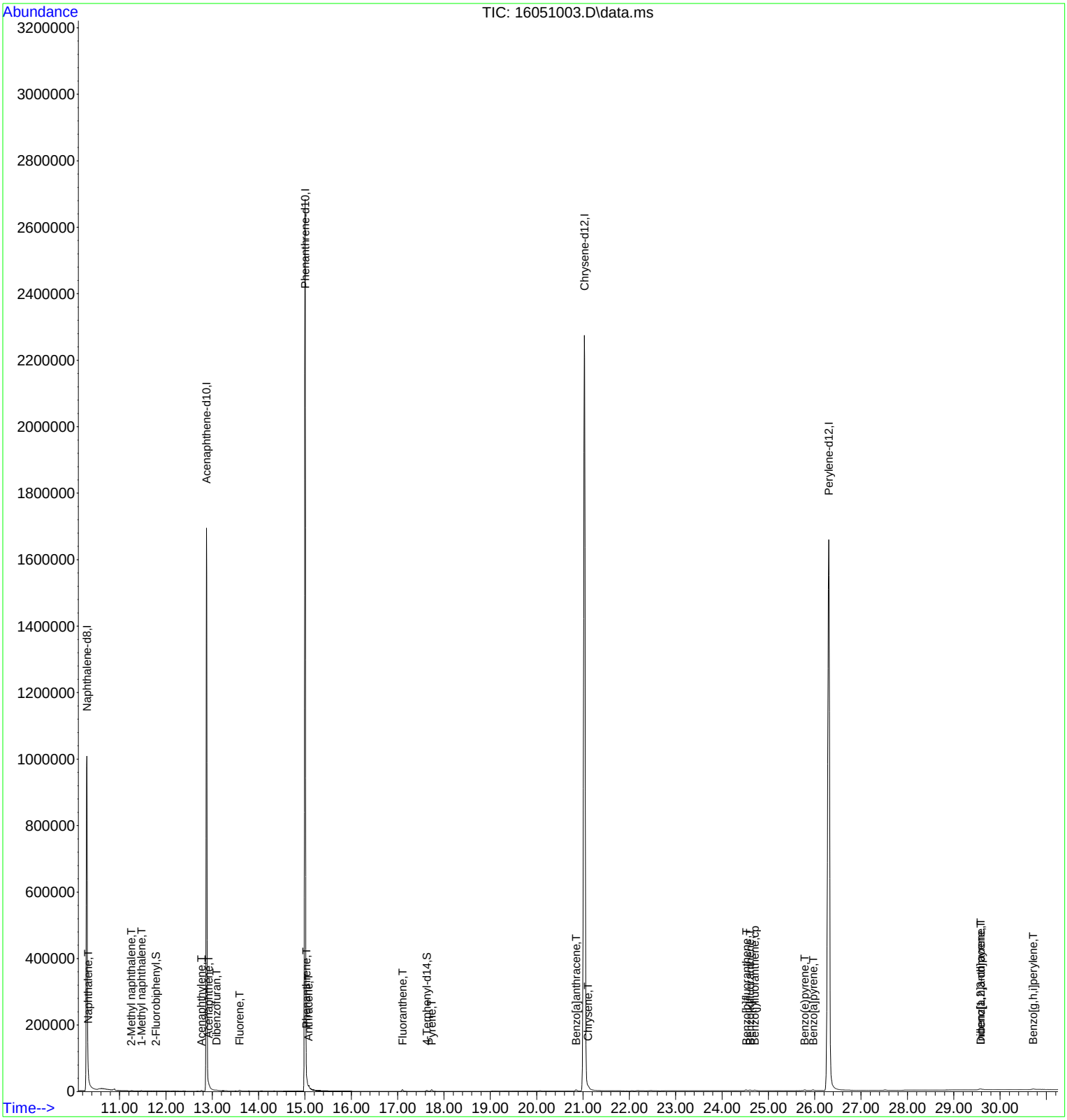
Target Compounds						Qvalue
2) Naphthalene	10.330	128	1955	5.11	ug/kg	98
3) 2-Methyl naphthalene	11.251	142	834	6.59	ug/kg	93
4) 1-Methyl naphthalene	11.469	142	1143	4.76	ug/kg	93
7) Acenaphthylene	12.763	152	2629	5.26	ug/kg	98
8) Acenaphthene	12.930	153	1663	5.26	ug/kg	98
9) Dibenzofuran	13.097	168	2669	5.22	ug/kg	94
10) Fluorene	13.588	166	2546	5.30	ug/kg	99
12) Phenanthrene	15.040	178	5619	5.81	ug/kg	98
13) Anthracene	15.084	178	6080	5.80	ug/kg	95
14) Fluoranthene	17.105	202	7652	6.05	ug/kg	97
15) Pyrene	17.736	202	7780	6.13	ug/kg	99
18) Benzo[a]anthracene	20.852	228	6326	5.78	ug/kg	99
19) Chrysene	21.116	228	5828	5.82	ug/kg	97
21) Benzo[b]fluoranthene	24.522	252	5625	6.07	ug/kg	97
22) Benzo[k]fluoranthene	24.603	252	3581	4.82	ug/kg	98
23) Benzo(j)fluoranthene	24.705	252	3612	4.81	ug/kg	97
24) Benzo(e)pyrene	25.782	252	4985	5.61	ug/kg	90
25) Benzo[a]pyrene	25.965	252	4812	5.65	ug/kg	98
26) Indeno[1,2,3-cd]pyrene	29.576	276	5315	5.63	ug/kg	95
27) Dibenz[a,h]anthracene	29.569	278	3919	5.10	ug/kg	99
28) Benzo[g,h,i]perylene	30.719	276	4763	5.79	ug/kg	93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160510\
Data File : 16051003.D
Acq On : 10 May 2016 7:16 pm
Operator :
Sample : PAH1-160510 5ppb
Misc : CAL1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 11 10:44:59 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 11 10:43:33 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160510\
Data File : 16051004.D
Acq On : 10 May 2016 7:53 pm
Operator :
Sample : PAH2-160510 10ppb
Misc : CAL
ALS Vial : 4 Sample Multiplier: 1

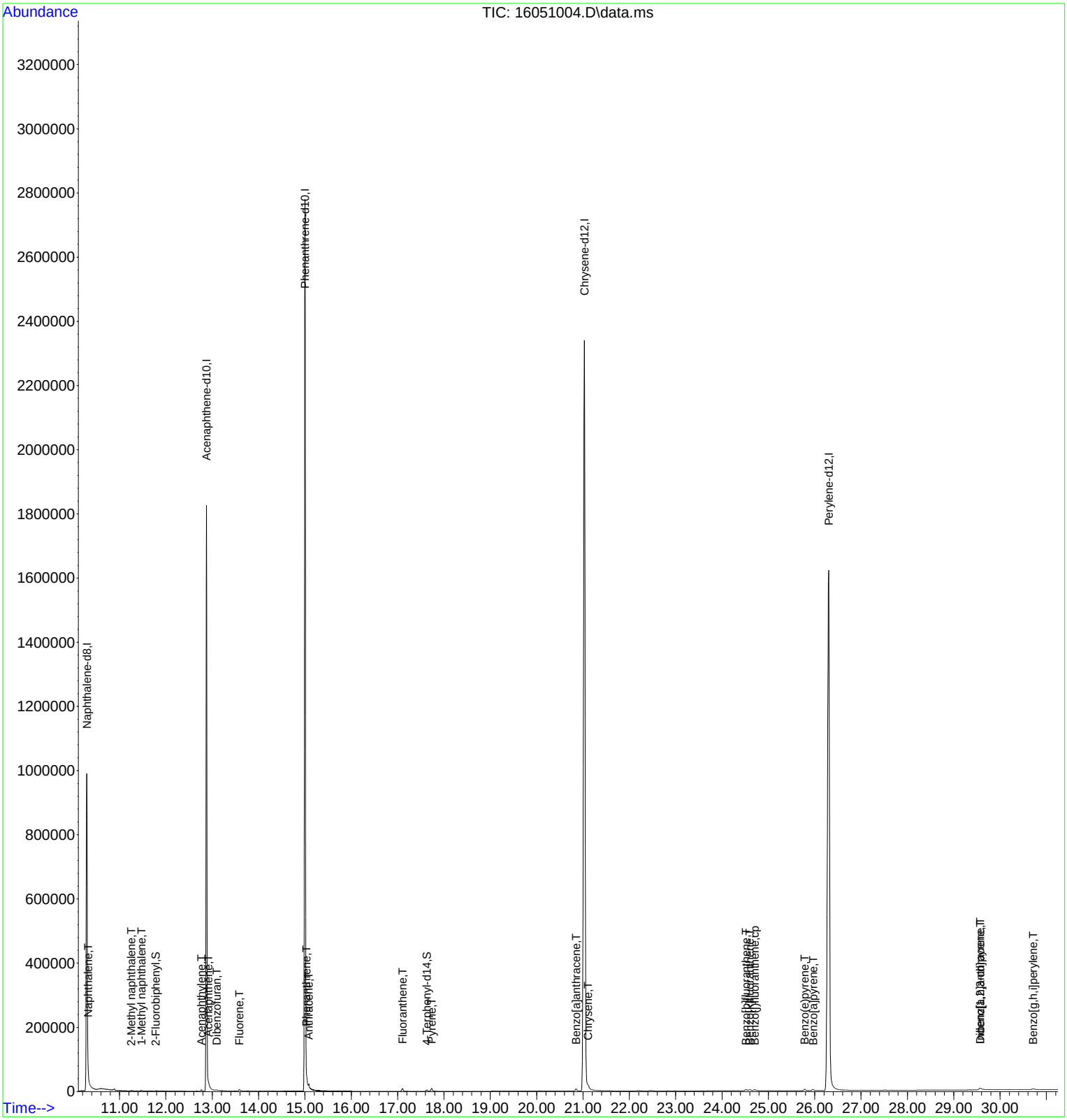
Quant Time: May 11 10:45:02 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 11 10:43:33 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.293	136	1604398	4000.00	ug/kg	100
6) Acenaphthene-d10	12.877	164	1120203	4000.00	ug/kg	107
11) Phenanthrene-d10	15.002	188	3513300	4000.00	ug/kg	104
16) Chrysene-d12	21.028	240	3960265	4000.00	ug/kg	105
20) Perylene-d12	26.302	264	3295886	4000.00	ug/kg	104
System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.782	172	2849	9.04	ug/kg	0.01
Spiked Amount 4000.000	Range 40 - 140		Recovery = 0.23%#			
17) 4-Terphenyl-d14	17.629	244	10384	11.35	ug/kg	0.01
Spiked Amount 4000.000	Range 51 - 135		Recovery = 0.28%#			
Target Compounds						Qvalue
2) Naphthalene	10.326	128	3839	9.87	ug/kg	99
3) 2-Methyl naphthalene	11.247	142	1798	10.14	ug/kg	97
4) 1-Methyl naphthalene	11.469	142	2228	9.13	ug/kg	99
7) Acenaphthylene	12.764	152	5262	10.00	ug/kg	98
8) Acenaphthene	12.926	153	3315	9.95	ug/kg	95
9) Dibenzofuran	13.093	168	5430	10.09	ug/kg	91
10) Fluorene	13.584	166	5068	10.02	ug/kg	97
12) Phenanthrene	15.038	178	10725	10.55	ug/kg	96
13) Anthracene	15.083	178	11433	10.38	ug/kg	98
14) Fluoranthene	17.106	202	13885	10.43	ug/kg	98
15) Pyrene	17.737	202	14059	10.53	ug/kg	97
18) Benzo[a]anthracene	20.852	228	11307	10.16	ug/kg	99
19) Chrysene	21.116	228	10216	10.02	ug/kg	99
21) Benzo[b]fluoranthene	24.515	252	9296	9.90	ug/kg	99
22) Benzo[k]fluoranthene	24.596	252	6454	8.57	ug/kg	97
23) Benzo(j)fluoranthene	24.705	252	6705	8.81	ug/kg	98
24) Benzo(e)pyrene	25.782	252	9085	10.08	ug/kg	95
25) Benzo[a]pyrene	25.965	252	8709	10.10	ug/kg	98
26) Indeno[1,2,3-cd]pyrene	29.577	276	9338	9.77	ug/kg	96
27) Dibenz[a,h]anthracene	29.569	278	8277	10.62	ug/kg	95
28) Benzo[g,h,i]perylene	30.712	276	8261	9.91	ug/kg	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\160510\
Data File : 16051004.D
Acq On : 10 May 2016 7:53 pm
Operator :
Sample : PAH2-160510 10ppb
Misc : CAL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 11 10:45:02 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 11 10:43:33 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160510\
Data File : 16051005.D
Acq On : 10 May 2016 8:30 pm
Operator :
Sample : PAH3-160510 50ppb
Misc : CAL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 11 10:45:05 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 11 10:43:33 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.290	136	1587879	4000.00	ug/kg	99
6) Acenaphthene-d10	12.876	164	1079979	4000.00	ug/kg	103
11) Phenanthrene-d10	15.000	188	3384980	4000.00	ug/kg	101
16) Chrysene-d12	21.027	240	3907046	4000.00	ug/kg	104
20) Perylene-d12	26.302	264	3287870	4000.00	ug/kg	104

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.779	172	15251	48.87	ug/kg	0.01
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.22%#			
17) 4-Terphenyl-d14	17.628	244	46251	51.23	ug/kg	0.01
Spiked Amount 4000.000	Range 51 - 135		Recovery = 1.28%#			

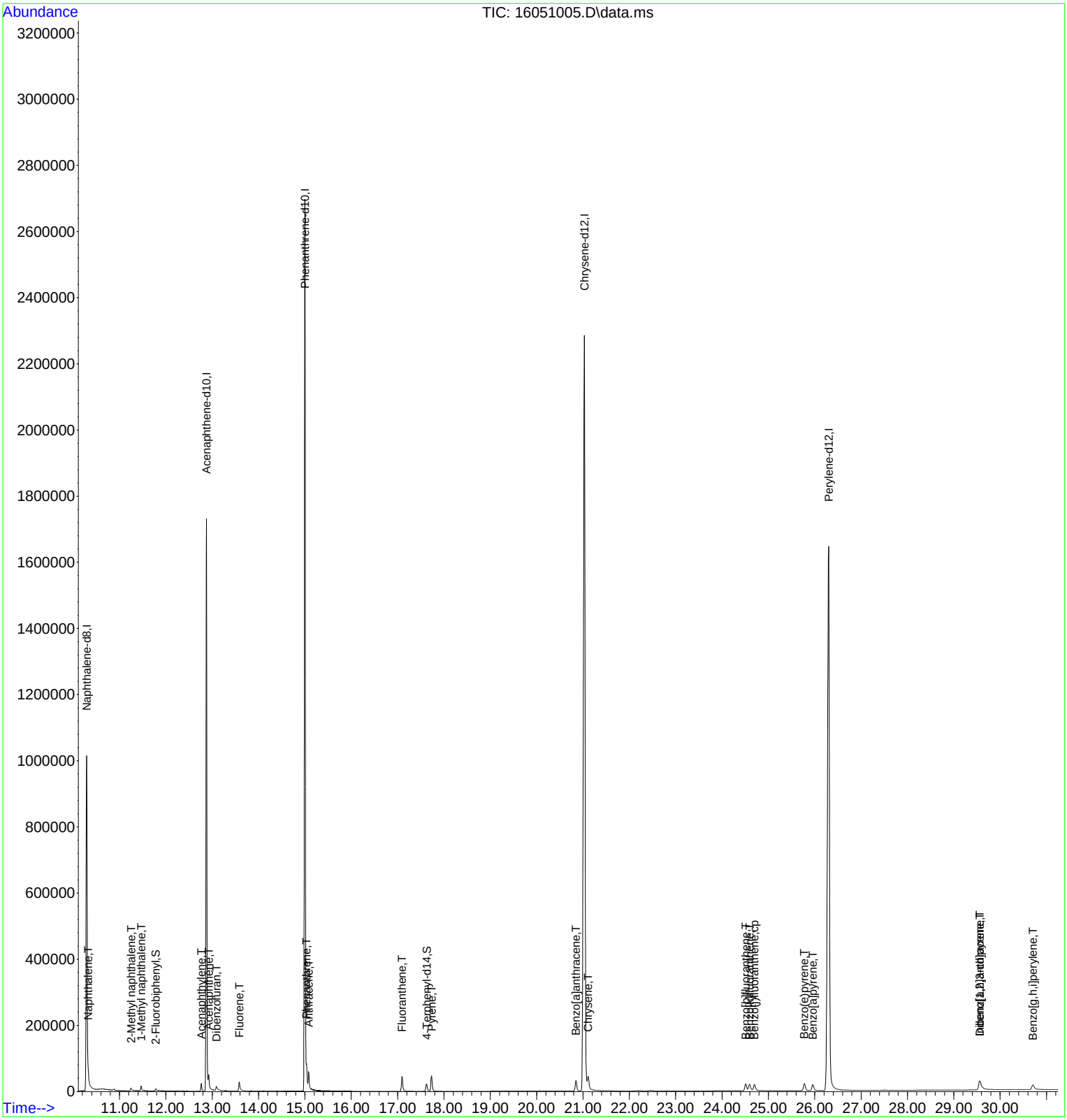
Target Compounds						Qvalue
2) Naphthalene	10.327	128	19480	50.62	ug/kg	99
3) 2-Methyl naphthalene	11.248	142	10141	41.69	ug/kg	98
4) 1-Methyl naphthalene	11.466	142	11421	47.29	ug/kg	98
7) Acenaphthylene	12.763	152	25743	50.72	ug/kg	98
8) Acenaphthene	12.925	153	16337	50.87	ug/kg	99
9) Dibenzofuran	13.088	168	26835	51.74	ug/kg	91
10) Fluorene	13.584	166	24907	51.07	ug/kg	99
12) Phenanthrene	15.036	178	50392	51.44	ug/kg	97
13) Anthracene	15.080	178	54990	51.81	ug/kg	98
14) Fluoranthene	17.091	202	65928	51.42	ug/kg	85
15) Pyrene	17.735	202	66234	51.51	ug/kg	96
18) Benzo[a]anthracene	20.844	228	53356	48.58	ug/kg	98
19) Chrysene	21.115	228	49286	49.02	ug/kg	98
21) Benzo[b]fluoranthene	24.507	252	43553	46.51	ug/kg	99
22) Benzo[k]fluoranthene	24.595	252	33838	45.06	ug/kg	98
23) Benzo(j)fluoranthene	24.697	252	36600	48.22	ug/kg	99
24) Benzo(e)pyrene	25.774	252	44132	49.11	ug/kg	100
25) Benzo[a]pyrene	25.957	252	41286	47.97	ug/kg	99
26) Indeno[1,2,3-cd]pyrene	29.569	276	45459	47.68	ug/kg	99
27) Dibenz[a,h]anthracene	29.561	278	36685	47.20	ug/kg	98
28) Benzo[g,h,i]perylene	30.704	276	40076	48.17	ug/kg	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160510\
Data File : 16051005.D
Acq On : 10 May 2016 8:30 pm
Operator :
Sample : PAH3-160510 50ppb
Misc : CAL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 11 10:45:05 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 11 10:43:33 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160510\
Data File : 16051006.D
Acq On : 10 May 2016 9:07 pm
Operator :
Sample : PAH4-160510 100ppb
Misc : CAL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 11 10:45:08 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 11 10:43:33 2016
Response via : Initial Calibration

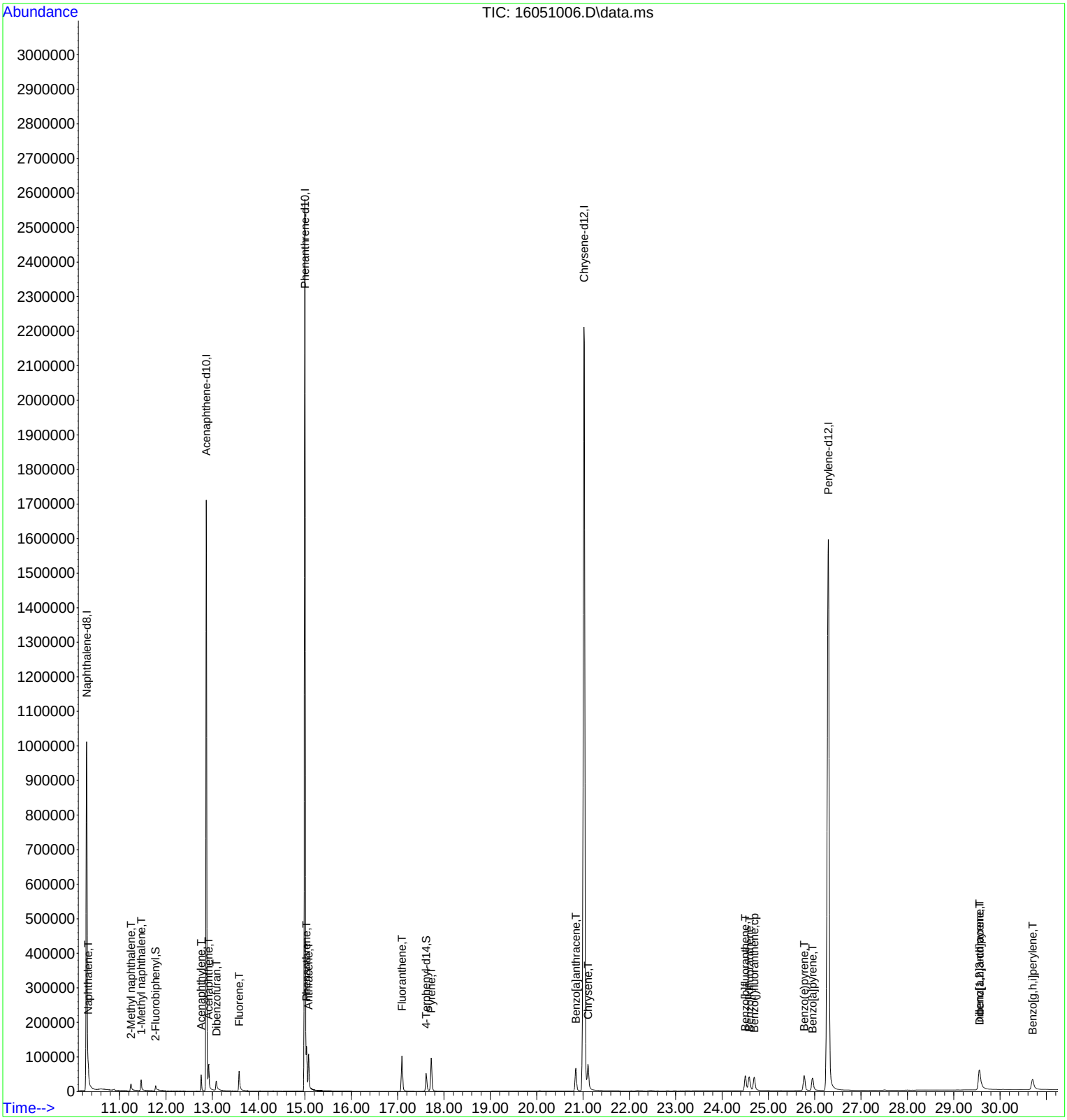
Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.288	136	1574320	4000.00	ug/kg	98
6) Acenaphthene-d10	12.871	164	1055323	4000.00	ug/kg	101
11) Phenanthrene-d10	14.998	188	3251486	4000.00	ug/kg	97
16) Chrysene-d12	21.020	240	3827236	4000.00	ug/kg	102
20) Perylene-d12	26.294	264	3182996	4000.00	ug/kg	100
System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.777	172	31039	100.32	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.51%#			
17) 4-Terphenyl-d14	17.615	244	90784	102.66	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery = 2.57%#			
Target Compounds						Qvalue
2) Naphthalene	10.325	128	39007	102.24	ug/kg	99
3) 2-Methyl naphthalene	11.243	142	21207	84.16	ug/kg	98
4) 1-Methyl naphthalene	11.465	142	23413	97.79	ug/kg	99
7) Acenaphthylene	12.759	152	50778	102.39	ug/kg	99
8) Acenaphthene	12.925	153	32099	102.28	ug/kg	99
9) Dibenzofuran	13.088	168	52376	103.35	ug/kg	98
10) Fluorene	13.579	166	47934	100.57	ug/kg	99
12) Phenanthrene	15.034	178	94723	100.66	ug/kg	97
13) Anthracene	15.078	178	104836	102.82	ug/kg	98
14) Fluoranthene	17.092	202	129587	105.22	ug/kg	93
15) Pyrene	17.722	202	128916	104.36	ug/kg	93
18) Benzo[a]anthracene	20.844	228	107249	99.69	ug/kg	98
19) Chrysene	21.108	228	98309	99.82	ug/kg	99
21) Benzo[b]fluoranthene	24.500	252	87156	96.15	ug/kg	99
22) Benzo[k]fluoranthene	24.588	252	71623	98.51	ug/kg	98
23) Benzo(j)fluoranthene	24.697	252	73967	100.65	ug/kg	99
24) Benzo(e)pyrene	25.774	252	87538	100.61	ug/kg	99
25) Benzo[a]pyrene	25.950	252	81560	97.89	ug/kg	98
26) Indeno[1,2,3-cd]pyrene	29.561	276	89633	97.11	ug/kg	99
27) Dibenz[a,h]anthracene	29.547	278	72155	95.89	ug/kg	98
28) Benzo[g,h,i]perylene	30.704	276	78373	97.31	ug/kg	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160510\
Data File : 16051006.D
Acq On : 10 May 2016 9:07 pm
Operator :
Sample : PAH4-160510 100ppb
Misc : CAL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 11 10:45:08 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 11 10:43:33 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160510\
Data File : 16051007.D
Acq On : 10 May 2016 9:44 pm
Operator :
Sample : PAH5-160510 500ppb
Misc : CAL
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 11 10:45:12 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 11 10:43:33 2016
Response via : Initial Calibration

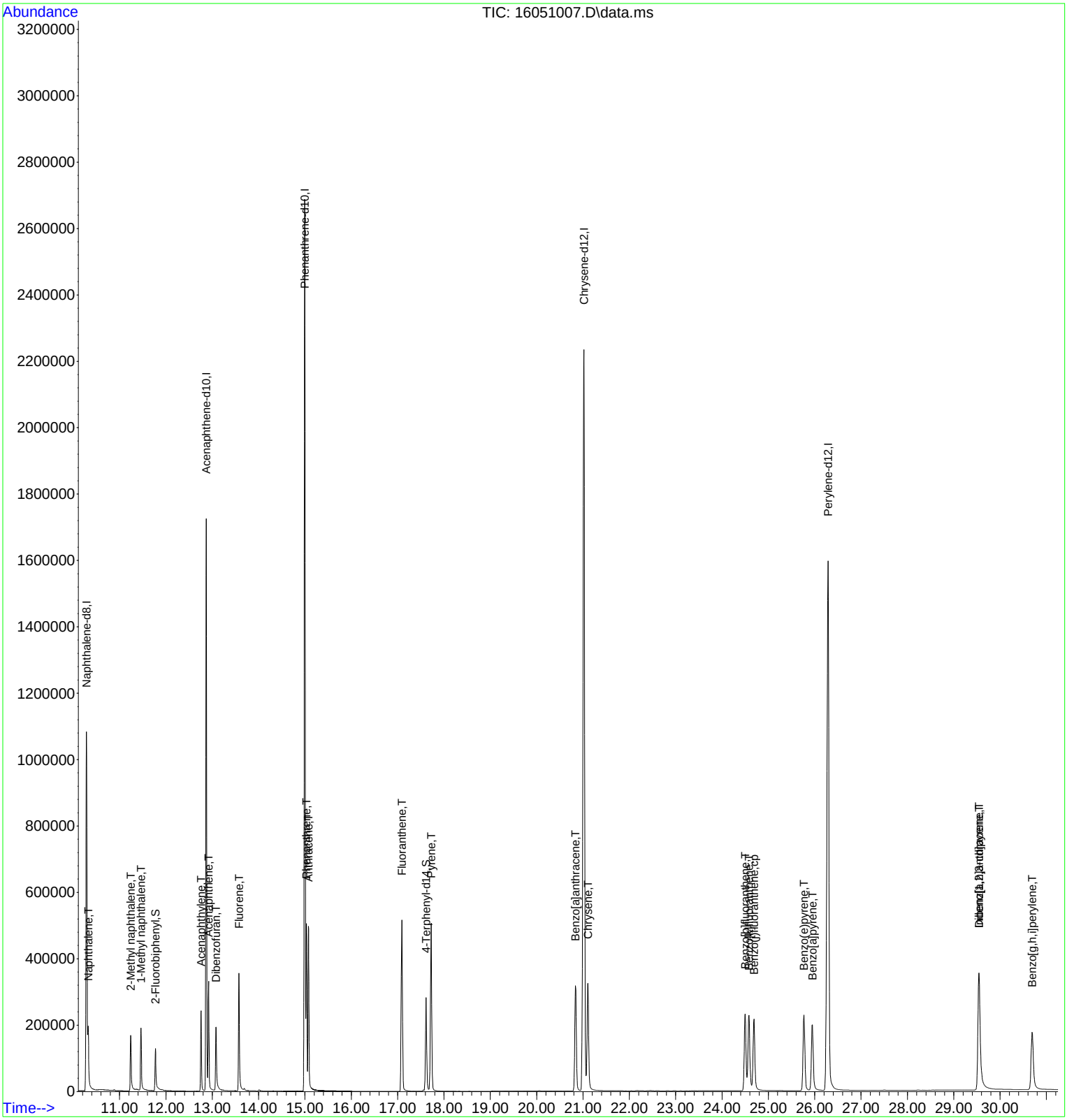
Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.284	136	1616531	4000.00	ug/kg	100
6) Acenaphthene-d10	12.871	164	1052604	4000.00	ug/kg	101
11) Phenanthrene-d10	14.996	188	3326988	4000.00	ug/kg	99
16) Chrysene-d12	21.020	240	3820943	4000.00	ug/kg	102
20) Perylene-d12	26.287	264	3197705	4000.00	ug/kg	101
System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.773	172	165670	521.45	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 13.04%#			
17) 4-Terphenyl-d14	17.615	244	441296	499.86	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery = 12.50%#			
Target Compounds						Qvalue
2) Naphthalene	10.321	128	197925	505.21	ug/kg	100
3) 2-Methyl naphthalene	11.239	142	127484	477.61	ug/kg	99
4) 1-Methyl naphthalene	11.461	142	134372	546.57	ug/kg	99
7) Acenaphthylene	12.759	152	249148	503.69	ug/kg	99
8) Acenaphthene	12.921	153	156678	500.52	ug/kg	99
9) Dibenzofuran	13.083	168	255650	505.74	ug/kg	98
10) Fluorene	13.574	166	237488	499.58	ug/kg	100
12) Phenanthrene	15.032	178	471774	489.95	ug/kg	98
13) Anthracene	15.076	178	518768	497.27	ug/kg	98
14) Fluoranthene	17.092	202	627904	498.28	ug/kg	98
15) Pyrene	17.722	202	622926	492.85	ug/kg	98
18) Benzo[a]anthracene	20.837	228	531791	495.11	ug/kg	99
19) Chrysene	21.108	228	487688	496.00	ug/kg	98
21) Benzo[b]fluoranthene	24.500	252	446872	490.71	ug/kg	99
22) Benzo[k]fluoranthene	24.580	252	394934	540.70	ug/kg	98
23) Benzo(j)fluoranthene	24.690	252	391806	530.72	ug/kg	99
24) Benzo(e)pyrene	25.767	252	438198	501.33	ug/kg	99
25) Benzo[a]pyrene	25.950	252	414276	494.96	ug/kg	99
26) Indeno[1,2,3-cd]pyrene	29.547	276	459506	495.54	ug/kg	97
27) Dibenz[a,h]anthracene	29.539	278	373713	494.35	ug/kg	98
28) Benzo[g,h,i]perylene	30.689	276	394763	487.88	ug/kg	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160510\
Data File : 16051007.D
Acq On : 10 May 2016 9:44 pm
Operator :
Sample : PAH5-160510 500ppb
Misc : CAL
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 11 10:45:12 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 11 10:43:33 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160510\
Data File : 16051008.D
Acq On : 10 May 2016 10:21 pm
Operator :
Sample : PAH6-160510 1000ppb
Misc : CAL
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 11 10:45:15 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 11 10:43:33 2016
Response via : Initial Calibration

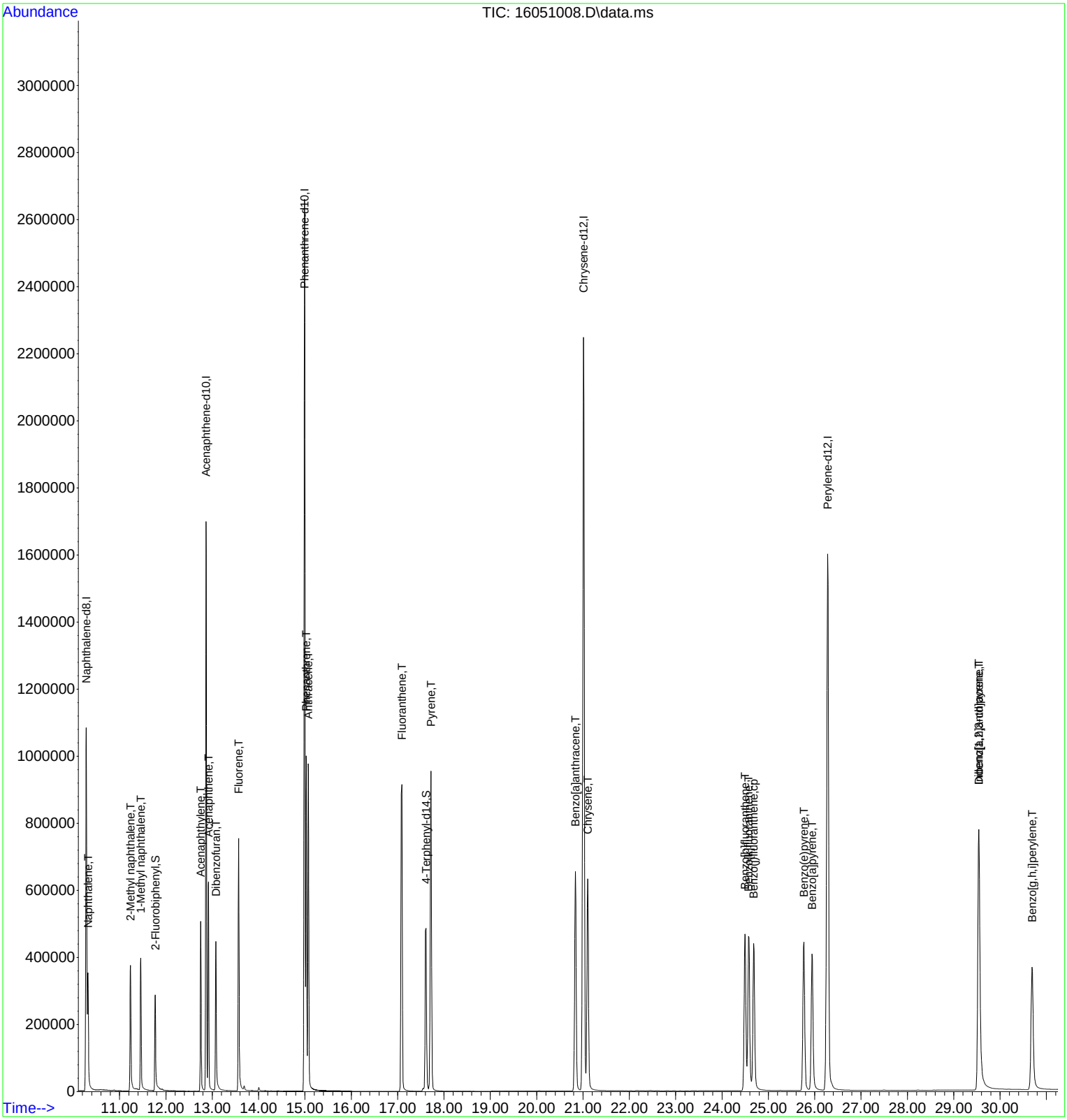
Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.281	136	1609199	4000.00	ug/kg	100
6) Acenaphthene-d10	12.866	164	1043592	4000.00	ug/kg	100
11) Phenanthrene-d10	14.993	188	3366458	4000.00	ug/kg	100
16) Chrysene-d12	21.013	240	3758565	4000.00	ug/kg	100
20) Perylene-d12	26.280	264	3167827	4000.00	ug/kg	100
System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.771	172	338103	1069.04	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 26.73%#			
17) 4-Terphenyl-d14	17.615	244	853490	982.80	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery = 24.57%#			
Target Compounds						Qvalue
2) Naphthalene	10.319	128	395299	1013.61	ug/kg	100
3) 2-Methyl naphthalene	11.236	142	270515	1018.82	ug/kg	99
4) 1-Methyl naphthalene	11.458	142	265900	1086.50	ug/kg	100
7) Acenaphthylene	12.753	152	492825	1004.92	ug/kg	99
8) Acenaphthene	12.920	153	313128	1008.96	ug/kg	99
9) Dibenzofuran	13.077	168	502264	1002.18	ug/kg	96
10) Fluorene	13.573	166	475116	1008.08	ug/kg	98
12) Phenanthrene	15.029	178	950311	975.34	ug/kg	99
13) Anthracene	15.073	178	1019159	965.46	ug/kg	99
14) Fluoranthene	17.092	202	1223282	959.36	ug/kg	98
15) Pyrene	17.723	202	1217297	951.81	ug/kg	98
18) Benzo[a]anthracene	20.837	228	1052978	996.62	ug/kg	99
19) Chrysene	21.101	228	958443	990.95	ug/kg	99
21) Benzo[b]fluoranthene	24.500	252	912278	1011.22	ug/kg	99
22) Benzo[k]fluoranthene	24.580	252	794172	1097.55	ug/kg	99
23) Benzo(j)fluoranthene	24.683	252	782779	1070.30	ug/kg	99
24) Benzo(e)pyrene	25.767	252	867399	1001.73	ug/kg	99
25) Benzo[a]pyrene	25.943	252	834302	1006.19	ug/kg	99
26) Indeno[1,2,3-cd]pyrene	29.547	276	931689	1014.23	ug/kg	99
27) Dibenz[a,h]anthracene	29.539	278	766967	1024.12	ug/kg	98
28) Benzo[g,h,i]perylene	30.690	276	797908	995.42	ug/kg	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160510\
Data File : 16051008.D
Acq On : 10 May 2016 10:21 pm
Operator :
Sample : PAH6-160510 1000ppb
Misc : CAL
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 11 10:45:15 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 11 10:43:33 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160510\
Data File : 16051009.D
Acq On : 10 May 2016 10:58 pm
Operator :
Sample : PAH7-160510 2000ppb
Misc : CAL
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 11 10:45:18 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 11 10:43:33 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.280	136	1562362	4000.00	ug/kg	97
6) Acenaphthene-d10	12.867	164	977263	4000.00	ug/kg	94
11) Phenanthrene-d10	14.992	188	3104845	4000.00	ug/kg	92
16) Chrysene-d12	21.013	240	3495950	4000.00	ug/kg	93
20) Perylene-d12	26.280	264	2966012	4000.00	ug/kg	94

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.769	172	632072	2058.44	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	51.46%		
17) 4-Terphenyl-d14	17.615	244	1563267	1935.33	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery =	48.38%#		

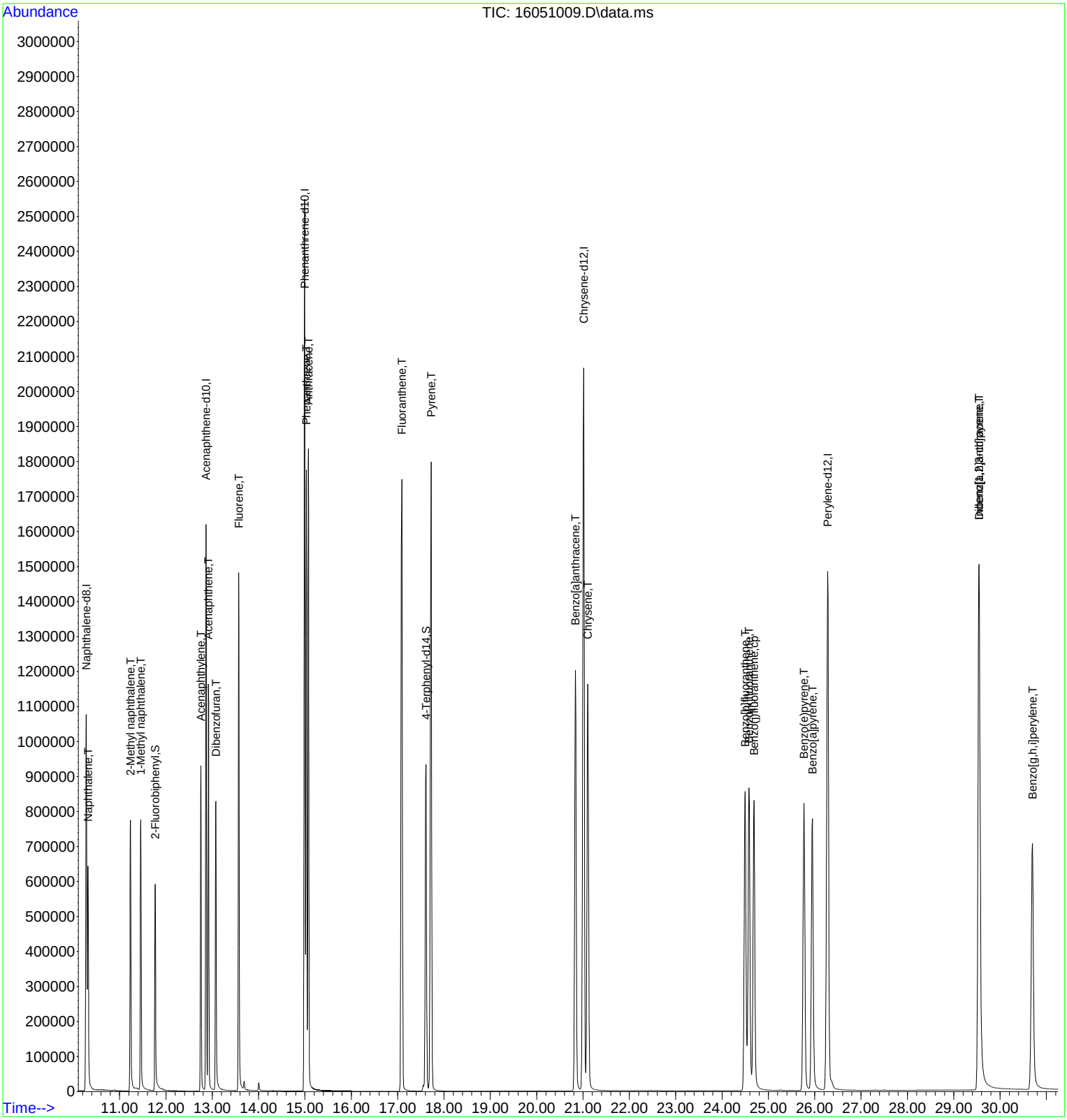
Target Compounds						Qvalue
2) Naphthalene	10.317	128	759401	2005.61	ug/kg	100
3) 2-Methyl naphthalene	11.235	142	523991	2046.89	ug/kg	100
4) 1-Methyl naphthalene	11.457	142	501831	2112.02	ug/kg	100
7) Acenaphthylene	12.754	152	915681	1993.89	ug/kg	100
8) Acenaphthene	12.916	153	576336	1983.10	ug/kg	100
9) Dibenzofuran	13.078	168	912453	1944.22	ug/kg	100
10) Fluorene	13.569	166	859915	1948.37	ug/kg	100
12) Phenanthrene	15.030	178	1714290	1907.70	ug/kg	100
13) Anthracene	15.074	178	1858022	1908.44	ug/kg	100
14) Fluoranthene	17.092	202	2215471	1883.89	ug/kg	100
15) Pyrene	17.723	202	2207662	1871.63	ug/kg	100
18) Benzo[a]anthracene	20.838	228	1941914	1976.04	ug/kg	100
19) Chrysene	21.101	228	1770777	1968.37	ug/kg	100
21) Benzo[b]fluoranthene	24.500	252	1673798	1981.57	ug/kg	100
22) Benzo[k]fluoranthene	24.581	252	1504300	2220.40	ug/kg	100
23) Benzo(j)fluoranthene	24.691	252	1459957	2132.04	ug/kg	100
24) Benzo(e)pyrene	25.767	252	1588413	1959.22	ug/kg	100
25) Benzo[a]pyrene	25.951	252	1549020	1995.27	ug/kg	100
26) Indeno[1,2,3-cd]pyrene	29.555	276	1738697	2021.53	ug/kg	100
27) Dibenz[a,h]anthracene	29.540	278	1443267	2058.30	ug/kg	100
28) Benzo[g,h,i]perylene	30.697	276	1492122	1988.14	ug/kg	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160510\
Data File : 16051009.D
Acq On : 10 May 2016 10:58 pm
Operator :
Sample : PAH7-160510 2000ppb
Misc : CAL
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 11 10:45:18 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 11 10:43:33 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160510\
Data File : 16051010.D
Acq On : 10 May 2016 11:34 pm
Operator :
Sample : PAH8-160510 5000ppb
Misc : CAL
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 11 10:45:21 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 11 10:43:33 2016
Response via : Initial Calibration

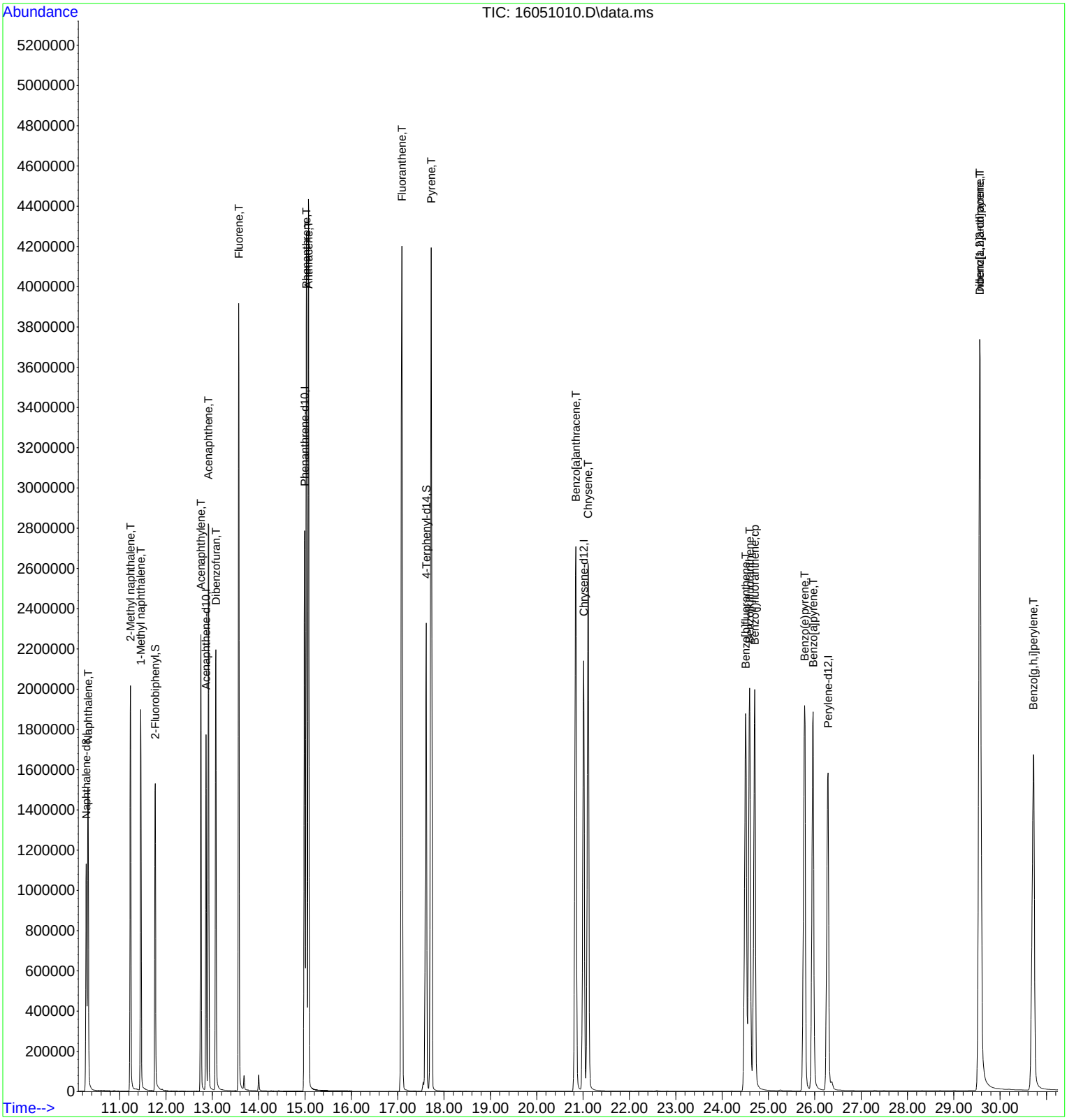
Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.279	136	1607500	4000.00	ug/kg	100
6) Acenaphthene-d10	12.866	164	1048910	4000.00	ug/kg	101
11) Phenanthrene-d10	14.991	188	3489646	4000.00	ug/kg	104
16) Chrysene-d12	21.012	240	3642647	4000.00	ug/kg	97
20) Perylene-d12	26.286	264	3135775	4000.00	ug/kg	99
System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.769	172	1510643	4781.51	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 119.54%			
17) 4-Terphenyl-d14	17.616	244	3633740	4317.42	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery = 107.94%			
Target Compounds						Qvalue
2) Naphthalene	10.317	128	1810982	4648.57	ug/kg	99
3) 2-Methyl naphthalene	11.234	142	1280055	4979.05	ug/kg	99
4) 1-Methyl naphthalene	11.456	142	1192892	4879.47	ug/kg	99
7) Acenaphthylene	12.753	152	2220480	4504.81	ug/kg	98
8) Acenaphthene	12.915	153	1422129	4559.13	ug/kg	99
9) Dibenzofuran	13.077	168	2245752	4458.31	ug/kg	98
10) Fluorene	13.568	166	2202341	4649.14	ug/kg	99
12) Phenanthrene	15.031	178	4235828	4193.94	ug/kg	96
13) Anthracene	15.075	178	4500062	4112.49	ug/kg	96
14) Fluoranthene	17.093	202	5080861	3844.01	ug/kg	94
15) Pyrene	17.723	202	5128610	3868.52	ug/kg	90
18) Benzo[a]anthracene	20.844	228	4526014	4420.07	ug/kg	97
19) Chrysene	21.107	228	4159232	4437.15	ug/kg	98
21) Benzo[b]fluoranthene	24.513	252	4109167	4601.37	ug/kg	98
22) Benzo[k]fluoranthene	24.594	252	3594211	5017.97	ug/kg	98
23) Benzo(j)fluoranthene	24.704	252	3516896	4857.85	ug/kg	98
24) Benzo(e)pyrene	25.781	252	3849551	4491.16	ug/kg	98
25) Benzo[a]pyrene	25.964	252	3809209	4640.96	ug/kg	98
26) Indeno[1,2,3-cd]pyrene	29.568	276	4344207	4777.43	ug/kg	88
27) Dibenz[a,h]anthracene	29.560	278	3568930	4814.24	ug/kg	97
28) Benzo[g,h,i]perylene	30.725	276	3771267	4752.90	ug/kg	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160510\
Data File : 16051010.D
Acq On : 10 May 2016 11:34 pm
Operator :
Sample : PAH8-160510 5000ppb
Misc : CAL
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 11 10:45:21 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 11 10:43:33 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160510\
Data File : 16051012.D
Acq On : 11 May 2016 12:49 am
Operator :
Sample : SSCV-160510 2500ppb
Misc : ICV
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 11 10:45:24 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 11 10:43:33 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.280	136	1855821	4000.00	ug/kg	115
6) Acenaphthene-d10	12.867	164	1123330	4000.00	ug/kg	108
11) Phenanthrene-d10	14.987	188	2598636	4000.00	ug/kg	77
16) Chrysene-d12	21.006	240	3825814	4000.00	ug/kg	102
20) Perylene-d12	26.280	264	3299401	4000.00	ug/kg	104

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.765	172	1675854	4594.67	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 114.87%			
17) 4-Terphenyl-d14	17.615	244	3374351	3817.28	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery = 95.43%			

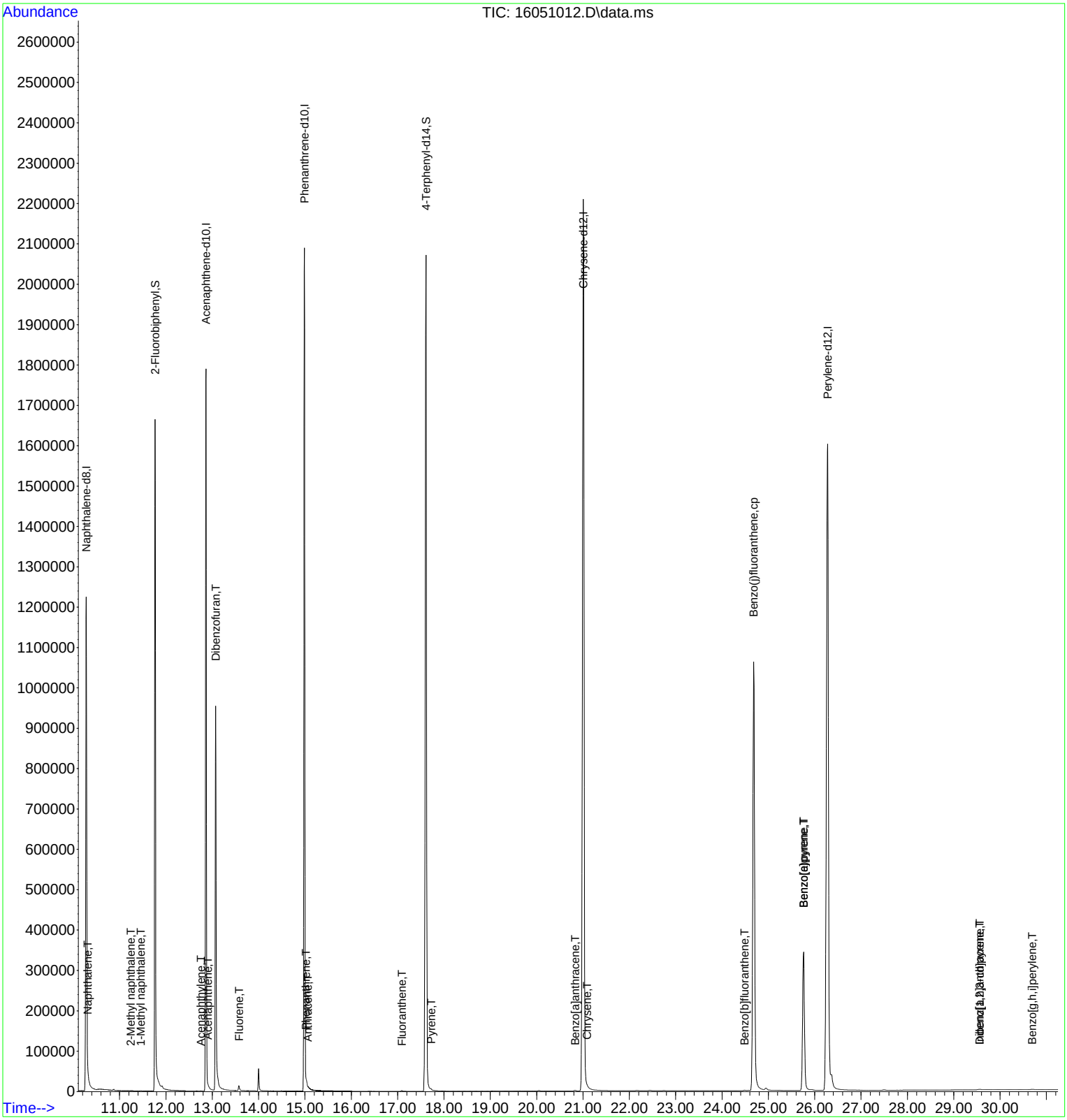
Target Compounds						Qvalue	
2) Naphthalene	10.317	128	953	2.12	ug/kg	76	
3) 2-Methyl naphthalene	11.239	142	531	5.14	ug/kg	93	
4) 1-Methyl naphthalene	11.457	142	562	1.99	ug/kg	95	
7) Acenaphthylene	12.754	152	1045	1.98	ug/kg	96	
8) Acenaphthene	12.916	153	751	2.25	ug/kg	97	
9) Dibenzofuran	13.073	168	1056592	1958.60	ug/kg	93	See rerun for dibenzofuran.
10) Fluorene	13.574	166	10421	20.54	ug/kg	99	
12) Phenanthrene	15.025	178	1893	2.52	ug/kg	97	
13) Anthracene	15.070	178	1817	2.23	ug/kg	100	
14) Fluoranthene	17.092	202	2752	2.80	ug/kg	99	
15) Pyrene	17.723	202	3178	3.22	ug/kg	96	
18) Benzo[a]anthracene	20.830	228	3027	2.81	ug/kg	99	
19) Chrysene	21.094	228	2819	2.86	ug/kg	97	
21) Benzo[b]fluoranthene	24.493	252	2910	3.10	ug/kg	100	
22) Benzo[k]fluoranthene	0.000	252	0	N.D.			
23) Benzo(j)fluoranthene	24.683	252	1990617	2613.26	ug/kg	100	
24) Benzo(e)pyrene	25.760	252	664023	736.28	ug/kg	99	
25) Benzo[a]pyrene	25.760	252	641359	742.65	ug/kg	95	
26) Indeno[1,2,3-cd]pyrene	29.562	276	2706	2.83	ug/kg	98	
27) Dibenz[a,h]anthracene	29.547	278	2621	3.36	ug/kg	95	
28) Benzo[g,h,i]perylene	30.682	276	2447	2.93	ug/kg	96	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160510\
Data File : 16051012.D
Acq On : 11 May 2016 12:49 am
Operator :
Sample : SSCV-160510 2500ppb
Misc : ICV
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 11 10:45:24 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 11 10:43:33 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160510\
Data File : 16051013.D
Acq On : 11 May 2016 1:26 am
Operator :
Sample : SSCV-160510 2500ppb
Misc : ICV
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 11 10:45:28 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 11 10:43:33 2016
Response via : Initial Calibration

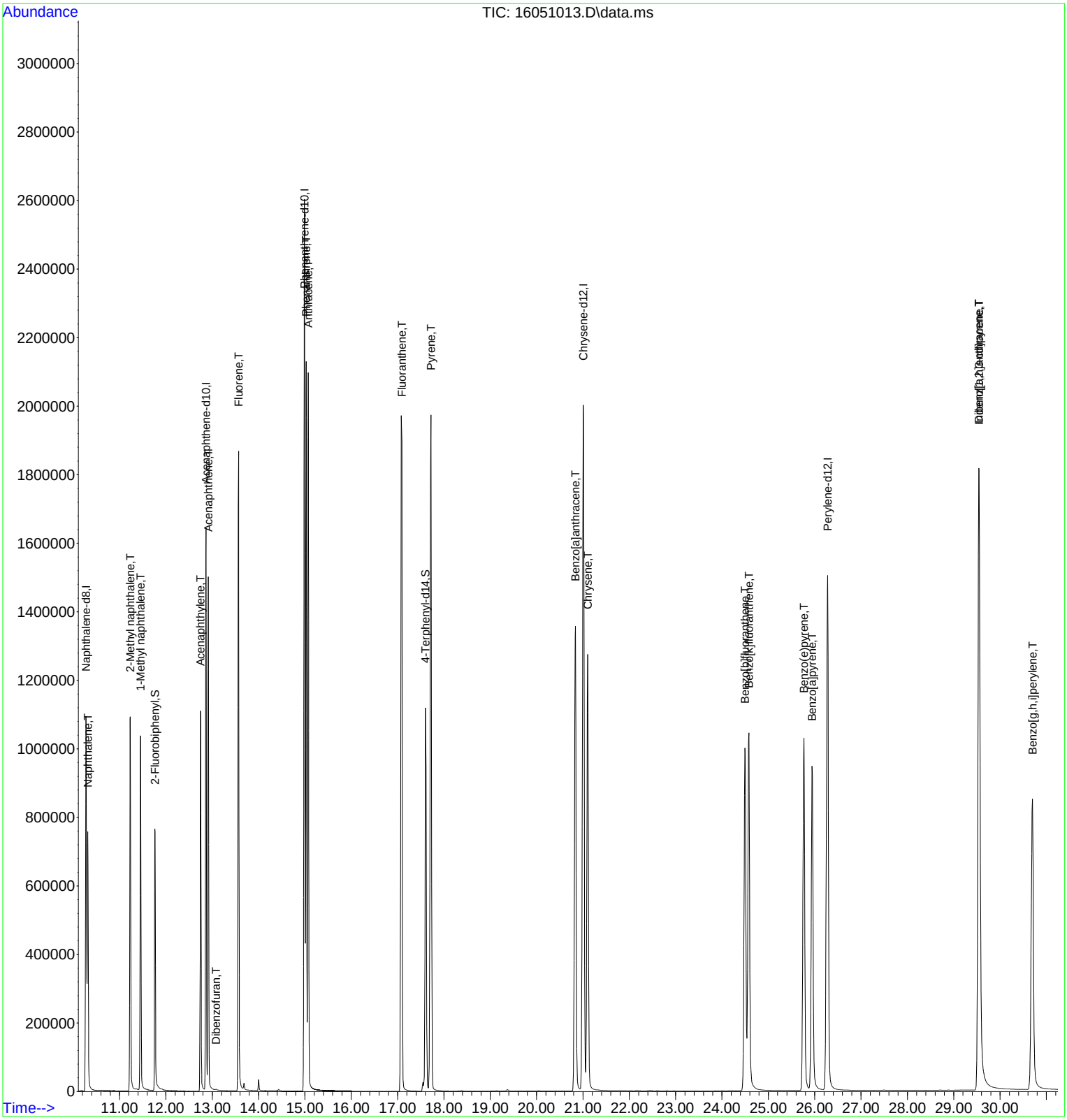
Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.278	136	1554639	4000.00	ug/kg	97
6) Acenaphthene-d10	12.866	164	1006608	4000.00	ug/kg	96
11) Phenanthrene-d10	14.989	188	3157008	4000.00	ug/kg	94
16) Chrysene-d12	21.006	240	3463869	4000.00	ug/kg	92
20) Perylene-d12	26.280	264	2950519	4000.00	ug/kg	93
System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.763	172	779363	2550.73	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	63.77%		
17) 4-Terphenyl-d14	17.602	244	1768654	2209.88	ug/kg	-0.01
Spiked Amount 4000.000	Range 51 - 135		Recovery =	55.25%		
Target Compounds						Qvalue
2) Naphthalene	10.315	128	894398	2373.87	ug/kg	100
3) 2-Methyl naphthalene	11.232	142	717289	2833.51	ug/kg	100
4) 1-Methyl naphthalene	11.454	142	656912	2778.44	ug/kg	100
7) Acenaphthylene	12.748	152	1098072	2321.34	ug/kg	100
8) Acenaphthene	12.915	153	729094	2435.59	ug/kg	99
9) Dibenzofuran	13.082	168	3308	6.84	ug/kg	93
10) Fluorene	13.568	166	1095429	2409.63	ug/kg	98
12) Phenanthrene	15.027	178	2064186	2259.11	ug/kg	99
13) Anthracene	15.071	178	2115711	2137.21	ug/kg	99
14) Fluoranthene	17.092	202	2598569	2173.14	ug/kg	97
15) Pyrene	17.722	202	2593276	2162.22	ug/kg	97
18) Benzo[a]anthracene	20.837	228	2215618	2275.43	ug/kg	100
19) Chrysene	21.101	228	1891125	2121.62	ug/kg	100
21) Benzo[b]fluoranthene	24.493	252	1991808	2370.43	ug/kg	99
22) Benzo[k]fluoranthene	24.581	252	1882427	2793.12	ug/kg	99
23) Benzo(j)fluoranthene	0.000	252	0	N.D.		
24) Benzo(e)pyrene	25.767	252	1976951	2451.27	ug/kg	100
25) Benzo[a]pyrene	25.943	252	1884992	2440.78	ug/kg	99
26) Indeno[1,2,3-cd]pyrene	29.554	276	2091753	2444.78	ug/kg	100
27) Dibenz[a,h]anthracene	29.540	278	1738477	2492.33	ug/kg	100
28) Benzo[g,h,i]perylene	30.697	276	1798976	2409.59	ug/kg	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160510\
Data File : 16051013.D
Acq On : 11 May 2016 1:26 am
Operator :
Sample : SSCV-160510 2500ppb
Misc : ICV
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 11 10:45:28 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 11 10:43:33 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160510\
Data File : 16051020.D
Acq On : 11 May 2016 9:18 am
Operator :
Sample : SSCV-160511
Misc : ICV
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 11 10:45:44 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 11 10:43:33 2016
Response via : Initial Calibration

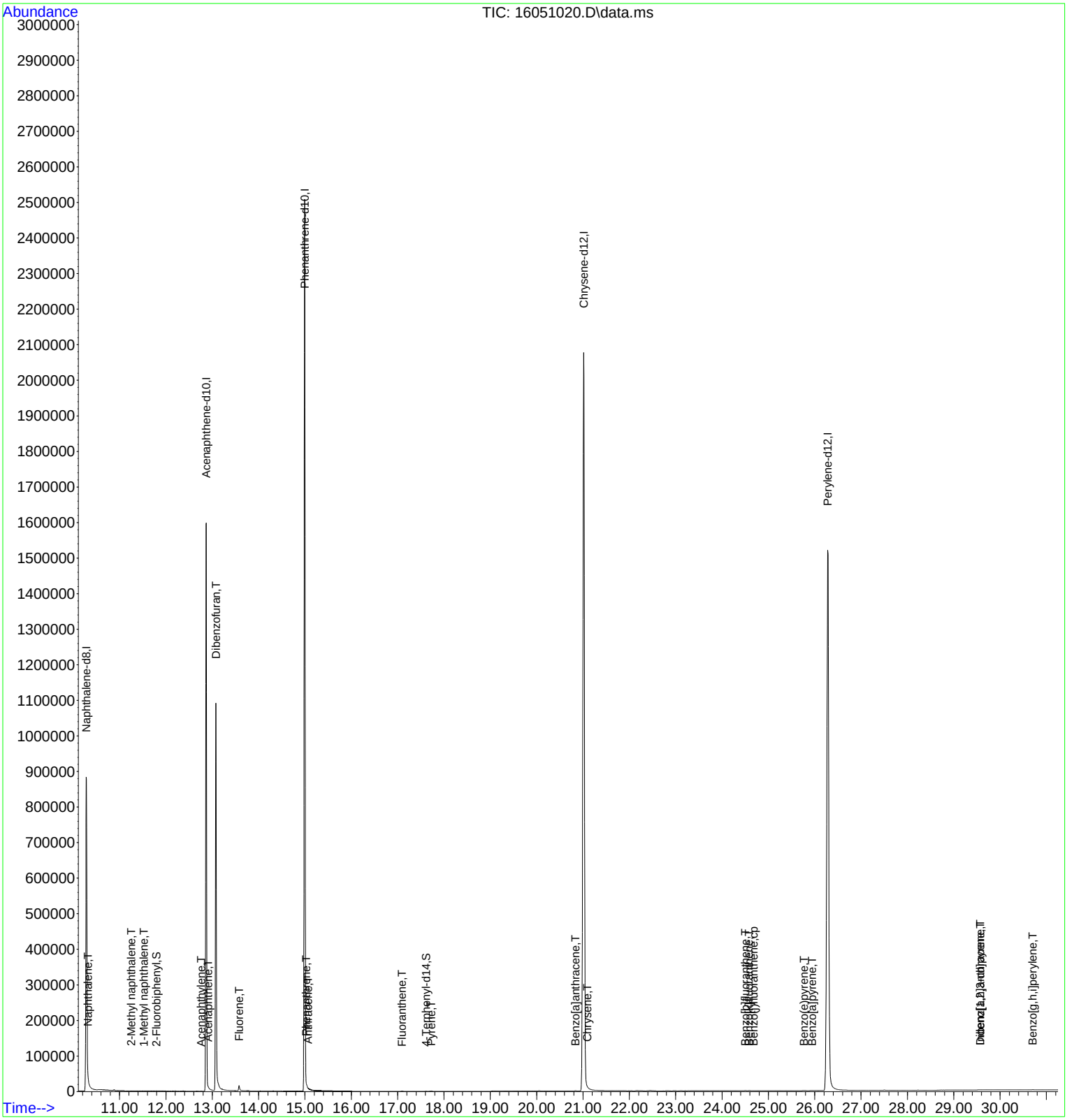
Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.280	136	1399599	4000.00	ug/kg	87
6) Acenaphthene-d10	12.872	164	1004361	4000.00	ug/kg	96
11) Phenanthrene-d10	14.994	188	3100424	4000.00	ug/kg	92
16) Chrysene-d12	21.013	240	3551246	4000.00	ug/kg	94
20) Perylene-d12	26.280	264	2998619	4000.00	ug/kg	95
System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.790	172	161	0.59	ug/kg	0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery =	0.01%#		
17) 4-Terphenyl-d14	17.615	244	1074	1.31	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery =	0.03%#		
Target Compounds						Qvalue
2) Naphthalene	10.321	128	189	0.56	ug/kg	80
3) 2-Methyl naphthalene	11.243	142	73	3.74	ug/kg#	71
4) 1-Methyl naphthalene	11.527	142	17	0.08	ug/kg	96
7) Acenaphthylene	12.759	152	258	0.55	ug/kg	97
8) Acenaphthene	12.921	153	264	0.88	ug/kg	90
9) Dibenzofuran	13.078	168	1144093	2372.02	ug/kg	92
10) Fluorene	13.579	166	11574	25.52	ug/kg	99
12) Phenanthrene	15.032	178	1088	1.21	ug/kg	98
13) Anthracene	15.076	178	957	0.98	ug/kg	96
14) Fluoranthene	17.092	202	1237	1.05	ug/kg	91
15) Pyrene	17.722	202	1577	1.34	ug/kg	95
18) Benzo[a]anthracene	20.838	228	1390	1.39	ug/kg	97
19) Chrysene	21.101	228	1149	1.26	ug/kg	97
21) Benzo[b]fluoranthene	24.500	252	1334	1.56	ug/kg	97
22) Benzo[k]fluoranthene	24.581	252	806	1.18	ug/kg	99
23) Benzo(j)fluoranthene	24.683	252	177	0.26	ug/kg	72
24) Benzo(e)pyrene	25.767	252	510	0.62	ug/kg	94
25) Benzo[a]pyrene	25.943	252	1108	1.41	ug/kg	93
26) Indeno[1,2,3-cd]pyrene	29.569	276	1222	1.41	ug/kg	95
27) Dibenz[a,h]anthracene	29.576	278	1493	2.11	ug/kg	90
28) Benzo[g,h,i]perylene	30.704	276	997	1.31	ug/kg	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160510\
Data File : 16051020.D
Acq On : 11 May 2016 9:18 am
Operator :
Sample : SSCV-160511
Misc : ICV
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 11 10:45:44 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 11 10:43:33 2016
Response via : Initial Calibration



CAL ID: 660

Method 8270 PAH Calibration Curve Sheet

Instrument ID: GCMS #8 **Calibration File Name:** PP160517.CAL

Target Concentration	Solvent Amount mL	Standard Preparation Stocks and Surrogate (µL/mL)	Final Volume mL
5 ppb	0.999	0.001 mL of 5000 ppb	1
10 ppb	0.998	0.002 mL of 5000 ppb	1
50 ppb	0.990	0.01 mL of 5000 ppb	1
100 ppb	0.980	0.02 mL of 5000 ppb	1
500 ppb	0.900	0.10 mL of 5000 ppb	1
1000 ppb	0.800	0.20 mL of 5000 ppb	1
2000 ppb	0.600	0.40 mL of 5000 ppb	1
5000 ppb	----	PAHCAL160510	10
SSCV 2500 ppb	0.500	0.50 mL of PAHSSCV160510-1	1
SSCV 2500 ppb	----	PAHSSCV160510-2	1

Standards Used for the Calibration Curve

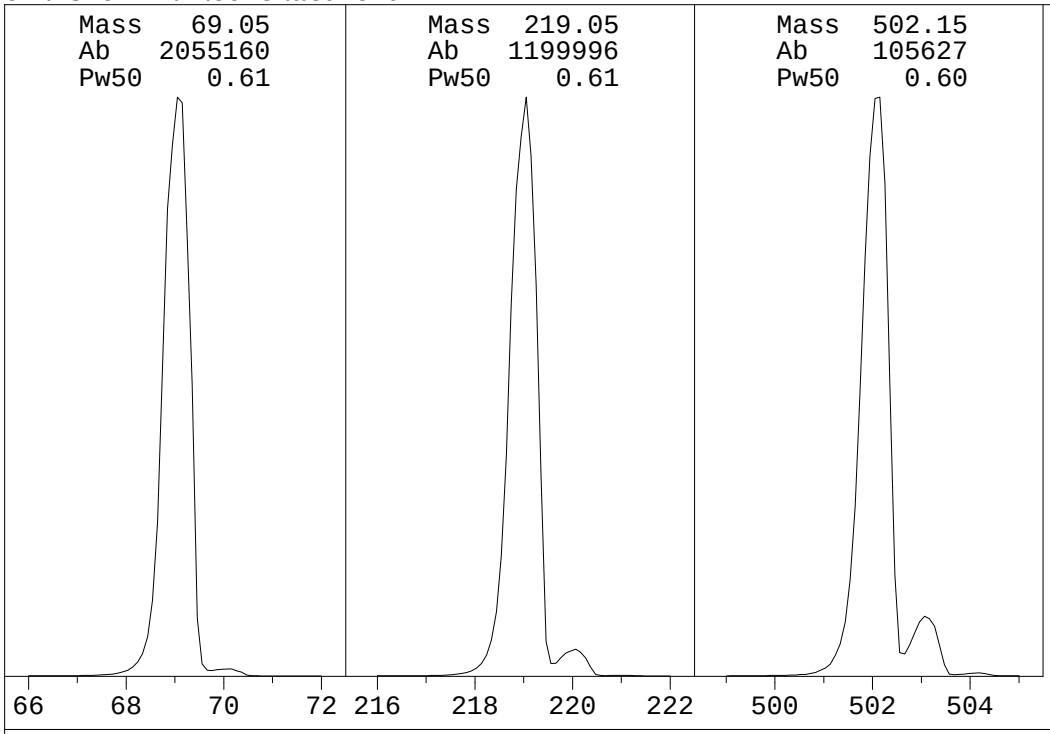
Primary Stock STDs	DHL Standard ID	Second Source (SS) Stock STDs	DHL Standard ID
5 PPM (5000 PPB) PAH CAL STD	**PAHCAL160510**	5PPM (5000PPB) PAH SSCV STD	**PAHSSCV160510-1**
		5PPM (5000PPB) PAH SSCV STD	**PAHSSCV160510-2**

Review Item	Acceptance Criteria	Yes	No	N/A	2nd Level Review
1. Are all standards within expiration dates?	Primary Stocks = 1 year Intermediate Standards = 6 months	X			X
2. Are all manual integrations listed on MI tracking form? **(DoD Projects only)**	Manual Integration Tracking Form			X	X
3. Does the tune and resolution check meet criteria?	Benzo(b) / Benzo(k)phenanthrene Valley > 50% See Tune Eval Report	X			X
4. Does the ICAL curve meet criteria? Use average CF only if %RSD < 15%	%RSD < 15% COD ≥ 0.990	X			X
5. Has the low point been reprocessed under the new ICAL curve and meets criteria?	70-130% recovery	X			X
6. Has the SSCV been analyzed and meets criteria?	80-120% recovery	X			X

Analyst: Karyn Lane Date: 05/18/16

Second-Level Review: Date: 05/19/2016

Tue May 17 15:37:19 2016 Instrument: GCMS #8
C:\MSDCHEM\1\5973\atune.u

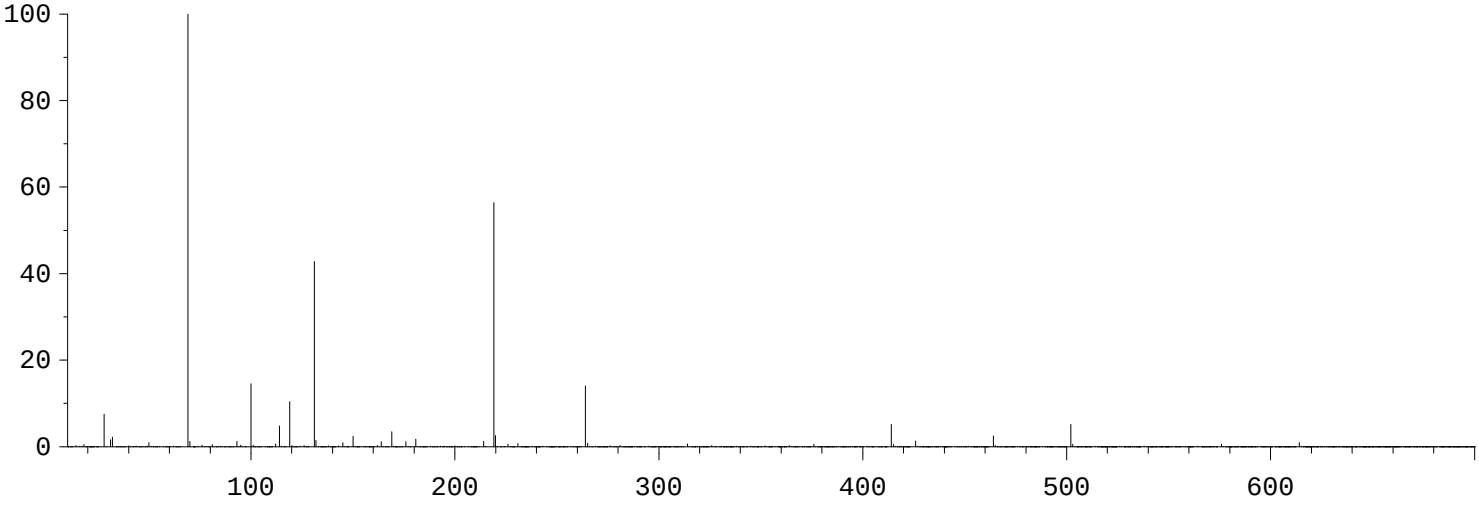


Ion Pol	POS	MassGain	48
		MassOffs	-11
Emission	34.6	AmuGain	2098
EIEnrgy	69.9	AmuOffs	132
Filament	2	Wid219	-0.001
		DC Pol	NEG
Repeller	37.83		
IonFcus	95.9	HEDEnab	ON
EntLens	12.0	EMVolts	1506
EntOffs	19.33		
		Samples	8
PFTBA	OPEN	Averages	3
		Stepsize	0.10

Zones:

MS Source	230	Foreline	41
MS Quad	150		

Scan: 10.00 - 700.00 Samples: 8 Thresh: 0 Step: 0.10
862 peaks Base: 69.05 Abundance: 1927168



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.05	1927168	100.00	70.05	23616	1.23
219.05	1086464	56.38	219.95	49704	4.57
502.05	98928	5.13	503.05	10766	10.88

Air/Water Check: H20~0.48% N2~7.48% O2~2.21% CO2~0.12% N2/H2O~1565.94%

Column Flow: Front: 0 Back: 1.887 ml/min. Interface Temp: 310

Ramp Criteria:
Ion Focus Maximum 125 volts using ion 219; EM Gain 34065
Repeller Maximum 38 volts using ion 502;

MassGain Values @Samples: 45@3 45@2 45@1 45@0 48@FS

TARGET MASS:	50	69	131	219	414	502	800
Amu Offset:	132.0	132.0	132.0	132.0	132.0	132.0	132.0
Entrance Lens Offset:	19.3	19.3	19.3	19.3	19.3	19.3	19.3

Response Factor Report GCMS #8

Method Path : C:\msdchem\1\METHODS\
Method File : PAH160517.M
Title : CLP BNA Calibration - Large Volume Injection
Last Update : Wed May 18 08:55:04 2016
Response Via : Initial Calibration

Calibration Files
1 =16051715.D 2 =16051716.D 3 =16051717.D 4 =16051718.D 5 =16051719.D 6 =16051720.D 7 =16051721.D
8 =16051722.D

		Compound	1	2	3	4	5	6	7	8	Avg	%RSD	Fit	RSD/CF	Constant	Linear	Quad
1)	I	Naphthalene-d8	----------ISTD----------														
2)	T	Naphthalene	0.971	0.931	0.909	0.923	0.896	0.882	0.854	0.803	0.896	5.70	A	0.0570	0.0000	0.8961	0.0000
3)	T	2-Methyl napht...	0.668	0.737	0.723	0.752	0.728	0.704	0.661	0.601	0.697	7.19	A	0.0719	0.0000	0.6966	0.0000
4)	T	1-Methyl napht...	0.697	0.702	0.687	0.699	0.676	0.648	0.610	0.555	0.659	7.98	A	0.0798	0.0000	0.6592	0.0000
5)	S	2-Fluorobiphenyl	0.930	0.951	0.942	0.982	0.925	0.877	0.808	0.711	0.891	10.09	A	0.1009	0.0000	0.8906	0.0000
6)	I	Acenaphthene-d10	----------ISTD----------														
7)	T	Acenaphthylene	1.873	1.811	1.779	1.812	1.778	1.749	1.659	1.526	1.748	6.23	A	0.0623	0.0000	1.7484	0.0000
8)	T	Acenaphthene	1.167	1.152	1.126	1.146	1.113	1.099	1.051	0.972	1.103	5.81	A	0.0581	0.0000	1.1033	0.0000
9)	T	Dibenzofuran	1.723	1.773	1.714	1.766	1.706	1.690	1.606	1.468	1.681	5.96	A	0.0596	0.0000	1.6806	0.0000
10)	T	Fluorene	1.574	1.580	1.544	1.570	1.557	1.539	1.475	1.360	1.525	4.88	A	0.0488	0.0000	1.5249	0.0000
11)	I	Phenanthrene-d10	----------ISTD----------														
12)	T	Phenanthrene	1.343	1.225	1.137	1.093	1.075	1.049	0.987	0.896	1.101	12.58	A	0.1258	0.0000	1.1006	0.0000
13)	T	Anthracene	1.350	1.221	1.143	1.125	1.092	1.066	1.009	0.903	1.114	12.07	A	0.1207	0.0000	1.1137	0.0000
14)	T	Fluoranthene	1.583	1.275	1.196	1.123	1.107	1.088	1.044	0.963	1.172	16.25	*Q	1.0000	0.0006	1.1096	-0.1184
15)	T	Pyrene	1.586	1.256	1.180	1.100	1.074	1.064	1.028	0.961	1.156	16.94	*Q	1.0000	0.0006	1.0802	-0.0964
16)	I	Chrysene-d12	----------ISTD----------														
17)	S	4-Terphenyl-d14	0.872	0.888	0.864	0.856	0.860	0.858	0.821	0.754	0.847	4.97	A	0.0497	0.0000	0.8466	0.0000
18)	T	Benzo[a]anthra...	1.506	1.204	1.026	1.022	1.027	1.032	0.987	0.920	1.091	17.03	*Q	0.9999	0.0005	1.0384	-0.0949
19)	T	Chrysene	1.521	1.202	0.989	0.969	0.955	0.951	0.910	0.854	1.044	20.85	*Q	1.0000	0.0007	0.9573	-0.0833
20)	I	Perylene-d12	----------ISTD----------														
21)	T	Benzo[b]fluora...	1.525	1.225	1.056	1.050	1.055	1.058	1.026	0.966	1.120	15.99	*Q	1.0000	0.0005	1.0659	-0.0797
22)	T	Benzo[k]fluora...	1.318	1.047	0.912	0.909	0.937	0.953	0.939	0.886	0.987	14.39	*Q	0.9999	0.0003	0.9587	-0.0575
23)	cp	Benzo(j)fluora...	1.597	1.138	0.982	0.939	0.908	0.923	0.883	0.833	1.025	24.19#	*Q	0.9999	0.0007	0.9226	-0.0727
24)	T	Benzo(e)pyrene	1.554	1.244	1.042	1.019	0.993	1.003	0.966	0.907	1.091	19.34	*Q	1.0000	0.0006	1.0086	-0.0814
25)	T	Benzo[a]pyrene	1.491	1.168	1.005	0.982	0.978	0.983	0.962	0.916	1.061	17.79	*Q	1.0000	0.0005	0.9888	-0.0580
26)	T	Indeno[1,2,3-c...	1.996	1.545	1.257	1.238	1.216	1.208	1.175	1.102	1.342	21.92	*Q	1.0000	0.0009	1.2223	-0.0964
27)	T	Dibenz[a,h]ant...	2.036	1.480	1.029	1.030	1.006	1.007	0.982	0.912	1.185	32.52	*Q	0.9999	0.0011	1.0172	-0.0844
28)	T	Benzo[g,h,i]pe...	1.728	1.360	1.090	1.080	1.051	1.040	1.013	0.954	1.164	22.12	*Q	1.0000	0.0008	1.0532	-0.0802

(#) = Out of Range

Sequence Name: C:\msdchem\1\sequence\160517.S
Comment:
Operator:
Data Path: C:\MSDCHEM\1\DATA\160517\
Instrument Name: GCMS #8
Instrument Control Pre-Seq Cmd:
Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:
Data Analysis Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

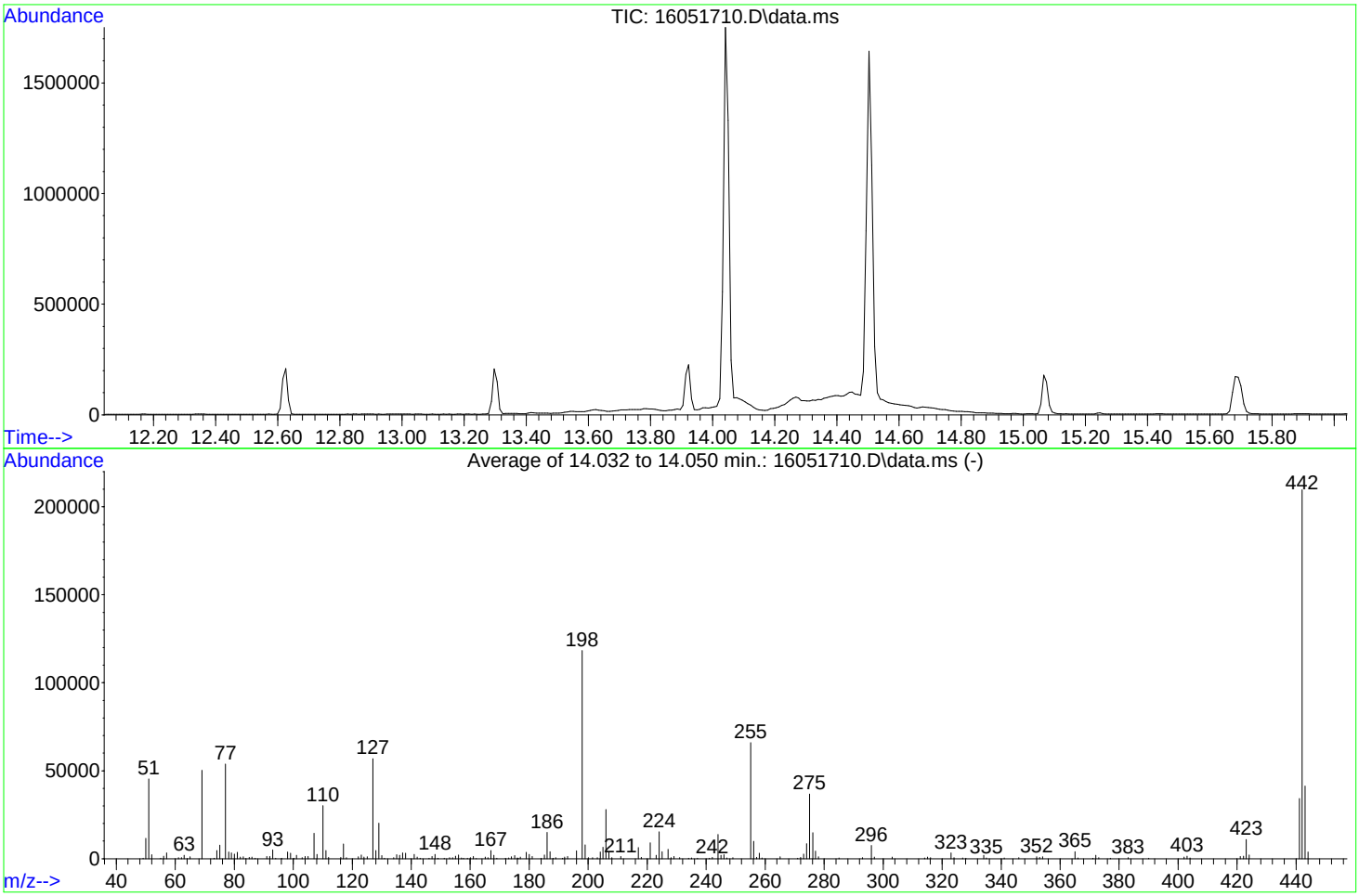
On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line			Sample Name/Misc Info	
1)	Sample	1	16051601 DFTPPPCB	DFTPP-160517
2)	Sample	2	16051602 1660-160511	ICV-160517
3)	Sample	3	16051703 1660-160511	LCS-75186
4)	Sample	4	16051704 1660-160511	LCSD-75186
5)	Sample	5	16051705 1660-160511	MB-75186
6)	Sample	6	16051706 1660-160511	1605115-01B
7)	Sample	7	16051707 1660-160511	1605115-02B
8)	Sample	1	16051708 DFTPPPAH	DFTPP-160517
9)	Sample	2	16051709 PAH160510	ICV-160517
10)	Sample	1	16051710 DFTPPPAH	DFTPP-160517
11)	Sample	2	16051711 PAH160510	ICV-160517
12)	Sample	3	16051712 PAH160510	SBLK
13)	Sample	3	16051713 PAH160510	SBLK
14)	Sample	3	16051714 PAH160510	SBLK
15)	Sample	4	16051715 PAH160510	P1-160517 5
16)	Sample	5	16051716 PAH160510	P2-160517 10
17)	Sample	6	16051717 PAH160510	P3-160517 50
18)	Sample	7	16051718 PAH160510	P4-160517 100
19)	Sample	8	16051719 PAH160510	P5-160517 500
20)	Sample	9	16051720 PAH160510	P6-160517 1000
21)	Sample	10	16051721 PAH160510	P7-160517 2000
22)	Sample	11	16051722 PAH160510	P8-160517 5000
23)	Sample	12	16051723 PAH160510	SSCV-160517
24)	Sample	13	16051724 PAH160510	SSCV-160517

Data Path : C:\msdchem\1\DATA\160517\
Data File : 16051710.D
Acq On : 17 May 2016 1:34 pm
Operator :
Sample : DFTPP-160517
Misc : TUNE
ALS Vial : 1 Sample Multiplier: 1

Integration File: RTEINT.P

Method : C:\msdchem\1\METHODS\DFTPPPAH.M
Title : CLP BNA Calibration - Large Volume Injection
Last Update : Thu Aug 27 07:24:43 2015



AutoFind: Scans 435, 436, 437; Background Corrected with Scan 431

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	38.3	45352	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	42.4	50218	PASS
70	69	0.00	2	0.0	0	PASS
127	198	10	80	48.0	56837	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	118309	PASS
199	198	5	9	6.7	7917	PASS
275	198	10	60	31.0	36677	PASS
365	198	1	200	3.4	4059	PASS
441	442	0.01	24	16.3	34164	PASS
442	198	50	400	177.3	209768	PASS
443	442	15	24	19.7	41255	PASS

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160517\
Data File : 16051715.D
Acq On : 17 May 2016 4:58 pm
Operator :
Sample : P1-160517 5
Misc : CAL1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 18 14:55:15 2016
Quant Method : C:\msdchem\1\METHODS\PAH160517.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 18 08:55:04 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.276	136	1615408	4000.00	ug/kg	99
6) Acenaphthene-d10	12.862	164	1299470	4000.00	ug/kg	104
11) Phenanthrene-d10	14.983	188	2692201	4000.00	ug/kg	92
16) Chrysene-d12	20.996	240	2729963	4000.00	ug/kg	101
20) Perylene-d12	26.262	264	2530056	4000.00	ug/kg	102

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.765	172	1877	5.22	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 0.13%#			
17) 4-Terphenyl-d14	17.598	244	2976	5.15	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery = 0.13%#			

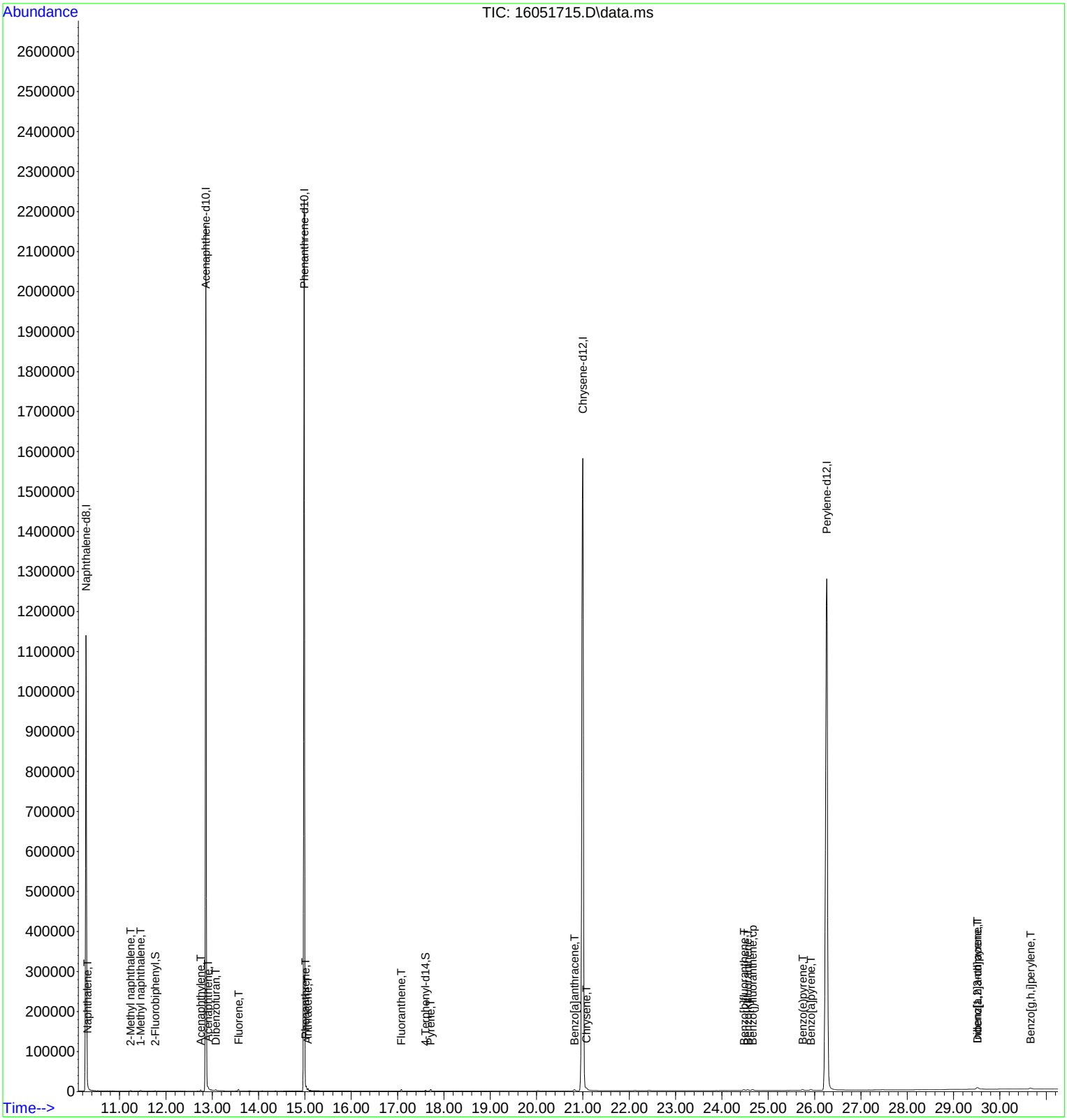
Target Compounds						Qvalue
2) Naphthalene	10.313	128	1960	5.42	ug/kg	99
3) 2-Methyl naphthalene	11.234	142	1349	4.80	ug/kg	100
4) 1-Methyl naphthalene	11.457	142	1407	5.29	ug/kg	95
7) Acenaphthylene	12.749	152	3043	5.36	ug/kg	98
8) Acenaphthene	12.911	153	1895	5.29	ug/kg	96
9) Dibenzofuran	13.073	168	2799	5.13	ug/kg	93
10) Fluorene	13.564	166	2556	5.16	ug/kg	99
12) Phenanthrene	15.019	178	4521	6.10	ug/kg	97
13) Anthracene	15.063	178	4542	6.06	ug/kg	98
14) Fluoranthene	17.079	202	5328	5.09	ug/kg	100
15) Pyrene	17.709	202	5338	5.08	ug/kg	96
18) Benzo[a]anthracene	20.812	228	5140	5.45	ug/kg	99
19) Chrysene	21.083	228	5190	5.21	ug/kg	98
21) Benzo[b]fluoranthene	24.475	252	4824	5.45	ug/kg	98
22) Benzo[k]fluoranthene	24.556	252	4169	5.77	ug/kg	98
23) Benzo(j)fluoranthene	24.665	252	5051	5.48	ug/kg	98
24) Benzo(e)pyrene	25.742	252	4914	5.22	ug/kg	97
25) Benzo[a]pyrene	25.918	252	4715	5.41	ug/kg	98
26) Indeno[1,2,3-cd]pyrene	29.522	276	6312	5.30	ug/kg	97
27) Dibenz[a,h]anthracene	29.507	278	6440	5.51	ug/kg	98
28) Benzo[g,h,i]perylene	30.657	276	5466	5.18	ug/kg	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160517\
Data File : 16051715.D
Acq On : 17 May 2016 4:58 pm
Operator :
Sample : P1-160517 5
Misc : CAL1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 18 14:55:15 2016
Quant Method : C:\msdchem\1\METHODS\PAH160517.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 18 08:55:04 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160517\
Data File : 16051716.D
Acq On : 17 May 2016 5:34 pm
Operator :
Sample : P2-160517 10
Misc : CAL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 18 14:21:49 2016
Quant Method : C:\msdchem\1\METHODS\PAH160517.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 18 08:55:04 2016
Response via : Initial Calibration

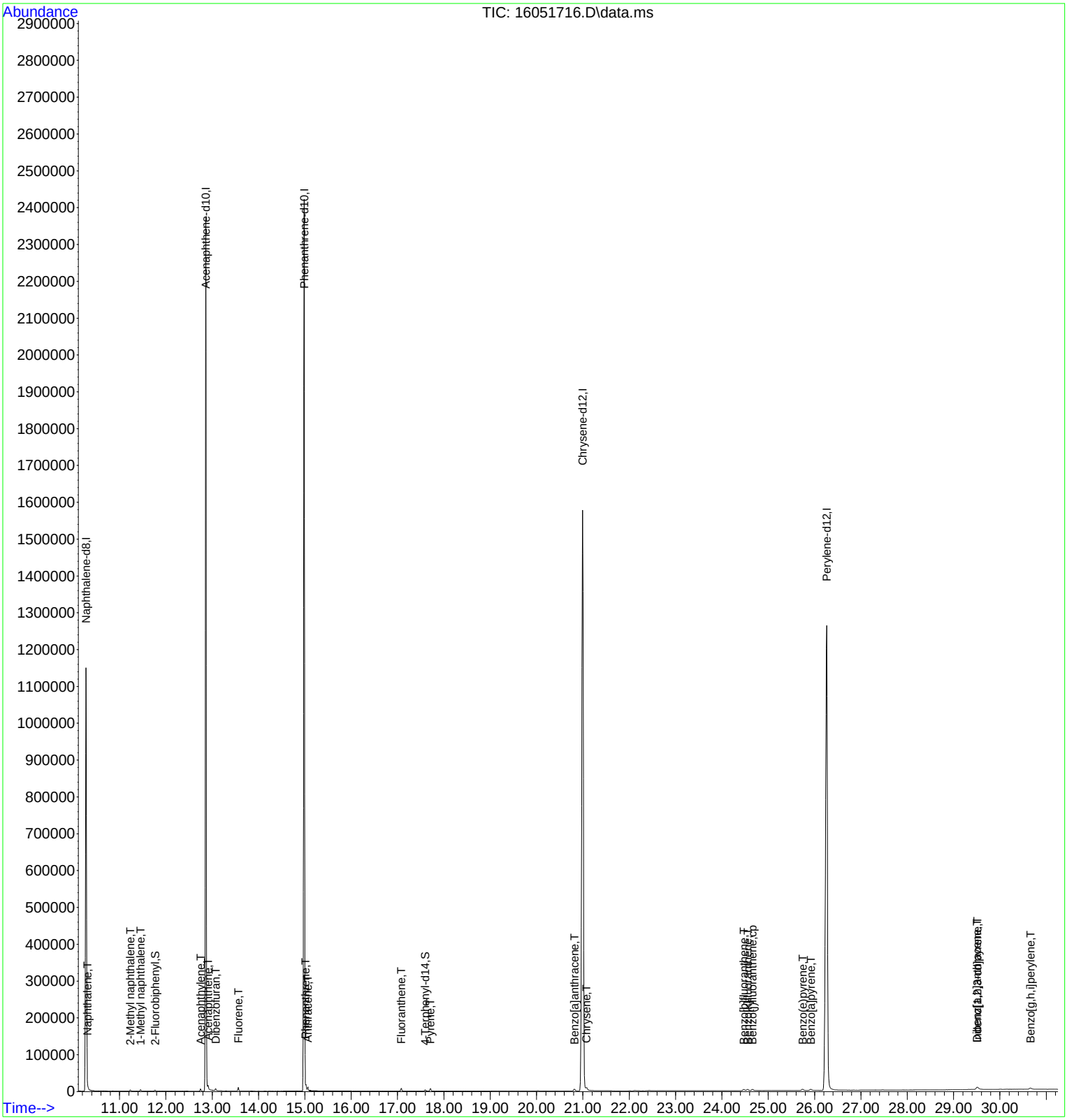
Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.277	136	1669821	4000.00	ug/kg	102
6) Acenaphthene-d10	12.862	164	1410989	4000.00	ug/kg	113
11) Phenanthrene-d10	14.983	188	2926710	4000.00	ug/kg	100
16) Chrysene-d12	20.995	240	2655348	4000.00	ug/kg	98
20) Perylene-d12	26.262	264	2418020	4000.00	ug/kg	97
System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.766	172	3970	10.68	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 0.27%#			
17) 4-Terphenyl-d14	17.595	244	5897	10.49	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery = 0.26%#			
Target Compounds						Qvalue
2) Naphthalene	10.314	128	3887	10.39	ug/kg	99
3) 2-Methyl naphthalene	11.231	142	3075	10.57	ug/kg	100
4) 1-Methyl naphthalene	11.453	142	2932	10.65	ug/kg	98
7) Acenaphthylene	12.749	152	6390	10.36	ug/kg	98
8) Acenaphthene	12.911	153	4063	10.44	ug/kg	98
9) Dibenzofuran	13.073	168	6254	10.55	ug/kg	99
10) Fluorene	13.564	166	5573	10.36	ug/kg	99
12) Phenanthrene	15.019	178	8966	11.13	ug/kg	98
13) Anthracene	15.063	178	8936	10.97	ug/kg	98
14) Fluoranthene	17.079	202	9332	9.45	ug/kg	98
15) Pyrene	17.708	202	9188	9.36	ug/kg	98
18) Benzo[a]anthracene	20.820	228	7990	9.79	ug/kg	98
19) Chrysene	21.083	228	7982	9.83	ug/kg	98
21) Benzo[b]fluoranthene	24.475	252	7404	9.78	ug/kg	99
22) Benzo[k]fluoranthene	24.555	252	6327	9.81	ug/kg	96
23) Benzo(j)fluoranthene	24.658	252	6882	9.16	ug/kg	99
24) Benzo(e)pyrene	25.742	252	7518	9.85	ug/kg	95
25) Benzo[a]pyrene	25.918	252	7061	9.69	ug/kg	99
26) Indeno[1,2,3-cd]pyrene	29.522	276	9340	9.78	ug/kg	99
27) Dibenz[a,h]anthracene	29.507	278	8949	10.05	ug/kg	98
28) Benzo[g,h,i]perylene	30.657	276	8222	9.89	ug/kg	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160517\
Data File : 16051716.D
Acq On : 17 May 2016 5:34 pm
Operator :
Sample : P2-160517 10
Misc : CAL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 18 14:21:49 2016
Quant Method : C:\msdchem\1\METHODS\PAH160517.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 18 08:55:04 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160517\
Data File : 16051717.D
Acq On : 17 May 2016 6:12 pm
Operator :
Sample : P3-160517 50
Misc : CAL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 18 14:21:53 2016
Quant Method : C:\msdchem\1\METHODS\PAH160517.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 18 08:55:04 2016
Response via : Initial Calibration

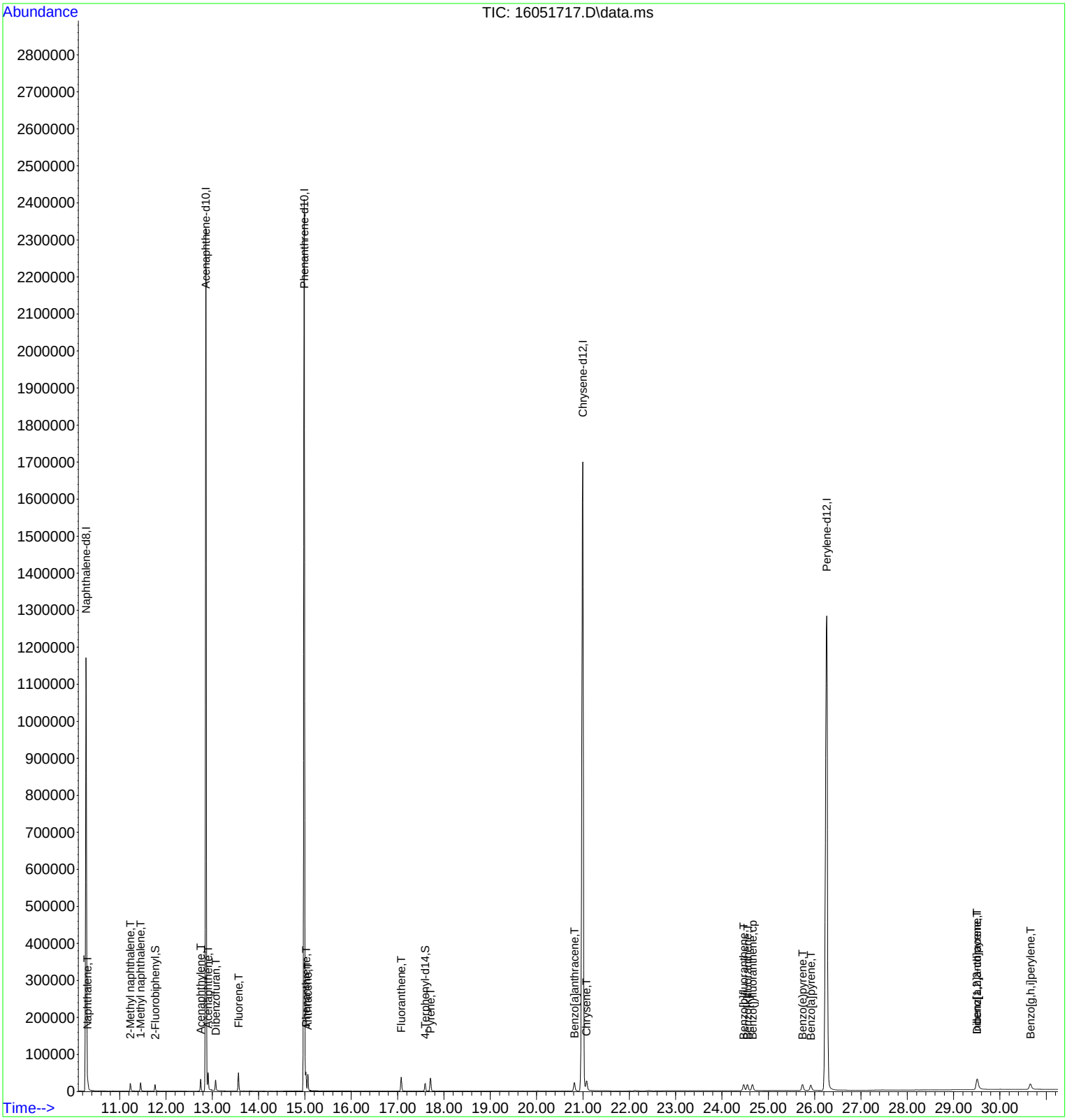
Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.275	136	1691963	4000.00	ug/kg	104
6) Acenaphthene-d10	12.861	164	1420682	4000.00	ug/kg	113
11) Phenanthrene-d10	14.984	188	2974690	4000.00	ug/kg	102
16) Chrysene-d12	20.995	240	2826915	4000.00	ug/kg	104
20) Perylene-d12	26.262	264	2545051	4000.00	ug/kg	102
System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.765	172	19916	52.87	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.32%#			
17) 4-Terphenyl-d14	17.596	244	30536	51.03	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery = 1.28%#			
Target Compounds						Qvalue
2) Naphthalene	10.313	128	19225	50.72	ug/kg	100
3) 2-Methyl naphthalene	11.230	142	15281	51.86	ug/kg	98
4) 1-Methyl naphthalene	11.452	142	14530	52.11	ug/kg	98
7) Acenaphthylene	12.748	152	31599	50.89	ug/kg	98
8) Acenaphthene	12.910	153	20004	51.05	ug/kg	97
9) Dibenzofuran	13.072	168	30435	50.99	ug/kg	97
10) Fluorene	13.563	166	27428	50.64	ug/kg	100
12) Phenanthrene	15.020	178	42270	51.64	ug/kg	97
13) Anthracene	15.062	178	42517	51.34	ug/kg	98
14) Fluoranthene	17.077	202	44464	51.91	ug/kg	98
15) Pyrene	17.709	202	43861	52.40	ug/kg	97
18) Benzo[a]anthracene	20.812	228	36261	47.66	ug/kg	98
19) Chrysene	21.083	228	34959	48.99	ug/kg	99
21) Benzo[b]fluoranthene	24.467	252	33604	47.88	ug/kg	99
22) Benzo[k]fluoranthene	24.548	252	29005	46.47	ug/kg	98
23) Benzo(j)fluoranthene	24.658	252	31228	50.07	ug/kg	99
24) Benzo(e)pyrene	25.742	252	33142	49.21	ug/kg	99
25) Benzo[a]pyrene	25.918	252	31972	48.73	ug/kg	98
26) Indeno[1,2,3-cd]pyrene	29.514	276	39995	48.61	ug/kg	99
27) Dibenz[a,h]anthracene	29.500	278	32742	46.13	ug/kg	99
28) Benzo[g,h,i]perylene	30.657	276	34676	48.76	ug/kg	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160517\
Data File : 16051717.D
Acq On : 17 May 2016 6:12 pm
Operator :
Sample : P3-160517 50
Misc : CAL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 18 14:21:53 2016
Quant Method : C:\msdchem\1\METHODS\PAH160517.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 18 08:55:04 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160517\
Data File : 16051718.D
Acq On : 17 May 2016 6:49 pm
Operator :
Sample : P4-160517 100
Misc : CAL
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 18 14:21:56 2016
Quant Method : C:\msdchem\1\METHODS\PAH160517.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 18 08:55:04 2016
Response via : Initial Calibration

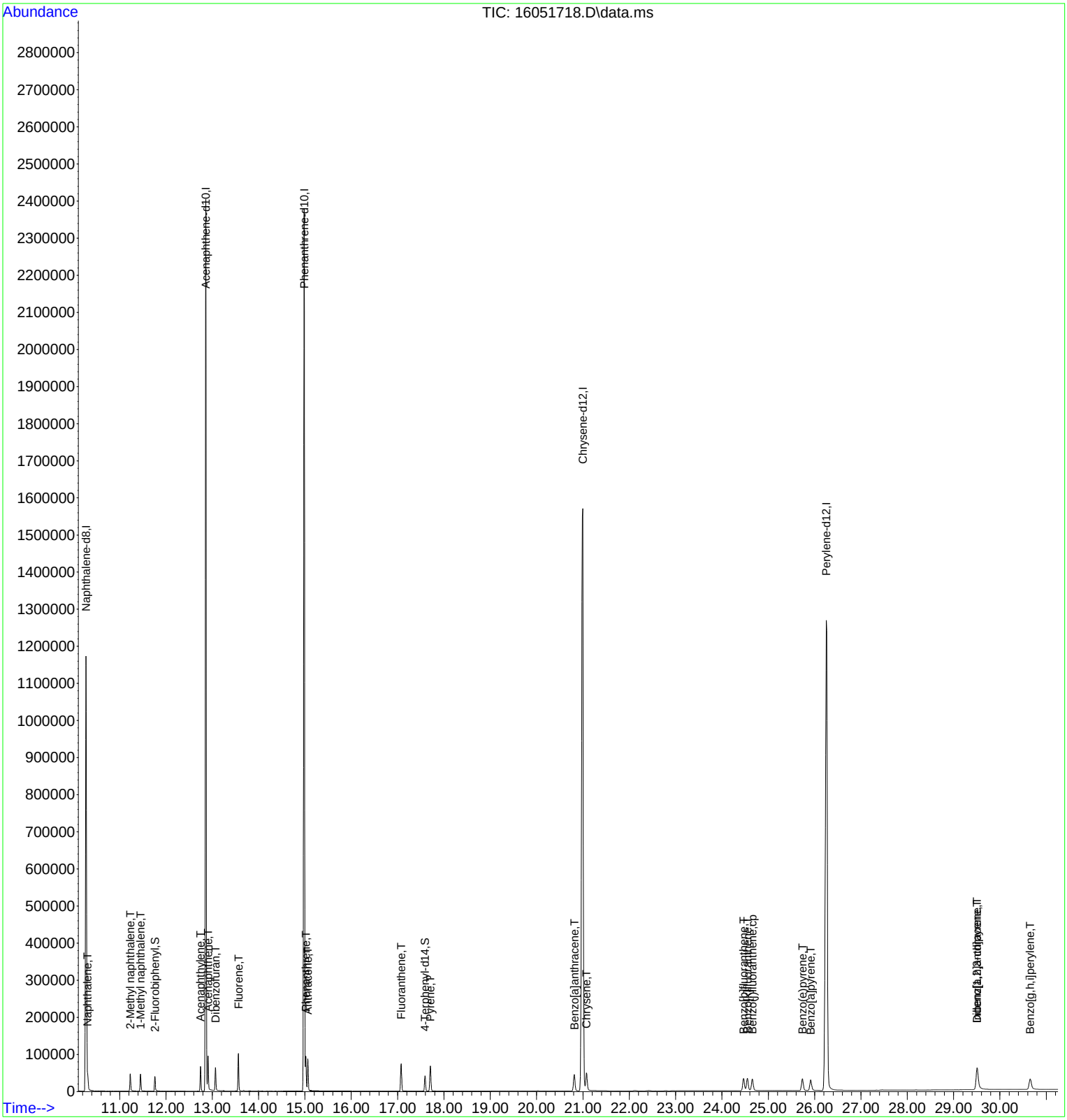
Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.276	136	1693906	4000.00	ug/kg	104
6) Acenaphthene-d10	12.861	164	1440728	4000.00	ug/kg	115
11) Phenanthrene-d10	14.983	188	2966427	4000.00	ug/kg	101
16) Chrysene-d12	20.994	240	2706021	4000.00	ug/kg	100
20) Perylene-d12	26.254	264	2498423	4000.00	ug/kg	101
System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.760	172	41597	110.29	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.76%#			
17) 4-Terphenyl-d14	17.592	244	57884	101.06	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery = 2.53%#			
Target Compounds						Qvalue
2) Naphthalene	10.313	128	39101	103.04	ug/kg	100
3) 2-Methyl naphthalene	11.230	142	31845	107.95	ug/kg	99
4) 1-Methyl naphthalene	11.452	142	29622	106.11	ug/kg	99
7) Acenaphthylene	12.743	152	65260	103.63	ug/kg	99
8) Acenaphthene	12.910	153	41268	103.85	ug/kg	98
9) Dibenzofuran	13.067	168	63596	105.06	ug/kg	94
10) Fluorene	13.563	166	56542	102.94	ug/kg	100
12) Phenanthrene	15.019	178	81029	99.27	ug/kg	97
13) Anthracene	15.061	178	83432	101.02	ug/kg	98
14) Fluoranthene	17.076	202	83259	99.39	ug/kg	99
15) Pyrene	17.705	202	81588	99.81	ug/kg	98
18) Benzo[a]anthracene	20.811	228	69165	96.87	ug/kg	99
19) Chrysene	21.075	228	65585	98.75	ug/kg	99
21) Benzo[b]fluoranthene	24.467	252	65590	96.99	ug/kg	99
22) Benzo[k]fluoranthene	24.547	252	56746	93.79	ug/kg	100
23) Benzo(j)fluoranthene	24.657	252	58663	98.81	ug/kg	99
24) Benzo(e)pyrene	25.734	252	63628	98.71	ug/kg	99
25) Benzo[a]pyrene	25.917	252	61356	97.35	ug/kg	99
26) Indeno[1,2,3-cd]pyrene	29.514	276	77335	98.62	ug/kg	99
27) Dibenz[a,h]anthracene	29.499	278	64324	96.94	ug/kg	99
28) Benzo[g,h,i]perylene	30.656	276	67436	99.67	ug/kg	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160517\
Data File : 16051718.D
Acq On : 17 May 2016 6:49 pm
Operator :
Sample : P4-160517 100
Misc : CAL
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 18 14:21:56 2016
Quant Method : C:\msdchem\1\METHODS\PAH160517.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 18 08:55:04 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160517\
Data File : 16051719.D
Acq On : 17 May 2016 7:26 pm
Operator :
Sample : P5-160517 500
Misc : CAL
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 18 14:22:00 2016
Quant Method : C:\msdchem\1\METHODS\PAH160517.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 18 08:55:04 2016
Response via : Initial Calibration

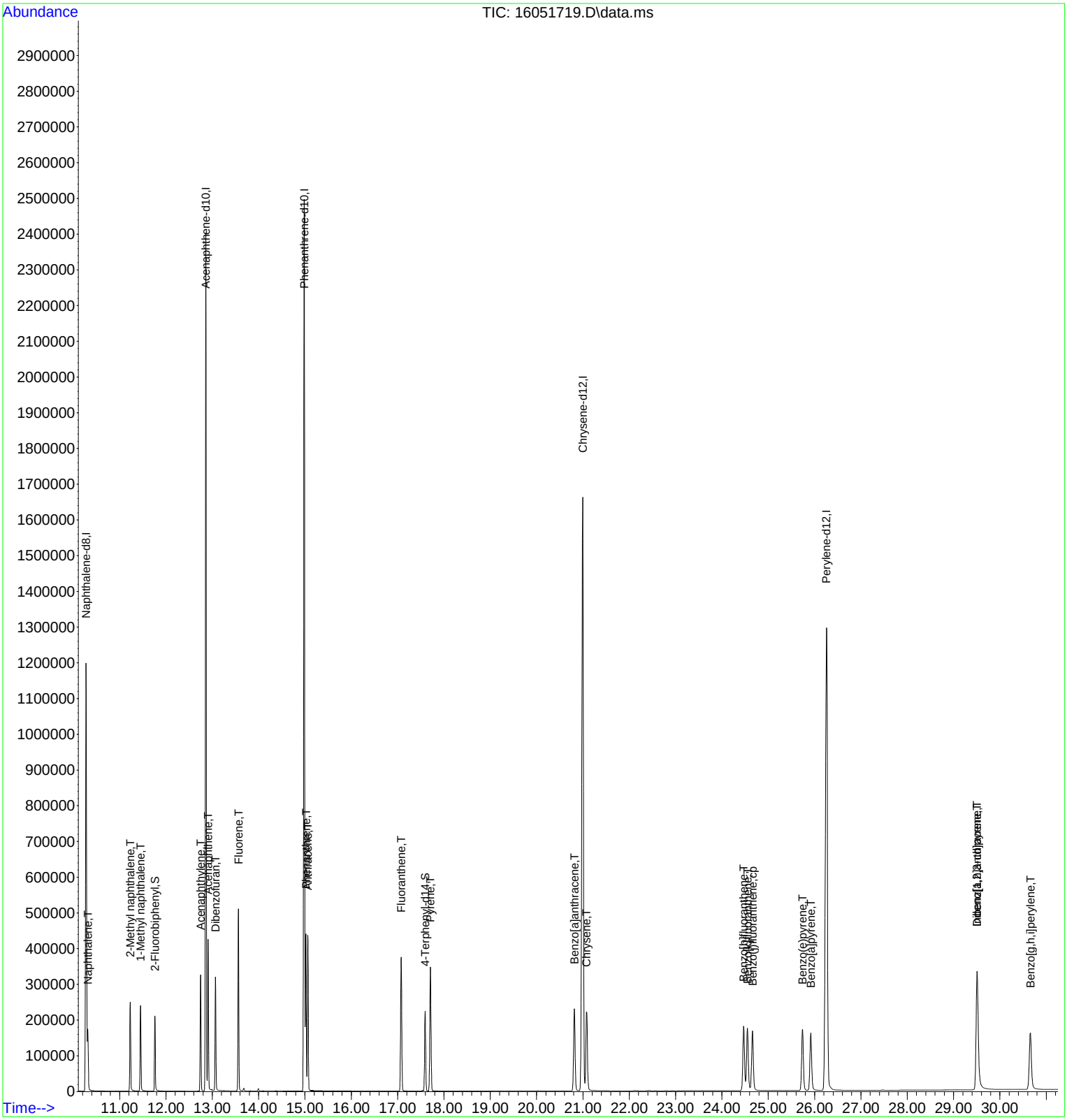
Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.275	136	1716888	4000.00	ug/kg	105
6) Acenaphthene-d10	12.861	164	1420427	4000.00	ug/kg	113
11) Phenanthrene-d10	14.984	188	3065132	4000.00	ug/kg	105
16) Chrysene-d12	20.996	240	2806740	4000.00	ug/kg	104
20) Perylene-d12	26.255	264	2612071	4000.00	ug/kg	105
System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.760	172	198425	519.07	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 12.98%#			
17) 4-Terphenyl-d14	17.593	244	301886	508.16	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery = 12.70%#			
Target Compounds						Qvalue
2) Naphthalene	10.312	128	192186	499.67	ug/kg	100
3) 2-Methyl naphthalene	11.229	142	156202	522.41	ug/kg	99
4) 1-Methyl naphthalene	11.451	142	144981	512.40	ug/kg	99
7) Acenaphthylene	12.748	152	315668	508.42	ug/kg	99
8) Acenaphthene	12.910	153	197655	504.51	ug/kg	98
9) Dibenzofuran	13.067	168	302969	507.65	ug/kg	91
10) Fluorene	13.563	166	276455	510.53	ug/kg	99
12) Phenanthrene	15.020	178	411797	488.27	ug/kg	98
13) Anthracene	15.062	178	418563	490.47	ug/kg	98
14) Fluoranthene	17.077	202	424180	503.59	ug/kg	99
15) Pyrene	17.709	202	411312	500.25	ug/kg	97
18) Benzo[a]anthracene	20.812	228	360174	498.19	ug/kg	99
19) Chrysene	21.076	228	335004	501.45	ug/kg	99
21) Benzo[b]fluoranthene	24.468	252	344489	497.86	ug/kg	99
22) Benzo[k]fluoranthene	24.548	252	306053	491.39	ug/kg	99
23) Benzo(j)fluoranthene	24.658	252	296427	493.61	ug/kg	99
24) Benzo(e)pyrene	25.735	252	324231	494.73	ug/kg	99
25) Benzo[a]pyrene	25.918	252	319375	496.08	ug/kg	99
26) Indeno[1,2,3-cd]pyrene	29.515	276	396879	499.27	ug/kg	98
27) Dibenz[a,h]anthracene	29.500	278	328543	495.21	ug/kg	99
28) Benzo[g,h,i]perylene	30.657	276	343154	500.70	ug/kg	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160517\
Data File : 16051719.D
Acq On : 17 May 2016 7:26 pm
Operator :
Sample : P5-160517 500
Misc : CAL
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 18 14:22:00 2016
Quant Method : C:\msdchem\1\METHODS\PAH160517.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 18 08:55:04 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160517\
Data File : 16051720.D
Acq On : 17 May 2016 8:03 pm
Operator :
Sample : P6-160517 1000
Misc : CAL
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 18 14:22:03 2016
Quant Method : C:\msdchem\1\METHODS\PAH160517.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 18 08:55:04 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.276	136	1672746	4000.00	ug/kg	103
6) Acenaphthene-d10	12.862	164	1335900	4000.00	ug/kg	107
11) Phenanthrene-d10	14.983	188	3005081	4000.00	ug/kg	103
16) Chrysene-d12	20.996	240	2748497	4000.00	ug/kg	101
20) Perylene-d12	26.263	264	2515463	4000.00	ug/kg	101

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.761	172	366689	984.56	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 24.61%#			
17) 4-Terphenyl-d14	17.592	244	589485	1013.30	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery = 25.33%#			

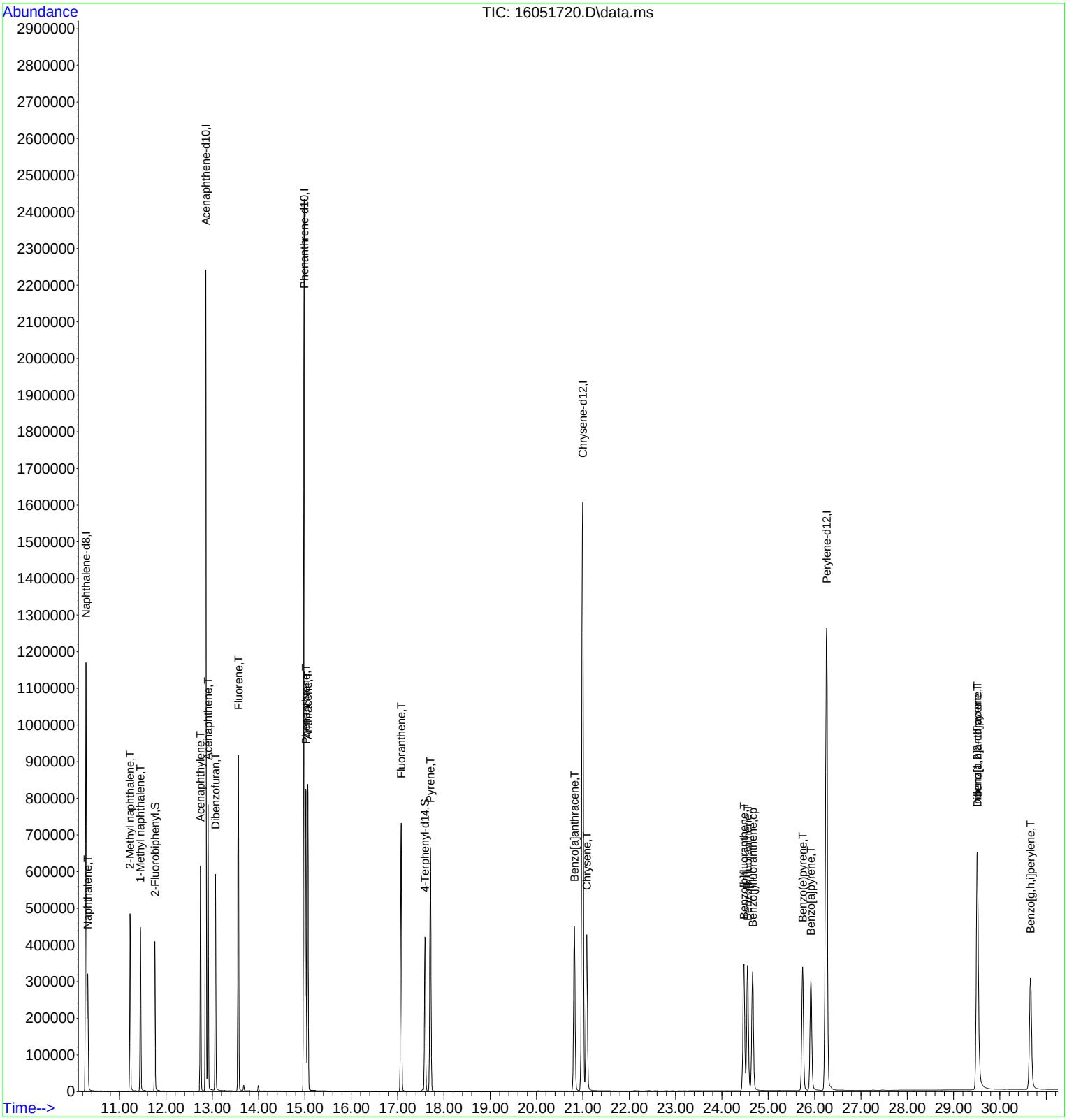
Target Compounds						Qvalue
2) Naphthalene	10.313	128	368948	984.54	ug/kg	100
3) 2-Methyl naphthalene	11.227	142	294264	1010.11	ug/kg	99
4) 1-Methyl naphthalene	11.449	142	270777	982.25	ug/kg	98
7) Acenaphthylene	12.744	152	584017	1000.15	ug/kg	99
8) Acenaphthene	12.911	153	367052	996.17	ug/kg	99
9) Dibenzofuran	13.068	168	564260	1005.29	ug/kg	95
10) Fluorene	13.564	166	514152	1009.56	ug/kg	99
12) Phenanthrene	15.019	178	788028	953.04	ug/kg	99
13) Anthracene	15.063	178	800602	956.88	ug/kg	99
14) Fluoranthene	17.076	202	817359	1005.41	ug/kg	99
15) Pyrene	17.709	202	799661	1005.73	ug/kg	98
18) Benzo[a]anthracene	20.813	228	709426	1016.07	ug/kg	100
19) Chrysene	21.084	228	653281	1012.70	ug/kg	99
21) Benzo[b]fluoranthene	24.475	252	665603	1010.40	ug/kg	100
22) Benzo[k]fluoranthene	24.556	252	599301	1008.21	ug/kg	99
23) Benzo(j)fluoranthene	24.666	252	580263	1017.28	ug/kg	99
24) Benzo(e)pyrene	25.743	252	630968	1013.00	ug/kg	100
25) Benzo[a]pyrene	25.918	252	618328	1007.08	ug/kg	99
26) Indeno[1,2,3-cd]pyrene	29.522	276	759719	1005.42	ug/kg	99
27) Dibenz[a,h]anthracene	29.508	278	633064	1006.18	ug/kg	100
28) Benzo[g,h,i]perylene	30.665	276	654258	1003.99	ug/kg	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160517\
Data File : 16051720.D
Acq On : 17 May 2016 8:03 pm
Operator :
Sample : P6-160517 1000
Misc : CAL
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 18 14:22:03 2016
Quant Method : C:\msdchem\1\METHODS\PAH160517.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 18 08:55:04 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160517\
Data File : 16051721.D
Acq On : 17 May 2016 8:40 pm
Operator :
Sample : P7-160517 2000
Misc : CAL
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 18 14:22:07 2016
Quant Method : C:\msdchem\1\METHODS\PAH160517.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 18 08:55:04 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.273	136	1630045	4000.00	ug/kg	100
6) Acenaphthene-d10	12.862	164	1254060	4000.00	ug/kg	100
11) Phenanthrene-d10	14.981	188	2926310	4000.00	ug/kg	100
16) Chrysene-d12	20.989	240	2710742	4000.00	ug/kg	100
20) Perylene-d12	26.255	264	2483020	4000.00	ug/kg	100

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.762	172	658153	1813.43	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 45.34%			
17) 4-Terphenyl-d14	17.593	244	1112679	1939.28	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery = 48.48%#			

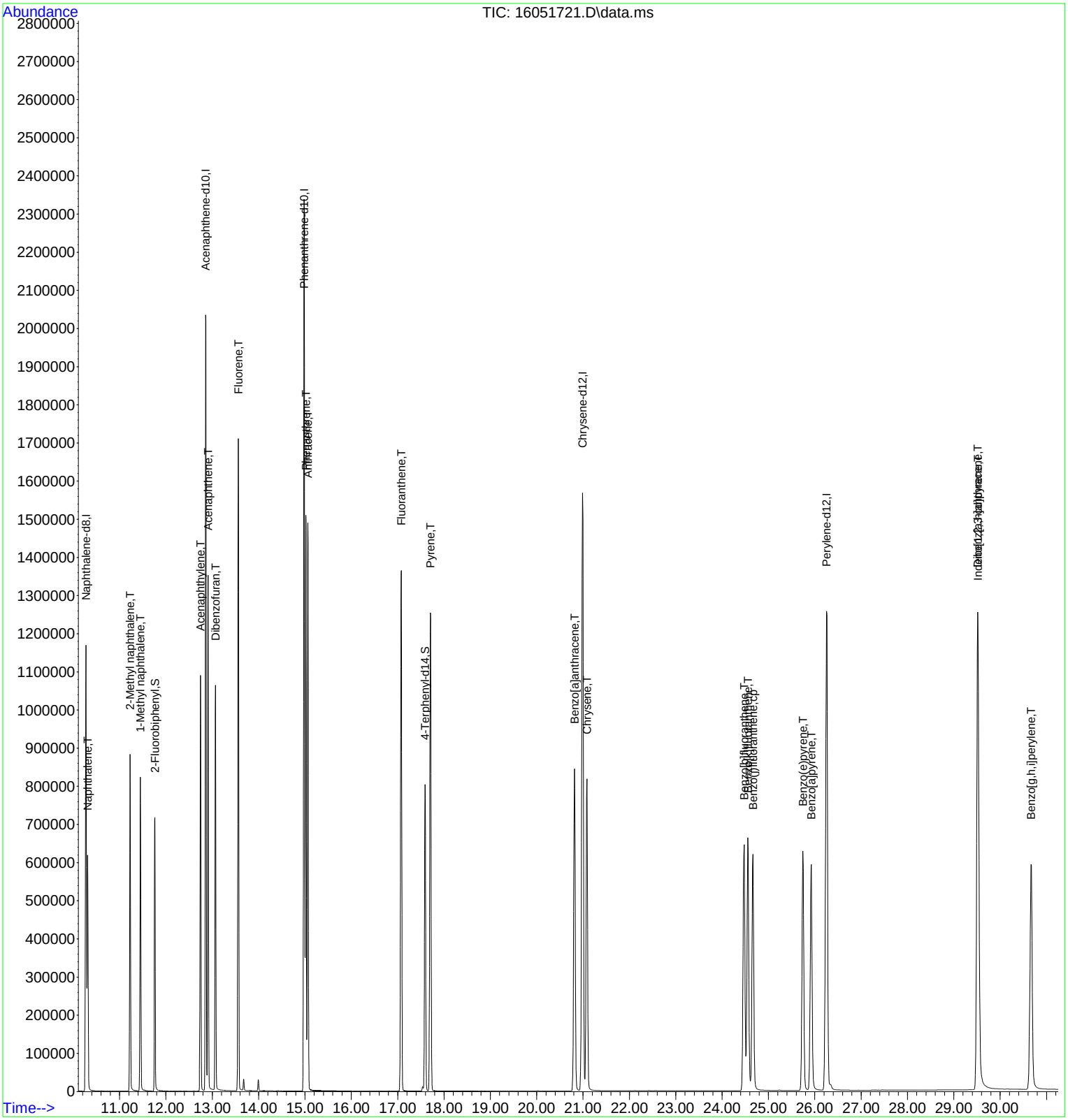
Target Compounds						Qvalue
2) Naphthalene	10.310	128	695769	1905.31	ug/kg	100
3) 2-Methyl naphthalene	11.227	142	538753	1897.81	ug/kg	100
4) 1-Methyl naphthalene	11.449	142	497158	1850.70	ug/kg	100
7) Acenaphthylene	12.744	152	1039945	1897.17	ug/kg	100
8) Acenaphthene	12.911	153	659005	1905.25	ug/kg	100
9) Dibenzofuran	13.068	168	1007003	1911.16	ug/kg	100
10) Fluorene	13.559	166	925041	1934.89	ug/kg	100
12) Phenanthrene	15.019	178	1444658	1794.20	ug/kg	100
13) Anthracene	15.061	178	1476119	1811.76	ug/kg	100
14) Fluoranthene	17.077	202	1527667	1984.95	ug/kg	100
15) Pyrene	17.706	202	1503502	1988.60	ug/kg	100
18) Benzo[a]anthracene	20.813	228	1337835	1989.79	ug/kg	100
19) Chrysene	21.084	228	1233351	1983.94	ug/kg	100
21) Benzo[b]fluoranthene	24.475	252	1273446	1997.62	ug/kg	100
22) Benzo[k]fluoranthene	24.556	252	1165290	2018.15	ug/kg	100
23) Benzo(j)fluoranthene	24.666	252	1096280	1988.83	ug/kg	100
24) Benzo(e)pyrene	25.742	252	1199708	1993.89	ug/kg	100
25) Benzo[a]pyrene	25.926	252	1194718	2003.05	ug/kg	100
26) Indeno[1,2,3-cd]pyrene	29.530	276	1458740	1998.39	ug/kg	100
27) Dibenz[a,h]anthracene	29.515	278	1219313	2010.42	ug/kg	100
28) Benzo[g,h,i]perylene	30.672	276	1257350	1996.01	ug/kg	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160517\
Data File : 16051721.D
Acq On : 17 May 2016 8:40 pm
Operator :
Sample : P7-160517 2000
Misc : CAL
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 18 14:22:07 2016
Quant Method : C:\msdchem\1\METHODS\PAH160517.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 18 08:55:04 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160517\
Data File : 16051722.D
Acq On : 17 May 2016 9:17 pm
Operator :
Sample : P8-160517 5000
Misc : CAL
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 18 14:22:11 2016
Quant Method : C:\msdchem\1\METHODS\PAH160517.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 18 08:55:04 2016
Response via : Initial Calibration

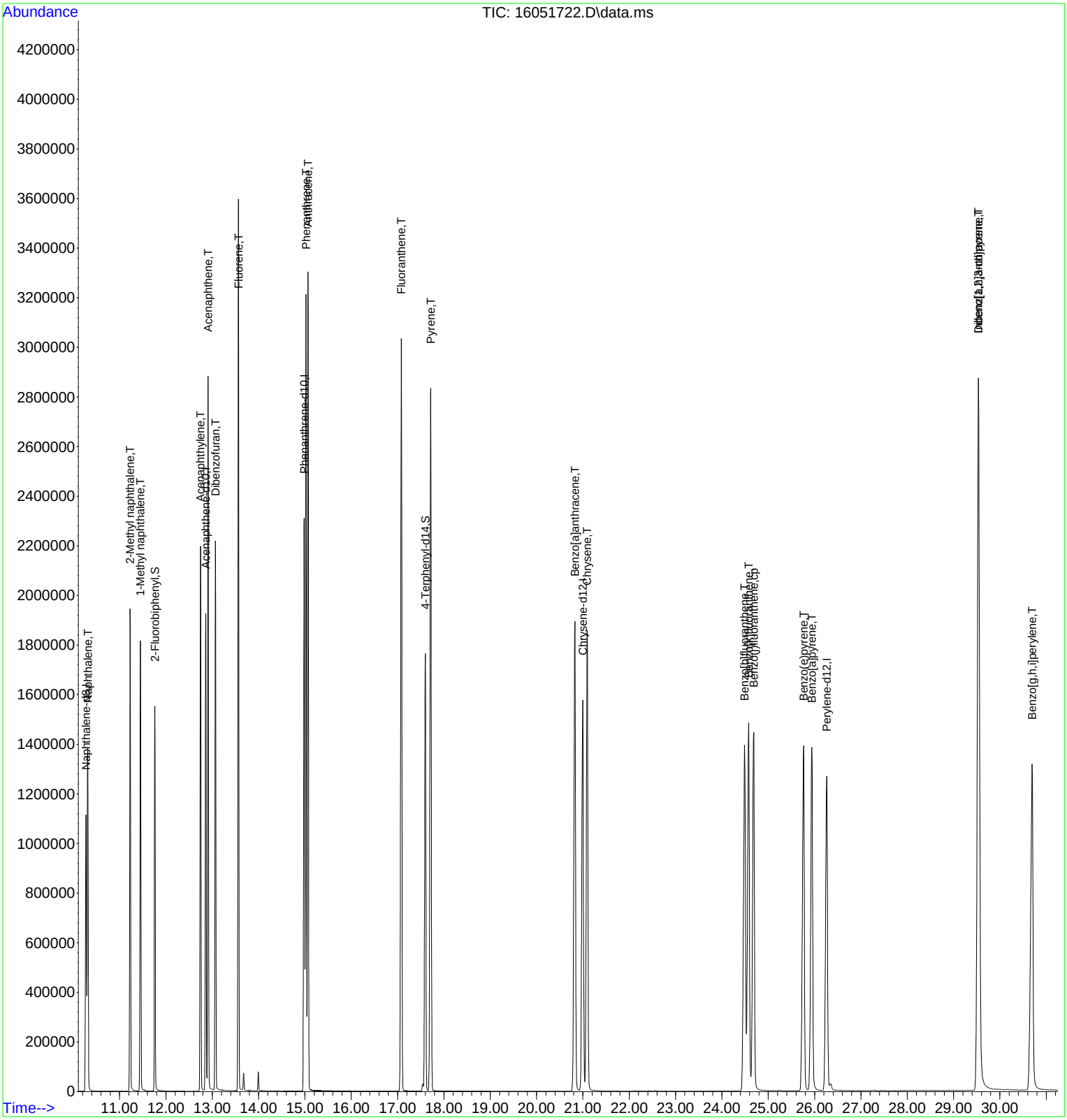
Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.276	136	1589455	4000.00	ug/kg	98
6) Acenaphthene-d10	12.862	164	1157466	4000.00	ug/kg	92
11) Phenanthrene-d10	14.984	188	2872086	4000.00	ug/kg	98
16) Chrysene-d12	20.995	240	2715512	4000.00	ug/kg	100
20) Perylene-d12	26.262	264	2467636	4000.00	ug/kg	99
System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.761	172	1413417	3993.89	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 99.85%			
17) 4-Terphenyl-d14	17.598	244	2558145	4450.75	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery = 111.27%			
Target Compounds						Qvalue
2) Naphthalene	10.313	128	1596025	4482.20	ug/kg	99
3) 2-Methyl naphthalene	11.226	142	1194581	4315.50	ug/kg	98
4) 1-Methyl naphthalene	11.453	142	1102506	4208.96	ug/kg	98
7) Acenaphthylene	12.749	152	2208060	4364.33	ug/kg	99
8) Acenaphthene	12.911	153	1406596	4405.99	ug/kg	99
9) Dibenzofuran	13.068	168	2123466	4366.39	ug/kg	87
10) Fluorene	13.564	166	1967421	4458.63	ug/kg	100
12) Phenanthrene	15.024	178	3215270	4068.60	ug/kg	97
13) Anthracene	15.068	178	3242032	4054.33	ug/kg	97
14) Fluoranthene	17.080	202	3457212	5005.46	ug/kg	96
15) Pyrene	17.715	202	3449381	5003.88	ug/kg	97
18) Benzo[a]anthracene	20.827	228	3123986	5001.18	ug/kg	98
19) Chrysene	21.090	228	2900176	5004.26	ug/kg	98
21) Benzo[b]fluoranthene	24.489	252	2980787	4998.98	ug/kg	98
22) Benzo[k]fluoranthene	24.577	252	2731461	4991.28	ug/kg	98
23) Benzo(j)fluoranthene	24.687	252	2544105	4948.79	ug/kg	98
24) Benzo(e)pyrene	25.764	252	2799050	5000.38	ug/kg	99
25) Benzo[a]pyrene	25.940	252	2826486	4997.57	ug/kg	97
26) Indeno[1,2,3-cd]pyrene	29.544	276	3400603	4999.58	ug/kg	88
27) Dibenz[a,h]anthracene	29.536	278	2812177	4994.40	ug/kg	97
28) Benzo[g,h,i]perylene	30.694	276	2941935	5000.81	ug/kg	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160517\
Data File : 16051722.D
Acq On : 17 May 2016 9:17 pm
Operator :
Sample : P8-160517 5000
Misc : CAL
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 18 14:22:11 2016
Quant Method : C:\msdchem\1\METHODS\PAH160517.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 18 08:55:04 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160517\
Data File : 16051723.D
Acq On : 17 May 2016 9:54 pm
Operator :
Sample : SSCV-160517
Misc : ICV
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 18 14:22:14 2016
Quant Method : C:\msdchem\1\METHODS\PAH160517.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 18 08:55:04 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.273	136	1550711	4000.00	ug/kg	95
6) Acenaphthene-d10	12.856	164	1014776	4000.00	ug/kg	81
11) Phenanthrene-d10	14.978	188	2298444	4000.00	ug/kg	79
16) Chrysene-d12	20.987	240	2487435	4000.00	ug/kg	92
20) Perylene-d12	26.254	264	2286057	4000.00	ug/kg	92

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.762	172	122	0.35	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 0.01%#			
17) 4-Terphenyl-d14	17.592	244	528	1.00	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery = 0.03%#			

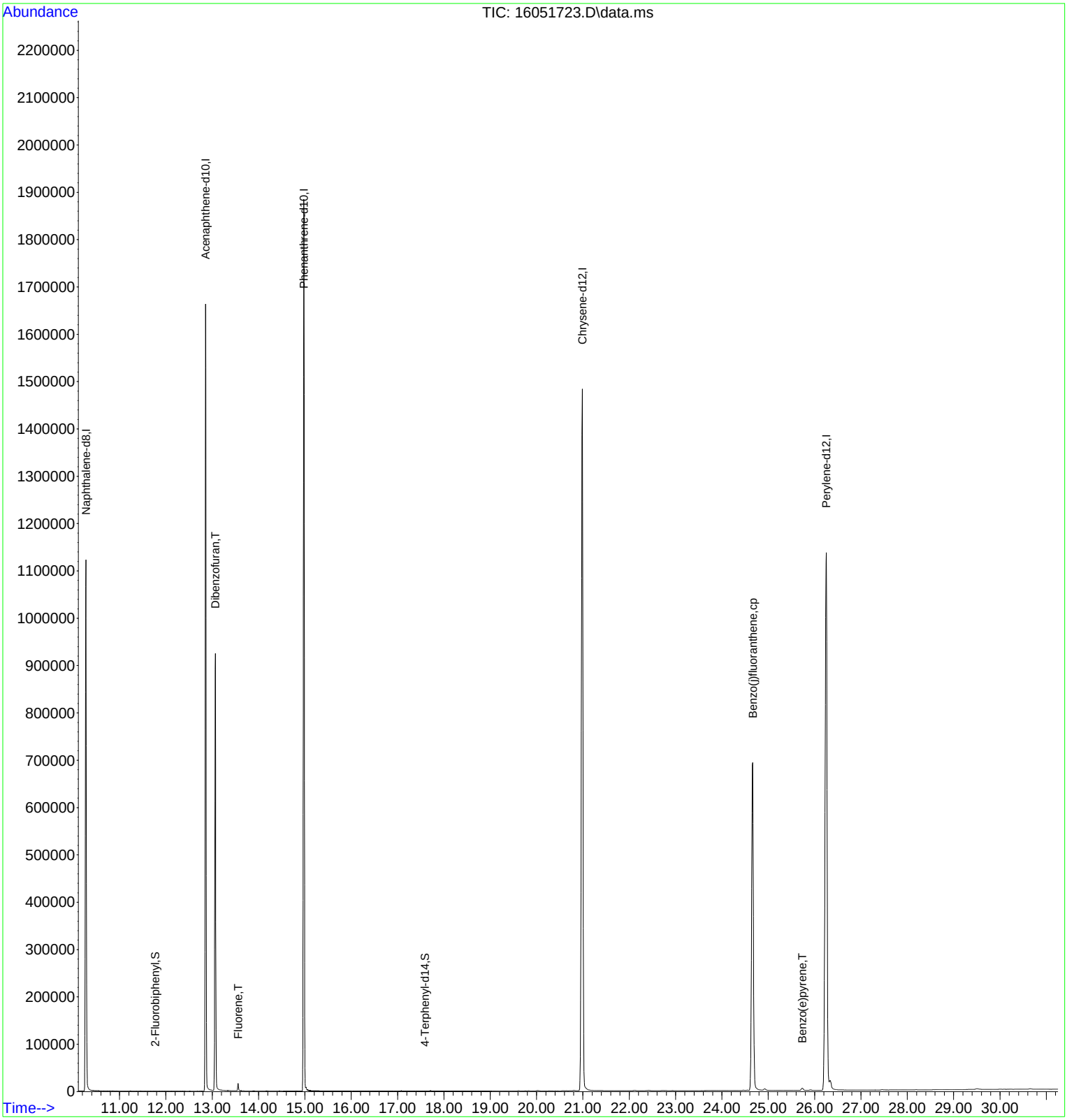
Target Compounds						Qvalue
9) Dibenzofuran	13.067	168	911536	2137.91	ug/kg	99
10) Fluorene	13.558	166	9200	23.78	ug/kg	98
23) Benzo(j)fluoranthene	24.664	252	1314135	2624.66	ug/kg	100
24) Benzo(e)pyrene	25.734	252	9708	14.36	ug/kg	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160517\
Data File : 16051723.D
Acq On : 17 May 2016 9:54 pm
Operator :
Sample : SSCV-160517
Misc : ICV
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 18 14:22:14 2016
Quant Method : C:\msdchem\1\METHODS\PAH160517.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 18 08:55:04 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160517\
Data File : 16051724.D
Acq On : 17 May 2016 10:30 pm
Operator :
Sample : SSCV-160517
Misc : ICV
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 18 14:22:18 2016
Quant Method : C:\msdchem\1\METHODS\PAH160517.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 18 08:55:04 2016
Response via : Initial Calibration

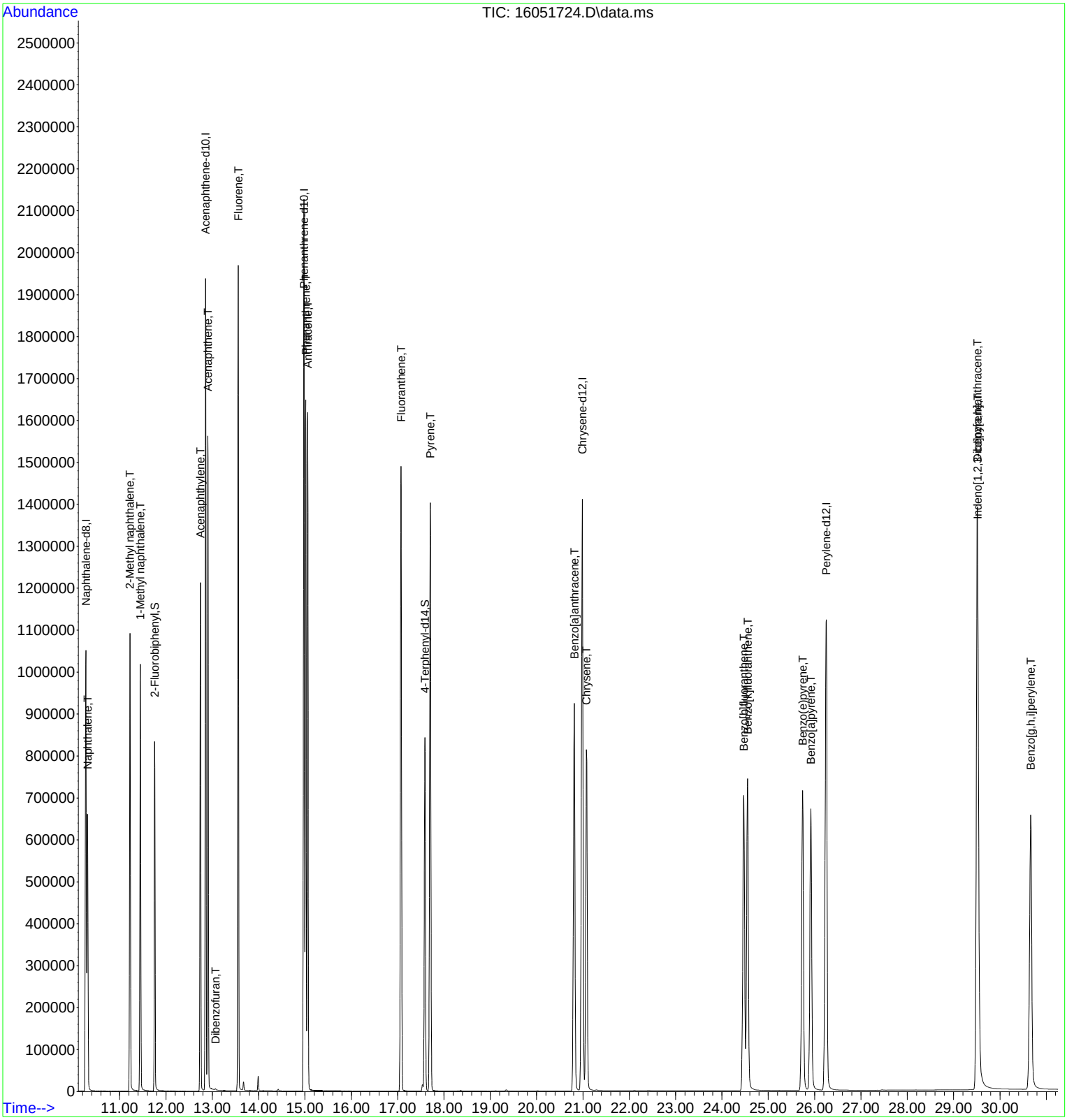
Internal Standards	R.T.	QIon	Response	Conc	Units	%Rec
1) Naphthalene-d8	10.272	136	1465767	4000.00	ug/kg	90
6) Acenaphthene-d10	12.857	164	1139119	4000.00	ug/kg	91
11) Phenanthrene-d10	14.979	188	2615766	4000.00	ug/kg	89
16) Chrysene-d12	20.988	240	2355864	4000.00	ug/kg	87
20) Perylene-d12	26.254	264	2172980	4000.00	ug/kg	88
System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.757	172	752192	2304.82	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 57.62%			
17) 4-Terphenyl-d14	17.590	244	1171361	2349.09	ug/kg	0.00
Spiked Amount 4000.000	Range 51 - 135		Recovery = 58.73%			
Target Compounds						Qvalue
2) Naphthalene	10.309	128	777437	2367.56	ug/kg	100
3) 2-Methyl naphthalene	11.226	142	679588	2662.22	ug/kg	99
4) 1-Methyl naphthalene	11.449	142	612646	2536.22	ug/kg	99
7) Acenaphthylene	12.744	152	1159951	2329.62	ug/kg	100
8) Acenaphthene	12.906	153	767350	2442.34	ug/kg	98
9) Dibenzofuran	13.068	168	3474	7.26	ug/kg	96
10) Fluorene	13.559	166	1054874	2429.09	ug/kg	99
12) Phenanthrene	15.017	178	1585495	2202.88	ug/kg	100
13) Anthracene	15.061	178	1575915	2163.88	ug/kg	100
14) Fluoranthene	17.074	202	1676150	2470.73	ug/kg	99
15) Pyrene	17.706	202	1652248	2473.32	ug/kg	99
18) Benzo[a]anthracene	20.812	228	1439635	2494.31	ug/kg	100
19) Chrysene	21.075	228	1238892	2310.65	ug/kg	100
21) Benzo[b]fluoranthene	24.474	252	1404261	2544.63	ug/kg	100
22) Benzo[k]fluoranthene	24.555	252	1350774	2702.15	ug/kg	100
24) Benzo(e)pyrene	25.741	252	1385526	2670.03	ug/kg	100
25) Benzo[a]pyrene	25.917	252	1334073	2578.87	ug/kg	99
26) Indeno[1,2,3-cd]pyrene	29.529	276	1609547	2549.19	ug/kg	98
27) Dibenz[a,h]anthracene	29.507	278	1345063	2566.28	ug/kg	98
28) Benzo[g,h,i]perylene	30.664	276	1389147	2548.55	ug/kg	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160517\
Data File : 16051724.D
Acq On : 17 May 2016 10:30 pm
Operator :
Sample : SSCV-160517
Misc : ICV
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 18 14:22:18 2016
Quant Method : C:\msdchem\1\METHODS\PAH160517.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 18 08:55:04 2016
Response via : Initial Calibration



ICP-MS3
For

DHL Work Order
1605074

ICP-MS3_160518C
For

DHL Work Order
1605074

Lab Data Review Check List
EPA Method 6020 / 6020A / 200.8 - Trace Metals by ICP-MS

PROJECT AND BATCH NUMBERS ARE LISTED ON THE RUN LOG	Run ID: ICP-MS3_160518C SOP: Metals-ICP-MS-01			
Review Item	**Yes**	**No**	**N/A**	**2nd Level Review**
Data Folder Contents 1. Is the Prep Batch Report included? ***Check the Prep Start/End Dates, Sample Amounts, Bottle #s***	X			x
2. Are the reagents and spikes listed on the Prep Batch Report current with a valid expiration date? ***All standard/QC sample preparations shall be documented in LIMS***	X			
3. Is the Run Log and instrument sequence included? ***Check the Test Code, Sample Type, Batch ID, and Analysis Date/Time***	X			

Daily Demonstration of Performance

QC items that do not meet method/SOP/project requirements will be described on the run log. All variances that impact data quality will be described in the Variance/Comment Section on page 2.

Review Item	Frequency	Limits	Pass	Fail (List Batch/Sample) **See Run Log**		2nd Level Review
Tune	Before ICAL	RSD ≤ 5% / Peak Width@10% <0.9amu	X			x
P/A Factor	Before ICAL	Increasing trend	X			
Initial Calibration Curve (ICAL) (Blank + 4 Standards)	Prior to samples and when ICV fails	R ≥ 0.995 (DoD) R ≥ 0.998 (6020A)	X			
Review Item	**Frequency**	**Limits**	**Pass**	**Fail**	**N/A**	**Review**
ICSA (N/A for Method 200.8+U)	After calibration & every 12 hours	< RL (except Mn & Zn)	X			x
ICSAB (N/A for Method 200.8+U)	After calibration & every 12 hours	80-120% (correct for ICSA result)	X			
Note: LCVLs and ICSA/ICSAB are N/A for Method 200.8 or project-specific exceptions						
ICV (Second Source Verification)	After ICAL	90-110%	X			x
ICB	After calibration	< MDL	X			
CCV	Every 10 samples	90-110%	X			
CCB	Every 10 samples	< MDL (ALL + DoD)	X			
Internal Standards	Every sample and QC sample	> 70% (6020A) 60-125% (200.8) 30-120% (DoD)	X			
LCVL (6020A test code)	After ICAL, every 10 samples and end of run	70-130%			X	
LCVL (All metals test codes except 200.8/6020A)	After ICAL and end of run	70-130%	X			
Method Blank (MB)	Every Batch	< MDL / <½ RL (DoD) or <1/10 the sample/reg limit	X			
Filter/TCLP/SPLP Blank	Filter-Dissolved only TCLP / SPLP	< MDL / <½ RL (DoD) or <1/10 the sample/reg limit			X	
Lab Control Sample (LCS)	Every Batch	80-120%	X			
Lab Control Sample Dup (LCSD)	Every Batch	80-120%	X			
LCSD - RPD	Every LCS/LCSD	15 (H2O) / 20 (Soil)	X			
Matrix Spike/ Matrix Spike Duplicate (MS/MSD)	Every Batch	80-120%		X		
MSD - RPD	Every MS/MSD	15 (H2O) / 20 (Soil)	X			
Dilution Test (SD) - RPD	Every Batch	10	X			
Post Digestion Spike (PDS)	Every Batch	75-125 / 80-120 (6020A)	X			

Lab Data Review Check List
EPA Method 6020 / 6020A / 200.8 - Trace Metals by ICP-MS

Review Item	Criteria	Yes	No	N/A	2nd Level Review
Sample Analysis 1. Are all sample hold times met?	6 months	X			x
2. Are all samples with concentrations > the highest standard used for calibration diluted and reanalyzed?	All results > high point of ICAL must be diluted	X			
3. Are ALL reported analytes and reported results > MDL highlighted by the analyst?		X	**Confirm with analyst if LIMS result does not match Labcore**		

VARIANCE REPORT

QC items that do not meet method/SOP/project requirements will be described on the run log. All variances that impact data quality will be described in this section.

NON-CONFORMANCES / VARIANCE	Criteria	Yes	No	N/A	2nd Level
1. Are all non-conformances and corrective actions included and noted?	All deviations from the method and SOP that affect data quality	X			x
2. Does the variance require approval by the Technical Director/General Manager/QA Manager?		X			

TECHNICAL DIRECTOR / QA MANAGER APPROVAL SIGNATURE AND DATE STAMP: **QA APPROVED** By John DuPont at 1:49:06 PM, 5/26/2016

Description and Corrective Actions of QC items that do not meet method/SOP/project requirements:

****INCLUDE VARIANCE ITEM / REASON / CORRECTIVE ACTION / IMPACT ON DATA****

VARIANCE ITEM	REASON	CORRECTIVE ACTION
__ CCV out of control (± 10%)	__ Carryover from previous run	__ Reanalyze QC to confirm
__ CCB out of control (> MDL / >½ RL)	__ Cross contamination	__ Recalibrate
__ MB out of control (> RL / >½ RL)	__ Lab Artifact	__ Reprep/Reanalyze sample
__ LCS __ LCSD out of control (± 20%)	__ Prep Spike error (describe)	__ Reprep/Reanalyze Batch
__ MS __ MSD out of control (± 20%)	__ Matrix Effect	__ Reanalyze Batch/Sample/QC
__ RPD out of control for MS/MSD (15/25)	__ High Levels of Target Metals	__ Verify reagents are clean
__ Internal Standard(s) out of control (see Method)	__ Insufficient sample for QC	__ Reanalyze sample to confirm
__ No MS/MSD prepared - LCS/LCSD used instead	__ Digestion/Prep Error	__ Sample results ND w/ dilution
__ Missing QC (other than MS/MSD)	x Analytical Error	x Client notified and approved
__ QC sample(s) was mis-spiked	__ Client Request	__ Flag data / Case narrative
__ ICSA/ICSAB missing or out of control (± 20%)		__ Accept data
x LCVL out of control (± ~~30%~~) 20% DOD		__ Cal Std high and sample ND
__ Other (describe below)	__ Other (describe below)	__ Other (describe below)

General Comments and Impact on Data:

LCVL 1 high for PB - potential lab contaminant or spike error. Initial LCVL and ending LCVL passing - client notified and approved.

Analyst: Karyn Lane Date of Completion: 05/23/2016

Second-Level Review: Janice Whitt Date Stamp: 5/26/2016

REVIEWED BY By Janice Whitt at 12:33:44 PM, 5/26/2016

DHL Analytical, Inc.

Run ID: **ICP-MS3_160518C** **Run No.:** 85886

Analytical Run Date: 5/18/2016 **InstrumentID:** ICP-MS3

Analyst: Karyn Lane

SampID	DF	TestCode	SampType	Batch ID	Analysis Date/Time	Q	Comments
BLANK STD 1	1	ICPMS_TWDOD	CAL	R85886	5/18/2016 12:27:00 PM		
L2-160518	1	ICPMS_TWDOD	CAL	R85886	5/18/2016 12:33:00 PM		
L-160518	1	ICPMS_TWDOD	CAL	R85886	5/18/2016 12:39:00 PM		
10X-160518	1	ICPMS_TWDOD	CAL	R85886	5/18/2016 12:45:00 PM		
5X-160518	1	ICPMS_TWDOD	CAL	R85886	5/18/2016 12:52:00 PM		
2X-160518	1	ICPMS_TWDOD	CAL	R85886	5/18/2016 12:58:00 PM		
H-160518	1	ICPMS_TWDOD	CAL	R85886	5/18/2016 1:03:00 PM		
H2-160518	1	ICPMS_TWDOD	CAL	R85886	5/18/2016 1:09:00 PM		
ICSA-160518	1	ICPMS_TWDOD	ICSA	R85886	5/18/2016 1:27:00 PM		
ICSAB-160518	1	ICPMS_TWDOD	ICSB	R85886	5/18/2016 1:33:00 PM		
ICV1-160518	1	ICPMS_TWDOD	ICV	R85886	5/18/2016 3:59:00 PM		
ICB1-160518	1	ICPMS_TWDOD	ICB	R85886	5/18/2016 4:05:00 PM		
ILCVL-160518	1	ICPMS_TWDOD	LCVL	R85886	5/18/2016 4:11:00 PM		
MB-75118	5	ICPMS_TSDOD1	MBLK	75118	5/18/2016 4:18:00 PM		
LCS-75118	5	ICPMS_TSDOD1	LCS	75118	5/18/2016 4:24:00 PM		
LCSD-75118	5	ICPMS_TSDOD1	LCSD	75118	5/18/2016 4:30:00 PM		
1605074-13A	5	ICPMS_TSDOD1	SAMP	75118	5/18/2016 4:42:00 PM		
1605074-13A SD	25	ICPMS_TSDOD1	SD	75118	5/18/2016 4:48:00 PM		
1605074-05A	5	ICPMS_TSDOD1	SAMP	75118	5/18/2016 4:54:00 PM		
1605074-06A	5	ICPMS_TSDOD1	SAMP	75118	5/18/2016 5:00:00 PM		
1605074-07A	5	ICPMS_TSDOD1	SAMP	75118	5/18/2016 5:06:00 PM		
1605074-08A	5	ICPMS_TSDOD1	SAMP	75118	5/18/2016 5:12:00 PM		
1605074-09A	5	ICPMS_TSDOD1	SAMP	75118	5/18/2016 5:17:00 PM		
1605074-10A	5	ICPMS_TSDOD1	SAMP	75118	5/18/2016 5:23:00 PM		
1605074-11A	5	ICPMS_TSDOD1	SAMP	75118	5/18/2016 5:29:00 PM		
1605074-12A	5	ICPMS_TSDOD1	SAMP	75118	5/18/2016 5:35:00 PM		
1605074-14A	5	ICPMS_TSDOD1	SAMP	75118	5/18/2016 5:41:00 PM		
1605074-13A PDS	5	ICPMS_TSDOD1	PDS	75118	5/18/2016 5:47:00 PM		
1605074-13A MS	5	ICPMS_TSDOD1	MS	75118	5/18/2016 5:53:00 PM		Pb high. MSD ok. RPD ok.
1605074-13A MSD	5	ICPMS_TSDOD1	MSD	75118	5/18/2016 5:59:00 PM		

Std ID	Std Name	Type	Exp. Date
MET-CCV-160511	ICPMS CCV 200/5000 PPB		08/10/2016
MET-H2CAL-1605	ICPMS High Cal2 2000ppb std 8		08/10/2016
MET-HCAL-16051	ICPMS High Cal 500ppb/10ppm s		08/10/2016
MET-ICV-160511	ICPMS ICV 100 ppb		08/10/2016
MET-IS-160511	INTERNAL STANDARD 1 PPM		11/09/2016
MET-L2CAL-16051	ICPMS Low Cal2 1/20ppb std 2		08/10/2016
MET-LCAL-160511	ICPMS Low Cal 10/200ppb std 3		08/10/2016
MET-LCAL10X-16	ICPMS Low Cal 10/200ppb std 4		08/10/2016
MET-LCAL5X-160	ICPMS Low Cal 10/200ppb std 5		08/09/2016
MET-LCVLSPIKE-	LCVL METALS SPIKE (100/500		11/07/2016
MET-MCAL-16051	ICPMS Mid Cal 250/5000ppb std		08/10/2016
MET-PA-160421	ICPMS PA FACTOR SOLUTION		10/20/2016
MET-PDS-160502-	10 PPM Ag+Sb PDS		07/31/2016
MET-PDS-160502-	10 PPM CUSTOM PDS SOLUTI		07/31/2016
MET-PDS-160502-	250 PPM Naturals+Al+Fe PDS		07/31/2016

DHL Analytical, Inc.

Run ID: ICP-MS3_160518C **Run No.:** 85886

CCV1-160518	1	ICPMS_TWDOD	CCV	R85886	5/18/2016 6:05:00 PM		
LCVL1-160518	1	ICPMS_TWDOD	LCVL	R85886	5/18/2016 6:17:00 PM		Pb high (298.2%). Potential mis-prep of standard. ILCVL and LCVL2 have passing recovery. Client notified and approved.
CCB1-160518	1	ICPMS_TWDOD	CCB	R85886	5/18/2016 6:23:00 PM		
1605074-15A	5	ICPMS_TSDOD1	SAMP	75118	5/18/2016 6:29:00 PM		
1605074-16A	5	ICPMS_TSDOD1	SAMP	75118	5/18/2016 6:35:00 PM		
1605074-17A	5	ICPMS_TSDOD1	SAMP	75118	5/18/2016 6:41:00 PM		
1605074-18A	5	ICPMS_TSDOD1	SAMP	75118	5/18/2016 6:47:00 PM		
1605074-19A	5	ICPMS_TSDOD1	SAMP	75118	5/18/2016 6:53:00 PM		
1605074-20A	5	ICPMS_TSDOD1	SAMP	75118	5/18/2016 6:59:00 PM		
1605074-21A	5	ICPMS_TSDOD1	SAMP	75118	5/18/2016 7:05:00 PM		
1605074-22A	5	ICPMS_TSDOD1	SAMP	75118	5/18/2016 7:11:00 PM		
1605074-23A	5	ICPMS_TSDOD1	SAMP	75118	5/18/2016 7:17:00 PM		
1605074-24A	5	ICPMS_TSDOD1	SAMP	75118	5/18/2016 7:23:00 PM		
CCV2-160518	1	ICPMS_TWDOD	CCV	R85886	5/18/2016 7:29:00 PM		
LCVL2-160518	1	ICPMS_TWDOD	LCVL	R85886	5/18/2016 7:41:00 PM		
CCB2-160518	1	ICPMS_TWDOD	CCB	R85886	5/18/2016 7:47:00 PM		

Std ID	Std Name	Type	Exp. Date
MET-CCV-160511	ICPMS CCV 200/5000 PPB		08/10/2016
MET-H2CAL-1605	ICPMS High Cal2 2000ppb std 8		08/10/2016
MET-HCAL-16051	ICPMS High Cal 500ppb/10ppm s		08/10/2016
MET-ICV-160511	ICPMS ICV 100 ppb		08/10/2016
MET-IS-160511	INTERNAL STANDARD 1 PPM		11/09/2016
MET-L2CAL-16051	ICPMS Low Cal2 1/20ppb std 2		08/10/2016
MET-LCAL-160511	ICPMS Low Cal 10/200ppb std 3		08/10/2016
MET-LCAL10X-16	ICPMS Low Cal 10/200ppb std 4		08/10/2016
MET-LCAL5X-160	ICPMS Low Cal 10/200ppb std 5		08/09/2016
MET-LCVLSPIKE-	LCVL METALS SPIKE (100/500		11/07/2016
MET-MCAL-16051	ICPMS Mid Cal 250/5000ppb std		08/10/2016
MET-PA-160421	ICPMS PA FACTOR SOLUTION		10/20/2016
MET-PDS-160502-	10 PPM Ag+Sb PDS		07/31/2016
MET-PDS-160502-	10 PPM CUSTOM PDS SOLUTI		07/31/2016
MET-PDS-160502-	250 PPM Naturals+Al+Fe PDS		07/31/2016

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	ISTD Conc	Action on Failure	Skip	Result
1		Keyword		CALBEG	Start of CALIB						
2	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1101		BLANK	CAL ICPMS_TW	1.000				
3	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1102		BLANK	CAL ICPMS_TW	1.000				
4	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1103		BLANK	CAL ICPMS_TW	1.000				
5	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1104		BLANK	CAL ICPMS_TW	1.000				
6	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1105		BLANK	CAL ICPMS_TW	1.000				
7	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CalBlk	2101		BLANK STD 1	CAL ICPMS_TW	Level 1				
8	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CalStd	2102		L2-160518	CAL ICPMS_TW	Level 2				
9	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CalStd	2103		L-160518	CAL ICPMS_TW	Level 3				
10	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CalStd	2104		10X-160518	CAL ICPMS_TW	Level 4				
11	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CalStd	2105		5X-160518	CAL ICPMS_TW	Level 5				
12	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CalStd	2106		2X-160518	CAL ICPMS_TW	Level 6				
13	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CalStd	2107		H-160518	CAL ICPMS_TW	Level 7				
14	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CalStd	2108		H2-160518	CAL ICPMS_TW	Level 8				
15	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1104		BLANK	CAL ICPMS_TW	1.000				
16	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1105		BLANK	CAL ICPMS_TW	1.000				
17		Keyword		CALEND	End of CALIB						
18		Keyword		ICSBEG	Start of ICS						
19	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	ICS-A	2109		ICSA-160518	ICSAICPMS_TW	1.000				
20	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	ICS-AB	2110		ICSAB-160518	ICSBICPMS_TW	1.000				
21	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1103		RINSE	CAL ICPMS_TW	1.000				
22	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1104		RINSE	CAL ICPMS_TW	1.000				
23		Keyword		ICSEND	End of ICS						
24		Keyword		SMPLBEG	Start of SMPL						
25	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	ICV	2111		ICV1-160518	ICV ICPMS_TW	1.000				

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	ISTD Conc	Action on Failure	Skip	Result
26	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	ICB	1104		ICB1-160518	ICB ICPMS_TW	1.000				
27	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	LCVL5	2112		ILCVL-160518	LCVLICPMS_TW	1.000				
28	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	ICB	1105		ICB1-160518	ICB ICPMS_TW	1.000				
29	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	DCS W	2201		DCS1-74736	DCS ICPMS_TW	1.000				
30	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	DCS2 W	2202		DCS2-74736	DCS2ICPMS_TW	1.000				
31	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	DCS3 W	2203		DCS3-74736	DCS3ICPMS_TW	1.000				
32	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	DCS4 W	2204		DCS4-74736	DCS4ICPMS_TW	1.000				
33	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	ICV	2212		ICV1-160518	ICV ICPMS_TW	1.000				
34	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	ICB	1104		ICB1-160518	ICB ICPMS_TW	1.000				
35	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	DCS S	2205		DCS1-74845	DCS ICPMS_TS	5.000				
36	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	DCS2 S	2206		DCS2-74845	DCS2ICPMS_TS	5.000				
37	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	DCS3 S	2207		DCS3-74845	DCS3ICPMS_TS	5.000				
38	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	DCS4 S	2208		DCS4-74845	DCS4ICPMS_TS	5.000				
39	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1105		IDL1-160518	CCB ICPMS_TW	1.000				
40	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1105		IDL2-160518	CCB ICPMS_TW	1.000				
41	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1105		IDL3-160518	CCB ICPMS_TW	1.000				
42	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1105		IDL4-160518	CCB ICPMS_TW	1.000				
43	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1105		IDL5-160518	CCB ICPMS_TW	1.000				
44	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1105		IDL6-160518	CCB ICPMS_TW	1.000				
45	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1105		IDL7-160518	CCB ICPMS_TW	1.000				
46	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	ICV	2111		ICV1-160518	ICV ICPMS_TW	1.000				
47	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	ICB	1104		ICB1-160518	ICB ICPMS_TW	1.000				
48	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	LCVL5	2112		ILCVL-160518	LCVLICPMS_TW	1.000				

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	ISTD Conc	Action on Failure	Skip	Result
49	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	PB	2301		MB-75118	MBLKICPMS_TSDOD	5.000				
50	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	LCS	2302		LCS-75118	LCS ICPMS_TSDOD	5.000				
51	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	LCS	2303		LCSD-75118	LCSDICPMS_TSDOD	5.000				
52	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1101		RINSE	CCB ICPMS_TW	1.000				
53	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	AllRef	2304		1605074-13A	SAMPICPMS_TSDOD	5.000				
54	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	DT	2305		1605074-13A SD	SD ICPMS_TSDOD	25.00				
55	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	2306		1605074-05A	SAMPICPMS_TSDOD	5.000				
56	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	2307		1605074-06A	SAMPICPMS_TSDOD	5.000				
57	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	2308		1605074-07A	SAMPICPMS_TSDOD	5.000				
58	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	2309		1605074-08A	SAMPICPMS_TSDOD	5.000				
59	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	2310		1605074-09A	SAMPICPMS_TSDOD	5.000				
60	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	2311		1605074-10A	SAMPICPMS_TSDOD	5.000				
61	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	2312		1605074-11A	SAMPICPMS_TSDOD	5.000				
62	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	2401		1605074-12A	SAMPICPMS_TSDOD	5.000				
63	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	2402		1605074-14A	SAMPICPMS_TSDOD	5.000				
64	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	PDS	2403		1605074-13A PDS	PDS ICPMS_TSDOD	5.000				
65	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	MS_S	2404		1605074-13A MS	MS ICPMS_TSDOD	5.000				
66	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	MS_S	2405		1605074-13A MSD	MSD ICPMS_TSDOD	5.000				
67	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCV1	1307		CCV1-160518	CCV ICPMS_TW	1.000				
68	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1105		CCB1-160518	CCB ICPMS_TW	1.000				
69	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	LCVL5	2512		LCVL1-160518	LCVLICPMS_TW	1.000				
70	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1105		CCB1-160518	CCB ICPMS_TW	1.000				
71	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	2501		1605074-15A	SAMPICPMS_TSDOD	5.000				

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	ISTD Conc	Action on Failure	Skip	Result
72	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	2502		1605074-16A	SAMPICPMS_TSDOD	5.000				
73	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	2503		1605074-17A	SAMPICPMS_TSDOD	5.000				
74	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	2504		1605074-18A	SAMPICPMS_TSDOD	5.000				
75	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	2505		1605074-19A	SAMPICPMS_TSDOD	5.000				
76	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	2506		1605074-20A	SAMPICPMS_TSDOD	5.000				
77	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	2507		1605074-21A	SAMPICPMS_TSDOD	5.000				
78	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	2508		1605074-22A	SAMPICPMS_TSDOD	5.000				
79	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	2509		1605074-23A	SAMPICPMS_TSDOD	5.000				
80	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	2510		1605074-24A	SAMPICPMS_TSDOD	5.000				
81	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCV1	1307		CCV2-160518	CCV ICPMS_TW	1.000				
82	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1105		CCB2-160518	CCB ICPMS_TW	1.000				
83	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	LCVL5	2112		LCVL2-160518	LCVLICPMS_TW	1.000				
84	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1105		CCB2-160518	CCB ICPMS_TW	1.000				
85	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1101		RINSE	CCB ICPMS_TW	1.000				
86	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1102		RINSE	CCB ICPMS_TW	1.000				
87	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1103		RINSE	CCB ICPMS_TW	1.000				
88	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1104		RINSE	CCB ICPMS_TW	1.000				
89	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1105		RINSE	CCB ICPMS_TW	1.000				
90	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1101		RINSE	CCB ICPMS_TW	1.000				
91	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1102		RINSE	CCB ICPMS_TW	1.000				
92	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1103		RINSE	CCB ICPMS_TW	1.000				
93		Keyword		StandBy							
94		Keyword		SMPLEND	End of SMPL						
95		Keyword		End	End of Sequence						

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	ISTD Conc	Action on Failure	Skip	Result
96		Keyword		CCVBEG	Start of CCV						
97		Keyword		CCVEND	End of CCV						
98		Keyword		BLKBEG	Start of BLANK						
99		Keyword		BLKEND	End of BLANK						
100		Keyword		ERRBEG	Start of ERRTERM						
101		Keyword		ERREND	End of ERRTERM						

MECHANICAL VOLUMETRIC PIPETTE VOLUME DAILY CHECK - DOD QSM 5.0

ANALYST:	KL	**BALANCE #:**	26
TEST DATE:	05/18/2016	**Water is at Room Temperatue (70-73°F) / (21-23°C)**	
PIPETTER LAB ID:	See Below	**WATER TEMP (°C):**	**21-23°C**
TEST VOLUME:	See Below	**WATER DENSITY:**	**0.998** **(0.9980-0.9976)**

REFERENCE:	DoD QSM 5.0
# of REPLICATES:	3
LABWARE TYPE:	MECHANICAL VOLUMETRIC PIPETTE
FREQUENCY:	DAILY BEFORE USE
MEAN CRITERIA:	± 2% OF NOMINAL VOLUME (VOLUME OF USE/TEST VOLUME)
RSD CRITERIA:	< 1% OF NOMINAL VOLUME (BASED ON MINIMUM OF 3 REPLICATE MEASUREMENTS)

1) RECORD ROOM AND WATER TEMPERATURE
2) TARE VESSEL ON BALANCE. ADD TEST VOLUME.
3) WEIGH 3 REPLICATES AT THE TEST VOLUME.
4) DETERMINE TOTAL WT.
5) CALCULATE VOLUME OF H2O AT °C (in mL)

% TEST VOL = Volume of H2O at °C/Test Volume * 100

%RSD = STDEV (Mean Volume)/AVERAGE (Mean Volume) *100

VOLUME OF H2O AT °C = TOTAL WT * WATER DENSITY

					BIAS	PRECISION
PIPETTE ID: P-31	**TEST VOLUME (mL)**	**TOTAL WT (g)**	**Volume of H_2O at °C**	**% TEST VOL (98-102%)**	**MEAN CRITERIA (± 2%)**	**% RSD Calculated**
1	**4.00**	3.9772	3.9692	**99.23**	**PASS**	**RSD MUST BE ≤ 1% OF TEST VOLUME VALUE**
2		3.9988	3.9908	**99.77**		
3		3.9770	3.9690	**99.23**		
AVERAGE (MEAN)		**3.984**	**3.976**	**99.41**		**0.314**
						PASS

PIPETTE ID: P-21	**TEST VOLUME (mL)**	**TOTAL WT (g)**	**Volume of H_2O at °C**	**% TEST VOL (98-102%)**	**MEAN CRITERIA (± 2%)**	**% RSD Calculated**
1	**1.00**	1.0130	1.0110	**101.10**	**PASS**	**RSD MUST BE ≤ 1% OF TEST VOLUME VALUE**
2		1.0070	1.0050	**100.50**		
3		1.0032	1.0012	**100.12**		
AVERAGE (MEAN)		**1.008**	**1.006**	**100.57**		**0.490**
						PASS

PIPETTE ID: P-39	**TEST VOLUME (mL)**	**TOTAL WT (g)**	**Volume of H_2O at °C**	**% TEST VOL (98-102%)**	**MEAN CRITERIA (± 2%)**	**% RSD Calculated**
1	**0.500**	0.5037	0.5027	**100.54**	**PASS**	**RSD MUST BE ≤ 1% OF TEST VOLUME VALUE**
2		0.5023	0.5013	**100.26**		
3		0.5018	0.5008	**100.16**		
AVERAGE (MEAN)		**0.503**	**0.502**	**100.32**		**0.196**
						PASS

Karyn Lane 5-18-16
Analyst / Date

REVIEWED BY
By Janice Whitt at 11:42:19 AM, 5/26/2016
Review and Approved / Date

DHL Analytical, Inc.

Prep Start Date: **5/12/2016 8:30:00 AM**
Digestion:
Prep End Date:

Prep Batch **75118** Prep Code: **3050_IDOD** Technician: **Cassie Van Dyke**

Prep Factor Units: **mL/g**

Equipment List

- Hot Block #3
- Thermometer #71
- Balance #20
- Pipette #P-01
- Pipette#-P-09

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605074-05A	Soil		1.03	50	50.000	1 of 1	
1605074-06A	Soil		1.10	50	50.000	1 of 1	
1605074-07A	Soil		1.03	50	50.000	1 of 1	
1605074-08A	Soil		1.03	50	50.000	1 of 1	
1605074-09A	Soil		1.12	50	50.000	1 of 1	
1605074-10A	Soil		1.01	50	50.000	1 of 1	
1605074-11A	Soil		1.15	50	50.000	1 of 1	
1605074-12A	Soil		1.07	50	50.000	1 of 1	
1605074-13A	Soil		1.18	50	50.000	1 of 3	
1605074-13AMS	Soil		1.07	50	50.000	1 of 3	
1605074-13AMSD	Soil		1.10	50	50.000	1 of 3	
1605074-14A	Soil		1.06	50	50.000	1 of 1	
1605074-15A	Soil		1.15	50	50.000	1 of 1	
1605074-16A	Soil		1.02	50	50.000	1 of 1	
1605074-17A	Soil		1.10	50	50.000	1 of 1	
1605074-18A	Soil		1.05	50	50.000	1 of 1	
1605074-19A	Soil		1.02	50	50.000	1 of 1	
1605074-20A	Soil		1.11	50	50.000	1 of 1	
1605074-21A	Soil		1.08	50	50.000	1 of 1	
1605074-22A	Soil		1.03	50	50.000	1 of 1	
1605074-23A	Soil		1.02	50	50.000	1 of 1	
1605074-24A	Soil		1.06	50	50.000	1 of 1	
LCS-75118	Soil		1	50	50.000	of	
LCSD-75118	Soil		1	50	50.000	of	
MB-75118	Soil		1	50	50.000	of	

Number	Reagent Name	Amt	Units	Exp. Da
9974	Hydrogen Peroxide	3	ml	01/20/2026
10056	Digestion Vessels	1	vessel	02/10/2026
10136	Nitric Acid (Trace Metal Grade)	10	ml	01/10/2026
10137	Hydrochloric Acid (trace metal grade)	5	ml	01/10/2026

SpkID	Spike Name	SampType	Amt (mL or g)	Exp. Date
MET-150914-10	AL PRIMARY STD 1000 PPM	LCS/MS/MSD	0.25	10/01/2016
MET-150914-9	FE PRIMARY STD 1000 PPM	LCS/MS/MSD	0.25	10/01/2016
MET-SPIKE-160406-1	2500 PPM NATURALS CAL	LCS/MS/MSD	0.5	07/05/2016
MET-SPIKE-160509-11-2	50 PPM Sb+Ag CAL	LCS/MS/MSD	1	08/07/2016
MET-SPIKE-160509-5-11-1	50 PPM Custom+Sn,Ti,B,Mo,Sr CAL	LCS/MS/MSD	1	08/07/2016

9:03-9:13
10:08-12:08
12:37-14:37
14:46-15:01

REVIEWED BY
By Janice Whitt at 12:15:57 PM, 5/26/2016

5/13/16

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/9/2016 9:45:00 AM**
Digestion: **Start: 5/9/2016 11:00:00 AM / Stop: 5/10/2016 10:00:00 AM**
Prep End Date: **5/10/2016 7:00:00 PM**

Prep Batch **75016** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker**

Prep Factor Units: mL/

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605074-20A	Soil		0	0	#Num!	1 of 1	
1605074-21A	Soil		0	0	#Num!	1 of 1	
1605074-22A	Soil		0	0	#Num!	1 of 1	
1605074-23A	Soil		0	0	#Num!	1 of 1	
1605074-24A	Soil		0	0	#Num!	1 of 1	
1605074-25A	Soil		0	0	#Num!	1 of 1	
1605074-26A	Soil		0	0	#Num!	of 3	
	Extra subsampled for MS/MSD						
1605074-27A	Soil		0	0	#Num!	1 of 1	
1605074-36A	Soil		0	0	#Num!	1 of 1	
1605074-37A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605074-38A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605074-39A	Soil		0	0	#Num!	1 of 1	
1605074-40A	Soil		0	0	#Num!	1 of 1	
1605074-41A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605074-42A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605074-43A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605074-44A	Soil		0	0	#Num!	of 3	
	Extra subsampled for MS/MSD						
1605074-45A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						

REVIEWED BY
By Janice Whitt at 12:16:38 PM, 5/26/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/9/2016 9:45:00 AM**
Digestion: **Start: 5/9/2016 11:00:00 AM / Stop: 5/10/2016 10:00:00 AM**
Prep End Date: **5/10/2016 7:00:00 PM**

Prep Batch **75016** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker**

Prep Factor Units: **mL/**

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605074-01A	Soil		0	0	#Num!	1 of 1	
1605074-02A	Soil		0	0	#Num!	1 of 1	
1605074-03A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subdampling - hard clay						
1605074-04A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subdampling - hard clay						
1605074-05A	Soil		0	0	#Num!	1 of 1	
1605074-06A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605074-07A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605074-08A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605074-09A	Soil		0	0	#Num!	1 of 1	
1605074-10A	Soil		0	0	#Num!	1 of 1	
1605074-11A	Soil		0	0	#Num!	1 of 1	
	Sieved only no sub sampling - hard clay						
1605074-12A	Soil		0	0	#Num!	1 of 1	
	Sieved only no sub sampling - hard clay						
1605074-13A	Soil		0	0	#Num!	of 3	
	Extra subsampled for MS/MSD						
1605074-14A	Soil		0	0	#Num!	1 of 1	
1605074-15A	Soil		0	0	#Num!	1 of 1	
1605074-16A	Soil		0	0	#Num!	1 of 1	
1605074-17A	Soil		0	0	#Num!	1 of 1	
1605074-18A	Soil		0	0	#Num!	1 of 1	
1605074-19A	Soil		0	0	#Num!	1 of 1	

REVIEWED BY
By Janice Whitt at 12:16:40 PM, 5/26/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/9/2016 9:45:00 AM**
Digestion: **Start: 5/9/2016 11:00:00 AM / Stop: 5/10/2016 10:00:00 AM**
Prep End Date: **5/10/2016 7:00:00 PM**

Prep Batch **75016** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker** Prep Factor Units: **mL/**

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605074-46A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605074-47A	Soil		0	0	#Num!	1 of 1	

REVIEWED BY
By Janice Whitt at 12:16:42 PM, 5/26/2016

MECHANICAL VOLUMETRIC PIPETTE VOLUME DAILY CHECK - DOD QSM 5.0

ANALYST:	CVD	**BALANCE #:**	26	
TEST DATE:	05/13/2016	**Water is at Room Temperatue (70-73°F) / (21-23°C)**		
PIPETTER LAB ID:	P-01, P-09	**WATER TEMP (°C):**	**21-23°C**	
TEST VOLUME:	See Below	**WATER DENSITY:**	**0.998**	**(0.9980-0.9976)**

REFERENCE:	DoD QSM 5.0
# of REPLICATES:	3
LABWARE TYPE:	MECHANICAL VOLUMETRIC PIPETTE
FREQUENCY:	DAILY BEFORE USE
MEAN CRITERIA:	± 2% OF NOMINAL VOLUME (VOLUME OF USE/TEST VOLUME)
RSD CRITERIA:	< 1% OF NOMINAL VOLUME (BASED ON MINIMUM OF 3 REPLICATE MEASUREMENTS)

1) RECORD ROOM AND WATER TEMPERATURE
2) TARE VESSEL ON BALANCE. ADD TEST VOLUME.
3) WEIGH 3 REPLICATES AT THE TEST VOLUME.
4) DETERMINE TOTAL WT.
5) CALCULATE VOLUME OF H2O AT °C (in mL)

% TEST VOL = Volume of H2O at °C/Test Volume * 100

%RSD = STDEV (Mean Volume)/AVERAGE (Mean Volume) *100

VOLUME OF H2O AT °C = TOTAL WT * WATER DENSITY

					BIAS	PRECISION
PIPETTE ID: P-01	**TEST VOLUME (mL)**	**TOTAL WT (g)**	**Volume of H_2O at °C**	**% TEST VOL (98-102%)**	**MEAN CRITERIA (± 2%)**	**% RSD Calculated**
1	5.00	5.0074	4.9974	99.95	PASS	RSD MUST BE ≤ 1% OF TEST VOLUME VALUE
2		5.0050	4.9950	99.90		
3		5.0031	4.9931	99.86		
AVERAGE (MEAN)		5.005	4.995	99.90		0.043
						PASS

PIPETTE ID: P-09	**TEST VOLUME (mL)**	**TOTAL WT (g)**	**Volume of H_2O at °C**	**% TEST VOL (98-102%)**	**MEAN CRITERIA (± 2%)**	**% RSD Calculated**
1	0.20	0.2014	0.2010	100.50	PASS	RSD MUST BE ≤ 1% OF TEST VOLUME VALUE
2		0.2026	0.2022	101.10		
3		0.2029	0.2025	101.25		
AVERAGE (MEAN)		0.202	0.202	100.95		0.392
						PASS

PIPETTE ID:	**TEST VOLUME (mL)**	**TOTAL WT (g)**	**Volume of H_2O at °C**	**% TEST VOL (98-102%)**	**MEAN CRITERIA (± 2%)**	**% RSD Calculated**
1						RSD MUST BE ≤ 1% OF TEST VOLUME VALUE
2						
3						
AVERAGE (MEAN)						

5/13/16
Analyst / Date

REVIEWED BY
By Janice Whitt at 12:16:49 PM, 5/26/2016
Review and Approved / Date

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/13/2016 8:30:00 AM**
Digestion: **Start: 5/13/2016 9:03:00 AM / Stop: 5/13/2016 3:01:00 PM**
Prep End Date: **5/13/2016 3:10:43 PM**

Prep Batch **75118** Prep Code: **3050_IDOD** Technician: **Cassie Van Dyke**

Prep Factor Units: **mL/g**

Equipment List

- Hot Block #3
- Thermometer #71
- Balance #20
- Pipette #P-01
- Pipette#-P-09

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605074-05A	Soil		1.03	50	48.544	1 of 1	
Weighed out on 5/12/2016.							
1605074-06A	Soil		1.1	50	45.455	1 of 1	
1605074-07A	Soil		1.03	50	48.544	1 of 1	
1605074-08A	Soil		1.03	50	48.544	1 of 1	
1605074-09A	Soil		1.12	50	44.643	1 of 1	
1605074-10A	Soil		1.01	50	49.505	1 of 1	
1605074-11A	Soil		1.15	50	43.478	1 of 1	
1605074-12A	Soil		1.07	50	46.729	1 of 1	
1605074-13A	Soil		1.18	50	42.373	1 of 3	
1605074-13A MS	Soil		1.07	50	46.729	1 of	
1605074-13A MSD	Soil		1.1	50	45.455	1 of	
1605074-13A PDS	Soil		1.18	50	42.373	1 of	
1605074-13A SD	Soil		1.18	50	42.373	1 of	
1605074-14A	Soil		1.06	50	47.170	1 of 1	
1605074-15A	Soil		1.15	50	43.478	1 of 1	
1605074-16A	Soil		1.02	50	49.020	1 of 1	
1605074-17A	Soil		1.1	50	45.455	1 of 1	
1605074-18A	Soil		1.05	50	47.619	1 of 1	
1605074-19A	Soil		1.02	50	49.020	1 of 1	
1605074-20A	Soil		1.11	50	45.045	1 of 1	
1605074-21A	Soil		1.08	50	46.296	1 of 1	
1605074-22A	Soil		1.03	50	48.544	1 of 1	
1605074-23A	Soil		1.02	50	49.020	1 of 1	
1605074-24A	Soil		1.06	50	47.170	1 of 1	
LCS-75118	Soil		1	50	50.000	of	
LCSD-75118	Soil		1	50	50.000	of	

Number	Reagent Name	Amt	Units	Exp. Da
10056	Digestion Vessels	1	vessel	02/10/2026
10136	Nitric Acid (Trace Metal Grade)	10	ml	01/10/2026
10137	Hydrochloric Acid (trace metal grade)	5	ml	01/10/2026
10318	Hydrogen Peroxide, 30%	3	ml	10/29/2016

Spk ID	Spike Name	SampType	Amt (mL or g)	Exp. Date
MET-150914-10	AL PRIMARY STD 1000 PPM	LCS/MS/MSD	0.25	10/01/2016
MET-150914-9	FE PRIMARY STD 1000 PPM	LCS/MS/MSD	0.25	10/01/2016
MET-SPIKE-160406-1	2500 PPM NATURALS CAL	LCS/MS/MSD	0.5	07/05/2016
MET-SPIKE-160511-1	50 PPM Custom+Sn,Ti,B,Mo,Sr CAL	LCS/MS/MSD	1	08/09/2016
MET-SPIKE-160511-2	50 PPM Sb+Ag CAL	LCS/MS/MSD	1	08/09/2016

REVIEWED BY
By Janice Whitt at 12:18:25 PM, 5/26/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/13/2016 8:30:00 AM**
Digestion: **Start: 5/13/2016 9:03:00 AM / Stop: 5/13/2016 3:01:00 PM**
Prep End Date: **5/13/2016 3:10:43 PM**

Prep Batch **75118** Prep Code: **3050_IDOD** Technician: **Cassie Van Dyke**

Prep Factor Units: **mL/g**

Equipment List

- Hot Block #3
- Thermometer #71
- Balance #20
- Pipette #P-01
- Pipette#-P-09

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
MB-75118	Soil		1	50	50.000	of	

Number	Reagent Name	Amt	Units	Exp. Da
10056	Digestion Vessels	1	vessel	02/10/2026
10136	Nitric Acid (Trace Metal Grade)	10	ml	01/10/2026
10137	Hydrochloric Acid (trace metal grade)	5	ml	01/10/2026
10318	Hydrogen Peroxide, 30%	3	ml	10/29/2016

Spk ID	Spike Name	SampType	Amt (mL or g)	Exp. Date
MET-150914-10	AL PRIMARY STD 1000 PPM	LCS/MS/MSD	0.25	10/01/2016
MET-150914-9	FE PRIMARY STD 1000 PPM	LCS/MS/MSD	0.25	10/01/2016
MET-SPIKE-160406-1	2500 PPM NATURALS CAL	LCS/MS/MSD	0.5	07/05/2016
MET-SPIKE-160511-1	50 PPM Custom+Sn,Ti,B,Mo,Sr CAL	LCS/MS/MSD	1	08/09/2016
MET-SPIKE-160511-2	50 PPM Sb+Ag CAL	LCS/MS/MSD	1	08/09/2016

REVIEWED BY
By Janice Whitt at 12:18:36 PM, 5/26/2016

Calibration Summary Report

Instrument: ICPMS3
Current Method: C:\ICPCHEM\1\METHODS\DHL_3Fe.M
Calibration: C:\ICPCHEM\1\CALIB\DHL_3Fe.C
Last Update: May 18 2016 02:22 pm
Cal Type: Y=aX+[blank]

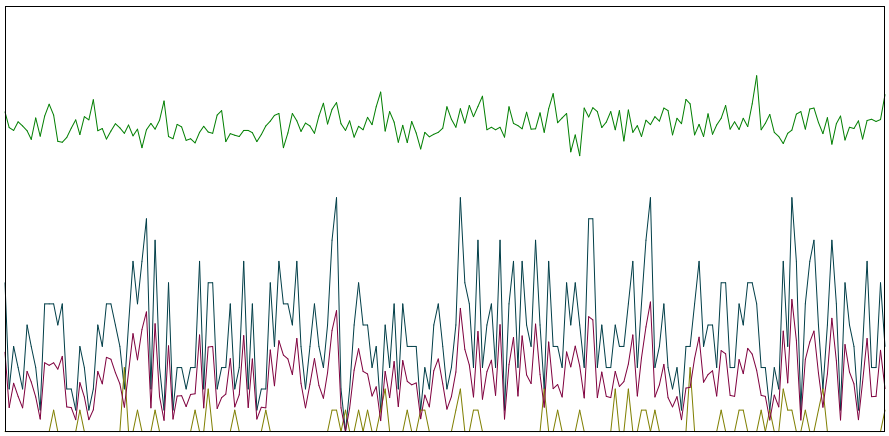
Standard	Date Acquired	File
BLANK STD 1	May 18 2016 12:27 pm	c:\icpchem\1\data\16e18l02.b\006calb.d\
L2-160518	May 18 2016 12:33 pm	c:\icpchem\1\data\16e18l02.b\007cals.d\
L-160518	May 18 2016 12:39 pm	c:\icpchem\1\data\16e18l02.b\008cals.d\
10X-160518	May 18 2016 12:45 pm	c:\icpchem\1\data\16e18l02.b\009cals.d\
5X-160518	May 18 2016 12:52 pm	c:\icpchem\1\data\16e18l02.b\010cals.d\
2X-160518	May 18 2016 12:58 pm	c:\icpchem\1\data\16e18l02.b\011cals.d\

Element Name	Corr Coef	Coef A	Coef B	Lvl 2	Lvl 6	Lvl 7	L7 %R	Lvl 8	L8 %R
Li	1.0000	0.4328	0.01058	0.98	249	496		2001	
Be	0.9998	0.1087	0.000389	1.00	258	495	99%	--------	######
B	1.0000	0.09722	0.147	1.02	251	507	101%	1,998	100%
Na	1.0000	0.3217	4.41	20.60	5,136	10,180	102%	24,900	100%
Mg	0.9999	0.1458	0.2166	19.57	4,946	10,230	102%	24,920	100%
Al	1.0000	0.03233	0.2036	19.05	4,994	9,994	100%	--------	######
K	0.9999	0.06631	1.889	18.45	4,814	9,730	97%	25,150	101%
Ca	1.0000	0.008659	0.229	19.46	4,975	10,110	101%	24,970	100%
Ti	1.0000	0.02976	0.0009356	0.94	244	491	98%	2,003	100%
V	1.0000	1.323	0.1388	0.89	240	487	97%	2,005	100%
Cr	1.0000	1.81	0.1309	0.97	248	498	100%	2,001	100%
Mn	1.0000	0.6641	0.01072	0.94	244	484	97%	2,005	100%
Fe	1.0000	2.332	1.3	19.64	5,007	9,978	100%	--------	######
Co	1.0000	5.76	0.0278	0.98	254	515	103%	1,996	100%
Ni	1.0000	1.775	0.07737	0.99	247	490	98%	2,003	100%
Cu	0.9999	4.877	0.426	1.03	260	526	105%	1,992	100%
Zn	1.0000	0.4398	0.203	1.10	255	498	100%	2,000	100%
As	1.0000	0.2205	0.0089	0.95	246	491	98%	2,003	100%
Se	1.0000	0.01103	0.002124	1.08	252	490	98%	2,002	100%
Sr	1.0000	0.295	0.01692	0.90	250	493	99%	2,002	100%
Mo	0.9999	0.05733	0.0008849	0.88	234	478	96%	2,008	100%
Ag	1.0000	0.1571	0.0006224	0.97	252	500	100%	--------	######
Cd	0.9999	0.03472	0.0003795	0.91	238	478	96%	2,007	100%
Sn	1.0000	0.09103	0.00632	0.94	241	512	102%	1,998	100%
Sb	0.9997	0.1096	0.002323	0.92	240	506	101%	--------	######
Ba	0.9999	0.04111	0.0007216	0.97	235	480	96%	2,007	100%
Tl	1.0000	0.33	0.003008	0.87	250	494	99%	2,002	100%
Pb	1.0000	0.4487	0.006019	0.89	242	496	99%	2,003	100%

REVIEWED BY
By Janice Whitt at 11:42:38 AM, 5/26/2016

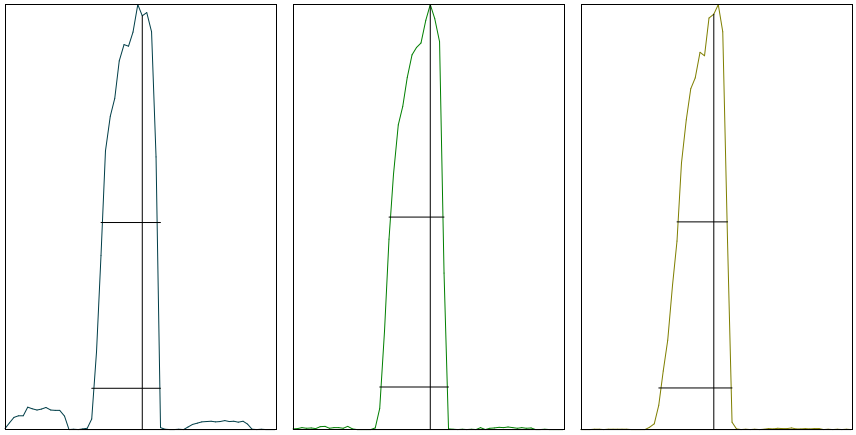
Tune Report

Tune File : He.U
Comment :



Integration Time:	0.1000 sec	
Sampling Period:	0.3100 sec	
n:	200	
Oxide:	156/140	0.357%
Doubly Charged:	70/140	3.357%

m/z	Range	Count	Mean	RSD%	Background
51	20	4.0	4.7	52.11	0.50
59	5,000	3963.0	3614.7	4.04	0.40
75	20	1.0	0.3	209.26	0.80
51/59	1	0.101%	0.130%	51.90	



m/z:	59	89	205
Height:	3,669	1,454	4,107
Axis:	59.05	89.05	205.00
W-50%:	0.65	0.60	0.55
W-10%:	0.7500	0.7500	0.800

Integration Time:	0.1000 sec
Acquisition Time:	22.5600 sec

Y axis : Linear

Generated : May 18, 2016 11:33:00
Printed : May 18, 2016 11:33:02

Tune Report

Tune File : He.U
Comment :

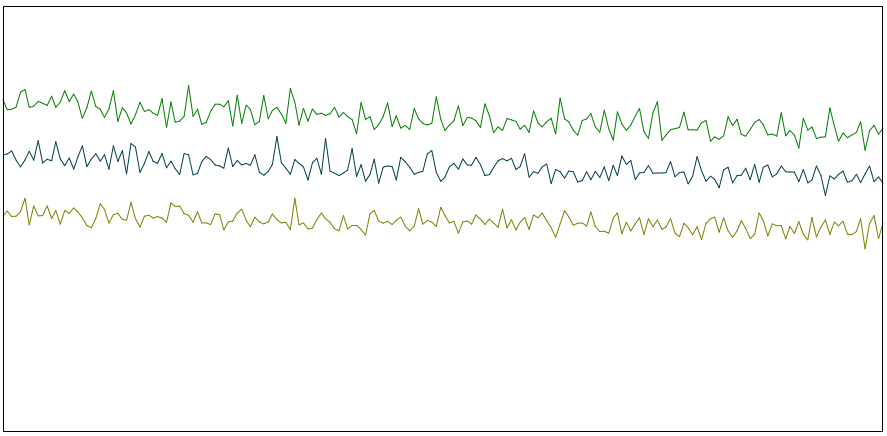
Tuning Parameters

===Plasma Condition===				===Ion Lenses===				===Q-Pole Parameters===			
RF Power	:	1600	W	Extract 1	:	0	V	AMU Gain	:	121	
RF Matching	:	1.6	V	Extract 2	:	-120	V	AMU Offset	:	121	
Smpl Depth	:	9	mm	Omega Bias-ce	:	-24	V	Axis Gain	:	0.9993	
Torch-H	:	-0.1	mm	Omega Lens-ce	:	-2	V	Axis Offset	:	-0.03	
Torch-V	:	0.7	mm	Cell Entrance	:	-40	V	QP Bias	:	-15	V
Carrier Gas	:	1.2	L/min	QP Focus	:	-10	V				
Makeup Gas	:	0	L/min	Cell Exit	:	-40	V	===Detector Parameters===			
Optional Gas	:	---	%					Discriminator	:	8	mV
Nebulizer Pump	:	0.1	rps	===Octopole Parameters===				Analog HV	:	1740	V
Sample Pump	:	---	rps	OctP RF	:	170	V	Pulse HV	:	1460	V
S/C Temp	:	2	degC	OctP Bias	:	-18	V				

===Reaction Cell===											
Reaction Mode	:	ON									
H2 Gas	:	0	mL/min	He Gas	:	5	mL/min	Optional Gas	:	---	%

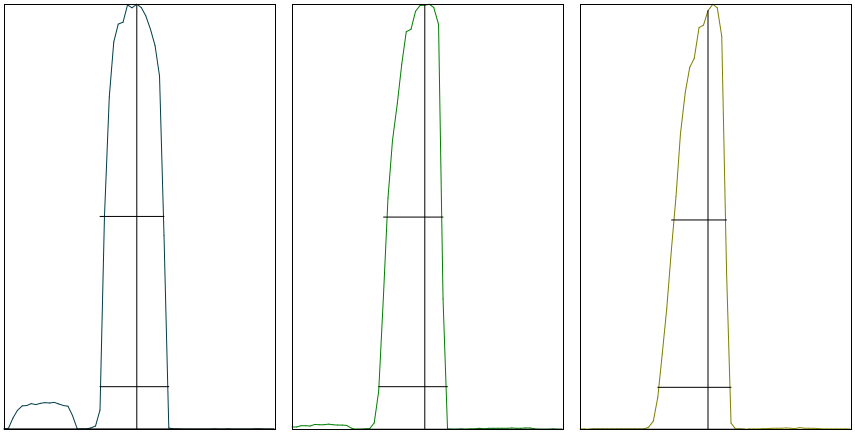
Tune Report

Tune File : nogas.u
Comment :



Integration Time:	0.1000 sec	
Sampling Period:	0.8200 sec	
n:	200	
Oxide:	156/140	0.888%
Doubly Charged:	70/140	2.133%

m/z	Range	Count	Mean	RSD%	Background
7	20,000	11673.0	12418.7	3.83	2.30
89	20,000	14264.0	14713.6	4.09	3.10
205	20,000	9794.0	9856.2	4.06	10.80
156/140	2	0.824%	0.863%	11.99	
70/140	5	1.633%	1.824%	9.02	
63	5,000	3548.0	3565.9	4.87	3.80
23	50,000	26306.0	28051.4	4.27	1.70



m/z:	7	89	205
Height:	12,057	13,891	9,357
Axis:	7.00	89.00	204.95
W-50%:	0.70	0.65	0.60
W-10%:	0.7500	0.7500	0.800

Integration Time:	0.1000 sec
Acquisition Time:	22.7600 sec

Y axis : Linear

Generated : May 18, 2016 11:29:15
Printed : May 18, 2016 11:29:17

Tune Report

Tune File : nogas.u
Comment :

Tuning Parameters

===Plasma Condition===				===Ion Lenses===				===Q-Pole Parameters===			
RF Power	:	1600	W	Extract 1	:	0	V	AMU Gain	:	121	
RF Matching	:	1.6	V	Extract 2	:	-120	V	AMU Offset	:	121	
Smpl Depth	:	9	mm	Omega Bias-ce	:	-20	V	Axis Gain	:	0.9993	
Torch-H	:	-0.1	mm	Omega Lens-ce	:	-2	V	Axis Offset	:	-0.03	
Torch-V	:	0.7	mm	Cell Entrance	:	-30	V	QP Bias	:	-1	V
Carrier Gas	:	1.2	L/min	QP Focus	:	4	V				
Makeup Gas	:	0	L/min	Cell Exit	:	-40	V	===Detector Parameters===			
Optional Gas	:	---	%					Discriminator	:	8	mV
Nebulizer Pump	:	0.1	rps	===Octopole Parameters===				Analog HV	:	1740	V
Sample Pump	:	---	rps	OctP RF	:	170	V	Pulse HV	:	1460	V
S/C Temp	:	2	degC	OctP Bias	:	-6	V				

===Reaction Cell===

Reaction Mode	:	OFF									
H2 Gas	:	0	mL/min	He Gas	:	0	mL/min	Optional Gas	:	---	%

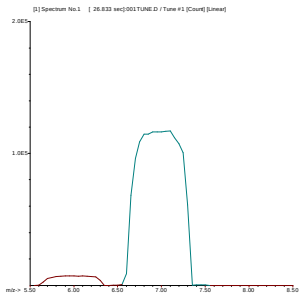
Generated : May 18, 2016 11:29:15
Printed : May 18, 2016 11:29:19

6020 QC Tune Report

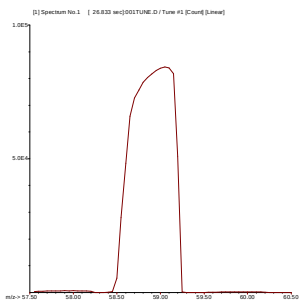
Data File: C:\ICPCHEM\1\DATA\16E18l01.B\001TUNE.D
Date Acquired: May 18 2016 11:49 am
Acq. Method: TN6020.M
Operator: KL
Sample Name: TUNE CHECK
Misc Info:
Vial Number: 1301
Current Method: C:\ICPCHEM\1\METHODS\TN6020.M

RSD (%)

Element	Actual	Required	Flag
7 Li	1.94	5.00	
59 Co	3.41	5.00	
115 In	1.60	5.00	
205 Tl	1.13	5.00	

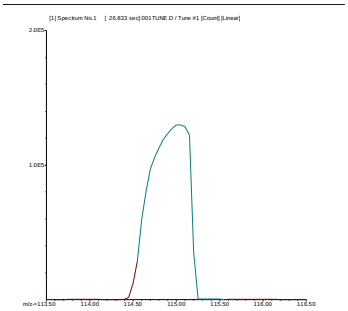


7 Li
Mass Calib.
Actual: 7.00
Required: 6.90 - 7.10
Flag:
Peak Width
Actual: 0.65
Required: 0.90
Flag:



59 Co
Mass Calib.
Actual: 59.05
Required: 58.90 - 59.10
Flag:
Peak Width
Actual: 0.65
Required: 0.90
Flag:

REVIEWED BY
By Janice Whitt at 11:42:53 AM, 5/26/2016



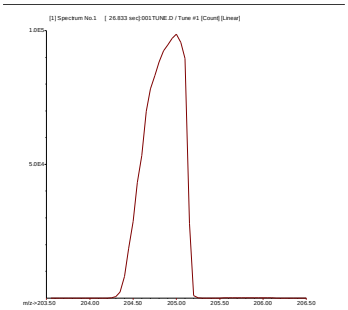
115 In

Mass Calib.

Actual:	115.00	
Required:	114.90 -	115.10
Flag:		

Peak Width

Actual:	0.65
Required:	0.90
Flag:	



205 Tl

Mass Calib.

Actual:	204.95	
Required:	204.90 -	205.10
Flag:		

Peak Width

Actual:	0.55
Required:	0.90
Flag:	

REVIEWED BY
By Janice Whitt at 11:42:58 AM, 5/26/2016

P/A Factor Tuning Report

Acquired:May 18 2016 11:35 am

Mass[amu]	Element	P/A Factor
6	Li	0.074126
23	Na	0.090106
24	Mg	0.094988
27	Al	0.098625
39	K	0.099701
44	Ca	Sensitivity too low
45	Sc	0.100506
47	Ti	Sensitivity too low
51	V	0.103248
52	Cr	0.106248
55	Mn	0.108027
59	Co	0.112087
60	Ni	0.114766
63	Cu	0.117184
66	Zn	0.116387
72	Ge	0.115250
75	As	0.114325
78	Se	Sensitivity too low
88	Sr	0.115650
95	Mo	0.114256
106	(Cd)	0.121842
107	Ag	Sensitivity too low
108	(Cd)	0.122410
111	Cd	0.123946
115	In	0.123431
118	Sn	0.122739
121	Sb	0.122655
137	Ba	Sensitivity too low
205	Tl	0.134593
206	(Pb)	0.134444
207	(Pb)	0.134480
208	Pb	0.134813
209	Bi	0.134417
238		0.133766

===Detector Parameters===
  Discriminator: 8.0 mV
      Analog HV: 1740 V
       Pulse HV: 1460 V

REVIEWED BY
By Janice Whitt at 11:43:04 AM, 5/26/2016

Calibration Blank QC Report

Acq. Method: DHL_3Fe.M Sample Name: BLANK STD 1
Operator: KL Instrument: ICPMS3
Last Cal. Update: May 18 2016 12:31 pm
Date Acquired: May 18 2016 12:27 pm

QC&ISTD Elements

Element				CPS Mean		SD	RSD(%)
6	Li	2	---	55.55	P	3.56	6.40
7	Li	2	45	271.13	P	21.69	8.00
9	Be	2	45	10.00	P	6.67	66.67
11	B	2	45	3764.04	P	70.57	1.87
23	Na	1	45	4207.54	P	117.30	2.79
24	Mg	1	45	206.68	P	34.64	16.76
27	Al	1	45	194.23	P	10.18	5.24
39	K	1	45	1802.44	P	28.35	1.57
44	Ca	2	45	5866.08	P	322.40	5.50
45	Sc	1	---	190842.70	P	1490.00	0.78
45	Sc	2	---	5120784.00	A	55710.00	1.09
47	Ti	1	45	0.89	P	0.77	86.60
51	V	1	45	132.45	P	10.86	8.20
51	V	2	---		P		
52	Cr	1	45	124.89	P	3.85	3.08
55	Mn	1	45	10.22	P	6.84	66.93
56	Fe	1	72	748.04	P	43.48	5.81
59	Co	1	72	16.00	P	1.33	8.33
60	Ni	1	72	44.45	P	11.34	25.51
60	Ni	2	---		P		
63	Cu	1	72	244.90	P	15.63	6.38
63	Cu	2	---		P		
66	Zn	1	72	116.89	P	33.37	28.55
66	Zn	2	---		P		
72	Ge	1	---	115044.70	P	1516.00	1.32
72	Ge	2	---		P		
75	As	1	72	5.11	P	1.06	20.74
78	Se	1	72	1.22	P	0.11	9.09
88	Sr	2	###	573.37	P	46.31	8.08
95	Mo	2	###	30.00	P	3.33	11.11
107	Ag	2	###	21.11	P	1.93	9.12
111	Cd	2	###	12.85	P	2.65	20.63
115	In	2	---	6782184.00	A	72610.00	1.07
118	Sn	2	###	214.46	P	30.98	14.45
121	Sb	2	###	78.89	P	18.36	23.27
137	Ba	2	###	24.45	P	10.18	41.64
205	Tl	2	###	87.78	P	19.53	22.25
208	Pb	2	###	175.56	P	35.33	20.12
209	Bi	2	---	5831792.00	A	39000.00	0.67

Calibration Standard QC Report

Acq. Method: DHL_3Fe.M Sample Name: L2-160518
Operator: KL Instrument: ICPMS3
Date Acquired: May 18 2016 12:33 pm
Last Cal. Update: May 18 2016 12:31 pm

QC&ISTD Elements

Element				CPS Mean		SD	RSD(%)	Flag
6	Li	2	---	-373.90	P	77.43	20.71	ISFail
7	Li	2	45	11199.78	P	288.60	2.58	
9	Be	2	45	2799.31	P	144.90	5.18	
11	B	2	45	6322.94	P	91.59	1.45	
23	Na	1	45	10697.21	P	119.50	1.12	
24	Mg	1	45	2976.03	P	153.20	5.15	
27	Al	1	45	794.26	P	48.03	6.05	
39	K	1	45	3016.05	P	43.39	1.44	
44	Ca	2	45	10225.69	P	290.90	2.84	
45	Sc	1	---	193804.09	P	844.20	0.44	
45	Sc	2	---	5144363.00	A	11520.00	0.22	
47	Ti	1	45	28.00	P	10.07	35.96	
51	V	1	45	1279.64	P	55.15	4.31	
51	V	2	---		P			
52	Cr	1	45	1830.39	P	13.62	0.74	
55	Mn	1	45	614.69	P	44.24	7.20	
56	Fe	1	72	27162.17	P	760.10	2.80	
59	Co	1	72	3271.15	P	14.43	0.44	
60	Ni	1	72	1053.40	P	2.67	0.25	
60	Ni	2	---		P			
63	Cu	1	72	3145.79	P	4.62	0.15	
63	Cu	2	---		P			
66	Zn	1	72	396.01	P	44.20	11.16	
66	Zn	2	---		P			
72	Ge	1	---	115348.70	P	931.20	0.81	
72	Ge	2	---		P			
75	As	1	72	125.67	P	4.42	3.51	
78	Se	1	72	8.11	P	0.99	12.18	
88	Sr	2	115	9634.20	P	140.70	1.46	
95	Mo	2	115	1754.65	P	36.58	2.08	
107	Ag	2	115	5205.80	P	18.99	0.36	
111	Cd	2	115	1092.92	P	22.66	2.07	
115	In	2	---	6820078.00	A	22720.00	0.33	
118	Sn	2	115	3127.21	P	88.40	2.83	
121	Sb	2	115	3498.43	P	108.70	3.11	
137	Ba	2	115	1380.14	P	33.34	2.42	
205	Tl	2	209	8601.42	P	124.90	1.45	
208	Pb	2	209	11964.13	P	303.60	2.54	
209	Bi	2	---	5930075.00	A	71360.00	1.20	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-373.90	20.71	55.55	-673.1	70 - 120	ISFail
45	Sc	1	193804.08	0.44	190842.73	101.6	70 - 120	
45	Sc	2	5144363.50	0.22	5120784.50	100.5	70 - 120	
72	Ge	1	115348.69	0.81	115044.73	100.3	70 - 120	
115	In	2	6820078.00	0.33	6782184.50	100.6	70 - 120	
209	Bi	2	5930075.50	1.20	5831792.00	101.7	70 - 120	

Calibration Standard QC Report

Acq. Method:	DHL_3Fe.M	Sample Name:	L-160518
Operator:	KL	Instrument:	ICPMS3
Date Acquired:	May 18 2016 12:39 pm		
Last Cal. Update:	May 18 2016 12:37 pm		

QC&ISTD Elements

Element				CPS Mean		SD	RSD(%)	Flag
6	Li	2	---	-4292.59	P	52.87	1.23	ISFail
7	Li	2	45	109515.90	P	1229.00	1.12	Fail
9	Be	2	45	27610.84	P	227.90	0.83	Fail
11	B	2	45	28107.97	P	346.40	1.23	Fail
23	Na	1	45	64236.92	P	814.60	1.27	Fail
24	Mg	1	45	27404.27	P	858.60	3.13	Fail
27	Al	1	45	6160.27	P	88.08	1.43	Fail
39	K	1	45	13091.87	P	32.43	0.25	Fail
44	Ca	2	45	47943.61	P	681.40	1.42	Fail
45	Sc	1	---	188861.00	P	2329.00	1.23	
45	Sc	2	---	5157276.00	A	53020.00	1.03	
47	Ti	1	45	264.01	P	24.69	9.35	Fail
51	V	1	45	11884.10	P	119.50	1.01	Fail
51	V	2	---		P			
52	Cr	1	45	16592.22	P	316.40	1.91	Fail
55	Mn	1	45	5973.09	P	18.41	0.31	Fail
56	Fe	1	72	259079.00	P	4437.00	1.71	Fail
59	Co	1	72	31837.33	P	249.90	0.78	
60	Ni	1	72	9860.08	P	177.80	1.80	Fail
60	Ni	2	---		P			
63	Cu	1	72	28165.82	P	320.80	1.14	Fail
63	Cu	2	---		P			
66	Zn	1	72	2562.09	P	78.49	3.06	Fail
66	Zn	2	---		P			
72	Ge	1	---	113646.90	P	642.10	0.57	
72	Ge	2	---		P			
75	As	1	72	1192.65	P	8.96	0.75	Fail
78	Se	1	72	60.15	P	0.74	1.23	Fail
88	Sr	2	115	92533.33	P	2902.00	3.14	Fail
95	Mo	2	115	17153.90	P	601.10	3.50	Fail
107	Ag	2	115	50677.45	P	535.20	1.06	Fail
111	Cd	2	115	11133.20	P	187.20	1.68	Fail
115	In	2	---	6791266.00	A	73310.00	1.08	
118	Sn	2	115	28892.70	P	436.60	1.51	Fail
121	Sb	2	115	34029.56	P	613.80	1.80	Fail
137	Ba	2	115	12636.14	P	230.20	1.82	Fail
205	Tl	2	209	88102.56	P	2260.00	2.57	Fail
208	Pb	2	209	120024.70	P	2377.00	1.98	Fail
209	Bi	2	---	5866411.00	A	41750.00	0.71	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-4292.59	1.23	55.55	-7727.6	70 - 120	ISFail
45	Sc	1	188860.95	1.23	190842.73	99.0	70 - 120	
45	Sc	2	5157276.00	1.03	5120784.50	100.7	70 - 120	
72	Ge	1	113646.95	0.57	115044.73	98.8	70 - 120	
115	In	2	6791266.00	1.08	6782184.50	100.1	70 - 120	
209	Bi	2	5866410.50	0.71	5831792.00	100.6	70 - 120	

Calibration Standard QC Report

Acq. Method: DHL_3Fe.M Sample Name: 10X-160518
Operator: KL Instrument: ICPMS3
Date Acquired: May 18 2016 12:45 pm
Last Cal. Update: May 18 2016 12:43 pm

QC&ISTD Elements

Element				CPS Mean		SD	RSD(%)	Flag
6	Li	2	---	-22595.59	P	353.50	1.56	ISFail
7	Li	2	45	552507.81	P	1434.00	0.26	Fail
9	Be	2	45	142097.80	P	2035.00	1.43	Fail
11	B	2	45	124127.90	P	1911.00	1.54	Fail
23	Na	1	45	310426.31	P	2423.00	0.78	Fail
24	Mg	1	45	137843.00	P	2254.00	1.64	Fail
27	Al	1	45	30632.75	P	701.10	2.29	Fail
39	K	1	45	62207.82	P	467.60	0.75	Fail
44	Ca	2	45	214691.09	P	2502.00	1.17	Fail
45	Sc	1	---	187316.59	P	1277.00	0.68	
45	Sc	2	---	5013569.00	A	54990.00	1.10	
47	Ti	1	45	1370.32	P	44.31	3.23	
51	V	1	45	59821.22	P	804.00	1.34	Fail
51	V	2	---		P			
52	Cr	1	45	84880.23	P	1068.00	1.26	Fail
55	Mn	1	45	30588.34	P	503.90	1.65	
56	Fe	1	72	1337729.00	A	21860.00	1.63	
59	Co	1	72	161535.91	P	2221.00	1.37	
60	Ni	1	72	48641.51	P	620.90	1.28	
60	Ni	2	---		P			
63	Cu	1	72	141532.30	P	2508.00	1.77	
63	Cu	2	---		P			
66	Zn	1	72	12844.67	P	131.00	1.02	Fail
66	Zn	2	---		P			
72	Ge	1	---	111453.40	P	1085.00	0.97	
72	Ge	2	---		P			
75	As	1	72	6069.24	P	98.83	1.63	
78	Se	1	72	311.34	P	2.84	0.91	Fail
88	Sr	2	115	460830.81	P	6983.00	1.52	Fail
95	Mo	2	115	86587.35	P	1543.00	1.78	Fail
107	Ag	2	115	256677.50	P	3510.00	1.37	Fail
111	Cd	2	115	54125.22	P	989.70	1.83	Fail
115	In	2	---	6598477.00	A	51730.00	0.78	
118	Sn	2	115	144784.20	P	1927.00	1.33	Fail
121	Sb	2	115	174084.59	P	2534.00	1.46	Fail
137	Ba	2	115	63535.66	P	1008.00	1.59	Fail
205	Tl	2	209	435735.59	P	4422.00	1.01	Fail
208	Pb	2	209	592521.00	P	7122.00	1.20	Fail
209	Bi	2	---	5639294.00	A	58180.00	1.03	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-22595.59	1.56	55.55	-40677.0	70 - 120	ISFail
45	Sc	1	187316.64	0.68	190842.73	98.2	70 - 120	
45	Sc	2	5013569.50	1.10	5120784.50	97.9	70 - 120	
72	Ge	1	111453.38	0.97	115044.73	96.9	70 - 120	
115	In	2	6598477.00	0.78	6782184.50	97.3	70 - 120	
209	Bi	2	5639294.50	1.03	5831792.00	96.7	70 - 120	

Calibration Standard QC Report

Acq. Method: DHL_3Fe.M Sample Name: 5X-160518
Operator: KL Instrument: ICPMS3
Date Acquired: May 18 2016 12:52 pm
Last Cal. Update: May 18 2016 12:49 pm

QC&ISTD Elements

Element				CPS Mean		SD	RSD(%)	Flag
6	Li	2	---	-45318.96	P	490.20	1.08	ISFail
7	Li	2	45	1111720.00	A	21810.00	1.96	Fail
9	Be	2	45	283945.81	P	7385.00	2.60	
11	B	2	45	254011.00	P	3223.00	1.27	Fail
23	Na	1	45	635403.81	P	4595.00	0.72	Fail
24	Mg	1	45	281814.50	P	3948.00	1.40	
27	Al	1	45	63272.56	P	1194.00	1.89	Fail
39	K	1	45	126482.70	P	1207.00	0.95	Fail
44	Ca	2	45	424754.69	P	11430.00	2.69	Fail
45	Sc	1	---	190835.41	P	212.70	0.11	
45	Sc	2	---	5080772.00	A	71480.00	1.41	
47	Ti	1	45	2859.49	P	13.16	0.46	
51	V	1	45	122924.60	P	1252.00	1.02	Fail
51	V	2	---		P			
52	Cr	1	45	173033.30	P	3477.00	2.01	
55	Mn	1	45	62886.81	P	571.20	0.91	
56	Fe	1	72	2732168.00	A	29250.00	1.07	
59	Co	1	72	328924.50	P	3218.00	0.98	
60	Ni	1	72	98981.93	P	1390.00	1.40	
60	Ni	2	---		P			
63	Cu	1	72	285897.59	P	5319.00	1.86	
63	Cu	2	---		P			
66	Zn	1	72	25783.72	P	286.30	1.11	Fail
66	Zn	2	---		P			
72	Ge	1	---	112586.30	P	264.40	0.23	
72	Ge	2	---		P			
75	As	1	72	12385.83	P	129.90	1.05	
78	Se	1	72	646.20	P	10.43	1.61	Fail
88	Sr	2	115	921302.69	P	28270.00	3.07	Fail
95	Mo	2	115	174300.30	P	5110.00	2.93	Fail
107	Ag	2	115	509025.69	P	8101.00	1.59	Fail
111	Cd	2	115	108870.10	P	2339.00	2.15	Fail
115	In	2	---	6652975.00	A	83250.00	1.25	
118	Sn	2	115	290537.69	P	6953.00	2.39	Fail
121	Sb	2	115	345875.59	P	9907.00	2.86	Fail
137	Ba	2	115	126021.30	P	4171.00	3.31	Fail
205	Tl	2	209	881297.19	P	22300.00	2.53	Fail
208	Pb	2	209	1195683.00	P	29080.00	2.43	Fail
209	Bi	2	---	5736405.00	A	66330.00	1.16	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-45318.97	1.08	55.55	-81584.0	70 - 120	ISFail
45	Sc	1	190835.36	0.11	190842.73	100.0	70 - 120	
45	Sc	2	5080771.50	1.41	5120784.50	99.2	70 - 120	
72	Ge	1	112586.32	0.23	115044.73	97.9	70 - 120	
115	In	2	6652975.00	1.25	6782184.50	98.1	70 - 120	
209	Bi	2	5736405.50	1.16	5831792.00	98.4	70 - 120	

Calibration Standard QC Report

Acq. Method: DHL_3Fe.M Sample Name: 2X-160518
Operator: KL Instrument: ICPMS3
Date Acquired: May 18 2016 12:58 pm
Last Cal. Update: May 18 2016 12:55 pm

QC&ISTD Elements

Element				CPS Mean		SD	RSD(%)	Flag
6	Li	2	---	-109178.30	P	1640.00	1.50	ISFail
7	Li	2	45	2717828.00	A	48310.00	1.78	Fail
9	Be	2	45	707986.69	P	11680.00	1.65	
11	B	2	45	618832.19	P	12900.00	2.08	Fail
23	Na	1	45	1566744.00	A	8805.00	0.56	Fail
24	Mg	1	45	682181.88	P	4502.00	0.66	
27	Al	1	45	152837.09	P	1610.00	1.05	Fail
39	K	1	45	303649.50	P	1123.00	0.37	Fail
44	Ca	2	45	1093780.00	A	17100.00	1.56	Fail
45	Sc	1	---	189111.41	P	675.40	0.36	
45	Sc	2	---	5051283.00	A	52330.00	1.04	
47	Ti	1	45	6868.68	P	65.43	0.95	
51	V	1	45	299989.31	P	1791.00	0.60	
51	V	2	---		A			
52	Cr	1	45	424104.50	P	6080.00	1.43	
55	Mn	1	45	152959.91	P	722.10	0.47	
56	Fe	1	72	6452110.00	A	68790.00	1.07	
59	Co	1	72	807063.31	P	7020.00	0.87	
60	Ni	1	72	242202.20	P	2982.00	1.23	
60	Ni	2	---		P			
63	Cu	1	72	699479.19	P	4694.00	0.67	
63	Cu	2	---		P			
66	Zn	1	72	62090.14	P	252.40	0.41	Fail
66	Zn	2	---		P			
72	Ge	1	---	110514.30	P	508.60	0.46	
72	Ge	2	---		P			
75	As	1	72	30028.83	P	215.80	0.72	
78	Se	1	72	1536.21	P	14.78	0.96	
88	Sr	2	115	2397125.00	A	62350.00	2.60	Fail
95	Mo	2	115	436895.91	P	9334.00	2.14	Fail
107	Ag	2	115	1287233.00	A	21630.00	1.68	
111	Cd	2	115	268944.59	P	3852.00	1.43	Fail
115	In	2	---	6509294.00	A	88400.00	1.36	
118	Sn	2	115	714113.63	P	11110.00	1.56	Fail
121	Sb	2	115	857663.88	P	15870.00	1.85	Fail
137	Ba	2	115	313941.31	P	5401.00	1.72	Fail
205	Tl	2	209	2276428.00	A	31930.00	1.40	Fail
208	Pb	2	209	2993878.00	A	26780.00	0.89	Fail
209	Bi	2	---	5523272.00	A	40430.00	0.73	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-109178.34	1.50	55.55	-196544.8	70 - 120	ISFail
45	Sc	1	189111.39	0.36	190842.73	99.1	70 - 120	
45	Sc	2	5051283.50	1.04	5120784.50	98.6	70 - 120	
72	Ge	1	110514.29	0.46	115044.73	96.1	70 - 120	
115	In	2	6509293.50	1.36	6782184.50	96.0	70 - 120	
209	Bi	2	5523272.00	0.73	5831792.00	94.7	70 - 120	

Calibration Standard QC Report

Acq. Method: DHL_3Fe.M Sample Name: H-160518
Operator: KL Instrument: ICPMS3
Date Acquired: May 18 2016 01:03 pm
Last Cal. Update: May 18 2016 01:01 pm

QC&ISTD Elements

Element			CPS Mean		SD	RSD(%)	Flag
6 Li	2	---	-209543.59	P	2265.00	1.08	ISFail
7 Li	2	45	5362461.00	A	18860.00	0.35	Fail
9 Be	2	45	1343911.00	A	18610.00	1.38	
11 B	2	45	1234827.00	A	2593.00	0.21	Fail
23 Na	1	45	3071999.00	A	43480.00	1.42	Fail
24 Mg	1	45	1397778.00	A	17470.00	1.25	
27 Al	1	45	302822.91	P	4008.00	1.32	
39 K	1	45	606160.13	P	4204.00	0.69	Fail
44 Ca	2	45	2191072.00	A	32370.00	1.48	Fail
45 Sc	1	---	187346.30	P	1242.00	0.66	
45 Sc	2	---	4993315.00	A	68620.00	1.37	
47 Ti	1	45	13698.00	P	195.80	1.43	
51 V	1	45	603556.88	P	8129.00	1.35	
51 V	2	---		A			
52 Cr	1	45	844261.88	P	13980.00	1.66	
55 Mn	1	45	301025.91	P	3312.00	1.10	
56 Fe	1	72	12744900.00	A	206900.00	1.62	
59 Co	1	72	1623566.00	A	16480.00	1.02	
60 Ni	1	72	476459.00	P	2832.00	0.59	
60 Ni	2	---		P			
63 Cu	1	72	1404837.00	A	2127.00	0.15	
63 Cu	2	---		A			
66 Zn	1	72	120192.40	P	1148.00	0.96	
66 Zn	2	---		P			
72 Ge	1	---	109546.20	P	285.80	0.26	
72 Ge	2	---		P			
75 As	1	72	59314.12	P	496.00	0.84	
78 Se	1	72	2964.40	P	38.41	1.30	
88 Sr	2	115	4640382.00	A	26440.00	0.57	Fail
95 Mo	2	115	873905.50	P	6668.00	0.76	Fail
107 Ag	2	115	2506179.00	A	37310.00	1.49	
111 Cd	2	115	529588.31	P	6184.00	1.17	
115 In	2	---	6382094.00	A	49090.00	0.77	
118 Sn	2	115	1488107.00	A	12830.00	0.86	Fail
121 Sb	2	115	1769461.00	A	9121.00	0.52	Fail
137 Ba	2	115	630260.50	P	4283.00	0.68	Fail
205 Tl	2	209	4337402.00	A	33400.00	0.77	
208 Pb	2	209	5915549.00	A	88840.00	1.50	
209 Bi	2	---	5319575.00	A	64880.00	1.22	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2		-209543.63	1.08	55.55	-377224.2	70 - 120	ISFail
45 Sc	1		187346.27	0.66	190842.73	98.2	70 - 120	
45 Sc	2		4993315.50	1.37	5120784.50	97.5	70 - 120	
72 Ge	1		109546.21	0.26	115044.73	95.2	70 - 120	
115 In	2		6382093.50	0.77	6782184.50	94.1	70 - 120	
209 Bi	2		5319575.00	1.22	5831792.00	91.2	70 - 120	

Calibration Standard QC Report

Acq. Method:	DHL_3Fe.M	Sample Name:	H2-160518
Operator:	KL	Instrument:	ICPMS3
Date Acquired:	May 18 2016 01:09 pm		
Last Cal. Update:	May 18 2016 01:07 pm		

QC&ISTD Elements

Element				CPS Mean		SD	RSD(%)	Flag
6	Li	2	---	-771056.00	A	3211.00	0.42	ISFail
7	Li	2	45	21009270.00	A	24630.00	0.12	
9	Be	2	45	5071820.00	A	21860.00	0.43	
11	B	2	45	4716265.00	A	51170.00	1.09	Fail
23	Na	1	45	7536530.00	A	26430.00	0.35	
24	Mg	1	45	3416928.00	A	26600.00	0.78	
27	Al	1	45	815.60	P	32.15	3.94	Fail
39	K	1	45	1570003.00	A	12740.00	0.81	Fail
44	Ca	2	45	5251594.00	A	46440.00	0.88	Fail
45	Sc	1	---	188080.20	P	1662.00	0.88	
45	Sc	2	---	4852129.00	A	26030.00	0.54	
47	Ti	1	45	56053.98	P	454.30	0.81	
51	V	1	45	2495026.00	A	41760.00	1.67	
51	V	2	---		A			
52	Cr	1	45	3405279.00	A	41510.00	1.22	
55	Mn	1	45	1252178.00	A	9691.00	0.77	
56	Fe	1	72	20407.57	P	614.50	3.01	Fail
59	Co	1	72	6229167.00	A	74850.00	1.20	
60	Ni	1	72	1926180.00	A	20330.00	1.06	
60	Ni	2	---		A			
63	Cu	1	72	5264163.00	A	55240.00	1.05	
63	Cu	2	---		A			
66	Zn	1	72	476636.00	P	2509.00	0.53	
66	Zn	2	---		A			
72	Ge	1	---	108372.40	P	482.50	0.45	
72	Ge	2	---		P			
75	As	1	72	239262.70	P	705.00	0.29	
78	Se	1	72	11970.91	P	38.04	0.32	
88	Sr	2	115	18207340.00	A	19630.00	0.11	
95	Mo	2	115	3548609.00	A	31730.00	0.89	
107	Ag	2	115	1901.37	P	130.30	6.85	Fail
111	Cd	2	115	2148591.00	A	26550.00	1.24	
115	In	2	---	6165259.00	A	95080.00	1.54	
118	Sn	2	115	5607252.00	A	96560.00	1.72	Fail
121	Sb	2	115	1874.68	P	120.40	6.42	Fail
137	Ba	2	115	2543692.00	A	9099.00	0.36	
205	Tl	2	209	16585780.00	A	153200.00	0.92	
208	Pb	2	209	22555350.00	A	123600.00	0.55	
209	Bi	2	---	5020616.00	A	23610.00	0.47	

ISTD Elements

Element				CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)		Flag
6	Li	2		-771056.06	0.42	55.55	#########	70 -	120	ISFail
45	Sc	1		188080.19	0.88	190842.73	98.6	70 -	120	
45	Sc	2		4852129.50	0.54	5120784.50	94.8	70 -	120	
72	Ge	1		108372.44	0.45	115044.73	94.2	70 -	120	
115	In	2		6165258.50	1.54	6782184.50	90.9	70 -	120	
209	Bi	2		5020616.00	0.47	5831792.00	86.1	70 -	120	

ICSA QC Report

C:\ICPCHEM\1\DATA\16E18l02.B\016ICSA.D\016ICSA.D#

Date Acquired:	May 18 2016 01:27 pm	Sample Name:	**ICSA-160518**
Acq. Method:	DHL_3Fe.M	Misc Info:	ICSAICPMS_TW
Operator:	KL	Diln Factor:	1.00
Last Cal. Update:	May 18 2016 01:12 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		RSD(%)	RL S	RL Aq	Flag
7	Li	2	45	0.331	ppb	6.82	8.00	5.00	
9	Be	2	45	0.168	ppb	22.52	0.32	0.80	
11	B	2	45	8.932	ppb	4.00	30.00	30.00	
23	Na	1	45	94640.000	ppb	0.67	#######	#######	
24	Mg	1	45	90720.000	ppb	0.16	#######	#######	
27	Al	1	45	97270.000	ppb	0.41	#######	#######	
39	K	1	45	93440.000	ppb	0.88	#######	#######	
44	Ca	2	45	92460.000	ppb	4.79	#######	#######	
47	Ti	1	45	1951.000	ppb	1.10	10.00	10.00	
51	V	1	45	0.195	ppb	13.74	10.00	10.00	
52	Cr	1	45	0.611	ppb	6.36	8.00	5.00	
55	Mn	1	45	1.562	ppb	4.20	8.00	10.00	
56	Fe	1	72	95840.000	ppb	0.90	#######	#######	
59	Co	1	72	0.765	ppb	4.33	8.00	10.00	
60	Ni	1	72	0.618	ppb	1.41	8.00	10.00	
63	Cu	1	72	0.695	ppb	6.24	8.00	10.00	
66	Zn	1	72	1.520	ppb	2.51	10.00	5.00	
75	As	1	72	0.922	ppb	2.05	4.00	5.00	
78	Se	1	72	0.727	ppb	16.95	2.00	5.00	
88	Sr	2	115	1.555	ppb	1.84	10.00	10.00	
95	Mo	2	115	1922.000	ppb	2.58	8.00	5.00	
107	Ag	2	115	0.158	ppb	2.95	0.80	2.00	
111	Cd	2	115	0.387	ppb	4.73	1.20	1.00	
118	Sn	2	115	0.765	ppb	4.31	10.00	10.00	
121	Sb	2	115	0.415	ppb	3.27	4.00	2.50	
137	Ba	2	115	0.533	ppb	9.09	8.00	10.00	
205	Tl	2	209	0.310	ppb	4.87	4.00	1.50	
208	Pb	2	209	0.434	ppb	5.42	1.20	1.00	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-73.48	22.51	55.55	-132.3	70 - 120	ISFail
45	Sc	1	184899.86	0.22	190842.73	96.9	70 - 120	
45	Sc	2	4324747.50	3.88	5120784.50	84.5	70 - 120	
72	Ge	1	103651.16	0.62	115044.73	90.1	70 - 120	
115	In	2	5543133.50	2.41	6782184.50	81.7	70 - 120	
209	Bi	2	4330720.50	2.17	5831792.00	74.3	70 - 120	

ICS-AB QC Report

C:\ICPCHEM\1\DATA\16E18l02.B\017ICSB.D\017ICSB.D#

Date Acquired:	May 18 2016 01:33 pm	Sample Name:	**ICSAB-160518**
Acq. Method:	DHL_3Fe.M	Misc Info:	ICSBICPMS_TW
Operator:	KL	Diln Factor:	1.00
Last Cal. Update:	May 18 2016 01:12 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		RSD(%)	Expected	QC Range(%)			Flag
7	Li	2	45	0.26	ppb	15.45	---	80 -		120	
9	Be	2	45	0.11	ppb	42.25	---	80 -		120	
11	B	2	45	5.73	ppb	3.75	---	80 -		120	
23	Na	1	45	100200.00	ppb	0.75	100000.00	80 -		120	
24	Mg	1	45	92140.00	ppb	1.10	100000.00	80 -		120	
27	Al	1	45	97230.00	ppb	0.50	100000.00	80 -		120	
39	K	1	45	93260.00	ppb	0.73	100000.00	80 -		120	
44	Ca	2	45	92820.00	ppb	3.90	100000.00	80 -		120	
47	Ti	1	45	2003.00	ppb	0.58	---	80 -		120	
51	V	1	45	40.17	ppb	0.90	40.00	80 -		120	
52	Cr	1	45	21.43	ppb	1.29	20.00	80 -		120	
55	Mn	1	45	19.17	ppb	1.19	20.00	80 -		120	
56	Fe	1	72	97580.00	ppb	1.10	100000.00	80 -		120	
59	Co	1	72	42.22	ppb	1.07	40.00	80 -		120	
60	Ni	1	72	37.50	ppb	1.12	40.00	80 -		120	
63	Cu	1	72	20.93	ppb	1.30	20.00	80 -		120	
66	Zn	1	72	19.44	ppb	0.60	20.00	80 -		120	
75	As	1	72	19.76	ppb	0.93	20.00	80 -		120	
78	Se	1	72	18.53	ppb	3.02	20.00	80 -		120	
88	Sr	2	115	1.12	ppb	2.78	---	80 -		120	
95	Mo	2	115	1897.00	ppb	3.10	---	80 -		120	
107	Ag	2	115	17.31	ppb	2.67	20.00	80 -		120	
111	Cd	2	115	9.10	ppb	2.19	10.00	80 -		120	
118	Sn	2	115	0.72	ppb	1.65	---	80 -		120	
121	Sb	2	115	0.05	ppb	15.64	---	80 -		120	
137	Ba	2	115	0.55	ppb	6.54	---	80 -		120	
205	Tl	2	209	0.17	ppb	23.83	---	80 -		120	
208	Pb	2	209	0.33	ppb	18.63	---	80 -		120	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)			Flag
6	Li	2	-51.83	28.57	55.55	-93.3	70 -		120	ISFail
45	Sc	1	171838.72	1.02	190842.73	90.0	70 -		120	
45	Sc	2	3728873.30	2.51	5120784.50	72.8	70 -		120	
72	Ge	1	97161.66	0.34	115044.73	84.5	70 -		120	
115	In	2	5094331.50	2.78	6782184.50	75.1	70 -		120	
209	Bi	2	4244136.00	1.49	5831792.00	72.8	70 -		120	

CCV QC Report

C:\ICPCHEM\1\DATA\16E18l02.B\041ICV.D\041ICV.D#

Date Acquired:	May 18 2016 03:59 pm	Sample Name:	**ICV1-160518**
Acq. Method:	DHL_3Fe.M	Misc Info:	ICV ICPMS_TW
Operator:	KL	Diln Factor:	1.00
Last Cal. Update:	May 18 2016 01:12 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		RSD(%)	Expected	QC Range(%)		Rec(%)	Flag
7	Li	2	45	122.20	ppb	2.70	100.00	90 -	110	122.2	Fail
9	Be	2	45	115.10	ppb	2.30	100.00	90 -	110	115.1	Fail
11	B	2	45	110.70	ppb	1.45	100.00	90 -	110	110.7	Fail
23	Na	1	45	2741.00	ppb	0.74	2500.00	90 -	110	109.6	
24	Mg	1	45	2554.00	ppb	0.75	2500.00	90 -	110	102.2	
27	Al	1	45	2506.00	ppb	1.44	2500.00	90 -	110	100.2	
39	K	1	45	2496.00	ppb	1.32	2500.00	90 -	110	99.8	
44	Ca	2	45	2372.00	ppb	2.24	2500.00	90 -	110	94.9	
47	Ti	1	45	98.37	ppb	1.81	100.00	90 -	110	98.4	
51	V	1	45	98.93	ppb	1.49	100.00	90 -	110	98.9	
52	Cr	1	45	106.60	ppb	2.26	100.00	90 -	110	106.6	
55	Mn	1	45	95.85	ppb	2.31	100.00	90 -	110	95.9	
56	Fe	1	72	2549.00	ppb	1.47	2500.00	90 -	110	102.0	
59	Co	1	72	105.20	ppb	1.50	100.00	90 -	110	105.2	
60	Ni	1	72	104.50	ppb	1.18	100.00	90 -	110	104.5	
63	Cu	1	72	103.30	ppb	1.68	100.00	90 -	110	103.3	
66	Zn	1	72	102.60	ppb	1.22	100.00	90 -	110	102.6	
75	As	1	72	99.02	ppb	0.61	100.00	90 -	110	99.0	
78	Se	1	72	97.77	ppb	1.22	100.00	90 -	110	97.8	
88	Sr	2	115	96.38	ppb	1.52	100.00	90 -	110	96.4	
95	Mo	2	115	91.13	ppb	1.54	100.00	90 -	110	91.1	
107	Ag	2	115	94.45	ppb	1.13	100.00	90 -	110	94.5	
111	Cd	2	115	95.23	ppb	1.42	100.00	90 -	110	95.2	
118	Sn	2	115	102.00	ppb	1.99	100.00	90 -	110	102.0	
121	Sb	2	115	96.46	ppb	2.43	100.00	90 -	110	96.5	
137	Ba	2	115	96.49	ppb	3.03	100.00	90 -	110	96.5	
205	Tl	2	209	96.00	ppb	1.54	100.00	90 -	110	96.0	
208	Pb	2	209	97.32	ppb	0.93	100.00	90 -	110	97.3	

ISTD Elements

Element				CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)		Flag
6	Li	2	RHigh	-23294.47	7.32	55.55	-41935.1	70 -	120	ISFail
45	Sc	1		199710.81	0.46	190842.73	104.6	70 -	120	
45	Sc	2		4348963.00	0.88	5120784.50	84.9	70 -	120	
72	Ge	1		115810.80	0.54	115044.73	100.7	70 -	120	
115	In	2		5895697.50	1.01	6782184.50	86.9	70 -	120	
209	Bi	2		5241613.50	0.98	5831792.00	89.9	70 -	120	

ICB QC Report

C:\ICPCHEM\1\DATA\16E18l02.B\042_ICB.D\042_ICB.D#

Date Acquired:	May 18 2016 04:05 pm	Sample Name:	**ICB1-160518**
Acq. Method:	DHL_3Fe.M	Misc Info:	ICB ICPMS_TW
Operator:	KL	Diln Factor:	1.00
Last Cal. Update:	May 18 2016 01:12 pm	Instrument:	ICPMS3

QC Elements

Element	Conc.	RSD(%)	High Limit	Flag
7 Li 2 45	0.14 ppb	12.62	2.00	
9 Be 2 45	0.08 ppb	19.32	0.40	
11 B 2 45	1.45 ppb	6.33	10.00	
23 Na 1 45	4.68 ppb	0.18	50.00	
24 Mg 1 45	1.48 ppb	19.84	50.00	
27 Al 1 45	0.36 ppb	13.25	50.00	
39 K 1 45	2.73 ppb	5.73	50.00	
44 Ca 2 45	-7.80 ppb	2.92	50.00	
47 Ti 1 45	0.12 ppb	17.32	4.00	
51 V 1 45	0.04 ppb	18.38	4.00	
52 Cr 1 45	0.10 ppb	8.88	2.00	
55 Mn 1 45	0.10 ppb	10.77	2.00	
56 Fe 1 72	2.23 ppb	3.66	50.00	
59 Co 1 72	0.09 ppb	9.13	2.00	
60 Ni 1 72	0.09 ppb	13.01	2.00	
63 Cu 1 72	0.08 ppb	0.27	2.00	
66 Zn 1 72	2.18 ppb	6.72	4.00	Failaq
75 As 1 72	0.12 ppb	12.24	2.00	
78 Se 1 72	0.28 ppb	23.13	0.60	
88 Sr 2 115	0.07 ppb	2.37	4.00	
95 Mo 2 115	0.12 ppb	24.74	2.00	
107 Ag 2 115	0.06 ppb	19.72	0.40	
111 Cd 2 115	0.08 ppb	28.13	0.40	
118 Sn 2 115	0.15 ppb	14.70	20.00	
121 Sb 2 115	0.08 ppb	10.36	2.00	
137 Ba 2 115	0.07 ppb	11.25	2.00	
205 Tl 2 209	0.16 ppb	5.95	2.00	
208 Pb 2 209	0.08 ppb	11.45	0.40	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li 2 RHig	28.36	######	55.55	51.1	70 - 120	ISFail
45 Sc 1	196715.17	1.99	190842.73	103.1	70 - 120	
45 Sc 2	4360175.00	1.07	5120784.50	85.1	70 - 120	
72 Ge 1	116001.41	0.73	115044.73	100.8	70 - 120	
115 In 2	5943323.50	0.95	6782184.50	87.6	70 - 120	
209 Bi 2	5327206.00	0.97	5831792.00	91.3	70 - 120	

CCV QC Report

C:\ICPCHEM\1\DATA\16E18l02.B\043LCVL.D\043LCVL.D#

Date Acquired:	May 18 2016 04:11 pm	Sample Name:	**ILCVL-160518**
Acq. Method:	DHL_3Fe.M	Misc Info:	LCVLICPMS_TW
Operator:	KL	Diln Factor:	1.00
Last Cal. Update:	May 18 2016 01:12 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		RSD(%)	Expected	QC Range(%)		Rec(%)	Flag
7	Li	2	45	12.06	ppb	1.07	5.00	70 -	130	241.2	Fail
9	Be	2	45	1.21	ppb	2.86	1.00	70 -	130	121.4	
11	B	2	45	22.17	ppb	1.60	20.00	70 -	130	110.9	
23	Na	1	45	112.20	ppb	1.63	100.00	70 -	130	112.2	
24	Mg	1	45	105.60	ppb	1.99	100.00	70 -	130	105.6	
27	Al	1	45	101.30	ppb	2.64	100.00	70 -	130	101.3	
39	K	1	45	102.20	ppb	2.43	100.00	70 -	130	102.2	
44	Ca	2	45	90.63	ppb	1.59	100.00	70 -	130	90.6	
47	Ti	1	45	5.17	ppb	14.72	5.00	70 -	130	103.4	
51	V	1	45	1.02	ppb	6.03	1.00	70 -	130	102.0	
52	Cr	1	45	5.42	ppb	1.32	5.00	70 -	130	108.3	
55	Mn	1	45	4.97	ppb	0.79	5.00	70 -	130	99.3	
56	Fe	1	72	105.20	ppb	2.82	100.00	70 -	130	105.2	
59	Co	1	72	5.39	ppb	1.53	5.00	70 -	130	107.8	
60	Ni	1	72	5.30	ppb	3.13	5.00	70 -	130	105.9	
63	Cu	1	72	5.39	ppb	0.61	5.00	70 -	130	107.9	
66	Zn	1	72	6.96	ppb	1.51	5.00	70 -	130	139.2	Fail
75	As	1	72	5.15	ppb	3.37	5.00	70 -	130	103.1	
78	Se	1	72	5.59	ppb	3.31	5.00	70 -	130	111.8	
88	Sr	2	115	4.93	ppb	1.41	5.00	70 -	130	98.7	
95	Mo	2	115	4.62	ppb	1.55	5.00	70 -	130	92.4	
107	Ag	2	115	1.99	ppb	0.65	2.00	70 -	130	99.5	
111	Cd	2	115	0.95	ppb	4.48	1.00	70 -	130	95.5	
118	Sn	2	115	5.13	ppb	2.55	5.00	70 -	130	102.5	
121	Sb	2	115	1.95	ppb	2.72	2.00	70 -	130	97.6	
137	Ba	2	115	4.86	ppb	2.84	5.00	70 -	130	97.1	
205	Tl	2	209	1.04	ppb	2.08	1.00	70 -	130	103.9	
208	Pb	2	209	1.01	ppb	1.19	1.00	70 -	130	101.0	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)		Flag
6	Li	2 RHigl	-2287.63	7.46	55.55	-4118.2	70 -	120	ISFail
45	Sc	1	192215.63	1.33	190842.73	100.7	70 -	120	
45	Sc	2	4434479.00	1.19	5120784.50	86.6	70 -	120	
72	Ge	1	113274.65	0.71	115044.73	98.5	70 -	120	
115	In	2	5966772.50	0.90	6782184.50	88.0	70 -	120	
209	Bi	2	5322494.50	0.93	5831792.00	91.3	70 -	120	

PB QC Report

C:\ICPCHEM\1\DATA\16E18l02.B\044__PB.D\044__PB.D#

Date Acquired:	May 18 2016 04:18 pm	Sample Name:	**MB-75118**
Acq. Method:	DHL_3Fe.M	Misc Info:	MBLKICPMS_TSDOD
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 18 2016 01:12 pm	Auto Dil:	Undiluted
Instrument:	ICPMS3	Total Dil:	5.00

QC Elements

Element				Conc.		RSD(%)	MDL	RL	Flag
7	Li	2	45	0.060	ppb	9.40	2.0	8.00	
9	Be	2	45	0.008	ppb	29.40	0.4	1.20	
11	B	2	45	1.408	ppb	2.00	10.0	30.00	
23	Na	1	45	10.320	ppb	2.92	50.0	#####	
24	Mg	1	45	1.792	ppb	6.32	50.0	#####	
27	Al	1	45	3.302	ppb	1.92	50.0	#####	
39	K	1	45	7.787	ppb	2.19	50.0	#####	
44	Ca	2	45	20.730	ppb	3.42	50.0	#####	
47	Ti	1	45	0.131	ppb	41.67	4.0	10.00	
51	V	1	45	-0.015	ppb	4.99	4.0	10.00	
52	Cr	1	45	0.195	ppb	2.88	2.0	8.00	
55	Mn	1	45	0.107	ppb	7.03	2.0	8.00	
56	Fe	1	72	4.293	ppb	1.89	50.0	#####	
59	Co	1	72	0.017	ppb	15.25	2.0	8.00	
60	Ni	1	72	0.097	ppb	3.70	2.0	8.00	
63	Cu	1	72	0.077	ppb	7.05	2.0	8.00	
66	Zn	1	72	1.131	ppb	4.37	4.0	10.00	
75	As	1	72	0.032	ppb	12.43	2.0	4.00	
78	Se	1	72	0.105	ppb	20.26	0.6	2.00	
88	Sr	2	115	0.078	ppb	4.23	4.0	10.00	
95	Mo	2	115	0.047	ppb	17.06	2.0	8.00	
107	Ag	2	115	0.010	ppb	22.86	0.4	0.80	
111	Cd	2	115	0.012	ppb	30.22	0.4	1.20	
118	Sn	2	115	4.240	ppb	2.55	20.0	40.00	
121	Sb	2	115	0.006	ppb	18.42	2.0	4.00	
137	Ba	2	115	0.054	ppb	28.42	2.0	8.00	
205	Tl	2	209	0.034	ppb	5.16	2.0	4.00	
208	Pb	2	209	0.042	ppb	7.66	0.4	1.20	

ISTD Elements

Element				CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	RHig	1.03	631.30	55.55	1.8	70 - 120	ISFail
45	Sc	1		202240.61	0.39	190842.73	106.0	70 - 120	
45	Sc	2		4610810.50	2.45	5120784.50	90.0	70 - 120	
72	Ge	1		117275.70	2.19	115044.73	101.9	70 - 120	
115	In	2		6170672.00	1.48	6782184.50	91.0	70 - 120	
209	Bi	2		5473185.50	0.81	5831792.00	93.9	70 - 120	

LCS QC Report

C:\ICPCHEM\1\DATA\16E18l02.B\045_LCS.D\045_LCS.D#

Date Acquired:	May 18 2016 04:24 pm	Sample Name:	**LCS-75118**
Acq. Method:	DHL_3Fe.M	Misc Info:	LCS ICPMS_TSDOD
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 18 2016 01:12 pm	Auto Dil:	Undiluted
Instrument:	ICPMS3	Total Dil:	5.00

QC Elements

Element				Conc.		RSD(%)	Expected	QC Range(%)		Rec(%)	Flag
7	Li	2	45	240.10	ppb	1.76	200.00	80 -	120	120.1	Fail
9	Be	2	45	224.40	ppb	1.56	200.00	80 -	120	112.2	
11	B	2	45	219.10	ppb	1.89	200.00	80 -	120	109.6	
23	Na	1	45	5507.00	ppb	0.97	1000.00	80 -	120	550.7	Fail
24	Mg	1	45	5249.00	ppb	1.60	1000.00	80 -	120	524.9	Fail
27	Al	1	45	1038.00	ppb	0.68	1000.00	80 -	120	103.8	
39	K	1	45	5179.00	ppb	0.37	1000.00	80 -	120	517.9	Fail
44	Ca	2	45	5294.00	ppb	2.31	1000.00	80 -	120	529.4	Fail
47	Ti	1	45	200.50	ppb	0.43	200.00	80 -	120	100.3	
51	V	1	45	200.60	ppb	0.86	200.00	80 -	120	100.3	
52	Cr	1	45	207.50	ppb	0.65	200.00	80 -	120	103.8	
55	Mn	1	45	199.90	ppb	0.36	200.00	80 -	120	100.0	
56	Fe	1	72	1104.00	ppb	1.19	1000.00	80 -	120	110.4	
59	Co	1	72	213.50	ppb	0.63	200.00	80 -	120	106.8	
60	Ni	1	72	206.50	ppb	0.82	200.00	80 -	120	103.3	
63	Cu	1	72	213.70	ppb	1.10	200.00	80 -	120	106.9	
66	Zn	1	72	203.40	ppb	1.25	200.00	80 -	120	101.7	
75	As	1	72	196.10	ppb	0.54	200.00	80 -	120	98.1	
78	Se	1	72	187.70	ppb	1.27	200.00	80 -	120	93.9	
88	Sr	2	115	207.20	ppb	0.64	200.00	80 -	120	103.6	
95	Mo	2	115	190.60	ppb	1.41	200.00	80 -	120	95.3	
107	Ag	2	115	200.70	ppb	1.61	200.00	80 -	120	100.4	
111	Cd	2	115	191.80	ppb	1.33	200.00	80 -	120	95.9	
118	Sn	2	115	207.20	ppb	1.76	200.00	80 -	120	103.6	
121	Sb	2	115	195.80	ppb	2.17	200.00	80 -	120	97.9	
137	Ba	2	115	196.90	ppb	1.49	200.00	80 -	120	98.5	
205	Tl	2	209	210.40	ppb	1.20	200.00	80 -	120	105.2	
208	Pb	2	209	204.80	ppb	0.74	200.00	80 -	120	102.4	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)		Flag
6	Li	2	-92705.11	1.78	55.55	-166889.4	70 -	120	ISFail
45	Sc	1	201308.56	0.72	190842.73	105.5	70 -	120	
45	Sc	2	4539357.50	2.52	5120784.50	88.6	70 -	120	
72	Ge	1	115224.97	0.12	115044.73	100.2	70 -	120	
115	In	2	6080120.50	1.50	6782184.50	89.6	70 -	120	
209	Bi	2	5326957.50	0.50	5831792.00	91.3	70 -	120	

LCS QC Report

C:\ICPCHEM\1\DATA\16E18l02.B\046_LCS.D\046_LCS.D#

Date Acquired:	May 18 2016 04:30 pm	Sample Name:	**LCSD-75118**
Acq. Method:	DHL_3Fe.M	Misc Info:	LCSDICPMS_TSDOD
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 18 2016 01:12 pm	Auto Dil:	Undiluted
Instrument:	ICPMS3	Total Dil:	5.00

QC Elements

Element				Conc.		RSD(%)	Expected	QC Range(%)		Rec(%)	Flag
7	Li	2	45	234.00	ppb	1.44	200.00	80 -	120	117.0	
9	Be	2	45	220.30	ppb	1.32	200.00	80 -	120	110.2	
11	B	2	45	216.90	ppb	1.09	200.00	80 -	120	108.5	
23	Na	1	45	5607.00	ppb	1.01	1000.00	80 -	120	560.7	Fail
24	Mg	1	45	5287.00	ppb	1.06	1000.00	80 -	120	528.7	Fail
27	Al	1	45	1017.00	ppb	1.44	1000.00	80 -	120	101.7	
39	K	1	45	5228.00	ppb	0.57	1000.00	80 -	120	522.8	Fail
44	Ca	2	45	5373.00	ppb	0.73	1000.00	80 -	120	537.3	Fail
47	Ti	1	45	204.10	ppb	1.83	200.00	80 -	120	102.1	
51	V	1	45	205.70	ppb	1.13	200.00	80 -	120	102.9	
52	Cr	1	45	211.00	ppb	0.80	200.00	80 -	120	105.5	
55	Mn	1	45	201.60	ppb	0.32	200.00	80 -	120	100.8	
56	Fe	1	72	1113.00	ppb	2.08	1000.00	80 -	120	111.3	
59	Co	1	72	216.40	ppb	1.01	200.00	80 -	120	108.2	
60	Ni	1	72	209.40	ppb	0.84	200.00	80 -	120	104.7	
63	Cu	1	72	215.50	ppb	0.69	200.00	80 -	120	107.8	
66	Zn	1	72	203.30	ppb	0.66	200.00	80 -	120	101.7	
75	As	1	72	197.20	ppb	0.40	200.00	80 -	120	98.6	
78	Se	1	72	186.60	ppb	0.65	200.00	80 -	120	93.3	
88	Sr	2	115	209.50	ppb	2.72	200.00	80 -	120	104.8	
95	Mo	2	115	194.30	ppb	0.96	200.00	80 -	120	97.2	
107	Ag	2	115	201.80	ppb	0.87	200.00	80 -	120	100.9	
111	Cd	2	115	192.40	ppb	1.34	200.00	80 -	120	96.2	
118	Sn	2	115	208.70	ppb	1.47	200.00	80 -	120	104.4	
121	Sb	2	115	196.80	ppb	1.75	200.00	80 -	120	98.4	
137	Ba	2	115	198.50	ppb	0.97	200.00	80 -	120	99.3	
205	Tl	2	209	211.00	ppb	1.59	200.00	80 -	120	105.5	
208	Pb	2	209	206.40	ppb	0.89	200.00	80 -	120	103.2	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)		Flag
6	Li	2	-93605.38	2.14	55.55	-168510.1	70 -	120	ISFail
45	Sc	1	197604.05	0.55	190842.73	103.5	70 -	120	
45	Sc	2	4682459.00	1.26	5120784.50	91.4	70 -	120	
72	Ge	1	114333.32	0.72	115044.73	99.4	70 -	120	
115	In	2	6196178.00	1.14	6782184.50	91.4	70 -	120	
209	Bi	2	5350968.00	0.54	5831792.00	91.8	70 -	120	

Sample QC Report

C:\ICPCHEM\1\DATA\16E18l02.B\048AREF.D\048AREF.D#

Date Acquired:	May 18 2016 04:42 pm	Sample Name:	**1605074-13A**
Acq. Method:	DHL_3Fe.M	Misc Info:	SAMPICPMS_TSDOD
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 18 2016 01:12 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		Corr. Con	RSD(%)	High Limit	Flag
7	Li	2	45	75.660	ppb	#REF!	1.95	2000.00	>RL
9	Be	2	45	3.001	ppb	#REF!	0.72	2000.00	>RL
11	B	2	45	83.360	ppb	#REF!	1.58	2000.00	>RL
23	Na	1	45	1026.000	ppb	#REF!	0.71	25000.00	>RL
24	Mg	1	45	16050.000	ppb	#REF!	1.17	25000.00	>RL
27	Al	1	45	76990.000	ppb	#REF!	0.50	10000.00	OUTCAL
39	K	1	45	17860.000	ppb	#REF!	0.62	25000.00	>RL
44	Ca	2	45	119200.000	ppb	#REF!	2.87	25000.00	OUTCAL
47	Ti	1	45	384.800	ppb	#REF!	1.33	2000.00	>RL
51	V	1	45	120.200	ppb	#REF!	0.50	2000.00	>RL
52	Cr	1	45	72.330	ppb	#REF!	1.18	2000.00	>RL
55	Mn	1	45	984.600	ppb	#REF!	1.01	2000.00	>RL
56	Fe	1	72	71230.000	ppb	#REF!	1.73	10000.00	OUTCAL
59	Co	1	72	26.310	ppb	#REF!	1.21	2000.00	>RL
60	Ni	1	72	43.950	ppb	#REF!	1.03	2000.00	>RL
63	Cu	1	72	31.980	ppb	#REF!	1.52	2000.00	>RL
66	Zn	1	72	248.500	ppb	#REF!	0.94	2000.00	>RL
75	As	1	72	33.100	ppb	#REF!	0.70	2000.00	>RL
78	Se	1	72	24.460	ppb	#REF!	4.71	2000.00	>RL
88	Sr	2	115	745.000	ppb	#REF!	1.25	2000.00	>RL
95	Mo	2	115	2.308	ppb	#REF!	3.07	2000.00	J
107	Ag	2	115	0.259	ppb	#REF!	0.71	500.00	ND
111	Cd	2	115	1.230	ppb	#REF!	6.24	2000.00	>RL
118	Sn	2	115	6.447	ppb	#REF!	0.29	2000.00	J
121	Sb	2	115	5.873	ppb	#REF!	1.80	500.00	>RL
137	Ba	2	115	589.600	ppb	#REF!	2.91	2000.00	>RL
205	Tl	2	209	0.772	ppb	#REF!	3.02	2000.00	ND
208	Pb	2	209	369.900	ppb	#REF!	0.93	2000.00	>RL

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-10775.87	2.66	55.55	-19398.9	70 - 120	ISFail
45	Sc	1	199458.86	0.49	190842.73	104.5	70 - 120	
45	Sc	2	4547458.00	2.85	5120784.50	88.8	70 - 120	
72	Ge	1	112936.45	0.77	115044.73	98.2	70 - 120	
115	In	2	5995982.00	1.42	6782184.50	88.4	70 - 120	
209	Bi	2	4942437.00	0.93	5831792.00	84.7	70 - 120	

DT QC Report

C:\ICPCHEM\1\DATA\16E18l02.B\049DT1.D\049DT1.D#

Date Acquired:	May 18 2016 04:48 pm	Sample Name:	**1605074-13A SD**
Acq. Method:	DHL_3Fe.M	Misc Info:	SD ICPMS_TSDOD
Operator:	KL	Bench Diln:	25.00
Last Cal. Update:	May 18 2016 01:12 pm	Auto Diln:	Undiluted
Instrument:	ICPMS3	Total Diln:	25.00

QC Elements

Element				Conc.		RSD(%)	Expected	QC Range(%)	Rec(%)	Flag
7	Li	2	45	15.03	ppb	1.69	-2208.81	90 - 110	-3.4	
9	Be	2	45	0.64	ppb	1.32	3.00	90 - 110	106.9	GOOD
11	B	2	45	18.40	ppb	3.79	83.36	90 - 110	110.4	
23	Na	1	45	209.40	ppb	0.63	1026.00	90 - 110	102.0	GOOD
24	Mg	1	45	3201.00	ppb	1.00	16050.00	90 - 110	99.7	GOOD
27	Al	1	45	15010.00	ppb	1.01	76990.00	90 - 110	97.5	GOOD
39	K	1	45	3458.00	ppb	0.45	17860.00	90 - 110	96.8	GOOD
44	Ca	2	45	23740.00	ppb	2.58	119200.00	90 - 110	99.6	GOOD
47	Ti	1	45	77.48	ppb	2.21	384.80	90 - 110	100.7	GOOD
51	V	1	45	24.37	ppb	1.51	120.20	90 - 110	101.4	GOOD
52	Cr	1	45	14.58	ppb	0.49	72.33	90 - 110	100.8	GOOD
55	Mn	1	45	197.60	ppb	0.27	984.60	90 - 110	100.3	GOOD
56	Fe	1	72	14150.00	ppb	0.89	71230.00	90 - 110	99.3	GOOD
59	Co	1	72	5.35	ppb	1.04	26.31	90 - 110	101.7	GOOD
60	Ni	1	72	8.99	ppb	2.22	43.95	90 - 110	102.2	GOOD
63	Cu	1	72	6.74	ppb	0.81	31.98	90 - 110	105.4	GOOD
66	Zn	1	72	55.69	ppb	0.70	248.50	90 - 110	112.1	
75	As	1	72	6.97	ppb	0.80	33.10	90 - 110	105.2	GOOD
78	Se	1	72	5.27	ppb	3.70	24.46	90 - 110	107.7	GOOD
88	Sr	2	115	150.70	ppb	2.19	745.00	90 - 110	101.1	GOOD
95	Mo	2	115	0.50	ppb	1.27	2.31	90 - 110	109.2	GOOD
107	Ag	2	115	0.07	ppb	3.43	0.26	90 - 110	131.2	
111	Cd	2	115	0.24	ppb	27.03	1.23	90 - 110	98.7	GOOD
118	Sn	2	115	1.30	ppb	4.53	6.45	90 - 110	101.1	GOOD
121	Sb	2	115	1.20	ppb	1.96	5.87	90 - 110	102.2	GOOD
137	Ba	2	115	115.10	ppb	2.23	589.60	90 - 110	97.6	GOOD
205	Tl	2	209	0.19	ppb	1.37	0.77	90 - 110	122.9	
208	Pb	2	209	68.93	ppb	2.30	369.90	90 - 110	93.2	GOOD

ISTD Elements

Element				CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)		Flag
6	Li	2	RHig	-2208.81	12.84	55.55	-3976.3	70 -	120	ISFail
45	Sc	1		193502.00	0.54	190842.73	101.4	70 -	120	
45	Sc	2		4648037.50	1.48	5120784.50	90.8	70 -	120	
72	Ge	1		113343.35	0.64	115044.73	98.5	70 -	120	
115	In	2		6187142.00	1.47	6782184.50	91.2	70 -	120	
209	Bi	2		5342183.50	1.14	5831792.00	91.6	70 -	120	

Sample QC Report

C:\ICPCHEM\1\DATA\16E18l02.B\050SMPL.D\050SMPL.D#

Date Acquired:	May 18 2016 04:54 pm	Sample Name:	**1605074-05A**
Acq. Method:	DHL_3Fe.M	Misc Info:	SAMPICPMS_TSDOD
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 18 2016 01:12 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		Corr. Con	RSD(%)	High Limit	Flag
7	Li	2	45	76.650	ppb	#REF!	0.28	2000.00	>RL
9	Be	2	45	2.828	ppb	#REF!	2.17	2000.00	>RL
11	B	2	45	69.150	ppb	#REF!	2.80	2000.00	>RL
23	Na	1	45	1861.000	ppb	#REF!	0.65	25000.00	>RL
24	Mg	1	45	15430.000	ppb	#REF!	1.43	25000.00	>RL
27	Al	1	45	70900.000	ppb	#REF!	1.73	10000.00	OUTCAL
39	K	1	45	14210.000	ppb	#REF!	1.74	25000.00	>RL
44	Ca	2	45	131300.000	ppb	#REF!	2.68	25000.00	OUTCAL
47	Ti	1	45	573.100	ppb	#REF!	1.77	2000.00	>RL
51	V	1	45	111.300	ppb	#REF!	0.71	2000.00	>RL
52	Cr	1	45	64.520	ppb	#REF!	1.56	2000.00	>RL
55	Mn	1	45	759.400	ppb	#REF!	0.78	2000.00	>RL
56	Fe	1	72	65610.000	ppb	#REF!	1.68	10000.00	OUTCAL
59	Co	1	72	23.520	ppb	#REF!	1.15	2000.00	>RL
60	Ni	1	72	42.600	ppb	#REF!	0.49	2000.00	>RL
63	Cu	1	72	38.120	ppb	#REF!	0.94	2000.00	>RL
66	Zn	1	72	252.100	ppb	#REF!	0.82	2000.00	>RL
75	As	1	72	22.640	ppb	#REF!	0.33	2000.00	>RL
78	Se	1	72	21.380	ppb	#REF!	3.20	2000.00	>RL
88	Sr	2	115	491.000	ppb	#REF!	1.94	2000.00	>RL
95	Mo	2	115	2.027	ppb	#REF!	2.45	2000.00	J
107	Ag	2	115	0.190	ppb	#REF!	6.00	500.00	ND
111	Cd	2	115	1.038	ppb	#REF!	6.19	2000.00	J
118	Sn	2	115	6.247	ppb	#REF!	2.21	2000.00	ND
121	Sb	2	115	2.161	ppb	#REF!	2.74	500.00	J
137	Ba	2	115	636.900	ppb	#REF!	2.54	2000.00	>RL
205	Tl	2	209	0.688	ppb	#REF!	4.54	2000.00	ND
208	Pb	2	209	73.960	ppb	#REF!	1.12	2000.00	>RL

ISTD Elements

Element			CPS Mean	RSD(%)		Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-11166.29	6.80	RHigh	55.55	-20101.8	70 - 120	ISFail
45	Sc	1	192123.69	0.48		190842.73	100.7	70 - 120	
45	Sc	2	4449341.00	2.18		5120784.50	86.9	70 - 120	
72	Ge	1	108969.84	0.54		115044.73	94.7	70 - 120	
115	In	2	5892665.50	1.49		6782184.50	86.9	70 - 120	
209	Bi	2	4827997.00	1.49		5831792.00	82.8	70 - 120	

Sample QC Report

C:\ICPCHEM\1\DATA\16E18l02.B\051SMPL.D\051SMPL.D#

Date Acquired:	May 18 2016 05:00 pm	Sample Name:	**1605074-06A**
Acq. Method:	DHL_3Fe.M	Misc Info:	SAMPICPMS_TSDOD
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 18 2016 01:12 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		Corr. Con	RSD(%)	High Limit	Flag
7	Li	2	45	71.420	ppb	#REF!	0.88	2000.00	>RL
9	Be	2	45	2.660	ppb	#REF!	0.49	2000.00	>RL
11	B	2	45	75.250	ppb	#REF!	2.32	2000.00	>RL
23	Na	1	45	5871.000	ppb	#REF!	1.92	25000.00	>RL
24	Mg	1	45	14130.000	ppb	#REF!	1.69	25000.00	>RL
27	Al	1	45	68270.000	ppb	#REF!	0.33	10000.00	OUTCAL
39	K	1	45	13170.000	ppb	#REF!	0.26	25000.00	>RL
44	Ca	2	45	161100.000	ppb	#REF!	2.24	25000.00	OUTCAL
47	Ti	1	45	518.900	ppb	#REF!	0.49	2000.00	>RL
51	V	1	45	106.100	ppb	#REF!	0.77	2000.00	>RL
52	Cr	1	45	61.300	ppb	#REF!	1.20	2000.00	>RL
55	Mn	1	45	560.400	ppb	#REF!	1.96	2000.00	>RL
56	Fe	1	72	57960.000	ppb	#REF!	1.50	10000.00	OUTCAL
59	Co	1	72	20.910	ppb	#REF!	0.75	2000.00	>RL
60	Ni	1	72	37.360	ppb	#REF!	0.30	2000.00	>RL
63	Cu	1	72	28.810	ppb	#REF!	1.02	2000.00	>RL
66	Zn	1	72	171.900	ppb	#REF!	0.86	2000.00	>RL
75	As	1	72	22.070	ppb	#REF!	1.51	2000.00	>RL
78	Se	1	72	19.570	ppb	#REF!	3.73	2000.00	>RL
88	Sr	2	115	444.000	ppb	#REF!	2.15	2000.00	>RL
95	Mo	2	115	2.013	ppb	#REF!	1.12	2000.00	J
107	Ag	2	115	0.162	ppb	#REF!	8.51	500.00	ND
111	Cd	2	115	0.828	ppb	#REF!	3.35	2000.00	J
118	Sn	2	115	6.084	ppb	#REF!	1.71	2000.00	ND
121	Sb	2	115	2.916	ppb	#REF!	2.31	500.00	J
137	Ba	2	115	563.200	ppb	#REF!	1.25	2000.00	>RL
205	Tl	2	209	0.610	ppb	#REF!	0.35	2000.00	ND
208	Pb	2	209	122.800	ppb	#REF!	0.93	2000.00	>RL

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-8985.47	2.36	55.55	-16175.8	70 - 120	ISFail
45	Sc	1	189898.05	0.51	190842.73	99.5	70 - 120	
45	Sc	2	4226834.50	2.31	5120784.50	82.5	70 - 120	
72	Ge	1	108217.73	0.32	115044.73	94.1	70 - 120	
115	In	2	5744560.00	2.66	6782184.50	84.7	70 - 120	
209	Bi	2	4818224.00	1.33	5831792.00	82.6	70 - 120	

Sample QC Report

C:\ICPCHEM\1\DATA\16E18l02.B\052SMPL.D\052SMPL.D#

Date Acquired:	May 18 2016 05:06 pm	Sample Name:	**1605074-07A**
Acq. Method:	DHL_3Fe.M	Misc Info:	SAMPICPMS_TSDOD
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 18 2016 01:12 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		Corr. Con	RSD(%)	High Limit	Flag
7	Li	2	45	75.780	ppb	#REF!	1.82	2000.00	>RL
9	Be	2	45	2.638	ppb	#REF!	1.68	2000.00	>RL
11	B	2	45	84.400	ppb	#REF!	3.82	2000.00	>RL
23	Na	1	45	7278.000	ppb	#REF!	0.28	25000.00	>RL
24	Mg	1	45	15600.000	ppb	#REF!	0.51	25000.00	>RL
27	Al	1	45	65630.000	ppb	#REF!	0.82	10000.00	OUTCAL
39	K	1	45	12700.000	ppb	#REF!	0.74	25000.00	>RL
44	Ca	2	45	160100.000	ppb	#REF!	2.47	25000.00	OUTCAL
47	Ti	1	45	546.300	ppb	#REF!	0.38	2000.00	>RL
51	V	1	45	111.800	ppb	#REF!	1.13	2000.00	>RL
52	Cr	1	45	66.840	ppb	#REF!	0.66	2000.00	>RL
55	Mn	1	45	682.400	ppb	#REF!	0.79	2000.00	>RL
56	Fe	1	72	60810.000	ppb	#REF!	1.20	10000.00	OUTCAL
59	Co	1	72	21.400	ppb	#REF!	1.05	2000.00	>RL
60	Ni	1	72	41.510	ppb	#REF!	0.88	2000.00	>RL
63	Cu	1	72	39.020	ppb	#REF!	0.70	2000.00	>RL
66	Zn	1	72	238.500	ppb	#REF!	0.63	2000.00	>RL
75	As	1	72	24.860	ppb	#REF!	0.89	2000.00	>RL
78	Se	1	72	20.290	ppb	#REF!	1.77	2000.00	>RL
88	Sr	2	115	522.700	ppb	#REF!	2.05	2000.00	>RL
95	Mo	2	115	2.943	ppb	#REF!	4.70	2000.00	J
107	Ag	2	115	0.155	ppb	#REF!	5.42	500.00	ND
111	Cd	2	115	0.910	ppb	#REF!	0.34	2000.00	J
118	Sn	2	115	6.314	ppb	#REF!	2.17	2000.00	ND
121	Sb	2	115	3.466	ppb	#REF!	4.85	500.00	J
137	Ba	2	115	924.100	ppb	#REF!	1.65	2000.00	>RL
205	Tl	2	209	0.605	ppb	#REF!	1.54	2000.00	ND
208	Pb	2	209	162.700	ppb	#REF!	1.45	2000.00	>RL

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-9966.23	2.29	55.55	-17941.4	70 - 120	ISFail
45	Sc	1	182359.55	0.23	190842.73	95.6	70 - 120	
45	Sc	2	4168292.30	2.23	5120784.50	81.4	70 - 120	
72	Ge	1	104931.16	0.82	115044.73	91.2	70 - 120	
115	In	2	5690610.00	1.34	6782184.50	83.9	70 - 120	
209	Bi	2	4797178.50	0.70	5831792.00	82.3	70 - 120	

Sample QC Report

C:\ICPCHEM\1\DATA\16E18l02.B\053SMPL.D\053SMPL.D#

Date Acquired:	May 18 2016 05:12 pm	Sample Name:	**1605074-08A**
Acq. Method:	DHL_3Fe.M	Misc Info:	SAMPICPMS_TSDOD
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 18 2016 01:12 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		Corr. Con	RSD(%)	High Limit	Flag
7	Li	2	45	129.900	ppb	#REF!	1.46	2000.00	>RL
9	Be	2	45	2.764	ppb	#REF!	3.69	2000.00	>RL
11	B	2	45	125.500	ppb	#REF!	3.48	2000.00	>RL
23	Na	1	45	9302.000	ppb	#REF!	1.01	25000.00	>RL
24	Mg	1	45	15000.000	ppb	#REF!	0.76	25000.00	>RL
27	Al	1	45	58980.000	ppb	#REF!	0.26	10000.00	OUTCAL
39	K	1	45	11160.000	ppb	#REF!	1.04	25000.00	>RL
44	Ca	2	45	266800.000	ppb	#REF!	3.08	25000.00	OUTCAL
47	Ti	1	45	276.800	ppb	#REF!	1.49	2000.00	>RL
51	V	1	45	91.300	ppb	#REF!	1.19	2000.00	>RL
52	Cr	1	45	60.630	ppb	#REF!	1.77	2000.00	>RL
55	Mn	1	45	235.500	ppb	#REF!	0.61	2000.00	>RL
56	Fe	1	72	71980.000	ppb	#REF!	1.57	10000.00	OUTCAL
59	Co	1	72	31.080	ppb	#REF!	0.81	2000.00	>RL
60	Ni	1	72	43.640	ppb	#REF!	0.95	2000.00	>RL
63	Cu	1	72	9.783	ppb	#REF!	1.08	2000.00	>RL
66	Zn	1	72	159.800	ppb	#REF!	0.46	2000.00	>RL
75	As	1	72	22.030	ppb	#REF!	0.26	2000.00	>RL
78	Se	1	72	24.020	ppb	#REF!	1.63	2000.00	>RL
88	Sr	2	115	699.100	ppb	#REF!	2.35	2000.00	>RL
95	Mo	2	115	2.270	ppb	#REF!	4.44	2000.00	J
107	Ag	2	115	0.073	ppb	#REF!	4.80	500.00	ND
111	Cd	2	115	0.514	ppb	#REF!	9.90	2000.00	J
118	Sn	2	115	5.881	ppb	#REF!	3.72	2000.00	ND
121	Sb	2	115	0.674	ppb	#REF!	3.39	500.00	ND
137	Ba	2	115	644.900	ppb	#REF!	1.34	2000.00	>RL
205	Tl	2	209	0.526	ppb	#REF!	3.98	2000.00	ND
208	Pb	2	209	22.030	ppb	#REF!	1.17	2000.00	>RL

ISTD Elements

Element			CPS Mean	RSD(%)		Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-14789.81	9.17	RHigh	55.55	-26624.9	70 - 120	ISFail
45	Sc	1	183012.75	0.69		190842.73	95.9	70 - 120	
45	Sc	2	3770898.30	1.42		5120784.50	73.6	70 - 120	
72	Ge	1	101891.07	0.62		115044.73	88.6	70 - 120	
115	In	2	5301538.50	0.49		6782184.50	78.2	70 - 120	
209	Bi	2	4555774.50	0.56		5831792.00	78.1	70 - 120	

Sample QC Report

C:\ICPCHEM\1\DATA\16E18l02.B\054SMPL.D\054SMPL.D#

Date Acquired:	May 18 2016 05:17 pm	Sample Name:	**1605074-09A**
Acq. Method:	DHL_3Fe.M	Misc Info:	SAMPICPMS_TSDOD
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 18 2016 01:12 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		Corr. Con	RSD(%)	High Limit	Flag
7	Li	2	45	100.700	ppb	#REF!	2.47	2000.00	>RL
9	Be	2	45	3.579	ppb	#REF!	2.99	2000.00	>RL
11	B	2	45	84.690	ppb	#REF!	3.75	2000.00	>RL
23	Na	1	45	2531.000	ppb	#REF!	0.40	25000.00	>RL
24	Mg	1	45	18880.000	ppb	#REF!	0.63	25000.00	>RL
27	Al	1	45	82440.000	ppb	#REF!	2.40	10000.00	OUTCAL
39	K	1	45	17690.000	ppb	#REF!	1.16	25000.00	>RL
44	Ca	2	45	189900.000	ppb	#REF!	3.38	25000.00	OUTCAL
47	Ti	1	45	692.500	ppb	#REF!	0.89	2000.00	>RL
51	V	1	45	142.200	ppb	#REF!	0.57	2000.00	>RL
52	Cr	1	45	77.350	ppb	#REF!	1.24	2000.00	>RL
55	Mn	1	45	843.400	ppb	#REF!	0.60	2000.00	>RL
56	Fe	1	72	75360.000	ppb	#REF!	1.41	10000.00	OUTCAL
59	Co	1	72	27.170	ppb	#REF!	0.62	2000.00	>RL
60	Ni	1	72	49.840	ppb	#REF!	1.54	2000.00	>RL
63	Cu	1	72	48.910	ppb	#REF!	1.06	2000.00	>RL
66	Zn	1	72	240.500	ppb	#REF!	0.48	2000.00	>RL
75	As	1	72	29.190	ppb	#REF!	0.43	2000.00	>RL
78	Se	1	72	24.230	ppb	#REF!	0.57	2000.00	>RL
88	Sr	2	115	664.600	ppb	#REF!	2.78	2000.00	>RL
95	Mo	2	115	2.613	ppb	#REF!	2.07	2000.00	J
107	Ag	2	115	0.190	ppb	#REF!	9.21	500.00	ND
111	Cd	2	115	1.082	ppb	#REF!	7.96	2000.00	J
118	Sn	2	115	6.770	ppb	#REF!	2.84	2000.00	ND
121	Sb	2	115	2.817	ppb	#REF!	3.03	500.00	J
137	Ba	2	115	827.000	ppb	#REF!	1.65	2000.00	>RL
205	Tl	2	209	0.827	ppb	#REF!	2.99	2000.00	ND
208	Pb	2	209	246.800	ppb	#REF!	1.74	2000.00	>RL

ISTD Elements

Element			CPS Mean	RSD(%)		Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-11585.89	7.07	RHigh	55.55	-20857.1	70 - 120	ISFail
45	Sc	1	180258.42	0.11		190842.73	94.5	70 - 120	
45	Sc	2	3547805.00	2.87		5120784.50	69.3	70 - 120	ISFail
72	Ge	1	102187.99	0.45		115044.73	88.8	70 - 120	
115	In	2	5215243.00	2.35		6782184.50	76.9	70 - 120	
209	Bi	2	4554226.00	1.28		5831792.00	78.1	70 - 120	

Sample QC Report

C:\ICPCHEM\1\DATA\16E18l02.B\055SMPL.D\055SMPL.D#

Date Acquired:	May 18 2016 05:23 pm	Sample Name:	**1605074-10A**
Acq. Method:	DHL_3Fe.M	Misc Info:	SAMPICPMS_TSDOD
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 18 2016 01:12 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		Corr. Con	RSD(%)	High Limit	Flag
7	Li	2	45	70.500	ppb	#REF!	1.75	2000.00	>RL
9	Be	2	45	2.412	ppb	#REF!	4.16	2000.00	>RL
11	B	2	45	73.370	ppb	#REF!	1.91	2000.00	>RL
23	Na	1	45	5703.000	ppb	#REF!	1.09	25000.00	>RL
24	Mg	1	45	13150.000	ppb	#REF!	0.02	25000.00	>RL
27	Al	1	45	55590.000	ppb	#REF!	0.91	10000.00	OUTCAL
39	K	1	45	11460.000	ppb	#REF!	0.13	25000.00	>RL
44	Ca	2	45	191300.000	ppb	#REF!	2.68	25000.00	OUTCAL
47	Ti	1	45	406.700	ppb	#REF!	0.59	2000.00	>RL
51	V	1	45	104.500	ppb	#REF!	0.77	2000.00	>RL
52	Cr	1	45	52.220	ppb	#REF!	0.52	2000.00	>RL
55	Mn	1	45	555.700	ppb	#REF!	0.80	2000.00	>RL
56	Fe	1	72	52810.000	ppb	#REF!	1.56	10000.00	OUTCAL
59	Co	1	72	20.030	ppb	#REF!	0.32	2000.00	>RL
60	Ni	1	72	32.300	ppb	#REF!	0.64	2000.00	>RL
63	Cu	1	72	26.330	ppb	#REF!	0.71	2000.00	>RL
66	Zn	1	72	132.800	ppb	#REF!	1.98	2000.00	>RL
75	As	1	72	28.800	ppb	#REF!	0.78	2000.00	>RL
78	Se	1	72	18.190	ppb	#REF!	4.76	2000.00	>RL
88	Sr	2	115	445.600	ppb	#REF!	2.37	2000.00	>RL
95	Mo	2	115	1.733	ppb	#REF!	1.79	2000.00	ND
107	Ag	2	115	0.108	ppb	#REF!	5.11	500.00	ND
111	Cd	2	115	0.653	ppb	#REF!	8.36	2000.00	J
118	Sn	2	115	5.429	ppb	#REF!	2.45	2000.00	ND
121	Sb	2	115	3.596	ppb	#REF!	0.44	500.00	J
137	Ba	2	115	943.000	ppb	#REF!	1.44	2000.00	>RL
205	Tl	2	209	0.518	ppb	#REF!	1.73	2000.00	ND
208	Pb	2	209	372.700	ppb	#REF!	1.15	2000.00	>RL

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-6527.09	1.84	55.55	-11750.2	70 - 120	ISFail
45	Sc	1	177616.44	0.65	190842.73	93.1	70 - 120	
45	Sc	2	3612853.80	2.25	5120784.50	70.6	70 - 120	
72	Ge	1	102199.63	0.66	115044.73	88.8	70 - 120	
115	In	2	5384444.00	1.93	6782184.50	79.4	70 - 120	
209	Bi	2	4681870.00	0.88	5831792.00	80.3	70 - 120	

Sample QC Report

C:\ICPCHEM\1\DATA\16E18l02.B\056SMPL.D\056SMPL.D#

Date Acquired:	May 18 2016 05:29 pm	Sample Name:	**1605074-11A**
Acq. Method:	DHL_3Fe.M	Misc Info:	SAMPICPMS_TSDOD
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 18 2016 01:12 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		Corr. Con	RSD(%)	High Limit	Flag
7	Li	2	45	116.400	ppb	#REF!	1.44	2000.00	>RL
9	Be	2	45	3.171	ppb	#REF!	3.12	2000.00	>RL
11	B	2	45	127.900	ppb	#REF!	2.02	2000.00	>RL
23	Na	1	45	13620.000	ppb	#REF!	0.41	25000.00	>RL
24	Mg	1	45	19270.000	ppb	#REF!	0.26	25000.00	>RL
27	Al	1	45	79820.000	ppb	#REF!	1.34	10000.00	OUTCAL
39	K	1	45	15860.000	ppb	#REF!	1.48	25000.00	>RL
44	Ca	2	45	184900.000	ppb	#REF!	2.50	25000.00	OUTCAL
47	Ti	1	45	500.100	ppb	#REF!	0.31	2000.00	>RL
51	V	1	45	126.400	ppb	#REF!	1.14	2000.00	>RL
52	Cr	1	45	97.420	ppb	#REF!	1.67	2000.00	>RL
55	Mn	1	45	593.400	ppb	#REF!	1.41	2000.00	>RL
56	Fe	1	72	68500.000	ppb	#REF!	0.98	10000.00	OUTCAL
59	Co	1	72	26.130	ppb	#REF!	0.17	2000.00	>RL
60	Ni	1	72	52.720	ppb	#REF!	0.30	2000.00	>RL
63	Cu	1	72	23.560	ppb	#REF!	0.97	2000.00	>RL
66	Zn	1	72	170.100	ppb	#REF!	0.76	2000.00	>RL
75	As	1	72	24.790	ppb	#REF!	0.04	2000.00	>RL
78	Se	1	72	22.790	ppb	#REF!	1.64	2000.00	>RL
88	Sr	2	115	554.300	ppb	#REF!	2.75	2000.00	>RL
95	Mo	2	115	4.306	ppb	#REF!	1.53	2000.00	J
107	Ag	2	115	0.128	ppb	#REF!	8.64	500.00	ND
111	Cd	2	115	0.898	ppb	#REF!	6.41	2000.00	J
118	Sn	2	115	6.386	ppb	#REF!	2.86	2000.00	ND
121	Sb	2	115	3.629	ppb	#REF!	1.74	500.00	J
137	Ba	2	115	765.500	ppb	#REF!	2.54	2000.00	>RL
205	Tl	2	209	0.669	ppb	#REF!	2.42	2000.00	ND
208	Pb	2	209	166.400	ppb	#REF!	1.90	2000.00	>RL

ISTD Elements

Element			CPS Mean	RSD(%)		Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-11491.77	9.49	RHigh	55.55	-20687.7	70 - 120	ISFail
45	Sc	1	177156.06	0.58		190842.73	92.8	70 - 120	
45	Sc	2	3550775.80	1.42		5120784.50	69.3	70 - 120	ISFail
72	Ge	1	101848.13	0.29		115044.73	88.5	70 - 120	
115	In	2	5301378.50	0.85		6782184.50	78.2	70 - 120	
209	Bi	2	4587912.50	0.65		5831792.00	78.7	70 - 120	

Sample QC Report

C:\ICPCHEM\1\DATA\16E18l02.B\057SMPL.D\057SMPL.D#

Date Acquired:	May 18 2016 05:35 pm	Sample Name:	**1605074-12A**
Acq. Method:	DHL_3Fe.M	Misc Info:	SAMPICPMS_TSDOD
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 18 2016 01:12 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		Corr. Con	RSD(%)	High Limit	Flag
7	Li	2	45	173.700	ppb	#REF!	2.98	2000.00	>RL
9	Be	2	45	4.023	ppb	#REF!	5.62	2000.00	>RL
11	B	2	45	162.600	ppb	#REF!	2.49	2000.00	>RL
23	Na	1	45	10140.000	ppb	#REF!	0.22	25000.00	>RL
24	Mg	1	45	17660.000	ppb	#REF!	1.32	25000.00	>RL
27	Al	1	45	65550.000	ppb	#REF!	1.38	10000.00	OUTCAL
39	K	1	45	15700.000	ppb	#REF!	0.89	25000.00	>RL
44	Ca	2	45	199100.000	ppb	#REF!	3.47	25000.00	OUTCAL
47	Ti	1	45	327.400	ppb	#REF!	1.86	2000.00	>RL
51	V	1	45	105.700	ppb	#REF!	0.75	2000.00	>RL
52	Cr	1	45	74.370	ppb	#REF!	0.80	2000.00	>RL
55	Mn	1	45	254.800	ppb	#REF!	0.35	2000.00	>RL
56	Fe	1	72	87230.000	ppb	#REF!	0.65	10000.00	OUTCAL
59	Co	1	72	35.460	ppb	#REF!	0.72	2000.00	>RL
60	Ni	1	72	57.340	ppb	#REF!	1.01	2000.00	>RL
63	Cu	1	72	9.426	ppb	#REF!	0.56	2000.00	>RL
66	Zn	1	72	191.600	ppb	#REF!	1.61	2000.00	>RL
75	As	1	72	26.130	ppb	#REF!	0.46	2000.00	>RL
78	Se	1	72	28.680	ppb	#REF!	0.81	2000.00	>RL
88	Sr	2	115	528.500	ppb	#REF!	4.57	2000.00	>RL
95	Mo	2	115	2.031	ppb	#REF!	6.38	2000.00	J
107	Ag	2	115	0.076	ppb	#REF!	10.44	500.00	ND
111	Cd	2	115	0.648	ppb	#REF!	5.94	2000.00	J
118	Sn	2	115	6.130	ppb	#REF!	4.27	2000.00	ND
121	Sb	2	115	0.196	ppb	#REF!	8.94	500.00	ND
137	Ba	2	115	512.100	ppb	#REF!	2.78	2000.00	>RL
205	Tl	2	209	0.601	ppb	#REF!	1.83	2000.00	ND
208	Pb	2	209	28.500	ppb	#REF!	1.55	2000.00	>RL

ISTD Elements

Element			CPS Mean	RSD(%)		Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-16482.95	13.24	RHigh	55.55	-29672.9	70 - 120	ISFail
45	Sc	1	177388.52	0.56		190842.73	93.0	70 - 120	
45	Sc	2	3371339.00	3.73		5120784.50	65.8	70 - 120	ISFail
72	Ge	1	102055.84	0.32		115044.73	88.7	70 - 120	
115	In	2	5189102.00	2.73		6782184.50	76.5	70 - 120	
209	Bi	2	4548763.00	1.92		5831792.00	78.0	70 - 120	

Sample QC Report

C:\ICPCHEM\1\DATA\16E18l02.B\058SMPL.D\058SMPL.D#

Date Acquired:	May 18 2016 05:41 pm	Sample Name:	**1605074-14A**
Acq. Method:	DHL_3Fe.M	Misc Info:	SAMPICPMS_TSDOD
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 18 2016 01:12 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		Corr. Con	RSD(%)	High Limit	Flag
7	Li	2	45	100.700	ppb	#REF!	3.13	2000.00	>RL
9	Be	2	45	3.206	ppb	#REF!	2.97	2000.00	>RL
11	B	2	45	83.500	ppb	#REF!	2.82	2000.00	>RL
23	Na	1	45	1857.000	ppb	#REF!	1.29	25000.00	>RL
24	Mg	1	45	15890.000	ppb	#REF!	0.67	25000.00	>RL
27	Al	1	45	77950.000	ppb	#REF!	0.42	10000.00	OUTCAL
39	K	1	45	14510.000	ppb	#REF!	0.70	25000.00	>RL
44	Ca	2	45	215700.000	ppb	#REF!	1.75	25000.00	OUTCAL
47	Ti	1	45	447.100	ppb	#REF!	1.18	2000.00	>RL
51	V	1	45	133.600	ppb	#REF!	1.43	2000.00	>RL
52	Cr	1	45	69.680	ppb	#REF!	0.95	2000.00	>RL
55	Mn	1	45	671.500	ppb	#REF!	0.70	2000.00	>RL
56	Fe	1	72	67230.000	ppb	#REF!	1.64	10000.00	OUTCAL
59	Co	1	72	24.670	ppb	#REF!	0.83	2000.00	>RL
60	Ni	1	72	41.760	ppb	#REF!	1.03	2000.00	>RL
63	Cu	1	72	22.280	ppb	#REF!	1.00	2000.00	>RL
66	Zn	1	72	185.200	ppb	#REF!	0.73	2000.00	>RL
75	As	1	72	23.360	ppb	#REF!	0.23	2000.00	>RL
78	Se	1	72	22.170	ppb	#REF!	1.38	2000.00	>RL
88	Sr	2	115	532.300	ppb	#REF!	1.79	2000.00	>RL
95	Mo	2	115	1.309	ppb	#REF!	2.04	2000.00	ND
107	Ag	2	115	0.125	ppb	#REF!	18.84	500.00	ND
111	Cd	2	115	0.828	ppb	#REF!	4.33	2000.00	J
118	Sn	2	115	5.767	ppb	#REF!	1.88	2000.00	ND
121	Sb	2	115	0.904	ppb	#REF!	4.21	500.00	ND
137	Ba	2	115	1286.000	ppb	#REF!	2.16	2000.00	>RL
205	Tl	2	209	0.623	ppb	#REF!	1.38	2000.00	ND
208	Pb	2	209	61.250	ppb	#REF!	1.22	2000.00	>RL

ISTD Elements

Element			CPS Mean	RSD(%)		Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-8554.76	25.53	RHigh	55.55	-15400.4	70 - 120	ISFail
45	Sc	1	174429.58	0.57		190842.73	91.4	70 - 120	
45	Sc	2	3278701.80	1.82		5120784.50	64.0	70 - 120	ISFail
72	Ge	1	99748.51	0.81		115044.73	86.7	70 - 120	
115	In	2	5099719.50	1.19		6782184.50	75.2	70 - 120	
209	Bi	2	4518403.50	0.57		5831792.00	77.5	70 - 120	

PDS QC Report

C:\ICPCHEM\1\DATA\16E18l02.B\059_PDS.D\059_PDS.D#

Date Acquired:	May 18 2016 05:47 pm	Sample Name:	**1605074-13A PDS**
Acq. Method:	DHL_3Fe.M	Misc Info:	PDS ICPMS_TSDOD
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 18 2016 01:12 pm	Auto Diln:	Undiluted
Instrument:	ICPMS3	Total Diln:	5.00

QC Elements

Element				Conc.		RSD(%)	Ref Conc	Spike	Range	Rec(%)	Flag
7	Li	2	45	352.40	ppb	1.42	-38518.40	200	75-125	######	Fail
9	Be	2	45	233.50	ppb	2.67	3.00	200	75-125	115.2	
11	B	2	45	283.50	ppb	3.12	83.36	200	75-125	100.1	
23	Na	1	45	6728.00	ppb	1.05	1026.00	5000	75-125	114.0	
24	Mg	1	45	21550.00	ppb	0.61	16050.00	5000	75-125	110.0	
27	Al	1	45	79190.00	ppb	1.15	76990.00	5000	75-125	44.0	Fail
39	K	1	45	23160.00	ppb	0.79	17860.00	5000	75-125	106.0	
44	Ca	2	45	124500.00	ppb	2.82	119200.00	5000	75-125	106.0	
47	Ti	1	45	597.80	ppb	0.76	384.80	200	75-125	106.5	
51	V	1	45	338.90	ppb	0.72	120.20	200	75-125	109.4	
52	Cr	1	45	292.80	ppb	0.59	72.33	200	75-125	110.2	
55	Mn	1	45	1158.00	ppb	0.57	984.60	200	75-125	86.7	
56	Fe	1	72	75820.00	ppb	0.51	71230.00	5000	75-125	91.8	
59	Co	1	72	245.70	ppb	0.65	26.31	200	75-125	109.7	
60	Ni	1	72	249.80	ppb	0.24	43.95	200	75-125	102.9	
63	Cu	1	72	238.90	ppb	0.11	31.98	200	75-125	103.5	
66	Zn	1	72	435.90	ppb	1.02	248.50	200	75-125	93.7	
75	As	1	72	234.70	ppb	0.25	33.10	200	75-125	100.8	
78	Se	1	72	203.80	ppb	1.29	24.46	200	75-125	89.7	
88	Sr	2	115	942.80	ppb	3.06	745.00	200	75-125	98.9	
95	Mo	2	115	187.50	ppb	1.87	2.31	200	75-125	92.6	
107	Ag	2	115	172.20	ppb	1.66	0.26	200	75-125	86.0	
111	Cd	2	115	183.80	ppb	2.10	1.23	200	75-125	91.3	
118	Sn	2	115	217.30	ppb	1.82	6.45	200	75-125	105.4	
121	Sb	2	115	204.50	ppb	1.98	5.87	200	75-125	99.3	
137	Ba	2	115	834.30	ppb	1.71	589.60	200	75-125	122.4	
205	Tl	2	209	213.60	ppb	1.10	0.77	200	75-125	106.4	
208	Pb	2	209	587.80	ppb	1.77	369.90	200	75-125	109.0	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-38518.40	3.08	55.55	-69341.5	70 - 120	ISFail
45	Sc	1	172054.45	0.36	190842.73	90.2	70 - 120	
45	Sc	2	3388462.00	1.95	5120784.50	66.2	70 - 120	ISFail
72	Ge	1	99128.22	0.37	115044.73	86.2	70 - 120	
115	In	2	5191682.00	2.64	6782184.50	76.5	70 - 120	
209	Bi	2	4502840.00	0.84	5831792.00	77.2	70 - 120	

MS/MSD QC Report

C:\ICPCHEM\1\DATA\16E18l02.B\060_MS.D\060_MS.D#

Date Acquired:	May 18 2016 05:53 pm	Sample Name:	**1605074-13A MS**
Acq. Method:	DHL_3Fe.M	Misc Info:	MS ICPMS_TSDOD
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 18 2016 01:12 pm	Auto Diln:	Undiluted
Instrument:	ICPMS3	Total Diln:	5.00

QC Elements

Element				Conc.		RSD(%)	Ref Conc	Spike	Range	Rec(%)	Flag
7	Li	2	45	343.30	ppb	0.88	########	200	80-120	######	Fail
9	Be	2	45	228.30	ppb	1.59	3.00	200	80-120	112.6	
11	B	2	45	272.60	ppb	2.94	83.36	200	80-120	94.6	
23	Na	1	45	6396.00	ppb	1.25	1026.00	1000	80-120	537.0	Fail
24	Mg	1	45	19790.00	ppb	0.88	16050.00	1000	80-120	374.0	Fail
27	Al	1	45	70470.00	ppb	0.55	76990.00	1000	80-120	-652.0	Fail
39	K	1	45	21780.00	ppb	0.67	17860.00	1000	80-120	392.0	Fail
44	Ca	2	45	98260.00	ppb	2.99	########	1000	80-120	######	Fail
47	Ti	1	45	577.10	ppb	0.49	384.80	200	80-120	96.2	
51	V	1	45	317.20	ppb	0.48	120.20	200	80-120	98.5	
52	Cr	1	45	272.40	ppb	1.11	72.33	200	80-120	100.0	
55	Mn	1	45	856.50	ppb	0.54	984.60	200	80-120	-64.0	Fail
56	Fe	1	72	62730.00	ppb	1.32	71230.00	1000	80-120	-850.0	Fail
59	Co	1	72	231.70	ppb	0.99	26.31	200	80-120	102.7	
60	Ni	1	72	236.60	ppb	0.27	43.95	200	80-120	96.3	
63	Cu	1	72	230.70	ppb	1.85	31.98	200	80-120	99.4	
66	Zn	1	72	398.50	ppb	1.05	248.50	200	80-120	75.0	Fail
75	As	1	72	219.20	ppb	0.62	33.10	200	80-120	93.1	
78	Se	1	72	192.10	ppb	0.40	24.46	200	80-120	83.8	
88	Sr	2	115	1700.00	ppb	1.76	745.00	200	80-120	477.5	Fail
95	Mo	2	115	173.00	ppb	1.29	2.31	200	80-120	85.3	
107	Ag	2	115	183.60	ppb	1.33	0.26	200	80-120	91.7	
111	Cd	2	115	182.20	ppb	1.83	1.23	200	80-120	90.5	
118	Sn	2	115	205.40	ppb	1.33	6.45	200	80-120	99.5	
121	Sb	2	115	65.09	ppb	1.43	5.87	200	80-120	29.6	Fail
137	Ba	2	115	914.60	ppb	2.29	589.60	200	80-120	162.5	Fail
205	Tl	2	209	209.60	ppb	0.24	0.77	200	80-120	104.4	
208	Pb	2	209	648.10	ppb	0.84	369.90	200	80-120	139.1	Fail

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)			Flag
6	Li	2	-78852.23	1.53	55.55	########	70	-	120	ISFail
45	Sc	1	173161.08	0.55	190842.73	90.7	70	-	120	
45	Sc	2	3330547.80	2.24	5120784.50	65.0	70	-	120	ISFail
72	Ge	1	100111.59	0.56	115044.73	87.0	70	-	120	
115	In	2	5104595.50	1.75	6782184.50	75.3	70	-	120	
209	Bi	2	4490572.00	0.87	5831792.00	77.0	70	-	120	

MS/MSD QC Report

C:\ICPCHEM\1\DATA\16E18l02.B\061_MS.D\061_MS.D#

Date Acquired:	May 18 2016 05:59 pm	Sample Name:	**1605074-13A MSD**
Acq. Method:	DHL_3Fe.M	Misc Info:	MSD ICPMS_TSDOD
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 18 2016 01:12 pm	Auto Diln:	Undiluted
Instrument:	ICPMS3	Total Diln:	5.00

QC Elements

Element				Conc.		RSD(%)	Ref Conc	Spike	Range	Rec(%)	Flag
7	Li	2	45	355.70	ppb	2.69	########	200	80-120	######	Fail
9	Be	2	45	231.40	ppb	1.86	3.00	200	80-120	114.2	
11	B	2	45	284.00	ppb	1.77	83.36	200	80-120	100.3	
23	Na	1	45	6474.00	ppb	0.66	1026.00	1000	80-120	544.8	Fail
24	Mg	1	45	20970.00	ppb	0.52	16050.00	1000	80-120	492.0	Fail
27	Al	1	45	78050.00	ppb	1.24	76990.00	1000	80-120	106.0	
39	K	1	45	23410.00	ppb	0.76	17860.00	1000	80-120	555.0	Fail
44	Ca	2	45	112000.00	ppb	2.07	########	1000	80-120	-720.0	Fail
47	Ti	1	45	604.40	ppb	1.99	384.80	200	80-120	109.8	
51	V	1	45	329.50	ppb	0.55	120.20	200	80-120	104.7	
52	Cr	1	45	283.70	ppb	0.98	72.33	200	80-120	105.7	
55	Mn	1	45	911.50	ppb	0.72	984.60	200	80-120	-36.5	Fail
56	Fe	1	72	70050.00	ppb	1.10	71230.00	1000	80-120	-118.0	Fail
59	Co	1	72	235.00	ppb	0.90	26.31	200	80-120	104.3	
60	Ni	1	72	241.10	ppb	1.10	43.95	200	80-120	98.6	
63	Cu	1	72	233.30	ppb	0.39	31.98	200	80-120	100.7	
66	Zn	1	72	409.50	ppb	0.22	248.50	200	80-120	80.5	
75	As	1	72	223.30	ppb	0.18	33.10	200	80-120	95.1	
78	Se	1	72	194.40	ppb	0.85	24.46	200	80-120	85.0	
88	Sr	2	115	8164.00	ppb	1.50	745.00	200	80-120	3709.5	Fail
95	Mo	2	115	175.60	ppb	2.56	2.31	200	80-120	86.6	
107	Ag	2	115	185.50	ppb	1.88	0.26	200	80-120	92.6	
111	Cd	2	115	182.20	ppb	1.24	1.23	200	80-120	90.5	
118	Sn	2	115	208.70	ppb	1.33	6.45	200	80-120	101.1	
121	Sb	2	115	65.11	ppb	1.75	5.87	200	80-120	29.6	Fail
137	Ba	2	115	998.50	ppb	2.03	589.60	200	80-120	204.5	Fail
205	Tl	2	209	214.00	ppb	1.53	0.77	200	80-120	106.6	
208	Pb	2	209	566.00	ppb	1.04	369.90	200	80-120	98.1	

ISTD Elements

Element				CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)			Flag
6	Li	2	RHig	-79402.48	5.09	55.55	########	70	-	120	ISFail
45	Sc	1		174205.03	0.22	190842.73	91.3	70	-	120	
45	Sc	2		3281719.00	2.15	5120784.50	64.1	70	-	120	ISFail
72	Ge	1		100348.16	0.23	115044.73	87.2	70	-	120	
115	In	2		5027523.00	0.94	6782184.50	74.1	70	-	120	
209	Bi	2		4435912.00	1.09	5831792.00	76.1	70	-	120	

CCV QC Report

C:\ICPCHEM\1\DATA\16E18l02.B\062CCV1.D\062CCV1.D#

Date Acquired:	May 18 2016 06:05 pm	Sample Name:	**CCV1-160518**
Acq. Method:	DHL_3Fe.M	Misc Info:	CCV ICPMS_TW
Operator:	KL	Diln Factor:	1.00
Last Cal. Update:	May 18 2016 01:12 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		RSD(%)	Expected	QC Range(%)		Rec(%)	Flag
7	Li	2	45	268.10	ppb	1.19	200.00	90 -	110	134.1	Fail
9	Be	2	45	241.60	ppb	1.92	200.00	90 -	110	120.8	Fail
11	B	2	45	215.20	ppb	2.57	200.00	90 -	110	107.6	
23	Na	1	45	5502.00	ppb	0.59	5000.00	90 -	110	110.0	Fail
24	Mg	1	45	5059.00	ppb	0.65	5000.00	90 -	110	101.2	
27	Al	1	45	4775.00	ppb	1.34	5000.00	90 -	110	95.5	
39	K	1	45	4964.00	ppb	0.95	5000.00	90 -	110	99.3	
44	Ca	2	45	4867.00	ppb	1.44	5000.00	90 -	110	97.3	
47	Ti	1	45	195.80	ppb	4.12	200.00	90 -	110	97.9	
51	V	1	45	203.20	ppb	1.17	200.00	90 -	110	101.6	
52	Cr	1	45	207.50	ppb	0.78	200.00	90 -	110	103.8	
55	Mn	1	45	190.10	ppb	0.43	200.00	90 -	110	95.1	
56	Fe	1	72	4963.00	ppb	1.83	5000.00	90 -	110	99.3	
59	Co	1	72	208.50	ppb	1.01	200.00	90 -	110	104.3	
60	Ni	1	72	202.70	ppb	0.50	200.00	90 -	110	101.4	
63	Cu	1	72	209.50	ppb	0.66	200.00	90 -	110	104.8	
66	Zn	1	72	200.20	ppb	0.79	200.00	90 -	110	100.1	
75	As	1	72	201.20	ppb	0.36	200.00	90 -	110	100.6	
78	Se	1	72	190.30	ppb	2.62	200.00	90 -	110	95.2	
88	Sr	2	115	194.80	ppb	1.51	200.00	90 -	110	97.4	
95	Mo	2	115	177.60	ppb	1.64	200.00	90 -	110	88.8	Fail
107	Ag	2	115	188.10	ppb	1.74	200.00	90 -	110	94.1	
111	Cd	2	115	187.50	ppb	1.45	200.00	90 -	110	93.8	
118	Sn	2	115	195.10	ppb	1.46	200.00	90 -	110	97.6	
121	Sb	2	115	195.40	ppb	1.81	200.00	90 -	110	97.7	
137	Ba	2	115	197.60	ppb	1.74	200.00	90 -	110	98.8	
205	Tl	2	209	202.30	ppb	2.26	200.00	90 -	110	101.2	
208	Pb	2	209	189.50	ppb	1.19	200.00	90 -	110	94.8	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)			Flag
6	Li	2	-72148.96	1.31	55.55	-129883.8	70 -	120		ISFail
45	Sc	1	169284.17	0.57	190842.73	88.7	70 -	120		
45	Sc	2	3297661.30	1.34	5120784.50	64.4	70 -	120		ISFail
72	Ge	1	101880.99	0.79	115044.73	88.6	70 -	120		
115	In	2	5150589.50	1.45	6782184.50	75.9	70 -	120		
209	Bi	2	4857618.50	0.45	5831792.00	83.3	70 -	120		

CCV QC Report

C:\ICPCHEM\1\DATA\16E18l02.B\064LCVL.D\064LCVL.D#

Date Acquired:	May 18 2016 06:17 pm	Sample Name:	**LCVL1-160518**
Acq. Method:	DHL_3Fe.M	Misc Info:	LCVLICPMS_TW
Operator:	KL	Diln Factor:	1.00
Last Cal. Update:	May 18 2016 01:12 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		RSD(%)	Expected	QC Range(%)		Rec(%)	Flag	
7	Li	2	45	13.55	ppb	0.65	5.00	70 -	130	271.0	Fail	
9	Be	2	45	1.31	ppb	6.99	1.00	70 -	130	131.4	Fail	
11	B	2	45	24.10	ppb	2.34	20.00	70 -	130	120.5		
23	Na	1	45	116.60	ppb	0.50	100.00	70 -	130	116.6		
24	Mg	1	45	106.90	ppb	1.69	100.00	70 -	130	106.9		
27	Al	1	45	115.10	ppb	2.34	100.00	70 -	130	115.1		
39	K	1	45	109.30	ppb	1.88	100.00	70 -	130	109.3		
44	Ca	2	45	107.80	ppb	1.86	100.00	70 -	130	107.8		
47	Ti	1	45	5.70	ppb	8.43	5.00	70 -	130	113.9		
51	V	1	45	1.11	ppb	2.61	1.00	70 -	130	111.4		
52	Cr	1	45	5.45	ppb	0.54	5.00	70 -	130	108.9		
55	Mn	1	45	5.16	ppb	2.23	5.00	70 -	130	103.2		
56	Fe	1	72	116.40	ppb	2.24	100.00	70 -	130	116.4		
59	Co	1	72	5.30	ppb	1.96	5.00	70 -	130	106.0		
60	Ni	1	72	5.20	ppb	3.03	5.00	70 -	130	104.0		
63	Cu	1	72	14.99	ppb	2.21	5.00	70 -	130	299.8	Fail	
66	Zn	1	72	19.32	ppb	0.87	5.00	70 -	130	386.4	Fail	
75	As	1	72	5.25	ppb	2.62	5.00	70 -	130	104.9		
78	Se	1	72	5.65	ppb	8.30	5.00	70 -	130	113.1		
88	Sr	2	115	5.49	ppb	2.68	5.00	70 -	130	109.8		
95	Mo	2	115	4.60	ppb	2.27	5.00	70 -	130	92.0		
107	Ag	2	115	1.99	ppb	2.32	2.00	70 -	130	99.5		
111	Cd	2	115	1.03	ppb	8.22	1.00	70 -	130	103.0		
118	Sn	2	115	5.26	ppb	3.02	5.00	70 -	130	105.2		
121	Sb	2	115	2.13	ppb	3.08	2.00	70 -	130	106.6		
137	Ba	2	115	5.24	ppb	2.70	5.00	70 -	130	104.8		
205	Tl	2	209	1.08	ppb	1.55	1.00	70 -	130	108.1		
208	Pb	2	209	2.98	ppb	2.33	1.00	70 -	130	298.2	Fail	See variance.

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)		Flag
6	Li	2 RHigl	-1729.08	5.36	55.55	-3112.7	70 -	120	ISFail
45	Sc	1	176122.92	1.97	190842.73	92.3	70 -	120	
45	Sc	2	3418999.00	1.22	5120784.50	66.8	70 -	120	ISFail
72	Ge	1	106642.91	1.34	115044.73	92.7	70 -	120	
115	In	2	5240118.50	1.51	6782184.50	77.3	70 -	120	
209	Bi	2	4982808.50	1.11	5831792.00	85.4	70 -	120	

CCB QC Report

C:\ICPCHEM\1\DATA\16E18l02.B\065_CCB.D\065_CCB.D#

Date Acquired:	May 18 2016 06:23 pm	Sample Name:	**CCB1-160518**
Acq. Method:	DHL_3Fe.M	Misc Info:	CCB ICPMS_TW
Operator:	KL	Diln Factor:	1.00
Last Cal. Update:	May 18 2016 01:12 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		RSD(%)	MDL S	MDL Aq	Flag
7	Li	2	45	0.212	ppb	11.68	2.00	2.00	
9	Be	2	45	0.053	ppb	22.54	0.40	0.30	
11	B	2	45	2.047	ppb	6.69	10.00	10.00	
23	Na	1	45	8.402	ppb	4.18	50.00	#####	
24	Mg	1	45	2.533	ppb	12.94	50.00	#####	
27	Al	1	45	6.931	ppb	8.18	50.00	10.00	
39	K	1	45	4.918	ppb	3.20	50.00	#####	
44	Ca	2	45	2.932	ppb	10.53	50.00	#####	
47	Ti	1	45	0.020	ppb	0.00	4.00	3.00	
51	V	1	45	0.025	ppb	14.23	4.00	3.00	
52	Cr	1	45	0.055	ppb	25.73	2.00	2.00	
55	Mn	1	45	0.141	ppb	15.34	2.00	3.00	
56	Fe	1	72	8.713	ppb	16.36	50.00	30.00	
59	Co	1	72	0.055	ppb	12.59	2.00	3.00	
60	Ni	1	72	0.077	ppb	23.63	2.00	3.00	
63	Cu	1	72	0.079	ppb	10.82	2.00	2.00	
66	Zn	1	72	2.031	ppb	24.15	4.00	2.00	FailAq
75	As	1	72	0.093	ppb	6.76	2.00	2.00	
78	Se	1	72	0.211	ppb	11.80	0.60	2.00	
88	Sr	2	115	0.487	ppb	19.69	4.00	3.00	
95	Mo	2	115	0.065	ppb	25.34	2.00	2.00	
107	Ag	2	115	0.054	ppb	20.05	0.40	1.00	
111	Cd	2	115	0.042	ppb	31.06	0.40	0.30	
118	Sn	2	115	0.090	ppb	6.99	20.00	3.00	
121	Sb	2	115	0.062	ppb	16.20	2.00	0.80	
137	Ba	2	115	0.141	ppb	11.18	2.00	3.00	
205	Tl	2	209	0.071	ppb	7.72	2.00	0.50	
208	Pb	2	209	0.110	ppb	8.11	0.40	0.30	

ISTD Elements

Element				CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	RHigh	3.65	550.15	55.55	6.6	70 - 120	ISFail
45	Sc	1		175745.50	1.92	190842.73	92.1	70 - 120	
45	Sc	2		3461458.30	1.03	5120784.50	67.6	70 - 120	ISFail
72	Ge	1		106403.94	0.37	115044.73	92.5	70 - 120	
115	In	2		5300203.50	1.30	6782184.50	78.1	70 - 120	
209	Bi	2		5074248.00	0.44	5831792.00	87.0	70 - 120	

Sample QC Report

C:\ICPCHEM\1\DATA\16E18l02.B\066SMPL.D\066SMPL.D#

Date Acquired:	May 18 2016 06:29 pm	Sample Name:	**1605074-15A**
Acq. Method:	DHL_3Fe.M	Misc Info:	SAMPICPMS_TSDOD
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 18 2016 01:12 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		Corr. Con	RSD(%)	High Limit	Flag
7	Li	2	45	112.300	ppb	#REF!	1.78	2000.00	>RL
9	Be	2	45	2.345	ppb	#REF!	8.87	2000.00	>RL
11	B	2	45	89.220	ppb	#REF!	3.47	2000.00	>RL
23	Na	1	45	3864.000	ppb	#REF!	2.86	25000.00	>RL
24	Mg	1	45	11890.000	ppb	#REF!	2.26	25000.00	>RL
27	Al	1	45	53990.000	ppb	#REF!	3.20	10000.00	OUTCAL
39	K	1	45	10380.000	ppb	#REF!	2.70	25000.00	>RL
44	Ca	2	45	406700.000	ppb	#REF!	4.44	25000.00	OUTCAL
47	Ti	1	45	322.800	ppb	#REF!	1.80	2000.00	>RL
51	V	1	45	99.210	ppb	#REF!	2.25	2000.00	>RL
52	Cr	1	45	51.780	ppb	#REF!	1.86	2000.00	>RL
55	Mn	1	45	261.100	ppb	#REF!	2.36	2000.00	>RL
56	Fe	1	72	59700.000	ppb	#REF!	1.92	10000.00	OUTCAL
59	Co	1	72	14.850	ppb	#REF!	1.74	2000.00	>RL
60	Ni	1	72	25.160	ppb	#REF!	1.87	2000.00	>RL
63	Cu	1	72	11.160	ppb	#REF!	1.37	2000.00	>RL
66	Zn	1	72	120.000	ppb	#REF!	1.35	2000.00	>RL
75	As	1	72	20.790	ppb	#REF!	1.72	2000.00	>RL
78	Se	1	72	16.380	ppb	#REF!	3.04	2000.00	>RL
88	Sr	2	115	1236.000	ppb	#REF!	3.34	2000.00	>RL
95	Mo	2	115	1.560	ppb	#REF!	1.84	2000.00	ND
107	Ag	2	115	0.095	ppb	#REF!	6.11	500.00	ND
111	Cd	2	115	0.517	ppb	#REF!	10.43	2000.00	J
118	Sn	2	115	5.258	ppb	#REF!	5.00	2000.00	ND
121	Sb	2	115	0.214	ppb	#REF!	4.39	500.00	ND
137	Ba	2	115	682.200	ppb	#REF!	1.99	2000.00	>RL
205	Tl	2	209	0.423	ppb	#REF!	4.95	2000.00	ND
208	Pb	2	209	23.970	ppb	#REF!	2.12	2000.00	>RL

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-10987.20	4.22	55.55	-19779.4	70 - 120	ISFail
45	Sc	1	183391.50	2.47	190842.73	96.1	70 - 120	
45	Sc	2	3468124.30	3.62	5120784.50	67.7	70 - 120	ISFail
72	Ge	1	102041.71	2.24	115044.73	88.7	70 - 120	
115	In	2	5582901.00	2.77	6782184.50	82.3	70 - 120	
209	Bi	2	4671308.00	1.43	5831792.00	80.1	70 - 120	

Sample QC Report

C:\ICPCHEM\1\DATA\16E18l02.B\067SMPL.D\067SMPL.D#

Date Acquired:	May 18 2016 06:35 pm	Sample Name:	**1605074-16A**
Acq. Method:	DHL_3Fe.M	Misc Info:	SAMPICPMS_TSDOD
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 18 2016 01:12 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		Corr. Con	RSD(%)	High Limit	Flag
7	Li	2	45	164.400	ppb	#REF!	1.00	2000.00	>RL
9	Be	2	45	2.995	ppb	#REF!	1.25	2000.00	>RL
11	B	2	45	107.900	ppb	#REF!	2.38	2000.00	>RL
23	Na	1	45	6285.000	ppb	#REF!	1.10	25000.00	>RL
24	Mg	1	45	11830.000	ppb	#REF!	1.22	25000.00	>RL
27	Al	1	45	49340.000	ppb	#REF!	0.52	10000.00	OUTCAL
39	K	1	45	11570.000	ppb	#REF!	1.47	25000.00	>RL
44	Ca	2	45	308900.000	ppb	#REF!	2.86	25000.00	OUTCAL
47	Ti	1	45	323.900	ppb	#REF!	1.05	2000.00	>RL
51	V	1	45	78.850	ppb	#REF!	1.18	2000.00	>RL
52	Cr	1	45	47.960	ppb	#REF!	0.42	2000.00	>RL
55	Mn	1	45	326.800	ppb	#REF!	1.01	2000.00	>RL
56	Fe	1	72	60480.000	ppb	#REF!	0.31	10000.00	OUTCAL
59	Co	1	72	30.340	ppb	#REF!	0.96	2000.00	>RL
60	Ni	1	72	33.710	ppb	#REF!	0.32	2000.00	>RL
63	Cu	1	72	8.393	ppb	#REF!	0.97	2000.00	>RL
66	Zn	1	72	147.700	ppb	#REF!	0.80	2000.00	>RL
75	As	1	72	17.780	ppb	#REF!	1.25	2000.00	>RL
78	Se	1	72	20.350	ppb	#REF!	1.75	2000.00	>RL
88	Sr	2	115	1058.000	ppb	#REF!	2.37	2000.00	>RL
95	Mo	2	115	1.643	ppb	#REF!	8.39	2000.00	ND
107	Ag	2	115	0.072	ppb	#REF!	16.14	500.00	ND
111	Cd	2	115	0.401	ppb	#REF!	8.16	2000.00	J
118	Sn	2	115	5.314	ppb	#REF!	1.04	2000.00	ND
121	Sb	2	115	0.159	ppb	#REF!	6.80	500.00	ND
137	Ba	2	115	175.700	ppb	#REF!	0.97	2000.00	>RL
205	Tl	2	209	0.390	ppb	#REF!	1.14	2000.00	ND
208	Pb	2	209	21.020	ppb	#REF!	0.64	2000.00	>RL

ISTD Elements

Element			CPS Mean	RSD(%)		Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-10992.62	10.08	RHigh	55.55	-19789.1	70 - 120	ISFail
45	Sc	1	179554.73	2.17		190842.73	94.1	70 - 120	
45	Sc	2	2796577.30	1.75		5120784.50	54.6	70 - 120	ISFail
72	Ge	1	100760.71	1.85		115044.73	87.6	70 - 120	
115	In	2	4986431.00	1.69		6782184.50	73.5	70 - 120	
209	Bi	2	4454372.00	0.79		5831792.00	76.4	70 - 120	

Sample QC Report

C:\ICPCHEM\1\DATA\16E18l02.B\068SMPL.D\068SMPL.D#

Date Acquired:	May 18 2016 06:41 pm	Sample Name:	**1605074-17A**
Acq. Method:	DHL_3Fe.M	Misc Info:	SAMPICPMS_TSDOD
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 18 2016 01:12 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		Corr. Con	RSD(%)	High Limit	Flag
7	Li	2	45	213.700	ppb	#REF!	1.71	2000.00	>RL
9	Be	2	45	4.595	ppb	#REF!	3.05	2000.00	>RL
11	B	2	45	171.200	ppb	#REF!	2.87	2000.00	>RL
23	Na	1	45	10450.000	ppb	#REF!	1.26	25000.00	>RL
24	Mg	1	45	15830.000	ppb	#REF!	1.25	25000.00	>RL
27	Al	1	45	61520.000	ppb	#REF!	0.60	10000.00	OUTCAL
39	K	1	45	16160.000	ppb	#REF!	1.50	25000.00	>RL
44	Ca	2	45	164300.000	ppb	#REF!	4.07	25000.00	OUTCAL
47	Ti	1	45	251.100	ppb	#REF!	1.74	2000.00	>RL
51	V	1	45	101.100	ppb	#REF!	0.70	2000.00	>RL
52	Cr	1	45	60.270	ppb	#REF!	1.17	2000.00	>RL
55	Mn	1	45	519.700	ppb	#REF!	0.05	2000.00	>RL
56	Fe	1	72	104900.000	ppb	#REF!	1.22	10000.00	OUTCAL
59	Co	1	72	44.610	ppb	#REF!	0.61	2000.00	>RL
60	Ni	1	72	55.190	ppb	#REF!	1.43	2000.00	>RL
63	Cu	1	72	11.170	ppb	#REF!	1.17	2000.00	>RL
66	Zn	1	72	261.000	ppb	#REF!	0.48	2000.00	>RL
75	As	1	72	36.770	ppb	#REF!	0.48	2000.00	>RL
78	Se	1	72	36.590	ppb	#REF!	3.51	2000.00	>RL
88	Sr	2	115	993.200	ppb	#REF!	2.49	2000.00	>RL
95	Mo	2	115	3.017	ppb	#REF!	5.86	2000.00	J
107	Ag	2	115	0.090	ppb	#REF!	15.42	500.00	ND
111	Cd	2	115	0.680	ppb	#REF!	12.66	2000.00	J
118	Sn	2	115	5.792	ppb	#REF!	1.63	2000.00	ND
121	Sb	2	115	0.281	ppb	#REF!	2.43	500.00	ND
137	Ba	2	115	76.240	ppb	#REF!	3.06	2000.00	>RL
205	Tl	2	209	0.533	ppb	#REF!	1.73	2000.00	ND
208	Pb	2	209	34.390	ppb	#REF!	1.49	2000.00	>RL

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-14616.87	3.43	55.55	-26313.6	70 - 120	ISFail
45	Sc	1	187870.14	0.90	190842.73	98.4	70 - 120	
45	Sc	2	2792024.80	3.31	5120784.50	54.5	70 - 120	ISFail
72	Ge	1	107403.73	0.69	115044.73	93.4	70 - 120	
115	In	2	5036702.00	1.97	6782184.50	74.3	70 - 120	
209	Bi	2	4690538.50	0.96	5831792.00	80.4	70 - 120	

Sample QC Report

C:\ICPCHEM\1\DATA\16E18l02.B\069SMPL.D\069SMPL.D#

Date Acquired:	May 18 2016 06:47 pm	Sample Name:	**1605074-18A**
Acq. Method:	DHL_3Fe.M	Misc Info:	SAMPICPMS_TSDOD
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 18 2016 01:12 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		Corr. Con	RSD(%)	High Limit	Flag
7	Li	2	45	89.570	ppb	#REF!	1.33	2000.00	>RL
9	Be	2	45	3.216	ppb	#REF!	0.50	2000.00	>RL
11	B	2	45	78.830	ppb	#REF!	2.10	2000.00	>RL
23	Na	1	45	846.800	ppb	#REF!	0.65	25000.00	>RL
24	Mg	1	45	14270.000	ppb	#REF!	0.76	25000.00	>RL
27	Al	1	45	64650.000	ppb	#REF!	1.07	10000.00	OUTCAL
39	K	1	45	15110.000	ppb	#REF!	2.05	25000.00	>RL
44	Ca	2	45	104900.000	ppb	#REF!	2.62	25000.00	OUTCAL
47	Ti	1	45	308.500	ppb	#REF!	1.29	2000.00	>RL
51	V	1	45	105.100	ppb	#REF!	1.23	2000.00	>RL
52	Cr	1	45	65.290	ppb	#REF!	0.94	2000.00	>RL
55	Mn	1	45	559.000	ppb	#REF!	0.82	2000.00	>RL
56	Fe	1	72	61470.000	ppb	#REF!	1.32	10000.00	OUTCAL
59	Co	1	72	23.370	ppb	#REF!	0.77	2000.00	>RL
60	Ni	1	72	38.840	ppb	#REF!	0.99	2000.00	>RL
63	Cu	1	72	29.470	ppb	#REF!	0.45	2000.00	>RL
66	Zn	1	72	212.300	ppb	#REF!	0.46	2000.00	>RL
75	As	1	72	33.420	ppb	#REF!	0.54	2000.00	>RL
78	Se	1	72	20.180	ppb	#REF!	1.07	2000.00	>RL
88	Sr	2	115	331.900	ppb	#REF!	1.54	2000.00	>RL
95	Mo	2	115	2.051	ppb	#REF!	1.59	2000.00	J
107	Ag	2	115	0.154	ppb	#REF!	7.12	500.00	ND
111	Cd	2	115	0.838	ppb	#REF!	3.75	2000.00	J
118	Sn	2	115	6.015	ppb	#REF!	1.90	2000.00	ND
121	Sb	2	115	5.024	ppb	#REF!	0.71	500.00	>RL
137	Ba	2	115	568.600	ppb	#REF!	1.26	2000.00	>RL
205	Tl	2	209	0.608	ppb	#REF!	3.33	2000.00	ND
208	Pb	2	209	789.400	ppb	#REF!	1.29	2000.00	>RL

ISTD Elements

Element			CPS Mean	RSD(%)		Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-6741.30	8.81	RHigh	55.55	-12135.8	70 - 120	ISFail
45	Sc	1	190480.42	0.37		190842.73	99.8	70 - 120	
45	Sc	2	3070445.00	2.46		5120784.50	60.0	70 - 120	ISFail
72	Ge	1	110081.20	0.51		115044.73	95.7	70 - 120	
115	In	2	5379524.00	1.17		6782184.50	79.3	70 - 120	
209	Bi	2	4982444.50	0.68		5831792.00	85.4	70 - 120	

Sample QC Report

C:\ICPCHEM\1\DATA\16E18l02.B\070SMPL.D\070SMPL.D#

Date Acquired:	May 18 2016 06:53 pm	Sample Name:	**1605074-19A**
Acq. Method:	DHL_3Fe.M	Misc Info:	SAMPICPMS_TSDOD
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 18 2016 01:12 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		Corr. Con	RSD(%)	High Limit	Flag
7	Li	2	45	109.700	ppb	#REF!	1.35	2000.00	>RL
9	Be	2	45	3.455	ppb	#REF!	1.30	2000.00	>RL
11	B	2	45	80.110	ppb	#REF!	2.99	2000.00	>RL
23	Na	1	45	2122.000	ppb	#REF!	0.48	25000.00	>RL
24	Mg	1	45	16010.000	ppb	#REF!	0.42	25000.00	>RL
27	Al	1	45	76800.000	ppb	#REF!	1.52	10000.00	OUTCAL
39	K	1	45	14870.000	ppb	#REF!	0.88	25000.00	>RL
44	Ca	2	45	183900.000	ppb	#REF!	3.07	25000.00	OUTCAL
47	Ti	1	45	408.200	ppb	#REF!	1.23	2000.00	>RL
51	V	1	45	138.500	ppb	#REF!	1.42	2000.00	>RL
52	Cr	1	45	70.310	ppb	#REF!	0.64	2000.00	>RL
55	Mn	1	45	558.800	ppb	#REF!	0.75	2000.00	>RL
56	Fe	1	72	71800.000	ppb	#REF!	0.69	10000.00	OUTCAL
59	Co	1	72	25.150	ppb	#REF!	0.26	2000.00	>RL
60	Ni	1	72	42.330	ppb	#REF!	0.52	2000.00	>RL
63	Cu	1	72	21.870	ppb	#REF!	0.96	2000.00	>RL
66	Zn	1	72	176.600	ppb	#REF!	0.80	2000.00	>RL
75	As	1	72	24.960	ppb	#REF!	0.12	2000.00	>RL
78	Se	1	72	22.160	ppb	#REF!	0.89	2000.00	>RL
88	Sr	2	115	487.900	ppb	#REF!	2.09	2000.00	>RL
95	Mo	2	115	1.250	ppb	#REF!	2.25	2000.00	ND
107	Ag	2	115	0.141	ppb	#REF!	1.94	500.00	ND
111	Cd	2	115	0.941	ppb	#REF!	1.22	2000.00	J
118	Sn	2	115	5.795	ppb	#REF!	2.74	2000.00	ND
121	Sb	2	115	0.536	ppb	#REF!	6.26	500.00	ND
137	Ba	2	115	960.100	ppb	#REF!	1.51	2000.00	>RL
205	Tl	2	209	0.647	ppb	#REF!	0.73	2000.00	ND
208	Pb	2	209	37.010	ppb	#REF!	2.84	2000.00	>RL

ISTD Elements

Element			CPS Mean	RSD(%)		Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-8873.50	13.28	RHigh	55.55	-15974.2	70 - 120	ISFail
45	Sc	1	183594.20	0.32		190842.73	96.2	70 - 120	
45	Sc	2	3120144.00	3.11		5120784.50	60.9	70 - 120	ISFail
72	Ge	1	105078.20	0.68		115044.73	91.3	70 - 120	
115	In	2	5318751.50	1.38		6782184.50	78.4	70 - 120	
209	Bi	2	4810630.50	1.17		5831792.00	82.5	70 - 120	

Sample QC Report

C:\ICPCHEM\1\DATA\16E18l02.B\071SMPL.D\071SMPL.D#

Date Acquired:	May 18 2016 06:59 pm	Sample Name:	**1605074-20A**
Acq. Method:	DHL_3Fe.M	Misc Info:	SAMPICPMS_TSDOD
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 18 2016 01:12 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		Corr. Con	RSD(%)	High Limit	Flag
7	Li	2	45	133.600	ppb	#REF!	2.50	2000.00	>RL
9	Be	2	45	2.994	ppb	#REF!	3.19	2000.00	>RL
11	B	2	45	103.100	ppb	#REF!	3.72	2000.00	>RL
23	Na	1	45	4500.000	ppb	#REF!	1.56	25000.00	>RL
24	Mg	1	45	14290.000	ppb	#REF!	1.01	25000.00	>RL
27	Al	1	45	62680.000	ppb	#REF!	1.70	10000.00	OUTCAL
39	K	1	45	11830.000	ppb	#REF!	0.16	25000.00	>RL
44	Ca	2	45	291000.000	ppb	#REF!	4.72	25000.00	OUTCAL
47	Ti	1	45	354.500	ppb	#REF!	1.24	2000.00	>RL
51	V	1	45	117.200	ppb	#REF!	0.91	2000.00	>RL
52	Cr	1	45	59.280	ppb	#REF!	1.14	2000.00	>RL
55	Mn	1	45	297.600	ppb	#REF!	1.12	2000.00	>RL
56	Fe	1	72	72330.000	ppb	#REF!	1.43	10000.00	OUTCAL
59	Co	1	72	21.050	ppb	#REF!	0.86	2000.00	>RL
60	Ni	1	72	31.850	ppb	#REF!	0.61	2000.00	>RL
63	Cu	1	72	13.820	ppb	#REF!	0.89	2000.00	>RL
66	Zn	1	72	161.300	ppb	#REF!	0.40	2000.00	>RL
75	As	1	72	23.120	ppb	#REF!	1.20	2000.00	>RL
78	Se	1	72	18.950	ppb	#REF!	3.30	2000.00	>RL
88	Sr	2	115	815.000	ppb	#REF!	3.10	2000.00	>RL
95	Mo	2	115	1.459	ppb	#REF!	9.64	2000.00	ND
107	Ag	2	115	0.082	ppb	#REF!	9.27	500.00	ND
111	Cd	2	115	0.516	ppb	#REF!	7.34	2000.00	J
118	Sn	2	115	5.782	ppb	#REF!	2.82	2000.00	ND
121	Sb	2	115	0.412	ppb	#REF!	7.21	500.00	ND
137	Ba	2	115	724.200	ppb	#REF!	4.14	2000.00	>RL
205	Tl	2	209	0.475	ppb	#REF!	3.57	2000.00	ND
208	Pb	2	209	25.130	ppb	#REF!	2.68	2000.00	>RL

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-9711.07	4.68	55.55	-17482.0	70 - 120	ISFail
45	Sc	1	188092.98	1.15	190842.73	98.6	70 - 120	
45	Sc	2	2853758.30	4.23	5120784.50	55.7	70 - 120	ISFail
72	Ge	1	106078.70	1.15	115044.73	92.2	70 - 120	
115	In	2	4917328.50	3.40	6782184.50	72.5	70 - 120	
209	Bi	2	4420018.50	2.52	5831792.00	75.8	70 - 120	

Sample QC Report

C:\ICPCHEM\1\DATA\16E18l02.B\072SMPL.D\072SMPL.D#

Date Acquired:	May 18 2016 07:05 pm	Sample Name:	**1605074-21A**
Acq. Method:	DHL_3Fe.M	Misc Info:	SAMPICPMS_TSDOD
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 18 2016 01:12 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		Corr. Con	RSD(%)	High Limit	Flag
7	Li	2	45	184.700	ppb	#REF!	4.45	2000.00	>RL
9	Be	2	45	3.233	ppb	#REF!	7.11	2000.00	>RL
11	B	2	45	119.300	ppb	#REF!	5.75	2000.00	>RL
23	Na	1	45	6557.000	ppb	#REF!	0.86	25000.00	>RL
24	Mg	1	45	12190.000	ppb	#REF!	1.29	25000.00	>RL
27	Al	1	45	52270.000	ppb	#REF!	1.36	10000.00	OUTCAL
39	K	1	45	12430.000	ppb	#REF!	0.90	25000.00	>RL
44	Ca	2	45	285800.000	ppb	#REF!	6.65	25000.00	OUTCAL
47	Ti	1	45	304.500	ppb	#REF!	2.75	2000.00	>RL
51	V	1	45	83.850	ppb	#REF!	0.84	2000.00	>RL
52	Cr	1	45	50.820	ppb	#REF!	0.95	2000.00	>RL
55	Mn	1	45	263.200	ppb	#REF!	0.74	2000.00	>RL
56	Fe	1	72	67360.000	ppb	#REF!	1.42	10000.00	OUTCAL
59	Co	1	72	26.610	ppb	#REF!	1.33	2000.00	>RL
60	Ni	1	72	32.400	ppb	#REF!	0.69	2000.00	>RL
63	Cu	1	72	8.442	ppb	#REF!	1.00	2000.00	>RL
66	Zn	1	72	159.600	ppb	#REF!	0.95	2000.00	>RL
75	As	1	72	19.720	ppb	#REF!	0.58	2000.00	>RL
78	Se	1	72	19.630	ppb	#REF!	3.45	2000.00	>RL
88	Sr	2	115	955.900	ppb	#REF!	6.01	2000.00	>RL
95	Mo	2	115	1.827	ppb	#REF!	6.26	2000.00	ND
107	Ag	2	115	0.069	ppb	#REF!	14.26	500.00	ND
111	Cd	2	115	0.459	ppb	#REF!	24.28	2000.00	J
118	Sn	2	115	5.360	ppb	#REF!	6.59	2000.00	ND
121	Sb	2	115	0.136	ppb	#REF!	1.81	500.00	ND
137	Ba	2	115	148.100	ppb	#REF!	5.38	2000.00	>RL
205	Tl	2	209	0.362	ppb	#REF!	1.87	2000.00	ND
208	Pb	2	209	20.790	ppb	#REF!	4.03	2000.00	>RL

ISTD Elements

Element			CPS Mean	RSD(%)		Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-12552.10	1.87		55.55	-22596.5	70 - 120	ISFail
45	Sc	1	173848.95	0.40		190842.73	91.1	70 - 120	
45	Sc	2	2908773.00	7.32	RHigh	5120784.50	56.8	70 - 120	ISFail
72	Ge	1	100176.43	0.22		115044.73	87.1	70 - 120	
115	In	2	5362720.50	6.25	RHigh	6782184.50	79.1	70 - 120	
209	Bi	2	4849040.00	4.75		5831792.00	83.1	70 - 120	

Sample QC Report

C:\ICPCHEM\1\DATA\16E18l02.B\073SMPL.D\073SMPL.D#

Date Acquired:	May 18 2016 07:11 pm	Sample Name:	**1605074-22A**
Acq. Method:	DHL_3Fe.M	Misc Info:	SAMPICPMS_TSDOD
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 18 2016 01:12 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		Corr. Con	RSD(%)	High Limit	Flag
7	Li	2	45	218.600	ppb	#REF!	0.73	2000.00	>RL
9	Be	2	45	4.602	ppb	#REF!	1.38	2000.00	>RL
11	B	2	45	163.200	ppb	#REF!	3.22	2000.00	>RL
23	Na	1	45	10140.000	ppb	#REF!	0.27	25000.00	>RL
24	Mg	1	45	16120.000	ppb	#REF!	0.13	25000.00	>RL
27	Al	1	45	61900.000	ppb	#REF!	0.44	10000.00	OUTCAL
39	K	1	45	16020.000	ppb	#REF!	1.68	25000.00	>RL
44	Ca	2	45	199900.000	ppb	#REF!	2.47	25000.00	OUTCAL
47	Ti	1	45	254.100	ppb	#REF!	0.69	2000.00	>RL
51	V	1	45	102.300	ppb	#REF!	0.11	2000.00	>RL
52	Cr	1	45	59.740	ppb	#REF!	1.00	2000.00	>RL
55	Mn	1	45	615.900	ppb	#REF!	0.99	2000.00	>RL
56	Fe	1	72	99550.000	ppb	#REF!	2.24	10000.00	OUTCAL
59	Co	1	72	58.430	ppb	#REF!	0.72	2000.00	>RL
60	Ni	1	72	60.840	ppb	#REF!	0.55	2000.00	>RL
63	Cu	1	72	11.140	ppb	#REF!	1.45	2000.00	>RL
66	Zn	1	72	261.700	ppb	#REF!	0.82	2000.00	>RL
75	As	1	72	36.120	ppb	#REF!	0.76	2000.00	>RL
78	Se	1	72	39.600	ppb	#REF!	3.41	2000.00	>RL
88	Sr	2	115	1057.000	ppb	#REF!	1.94	2000.00	>RL
95	Mo	2	115	2.921	ppb	#REF!	3.00	2000.00	J
107	Ag	2	115	0.075	ppb	#REF!	11.09	500.00	ND
111	Cd	2	115	0.597	ppb	#REF!	12.64	2000.00	J
118	Sn	2	115	5.724	ppb	#REF!	1.11	2000.00	ND
121	Sb	2	115	0.167	ppb	#REF!	9.75	500.00	ND
137	Ba	2	115	60.270	ppb	#REF!	1.75	2000.00	>RL
205	Tl	2	209	0.486	ppb	#REF!	1.67	2000.00	ND
208	Pb	2	209	33.900	ppb	#REF!	0.95	2000.00	>RL

ISTD Elements

Element			CPS Mean	RSD(%)		Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-14117.88	7.25	RHigh	55.55	-25415.3	70 - 120	ISFail
45	Sc	1	186729.80	0.07		190842.73	97.8	70 - 120	
45	Sc	2	2802014.00	3.16		5120784.50	54.7	70 - 120	ISFail
72	Ge	1	105564.34	0.22		115044.73	91.8	70 - 120	
115	In	2	5090457.00	2.20		6782184.50	75.1	70 - 120	
209	Bi	2	4726468.00	0.51		5831792.00	81.0	70 - 120	

Sample QC Report

C:\ICPCHEM\1\DATA\16E18l02.B\074SMPL.D\074SMPL.D#

Date Acquired:	May 18 2016 07:17 pm	Sample Name:	**1605074-23A**
Acq. Method:	DHL_3Fe.M	Misc Info:	SAMPICPMS_TSDOD
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 18 2016 01:12 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		Corr. Con	RSD(%)	High Limit	Flag
7	Li	2	45	92.830	ppb	#REF!	1.55	2000.00	>RL
9	Be	2	45	3.269	ppb	#REF!	1.79	2000.00	>RL
11	B	2	45	79.370	ppb	#REF!	1.95	2000.00	>RL
23	Na	1	45	1124.000	ppb	#REF!	1.20	25000.00	>RL
24	Mg	1	45	15090.000	ppb	#REF!	1.16	25000.00	>RL
27	Al	1	45	69570.000	ppb	#REF!	1.54	10000.00	OUTCAL
39	K	1	45	16880.000	ppb	#REF!	0.69	25000.00	>RL
44	Ca	2	45	98700.000	ppb	#REF!	2.46	25000.00	OUTCAL
47	Ti	1	45	318.200	ppb	#REF!	1.90	2000.00	>RL
51	V	1	45	118.000	ppb	#REF!	1.27	2000.00	>RL
52	Cr	1	45	72.830	ppb	#REF!	1.67	2000.00	>RL
55	Mn	1	45	589.500	ppb	#REF!	0.76	2000.00	>RL
56	Fe	1	72	67850.000	ppb	#REF!	1.41	10000.00	OUTCAL
59	Co	1	72	26.360	ppb	#REF!	1.13	2000.00	>RL
60	Ni	1	72	43.700	ppb	#REF!	0.52	2000.00	>RL
63	Cu	1	72	29.320	ppb	#REF!	0.01	2000.00	>RL
66	Zn	1	72	222.500	ppb	#REF!	0.45	2000.00	>RL
75	As	1	72	31.470	ppb	#REF!	1.14	2000.00	>RL
78	Se	1	72	22.200	ppb	#REF!	2.35	2000.00	>RL
88	Sr	2	115	1340.000	ppb	#REF!	1.54	2000.00	>RL
95	Mo	2	115	1.950	ppb	#REF!	3.03	2000.00	ND
107	Ag	2	115	0.189	ppb	#REF!	4.52	500.00	ND
111	Cd	2	115	0.869	ppb	#REF!	3.39	2000.00	J
118	Sn	2	115	5.872	ppb	#REF!	0.48	2000.00	ND
121	Sb	2	115	6.690	ppb	#REF!	2.97	500.00	>RL
137	Ba	2	115	632.400	ppb	#REF!	2.50	2000.00	>RL
205	Tl	2	209	0.652	ppb	#REF!	5.30	2000.00	ND
208	Pb	2	209	353.500	ppb	#REF!	1.52	2000.00	>RL

ISTD Elements

Element			CPS Mean	RSD(%)		Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-6739.20	6.24	RHigh	55.55	-12132.0	70 - 120	ISFail
45	Sc	1	190300.73	1.03		190842.73	99.7	70 - 120	
45	Sc	2	3210512.30	2.00		5120784.50	62.7	70 - 120	ISFail
72	Ge	1	110031.98	0.69		115044.73	95.6	70 - 120	
115	In	2	5531556.00	1.34		6782184.50	81.6	70 - 120	
209	Bi	2	5015340.50	0.93		5831792.00	86.0	70 - 120	

Sample QC Report

C:\ICPCHEM\1\DATA\16E18l02.B\075SMPL.D\075SMPL.D#

Date Acquired:	May 18 2016 07:23 pm	Sample Name:	**1605074-24A**
Acq. Method:	DHL_3Fe.M	Misc Info:	SAMPICPMS_TSDOD
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 18 2016 01:12 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		Corr. Con	RSD(%)	High Limit	Flag
7	Li	2	45	117.000	ppb	#REF!	1.22	2000.00	>RL
9	Be	2	45	3.569	ppb	#REF!	3.31	2000.00	>RL
11	B	2	45	86.210	ppb	#REF!	2.24	2000.00	>RL
23	Na	1	45	3230.000	ppb	#REF!	0.82	25000.00	>RL
24	Mg	1	45	17130.000	ppb	#REF!	1.30	25000.00	>RL
27	Al	1	45	80300.000	ppb	#REF!	1.56	10000.00	OUTCAL
39	K	1	45	15790.000	ppb	#REF!	0.99	25000.00	>RL
44	Ca	2	45	212900.000	ppb	#REF!	2.57	25000.00	OUTCAL
47	Ti	1	45	423.000	ppb	#REF!	1.81	2000.00	>RL
51	V	1	45	137.800	ppb	#REF!	1.42	2000.00	>RL
52	Cr	1	45	72.140	ppb	#REF!	0.91	2000.00	>RL
55	Mn	1	45	578.000	ppb	#REF!	1.75	2000.00	>RL
56	Fe	1	72	68570.000	ppb	#REF!	1.68	10000.00	OUTCAL
59	Co	1	72	28.770	ppb	#REF!	1.62	2000.00	>RL
60	Ni	1	72	43.460	ppb	#REF!	0.76	2000.00	>RL
63	Cu	1	72	21.550	ppb	#REF!	0.75	2000.00	>RL
66	Zn	1	72	174.600	ppb	#REF!	0.73	2000.00	>RL
75	As	1	72	23.400	ppb	#REF!	1.59	2000.00	>RL
78	Se	1	72	22.050	ppb	#REF!	0.91	2000.00	>RL
88	Sr	2	115	541.300	ppb	#REF!	1.93	2000.00	>RL
95	Mo	2	115	1.170	ppb	#REF!	5.19	2000.00	ND
107	Ag	2	115	0.130	ppb	#REF!	8.10	500.00	ND
111	Cd	2	115	0.919	ppb	#REF!	14.48	2000.00	J
118	Sn	2	115	5.886	ppb	#REF!	2.67	2000.00	ND
121	Sb	2	115	0.584	ppb	#REF!	3.84	500.00	ND
137	Ba	2	115	829.500	ppb	#REF!	2.48	2000.00	>RL
205	Tl	2	209	0.683	ppb	#REF!	2.01	2000.00	ND
208	Pb	2	209	39.140	ppb	#REF!	1.40	2000.00	>RL

ISTD Elements

Element			CPS Mean	RSD(%)		Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-10213.88	6.43	RHigh	55.55	-18387.2	70 - 120	ISFail
45	Sc	1	187967.27	0.56		190842.73	98.5	70 - 120	
45	Sc	2	3195482.30	3.11		5120784.50	62.4	70 - 120	ISFail
72	Ge	1	107385.00	0.30		115044.73	93.3	70 - 120	
115	In	2	5470149.00	1.69		6782184.50	80.7	70 - 120	
209	Bi	2	4801128.50	0.74		5831792.00	82.3	70 - 120	

CCV QC Report

C:\ICPCHEM\1\DATA\16E18l02.B\076CCV1.D\076CCV1.D#

Date Acquired:	May 18 2016 07:29 pm	Sample Name:	**CCV2-160518**
Acq. Method:	DHL_3Fe.M	Misc Info:	CCV ICPMS_TW
Operator:	KL	Diln Factor:	1.00
Last Cal. Update:	May 18 2016 01:12 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		RSD(%)	Expected	QC Range(%)		Rec(%)	Flag
7	Li	2	45	271.40	ppb	0.86	200.00	90 -	110	135.7	Fail
9	Be	2	45	244.00	ppb	1.61	200.00	90 -	110	122.0	Fail
11	B	2	45	205.70	ppb	3.49	200.00	90 -	110	102.9	
23	Na	1	45	5341.00	ppb	0.61	5000.00	90 -	110	106.8	
24	Mg	1	45	4943.00	ppb	0.64	5000.00	90 -	110	98.9	
27	Al	1	45	4782.00	ppb	1.36	5000.00	90 -	110	95.6	
39	K	1	45	5067.00	ppb	0.86	5000.00	90 -	110	101.3	
44	Ca	2	45	4950.00	ppb	4.75	5000.00	90 -	110	99.0	
47	Ti	1	45	195.70	ppb	1.86	200.00	90 -	110	97.9	
51	V	1	45	200.70	ppb	1.82	200.00	90 -	110	100.4	
52	Cr	1	45	203.80	ppb	1.56	200.00	90 -	110	101.9	
55	Mn	1	45	187.90	ppb	1.50	200.00	90 -	110	94.0	
56	Fe	1	72	4886.00	ppb	1.46	5000.00	90 -	110	97.7	
59	Co	1	72	206.10	ppb	1.37	200.00	90 -	110	103.1	
60	Ni	1	72	197.90	ppb	1.55	200.00	90 -	110	99.0	
63	Cu	1	72	203.00	ppb	1.97	200.00	90 -	110	101.5	
66	Zn	1	72	195.00	ppb	1.33	200.00	90 -	110	97.5	
75	As	1	72	201.10	ppb	0.86	200.00	90 -	110	100.6	
78	Se	1	72	186.70	ppb	0.84	200.00	90 -	110	93.4	
88	Sr	2	115	191.20	ppb	1.64	200.00	90 -	110	95.6	
95	Mo	2	115	175.30	ppb	1.91	200.00	90 -	110	87.7	Fail
107	Ag	2	115	187.90	ppb	1.61	200.00	90 -	110	94.0	
111	Cd	2	115	185.30	ppb	1.24	200.00	90 -	110	92.7	
118	Sn	2	115	194.80	ppb	1.75	200.00	90 -	110	97.4	
121	Sb	2	115	196.30	ppb	1.68	200.00	90 -	110	98.2	
137	Ba	2	115	201.60	ppb	2.20	200.00	90 -	110	100.8	
205	Tl	2	209	201.00	ppb	0.82	200.00	90 -	110	100.5	
208	Pb	2	209	193.70	ppb	2.93	200.00	90 -	110	96.9	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)			Flag
6	Li	2	-77391.73	1.48	55.55	-139322.0	70 -	120		ISFail
45	Sc	1	197872.56	0.60	190842.73	103.7	70 -	120		
45	Sc	2	3523929.30	1.91	5120784.50	68.8	70 -	120		ISFail
72	Ge	1	117694.74	0.76	115044.73	102.3	70 -	120		
115	In	2	5887294.50	1.72	6782184.50	86.8	70 -	120		
209	Bi	2	5532363.50	1.04	5831792.00	94.9	70 -	120		

CCV QC Report

C:\ICPCHEM\1\DATA\16E18l02.B\078LCVL.D\078LCVL.D#

Date Acquired:	May 18 2016 07:41 pm	Sample Name:	**LCVL2-160518**
Acq. Method:	DHL_3Fe.M	Misc Info:	LCVLICPMS_TW
Operator:	KL	Diln Factor:	1.00
Last Cal. Update:	May 18 2016 01:12 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		RSD(%)	Expected	QC Range(%)		Rec(%)	Flag
7	Li	2	45	13.50	ppb	1.60	5.00	70 -	130	270.0	Fail
9	Be	2	45	1.30	ppb	0.70	1.00	70 -	130	129.9	
11	B	2	45	22.15	ppb	1.54	20.00	70 -	130	110.8	
23	Na	1	45	117.70	ppb	2.26	100.00	70 -	130	117.7	
24	Mg	1	45	108.30	ppb	2.79	100.00	70 -	130	108.3	
27	Al	1	45	112.90	ppb	1.62	100.00	70 -	130	112.9	
39	K	1	45	113.60	ppb	1.28	100.00	70 -	130	113.6	
44	Ca	2	45	131.70	ppb	2.59	100.00	70 -	130	131.7	Fail
47	Ti	1	45	5.36	ppb	17.34	5.00	70 -	130	107.3	
51	V	1	45	1.07	ppb	3.85	1.00	70 -	130	106.5	
52	Cr	1	45	5.38	ppb	0.65	5.00	70 -	130	107.5	
55	Mn	1	45	4.93	ppb	1.72	5.00	70 -	130	98.7	
56	Fe	1	72	117.90	ppb	1.61	100.00	70 -	130	117.9	
59	Co	1	72	5.31	ppb	3.28	5.00	70 -	130	106.2	
60	Ni	1	72	5.20	ppb	1.21	5.00	70 -	130	104.0	
63	Cu	1	72	5.30	ppb	1.64	5.00	70 -	130	106.0	
66	Zn	1	72	6.83	ppb	1.53	5.00	70 -	130	136.5	Fail
75	As	1	72	5.32	ppb	2.20	5.00	70 -	130	106.5	
78	Se	1	72	5.59	ppb	4.74	5.00	70 -	130	111.7	
88	Sr	2	115	5.06	ppb	1.76	5.00	70 -	130	101.2	
95	Mo	2	115	4.70	ppb	6.36	5.00	70 -	130	93.9	
107	Ag	2	115	1.96	ppb	3.66	2.00	70 -	130	98.2	
111	Cd	2	115	1.04	ppb	1.05	1.00	70 -	130	103.5	
118	Sn	2	115	5.24	ppb	3.42	5.00	70 -	130	104.8	
121	Sb	2	115	2.03	ppb	1.49	2.00	70 -	130	101.4	
137	Ba	2	115	5.27	ppb	3.21	5.00	70 -	130	105.5	
205	Tl	2	209	1.04	ppb	0.50	1.00	70 -	130	104.1	
208	Pb	2	209	1.07	ppb	2.27	1.00	70 -	130	107.3	

ISTD Elements

Element				CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)		Flag
6	Li	2	RHigh	-1889.02	11.28	55.55	-3400.6	70 -	120	ISFail
45	Sc	1		173426.55	2.32	190842.73	90.9	70 -	120	
45	Sc	2		3391577.30	2.99	5120784.50	66.2	70 -	120	ISFail
72	Ge	1		105074.26	1.77	115044.73	91.3	70 -	120	
115	In	2		5393850.00	1.19	6782184.50	79.5	70 -	120	
209	Bi	2		5006612.00	0.44	5831792.00	85.9	70 -	120	

CCB QC Report

C:\ICPCHEM\1\DATA\16E18l02.B\079_CCB.D\079_CCB.D#

Date Acquired:	May 18 2016 07:47 pm	Sample Name:	**CCB2-160518**
Acq. Method:	DHL_3Fe.M	Misc Info:	CCB ICPMS_TW
Operator:	KL	Diln Factor:	1.00
Last Cal. Update:	May 18 2016 01:12 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		RSD(%)	MDL S	MDL Aq	Flag
7	Li	2	45	0.170	ppb	3.16	2.00	2.00	
9	Be	2	45	0.027	ppb	18.19	0.40	0.30	
11	B	2	45	1.546	ppb	2.01	10.00	10.00	
23	Na	1	45	9.473	ppb	1.86	50.00	#####	
24	Mg	1	45	1.562	ppb	9.54	50.00	#####	
27	Al	1	45	7.652	ppb	3.84	50.00	10.00	
39	K	1	45	7.559	ppb	8.80	50.00	#####	
44	Ca	2	45	10.070	ppb	14.67	50.00	#####	
47	Ti	1	45	0.187	ppb	35.26	4.00	3.00	
51	V	1	45	0.010	ppb	20.26	4.00	3.00	
52	Cr	1	45	0.046	ppb	1.75	2.00	2.00	
55	Mn	1	45	0.110	ppb	6.19	2.00	3.00	
56	Fe	1	72	9.785	ppb	11.81	50.00	30.00	
59	Co	1	72	0.042	ppb	11.51	2.00	3.00	
60	Ni	1	72	0.068	ppb	24.28	2.00	3.00	
63	Cu	1	72	0.034	ppb	11.98	2.00	2.00	
66	Zn	1	72	1.293	ppb	1.88	4.00	2.00	
75	As	1	72	0.085	ppb	7.96	2.00	2.00	
78	Se	1	72	0.214	ppb	30.73	0.60	2.00	
88	Sr	2	115	0.132	ppb	11.87	4.00	3.00	
95	Mo	2	115	0.047	ppb	20.55	2.00	2.00	
107	Ag	2	115	0.030	ppb	11.75	0.40	1.00	
111	Cd	2	115	0.022	ppb	77.32	0.40	0.30	
118	Sn	2	115	0.092	ppb	16.09	20.00	3.00	
121	Sb	2	115	0.056	ppb	21.89	2.00	0.80	
137	Ba	2	115	0.129	ppb	26.99	2.00	3.00	
205	Tl	2	209	0.055	ppb	13.04	2.00	0.50	
208	Pb	2	209	0.059	ppb	16.59	0.40	0.30	

ISTD Elements

Element				CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	RHigh	11.13	216.70	55.55	20.0	70 - 120	ISFail
45	Sc	1		178440.73	2.09	190842.73	93.5	70 - 120	
45	Sc	2		3514387.80	1.62	5120784.50	68.6	70 - 120	ISFail
72	Ge	1		107684.01	1.00	115044.73	93.6	70 - 120	
115	In	2		5473495.50	0.41	6782184.50	80.7	70 - 120	
209	Bi	2		5032283.50	1.04	5831792.00	86.3	70 - 120	

ICP-MS3_160519A
For

DHL Work Order
1605074

Lab Data Review Check List
EPA Method 6020 / 6020A / 200.8 - Trace Metals by ICP-MS

PROJECT AND BATCH NUMBERS ARE LISTED ON THE RUN LOG	Run ID: ICP-MS3_160519A SOP: Metals-ICP-MS-01			
Review Item	**Yes**	**No**	**N/A**	**2nd Level Review**
Data Folder Contents 1. Is the Prep Batch Report included? ***Check the Prep Start/End Dates, Sample Amounts, Bottle #s***	X			x
2. Are the reagents and spikes listed on the Prep Batch Report current with a valid expiration date? ***All standard/QC sample preparations shall be documented in LIMS***	X			
3. Is the Run Log and instrument sequence included? ***Check the Test Code, Sample Type, Batch ID, and Analysis Date/Time***	X			

Daily Demonstration of Performance

QC items that do not meet method/SOP/project requirements will be described on the run log. All variances that impact data quality will be described in the Variance/Comment Section on page 2.

Review Item	Frequency	Limits	Pass	Fail (List Batch/Sample) **See Run Log**		2nd Level Review
Tune	Before ICAL	RSD ≤ 5% / Peak Width@10% <0.9amu	X			x
P/A Factor	Before ICAL	Increasing trend	X			
Initial Calibration Curve (ICAL) (Blank + 4 Standards)	Prior to samples and when ICV fails	R ≥ 0.995 (DoD) R ≥ 0.998 (6020A)	X			
Review Item	**Frequency**	**Limits**	**Pass**	**Fail**	**N/A**	**Review**
ICSA (N/A for Method 200.8+U)	After calibration & every 12 hours	< RL (except Mn & Zn)	X			x
ICSAB (N/A for Method 200.8+U)	After calibration & every 12 hours	80-120% (correct for ICSA result)	X			
Note: LCVLs and ICSA/ICSAB are N/A for Method 200.8 or project-specific exceptions						
ICV (Second Source Verification)	After ICAL	90-110%	X			x
ICB	After calibration	< MDL	X			
CCV	Every 10 samples	90-110%	X			
CCB	Every 10 samples	< MDL (ALL + DoD)	X			
Internal Standards	Every sample and QC sample	> 70% (6020A) 60-125% (200.8) 30-120% (DoD)	X			
LCVL (6020A test code)	After ICAL, every 10 samples and end of run	70-130%			X	
LCVL (All metals test codes except 200.8/6020A)	After ICAL and end of run	70-130%	X			
Method Blank (MB)	Every Batch	< MDL / <½ RL (DoD) or <1/10 the sample/reg limit	X			
Filter/TCLP/SPLP Blank	Filter-Dissolved only TCLP / SPLP	< MDL / <½ RL (DoD) or <1/10 the sample/reg limit			X	
Lab Control Sample (LCS)	Every Batch	80-120%	X			
Lab Control Sample Dup (LCSD)	Every Batch	80-120%	X			
LCSD - RPD	Every LCS/LCSD	15 (H2O) / 20 (Soil)	X			
Matrix Spike/ Matrix Spike Duplicate (MS/MSD)	Every Batch	80-120%	X	x		
MSD - RPD	Every MS/MSD	15 (H2O) / 20 (Soil)	X			
Dilution Test (SD) - RPD	Every Batch	10	X			
Post Digestion Spike (PDS)	Every Batch	75-125 / 80-120 (6020A)	X			

Lab Data Review Check List

EPA Method 6020 / 6020A / 200.8 - Trace Metals by ICP-MS

Review Item	Criteria	Yes	No	N/A	2nd Level Review
Sample Analysis 1. Are all sample hold times met?	6 months	X			x
2. Are all samples with concentrations > the highest standard used for calibration diluted and reanalyzed?	All results > high point of ICAL must be diluted	X			
3. Are ALL reported analytes and reported results > MDL highlighted by the analyst?		X	**Confirm with analyst if LIMS result does not match Labcore**		

VARIANCE REPORT

QC items that do not meet method/SOP/project requirements will be described on the run log. All variances that impact data quality will be described in this section.

NON-CONFORMANCES / VARIANCE	Criteria	Yes	No	N/A	2nd Level
1. Are all non-conformances and corrective actions included and noted?	All deviations from the method and SOP that affect data quality	X			x
2. Does the variance require approval by the Technical Director/General Manager/QA Manager?				X	

TECHNICAL DIRECTOR / QA MANAGER APPROVAL
SIGNATURE AND DATE STAMP:

Description and Corrective Actions of QC items that do not meet method/SOP/project requirements:

****INCLUDE VARIANCE ITEM / REASON / CORRECTIVE ACTION / IMPACT ON DATA****

VARIANCE ITEM	REASON	CORRECTIVE ACTION
__ CCV out of control (± 10%)	__ Carryover from previous run	__ Reanalyze QC to confirm
__ CCB out of control (> MDL / >½ RL)	__ Cross contamination	__ Recalibrate
__ MB out of control (> RL / >½ RL)	__ Lab Artifact	__ Reprep/Reanalyze sample
__ LCS __ LCSD out of control (± 20%)	__ Prep Spike error (describe)	__ Reprep/Reanalyze Batch
__ MS __ MSD out of control (± 20%)	__ Matrix Effect	__ Reanalyze Batch/Sample/QC
__ RPD out of control for MS/MSD (15/25)	__ High Levels of Target Metals	__ Verify reagents are clean
__ Internal Standard(s) out of control (see Method)	__ Insufficient sample for QC	__ Reanalyze sample to confirm
__ No MS/MSD prepared - LCS/LCSD used instead	__ Digestion/Prep Error	__ Sample results ND w/ dilution
__ Missing QC (other than MS/MSD)	__ Analytical Error	__ Client notified and approved
__ QC sample(s) was mis-spiked	__ Client Request	__ Flag data / Case narrative
__ ICSA/ICSAB missing or out of control (± 20%)		__ Accept data
__ LCVL out of control (± 30%)		__ Cal Std high and sample ND
__ Other (describe below)	__ Other (describe below)	__ Other (describe below)

General Comments and Impact on Data:

Analyst: Karyn Lane Date of Completion: 05/20/2016

Second-Level Review: Janice Whitt Date Stamp: 5/26/2016

REVIEWED BY
By Janice Whitt at 1:08:06 PM, 5/26/2016

DHL Analytical, Inc.

Run ID: **ICP-MS3_160519A** **Run No.:** 85905

Analytical Run Date: 5/19/2016 **InstrumentID:** ICP-MS3

Analyst: Karyn Lane

SampID	DF	TestCode	SampType	Batch ID	Analysis Date/Time	Q	Comments
BLANK STD 1	1	ICPMS_TWDOD	CAL	R85905	5/19/2016 11:40:00 AM		
L2-160519	1	ICPMS_TWDOD	CAL	R85905	5/19/2016 11:46:00 AM		
L-160519	1	ICPMS_TWDOD	CAL	R85905	5/19/2016 11:52:00 AM		
10X-160519	1	ICPMS_TWDOD	CAL	R85905	5/19/2016 11:58:00 AM		
5X-160519	1	ICPMS_TWDOD	CAL	R85905	5/19/2016 12:05:00 PM		
2X-160519	1	ICPMS_TWDOD	CAL	R85905	5/19/2016 12:11:00 PM		
H-160519	1	ICPMS_TWDOD	CAL	R85905	5/19/2016 12:16:00 PM		
H2-160519	1	ICPMS_TWDOD	CAL	R85905	5/19/2016 12:22:00 PM		
ICSA-160519	1	ICPMS_TWDOD	ICSA	R85905	5/19/2016 12:40:00 PM		
ICSAB-160519	1	ICPMS_TWDOD	ICSB	R85905	5/19/2016 12:46:00 PM		
ICV1-160519	1	ICPMS_TWDOD	ICV	R85905	5/19/2016 1:04:00 PM		
ILCVL-160519	1	ICPMS_TWDOD	LCVL	R85905	5/19/2016 1:16:00 PM		
ICB1-160519	1	ICPMS_TWDOD	ICB	R85905	5/19/2016 1:22:00 PM		
MB-75132	5	ICPMS_TSDOD1	MBLK	75132	5/19/2016 1:28:00 PM		
LCS-75132	5	ICPMS_TSDOD1	LCS	75132	5/19/2016 1:35:00 PM		
LCSD-75132	5	ICPMS_TSDOD1	LCSD	75132	5/19/2016 1:40:00 PM		
1605074-39A	5	ICPMS_TSDOD1	SAMP	75132	5/19/2016 1:53:00 PM		
1605074-39A SD	25	ICPMS_TSDOD1	SD	75132	5/19/2016 1:59:00 PM		
1605074-25A	5	ICPMS_TSDOD1	SAMP	75132	5/19/2016 2:05:00 PM		
1605074-26A	5	ICPMS_TSDOD1	SAMP	75132	5/19/2016 2:11:00 PM		
1605074-27A	5	ICPMS_TSDOD1	SAMP	75132	5/19/2016 2:16:00 PM		
1605074-28A	5	ICPMS_TSDOD1	SAMP	75132	5/19/2016 2:22:00 PM		
1605074-29A	5	ICPMS_TSDOD1	SAMP	75132	5/19/2016 2:28:00 PM		
1605074-30A	5	ICPMS_TSDOD1	SAMP	75132	5/19/2016 2:34:00 PM		
1605074-31A	5	ICPMS_TSDOD1	SAMP	75132	5/19/2016 2:40:00 PM		
1605074-32A	5	ICPMS_TSDOD1	SAMP	75132	5/19/2016 2:46:00 PM		
1605074-36A	5	ICPMS_TSDOD1	SAMP	75132	5/19/2016 2:52:00 PM		
1605074-39A PDS	5	ICPMS_TSDOD1	PDS	75132	5/19/2016 2:58:00 PM		
1605074-39A MS	5	ICPMS_TSDOD1	MS	75132	5/19/2016 3:04:00 PM		
1605074-39A MSD	5	ICPMS_TSDOD1	MSD	75132	5/19/2016 3:10:00 PM		

Std ID	Std Name	Type	Exp. Date
MET-CCV-160511	ICPMS CCV 200/5000 PPB		08/10/2016
MET-H2CAL-1605	ICPMS High Cal2 2000ppb std 8		08/10/2016
MET-HCAL-16051	ICPMS High Cal 500ppb/10ppm s		08/10/2016
MET-ICV-160511	ICPMS ICV 100 ppb		08/10/2016
MET-IS-160511	INTERNAL STANDARD 1 PPM		11/09/2016
MET-L2CAL-16051	ICPMS Low Cal2 1/20ppb std 2		08/10/2016
MET-LCAL-160511	ICPMS Low Cal 10/200ppb std 3		08/10/2016
MET-LCAL10X-16	ICPMS Low Cal 10/200ppb std 4		08/10/2016
MET-LCAL5X-160	ICPMS Low Cal 10/200ppb std 5		08/09/2016
MET-LCVLSPIKE-	LCVL METALS SPIKE (100/500		11/07/2016
MET-MCAL-16051	ICPMS Mid Cal 250/5000ppb std		08/10/2016
MET-PA-160421	ICPMS PA FACTOR SOLUTION		10/20/2016
MET-PDS-160502-	10 PPM Ag+Sb PDS		07/31/2016
MET-PDS-160502-	10 PPM CUSTOM PDS SOLUTI		07/31/2016
MET-PDS-160502-	250 PPM Naturals+Al+Fe PDS		07/31/2016

Run ID: ICP-MS3_160519A **Run No.:** 85905

CCV1-160519	1	ICPMS_TWDOD	CCV	R85905	5/19/2016 3:16:00 PM		
CCB1-160519	1	ICPMS_TWDOD	CCB	R85905	5/19/2016 3:22:00 PM		
LCVL1-160519	1	ICPMS_TWDOD	LCVL	R85905	5/19/2016 3:28:00 PM		
1605074-37A	5	ICPMS_TSDOD1	SAMP	75132	5/19/2016 3:34:00 PM		
1605074-38A	5	ICPMS_TSDOD1	SAMP	75132	5/19/2016 3:40:00 PM		
1605074-42A	5	ICPMS_TSDOD1	SAMP	75132	5/19/2016 3:46:00 PM		
1605074-43A	5	ICPMS_TSDOD1	SAMP	75132	5/19/2016 3:52:00 PM		
1605074-44A	5	ICPMS_TSDOD1	SAMP	75132	5/19/2016 3:58:00 PM		
1605074-45A	5	ICPMS_TSDOD1	SAMP	75132	5/19/2016 4:04:00 PM		
1605074-46A	5	ICPMS_TSDOD1	SAMP	75132	5/19/2016 4:10:00 PM		
1605074-47A	5	ICPMS_TSDOD1	SAMP	75132	5/19/2016 4:16:00 PM		
CCV2-160519	1	ICPMS_TWDOD	CCV	R85905	5/19/2016 4:22:00 PM		
CCB2-160519	1	ICPMS_TWDOD	CCB	R85905	5/19/2016 4:28:00 PM		
LCVL2-160519	1	ICPMS_TWDOD	LCVL	R85905	5/19/2016 4:34:00 PM		
MB-75169	5	ICPMS_TSDOD1	MBLK	75169	5/19/2016 4:40:00 PM		
LCSD-75169	5	ICPMS_TSDOD1	LCSD	75169	5/19/2016 4:52:00 PM		
LCS-75169	5	ICPMS_TSDOD1	LCS	75169	5/19/2016 5:04:00 PM		
1605096-70A	5	ICPMS_TSDOD1	SAMP	75169	5/19/2016 5:10:00 PM		
1605096-70A SD	25	ICPMS_TSDOD1	SD	75169	5/19/2016 5:16:00 PM		
1605096-62A	5	ICPMS_TSDOD1	SAMP	75169	5/19/2016 5:22:00 PM		
1605096-63A	5	ICPMS_TSDOD1	SAMP	75169	5/19/2016 5:28:00 PM		
1605096-64A	5	ICPMS_TSDOD1	SAMP	75169	5/19/2016 5:34:00 PM		
1605096-65A	5	ICPMS_TSDOD1	SAMP	75169	5/19/2016 5:40:00 PM		
1605096-66A	5	ICPMS_TSDOD1	SAMP	75169	5/19/2016 5:46:00 PM		
1605096-67A	5	ICPMS_TSDOD1	SAMP	75169	5/19/2016 5:52:00 PM		
1605096-68A	5	ICPMS_TSDOD1	SAMP	75169	5/19/2016 5:58:00 PM		
1605096-69A	5	ICPMS_TSDOD1	SAMP	75169	5/19/2016 6:04:00 PM		
1605096-71A	5	ICPMS_TSDOD1	SAMP	75169	5/19/2016 6:10:00 PM		
1605096-70A PDS	5	ICPMS_TSDOD1	PDS	75169	5/19/2016 6:15:00 PM		
1605096-70A MS	5	ICPMS_TSDOD1	MS	75169	5/19/2016 6:21:00 PM		
1605096-70A MSD	5	ICPMS_TSDOD1	MSD	75169	5/19/2016 6:27:00 PM		Pb low. RPD ok.
CCV3-160519	1	ICPMS_TWDOD	CCV	R85905	5/19/2016 6:39:00 PM		
LCVL3-160519	1	ICPMS_TWDOD	LCVL	R85905	5/19/2016 6:57:00 PM		
CCB3-160519	1	ICPMS_TWDOD	CCB	R85905	5/19/2016 7:04:00 PM		
1605096-72A	5	ICPMS_TSDOD1	SAMP	75169	5/19/2016 7:10:00 PM		

Std ID	Std Name	Type	Exp. Date
MET-CCV-160511	ICPMS CCV 200/5000 PPB		08/10/2016
MET-H2CAL-1605	ICPMS High Cal2 2000ppb std 8		08/10/2016
MET-HCAL-16051	ICPMS High Cal 500ppb/10ppm s		08/10/2016
MET-ICV-160511	ICPMS ICV 100 ppb		08/10/2016
MET-IS-160511	INTERNAL STANDARD 1 PPM		11/09/2016
MET-L2CAL-16051	ICPMS Low Cal2 1/20ppb std 2		08/10/2016
MET-LCAL-160511	ICPMS Low Cal 10/200ppb std 3		08/10/2016
MET-LCAL10X-16	ICPMS Low Cal 10/200ppb std 4		08/10/2016
MET-LCAL5X-160	ICPMS Low Cal 10/200ppb std 5		08/09/2016
MET-LCVLSPIKE-	LCVL METALS SPIKE (100/500		11/07/2016
MET-MCAL-16051	ICPMS Mid Cal 250/5000ppb std		08/10/2016
MET-PA-160421	ICPMS PA FACTOR SOLUTION		10/20/2016
MET-PDS-160502-	10 PPM Ag+Sb PDS		07/31/2016
MET-PDS-160502-	10 PPM CUSTOM PDS SOLUTI		07/31/2016
MET-PDS-160502-	250 PPM Naturals+Al+Fe PDS		07/31/2016

Run ID: ICP-MS3_160519A **Run No.:** 85905

1605096-73A	5	ICPMS_TSDOD1	SAMP	75169	5/19/2016 7:16:00 PM		
1605096-74A	5	ICPMS_TSDOD1	SAMP	75169	5/19/2016 7:22:00 PM		
1605097-01A	5	ICPMS_TSDOD1	SAMP	75169	5/19/2016 7:28:00 PM		
1605097-02A	5	ICPMS_TSDOD1	SAMP	75169	5/19/2016 7:33:00 PM		
1605097-03A	5	ICPMS_TSDOD1	SAMP	75169	5/19/2016 7:39:00 PM		
1605097-04A	5	ICPMS_TSDOD1	SAMP	75169	5/19/2016 7:45:00 PM		
1605097-05A	5	ICPMS_TSDOD1	SAMP	75169	5/19/2016 7:51:00 PM		
1605097-06A	5	ICPMS_TSDOD1	SAMP	75169	5/19/2016 7:57:00 PM		
1605097-07A	5	ICPMS_TSDOD1	SAMP	75169	5/19/2016 8:03:00 PM		
CCV4-160519	1	ICPMS_TWDOD	CCV	R85905	5/19/2016 8:09:00 PM		
LCVL4-160519	1	ICPMS_TWDOD	LCVL	R85905	5/19/2016 8:21:00 PM		
CCB4-160519	1	ICPMS_TWDOD	CCB	R85905	5/19/2016 8:28:00 PM		
MB-75168	5	ICPMS_TSDOD1	MBLK	75168	5/19/2016 8:34:00 PM		
LCS-75168	5	ICPMS_TSDOD1	LCS	75168	5/19/2016 8:40:00 PM		
LCSD-75168	5	ICPMS_TSDOD1	LCSD	75168	5/19/2016 8:46:00 PM		
1605096-42A	5	ICPMS_TSDOD1	SAMP	75168	5/19/2016 8:58:00 PM		
1605096-42A SD	25	ICPMS_TSDOD1	SD	75168	5/19/2016 9:04:00 PM		
1605096-41A	5	ICPMS_TSDOD1	SAMP	75168	5/19/2016 9:10:00 PM		
1605096-43A	5	ICPMS_TSDOD1	SAMP	75168	5/19/2016 9:16:00 PM		
1605096-45A	5	ICPMS_TSDOD1	SAMP	75168	5/19/2016 9:22:00 PM		
1605096-46A	5	ICPMS_TSDOD1	SAMP	75168	5/19/2016 9:28:00 PM		
1605096-47A	5	ICPMS_TSDOD1	SAMP	75168	5/19/2016 9:34:00 PM		
1605096-48A	5	ICPMS_TSDOD1	SAMP	75168	5/19/2016 9:40:00 PM		
1605096-49A	5	ICPMS_TSDOD1	SAMP	75168	5/19/2016 9:46:00 PM		
1605096-50A	5	ICPMS_TSDOD1	SAMP	75168	5/19/2016 9:52:00 PM		
1605096-51A	5	ICPMS_TSDOD1	SAMP	75168	5/19/2016 9:58:00 PM		
1605096-42A PDS	5	ICPMS_TSDOD1	PDS	75168	5/19/2016 10:04:00 PM		
1605096-42A MS	5	ICPMS_TSDOD1	MS	75168	5/19/2016 10:10:00 PM		
1605096-42A MSD	5	ICPMS_TSDOD1	MSD	75168	5/19/2016 10:16:00 PM		
CCV5-160519	1	ICPMS_TWDOD	CCV	R85905	5/19/2016 10:28:00 PM		
LCVL5-160519	1	ICPMS_TWDOD	LCVL	R85905	5/19/2016 10:40:00 PM		
CCB5-160519	1	ICPMS_TWDOD	CCB	R85905	5/19/2016 10:46:00 PM		
1605096-52A	5	ICPMS_TSDOD1	SAMP	75168	5/19/2016 10:52:00 PM		
1605096-53A	5	ICPMS_TSDOD1	SAMP	75168	5/19/2016 10:58:00 PM		
1605096-54A	5	ICPMS_TSDOD1	SAMP	75168	5/19/2016 11:04:00 PM		

Std ID	Std Name	Type	Exp. Date
MET-CCV-160511	ICPMS CCV 200/5000 PPB		08/10/2016
MET-H2CAL-1605	ICPMS High Cal2 2000ppb std 8		08/10/2016
MET-HCAL-16051	ICPMS High Cal 500ppb/10ppm s		08/10/2016
MET-ICV-160511	ICPMS ICV 100 ppb		08/10/2016
MET-IS-160511	INTERNAL STANDARD 1 PPM		11/09/2016
MET-L2CAL-16051	ICPMS Low Cal2 1/20ppb std 2		08/10/2016
MET-LCAL-160511	ICPMS Low Cal 10/200ppb std 3		08/10/2016
MET-LCAL10X-16	ICPMS Low Cal 10/200ppb std 4		08/10/2016
MET-LCAL5X-160	ICPMS Low Cal 10/200ppb std 5		08/09/2016
MET-LCVLSPIKE-	LCVL METALS SPIKE (100/500		11/07/2016
MET-MCAL-16051	ICPMS Mid Cal 250/5000ppb std		08/10/2016
MET-PA-160421	ICPMS PA FACTOR SOLUTION		10/20/2016
MET-PDS-160502-	10 PPM Ag+Sb PDS		07/31/2016
MET-PDS-160502-	10 PPM CUSTOM PDS SOLUTI		07/31/2016
MET-PDS-160502-	250 PPM Naturals+Al+Fe PDS		07/31/2016

DHL Analytical, Inc.

Run ID: ICP-MS3_160519A **Run No.:** 85905

1605096-55A	5	ICPMS_TSDOD1	SAMP	75168	5/19/2016 11:10:00 PM		
1605096-56A	5	ICPMS_TSDOD1	SAMP	75168	5/19/2016 11:16:00 PM		
1605096-57A	5	ICPMS_TSDOD1	SAMP	75168	5/19/2016 11:22:00 PM		
1605096-58A	5	ICPMS_TSDOD1	SAMP	75168	5/19/2016 11:28:00 PM		
1605096-59A	5	ICPMS_TSDOD1	SAMP	75168	5/19/2016 11:34:00 PM		
1605096-60A	5	ICPMS_TSDOD1	SAMP	75168	5/19/2016 11:40:00 PM		
1605096-61A	5	ICPMS_TSDOD1	SAMP	75168	5/19/2016 11:46:00 PM		
CCV6-160519	1	ICPMS_TWDOD	CCV	R85905	5/19/2016 11:52:00 PM		
LCVL6-160519	1	ICPMS_TWDOD	LCVL	R85905	5/20/2016 12:04:00 AM		
CCB6-160519	1	ICPMS_TWDOD	CCB	R85905	5/20/2016 12:10:00 AM		

Std ID	Std Name	Type	Exp. Date
MET-CCV-160511	ICPMS CCV 200/5000 PPB		08/10/2016
MET-H2CAL-1605	ICPMS High Cal2 2000ppb std 8		08/10/2016
MET-HCAL-16051	ICPMS High Cal 500ppb/10ppm s		08/10/2016
MET-ICV-160511	ICPMS ICV 100 ppb		08/10/2016
MET-IS-160511	INTERNAL STANDARD 1 PPM		11/09/2016
MET-L2CAL-16051	ICPMS Low Cal2 1/20ppb std 2		08/10/2016
MET-LCAL-160511	ICPMS Low Cal 10/200ppb std 3		08/10/2016
MET-LCAL10X-16	ICPMS Low Cal 10/200ppb std 4		08/10/2016
MET-LCAL5X-160	ICPMS Low Cal 10/200ppb std 5		08/09/2016
MET-LCVLSPIKE-	LCVL METALS SPIKE (100/500		11/07/2016
MET-MCAL-16051	ICPMS Mid Cal 250/5000ppb std		08/10/2016
MET-PA-160421	ICPMS PA FACTOR SOLUTION		10/20/2016
MET-PDS-160502-	10 PPM Ag+Sb PDS		07/31/2016
MET-PDS-160502-	10 PPM CUSTOM PDS SOLUTI		07/31/2016
MET-PDS-160502-	250 PPM Naturals+Al+Fe PDS		07/31/2016

MECHANICAL VOLUMETRIC PIPETTE VOLUME DAILY CHECK - DOD QSM 5.0

ANALYST:	RO	**BALANCE #:**	30
TEST DATE:	05/19/2016	**Water is at Room Temperatue (70-73°F) / (21-23°C)**	
PIPETTER LAB ID:	See Below	**WATER TEMP (°C):**	**21-23°C**
TEST VOLUME:	See Below	**WATER DENSITY:**	**0.998** **(0.9980-0.9976)**

REFERENCE:	DoD QSM 5.0
# of REPLICATES:	3
LABWARE TYPE:	MECHANICAL VOLUMETRIC PIPETTE
FREQUENCY:	DAILY BEFORE USE
MEAN CRITERIA:	± 2% OF NOMINAL VOLUME (VOLUME OF USE/TEST VOLUME)
RSD CRITERIA:	< 1% OF NOMINAL VOLUME (BASED ON MINIMUM OF 3 REPLICATE MEASUREMENTS)

1) RECORD ROOM AND WATER TEMPERATURE
2) TARE VESSEL ON BALANCE. ADD TEST VOLUME.
3) WEIGH 3 REPLICATES AT THE TEST VOLUME.
4) DETERMINE TOTAL WT.
5) CALCULATE VOLUME OF H2O AT °C (in mL)

% TEST VOL = Volume of H2O at °C/Test Volume * 100

%RSD = STDEV (Mean Volume)/AVERAGE (Mean Volume) *100

VOLUME OF H2O AT °C = TOTAL WT * WATER DENSITY

					BIAS	PRECISION
PIPETTE ID: P-31	**TEST VOLUME (mL)**	**TOTAL WT (g)**	**Volume of H_2O at °C**	**% TEST VOL (98-102%)**	**MEAN CRITERIA (± 2%)**	**% RSD Calculated**
1	**4.00**	3.9903	3.9823	**99.56**	**PASS**	**RSD MUST BE ≤ 1% OF TEST VOLUME VALUE**
2		3.9934	3.9854	**99.64**		
3		3.9972	3.9892	**99.73**		
AVERAGE (MEAN)		**3.994**	**3.986**	**99.64**		**0.087**
						PASS

PIPETTE ID: P-21	**TEST VOLUME (mL)**	**TOTAL WT (g)**	**Volume of H_2O at °C**	**% TEST VOL (98-102%)**	**MEAN CRITERIA (± 2%)**	**% RSD Calculated**
1	**1.00**	0.9982	0.9962	**99.62**	**PASS**	**RSD MUST BE ≤ 1% OF TEST VOLUME VALUE**
2		0.9987	0.9967	**99.67**		
3		0.9992	0.9972	**99.72**		
AVERAGE (MEAN)		**0.999**	**0.997**	**99.67**		**0.050**
						PASS

PIPETTE ID: P-39	**TEST VOLUME (mL)**	**TOTAL WT (g)**	**Volume of H_2O at °C**	**% TEST VOL (98-102%)**	**MEAN CRITERIA (± 2%)**	**% RSD Calculated**
1	**0.500**	0.4983	0.4973	**99.46**	**PASS**	**RSD MUST BE ≤ 1% OF TEST VOLUME VALUE**
2		0.4994	0.4984	**99.68**		
3		0.5007	0.4997	**99.94**		
AVERAGE (MEAN)		**0.499**	**0.498**	**99.69**		**0.241**
						PASS

Karyn Lane 5/20/2016

Analyst / Date

REVIEWED BY
By Janice Whitt at 12:36:19 PM, 5/26/2016

Review and Approved / Date

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	ISTD Conc	Action on Failure	Skip	Result
1		Keyword		CALBEG	Start of CALIB						
2	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1101		BLANK	CAL ICPMS_TW	1.000				
3	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1102		BLANK	CAL ICPMS_TW	1.000				
4	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1103		BLANK	CAL ICPMS_TW	1.000				
5	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1104		BLANK	CAL ICPMS_TW	1.000				
6	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1105		BLANK	CAL ICPMS_TW	1.000				
7	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CalBlk	2101		BLANK STD 1	CAL ICPMS_TW	Level 1				
8	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CalStd	2102		L2-160519	CAL ICPMS_TW	Level 2				
9	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CalStd	2103		L-160519	CAL ICPMS_TW	Level 3				
10	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CalStd	2104		10X-160519	CAL ICPMS_TW	Level 4				
11	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CalStd	2105		5X-160519	CAL ICPMS_TW	Level 5				
12	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CalStd	2106		2X-160519	CAL ICPMS_TW	Level 6				
13	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CalStd	2107		H-160519	CAL ICPMS_TW	Level 7				
14	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CalStd	2108		H2-160519	CAL ICPMS_TW	Level 8				
15	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1104		BLANK	CAL ICPMS_TW	1.000				
16	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1105		BLANK	CAL ICPMS_TW	1.000				
17		Keyword		CALEND	End of CALIB						
18		Keyword		ICSBEG	Start of ICS						
19	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	ICS-A	2109		ICSA-160519	ICSAICPMS_TW	1.000				
20	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	ICS-AB	2110		ICSAB-160519	ICSBICPMS_TW	1.000				
21	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1103		RINSE	CAL ICPMS_TW	1.000				
22	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1104		RINSE	CAL ICPMS_TW	1.000				
23		Keyword		ICSEND	End of ICS						
24		Keyword		SMPLBEG	Start of SMPL						
25	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	ICV	2111		ICV1-160519	ICV ICPMS_TW	1.000				

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	ISTD Conc	Action on Failure	Skip	Result
26	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	ICB	1104		ICB1-160519	ICB ICPMS_TW	1.000				
27	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	LCVL5	2112		ILCVL-160519	LCVLICPMS_TW	1.000				
28	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	ICB	1105		ICB1-160519	ICB ICPMS_TW	1.000				
29	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	PB	2201		MB-75132	MBLKICPMS_TSDOD	5.000				
30	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	LCS	2202		LCS-75132	LCS ICPMS_TSDOD	5.000				
31	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	LCS	2203		LCSD-75132	LCSDICPMS_TSDOD	5.000				
32	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1101		RINSE	CCB ICPMS_TW	1.000				
33	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	AllRef	2204		1605074-39A	SAMPICPMS_TSDOD	5.000				
34	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	DT	2205		1605074-39A SD	SD ICPMS_TSDOD	25.00				
35	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	2206		1605074-25A	SAMPICPMS_TSDOD	5.000				
36	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	2207		1605074-26A	SAMPICPMS_TSDOD	5.000				
37	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	2208		1605074-27A	SAMPICPMS_TSDOD	5.000				
38	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	2209		1605074-28A	SAMPICPMS_TSDOD	5.000				
39	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	2210		1605074-29A	SAMPICPMS_TSDOD	5.000				
40	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	2211		1605074-30A	SAMPICPMS_TSDOD	5.000				
41	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	2212		1605074-31A	SAMPICPMS_TSDOD	5.000				
42	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	2301		1605074-32A	SAMPICPMS_TSDOD1	5.000				
43	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	2302		1605074-36A	SAMPICPMS_TSDOD1	5.000				
44	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	PDS	2303		1605074-39A PDS	PDS ICPMS_TSDOD1	5.000				
45	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	MS_S	2304		1605074-39A MS	MS ICPMS_TSDOD1	5.000				
46	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	MS_S	2305		1605074-39A MSD	MSD ICPMS_TSDOD1	5.000				
47	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCV1	1307		CCV1-160519	CCV ICPMS_TW	1.000				
48	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1105		CCB1-160519	CCB ICPMS_TW	1.000				

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	ISTD Conc	Action on Failure	Skip	Result
49	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	LCVL5	2512		LCVL1-160519	LCVLICPMS_TW	1.000				
50	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	2401		1605074-37A	SAMPICPMS_TSDOD1	5.000				
51	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	2402		1605074-38A	SAMPICPMS_TSDOD1	5.000				
52	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	2403		1605074-42A	SAMPICPMS_TSDOD1	5.000				
53	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	2404		1605074-43A	SAMPICPMS_TSDOD1	5.000				
54	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	2405		1605074-44A	SAMPICPMS_TSDOD1	5.000				
55	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	2406		1605074-45A	SAMPICPMS_TSDOD1	5.000				
56	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	2407		1605074-46A	SAMPICPMS_TSDOD1	5.000				
57	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	2408		1605074-47A	SAMPICPMS_TSDOD1	5.000				
58	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCV1	1307		CCV2-160519	CCV ICPMS_TW	1.000				
59	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1105		CCB2-160519	CCB ICPMS_TW	1.000				
60	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	LCVL5	2511		LCVL2-160519	LCVLICPMS_TW	1.000				
61	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	PB	3101		MB-75169	MBLKICPMS_TSDOD1	5.000				
62	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	LCS	3102		LCS-75169	LCS ICPMS_TSDOD1	5.000				
63	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	LCS	3103		LCSD-75169	LCSDICPMS_TSDOD1	5.000				
64	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1101		RINSE	CCB ICPMS_TW	1.000				
65	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	LCS	2501		LCS-75169	LCS ICPMS_TSDOD1	5.000				
66	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	AllRef	3104		1605096-70A	SAMPICPMS_TSDOD1	5.000				
67	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	DT	3105		1605096-70A SD	SD ICPMS_TSDOD1	25.00				
68	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	3106		1605096-62A	SAMPICPMS_TSDOD1	5.000				
69	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	3107		1605096-63A	SAMPICPMS_TSDOD1	5.000				
70	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	3108		1605096-64A	SAMPICPMS_TSDOD1	5.000				
71	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	3109		1605096-65A	SAMPICPMS_TSDOD1	5.000				

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	ISTD Conc	Action on Failure	Skip	Result
72	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	3110		1605096-66A	SAMPICPMS_TSDOD1	5.000				
73	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	3111		1605096-67A	SAMPICPMS_TSDOD1	5.000				
74	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	3112		1605096-68A	SAMPICPMS_TSDOD1	5.000				
75	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	3201		1605096-69A	SAMPICPMS_TSDOD1	5.000				
76	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	3202		1605096-71A	SAMPICPMS_TSDOD1	5.000				
77	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	PDS	3203		1605096-70A PDS	PDS ICPMS_TSDOD1	5.000				
78	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	MS_S	3204		1605096-70A MS	MS_ICPMS_TSDOD1	5.000				
79	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	MS_S	3205		1605096-70A MSD	MSD ICPMS_TSDOD1	5.000				
80	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1103		RINSE	CCB ICPMS_TW	1.000				
81	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCV1	1307		CCV3-160519	CCV ICPMS_TW	1.000				
82	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1104		CCB3-160519	CCB ICPMS_TW	1.000				
83	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1105		CCB3-160519	CCB ICPMS_TW	1.000				
84	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	LCVL5	2512		LCVL3-160519	LCVLICPMS_TW	1.000				
85	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1105		CCB3-160519	CCB ICPMS_TW	1.000				
86	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	3301		1605096-72A	SAMPICPMS_TSDOD1	5.000				
87	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	3302		1605096-73A	SAMPICPMS_TSDOD1	5.000				
88	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	3303		1605096-74A	SAMPICPMS_TSDOD1	5.000				
89	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	3304		1605097-01A	SAMPICPMS_TSDOD1	5.000				
90	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	3305		1605097-02A	SAMPICPMS_TSDOD1	5.000				
91	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	3306		1605097-03A	SAMPICPMS_TSDOD1	5.000				
92	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	3307		1605097-04A	SAMPICPMS_TSDOD1	5.000				
93	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	3308		1605097-05A	SAMPICPMS_TSDOD1	5.000				
94	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	3309		1605097-06A	SAMPICPMS_TSDOD1	5.000				

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	ISTD Conc	Action on Failure	Skip	Result
95	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	3310		1605097-07A	SAMPICPMS_TSDOD1	5.000				
96	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCV1	1307		CCV4-160519	CCV ICPMS_TW	1.000				
97	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1104		CCB4-160519	CCB ICPMS_TW	1.000				
98	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	LCVL5	2112		LCVL4-160519	LCVLICPMS_TW	1.000				
99	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1105		CCB4-160519	CCB ICPMS_TW	1.000				
100	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	PB	3401		MB-75168	MBLKICPMS_TSDOD1	5.000				
101	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	LCS	3402		LCS-75168	LCS ICPMS_TSDOD1	5.000				
102	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	LCS	3403		LCSD-75168	LCSDICPMS_TSDOD1	5.000				
103	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1101		RINSE	CCB ICPMS_TW	1.000				
104	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	AllRef	3404		1605096-42A	SAMPICPMS_TSDOD1	5.000				
105	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	DT	3405		1605096-42A SD	SD ICPMS_TSDOD1	25.00				
106	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	3406		1605096-41A	SAMPICPMS_TSDOD1	5.000				
107	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	3407		1605096-43A	SAMPICPMS_TSDOD1	5.000				
108	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	3408		1605096-45A	SAMPICPMS_TSDOD1	5.000				
109	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	3409		1605096-46A	SAMPICPMS_TSDOD1	5.000				
110	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	3410		1605096-47A	SAMPICPMS_TSDOD1	5.000				
111	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	3411		1605096-48A	SAMPICPMS_TSDOD1	5.000				
112	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	3412		1605096-49A	SAMPICPMS_TSDOD1	5.000				
113	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	3501		1605096-50A	SAMPICPMS_TSDOD1	5.000				
114	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	3502		1605096-51A	SAMPICPMS_TSDOD1	5.000				
115	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	PDS	3503		1605096-42A PDS	PDS ICPMS_TSDOD1	5.000				
116	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	MS_S	3504		1605096-42A MS	MS ICPMS_TSDOD1	5.000				
117	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	MS_S	3505		1605096-42A MSD	MSD ICPMS_TSDOD1	5.000				

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	ISTD Conc	Action on Failure	Skip	Result
118	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1101		RINSE	CCB ICPMS_TW	1.000				
119	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCV1	1307		CCV5-160519	CCV ICPMS_TW	1.000				
120	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1104		CCB5-160519	CCB ICPMS_TW	1.000				
121	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	LCVL5	2511		LCVL5-160519	LCVLICPMS_TW	1.000				
122	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1105		CCB5-160519	CCB ICPMS_TW	1.000				
123	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	4101		1605096-52A	SAMPICPMS_TSDOD1	5.000				
124	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	4102		1605096-53A	SAMPICPMS_TSDOD1	5.000				
125	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	4103		1605096-54A	SAMPICPMS_TSDOD1	5.000				
126	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	4104		1605096-55A	SAMPICPMS_TSDOD1	5.000				
127	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	4105		1605096-56A	SAMPICPMS_TSDOD1	5.000				
128	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	4106		1605096-57A	SAMPICPMS_TSDOD1	5.000				
129	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	4107		1605096-58A	SAMPICPMS_TSDOD1	5.000				
130	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	4108		1605096-59A	SAMPICPMS_TSDOD1	5.000				
131	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	4109		1605096-60A	SAMPICPMS_TSDOD1	5.000				
132	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	SampleS	4110		1605096-61A	SAMPICPMS_TSDOD1	5.000				
133	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCV1	1307		CCV6-160519	CCV ICPMS_TW	1.000				
134	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1105		CCB6-160519	CCB ICPMS_TW	1.000				
135	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	LCVL5	2112		LCVL6-160519	LCVLICPMS_TW	1.000				
136	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1105		CCB6-160519	CCB ICPMS_TW	1.000				
137	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1101		RINSE	CCB ICPMS_TW	1.000				
138	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1102		RINSE	CCB ICPMS_TW	1.000				
139	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1103		RINSE	CCB ICPMS_TW	1.000				
140	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1104		RINSE	CCB ICPMS_TW	1.000				

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	ISTD Conc	Action on Failure	Skip	Result
141	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1105		RINSE	CCB ICPMS_TW	1.000				
142	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1101		RINSE	CCB ICPMS_TW	1.000				
143	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1102		RINSE	CCB ICPMS_TW	1.000				
144	C:\ICPCHEM\1\METHODS\DHL_3Fe.M	CCB	1103		RINSE	CCB ICPMS_TW	1.000				
145		Keyword		StandBy							
146		Keyword		SMPLEND	End of SMPL						
147		Keyword		End	End of Sequence						
148		Keyword		CCVBEG	Start of CCV						
149		Keyword		CCVEND	End of CCV						
150		Keyword		BLKBEG	Start of BLANK						
151		Keyword		BLKEND	End of BLANK						
152		Keyword		ERRBEG	Start of ERRTERM						
153		Keyword		ERREND	End of ERRTERM						

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: ~~5/12~~/2016 10:18:14 AM
Digestion: 13
Prep End Date:

Prep Batch **75132** Prep Code: **3050_IDOD** Technician: **Will Boston** Prep Factor Units: **mL/g**

Equipment List
Hot Block #3
Thermometer #71
Balance #20
Pipette #P-01
Pipette#-P-09

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605074-25A	Soil		1.11	50	50.000	1 of 1	
1605074-26A	Soil		1.12	50	50.000	of 3	
1605074-27A	Soil		1.08	50	50.000	1 of 1	
1605074-28A	Soil		1.04	50	50.000	1 of 1	
1605074-29A	Soil		1.04	50	50.000	1 of 1	
1605074-30A	Soil		1.13	50	50.000	1 of 1	
1605074-31A	Soil		1.18	50	50.000	1 of 1	
1605074-32A	Soil		1.03	50	50.000	1 of 1	
1605074-36A	Soil		1.17	50	50.000	1 of 1	
1605074-37A	Soil		1.20	50	50.000	1 of 1	
1605074-38A	Soil		1.03	50	50.000	1 of 1	
1605074-39A	Soil		1.11	50	50.000	1 of 1	
~~1605074-40A~~	Soil	AD / 5/13/16	1.03	50	50.000	1 of 1	REPREPDUE TO BOIL OVER
~~1605074-41A~~	Soil	AD / 5/13/16	1.19	50	50.000	1 of 1	REPREP DUE TO BOIL OVER2
1605074-42A	Soil		1.04	50	50.000	1 of 1	
1605074-43A	Soil		1.06	50	50.000	1 of 1	
1605074-44A	Soil		1.10	50	50.000	of 3	
1605074-45A	Soil		1.18	50	50.000	1 of 1	
1605074-46A	Soil		1.12	50	50.000	1 of 1	
1605074-47A	Soil		1.07	50	50.000	1 of 1	
LCS-75132	Soil		1	50	50.000	of	
LCSD-75132	Soil		1	50	50.000	of	
MB-75132	Soil		1	50	50.000	of	
MS 1604074-39A			1.11				
MSD 1604074-39A			1.14				

Samples weighted on 5/12/2016. jw 5/26/2016

Number	Reagent Name	Amt	Units	Exp. Da
9974	Hydrogen Peroxide	3	ml	01/20/2026
10056	Digestion Vessels	1	vessel	02/10/2026
10136	Nitric Acid (Trace Metal Grade)	10	ml	01/10/2026
10137	Hydrochloric Acid (trace metal grade)	5	ml	01/10/2026

SpkID	Spike Name	SampType	Amt (mL or g)	Exp. Date
MET-150914-10	AL PRIMARY STD 1000 PPM	LCS/MS/MSD	0.25	10/01/2016
MET-150914-9	FE PRIMARY STD 1000 PPM	LCS/MS/MSD	0.25	10/01/2016
MET-SPIKE-160406-1	2500 PPM NATURALS CAL	LCS/MS/MSD	0.5	07/05/2016
MET-SPIKE-160511-1	50 PPM Custom+Sn,Ti,B,Mo,Sr CAL	LCS/MS/MSD	1	08/09/2016
MET-SPIKE-160511-2	50 PPM Sb+Ag CAL	LCS/MS/MSD	1	08/09/2016

11:15 - 11:25
11:27 - 13:27
13:37 - 15:37
15:55 - 16:10

REVIEWED BY
By Janice Whitt at 1:15:26 PM, 5/26/2016

MECHANICAL VOLUMETRIC PIPETTE VOLUME DAILY CHECK - DOD QSM 5.0

ANALYST:	CVD	**BALANCE #:**	26	
TEST DATE:	05/13/2016	**Water is at Room Temperatue (70-73°F) / (21-23°C)**		
PIPETTER LAB ID:	P-01, P-09	**WATER TEMP (°C):**	**21-23°C**	
TEST VOLUME:	See Below	**WATER DENSITY:**	**0.998**	**(0.9980-0.9976)**

REFERENCE:	DoD QSM 5.0
# of REPLICATES:	3
LABWARE TYPE:	MECHANICAL VOLUMETRIC PIPETTE
FREQUENCY:	DAILY BEFORE USE
MEAN CRITERIA:	± 2% OF NOMINAL VOLUME (VOLUME OF USE/TEST VOLUME)
RSD CRITERIA:	< 1% OF NOMINAL VOLUME (BASED ON MINIMUM OF 3 REPLICATE MEASUREMENTS)

1) RECORD ROOM AND WATER TEMPERATURE	**% TEST VOL = Volume of H2O at °C/Test Volume * 100**
2) TARE VESSEL ON BALANCE. ADD TEST VOLUME.	**%RSD = STDEV (Mean Volume)/AVERAGE (Mean Volume) *100**
3) WEIGH 3 REPLICATES AT THE TEST VOLUME.	
4) DETERMINE TOTAL WT.	
5) CALCULATE VOLUME OF H2O AT °C (in mL)	**VOLUME OF H2O AT °C = TOTAL WT * WATER DENSITY**

					BIAS	PRECISION
PIPETTE ID: P-01	**TEST VOLUME (mL)**	**TOTAL WT (g)**	**Volume of H_2O at °C**	**% TEST VOL (98-102%)**	**MEAN CRITERIA (± 2%)**	**% RSD Calculated**
1	5.00	5.0074	4.9974	99.95	PASS	RSD MUST BE ≤ 1% OF TEST VOLUME VALUE
2		5.0050	4.9950	99.90		
3		5.0031	4.9931	99.86		
AVERAGE (MEAN)		**5.005**	**4.995**	**99.90**		**0.043**
						PASS

PIPETTE ID: P-09	**TEST VOLUME (mL)**	**TOTAL WT (g)**	**Volume of H_2O at °C**	**% TEST VOL (98-102%)**	**MEAN CRITERIA (± 2%)**	**% RSD Calculated**
1	0.20	0.2014	0.2010	100.50	PASS	RSD MUST BE ≤ 1% OF TEST VOLUME VALUE
2		0.2026	0.2022	101.10		
3		0.2029	0.2025	101.25		
AVERAGE (MEAN)		**0.202**	**0.202**	**100.95**		**0.392**
						PASS

PIPETTE ID:	**TEST VOLUME (mL)**	**TOTAL WT (g)**	**Volume of H_2O at °C**	**% TEST VOL (98-102%)**	**MEAN CRITERIA (± 2%)**	**% RSD Calculated**
1						RSD MUST BE ≤ 1% OF TEST VOLUME VALUE
2						
3						
AVERAGE (MEAN)						

5/13/16

Analyst / Date

REVIEWED BY
By Janice Whitt at 12:37:52 PM, 5/26/2016

Review and Approved / Date

Calibration Summary Report

Instrument: ICPMS3
Current Method: C:\ICPCHEM\1\METHODS\DHL_3Fe.M
Calibration: C:\ICPCHEM\1\CALIB\DHL_3Fe.C
Last Update: May 19 2016 02:38 pm
Cal Type: Y=aX+[blank]

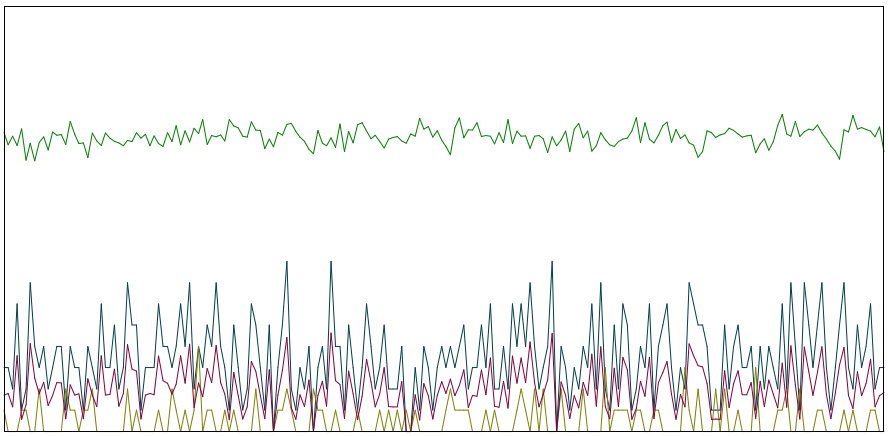
Standard	Date Acquired	File
BLANK STD 1	May 19 2016 11:40 am	c:\icpchem\1\data\16e19l00.b\006calb.d\
L2-160519	May 19 2016 11:46 am	c:\icpchem\1\data\16e19l00.b\007cals.d\
L-160519	May 19 2016 11:52 am	c:\icpchem\1\data\16e19l00.b\008cals.d\
10X-160519	May 19 2016 11:58 am	c:\icpchem\1\data\16e19l00.b\009cals.d\
5X-160519	May 19 2016 12:05 pm	c:\icpchem\1\data\16e19l00.b\010cals.d\
2X-160519	May 19 2016 12:11 pm	c:\icpchem\1\data\16e19l00.b\011cals.d\

Element Name	Corr Coef	Coef A	Coef B	Lvl 2	Lvl 6	Lvl 7	L7 %R	Lvl 8	L8 %R
Li	1.0000	0.4454	0.02551	1.05	257	514		1995	
Be	0.9998	0.1135	0.0005782	1.03	256	496	99%	--------	######
B	0.9999	0.09747	0.1508	0.71	257	531	106%	1,991	100%
Na	0.9999	0.3258	5.606	21.32	5,248	10,290	103%	24,830	99%
Mg	0.9998	0.1457	0.2757	20.95	5,055	10,440	104%	24,810	99%
Al	1.0000	0.03283	0.1165	19.99	4,929	10,030	100%	--------	######
K	1.0000	0.06764	2.424	16.91	4,878	9,810	98%	25,100	100%
Ca	0.9999	0.008613	0.1366	19.41	4,853	10,340	103%	24,900	100%
Ti	1.0000	0.02952	0.002394	0.75	244	499	100%	2,001	100%
V	1.0000	1.317	0.09675	1.03	248	498	100%	2,001	100%
Cr	1.0000	1.784	0.138	1.06	255	511	102%	1,996	100%
Mn	1.0000	0.6597	0.08752	0.97	244	491	98%	2,003	100%
Fe	1.0000	2.331	4.064	20.15	4,979	9,994	100%	--------	######
Co	0.9999	5.769	0.1508	1.01	256	521	104%	1,994	100%
Ni	1.0000	1.753	0.2109	1.01	250	494	99%	2,001	100%
Cu	0.9999	4.789	0.5514	1.09	261	529	106%	1,991	100%
Zn	1.0000	0.4321	0.1889	1.08	261	509	102%	1,996	100%
As	1.0000	0.2198	0.01329	1.02	252	501	100%	2,000	100%
Se	1.0000	0.0109	0.003273	1.09	253	501	100%	1,999	100%
Sr	1.0000	0.279	0.01352	1.01	254	505	101%	1,998	100%
Mo	0.9999	0.05561	0.001281	0.96	233	481	96%	2,007	100%
Ag	0.9999	0.1575	0.0006788	1.03	243	503	101%	--------	######
Cd	0.9999	0.03464	3.73E-006	1.00	239	481	96%	2,006	100%
Sn	1.0000	0.09328	0.007928	0.97	239	513	103%	1,998	100%
Sb	0.9996	0.113	0.003021	1.02	238	507	101%	--------	######
Ba	0.9999	0.04313	0.001018	0.93	233	476	95%	2,008	100%
Tl	1.0000	0.3323	0.003012	0.97	248	498	100%	2,001	100%
Pb	1.0000	0.4481	0.008759	0.97	246	510	102%	1,998	100%

REVIEWED BY
By Janice Whitt at 12:43:22 PM, 5/26/2016

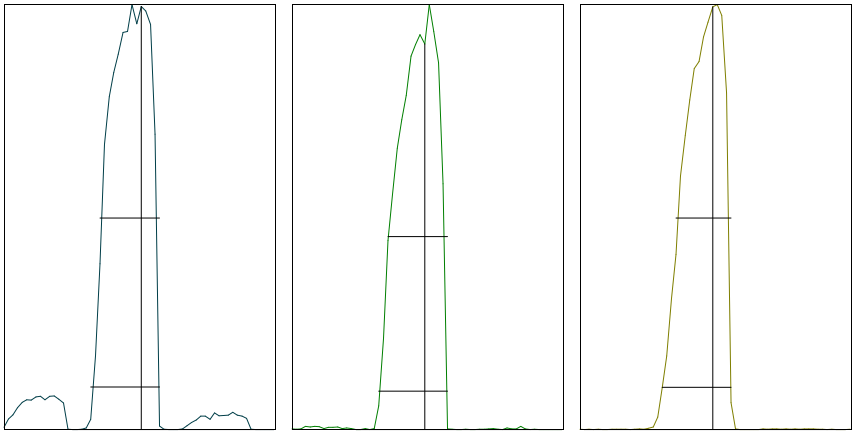
Tune Report

Tune File : He.U
Comment :



Integration Time:	0.1000 sec	
Sampling Period:	0.3100 sec	
n:	200	
Oxide:	156/140	0.278%
Doubly Charged:	70/140	3.268%

m/z	Range	Count	Mean	RSD%	Background
51	20	3.0	3.5	51.40	0.60
59	5,000	3288.0	3466.5	3.07	0.60
75	20	0.0	0.5	145.18	0.80
51/59	1	0.091%	0.101%	51.61	



m/z:	59	89	205
Height:	3,541	1,199	3,827
Axis:	59.05	89.00	205.00
W-50%:	0.65	0.65	0.60
W-10%:	0.7500	0.7500	0.7500

Integration Time:	0.1000 sec
Acquisition Time:	22.5600 sec

Y axis : Linear

Generated : May 19, 2016 10:51:25
Printed : May 19, 2016 10:51:27

Tune Report

Tune File : He.U
Comment :

Tuning Parameters

===Plasma Condition===				===Ion Lenses===				===Q-Pole Parameters===			
RF Power	:	1600	W	Extract 1	:	0	V	AMU Gain	:	121	
RF Matching	:	1.6	V	Extract 2	:	-120	V	AMU Offset	:	121	
Smpl Depth	:	9	mm	Omega Bias-ce	:	-24	V	Axis Gain	:	0.9993	
Torch-H	:	-0.1	mm	Omega Lens-ce	:	-2	V	Axis Offset	:	-0.03	
Torch-V	:	0.5	mm	Cell Entrance	:	-40	V	QP Bias	:	-15	V
Carrier Gas	:	1.2	L/min	QP Focus	:	-10	V				
Makeup Gas	:	0	L/min	Cell Exit	:	-40	V	===Detector Parameters===			
Optional Gas	:	---	%					Discriminator	:	8	mV
Nebulizer Pump	:	0.1	rps	===Octopole Parameters===				Analog HV	:	1740	V
Sample Pump	:	---	rps	OctP RF	:	170	V	Pulse HV	:	1460	V
S/C Temp	:	2	degC	OctP Bias	:	-18	V				

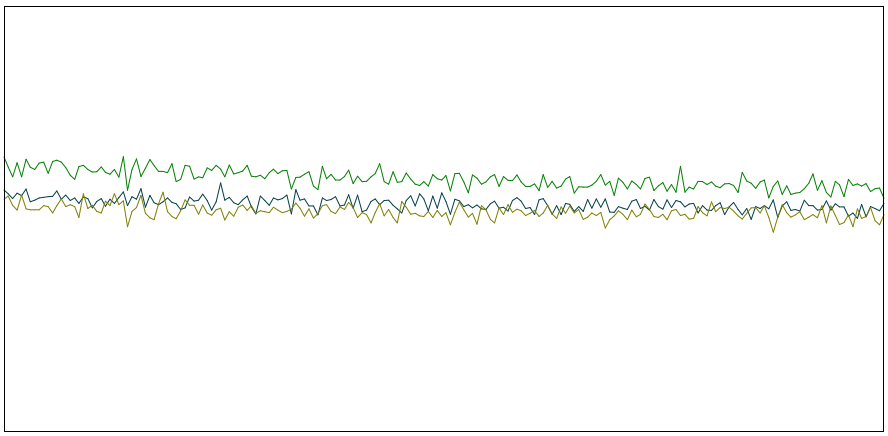
===Reaction Cell===

Reaction Mode	:	ON									
H2 Gas	:	0	mL/min	He Gas	:	5	mL/min	Optional Gas	:	---	%

Generated : May 19, 2016 10:51:25
Printed : May 19, 2016 10:51:29

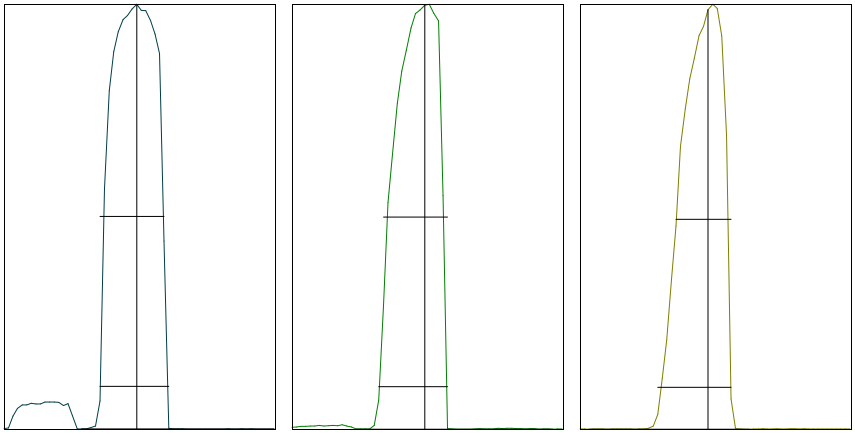
Tune Report

Tune File : nogas.u
Comment :



Integration Time:	0.1000 sec	
Sampling Period:	0.8200 sec	
n:	200	
Oxide:	156/140	0.970%
Doubly Charged:	70/140	1.213%

m/z	Range	Count	Mean	RSD%	Background
7	20,000	10732.0	10715.3	2.80	1.80
89	20,000	10966.0	11886.5	3.57	4.30
205	20,000	10200.0	10338.2	3.03	10.70
156/140	2	0.750%	0.897%	12.37	
70/140	2	0.809%	0.985%	12.72	
63	500	215.0	249.4	8.02	2.90
23	20,000	16964.0	17972.9	3.37	1.40



m/z:	7	89	205
Height:	10,458	11,384	9,926
Axis:	7.00	89.00	204.95
W-50%:	0.70	0.70	0.60
W-10%:	0.7500	0.7500	0.800

Integration Time:	0.1000 sec
Acquisition Time:	22.7600 sec

Y axis : Linear

Generated : May 19, 2016 10:44:13
Printed : May 19, 2016 10:44:15

Tune File : nogas.u
Comment :

Tuning Parameters

===Plasma Condition===				===Ion Lenses===				===Q-Pole Parameters===			
RF Power	:	1600	W	Extract 1	:	0	V	AMU Gain	:	121	
RF Matching	:	1.6	V	Extract 2	:	-120	V	AMU Offset	:	121	
Smpl Depth	:	9	mm	Omega Bias-ce	:	-18	V	Axis Gain	:	0.9993	
Torch-H	:	-0.1	mm	Omega Lens-ce	:	-1	V	Axis Offset	:	-0.03	
Torch-V	:	0.5	mm	Cell Entrance	:	-30	V	QP Bias	:	-1	V
Carrier Gas	:	1.2	L/min	QP Focus	:	4	V				
Makeup Gas	:	0	L/min	Cell Exit	:	-40	V	===Detector Parameters===			
Optional Gas	:	---	%					Discriminator	:	8	mV
Nebulizer Pump	:	0.1	rps	===Octopole Parameters===				Analog HV	:	1740	V
Sample Pump	:	---	rps	OctP RF	:	170	V	Pulse HV	:	1460	V
S/C Temp	:	2	degC	OctP Bias	:	-6	V				

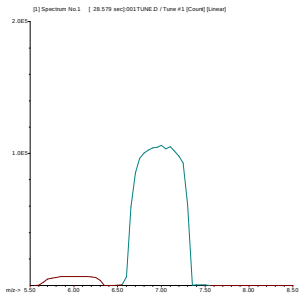
===Reaction Cell===											
Reaction Mode	:	OFF									
H2 Gas	:	0	mL/min	He Gas	:	0	mL/min	Optional Gas	:	---	%

6020 QC Tune Report

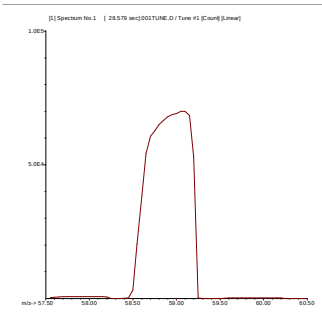
Data File: C:\ICPCHEM\1\DATA\16E19k00.B\001TUNE.D
Date Acquired: May 19 2016 10:59 am
Acq. Method: TN6020.M
Operator: KL
Sample Name: TUNE CHECK
Misc Info:
Vial Number: 1301
Current Method: C:\ICPCHEM\1\METHODS\TN6020.M

RSD (%)

Element	Actual	Required	Flag
7 Li	2.16	5.00	
59 Co	4.96	5.00	
115 In	3.33	5.00	
205 Tl	1.42	5.00	

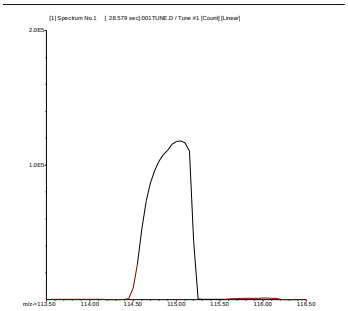


7 Li
Mass Calib.
Actual: 7.00
Required: 6.90 - 7.10
Flag:
Peak Width
Actual: 0.65
Required: 0.90
Flag:



59 Co
Mass Calib.
Actual: 59.05
Required: 58.90 - 59.10
Flag:
Peak Width
Actual: 0.65
Required: 0.90
Flag:

REVIEWED BY
By Janice Whitt at 12:43:39 PM, 5/26/2016



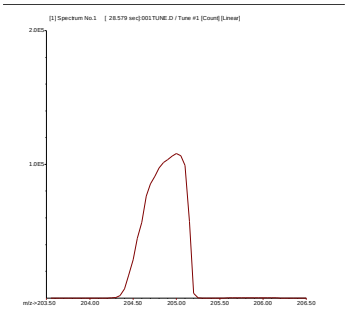
115 In

Mass Calib.

Actual:	115.00	
Required:	114.90 -	115.10
Flag:		

Peak Width

Actual:	0.65
Required:	0.90
Flag:	



205 Tl

Mass Calib.

Actual:	204.95	
Required:	204.90 -	205.10
Flag:		

Peak Width

Actual:	0.60
Required:	0.90
Flag:	

REVIEWED BY
By Janice Whitt at 12:43:44 PM, 5/26/2016

P/A Factor Tuning Report

Acquired:May 19 2016 10:56 am

Mass[amu]	Element	P/A Factor
6	Li	0.073200
23	Na	0.089186
24	Mg	0.093944
27	Al	0.097741
39	K	0.098985
44	Ca	Sensitivity too low
45	Sc	0.099490
47	Ti	Sensitivity too low
51	V	0.102517
52	Cr	0.105648
55	Mn	0.107129
59	Co	0.111371
60	Ni	0.114387
63	Cu	0.116786
66	Zn	0.115916
72	Ge	0.114615
75	As	0.113650
78	Se	Sensitivity too low
88	Sr	0.114659
95	Mo	0.113429
106	(Cd)	0.121228
107	Ag	Sensitivity too low
108	(Cd)	0.121584
111	Cd	0.123186
115	In	0.122271
118	Sn	0.122032
121	Sb	0.121669
137	Ba	Sensitivity too low
205	Tl	0.133360
206	(Pb)	0.133130
207	(Pb)	0.133347
208	Pb	0.133532
209	Bi	0.133174
238		0.132412

===Detector Parameters===
  Discriminator: 8.0 mV
      Analog HV: 1740 V
       Pulse HV: 1460 V

REVIEWED BY
By Janice Whitt at 12:43:59 PM, 5/26/2016

Calibration Blank QC Report

Acq. Method: DHL_3Fe.M Sample Name: BLANK STD 1
Operator: KL Instrument: ICPMS3
Last Cal. Update: May 19 2016 11:44 am
Date Acquired: May 19 2016 11:40 am

QC&ISTD Elements

Element				CPS Mean		SD	RSD(%)
6	Li	2	---	50.17	P	7.35	14.66
7	Li	2	45	540.03	P	21.86	4.05
9	Be	2	45	12.22	P	3.85	31.49
11	B	2	45	3192.76	P	33.40	1.05
23	Na	1	45	5175.71	P	116.50	2.25
24	Mg	1	45	254.46	P	47.18	18.54
27	Al	1	45	107.56	P	9.83	9.14
39	K	1	45	2238.08	P	51.04	2.28
44	Ca	2	45	2891.56	P	42.21	1.46
45	Sc	1	---	184662.30	P	1795.00	0.97
45	Sc	2	---	4233596.00	A	28910.00	0.68
47	Ti	1	45	2.22	P	2.04	91.66
51	V	1	45	89.34	P	2.31	2.58
51	V	2	---		P		
52	Cr	1	45	127.56	P	21.68	17.00
55	Mn	1	45	80.89	P	13.88	17.16
56	Fe	1	72	2254.47	P	93.89	4.16
59	Co	1	72	83.56	P	6.84	8.19
60	Ni	1	72	116.90	P	25.53	21.84
60	Ni	2	---		P		
63	Cu	1	72	305.79	P	16.78	5.49
63	Cu	2	---		P		
66	Zn	1	72	104.89	P	20.67	19.71
66	Zn	2	---		P		
72	Ge	1	---	110938.60	P	1536.00	1.38
72	Ge	2	---		P		
75	As	1	72	7.37	P	0.46	6.28
78	Se	1	72	1.81	P	0.06	3.53
88	Sr	2	###	397.80	P	28.35	7.13
95	Mo	2	###	37.78	P	10.72	28.38
107	Ag	2	###	20.00	P	3.33	16.66
111	Cd	2	###	0.00	P	17.70	5100400.00
115	In	2	---	5887647.00	A	55270.00	0.94
118	Sn	2	###	233.35	P	33.83	14.50
121	Sb	2	###	88.89	P	18.36	20.65
137	Ba	2	###	30.00	P	6.67	22.22
205	Tl	2	###	94.45	P	10.71	11.34
208	Pb	2	###	274.46	P	22.19	8.09
209	Bi	2	---	6267449.00	A	49990.00	0.80

Calibration Standard QC Report

Acq. Method: DHL_3Fe.M Sample Name: L2-160519
Operator: KL Instrument: ICPMS3
Date Acquired: May 19 2016 11:46 am
Last Cal. Update: May 19 2016 11:44 am

QC&ISTD Elements

Element				CPS Mean		SD	RSD(%)	Flag
6	Li	2	---	-367.23	P	30.78	8.38	ISFail
7	Li	2	45	10400.21	P	200.00	1.92	
9	Be	2	45	2472.56	P	50.49	2.04	
11	B	2	45	4629.92	P	60.05	1.30	
23	Na	1	45	11415.64	P	172.00	1.51	
24	Mg	1	45	3026.04	P	61.70	2.04	
27	Al	1	45	702.70	P	28.88	4.11	
39	K	1	45	3243.90	P	53.67	1.65	
44	Ca	2	45	6381.90	P	278.90	4.37	
45	Sc	1	---	181860.41	P	635.50	0.35	
45	Sc	2	---	4201410.00	A	51230.00	1.22	
47	Ti	1	45	22.22	P	8.57	38.57	
51	V	1	45	1316.09	P	38.12	2.90	
51	V	2	---		P			
52	Cr	1	45	1837.06	P	24.67	1.34	
55	Mn	1	45	660.92	P	10.01	1.51	
56	Fe	1	72	27899.27	P	334.90	1.20	
59	Co	1	72	3256.93	P	147.40	4.53	
60	Ni	1	72	1084.06	P	15.03	1.39	
60	Ni	2	---		P			
63	Cu	1	72	3144.54	P	163.00	5.18	
63	Cu	2	---		P			
66	Zn	1	72	357.34	P	7.42	2.08	
66	Zn	2	---		P			
72	Ge	1	---	109335.30	P	854.00	0.78	
72	Ge	2	---		P			
75	As	1	72	130.22	P	1.84	1.41	
78	Se	1	72	8.30	P	0.23	2.79	
88	Sr	2	115	8672.36	P	160.90	1.86	
95	Mo	2	115	1602.39	P	51.90	3.24	
107	Ag	2	115	4780.05	P	70.28	1.47	
111	Cd	2	115	1015.01	P	40.09	3.95	
115	In	2	---	5860602.00	A	94410.00	1.61	
118	Sn	2	115	2891.59	P	67.71	2.34	
121	Sb	2	115	3450.64	P	181.50	5.26	
137	Ba	2	115	1202.33	P	18.96	1.58	
205	Tl	2	209	10137.17	P	95.32	0.94	
208	Pb	2	209	13741.63	P	182.00	1.32	
209	Bi	2	---	6215751.00	A	22810.00	0.37	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-367.23	8.38	50.17	-732.0	70 - 120	ISFail
45	Sc	1	181860.44	0.35	184662.30	98.5	70 - 120	
45	Sc	2	4201409.50	1.22	4233596.00	99.2	70 - 120	
72	Ge	1	109335.28	0.78	110938.56	98.6	70 - 120	
115	In	2	5860602.00	1.61	5887647.50	99.5	70 - 120	
209	Bi	2	6215751.50	0.37	6267448.50	99.2	70 - 120	

Calibration Standard QC Report

Acq. Method: DHL_3Fe.M Sample Name: L-160519
Operator: KL Instrument: ICPMS3
Date Acquired: May 19 2016 11:52 am
Last Cal. Update: May 19 2016 11:50 am

QC&ISTD Elements

Element				CPS Mean		SD	RSD(%)	Flag
6	Li	2	---	-3795.22	P	199.70	5.26	ISFail
7	Li	2	45	98827.93	P	1416.00	1.43	Fail
9	Be	2	45	24347.53	P	563.30	2.31	Fail
11	B	2	45	23411.44	P	580.30	2.48	Fail
23	Na	1	45	67085.26	P	1585.00	2.36	Fail
24	Mg	1	45	27143.60	P	260.80	0.96	Fail
27	Al	1	45	6050.89	P	82.35	1.36	Fail
39	K	1	45	14176.37	P	294.30	2.08	Fail
44	Ca	2	45	38515.23	P	643.60	1.67	Fail
45	Sc	1	---	182811.70	P	1655.00	0.91	
45	Sc	2	---	4237054.00	A	80980.00	1.91	
47	Ti	1	45	291.56	P	20.24	6.94	Fail
51	V	1	45	11920.13	P	267.10	2.24	Fail
51	V	2	---		P			
52	Cr	1	45	17023.47	P	182.70	1.07	Fail
55	Mn	1	45	6083.83	P	92.73	1.52	Fail
56	Fe	1	72	256728.80	P	1409.00	0.55	Fail
59	Co	1	72	32007.61	P	300.00	0.94	Fail
60	Ni	1	72	9722.21	P	134.40	1.38	Fail
60	Ni	2	---		P			
63	Cu	1	72	27512.81	P	60.12	0.22	Fail
63	Cu	2	---		P			
66	Zn	1	72	2614.54	P	26.95	1.03	Fail
66	Zn	2	---		P			
72	Ge	1	---	109647.70	P	477.00	0.44	
72	Ge	2	---		P			
75	As	1	72	1220.62	P	13.77	1.13	Fail
78	Se	1	72	67.00	P	0.59	0.88	Fail
88	Sr	2	115	81022.56	P	1044.00	1.29	Fail
95	Mo	2	115	15416.02	P	145.70	0.95	Fail
107	Ag	2	115	45628.22	P	862.60	1.89	Fail
111	Cd	2	115	9841.50	P	190.30	1.93	
115	In	2	---	5868897.00	A	100400.00	1.71	
118	Sn	2	115	26287.75	P	414.20	1.58	Fail
121	Sb	2	115	32087.59	P	463.30	1.44	Fail
137	Ba	2	115	11828.63	P	320.60	2.71	Fail
205	Tl	2	209	97101.83	P	2597.00	2.67	Fail
208	Pb	2	209	133260.50	P	1357.00	1.02	Fail
209	Bi	2	---	6205193.00	A	20610.00	0.33	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-3795.22	5.26	50.17	-7565.3	70 - 120	ISFail
45	Sc	1	182811.70	0.91	184662.30	99.0	70 - 120	
45	Sc	2	4237053.50	1.91	4233596.00	100.1	70 - 120	
72	Ge	1	109647.71	0.44	110938.56	98.8	70 - 120	
115	In	2	5868897.00	1.71	5887647.50	99.7	70 - 120	
209	Bi	2	6205193.00	0.33	6267448.50	99.0	70 - 120	

Calibration Standard QC Report

Acq. Method: DHL_3Fe.M Sample Name: 10X-160519
Operator: KL Instrument: ICPMS3
Date Acquired: May 19 2016 11:58 am
Last Cal. Update: May 19 2016 11:56 am

QC&ISTD Elements

Element				CPS Mean		SD	RSD(%)	Flag
6	Li	2	---	-19640.14	P	250.10	1.27	ISFail
7	Li	2	45	491327.19	P	7715.00	1.57	Fail
9	Be	2	45	121091.90	P	1922.00	1.59	Fail
11	B	2	45	105045.30	P	2272.00	2.16	Fail
23	Na	1	45	315007.09	P	3805.00	1.21	Fail
24	Mg	1	45	137256.50	P	1406.00	1.02	Fail
27	Al	1	45	30511.52	P	520.60	1.71	Fail
39	K	1	45	63259.75	P	630.20	1.00	Fail
44	Ca	2	45	177127.30	P	2949.00	1.66	Fail
45	Sc	1	---	184557.41	P	971.30	0.53	
45	Sc	2	---	4190687.00	A	64930.00	1.55	
47	Ti	1	45	1381.43	P	20.18	1.46	Fail
51	V	1	45	59826.46	P	1042.00	1.74	Fail
51	V	2	---		P			
52	Cr	1	45	83605.37	P	1465.00	1.75	Fail
55	Mn	1	45	30282.71	P	82.63	0.27	Fail
56	Fe	1	72	1317320.00	A	12690.00	0.96	
59	Co	1	72	159989.70	P	772.10	0.48	
60	Ni	1	72	48115.69	P	179.80	0.37	Fail
60	Ni	2	---		P			
63	Cu	1	72	135726.09	P	1504.00	1.11	Fail
63	Cu	2	---		P			
66	Zn	1	72	12571.05	P	208.90	1.66	Fail
66	Zn	2	---		P			
72	Ge	1	---	108838.00	P	638.50	0.59	
72	Ge	2	---		P			
75	As	1	72	6075.65	P	20.88	0.34	
78	Se	1	72	306.08	P	4.08	1.33	Fail
88	Sr	2	115	397010.81	P	6170.00	1.55	Fail
95	Mo	2	115	75844.34	P	1285.00	1.69	Fail
107	Ag	2	115	225042.70	P	4897.00	2.18	Fail
111	Cd	2	115	48289.60	P	813.00	1.68	
115	In	2	---	5816359.00	A	111700.00	1.92	
118	Sn	2	115	129883.80	P	1907.00	1.47	Fail
121	Sb	2	115	158420.59	P	2852.00	1.80	Fail
137	Ba	2	115	58865.62	P	1305.00	2.22	Fail
205	Tl	2	209	485109.91	P	5938.00	1.22	Fail
208	Pb	2	209	658999.13	P	13210.00	2.00	Fail
209	Bi	2	---	6107293.00	A	106700.00	1.75	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-19640.15	1.27	50.17	-39150.3	70 - 120	ISFail
45	Sc	1	184557.36	0.53	184662.30	99.9	70 - 120	
45	Sc	2	4190687.00	1.55	4233596.00	99.0	70 - 120	
72	Ge	1	108837.99	0.59	110938.56	98.1	70 - 120	
115	In	2	5816358.50	1.92	5887647.50	98.8	70 - 120	
209	Bi	2	6107293.00	1.75	6267448.50	97.4	70 - 120	

Calibration Standard QC Report

Acq. Method: DHL_3Fe.M Sample Name: 5X-160519
Operator: KL Instrument: ICPMS3
Date Acquired: May 19 2016 12:05 pm
Last Cal. Update: May 19 2016 12:02 pm

QC&ISTD Elements

Element				CPS Mean		SD	RSD(%)	Flag
6	Li	2	---	-41728.60	P	1301.00	3.12	ISFail
7	Li	2	45	1032837.00	A	14410.00	1.40	Fail
9	Be	2	45	254560.50	P	6231.00	2.45	Fail
11	B	2	45	225505.00	P	4050.00	1.80	Fail
23	Na	1	45	654517.31	P	5495.00	0.84	Fail
24	Mg	1	45	289008.09	P	2416.00	0.84	
27	Al	1	45	64230.26	P	604.90	0.94	Fail
39	K	1	45	131741.30	P	856.00	0.65	Fail
44	Ca	2	45	367856.59	P	7316.00	1.99	Fail
45	Sc	1	---	191011.59	P	1022.00	0.54	
45	Sc	2	---	4289797.00	A	38500.00	0.90	
47	Ti	1	45	2747.02	P	60.99	2.22	
51	V	1	45	125351.50	P	672.90	0.54	
51	V	2	---		P			
52	Cr	1	45	175475.80	P	2113.00	1.20	
55	Mn	1	45	62844.83	P	664.50	1.06	Fail
56	Fe	1	72	2713470.00	A	29000.00	1.07	
59	Co	1	72	334495.31	P	1532.00	0.46	
60	Ni	1	72	99644.73	P	785.70	0.79	
60	Ni	2	---		P			
63	Cu	1	72	284655.31	P	302.20	0.11	
63	Cu	2	---		P			
66	Zn	1	72	25871.44	P	211.10	0.82	Fail
66	Zn	2	---		P			
72	Ge	1	---	112617.60	P	177.30	0.16	
72	Ge	2	---		P			
75	As	1	72	12564.75	P	27.79	0.22	
78	Se	1	72	639.54	P	7.67	1.20	Fail
88	Sr	2	115	821127.88	P	19650.00	2.39	Fail
95	Mo	2	115	156934.59	P	3320.00	2.12	Fail
107	Ag	2	115	470237.41	P	11560.00	2.46	Fail
111	Cd	2	115	101013.20	P	2493.00	2.47	
115	In	2	---	5926274.00	A	79950.00	1.35	
118	Sn	2	115	268088.91	P	4804.00	1.79	Fail
121	Sb	2	115	324893.31	P	8114.00	2.50	Fail
137	Ba	2	115	121508.00	P	3090.00	2.54	Fail
205	Tl	2	209	1023104.00	P	18570.00	1.82	Fail
208	Pb	2	209	1387943.00	P	21320.00	1.54	Fail
209	Bi	2	---	6376738.00	A	57880.00	0.91	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-41728.61	3.12	50.17	-83181.0	70 - 120	ISFail
45	Sc	1	191011.64	0.54	184662.30	103.4	70 - 120	
45	Sc	2	4289796.50	0.90	4233596.00	101.3	70 - 120	
72	Ge	1	112617.56	0.16	110938.56	101.5	70 - 120	
115	In	2	5926273.50	1.35	5887647.50	100.7	70 - 120	
209	Bi	2	6376738.00	0.91	6267448.50	101.7	70 - 120	

Calibration Standard QC Report

Acq. Method: DHL_3Fe.M Sample Name: 2X-160519
Operator: KL Instrument: ICPMS3
Date Acquired: May 19 2016 12:11 pm
Last Cal. Update: May 19 2016 12:08 pm

QC&ISTD Elements

Element				CPS Mean		SD	RSD(%)	Flag
6	Li	2	---	-91462.32	P	1912.00	2.09	ISFail
7	Li	2	45	2346925.00	A	27090.00	1.15	Fail
9	Be	2	45	596099.63	P	6352.00	1.07	
11	B	2	45	515258.09	P	14920.00	2.90	Fail
23	Na	1	45	1530312.00	A	3394.00	0.22	Fail
24	Mg	1	45	657384.63	P	8044.00	1.22	
27	Al	1	45	144473.80	P	2263.00	1.57	
39	K	1	45	296487.91	P	2560.00	0.86	Fail
44	Ca	2	45	858975.38	P	17330.00	2.02	Fail
45	Sc	1	---	178423.09	P	192.90	0.11	
45	Sc	2	---	4096621.00	A	81360.00	1.99	
47	Ti	1	45	6440.44	P	37.82	0.59	
51	V	1	45	290848.41	P	2373.00	0.82	
51	V	2	---		A			
52	Cr	1	45	406324.19	P	2661.00	0.65	
55	Mn	1	45	143836.80	P	1259.00	0.88	
56	Fe	1	72	6101551.00	A	90000.00	1.48	
59	Co	1	72	774466.88	P	10960.00	1.42	
60	Ni	1	72	230510.30	P	2182.00	0.95	
60	Ni	2	---		P			
63	Cu	1	72	657424.88	P	3596.00	0.55	
63	Cu	2	---		P			
66	Zn	1	72	59244.68	P	578.20	0.98	
66	Zn	2	---		P			
72	Ge	1	---	105080.00	P	95.26	0.09	
72	Ge	2	---		P			
75	As	1	72	29065.41	P	111.10	0.38	
78	Se	1	72	1448.01	P	18.34	1.27	
88	Sr	2	115	2018750.00	A	47330.00	2.34	Fail
95	Mo	2	115	370505.81	P	7668.00	2.07	Fail
107	Ag	2	115	1092935.00	M	31350.00	2.87	
111	Cd	2	115	236263.30	P	6006.00	2.54	
115	In	2	---	5707549.00	A	101900.00	1.79	
118	Sn	2	115	636472.00	P	17090.00	2.69	Fail
121	Sb	2	115	768790.19	P	15180.00	1.97	Fail
137	Ba	2	115	286479.00	P	6286.00	2.19	Fail
205	Tl	2	209	2487613.00	A	44480.00	1.79	Fail
208	Pb	2	209	3316910.00	A	74990.00	2.26	Fail
209	Bi	2	---	6030239.00	A	89860.00	1.49	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-91462.33	2.09	50.17	-182319.3	70 - 120	ISFail
45	Sc	1	178423.13	0.11	184662.30	96.6	70 - 120	
45	Sc	2	4096621.30	1.99	4233596.00	96.8	70 - 120	
72	Ge	1	105079.96	0.09	110938.56	94.7	70 - 120	
115	In	2	5707548.50	1.79	5887647.50	96.9	70 - 120	
209	Bi	2	6030238.50	1.49	6267448.50	96.2	70 - 120	

Calibration Standard QC Report

Acq. Method: DHL_3Fe.M Sample Name: H-160519
Operator: KL Instrument: ICPMS3
Date Acquired: May 19 2016 12:16 pm
Last Cal. Update: May 19 2016 12:14 pm

QC&ISTD Elements

Element				CPS Mean		SD	RSD(%)	Flag
6	Li	2	---	-176333.80	P	779.80	0.44	ISFail
7	Li	2	45	4575132.00	A	18150.00	0.40	Fail
9	Be	2	45	1124346.00	A	11730.00	1.04	
11	B	2	45	1036106.00	A	10050.00	0.97	Fail
23	Na	1	45	2955688.00	A	27900.00	0.94	Fail
24	Mg	1	45	1339387.00	A	11910.00	0.89	
27	Al	1	45	289882.50	P	4438.00	1.53	
39	K	1	45	586304.50	P	5369.00	0.92	Fail
44	Ca	2	45	1780991.00	A	27640.00	1.55	Fail
45	Sc	1	---	176072.00	P	979.70	0.56	
45	Sc	2	---	3994192.00	A	42480.00	1.06	
47	Ti	1	45	12960.73	P	139.80	1.08	
51	V	1	45	576946.00	P	5424.00	0.94	
51	V	2	---		A			
52	Cr	1	45	803267.69	P	8291.00	1.03	
55	Mn	1	45	285432.41	P	2043.00	0.72	
56	Fe	1	72	12016680.00	A	148500.00	1.24	
59	Co	1	72	1549085.00	A	13560.00	0.88	
60	Ni	1	72	447071.81	P	183.80	0.04	
60	Ni	2	---		P			
63	Cu	1	72	1305925.00	A	4474.00	0.34	
63	Cu	2	---		A			
66	Zn	1	72	113454.30	P	1410.00	1.24	
66	Zn	2	---		P			
72	Ge	1	---	103130.30	P	552.80	0.54	
72	Ge	2	---		P			
75	As	1	72	56725.41	P	250.40	0.44	
78	Se	1	72	2816.85	P	13.35	0.47	
88	Sr	2	115	3900043.00	A	40860.00	1.05	Fail
95	Mo	2	115	739748.81	P	11950.00	1.62	Fail
107	Ag	2	115	2192262.00	A	39230.00	1.79	
111	Cd	2	115	460458.91	P	5517.00	1.20	
115	In	2	---	5532077.00	A	78810.00	1.42	
118	Sn	2	115	1324473.00	A	17330.00	1.31	Fail
121	Sb	2	115	1583755.00	A	25910.00	1.64	Fail
137	Ba	2	115	567883.88	P	12800.00	2.25	Fail
205	Tl	2	209	4780758.00	A	52190.00	1.09	
208	Pb	2	209	6604395.00	A	15600.00	0.24	Fail
209	Bi	2	---	5779166.00	A	24330.00	0.42	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-176333.84	0.44	50.17	-351500.6	70 - 120	ISFail
45	Sc	1	176071.95	0.56	184662.30	95.3	70 - 120	
45	Sc	2	3994191.80	1.06	4233596.00	94.3	70 - 120	
72	Ge	1	103130.26	0.54	110938.56	93.0	70 - 120	
115	In	2	5532077.50	1.42	5887647.50	94.0	70 - 120	
209	Bi	2	5779166.00	0.42	6267448.50	92.2	70 - 120	

Calibration Standard QC Report

Acq. Method: DHL_3Fe.M Sample Name: H2-160519
Operator: KL Instrument: ICPMS3
Date Acquired: May 19 2016 12:22 pm
Last Cal. Update: May 19 2016 12:20 pm

QC&ISTD Elements

Element				CPS Mean		SD	RSD(%)	Flag
6	Li	2	---	-657717.50	A	21210.00	3.22	ISFail
7	Li	2	45	18014540.00	A	218000.00	1.21	
9	Be	2	45	4302085.00	A	34700.00	0.81	
11	B	2	45	3937437.00	A	65840.00	1.67	Fail
23	Na	1	45	7336196.00	A	144600.00	1.97	
24	Mg	1	45	3276086.00	A	79340.00	2.42	
27	Al	1	45	496.46	P	18.68	3.76	Fail
39	K	1	45	1540788.00	A	25360.00	1.65	Fail
44	Ca	2	45	4349529.00	A	39710.00	0.91	Fail
45	Sc	1	---	181248.70	P	3254.00	1.80	
45	Sc	2	---	4054037.00	A	18120.00	0.45	
47	Ti	1	45	53547.43	P	1019.00	1.90	
51	V	1	45	2388427.00	A	49770.00	2.08	
51	V	2	---		A			
52	Cr	1	45	3228333.00	A	76100.00	2.36	
55	Mn	1	45	1197536.00	A	25010.00	2.09	
56	Fe	1	72	15055.53	P	595.80	3.96	Fail
59	Co	1	72	5991754.00	A	146200.00	2.44	
60	Ni	1	72	1828119.00	A	45910.00	2.51	
60	Ni	2	---		A			
63	Cu	1	72	4967561.00	A	132300.00	2.66	
63	Cu	2	---		A			
66	Zn	1	72	449376.41	P	9863.00	2.19	
66	Zn	2	---		A			
72	Ge	1	---	104176.10	P	1352.00	1.30	
72	Ge	2	---		P			
75	As	1	72	228925.50	P	3747.00	1.64	
78	Se	1	72	11349.06	P	197.70	1.74	
88	Sr	2	115	15583430.00	A	126400.00	0.81	
95	Mo	2	115	3119907.00	A	48490.00	1.55	
107	Ag	2	115	1704.70	P	520.60	30.54	Fail
111	Cd	2	115	1942370.00	A	9783.00	0.50	
115	In	2	---	5589848.00	A	4621.00	0.08	
118	Sn	2	115	5210208.00	A	34670.00	0.67	Fail
121	Sb	2	115	1966.95	P	495.30	25.18	Fail
137	Ba	2	115	2420938.00	A	21450.00	0.89	
205	Tl	2	209	19088950.00	A	108500.00	0.57	
208	Pb	2	209	25704420.00	A	239500.00	0.93	
209	Bi	2	---	5741174.00	A	28170.00	0.49	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-657717.63	3.22	50.17	#########	70 - 120	ISFail
45	Sc	1	181248.73	1.80	184662.30	98.2	70 - 120	
45	Sc	2	4054037.00	0.45	4233596.00	95.8	70 - 120	
72	Ge	1	104176.09	1.30	110938.56	93.9	70 - 120	
115	In	2	5589848.50	0.08	5887647.50	94.9	70 - 120	
209	Bi	2	5741174.50	0.49	6267448.50	91.6	70 - 120	

ICSA QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\016ICSA.D\016ICSA.D#

Date Acquired:	May 19 2016 12:40 pm	Sample Name:	**ICSA-160519**
Acq. Method:	DHL_3Fe.M	Misc Info:	ICSAICPMS_TW
Operator:	KL	Diln Factor:	1.00
Last Cal. Update:	May 19 2016 12:25 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		RSD(%)	RL S	RL Aq	Flag
7	Li	2	45	0.601	ppb	6.11	8.00	5.00	
9	Be	2	45	0.315	ppb	14.36	0.32	0.80	
11	B	2	45	10.170	ppb	4.01	30.00	30.00	
23	Na	1	45	99850.000	ppb	0.92	#######	#######	
24	Mg	1	45	96120.000	ppb	0.96	#######	#######	
27	Al	1	45	102000.000	ppb	1.64	#######	#######	
39	K	1	45	97330.000	ppb	0.88	#######	#######	
44	Ca	2	45	94590.000	ppb	4.94	#######	#######	
47	Ti	1	45	2058.000	ppb	0.88	10.00	10.00	
51	V	1	45	0.276	ppb	11.93	10.00	10.00	
52	Cr	1	45	0.673	ppb	0.71	8.00	5.00	
55	Mn	1	45	1.700	ppb	2.76	8.00	10.00	
56	Fe	1	72	98240.000	ppb	1.92	#######	#######	
59	Co	1	72	0.805	ppb	2.73	8.00	10.00	
60	Ni	1	72	0.674	ppb	5.85	8.00	10.00	
63	Cu	1	72	0.756	ppb	2.13	8.00	10.00	
66	Zn	1	72	1.587	ppb	4.79	10.00	5.00	
75	As	1	72	0.964	ppb	2.74	4.00	5.00	
78	Se	1	72	0.523	ppb	14.25	2.00	5.00	
88	Sr	2	115	1.767	ppb	2.88	10.00	10.00	
95	Mo	2	115	1978.000	ppb	4.12	8.00	5.00	
107	Ag	2	115	0.190	ppb	4.64	0.80	2.00	
111	Cd	2	115	0.570	ppb	9.08	1.20	1.00	
118	Sn	2	115	0.794	ppb	9.44	10.00	10.00	
121	Sb	2	115	0.431	ppb	5.80	4.00	2.50	
137	Ba	2	115	0.703	ppb	6.64	8.00	10.00	
205	Tl	2	209	0.476	ppb	5.03	4.00	1.50	
208	Pb	2	209	0.646	ppb	4.00	1.20	1.00	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-123.80	29.07	50.17	-246.8	70 - 120	ISFail
45	Sc	1	168177.30	0.17	184662.30	91.1	70 - 120	
45	Sc	2	3644262.30	2.20	4233596.00	86.1	70 - 120	
72	Ge	1	95825.34	0.34	110938.56	86.4	70 - 120	
115	In	2	5029298.00	2.11	5887647.50	85.4	70 - 120	
209	Bi	2	5005062.00	0.51	6267448.50	79.9	70 - 120	

ICS-AB QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\017ICSB.D\017ICSB.D#

Date Acquired:	May 19 2016 12:46 pm	Sample Name:	**ICSAB-160519**
Acq. Method:	DHL_3Fe.M	Misc Info:	ICSBICPMS_TW
Operator:	KL	Diln Factor:	1.00
Last Cal. Update:	May 19 2016 12:25 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		RSD(%)	Expected	QC Range(%)			Flag
7	Li	2	45	0.42	ppb	2.50	---	80 -		120	
9	Be	2	45	0.11	ppb	13.11	---	80 -		120	
11	B	2	45	6.57	ppb	6.50	---	80 -		120	
23	Na	1	45	101400.00	ppb	1.33	100000.00	80 -		120	
24	Mg	1	45	95940.00	ppb	1.20	100000.00	80 -		120	
27	Al	1	45	101700.00	ppb	0.66	100000.00	80 -		120	
39	K	1	45	97540.00	ppb	0.82	100000.00	80 -		120	
44	Ca	2	45	95590.00	ppb	4.53	100000.00	80 -		120	
47	Ti	1	45	2065.00	ppb	0.14	---	80 -		120	
51	V	1	45	41.87	ppb	1.16	40.00	80 -		120	
52	Cr	1	45	22.30	ppb	0.74	20.00	80 -		120	
55	Mn	1	45	21.14	ppb	1.34	20.00	80 -		120	
56	Fe	1	72	98290.00	ppb	0.28	100000.00	80 -		120	
59	Co	1	72	42.59	ppb	0.92	40.00	80 -		120	
60	Ni	1	72	38.38	ppb	1.11	40.00	80 -		120	
63	Cu	1	72	22.20	ppb	1.74	20.00	80 -		120	
66	Zn	1	72	19.71	ppb	1.65	20.00	80 -		120	
75	As	1	72	20.61	ppb	0.66	20.00	80 -		120	
78	Se	1	72	19.11	ppb	1.16	20.00	80 -		120	
88	Sr	2	115	1.16	ppb	2.43	---	80 -		120	
95	Mo	2	115	1964.00	ppb	2.98	---	80 -		120	
107	Ag	2	115	17.48	ppb	3.39	20.00	80 -		120	
111	Cd	2	115	9.36	ppb	0.83	10.00	80 -		120	
118	Sn	2	115	0.69	ppb	8.25	---	80 -		120	
121	Sb	2	115	0.06	ppb	7.26	---	80 -		120	
137	Ba	2	115	0.55	ppb	1.24	---	80 -		120	
205	Tl	2	209	0.17	ppb	6.07	---	80 -		120	
208	Pb	2	209	0.36	ppb	3.54	---	80 -		120	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)			Flag
6	Li	2	-24.37	92.66	50.17	-48.6	70 -		120	ISFail
45	Sc	1	161569.11	0.65	184662.30	87.5	70 -		120	
45	Sc	2	3077160.30	3.79	4233596.00	72.7	70 -		120	
72	Ge	1	92298.93	0.20	110938.56	83.2	70 -		120	
115	In	2	4539527.00	2.78	5887647.50	77.1	70 -		120	
209	Bi	2	4786043.50	1.33	6267448.50	76.4	70 -		120	

CCV QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\020ICV.D\020ICV.D#

Date Acquired:	May 19 2016 01:04 pm	Sample Name:	**ICV1-160519**
Acq. Method:	DHL_3Fe.M	Misc Info:	ICV ICPMS_TW
Operator:	KL	Diln Factor:	1.00
Last Cal. Update:	May 19 2016 12:25 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		RSD(%)	Expected	QC Range(%)		Rec(%)	Flag
7	Li	2	45	145.20	ppb	1.57	100.00	90 -	110	145.2	Fail
9	Be	2	45	126.10	ppb	2.48	100.00	90 -	110	126.1	Fail
11	B	2	45	118.10	ppb	2.08	100.00	90 -	110	118.1	Fail
23	Na	1	45	2790.00	ppb	0.19	2500.00	90 -	110	111.6	Fail
24	Mg	1	45	2688.00	ppb	1.24	2500.00	90 -	110	107.5	
27	Al	1	45	2475.00	ppb	0.98	2500.00	90 -	110	99.0	
39	K	1	45	2513.00	ppb	1.58	2500.00	90 -	110	100.5	
44	Ca	2	45	2399.00	ppb	2.10	2500.00	90 -	110	96.0	
47	Ti	1	45	101.30	ppb	1.53	100.00	90 -	110	101.3	
51	V	1	45	105.00	ppb	0.62	100.00	90 -	110	105.0	
52	Cr	1	45	110.20	ppb	1.23	100.00	90 -	110	110.2	Fail
55	Mn	1	45	96.60	ppb	1.05	100.00	90 -	110	96.6	
56	Fe	1	72	2569.00	ppb	0.70	2500.00	90 -	110	102.8	
59	Co	1	72	108.10	ppb	0.96	100.00	90 -	110	108.1	
60	Ni	1	72	105.30	ppb	0.49	100.00	90 -	110	105.3	
63	Cu	1	72	107.60	ppb	0.58	100.00	90 -	110	107.6	
66	Zn	1	72	103.50	ppb	1.42	100.00	90 -	110	103.5	
75	As	1	72	101.40	ppb	0.79	100.00	90 -	110	101.4	
78	Se	1	72	98.23	ppb	1.55	100.00	90 -	110	98.2	
88	Sr	2	115	96.83	ppb	2.12	100.00	90 -	110	96.8	
95	Mo	2	115	90.43	ppb	3.01	100.00	90 -	110	90.4	
107	Ag	2	115	93.79	ppb	1.28	100.00	90 -	110	93.8	
111	Cd	2	115	95.30	ppb	2.03	100.00	90 -	110	95.3	
118	Sn	2	115	100.90	ppb	1.88	100.00	90 -	110	100.9	
121	Sb	2	115	97.60	ppb	1.93	100.00	90 -	110	97.6	
137	Ba	2	115	97.25	ppb	2.64	100.00	90 -	110	97.3	
205	Tl	2	209	96.68	ppb	1.24	100.00	90 -	110	96.7	
208	Pb	2	209	98.43	ppb	1.77	100.00	90 -	110	98.4	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)			Flag
6	Li	2	-16445.44	4.77	50.17	-32782.0	70 -	120		ISFail
45	Sc	1	167136.28	0.11	184662.30	90.5	70 -	120		
45	Sc	2	2842477.00	1.69	4233596.00	67.1	70 -	120		ISFail
72	Ge	1	98968.03	0.16	110938.56	89.2	70 -	120		
115	In	2	4588444.50	1.80	5887647.50	77.9	70 -	120		
209	Bi	2	5511763.50	0.79	6267448.50	87.9	70 -	120		

CCV QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\022LCVL.D\022LCVL.D#

Date Acquired:	May 19 2016 01:16 pm	Sample Name:	**ILCVL-160519**
Acq. Method:	DHL_3Fe.M	Misc Info:	LCVLICPMS_TW
Operator:	KL	Diln Factor:	1.00
Last Cal. Update:	May 19 2016 12:25 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		RSD(%)	Expected	QC Range(%)		Rec(%)	Flag
7	Li	2	45	14.56	ppb	0.48	5.00	70 -	130	291.2	Fail
9	Be	2	45	1.33	ppb	5.74	1.00	70 -	130	133.0	Fail
11	B	2	45	24.37	ppb	2.40	20.00	70 -	130	121.9	
23	Na	1	45	114.10	ppb	1.10	100.00	70 -	130	114.1	
24	Mg	1	45	107.70	ppb	1.96	100.00	70 -	130	107.7	
27	Al	1	45	103.00	ppb	1.26	100.00	70 -	130	103.0	
39	K	1	45	100.90	ppb	5.05	100.00	70 -	130	100.9	
44	Ca	2	45	95.23	ppb	3.16	100.00	70 -	130	95.2	
47	Ti	1	45	5.02	ppb	7.43	5.00	70 -	130	100.4	
51	V	1	45	1.00	ppb	0.35	1.00	70 -	130	99.7	
52	Cr	1	45	5.45	ppb	2.21	5.00	70 -	130	108.9	
55	Mn	1	45	4.92	ppb	2.42	5.00	70 -	130	98.4	
56	Fe	1	72	104.00	ppb	1.37	100.00	70 -	130	104.0	
59	Co	1	72	5.27	ppb	1.51	5.00	70 -	130	105.3	
60	Ni	1	72	5.73	ppb	2.79	5.00	70 -	130	114.6	
63	Cu	1	72	5.46	ppb	0.20	5.00	70 -	130	109.3	
66	Zn	1	72	5.32	ppb	4.50	5.00	70 -	130	106.5	
75	As	1	72	5.06	ppb	0.95	5.00	70 -	130	101.2	
78	Se	1	72	5.01	ppb	11.11	5.00	70 -	130	100.2	
88	Sr	2	115	4.76	ppb	2.48	5.00	70 -	130	95.1	
95	Mo	2	115	4.57	ppb	2.41	5.00	70 -	130	91.4	
107	Ag	2	115	1.87	ppb	3.28	2.00	70 -	130	93.5	
111	Cd	2	115	0.91	ppb	17.54	1.00	70 -	130	90.8	
118	Sn	2	115	4.93	ppb	3.64	5.00	70 -	130	98.7	
121	Sb	2	115	1.94	ppb	4.54	2.00	70 -	130	96.8	
137	Ba	2	115	4.78	ppb	3.83	5.00	70 -	130	95.6	
205	Tl	2	209	0.99	ppb	0.84	1.00	70 -	130	98.9	
208	Pb	2	209	0.99	ppb	1.10	1.00	70 -	130	99.3	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)		Flag
6	Li	2 RHigl	-1481.13	10.01	50.17	-2952.5	70 -	120	ISFail
45	Sc	1	171717.02	1.16	184662.30	93.0	70 -	120	
45	Sc	2	2912580.80	1.37	4233596.00	68.8	70 -	120	ISFail
72	Ge	1	103580.53	0.25	110938.56	93.4	70 -	120	
115	In	2	4682498.50	1.94	5887647.50	79.5	70 -	120	
209	Bi	2	5652002.50	0.97	6267448.50	90.2	70 -	120	

ICB QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\023_ICB.D\023_ICB.D#

Date Acquired:	May 19 2016 01:22 pm	Sample Name:	**ICB1-160519**
Acq. Method:	DHL_3Fe.M	Misc Info:	ICB ICPMS_TW
Operator:	KL	Diln Factor:	1.00
Last Cal. Update:	May 19 2016 12:25 pm	Instrument:	ICPMS3

QC Elements

Element	Conc.	RSD(%)	High Limit	Flag
7 Li 2 45	0.17 ppb	7.18	2.00	
9 Be 2 45	0.03 ppb	9.17	0.40	
11 B 2 45	1.56 ppb	2.89	10.00	
23 Na 1 45	5.57 ppb	1.52	50.00	
24 Mg 1 45	0.86 ppb	24.87	50.00	
27 Al 1 45	2.57 ppb	7.05	50.00	
39 K 1 45	1.99 ppb	2.89	50.00	
44 Ca 2 45	1.33 ppb	0.63	50.00	
47 Ti 1 45	0.08 ppb	66.67	4.00	
51 V 1 45	0.03 ppb	16.55	4.00	
52 Cr 1 45	0.04 ppb	10.72	2.00	
55 Mn 1 45	-0.02 ppb	2.34	2.00	
56 Fe 1 72	2.28 ppb	3.86	50.00	
59 Co 1 72	0.01 ppb	18.36	2.00	
60 Ni 1 72	-0.02 ppb	8.92	2.00	
63 Cu 1 72	0.06 ppb	3.32	2.00	
66 Zn 1 72	1.21 ppb	10.23	4.00	
75 As 1 72	0.04 ppb	2.39	2.00	
78 Se 1 72	0.05 ppb	29.05	0.60	
88 Sr 2 115	0.03 ppb	14.58	4.00	
95 Mo 2 115	0.09 ppb	8.74	2.00	
107 Ag 2 115	0.02 ppb	18.90	0.40	
111 Cd 2 115	0.02 ppb	13.04	0.40	
118 Sn 2 115	0.15 ppb	3.20	20.00	
121 Sb 2 115	0.01 ppb	9.35	2.00	
137 Ba 2 115	0.05 ppb	20.76	2.00	
205 Tl 2 209	0.05 ppb	13.63	2.00	
208 Pb 2 209	0.04 ppb	8.15	0.40	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li 2 RHig	9.65	######	50.17	19.2	70 - 120	ISFail
45 Sc 1	172613.33	0.09	184662.30	93.5	70 - 120	
45 Sc 2	2957685.80	0.93	4233596.00	69.9	70 - 120	ISFail
72 Ge 1	103479.73	0.36	110938.56	93.3	70 - 120	
115 In 2	4707830.00	0.54	5887647.50	80.0	70 - 120	
209 Bi 2	5641473.00	0.49	6267448.50	90.0	70 - 120	

PB QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\024__PB.D\024__PB.D#

Date Acquired:	May 19 2016 01:28 pm	Sample Name:	**MB-75132**
Acq. Method:	DHL_3Fe.M	Misc Info:	MBLKICPMS_TSDOD
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 19 2016 12:25 pm	Auto Dil:	Undiluted
Instrument:	ICPMS3	Total Dil:	5.00

QC Elements

Element				Conc.		RSD(%)	MDL	RL	Flag
7	Li	2	45	0.117	ppb	4.38	2.0	8.00	
9	Be	2	45	0.010	ppb	41.91	0.4	1.20	
11	B	2	45	1.835	ppb	5.44	10.0	30.00	
23	Na	1	45	9.447	ppb	1.33	50.0	#####	
24	Mg	1	45	2.590	ppb	7.92	50.0	#####	
27	Al	1	45	5.686	ppb	6.64	50.0	#####	
39	K	1	45	6.905	ppb	1.24	50.0	#####	
44	Ca	2	45	35.240	ppb	2.41	50.0	#####	
47	Ti	1	45	0.133	ppb	48.05	4.0	10.00	
51	V	1	45	0.010	ppb	13.50	4.0	10.00	
52	Cr	1	45	0.188	ppb	6.03	2.0	8.00	
55	Mn	1	45	0.041	ppb	12.86	2.0	8.00	
56	Fe	1	72	22.860	ppb	1.51	50.0	#####	
59	Co	1	72	-0.001	ppb	25.10	2.0	8.00	
60	Ni	1	72	0.150	ppb	1.56	2.0	8.00	
63	Cu	1	72	0.122	ppb	1.63	2.0	8.00	
66	Zn	1	72	1.714	ppb	4.65	4.0	10.00	
75	As	1	72	0.031	ppb	8.90	2.0	4.00	
78	Se	1	72	-0.012	ppb	48.95	0.6	2.00	
88	Sr	2	115	0.081	ppb	8.76	4.0	10.00	
95	Mo	2	115	0.097	ppb	15.41	2.0	8.00	
107	Ag	2	115	0.006	ppb	33.32	0.4	0.80	
111	Cd	2	115	0.022	ppb	87.80	0.4	1.20	
118	Sn	2	115	4.367	ppb	1.39	20.0	40.00	
121	Sb	2	115	0.000	ppb	27.65	2.0	4.00	
137	Ba	2	115	0.059	ppb	3.85	2.0	8.00	
205	Tl	2	209	0.034	ppb	5.86	2.0	4.00	
208	Pb	2	209	0.058	ppb	2.77	0.4	1.20	

ISTD Elements

Element				CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	RHig	20.76	45.17	50.17	41.4	70 - 120	ISFail
45	Sc	1		182682.58	0.82	184662.30	98.9	70 - 120	
45	Sc	2		3089697.30	1.41	4233596.00	73.0	70 - 120	
72	Ge	1		108196.10	1.03	110938.56	97.5	70 - 120	
115	In	2		4879067.50	0.24	5887647.50	82.9	70 - 120	
209	Bi	2		5754028.00	1.02	6267448.50	91.8	70 - 120	

LCS QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\025_LCS.D\025_LCS.D#

Date Acquired:	May 19 2016 01:35 pm	Sample Name:	**LCS-75132**
Acq. Method:	DHL_3Fe.M	Misc Info:	LCS ICPMS_TSDOD
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 19 2016 12:25 pm	Auto Dil:	Undiluted
Instrument:	ICPMS3	Total Dil:	5.00

QC Elements

Element				Conc.		RSD(%)	Expected	QC Range(%)		Rec(%)	Flag
7	Li	2	45	284.80	ppb	0.86	200.00	80 -	120	142.4	Fail
9	Be	2	45	241.60	ppb	0.77	200.00	80 -	120	120.8	Fail
11	B	2	45	233.50	ppb	1.32	200.00	80 -	120	116.8	
23	Na	1	45	5662.00	ppb	0.39	1000.00	80 -	120	566.2	Fail
24	Mg	1	45	5415.00	ppb	0.73	1000.00	80 -	120	541.5	Fail
27	Al	1	45	1018.00	ppb	1.03	1000.00	80 -	120	101.8	
39	K	1	45	5158.00	ppb	0.96	1000.00	80 -	120	515.8	Fail
44	Ca	2	45	4947.00	ppb	1.41	1000.00	80 -	120	494.7	Fail
47	Ti	1	45	200.50	ppb	2.46	200.00	80 -	120	100.3	
51	V	1	45	205.40	ppb	1.17	200.00	80 -	120	102.7	
52	Cr	1	45	210.60	ppb	0.49	200.00	80 -	120	105.3	
55	Mn	1	45	196.00	ppb	0.79	200.00	80 -	120	98.0	
56	Fe	1	72	1070.00	ppb	1.31	1000.00	80 -	120	107.0	
59	Co	1	72	212.60	ppb	1.19	200.00	80 -	120	106.3	
60	Ni	1	72	206.60	ppb	0.68	200.00	80 -	120	103.3	
63	Cu	1	72	212.70	ppb	0.34	200.00	80 -	120	106.4	
66	Zn	1	72	197.80	ppb	0.86	200.00	80 -	120	98.9	
75	As	1	72	196.10	ppb	0.48	200.00	80 -	120	98.1	
78	Se	1	72	186.20	ppb	0.72	200.00	80 -	120	93.1	
88	Sr	2	115	205.00	ppb	2.94	200.00	80 -	120	102.5	
95	Mo	2	115	186.50	ppb	1.62	200.00	80 -	120	93.3	
107	Ag	2	115	196.00	ppb	1.52	200.00	80 -	120	98.0	
111	Cd	2	115	190.50	ppb	2.25	200.00	80 -	120	95.3	
118	Sn	2	115	204.50	ppb	2.02	200.00	80 -	120	102.3	
121	Sb	2	115	193.40	ppb	1.36	200.00	80 -	120	96.7	
137	Ba	2	115	195.80	ppb	1.89	200.00	80 -	120	97.9	
205	Tl	2	209	209.00	ppb	2.05	200.00	80 -	120	104.5	
208	Pb	2	209	205.60	ppb	0.77	200.00	80 -	120	102.8	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)		Flag
6	Li	2	-72847.74	1.58	50.17	-145213.3	70 -	120	ISFail
45	Sc	1	184134.67	0.23	184662.30	99.7	70 -	120	
45	Sc	2	3040653.30	1.11	4233596.00	71.8	70 -	120	
72	Ge	1	107297.72	0.57	110938.56	96.7	70 -	120	
115	In	2	4715236.00	1.75	5887647.50	80.1	70 -	120	
209	Bi	2	5539503.50	0.96	6267448.50	88.4	70 -	120	

LCS QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\026_LCS.D\026_LCS.D#

Date Acquired:	May 19 2016 01:40 pm	Sample Name:	**LCSD-75132**
Acq. Method:	DHL_3Fe.M	Misc Info:	LCSDICPMS_TSDOD
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 19 2016 12:25 pm	Auto Dil:	Undiluted
Instrument:	ICPMS3	Total Dil:	5.00

QC Elements

Element				Conc.		RSD(%)	Expected	QC Range(%)		Rec(%)	Flag
7	Li	2	45	283.30	ppb	1.89	200.00	80 -	120	141.7	Fail
9	Be	2	45	239.10	ppb	1.21	200.00	80 -	120	119.6	
11	B	2	45	233.60	ppb	1.03	200.00	80 -	120	116.8	
23	Na	1	45	5685.00	ppb	1.14	1000.00	80 -	120	568.5	Fail
24	Mg	1	45	5378.00	ppb	0.40	1000.00	80 -	120	537.8	Fail
27	Al	1	45	1017.00	ppb	0.32	1000.00	80 -	120	101.7	
39	K	1	45	5152.00	ppb	1.28	1000.00	80 -	120	515.2	Fail
44	Ca	2	45	4979.00	ppb	1.94	1000.00	80 -	120	497.9	Fail
47	Ti	1	45	203.40	ppb	1.79	200.00	80 -	120	101.7	
51	V	1	45	206.10	ppb	1.40	200.00	80 -	120	103.1	
52	Cr	1	45	213.10	ppb	1.21	200.00	80 -	120	106.6	
55	Mn	1	45	197.60	ppb	0.33	200.00	80 -	120	98.8	
56	Fe	1	72	1068.00	ppb	0.24	1000.00	80 -	120	106.8	
59	Co	1	72	215.20	ppb	0.97	200.00	80 -	120	107.6	
60	Ni	1	72	208.60	ppb	0.63	200.00	80 -	120	104.3	
63	Cu	1	72	215.80	ppb	0.36	200.00	80 -	120	107.9	
66	Zn	1	72	198.80	ppb	0.51	200.00	80 -	120	99.4	
75	As	1	72	196.00	ppb	0.16	200.00	80 -	120	98.0	
78	Se	1	72	184.90	ppb	1.00	200.00	80 -	120	92.5	
88	Sr	2	115	204.40	ppb	1.33	200.00	80 -	120	102.2	
95	Mo	2	115	185.50	ppb	1.31	200.00	80 -	120	92.8	
107	Ag	2	115	194.60	ppb	1.86	200.00	80 -	120	97.3	
111	Cd	2	115	187.80	ppb	1.73	200.00	80 -	120	93.9	
118	Sn	2	115	202.90	ppb	1.21	200.00	80 -	120	101.5	
121	Sb	2	115	191.70	ppb	1.76	200.00	80 -	120	95.9	
137	Ba	2	115	194.20	ppb	2.44	200.00	80 -	120	97.1	
205	Tl	2	209	207.50	ppb	1.52	200.00	80 -	120	103.8	
208	Pb	2	209	203.10	ppb	1.23	200.00	80 -	120	101.6	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)		Flag
6	Li	2	-76038.02	2.25	50.17	-151572.8	70 -	120	ISFail
45	Sc	1	184124.63	0.23	184662.30	99.7	70 -	120	
45	Sc	2	3151463.00	1.28	4233596.00	74.4	70 -	120	
72	Ge	1	107167.97	0.07	110938.56	96.6	70 -	120	
115	In	2	4913403.50	0.31	5887647.50	83.5	70 -	120	
209	Bi	2	5710293.00	0.39	6267448.50	91.1	70 -	120	

Sample QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\028AREF.D\028AREF.D#

Date Acquired:	May 19 2016 01:53 pm	Sample Name:	**1605074-39A**
Acq. Method:	DHL_3Fe.M	Misc Info:	SAMPICPMS_TSDOD
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 19 2016 12:25 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		Corr. Con	RSD(%)	High Limit	Flag
7	Li	2	45	119.700	ppb	#REF!	1.17	2000.00	>RL
9	Be	2	45	3.671	ppb	#REF!	1.07	2000.00	>RL
11	B	2	45	153.300	ppb	#REF!	1.93	2000.00	>RL
23	Na	1	45	6011.000	ppb	#REF!	2.12	25000.00	>RL
24	Mg	1	45	16180.000	ppb	#REF!	1.24	25000.00	>RL
27	Al	1	45	55860.000	ppb	#REF!	2.39	10000.00	OUTCAL
39	K	1	45	19050.000	ppb	#REF!	2.32	25000.00	>RL
44	Ca	2	45	191300.000	ppb	#REF!	2.20	25000.00	OUTCAL
47	Ti	1	45	238.300	ppb	#REF!	2.18	2000.00	>RL
51	V	1	45	79.180	ppb	#REF!	2.35	2000.00	>RL
52	Cr	1	45	74.860	ppb	#REF!	2.69	2000.00	>RL
55	Mn	1	45	209.700	ppb	#REF!	3.47	2000.00	>RL
56	Fe	1	72	81770.000	ppb	#REF!	2.90	10000.00	OUTCAL
59	Co	1	72	26.580	ppb	#REF!	2.04	2000.00	>RL
60	Ni	1	72	42.030	ppb	#REF!	2.02	2000.00	>RL
63	Cu	1	72	7.459	ppb	#REF!	2.23	2000.00	J
66	Zn	1	72	214.000	ppb	#REF!	1.68	2000.00	>RL
75	As	1	72	20.280	ppb	#REF!	2.83	2000.00	>RL
78	Se	1	72	22.340	ppb	#REF!	3.87	2000.00	>RL
88	Sr	2	115	2725.000	ppb	#REF!	1.81	2000.00	OUTCAL
95	Mo	2	115	2.095	ppb	#REF!	2.39	2000.00	J
107	Ag	2	115	0.157	ppb	#REF!	8.13	500.00	ND
111	Cd	2	115	0.525	ppb	#REF!	11.26	2000.00	J
118	Sn	2	115	5.673	ppb	#REF!	2.57	2000.00	J
121	Sb	2	115	0.251	ppb	#REF!	12.60	500.00	ND
137	Ba	2	115	104.200	ppb	#REF!	0.99	2000.00	>RL
205	Tl	2	209	0.423	ppb	#REF!	5.53	2000.00	ND
208	Pb	2	209	20.540	ppb	#REF!	0.75	2000.00	>RL

ISTD Elements

Element			CPS Mean	RSD(%)		Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-9607.07	6.91	RHigh	50.17	-19150.6	70 - 120	ISFail
45	Sc	1	180735.19	2.49		184662.30	97.9	70 - 120	
45	Sc	2	2843108.00	2.18		4233596.00	67.2	70 - 120	ISFail
72	Ge	1	102137.26	1.74		110938.56	92.1	70 - 120	
115	In	2	4478875.50	0.62		5887647.50	76.1	70 - 120	
209	Bi	2	5006014.00	0.58		6267448.50	79.9	70 - 120	

DT QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\029DT1.D\029DT1.D#

Date Acquired:	May 19 2016 01:59 pm	Sample Name:	**1605074-39A SD**
Acq. Method:	DHL_3Fe.M	Misc Info:	SD ICPMS_TSDOD
Operator:	KL	Bench Diln:	25.00
Last Cal. Update:	May 19 2016 12:25 pm	Auto Diln:	Undiluted
Instrument:	ICPMS3	Total Diln:	25.00

QC Elements

Element				Conc.		RSD(%)	Expected	QC Range(%)	Rec(%)	Flag
7	Li	2	45	25.48	ppb	1.75	-1576.62	90 - 110	-8.1	
9	Be	2	45	0.82	ppb	5.46	3.67	90 - 110	111.8	
11	B	2	45	36.25	ppb	1.13	153.30	90 - 110	118.2	
23	Na	1	45	1272.00	ppb	0.50	6011.00	90 - 110	105.8	GOOD
24	Mg	1	45	3441.00	ppb	1.01	16180.00	90 - 110	106.3	GOOD
27	Al	1	45	11470.00	ppb	1.41	55860.00	90 - 110	102.7	GOOD
39	K	1	45	3825.00	ppb	0.33	19050.00	90 - 110	100.4	GOOD
44	Ca	2	45	40520.00	ppb	1.58	191300.00	90 - 110	105.9	GOOD
47	Ti	1	45	51.61	ppb	1.16	238.30	90 - 110	108.3	GOOD
51	V	1	45	16.70	ppb	1.29	79.18	90 - 110	105.5	GOOD
52	Cr	1	45	15.71	ppb	1.94	74.86	90 - 110	104.9	GOOD
55	Mn	1	45	44.67	ppb	0.35	209.70	90 - 110	106.5	GOOD
56	Fe	1	72	17100.00	ppb	1.07	81770.00	90 - 110	104.6	GOOD
59	Co	1	72	5.60	ppb	0.92	26.58	90 - 110	105.3	GOOD
60	Ni	1	72	8.36	ppb	2.85	42.03	90 - 110	99.5	GOOD
63	Cu	1	72	1.63	ppb	1.42	7.46	90 - 110	109.3	GOOD
66	Zn	1	72	47.56	ppb	2.20	214.00	90 - 110	111.1	
75	As	1	72	4.54	ppb	2.27	20.28	90 - 110	111.9	
78	Se	1	72	4.82	ppb	5.81	22.34	90 - 110	107.9	GOOD
88	Sr	2	115	558.30	ppb	1.37	2725.00	90 - 110	102.4	GOOD
95	Mo	2	115	0.39	ppb	4.28	2.10	90 - 110	92.5	GOOD
107	Ag	2	115	0.04	ppb	4.90	0.16	90 - 110	138.5	
111	Cd	2	115	0.13	ppb	12.17	0.52	90 - 110	126.1	
118	Sn	2	115	1.22	ppb	1.81	5.67	90 - 110	107.9	GOOD
121	Sb	2	115	0.06	ppb	16.95	0.25	90 - 110	119.9	
137	Ba	2	115	21.37	ppb	1.47	104.20	90 - 110	102.5	GOOD
205	Tl	2	209	0.11	ppb	2.28	0.42	90 - 110	134.9	
208	Pb	2	209	4.11	ppb	0.91	20.54	90 - 110	100.0	GOOD

ISTD Elements

Element				CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)		Flag
6	Li	2	RHig	-1576.62	25.82	50.17	-3142.8	70 -	120	ISFail
45	Sc	1		176203.27	0.55	184662.30	95.4	70 -	120	
45	Sc	2		2858255.00	0.69	4233596.00	67.5	70 -	120	ISFail
72	Ge	1		104591.41	0.19	110938.56	94.3	70 -	120	
115	In	2		4547017.50	1.24	5887647.50	77.2	70 -	120	
209	Bi	2		5466515.00	0.57	6267448.50	87.2	70 -	120	

Sample QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\030SMPL.D\030SMPL.D#

Date Acquired:	May 19 2016 02:05 pm	Sample Name:	**1605074-25A**
Acq. Method:	DHL_3Fe.M	Misc Info:	SAMPICPMS_TSDOD
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 19 2016 12:25 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		Corr. Con	RSD(%)	High Limit	Flag
7	Li	2	45	134.000	ppb	#REF!	0.70	2000.00	>RL
9	Be	2	45	2.823	ppb	#REF!	0.94	2000.00	>RL
11	B	2	45	106.400	ppb	#REF!	2.46	2000.00	>RL
23	Na	1	45	5258.000	ppb	#REF!	0.66	25000.00	>RL
24	Mg	1	45	14000.000	ppb	#REF!	1.19	25000.00	>RL
27	Al	1	45	60700.000	ppb	#REF!	0.44	10000.00	OUTCAL
39	K	1	45	11760.000	ppb	#REF!	1.18	25000.00	>RL
44	Ca	2	45	269400.000	ppb	#REF!	3.65	25000.00	OUTCAL
47	Ti	1	45	181.900	ppb	#REF!	1.05	2000.00	>RL
51	V	1	45	115.100	ppb	#REF!	1.36	2000.00	>RL
52	Cr	1	45	57.630	ppb	#REF!	1.22	2000.00	>RL
55	Mn	1	45	245.500	ppb	#REF!	1.14	2000.00	>RL
56	Fe	1	72	76280.000	ppb	#REF!	1.29	10000.00	OUTCAL
59	Co	1	72	15.070	ppb	#REF!	1.45	2000.00	>RL
60	Ni	1	72	28.450	ppb	#REF!	1.23	2000.00	>RL
63	Cu	1	72	14.030	ppb	#REF!	1.22	2000.00	>RL
66	Zn	1	72	154.000	ppb	#REF!	0.92	2000.00	>RL
75	As	1	72	26.990	ppb	#REF!	1.25	2000.00	>RL
78	Se	1	72	17.420	ppb	#REF!	3.91	2000.00	>RL
88	Sr	2	115	1179.000	ppb	#REF!	2.76	2000.00	>RL
95	Mo	2	115	2.118	ppb	#REF!	1.35	2000.00	J
107	Ag	2	115	0.097	ppb	#REF!	11.68	500.00	ND
111	Cd	2	115	0.542	ppb	#REF!	14.79	2000.00	J
118	Sn	2	115	5.527	ppb	#REF!	3.80	2000.00	ND
121	Sb	2	115	0.370	ppb	#REF!	3.76	500.00	ND
137	Ba	2	115	432.500	ppb	#REF!	1.99	2000.00	>RL
205	Tl	2	209	0.474	ppb	#REF!	6.60	2000.00	ND
208	Pb	2	209	33.000	ppb	#REF!	1.99	2000.00	>RL

ISTD Elements

Element			CPS Mean	RSD(%)		Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-9013.91	13.27	RHigh	50.17	-17968.2	70 - 120	ISFail
45	Sc	1	168906.58	0.77		184662.30	91.5	70 - 120	
45	Sc	2	2670162.50	3.16		4233596.00	63.1	70 - 120	ISFail
72	Ge	1	95768.78	0.42		110938.56	86.3	70 - 120	
115	In	2	4367780.00	1.87		5887647.50	74.2	70 - 120	
209	Bi	2	4861963.00	0.97		6267448.50	77.6	70 - 120	

Sample QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\031SMPL.D\031SMPL.D#

Date Acquired:	May 19 2016 02:11 pm	Sample Name:	**1605074-26A**
Acq. Method:	DHL_3Fe.M	Misc Info:	SAMPICPMS_TSDOD
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 19 2016 12:25 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		Corr. Con	RSD(%)	High Limit	Flag
7	Li	2	45	188.900	ppb	#REF!	3.34	2000.00	>RL
9	Be	2	45	3.484	ppb	#REF!	4.34	2000.00	>RL
11	B	2	45	123.000	ppb	#REF!	4.50	2000.00	>RL
23	Na	1	45	7116.000	ppb	#REF!	1.26	25000.00	>RL
24	Mg	1	45	12080.000	ppb	#REF!	0.43	25000.00	>RL
27	Al	1	45	48790.000	ppb	#REF!	1.15	10000.00	OUTCAL
39	K	1	45	13110.000	ppb	#REF!	1.16	25000.00	>RL
44	Ca	2	45	245600.000	ppb	#REF!	5.30	25000.00	OUTCAL
47	Ti	1	45	210.200	ppb	#REF!	2.79	2000.00	>RL
51	V	1	45	73.440	ppb	#REF!	0.22	2000.00	>RL
52	Cr	1	45	46.060	ppb	#REF!	1.07	2000.00	>RL
55	Mn	1	45	324.200	ppb	#REF!	0.25	2000.00	>RL
56	Fe	1	72	67360.000	ppb	#REF!	0.77	10000.00	OUTCAL
59	Co	1	72	36.920	ppb	#REF!	0.56	2000.00	>RL
60	Ni	1	72	34.310	ppb	#REF!	1.53	2000.00	>RL
63	Cu	1	72	6.928	ppb	#REF!	2.24	2000.00	J
66	Zn	1	72	166.300	ppb	#REF!	1.20	2000.00	>RL
75	As	1	72	19.160	ppb	#REF!	1.02	2000.00	>RL
78	Se	1	72	21.740	ppb	#REF!	3.04	2000.00	>RL
88	Sr	2	115	991.800	ppb	#REF!	4.42	2000.00	>RL
95	Mo	2	115	1.719	ppb	#REF!	9.21	2000.00	ND
107	Ag	2	115	0.065	ppb	#REF!	2.41	500.00	ND
111	Cd	2	115	0.467	ppb	#REF!	15.52	2000.00	J
118	Sn	2	115	5.356	ppb	#REF!	3.58	2000.00	ND
121	Sb	2	115	0.118	ppb	#REF!	2.15	500.00	ND
137	Ba	2	115	90.460	ppb	#REF!	4.88	2000.00	>RL
205	Tl	2	209	0.315	ppb	#REF!	3.00	2000.00	ND
208	Pb	2	209	20.050	ppb	#REF!	4.14	2000.00	>RL

ISTD Elements

Element			CPS Mean	RSD(%)		Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-11427.89	9.22	RHigh	50.17	-22780.1	70 - 120	ISFail
45	Sc	1	177826.52	0.39		184662.30	96.3	70 - 120	
45	Sc	2	2574123.50	5.16	RHigh	4233596.00	60.8	70 - 120	ISFail
72	Ge	1	99465.51	0.52		110938.56	89.7	70 - 120	
115	In	2	4386893.00	3.84		5887647.50	74.5	70 - 120	
209	Bi	2	5007917.00	2.68		6267448.50	79.9	70 - 120	

Sample QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\032SMPL.D\032SMPL.D#

Date Acquired:	May 19 2016 02:16 pm	Sample Name:	**1605074-27A**
Acq. Method:	DHL_3Fe.M	Misc Info:	SAMPICPMS_TSDOD
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 19 2016 12:25 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		Corr. Con	RSD(%)	High Limit	Flag
7	Li	2	45	236.700	ppb	#REF!	2.02	2000.00	>RL
9	Be	2	45	4.679	ppb	#REF!	2.47	2000.00	>RL
11	B	2	45	175.700	ppb	#REF!	3.44	2000.00	>RL
23	Na	1	45	10130.000	ppb	#REF!	1.09	25000.00	>RL
24	Mg	1	45	17280.000	ppb	#REF!	0.49	25000.00	>RL
27	Al	1	45	62060.000	ppb	#REF!	2.27	10000.00	OUTCAL
39	K	1	45	17300.000	ppb	#REF!	0.94	25000.00	>RL
44	Ca	2	45	147400.000	ppb	#REF!	3.81	25000.00	OUTCAL
47	Ti	1	45	251.700	ppb	#REF!	2.66	2000.00	>RL
51	V	1	45	98.910	ppb	#REF!	0.52	2000.00	>RL
52	Cr	1	45	60.840	ppb	#REF!	1.36	2000.00	>RL
55	Mn	1	45	685.300	ppb	#REF!	0.99	2000.00	>RL
56	Fe	1	72	98240.000	ppb	#REF!	1.08	10000.00	OUTCAL
59	Co	1	72	53.720	ppb	#REF!	0.81	2000.00	>RL
60	Ni	1	72	62.470	ppb	#REF!	1.23	2000.00	>RL
63	Cu	1	72	10.860	ppb	#REF!	1.15	2000.00	>RL
66	Zn	1	72	288.600	ppb	#REF!	0.31	2000.00	>RL
75	As	1	72	32.450	ppb	#REF!	0.26	2000.00	>RL
78	Se	1	72	43.950	ppb	#REF!	1.90	2000.00	>RL
88	Sr	2	115	1723.000	ppb	#REF!	2.35	2000.00	>RL
95	Mo	2	115	2.769	ppb	#REF!	4.82	2000.00	J
107	Ag	2	115	0.086	ppb	#REF!	6.99	500.00	ND
111	Cd	2	115	0.622	ppb	#REF!	8.63	2000.00	J
118	Sn	2	115	5.817	ppb	#REF!	2.58	2000.00	ND
121	Sb	2	115	0.173	ppb	#REF!	5.41	500.00	ND
137	Ba	2	115	106.700	ppb	#REF!	3.57	2000.00	>RL
205	Tl	2	209	0.501	ppb	#REF!	2.85	2000.00	ND
208	Pb	2	209	33.130	ppb	#REF!	2.42	2000.00	>RL

ISTD Elements

Element			CPS Mean	RSD(%)		Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-12101.96	9.87	RHigh	50.17	-24123.8	70 - 120	ISFail
45	Sc	1	171786.78	0.33		184662.30	93.0	70 - 120	
45	Sc	2	2415670.30	3.10		4233596.00	57.1	70 - 120	ISFail
72	Ge	1	99421.65	0.24		110938.56	89.6	70 - 120	
115	In	2	4086432.80	2.27		5887647.50	69.4	70 - 120	ISFail
209	Bi	2	4771736.00	2.02		6267448.50	76.1	70 - 120	

Sample QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\033SMPL.D\033SMPL.D#

Date Acquired:	May 19 2016 02:22 pm	Sample Name:	**1605074-28A**
Acq. Method:	DHL_3Fe.M	Misc Info:	SAMPICPMS_TSDOD
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 19 2016 12:25 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		Corr. Con	RSD(%)	High Limit	Flag
7	Li	2	45	60.790	ppb	#REF!	0.67	2000.00	>RL
9	Be	2	45	2.193	ppb	#REF!	4.64	2000.00	>RL
11	B	2	45	77.150	ppb	#REF!	1.88	2000.00	>RL
23	Na	1	45	650.100	ppb	#REF!	1.22	25000.00	>RL
24	Mg	1	45	11810.000	ppb	#REF!	1.31	25000.00	>RL
27	Al	1	45	48980.000	ppb	#REF!	1.31	10000.00	OUTCAL
39	K	1	45	11270.000	ppb	#REF!	0.29	25000.00	>RL
44	Ca	2	45	56940.000	ppb	#REF!	1.55	25000.00	OUTCAL
47	Ti	1	45	322.500	ppb	#REF!	2.12	2000.00	>RL
51	V	1	45	75.690	ppb	#REF!	1.59	2000.00	>RL
52	Cr	1	45	76.280	ppb	#REF!	0.84	2000.00	>RL
55	Mn	1	45	615.600	ppb	#REF!	1.64	2000.00	>RL
56	Fe	1	72	45020.000	ppb	#REF!	2.17	10000.00	OUTCAL
59	Co	1	72	17.360	ppb	#REF!	1.45	2000.00	>RL
60	Ni	1	72	28.120	ppb	#REF!	1.72	2000.00	>RL
63	Cu	1	72	83.040	ppb	#REF!	1.15	2000.00	>RL
66	Zn	1	72	409.100	ppb	#REF!	1.40	2000.00	>RL
75	As	1	72	38.430	ppb	#REF!	1.16	2000.00	>RL
78	Se	1	72	14.770	ppb	#REF!	1.99	2000.00	>RL
88	Sr	2	115	301.400	ppb	#REF!	1.04	2000.00	>RL
95	Mo	2	115	2.375	ppb	#REF!	3.08	2000.00	J
107	Ag	2	115	0.183	ppb	#REF!	1.55	500.00	ND
111	Cd	2	115	0.847	ppb	#REF!	3.65	2000.00	J
118	Sn	2	115	6.180	ppb	#REF!	2.69	2000.00	ND
121	Sb	2	115	3.776	ppb	#REF!	2.80	500.00	J
137	Ba	2	115	448.800	ppb	#REF!	1.44	2000.00	>RL
205	Tl	2	209	0.464	ppb	#REF!	1.44	2000.00	ND
208	Pb	2	209	166.000	ppb	#REF!	0.53	2000.00	>RL

ISTD Elements

Element			CPS Mean	RSD(%)		Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-4068.46	9.54	RHigh	50.17	-8110.0	70 - 120	ISFail
45	Sc	1	169154.58	1.13		184662.30	91.6	70 - 120	
45	Sc	2	2691976.30	1.34		4233596.00	63.6	70 - 120	ISFail
72	Ge	1	99256.12	0.48		110938.56	89.5	70 - 120	
115	In	2	4387602.50	1.38		5887647.50	74.5	70 - 120	
209	Bi	2	5141888.50	0.80		6267448.50	82.0	70 - 120	

Sample QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\034SMPL.D\034SMPL.D#

Date Acquired:	May 19 2016 02:28 pm	Sample Name:	**1605074-29A**
Acq. Method:	DHL_3Fe.M	Misc Info:	SAMPICPMS_TSDOD
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 19 2016 12:25 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		Corr. Con	RSD(%)	High Limit	Flag
7	Li	2	45	63.820	ppb	#REF!	0.55	2000.00	>RL
9	Be	2	45	2.267	ppb	#REF!	3.62	2000.00	>RL
11	B	2	45	61.910	ppb	#REF!	1.91	2000.00	>RL
23	Na	1	45	413.000	ppb	#REF!	0.81	25000.00	>RL
24	Mg	1	45	10360.000	ppb	#REF!	0.98	25000.00	>RL
27	Al	1	45	49350.000	ppb	#REF!	1.06	10000.00	OUTCAL
39	K	1	45	11950.000	ppb	#REF!	0.84	25000.00	>RL
44	Ca	2	45	43210.000	ppb	#REF!	3.51	25000.00	OUTCAL
47	Ti	1	45	293.600	ppb	#REF!	1.48	2000.00	>RL
51	V	1	45	78.260	ppb	#REF!	1.21	2000.00	>RL
52	Cr	1	45	48.630	ppb	#REF!	0.79	2000.00	>RL
55	Mn	1	45	663.500	ppb	#REF!	1.24	2000.00	>RL
56	Fe	1	72	47750.000	ppb	#REF!	1.60	10000.00	OUTCAL
59	Co	1	72	18.090	ppb	#REF!	0.71	2000.00	>RL
60	Ni	1	72	28.160	ppb	#REF!	1.41	2000.00	>RL
63	Cu	1	72	54.560	ppb	#REF!	0.87	2000.00	>RL
66	Zn	1	72	448.200	ppb	#REF!	0.63	2000.00	>RL
75	As	1	72	23.160	ppb	#REF!	1.28	2000.00	>RL
78	Se	1	72	16.500	ppb	#REF!	5.95	2000.00	>RL
88	Sr	2	115	245.500	ppb	#REF!	1.55	2000.00	>RL
95	Mo	2	115	1.507	ppb	#REF!	1.19	2000.00	ND
107	Ag	2	115	0.157	ppb	#REF!	6.40	500.00	ND
111	Cd	2	115	0.879	ppb	#REF!	13.10	2000.00	J
118	Sn	2	115	5.574	ppb	#REF!	1.54	2000.00	ND
121	Sb	2	115	3.110	ppb	#REF!	4.43	500.00	J
137	Ba	2	115	443.500	ppb	#REF!	1.84	2000.00	>RL
205	Tl	2	209	0.461	ppb	#REF!	2.57	2000.00	ND
208	Pb	2	209	94.840	ppb	#REF!	1.40	2000.00	>RL

ISTD Elements

Element			CPS Mean	RSD(%)		Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-4627.81	5.51	RHigh	50.17	-9225.0	70 - 120	ISFail
45	Sc	1	181610.30	0.29		184662.30	98.3	70 - 120	
45	Sc	2	2917255.80	1.88		4233596.00	68.9	70 - 120	ISFail
72	Ge	1	105857.65	0.82		110938.56	95.4	70 - 120	
115	In	2	4608008.00	1.77		5887647.50	78.3	70 - 120	
209	Bi	2	5272195.00	1.31		6267448.50	84.1	70 - 120	

Sample QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\035SMPL.D\035SMPL.D#

Date Acquired:	May 19 2016 02:34 pm	Sample Name:	**1605074-30A**
Acq. Method:	DHL_3Fe.M	Misc Info:	SAMPICPMS_TSDOD
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 19 2016 12:25 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		Corr. Con	RSD(%)	High Limit	Flag
7	Li	2	45	55.940	ppb	#REF!	0.91	2000.00	>RL
9	Be	2	45	3.114	ppb	#REF!	1.64	2000.00	>RL
11	B	2	45	60.950	ppb	#REF!	2.41	2000.00	>RL
23	Na	1	45	6335.000	ppb	#REF!	0.91	25000.00	>RL
24	Mg	1	45	10100.000	ppb	#REF!	1.16	25000.00	>RL
27	Al	1	45	48320.000	ppb	#REF!	0.94	10000.00	OUTCAL
39	K	1	45	9383.000	ppb	#REF!	0.68	25000.00	>RL
44	Ca	2	45	68670.000	ppb	#REF!	1.64	25000.00	OUTCAL
47	Ti	1	45	590.400	ppb	#REF!	1.53	2000.00	>RL
51	V	1	45	80.320	ppb	#REF!	0.71	2000.00	>RL
52	Cr	1	45	75.510	ppb	#REF!	0.86	2000.00	>RL
55	Mn	1	45	1023.000	ppb	#REF!	0.48	2000.00	>RL
56	Fe	1	72	77760.000	ppb	#REF!	1.01	10000.00	OUTCAL
59	Co	1	72	24.580	ppb	#REF!	0.39	2000.00	>RL
60	Ni	1	72	33.250	ppb	#REF!	0.84	2000.00	>RL
63	Cu	1	72	153.100	ppb	#REF!	0.14	2000.00	>RL
66	Zn	1	72	544.900	ppb	#REF!	0.67	2000.00	>RL
75	As	1	72	32.940	ppb	#REF!	0.78	2000.00	>RL
78	Se	1	72	22.450	ppb	#REF!	2.26	2000.00	>RL
88	Sr	2	115	566.800	ppb	#REF!	1.21	2000.00	>RL
95	Mo	2	115	5.158	ppb	#REF!	1.14	2000.00	J
107	Ag	2	115	0.404	ppb	#REF!	5.70	500.00	J
111	Cd	2	115	1.568	ppb	#REF!	8.58	2000.00	>RL
118	Sn	2	115	24.140	ppb	#REF!	1.45	2000.00	J
121	Sb	2	115	4.128	ppb	#REF!	3.81	500.00	>RL
137	Ba	2	115	681.600	ppb	#REF!	0.87	2000.00	>RL
205	Tl	2	209	0.499	ppb	#REF!	1.39	2000.00	ND
208	Pb	2	209	131.500	ppb	#REF!	0.86	2000.00	>RL

ISTD Elements

Element			CPS Mean	RSD(%)		Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-4115.24	5.50	RHigh	50.17	-8203.2	70 - 120	ISFail
45	Sc	1	179979.67	0.12		184662.30	97.5	70 - 120	
45	Sc	2	2928828.80	0.65		4233596.00	69.2	70 - 120	ISFail
72	Ge	1	105028.79	0.40		110938.56	94.7	70 - 120	
115	In	2	4664992.00	0.46		5887647.50	79.2	70 - 120	
209	Bi	2	5276048.00	0.60		6267448.50	84.2	70 - 120	

Sample QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\036SMPL.D\036SMPL.D#

Date Acquired:	May 19 2016 02:40 pm	Sample Name:	**1605074-31A**
Acq. Method:	DHL_3Fe.M	Misc Info:	SAMPICPMS_TSDOD
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 19 2016 12:25 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		Corr. Con	RSD(%)	High Limit	Flag
7	Li	2	45	71.520	ppb	#REF!	0.83	2000.00	>RL
9	Be	2	45	3.125	ppb	#REF!	0.84	2000.00	>RL
11	B	2	45	98.090	ppb	#REF!	3.18	2000.00	>RL
23	Na	1	45	968.500	ppb	#REF!	0.59	25000.00	>RL
24	Mg	1	45	13970.000	ppb	#REF!	1.05	25000.00	>RL
27	Al	1	45	57150.000	ppb	#REF!	2.11	10000.00	OUTCAL
39	K	1	45	12170.000	ppb	#REF!	0.14	25000.00	>RL
44	Ca	2	45	84220.000	ppb	#REF!	3.08	25000.00	OUTCAL
47	Ti	1	45	388.800	ppb	#REF!	1.92	2000.00	>RL
51	V	1	45	108.900	ppb	#REF!	2.06	2000.00	>RL
52	Cr	1	45	77.860	ppb	#REF!	1.35	2000.00	>RL
55	Mn	1	45	1080.000	ppb	#REF!	0.33	2000.00	>RL
56	Fe	1	72	101900.000	ppb	#REF!	1.51	10000.00	OUTCAL
59	Co	1	72	29.300	ppb	#REF!	1.05	2000.00	>RL
60	Ni	1	72	44.580	ppb	#REF!	0.51	2000.00	>RL
63	Cu	1	72	165.100	ppb	#REF!	1.01	2000.00	>RL
66	Zn	1	72	653.400	ppb	#REF!	0.73	2000.00	>RL
75	As	1	72	54.900	ppb	#REF!	0.26	2000.00	>RL
78	Se	1	72	18.990	ppb	#REF!	7.33	2000.00	>RL
88	Sr	2	115	392.400	ppb	#REF!	1.97	2000.00	>RL
95	Mo	2	115	2.718	ppb	#REF!	1.83	2000.00	J
107	Ag	2	115	0.491	ppb	#REF!	1.32	500.00	J
111	Cd	2	115	1.598	ppb	#REF!	10.47	2000.00	>RL
118	Sn	2	115	5.924	ppb	#REF!	2.38	2000.00	ND
121	Sb	2	115	2.329	ppb	#REF!	1.48	500.00	J
137	Ba	2	115	587.700	ppb	#REF!	1.60	2000.00	>RL
205	Tl	2	209	0.655	ppb	#REF!	2.40	2000.00	ND
208	Pb	2	209	108.700	ppb	#REF!	1.25	2000.00	>RL

ISTD Elements

Element			CPS Mean	RSD(%)		Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-5113.35	5.69	RHigh	50.17	-10192.8	70 - 120	ISFail
45	Sc	1	177652.39	0.35		184662.30	96.2	70 - 120	
45	Sc	2	2927082.00	1.81		4233596.00	69.1	70 - 120	ISFail
72	Ge	1	102650.44	0.24		110938.56	92.5	70 - 120	
115	In	2	4684166.50	1.97		5887647.50	79.6	70 - 120	
209	Bi	2	5237627.00	0.29		6267448.50	83.6	70 - 120	

Sample QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\037SMPL.D\037SMPL.D#

Date Acquired:	May 19 2016 02:46 pm	Sample Name:	**1605074-32A**
Acq. Method:	DHL_3Fe.M	Misc Info:	SAMPICPMS_TSDOD1
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 19 2016 12:25 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		Corr. Con	RSD(%)	High Limit	Flag
7	Li	2	45	61.990	ppb	#REF!	1.70	2000.00	>RL
9	Be	2	45	2.501	ppb	#REF!	4.93	2000.00	>RL
11	B	2	45	74.820	ppb	#REF!	1.63	2000.00	>RL
23	Na	1	45	543.500	ppb	#REF!	0.25	25000.00	>RL
24	Mg	1	45	14180.000	ppb	#REF!	1.53	25000.00	>RL
27	Al	1	45	56280.000	ppb	#REF!	1.37	10000.00	OUTCAL
39	K	1	45	12610.000	ppb	#REF!	1.12	25000.00	>RL
44	Ca	2	45	57690.000	ppb	#REF!	1.91	25000.00	OUTCAL
47	Ti	1	45	373.700	ppb	#REF!	2.24	2000.00	>RL
51	V	1	45	85.230	ppb	#REF!	0.92	2000.00	>RL
52	Cr	1	45	74.340	ppb	#REF!	2.05	2000.00	>RL
55	Mn	1	45	651.500	ppb	#REF!	1.68	2000.00	>RL
56	Fe	1	72	49900.000	ppb	#REF!	1.62	10000.00	OUTCAL
59	Co	1	72	19.000	ppb	#REF!	1.22	2000.00	>RL
60	Ni	1	72	33.020	ppb	#REF!	0.76	2000.00	>RL
63	Cu	1	72	82.590	ppb	#REF!	1.77	2000.00	>RL
66	Zn	1	72	377.500	ppb	#REF!	2.05	2000.00	>RL
75	As	1	72	40.650	ppb	#REF!	1.08	2000.00	>RL
78	Se	1	72	17.020	ppb	#REF!	2.23	2000.00	>RL
88	Sr	2	115	294.300	ppb	#REF!	1.89	2000.00	>RL
95	Mo	2	115	1.536	ppb	#REF!	1.42	2000.00	ND
107	Ag	2	115	0.206	ppb	#REF!	4.33	500.00	ND
111	Cd	2	115	0.979	ppb	#REF!	3.45	2000.00	J
118	Sn	2	115	6.384	ppb	#REF!	2.06	2000.00	ND
121	Sb	2	115	4.195	ppb	#REF!	2.20	500.00	>RL
137	Ba	2	115	501.000	ppb	#REF!	1.99	2000.00	>RL
205	Tl	2	209	0.558	ppb	#REF!	5.26	2000.00	ND
208	Pb	2	209	214.800	ppb	#REF!	1.02	2000.00	>RL

ISTD Elements

Element			CPS Mean	RSD(%)		Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-4365.93	9.98	RHigh	50.17	-8703.0	70 - 120	ISFail
45	Sc	1	179341.20	0.96		184662.30	97.1	70 - 120	
45	Sc	2	2967859.80	1.66		4233596.00	70.1	70 - 120	
72	Ge	1	104675.02	1.18		110938.56	94.4	70 - 120	
115	In	2	4677593.50	1.91		5887647.50	79.4	70 - 120	
209	Bi	2	5353988.50	0.63		6267448.50	85.4	70 - 120	

Sample QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\038SMPL.D\038SMPL.D#

Date Acquired:	May 19 2016 02:52 pm	Sample Name:	**1605074-36A**
Acq. Method:	DHL_3Fe.M	Misc Info:	SAMPICPMS_TSDOD1
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 19 2016 12:25 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		Corr. Con	RSD(%)	High Limit	Flag
7	Li	2	45	101.000	ppb	#REF!	2.70	2000.00	>RL
9	Be	2	45	3.320	ppb	#REF!	3.85	2000.00	>RL
11	B	2	45	108.100	ppb	#REF!	1.41	2000.00	>RL
23	Na	1	45	3543.000	ppb	#REF!	1.39	25000.00	>RL
24	Mg	1	45	16650.000	ppb	#REF!	1.13	25000.00	>RL
27	Al	1	45	84990.000	ppb	#REF!	0.93	10000.00	OUTCAL
39	K	1	45	20430.000	ppb	#REF!	0.51	25000.00	>RL
44	Ca	2	45	53920.000	ppb	#REF!	1.71	25000.00	OUTCAL
47	Ti	1	45	247.500	ppb	#REF!	1.24	2000.00	>RL
51	V	1	45	119.500	ppb	#REF!	0.94	2000.00	>RL
52	Cr	1	45	74.390	ppb	#REF!	1.23	2000.00	>RL
55	Mn	1	45	610.300	ppb	#REF!	0.90	2000.00	>RL
56	Fe	1	72	73200.000	ppb	#REF!	0.36	10000.00	OUTCAL
59	Co	1	72	27.750	ppb	#REF!	1.23	2000.00	>RL
60	Ni	1	72	45.480	ppb	#REF!	0.83	2000.00	>RL
63	Cu	1	72	36.640	ppb	#REF!	0.78	2000.00	>RL
66	Zn	1	72	344.100	ppb	#REF!	0.30	2000.00	>RL
75	As	1	72	30.860	ppb	#REF!	0.03	2000.00	>RL
78	Se	1	72	24.120	ppb	#REF!	3.47	2000.00	>RL
88	Sr	2	115	367.700	ppb	#REF!	1.76	2000.00	>RL
95	Mo	2	115	1.416	ppb	#REF!	2.08	2000.00	ND
107	Ag	2	115	0.195	ppb	#REF!	10.72	500.00	ND
111	Cd	2	115	0.884	ppb	#REF!	12.98	2000.00	J
118	Sn	2	115	5.824	ppb	#REF!	1.60	2000.00	ND
121	Sb	2	115	3.437	ppb	#REF!	3.36	500.00	J
137	Ba	2	115	575.600	ppb	#REF!	1.72	2000.00	>RL
205	Tl	2	209	0.667	ppb	#REF!	1.93	2000.00	ND
208	Pb	2	209	164.300	ppb	#REF!	0.95	2000.00	>RL

ISTD Elements

Element			CPS Mean	RSD(%)		Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-8045.45	16.16	RHigh	50.17	-16037.6	70 - 120	ISFail
45	Sc	1	182656.08	0.30		184662.30	98.9	70 - 120	
45	Sc	2	3037835.80	2.71		4233596.00	71.8	70 - 120	
72	Ge	1	105130.96	0.38		110938.56	94.8	70 - 120	
115	In	2	4673251.00	1.98		5887647.50	79.4	70 - 120	
209	Bi	2	5230779.00	1.39		6267448.50	83.5	70 - 120	

PDS QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\039_PDS.D\039_PDS.D#

Date Acquired:	May 19 2016 02:58 pm	Sample Name:	**1605074-39A PDS**
Acq. Method:	DHL_3Fe.M	Misc Info:	PDS ICPMS_TSDOD1
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 19 2016 12:25 pm	Auto Diln:	Undiluted
Instrument:	ICPMS3	Total Diln:	5.00

QC Elements

Element				Conc.		RSD(%)	Ref Conc	Spike	Range	Rec(%)	Flag
7	Li	2	45	378.20	ppb	0.28	-33588.88	200	75-125	######	Fail
9	Be	2	45	222.20	ppb	0.81	3.67	200	75-125	109.3	
11	B	2	45	349.00	ppb	1.51	153.30	200	75-125	97.9	
23	Na	1	45	11360.00	ppb	1.57	6011.00	5000	75-125	107.0	
24	Mg	1	45	21390.00	ppb	1.18	16180.00	5000	75-125	104.2	
27	Al	1	45	61390.00	ppb	2.49	55860.00	5000	75-125	110.6	
39	K	1	45	24380.00	ppb	1.86	19050.00	5000	75-125	106.6	
44	Ca	2	45	199800.00	ppb	1.03	191300.00	5000	75-125	170.0	Fail
47	Ti	1	45	446.60	ppb	2.93	238.30	200	75-125	104.2	
51	V	1	45	283.60	ppb	0.90	79.18	200	75-125	102.2	
52	Cr	1	45	277.00	ppb	1.42	74.86	200	75-125	101.1	
55	Mn	1	45	405.40	ppb	1.19	209.70	200	75-125	97.9	
56	Fe	1	72	90130.00	ppb	0.87	81770.00	5000	75-125	167.2	Fail
59	Co	1	72	232.30	ppb	1.09	26.58	200	75-125	102.9	
60	Ni	1	72	226.70	ppb	1.02	42.03	200	75-125	92.3	
63	Cu	1	72	200.50	ppb	0.69	7.46	200	75-125	96.5	
66	Zn	1	72	357.40	ppb	0.70	214.00	200	75-125	71.7	Fail
75	As	1	72	220.40	ppb	0.59	20.28	200	75-125	100.1	
78	Se	1	72	211.50	ppb	1.15	22.34	200	75-125	94.6	
88	Sr	2	115	2955.00	ppb	0.76	2725.00	200	75-125	115.0	
95	Mo	2	115	185.10	ppb	1.09	2.10	200	75-125	91.5	
107	Ag	2	115	164.30	ppb	0.92	0.16	200	75-125	82.1	
111	Cd	2	115	179.70	ppb	1.01	0.52	200	75-125	89.6	
118	Sn	2	115	208.80	ppb	0.75	5.67	200	75-125	101.6	
121	Sb	2	115	194.50	ppb	0.71	0.25	200	75-125	97.1	
137	Ba	2	115	306.20	ppb	0.82	104.20	200	75-125	101.0	
205	Tl	2	209	213.50	ppb	0.75	0.42	200	75-125	106.5	
208	Pb	2	209	229.00	ppb	0.41	20.54	200	75-125	104.2	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-33588.88	2.95	50.17	-66955.4	70 - 120	ISFail
45	Sc	1	170831.47	1.25	184662.30	92.5	70 - 120	
45	Sc	2	2728591.80	1.40	4233596.00	64.5	70 - 120	ISFail
72	Ge	1	97168.71	0.51	110938.56	87.6	70 - 120	
115	In	2	4400645.50	0.87	5887647.50	74.7	70 - 120	
209	Bi	2	4909842.00	0.36	6267448.50	78.3	70 - 120	

MS/MSD QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\040_MS.D\040_MS.D#

Date Acquired:	May 19 2016 03:04 pm	Sample Name:	**1605074-39A MS**
Acq. Method:	DHL_3Fe.M	Misc Info:	MS ICPMS_TSDOD1
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 19 2016 12:25 pm	Auto Diln:	Undiluted
Instrument:	ICPMS3	Total Diln:	5.00

QC Elements

Element				Conc.		RSD(%)	Ref Conc	Spike	Range	Rec(%)	Flag
7	Li	2	45	394.30	ppb	1.45	########	200	80-120	######	Fail
9	Be	2	45	224.50	ppb	2.14	3.67	200	80-120	110.4	
11	B	2	45	355.20	ppb	2.75	153.30	200	80-120	101.0	
23	Na	1	45	11290.00	ppb	2.51	6011.00	1000	80-120	527.9	Fail
24	Mg	1	45	21860.00	ppb	3.24	16180.00	1000	80-120	568.0	Fail
27	Al	1	45	60560.00	ppb	2.82	55860.00	1000	80-120	470.0	Fail
39	K	1	45	25550.00	ppb	2.96	19050.00	1000	80-120	650.0	Fail
44	Ca	2	45	196200.00	ppb	2.99	########	1000	80-120	490.0	Fail
47	Ti	1	45	453.70	ppb	4.48	238.30	200	80-120	107.7	
51	V	1	45	285.10	ppb	2.64	79.18	200	80-120	103.0	
52	Cr	1	45	274.60	ppb	3.80	74.86	200	80-120	99.9	
55	Mn	1	45	397.60	ppb	3.88	209.70	200	80-120	94.0	
56	Fe	1	72	86530.00	ppb	2.50	81770.00	1000	80-120	476.0	Fail
59	Co	1	72	227.10	ppb	2.50	26.58	200	80-120	100.3	
60	Ni	1	72	225.80	ppb	2.46	42.03	200	80-120	91.9	
63	Cu	1	72	198.10	ppb	3.41	7.46	200	80-120	95.3	
66	Zn	1	72	351.60	ppb	2.11	214.00	200	80-120	68.8	Fail
75	As	1	72	215.30	ppb	2.78	20.28	200	80-120	97.5	
78	Se	1	72	203.60	ppb	2.46	22.34	200	80-120	90.6	
88	Sr	2	115	3137.00	ppb	1.68	2725.00	200	80-120	206.0	Fail
95	Mo	2	115	177.00	ppb	2.23	2.10	200	80-120	87.5	
107	Ag	2	115	172.30	ppb	1.88	0.16	200	80-120	86.1	
111	Cd	2	115	178.80	ppb	2.21	0.52	200	80-120	89.1	
118	Sn	2	115	200.10	ppb	2.40	5.67	200	80-120	97.2	
121	Sb	2	115	59.39	ppb	2.62	0.25	200	80-120	29.6	Fail
137	Ba	2	115	339.70	ppb	2.63	104.20	200	80-120	117.8	
205	Tl	2	209	212.40	ppb	1.62	0.42	200	80-120	106.0	
208	Pb	2	209	228.50	ppb	1.64	20.54	200	80-120	104.0	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)			Flag
6	Li	2	-67191.34	2.11	50.17	########	70	-	120	ISFail
45	Sc	1	168291.80	2.97	184662.30	91.1	70	-	120	
45	Sc	2	2703767.50	2.27	4233596.00	63.9	70	-	120	ISFail
72	Ge	1	96489.41	2.45	110938.56	87.0	70	-	120	
115	In	2	4500477.50	2.27	5887647.50	76.4	70	-	120	
209	Bi	2	5059484.50	2.03	6267448.50	80.7	70	-	120	

MS/MSD QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\041_MS.D\041_MS.D#

Date Acquired:	May 19 2016 03:10 pm	Sample Name:	**1605074-39A MSD**
Acq. Method:	DHL_3Fe.M	Misc Info:	MSD ICPMS_TSDOD1
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 19 2016 12:25 pm	Auto Diln:	Undiluted
Instrument:	ICPMS3	Total Diln:	5.00

QC Elements

Element				Conc.		RSD(%)	Ref Conc	Spike	Range	Rec(%)	Flag
7	Li	2	45	416.10	ppb	1.76	########	200	80-120	######	Fail
9	Be	2	45	226.30	ppb	2.77	3.67	200	80-120	111.3	
11	B	2	45	365.40	ppb	3.57	153.30	200	80-120	106.1	
23	Na	1	45	11260.00	ppb	2.55	6011.00	1000	80-120	524.9	Fail
24	Mg	1	45	21490.00	ppb	1.68	16180.00	1000	80-120	531.0	Fail
27	Al	1	45	60330.00	ppb	2.25	55860.00	1000	80-120	447.0	Fail
39	K	1	45	25180.00	ppb	0.88	19050.00	1000	80-120	613.0	Fail
44	Ca	2	45	212000.00	ppb	4.34	########	1000	80-120	2070.0	Fail
47	Ti	1	45	459.30	ppb	2.28	238.30	200	80-120	110.5	
51	V	1	45	276.00	ppb	2.71	79.18	200	80-120	98.4	
52	Cr	1	45	265.30	ppb	2.90	74.86	200	80-120	95.2	
55	Mn	1	45	380.10	ppb	1.87	209.70	200	80-120	85.2	
56	Fe	1	72	87410.00	ppb	1.51	81770.00	1000	80-120	564.0	Fail
59	Co	1	72	221.90	ppb	1.94	26.58	200	80-120	97.7	
60	Ni	1	72	221.00	ppb	2.64	42.03	200	80-120	89.5	
63	Cu	1	72	193.70	ppb	1.70	7.46	200	80-120	93.1	
66	Zn	1	72	348.60	ppb	1.13	214.00	200	80-120	67.3	Fail
75	As	1	72	210.80	ppb	1.59	20.28	200	80-120	95.3	
78	Se	1	72	201.40	ppb	2.22	22.34	200	80-120	89.5	
88	Sr	2	115	2946.00	ppb	3.23	2725.00	200	80-120	110.5	
95	Mo	2	115	173.30	ppb	3.34	2.10	200	80-120	85.6	
107	Ag	2	115	171.10	ppb	2.46	0.16	200	80-120	85.5	
111	Cd	2	115	175.30	ppb	2.43	0.52	200	80-120	87.4	
118	Sn	2	115	197.40	ppb	3.15	5.67	200	80-120	95.9	
121	Sb	2	115	59.84	ppb	3.27	0.25	200	80-120	29.8	Fail
137	Ba	2	115	301.40	ppb	3.43	104.20	200	80-120	98.6	
205	Tl	2	209	209.40	ppb	1.72	0.42	200	80-120	104.5	
208	Pb	2	209	223.80	ppb	2.12	20.54	200	80-120	101.6	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-72427.56	1.99	50.17	########	70 - 120	ISFail
45	Sc	1	185174.14	1.32	184662.30	100.3	70 - 120	
45	Sc	2	2722951.50	3.72	4233596.00	64.3	70 - 120	ISFail
72	Ge	1	103516.91	1.50	110938.56	93.3	70 - 120	
115	In	2	4675707.00	3.20	5887647.50	79.4	70 - 120	
209	Bi	2	5291683.00	2.61	6267448.50	84.4	70 - 120	

CCV QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\042CCV1.D\042CCV1.D#

Date Acquired:	May 19 2016 03:16 pm	Sample Name:	**CCV1-160519**
Acq. Method:	DHL_3Fe.M	Misc Info:	CCV ICPMS_TW
Operator:	KL	Diln Factor:	1.00
Last Cal. Update:	May 19 2016 12:25 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		RSD(%)	Expected	QC Range(%)		Rec(%)	Flag
7	Li	2	45	301.00	ppb	1.22	200.00	90 -	110	150.5	Fail
9	Be	2	45	254.70	ppb	0.79	200.00	90 -	110	127.4	Fail
11	B	2	45	231.00	ppb	1.43	200.00	90 -	110	115.5	Fail
23	Na	1	45	5595.00	ppb	0.45	5000.00	90 -	110	111.9	Fail
24	Mg	1	45	5258.00	ppb	0.54	5000.00	90 -	110	105.2	
27	Al	1	45	4959.00	ppb	1.18	5000.00	90 -	110	99.2	
39	K	1	45	5122.00	ppb	1.65	5000.00	90 -	110	102.4	
44	Ca	2	45	5029.00	ppb	1.81	5000.00	90 -	110	100.6	
47	Ti	1	45	196.40	ppb	0.85	200.00	90 -	110	98.2	
51	V	1	45	205.50	ppb	0.88	200.00	90 -	110	102.8	
52	Cr	1	45	210.80	ppb	0.67	200.00	90 -	110	105.4	
55	Mn	1	45	196.10	ppb	1.21	200.00	90 -	110	98.1	
56	Fe	1	72	4987.00	ppb	0.51	5000.00	90 -	110	99.7	
59	Co	1	72	207.90	ppb	1.07	200.00	90 -	110	104.0	
60	Ni	1	72	203.40	ppb	1.45	200.00	90 -	110	101.7	
63	Cu	1	72	210.10	ppb	0.74	200.00	90 -	110	105.1	
66	Zn	1	72	205.70	ppb	1.30	200.00	90 -	110	102.9	
75	As	1	72	205.30	ppb	0.42	200.00	90 -	110	102.7	
78	Se	1	72	200.30	ppb	1.15	200.00	90 -	110	100.2	
88	Sr	2	115	201.80	ppb	2.08	200.00	90 -	110	100.9	
95	Mo	2	115	180.20	ppb	1.18	200.00	90 -	110	90.1	
107	Ag	2	115	188.80	ppb	1.87	200.00	90 -	110	94.4	
111	Cd	2	115	191.40	ppb	1.36	200.00	90 -	110	95.7	
118	Sn	2	115	194.30	ppb	1.66	200.00	90 -	110	97.2	
121	Sb	2	115	195.40	ppb	1.41	200.00	90 -	110	97.7	
137	Ba	2	115	194.40	ppb	0.97	200.00	90 -	110	97.2	
205	Tl	2	209	204.40	ppb	1.37	200.00	90 -	110	102.2	
208	Pb	2	209	200.20	ppb	1.66	200.00	90 -	110	100.1	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)		Flag
6	Li	2	-69885.38	0.45	50.17	-139308.2	70 -	120	ISFail
45	Sc	1	174437.52	0.84	184662.30	94.5	70 -	120	
45	Sc	2	2734995.80	0.40	4233596.00	64.6	70 -	120	ISFail
72	Ge	1	104646.07	0.14	110938.56	94.3	70 -	120	
115	In	2	4635323.00	1.22	5887647.50	78.7	70 -	120	
209	Bi	2	5593313.00	1.29	6267448.50	89.2	70 -	120	

CCB QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\043_CCB.D\043_CCB.D#

Date Acquired:	May 19 2016 03:22 pm	Sample Name:	**CCB1-160519**
Acq. Method:	DHL_3Fe.M	Misc Info:	CCB ICPMS_TW
Operator:	KL	Diln Factor:	1.00
Last Cal. Update:	May 19 2016 12:25 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		RSD(%)	MDL S	MDL Aq	Flag
7	Li	2	45	0.564	ppb	7.58	2.00	2.00	
9	Be	2	45	0.243	ppb	12.10	0.40	0.30	
11	B	2	45	5.786	ppb	2.71	10.00	10.00	
23	Na	1	45	11.850	ppb	7.81	50.00	#####	
24	Mg	1	45	12.320	ppb	22.36	50.00	#####	
27	Al	1	45	32.300	ppb	19.26	50.00	10.00	FailAq
39	K	1	45	14.740	ppb	7.89	50.00	#####	
44	Ca	2	45	82.850	ppb	14.32	50.00	#####	Failsoil
47	Ti	1	45	0.225	ppb	16.66	4.00	3.00	
51	V	1	45	0.280	ppb	26.13	4.00	3.00	
52	Cr	1	45	0.285	ppb	22.57	2.00	2.00	
55	Mn	1	45	0.303	ppb	26.78	2.00	3.00	
56	Fe	1	72	43.930	ppb	22.08	50.00	30.00	FailAq
59	Co	1	72	0.243	ppb	28.03	2.00	3.00	
60	Ni	1	72	0.208	ppb	11.93	2.00	3.00	
63	Cu	1	72	0.285	ppb	15.33	2.00	2.00	
66	Zn	1	72	1.411	ppb	4.99	4.00	2.00	
75	As	1	72	0.317	ppb	20.57	2.00	2.00	
78	Se	1	72	0.343	ppb	3.36	0.60	2.00	
88	Sr	2	115	1.186	ppb	11.91	4.00	3.00	
95	Mo	2	115	0.263	ppb	10.42	2.00	2.00	
107	Ag	2	115	0.199	ppb	14.15	0.40	1.00	
111	Cd	2	115	0.187	ppb	28.05	0.40	0.30	
118	Sn	2	115	0.350	ppb	13.08	20.00	3.00	
121	Sb	2	115	0.223	ppb	10.43	2.00	0.80	
137	Ba	2	115	0.270	ppb	16.01	2.00	3.00	
205	Tl	2	209	0.360	ppb	3.56	2.00	0.50	
208	Pb	2	209	0.266	ppb	13.42	0.40	0.30	

ISTD Elements

Element				CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	RHigh	-85.56	10.26	50.17	-170.6	70 - 120	ISFail
45	Sc	1		176984.11	1.72	184662.30	95.8	70 - 120	
45	Sc	2		2940879.30	1.17	4233596.00	69.5	70 - 120	ISFail
72	Ge	1		108754.74	0.69	110938.56	98.0	70 - 120	
115	In	2		4845043.00	0.51	5887647.50	82.3	70 - 120	
209	Bi	2		5782553.00	0.91	6267448.50	92.3	70 - 120	

CCV QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\044LCVL.D\044LCVL.D#

Date Acquired:	May 19 2016 03:28 pm	Sample Name:	**LCVL1-160519**
Acq. Method:	DHL_3Fe.M	Misc Info:	LCVLICPMS_TW
Operator:	KL	Diln Factor:	1.00
Last Cal. Update:	May 19 2016 12:25 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		RSD(%)	Expected	QC Range(%)		Rec(%)	Flag
7	Li	2	45	13.83	ppb	1.69	5.00	70 -	130	276.6	Fail
9	Be	2	45	1.32	ppb	5.48	1.00	70 -	130	131.5	Fail
11	B	2	45	24.02	ppb	2.65	20.00	70 -	130	120.1	
23	Na	1	45	108.30	ppb	0.53	100.00	70 -	130	108.3	
24	Mg	1	45	107.80	ppb	2.13	100.00	70 -	130	107.8	
27	Al	1	45	113.80	ppb	1.32	100.00	70 -	130	113.8	
39	K	1	45	103.10	ppb	2.54	100.00	70 -	130	103.1	
44	Ca	2	45	133.80	ppb	7.53	100.00	70 -	130	133.8	Fail
47	Ti	1	45	5.62	ppb	6.25	5.00	70 -	130	112.3	
51	V	1	45	1.12	ppb	5.24	1.00	70 -	130	111.8	
52	Cr	1	45	5.36	ppb	0.19	5.00	70 -	130	107.1	
55	Mn	1	45	4.99	ppb	1.11	5.00	70 -	130	99.7	
56	Fe	1	72	118.50	ppb	1.83	100.00	70 -	130	118.5	
59	Co	1	72	5.07	ppb	0.86	5.00	70 -	130	101.4	
60	Ni	1	72	4.95	ppb	3.95	5.00	70 -	130	99.0	
63	Cu	1	72	5.22	ppb	1.44	5.00	70 -	130	104.4	
66	Zn	1	72	5.38	ppb	2.58	5.00	70 -	130	107.5	
75	As	1	72	5.22	ppb	1.96	5.00	70 -	130	104.5	
78	Se	1	72	5.34	ppb	11.32	5.00	70 -	130	106.8	
88	Sr	2	115	5.34	ppb	1.78	5.00	70 -	130	106.7	
95	Mo	2	115	4.44	ppb	0.74	5.00	70 -	130	88.7	
107	Ag	2	115	1.94	ppb	1.39	2.00	70 -	130	97.0	
111	Cd	2	115	1.04	ppb	12.41	1.00	70 -	130	104.4	
118	Sn	2	115	5.01	ppb	1.53	5.00	70 -	130	100.1	
121	Sb	2	115	1.96	ppb	3.39	2.00	70 -	130	98.1	
137	Ba	2	115	4.94	ppb	1.93	5.00	70 -	130	98.8	
205	Tl	2	209	1.07	ppb	3.52	1.00	70 -	130	106.9	
208	Pb	2	209	1.08	ppb	1.64	1.00	70 -	130	107.7	

ISTD Elements

Element				CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)		Flag
6	Li	2	RHigh	-1779.51	11.01	50.17	-3547.2	70 -	120	ISFail
45	Sc	1		183403.61	0.31	184662.30	99.3	70 -	120	
45	Sc	2		2993362.00	0.82	4233596.00	70.7	70 -	120	
72	Ge	1		111122.15	1.34	110938.56	100.2	70 -	120	
115	In	2		4852341.50	1.51	5887647.50	82.4	70 -	120	
209	Bi	2		5803227.50	1.03	6267448.50	92.6	70 -	120	

Sample QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\045SMPL.D\045SMPL.D#

Date Acquired:	May 19 2016 03:34 pm	Sample Name:	**1605074-37A**
Acq. Method:	DHL_3Fe.M	Misc Info:	SAMPICPMS_TSDOD1
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 19 2016 12:25 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		Corr. Con	RSD(%)	High Limit	Flag
7	Li	2	45	113.100	ppb	#REF!	1.07	2000.00	>RL
9	Be	2	45	3.472	ppb	#REF!	2.59	2000.00	>RL
11	B	2	45	138.200	ppb	#REF!	2.26	2000.00	>RL
23	Na	1	45	11060.000	ppb	#REF!	0.34	25000.00	>RL
24	Mg	1	45	19110.000	ppb	#REF!	0.65	25000.00	>RL
27	Al	1	45	87280.000	ppb	#REF!	1.65	10000.00	OUTCAL
39	K	1	45	18940.000	ppb	#REF!	0.46	25000.00	>RL
44	Ca	2	45	154000.000	ppb	#REF!	2.52	25000.00	OUTCAL
47	Ti	1	45	363.500	ppb	#REF!	2.33	2000.00	>RL
51	V	1	45	126.900	ppb	#REF!	0.84	2000.00	>RL
52	Cr	1	45	79.730	ppb	#REF!	1.30	2000.00	>RL
55	Mn	1	45	836.100	ppb	#REF!	1.22	2000.00	>RL
56	Fe	1	72	77610.000	ppb	#REF!	1.19	10000.00	OUTCAL
59	Co	1	72	29.600	ppb	#REF!	1.58	2000.00	>RL
60	Ni	1	72	50.010	ppb	#REF!	0.20	2000.00	>RL
63	Cu	1	72	42.120	ppb	#REF!	0.73	2000.00	>RL
66	Zn	1	72	2549.000	ppb	#REF!	0.20	2000.00	OUTCAL
75	As	1	72	25.740	ppb	#REF!	1.11	2000.00	>RL
78	Se	1	72	25.100	ppb	#REF!	2.33	2000.00	>RL
88	Sr	2	115	581.700	ppb	#REF!	2.32	2000.00	>RL
95	Mo	2	115	1.701	ppb	#REF!	3.88	2000.00	ND
107	Ag	2	115	0.213	ppb	#REF!	5.58	500.00	ND
111	Cd	2	115	0.989	ppb	#REF!	13.47	2000.00	J
118	Sn	2	115	6.082	ppb	#REF!	2.58	2000.00	ND
121	Sb	2	115	1.042	ppb	#REF!	0.78	500.00	ND
137	Ba	2	115	869.700	ppb	#REF!	2.13	2000.00	>RL
205	Tl	2	209	0.777	ppb	#REF!	2.41	2000.00	ND
208	Pb	2	209	54.800	ppb	#REF!	1.81	2000.00	>RL

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-9671.47	2.64	50.17	-19278.9	70 - 120	ISFail
45	Sc	1	174906.64	0.21	184662.30	94.7	70 - 120	
45	Sc	2	2924935.30	1.80	4233596.00	69.1	70 - 120	ISFail
72	Ge	1	99655.65	0.26	110938.56	89.8	70 - 120	
115	In	2	4645030.00	2.50	5887647.50	78.9	70 - 120	
209	Bi	2	5111804.50	0.83	6267448.50	81.6	70 - 120	

Sample QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\046SMPL.D\046SMPL.D#

Date Acquired:	May 19 2016 03:40 pm	Sample Name:	**1605074-38A**
Acq. Method:	DHL_3Fe.M	Misc Info:	SAMPICPMS_TSDOD1
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 19 2016 12:25 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		Corr. Con	RSD(%)	High Limit	Flag
7	Li	2	45	99.010	ppb	#REF!	1.23	2000.00	>RL
9	Be	2	45	2.737	ppb	#REF!	1.86	2000.00	>RL
11	B	2	45	123.900	ppb	#REF!	2.05	2000.00	>RL
23	Na	1	45	9951.000	ppb	#REF!	0.40	25000.00	>RL
24	Mg	1	45	16570.000	ppb	#REF!	1.45	25000.00	>RL
27	Al	1	45	61570.000	ppb	#REF!	1.32	10000.00	OUTCAL
39	K	1	45	13980.000	ppb	#REF!	0.14	25000.00	>RL
44	Ca	2	45	170700.000	ppb	#REF!	2.21	25000.00	OUTCAL
47	Ti	1	45	343.200	ppb	#REF!	2.60	2000.00	>RL
51	V	1	45	100.300	ppb	#REF!	1.11	2000.00	>RL
52	Cr	1	45	71.970	ppb	#REF!	0.64	2000.00	>RL
55	Mn	1	45	427.400	ppb	#REF!	0.49	2000.00	>RL
56	Fe	1	72	61410.000	ppb	#REF!	1.18	10000.00	OUTCAL
59	Co	1	72	22.720	ppb	#REF!	0.84	2000.00	>RL
60	Ni	1	72	40.910	ppb	#REF!	1.92	2000.00	>RL
63	Cu	1	72	30.820	ppb	#REF!	0.98	2000.00	>RL
66	Zn	1	72	1475.000	ppb	#REF!	0.95	2000.00	>RL
75	As	1	72	19.820	ppb	#REF!	0.96	2000.00	>RL
78	Se	1	72	18.580	ppb	#REF!	1.90	2000.00	>RL
88	Sr	2	115	569.300	ppb	#REF!	1.70	2000.00	>RL
95	Mo	2	115	2.304	ppb	#REF!	2.63	2000.00	J
107	Ag	2	115	0.146	ppb	#REF!	7.36	500.00	ND
111	Cd	2	115	0.918	ppb	#REF!	4.41	2000.00	J
118	Sn	2	115	5.492	ppb	#REF!	4.17	2000.00	ND
121	Sb	2	115	0.777	ppb	#REF!	1.45	500.00	ND
137	Ba	2	115	1119.000	ppb	#REF!	4.35	2000.00	>RL
205	Tl	2	209	0.512	ppb	#REF!	1.09	2000.00	ND
208	Pb	2	209	39.400	ppb	#REF!	0.97	2000.00	>RL

ISTD Elements

Element			CPS Mean	RSD(%)		Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-7642.57	7.11	RHigh	50.17	-15234.6	70 - 120	ISFail
45	Sc	1	170723.98	0.25		184662.30	92.5	70 - 120	
45	Sc	2	2939412.30	1.18		4233596.00	69.4	70 - 120	ISFail
72	Ge	1	99497.91	0.27		110938.56	89.7	70 - 120	
115	In	2	4632736.50	0.99		5887647.50	78.7	70 - 120	
209	Bi	2	5105094.00	0.28		6267448.50	81.5	70 - 120	

Sample QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\047SMPL.D\047SMPL.D#

Date Acquired:	May 19 2016 03:46 pm	Sample Name:	**1605074-42A**
Acq. Method:	DHL_3Fe.M	Misc Info:	SAMPICPMS_TSDOD1
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 19 2016 12:25 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		Corr. Con	RSD(%)	High Limit	Flag
7	Li	2	45	94.210	ppb	#REF!	0.62	2000.00	>RL
9	Be	2	45	2.876	ppb	#REF!	1.48	2000.00	>RL
11	B	2	45	133.100	ppb	#REF!	1.55	2000.00	>RL
23	Na	1	45	11070.000	ppb	#REF!	1.15	25000.00	>RL
24	Mg	1	45	16790.000	ppb	#REF!	1.11	25000.00	>RL
27	Al	1	45	66900.000	ppb	#REF!	1.11	10000.00	OUTCAL
39	K	1	45	14290.000	ppb	#REF!	0.56	25000.00	>RL
44	Ca	2	45	189400.000	ppb	#REF!	2.09	25000.00	OUTCAL
47	Ti	1	45	382.200	ppb	#REF!	2.76	2000.00	>RL
51	V	1	45	101.300	ppb	#REF!	0.80	2000.00	>RL
52	Cr	1	45	74.280	ppb	#REF!	1.14	2000.00	>RL
55	Mn	1	45	449.100	ppb	#REF!	0.84	2000.00	>RL
56	Fe	1	72	63800.000	ppb	#REF!	1.27	10000.00	OUTCAL
59	Co	1	72	23.200	ppb	#REF!	0.35	2000.00	>RL
60	Ni	1	72	42.410	ppb	#REF!	0.88	2000.00	>RL
63	Cu	1	72	15.530	ppb	#REF!	1.25	2000.00	>RL
66	Zn	1	72	156.000	ppb	#REF!	0.74	2000.00	>RL
75	As	1	72	20.110	ppb	#REF!	0.65	2000.00	>RL
78	Se	1	72	19.320	ppb	#REF!	2.64	2000.00	>RL
88	Sr	2	115	589.300	ppb	#REF!	2.53	2000.00	>RL
95	Mo	2	115	2.588	ppb	#REF!	3.43	2000.00	J
107	Ag	2	115	0.123	ppb	#REF!	4.01	500.00	ND
111	Cd	2	115	0.814	ppb	#REF!	8.37	2000.00	J
118	Sn	2	115	5.694	ppb	#REF!	2.68	2000.00	ND
121	Sb	2	115	0.331	ppb	#REF!	7.14	500.00	ND
137	Ba	2	115	661.900	ppb	#REF!	1.59	2000.00	>RL
205	Tl	2	209	0.521	ppb	#REF!	2.35	2000.00	ND
208	Pb	2	209	28.550	ppb	#REF!	1.40	2000.00	>RL

ISTD Elements

Element			CPS Mean	RSD(%)		Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-7843.36	6.17	RHigh	50.17	-15634.8	70 - 120	ISFail
45	Sc	1	175160.14	0.46		184662.30	94.9	70 - 120	
45	Sc	2	2907554.30	2.05		4233596.00	68.7	70 - 120	ISFail
72	Ge	1	101504.35	0.51		110938.56	91.5	70 - 120	
115	In	2	4628944.00	0.90		5887647.50	78.6	70 - 120	
209	Bi	2	5135147.00	0.44		6267448.50	81.9	70 - 120	

Sample QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\048SMPL.D\048SMPL.D#

Date Acquired:	May 19 2016 03:52 pm	Sample Name:	**1605074-43A**
Acq. Method:	DHL_3Fe.M	Misc Info:	SAMPICPMS_TSDOD1
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 19 2016 12:25 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		Corr. Con	RSD(%)	High Limit	Flag
7	Li	2	45	116.600	ppb	#REF!	1.81	2000.00	>RL
9	Be	2	45	3.165	ppb	#REF!	4.30	2000.00	>RL
11	B	2	45	141.900	ppb	#REF!	0.67	2000.00	>RL
23	Na	1	45	8122.000	ppb	#REF!	0.86	25000.00	>RL
24	Mg	1	45	16690.000	ppb	#REF!	1.06	25000.00	>RL
27	Al	1	45	58240.000	ppb	#REF!	0.05	10000.00	OUTCAL
39	K	1	45	17330.000	ppb	#REF!	0.19	25000.00	>RL
44	Ca	2	45	178200.000	ppb	#REF!	1.86	25000.00	OUTCAL
47	Ti	1	45	244.500	ppb	#REF!	0.83	2000.00	>RL
51	V	1	45	88.610	ppb	#REF!	0.33	2000.00	>RL
52	Cr	1	45	67.780	ppb	#REF!	1.29	2000.00	>RL
55	Mn	1	45	217.400	ppb	#REF!	1.43	2000.00	>RL
56	Fe	1	72	75510.000	ppb	#REF!	0.91	10000.00	OUTCAL
59	Co	1	72	25.240	ppb	#REF!	1.35	2000.00	>RL
60	Ni	1	72	34.540	ppb	#REF!	1.18	2000.00	>RL
63	Cu	1	72	7.550	ppb	#REF!	2.08	2000.00	J
66	Zn	1	72	163.900	ppb	#REF!	1.31	2000.00	>RL
75	As	1	72	20.570	ppb	#REF!	1.27	2000.00	>RL
78	Se	1	72	22.220	ppb	#REF!	5.49	2000.00	>RL
88	Sr	2	115	695.500	ppb	#REF!	1.22	2000.00	>RL
95	Mo	2	115	0.952	ppb	#REF!	3.59	2000.00	ND
107	Ag	2	115	0.101	ppb	#REF!	21.04	500.00	ND
111	Cd	2	115	0.716	ppb	#REF!	11.21	2000.00	J
118	Sn	2	115	5.597	ppb	#REF!	3.24	2000.00	ND
121	Sb	2	115	0.135	ppb	#REF!	0.45	500.00	ND
137	Ba	2	115	189.000	ppb	#REF!	1.09	2000.00	>RL
205	Tl	2	209	0.338	ppb	#REF!	1.84	2000.00	ND
208	Pb	2	209	21.560	ppb	#REF!	0.72	2000.00	>RL

ISTD Elements

Element			CPS Mean	RSD(%)		Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-10085.50	13.13	RHigh	50.17	-20104.2	70 - 120	ISFail
45	Sc	1	167098.92	1.51		184662.30	90.5	70 - 120	
45	Sc	2	2901525.00	1.14		4233596.00	68.5	70 - 120	ISFail
72	Ge	1	97583.72	0.85		110938.56	88.0	70 - 120	
115	In	2	4707657.50	0.26		5887647.50	80.0	70 - 120	
209	Bi	2	5275688.50	0.69		6267448.50	84.2	70 - 120	

Sample QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\049SMPL.D\049SMPL.D#

Date Acquired:	May 19 2016 03:58 pm	Sample Name:	**1605074-44A**
Acq. Method:	DHL_3Fe.M	Misc Info:	SAMPICPMS_TSDOD1
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 19 2016 12:25 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		Corr. Con	RSD(%)	High Limit	Flag
7	Li	2	45	90.490	ppb	#REF!	1.42	2000.00	>RL
9	Be	2	45	3.185	ppb	#REF!	2.41	2000.00	>RL
11	B	2	45	98.200	ppb	#REF!	2.17	2000.00	>RL
23	Na	1	45	1347.000	ppb	#REF!	0.25	25000.00	>RL
24	Mg	1	45	16010.000	ppb	#REF!	0.76	25000.00	>RL
27	Al	1	45	81590.000	ppb	#REF!	1.24	10000.00	OUTCAL
39	K	1	45	21960.000	ppb	#REF!	0.51	25000.00	>RL
44	Ca	2	45	61630.000	ppb	#REF!	2.26	25000.00	OUTCAL
47	Ti	1	45	251.600	ppb	#REF!	1.13	2000.00	>RL
51	V	1	45	121.400	ppb	#REF!	1.31	2000.00	>RL
52	Cr	1	45	74.630	ppb	#REF!	1.18	2000.00	>RL
55	Mn	1	45	618.000	ppb	#REF!	1.77	2000.00	>RL
56	Fe	1	72	73650.000	ppb	#REF!	2.32	10000.00	OUTCAL
59	Co	1	72	27.390	ppb	#REF!	2.02	2000.00	>RL
60	Ni	1	72	43.780	ppb	#REF!	0.96	2000.00	>RL
63	Cu	1	72	40.610	ppb	#REF!	0.93	2000.00	>RL
66	Zn	1	72	224.200	ppb	#REF!	1.22	2000.00	>RL
75	As	1	72	34.750	ppb	#REF!	1.15	2000.00	>RL
78	Se	1	72	23.470	ppb	#REF!	6.16	2000.00	>RL
88	Sr	2	115	349.200	ppb	#REF!	1.82	2000.00	>RL
95	Mo	2	115	1.331	ppb	#REF!	3.14	2000.00	ND
107	Ag	2	115	0.190	ppb	#REF!	1.93	500.00	ND
111	Cd	2	115	0.846	ppb	#REF!	11.68	2000.00	J
118	Sn	2	115	5.991	ppb	#REF!	3.59	2000.00	ND
121	Sb	2	115	3.835	ppb	#REF!	2.32	500.00	J
137	Ba	2	115	530.000	ppb	#REF!	1.68	2000.00	>RL
205	Tl	2	209	0.675	ppb	#REF!	1.03	2000.00	ND
208	Pb	2	209	159.100	ppb	#REF!	1.81	2000.00	>RL

ISTD Elements

Element			CPS Mean	RSD(%)		Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-8058.13	5.58	RHigh	50.17	-16062.9	70 - 120	ISFail
45	Sc	1	190758.44	0.94		184662.30	103.3	70 - 120	
45	Sc	2	3341905.80	2.22		4233596.00	78.9	70 - 120	
72	Ge	1	110984.59	0.23		110938.56	100.0	70 - 120	
115	In	2	5220044.00	2.31		5887647.50	88.7	70 - 120	
209	Bi	2	5770194.50	1.58		6267448.50	92.1	70 - 120	

Sample QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\050SMPL.D\050SMPL.D#

Date Acquired:	May 19 2016 04:04 pm	Sample Name:	**1605074-45A**
Acq. Method:	DHL_3Fe.M	Misc Info:	SAMPICPMS_TSDOD1
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 19 2016 12:25 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		Corr. Con	RSD(%)	High Limit	Flag
7	Li	2	45	102.200	ppb	#REF!	1.04	2000.00	>RL
9	Be	2	45	3.422	ppb	#REF!	1.94	2000.00	>RL
11	B	2	45	119.600	ppb	#REF!	2.26	2000.00	>RL
23	Na	1	45	6660.000	ppb	#REF!	0.36	25000.00	>RL
24	Mg	1	45	18230.000	ppb	#REF!	0.22	25000.00	>RL
27	Al	1	45	88270.000	ppb	#REF!	1.09	10000.00	OUTCAL
39	K	1	45	20050.000	ppb	#REF!	0.08	25000.00	>RL
44	Ca	2	45	101500.000	ppb	#REF!	2.11	25000.00	OUTCAL
47	Ti	1	45	283.400	ppb	#REF!	0.41	2000.00	>RL
51	V	1	45	123.300	ppb	#REF!	0.38	2000.00	>RL
52	Cr	1	45	77.490	ppb	#REF!	0.83	2000.00	>RL
55	Mn	1	45	588.100	ppb	#REF!	1.15	2000.00	>RL
56	Fe	1	72	74420.000	ppb	#REF!	0.70	10000.00	OUTCAL
59	Co	1	72	26.580	ppb	#REF!	0.53	2000.00	>RL
60	Ni	1	72	45.490	ppb	#REF!	2.11	2000.00	>RL
63	Cu	1	72	27.740	ppb	#REF!	1.03	2000.00	>RL
66	Zn	1	72	216.900	ppb	#REF!	1.09	2000.00	>RL
75	As	1	72	24.950	ppb	#REF!	0.80	2000.00	>RL
78	Se	1	72	24.750	ppb	#REF!	3.54	2000.00	>RL
88	Sr	2	115	449.400	ppb	#REF!	2.86	2000.00	>RL
95	Mo	2	115	1.485	ppb	#REF!	2.27	2000.00	ND
107	Ag	2	115	0.176	ppb	#REF!	4.88	500.00	ND
111	Cd	2	115	0.865	ppb	#REF!	10.27	2000.00	J
118	Sn	2	115	5.768	ppb	#REF!	1.61	2000.00	ND
121	Sb	2	115	0.740	ppb	#REF!	1.92	500.00	ND
137	Ba	2	115	712.700	ppb	#REF!	1.72	2000.00	>RL
205	Tl	2	209	0.693	ppb	#REF!	1.91	2000.00	ND
208	Pb	2	209	47.510	ppb	#REF!	1.43	2000.00	>RL

ISTD Elements

Element			CPS Mean	RSD(%)		Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-8873.02	6.62	RHigh	50.17	-17687.3	70 - 120	ISFail
45	Sc	1	191150.45	1.05		184662.30	103.5	70 - 120	
45	Sc	2	3217097.80	0.99		4233596.00	76.0	70 - 120	
72	Ge	1	110084.13	0.06		110938.56	99.2	70 - 120	
115	In	2	5082136.00	1.52		5887647.50	86.3	70 - 120	
209	Bi	2	5632433.50	0.91		6267448.50	89.9	70 - 120	

Sample QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\051SMPL.D\051SMPL.D#

Date Acquired:	May 19 2016 04:10 pm	Sample Name:	**1605074-46A**
Acq. Method:	DHL_3Fe.M	Misc Info:	SAMPICPMS_TSDOD1
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 19 2016 12:25 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		Corr. Con	RSD(%)	High Limit	Flag
7	Li	2	45	109.300	ppb	#REF!	0.58	2000.00	>RL
9	Be	2	45	3.089	ppb	#REF!	4.75	2000.00	>RL
11	B	2	45	130.200	ppb	#REF!	1.82	2000.00	>RL
23	Na	1	45	9089.000	ppb	#REF!	1.15	25000.00	>RL
24	Mg	1	45	19010.000	ppb	#REF!	0.83	25000.00	>RL
27	Al	1	45	72600.000	ppb	#REF!	1.43	10000.00	OUTCAL
39	K	1	45	16090.000	ppb	#REF!	1.85	25000.00	>RL
44	Ca	2	45	217300.000	ppb	#REF!	2.58	25000.00	OUTCAL
47	Ti	1	45	398.100	ppb	#REF!	2.21	2000.00	>RL
51	V	1	45	122.800	ppb	#REF!	0.79	2000.00	>RL
52	Cr	1	45	87.740	ppb	#REF!	0.57	2000.00	>RL
55	Mn	1	45	468.600	ppb	#REF!	0.39	2000.00	>RL
56	Fe	1	72	73640.000	ppb	#REF!	1.73	10000.00	OUTCAL
59	Co	1	72	23.820	ppb	#REF!	0.91	2000.00	>RL
60	Ni	1	72	50.670	ppb	#REF!	0.73	2000.00	>RL
63	Cu	1	72	17.860	ppb	#REF!	0.10	2000.00	>RL
66	Zn	1	72	163.700	ppb	#REF!	0.83	2000.00	>RL
75	As	1	72	24.920	ppb	#REF!	1.85	2000.00	>RL
78	Se	1	72	21.940	ppb	#REF!	4.25	2000.00	>RL
88	Sr	2	115	721.800	ppb	#REF!	2.79	2000.00	>RL
95	Mo	2	115	3.318	ppb	#REF!	2.59	2000.00	J
107	Ag	2	115	0.109	ppb	#REF!	12.29	500.00	ND
111	Cd	2	115	0.844	ppb	#REF!	5.49	2000.00	J
118	Sn	2	115	5.434	ppb	#REF!	2.63	2000.00	ND
121	Sb	2	115	0.347	ppb	#REF!	8.26	500.00	ND
137	Ba	2	115	941.800	ppb	#REF!	2.28	2000.00	>RL
205	Tl	2	209	0.550	ppb	#REF!	4.01	2000.00	ND
208	Pb	2	209	31.160	ppb	#REF!	1.33	2000.00	>RL

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-9576.61	1.00	50.17	-19089.8	70 - 120	ISFail
45	Sc	1	180085.30	0.50	184662.30	97.5	70 - 120	
45	Sc	2	3040965.00	1.45	4233596.00	71.8	70 - 120	
72	Ge	1	102625.98	0.07	110938.56	92.5	70 - 120	
115	In	2	4892801.00	0.89	5887647.50	83.1	70 - 120	
209	Bi	2	5384320.00	0.34	6267448.50	85.9	70 - 120	

Sample QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\052SMPL.D\052SMPL.D#

Date Acquired:	May 19 2016 04:16 pm	Sample Name:	**1605074-47A**
Acq. Method:	DHL_3Fe.M	Misc Info:	SAMPICPMS_TSDOD1
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 19 2016 12:25 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		Corr. Con	RSD(%)	High Limit	Flag
7	Li	2	45	111.900	ppb	#REF!	1.48	2000.00	>RL
9	Be	2	45	3.567	ppb	#REF!	5.32	2000.00	>RL
11	B	2	45	142.300	ppb	#REF!	2.54	2000.00	>RL
23	Na	1	45	5658.000	ppb	#REF!	1.85	25000.00	>RL
24	Mg	1	45	16660.000	ppb	#REF!	1.38	25000.00	>RL
27	Al	1	45	57600.000	ppb	#REF!	1.44	10000.00	OUTCAL
39	K	1	45	19930.000	ppb	#REF!	1.06	25000.00	>RL
44	Ca	2	45	139400.000	ppb	#REF!	2.87	25000.00	OUTCAL
47	Ti	1	45	279.100	ppb	#REF!	2.86	2000.00	>RL
51	V	1	45	85.070	ppb	#REF!	0.48	2000.00	>RL
52	Cr	1	45	71.410	ppb	#REF!	0.76	2000.00	>RL
55	Mn	1	45	231.300	ppb	#REF!	1.71	2000.00	>RL
56	Fe	1	72	84500.000	ppb	#REF!	1.91	10000.00	OUTCAL
59	Co	1	72	27.910	ppb	#REF!	1.13	2000.00	>RL
60	Ni	1	72	36.290	ppb	#REF!	0.77	2000.00	>RL
63	Cu	1	72	7.940	ppb	#REF!	0.64	2000.00	J
66	Zn	1	72	176.500	ppb	#REF!	1.11	2000.00	>RL
75	As	1	72	20.990	ppb	#REF!	2.17	2000.00	>RL
78	Se	1	72	23.350	ppb	#REF!	2.72	2000.00	>RL
88	Sr	2	115	563.500	ppb	#REF!	2.90	2000.00	>RL
95	Mo	2	115	0.986	ppb	#REF!	5.57	2000.00	ND
107	Ag	2	115	0.097	ppb	#REF!	4.24	500.00	ND
111	Cd	2	115	0.648	ppb	#REF!	4.61	2000.00	J
118	Sn	2	115	5.723	ppb	#REF!	2.30	2000.00	ND
121	Sb	2	115	0.283	ppb	#REF!	0.80	500.00	ND
137	Ba	2	115	150.400	ppb	#REF!	2.01	2000.00	>RL
205	Tl	2	209	0.296	ppb	#REF!	6.14	2000.00	ND
208	Pb	2	209	24.010	ppb	#REF!	2.14	2000.00	>RL

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-9118.12	3.08	50.17	-18175.9	70 - 120	ISFail
45	Sc	1	175580.52	0.85	184662.30	95.1	70 - 120	
45	Sc	2	3049061.00	1.45	4233596.00	72.0	70 - 120	
72	Ge	1	103148.52	0.53	110938.56	93.0	70 - 120	
115	In	2	4948163.50	0.87	5887647.50	84.0	70 - 120	
209	Bi	2	5564457.00	1.08	6267448.50	88.8	70 - 120	

CCV QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\053CCV1.D\053CCV1.D#

Date Acquired:	May 19 2016 04:22 pm	Sample Name:	**CCV2-160519**
Acq. Method:	DHL_3Fe.M	Misc Info:	CCV ICPMS_TW
Operator:	KL	Diln Factor:	1.00
Last Cal. Update:	May 19 2016 12:25 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		RSD(%)	Expected	QC Range(%)		Rec(%)	Flag
7	Li	2	45	264.10	ppb	0.47	200.00	90 -	110	132.1	Fail
9	Be	2	45	236.00	ppb	1.14	200.00	90 -	110	118.0	Fail
11	B	2	45	214.70	ppb	0.97	200.00	90 -	110	107.4	
23	Na	1	45	5454.00	ppb	0.35	5000.00	90 -	110	109.1	
24	Mg	1	45	5158.00	ppb	0.77	5000.00	90 -	110	103.2	
27	Al	1	45	5012.00	ppb	2.05	5000.00	90 -	110	100.2	
39	K	1	45	5134.00	ppb	0.20	5000.00	90 -	110	102.7	
44	Ca	2	45	4995.00	ppb	2.11	5000.00	90 -	110	99.9	
47	Ti	1	45	198.40	ppb	1.75	200.00	90 -	110	99.2	
51	V	1	45	203.20	ppb	0.84	200.00	90 -	110	101.6	
52	Cr	1	45	208.80	ppb	0.73	200.00	90 -	110	104.4	
55	Mn	1	45	195.50	ppb	1.09	200.00	90 -	110	97.8	
56	Fe	1	72	5040.00	ppb	1.04	5000.00	90 -	110	100.8	
59	Co	1	72	203.80	ppb	0.51	200.00	90 -	110	101.9	
60	Ni	1	72	199.00	ppb	0.93	200.00	90 -	110	99.5	
63	Cu	1	72	205.00	ppb	0.43	200.00	90 -	110	102.5	
66	Zn	1	72	203.90	ppb	1.39	200.00	90 -	110	102.0	
75	As	1	72	204.90	ppb	0.45	200.00	90 -	110	102.5	
78	Se	1	72	201.10	ppb	1.01	200.00	90 -	110	100.6	
88	Sr	2	115	202.50	ppb	1.67	200.00	90 -	110	101.3	
95	Mo	2	115	182.70	ppb	1.57	200.00	90 -	110	91.4	
107	Ag	2	115	191.60	ppb	1.44	200.00	90 -	110	95.8	
111	Cd	2	115	190.50	ppb	1.65	200.00	90 -	110	95.3	
118	Sn	2	115	196.10	ppb	1.58	200.00	90 -	110	98.1	
121	Sb	2	115	195.30	ppb	1.73	200.00	90 -	110	97.7	
137	Ba	2	115	196.20	ppb	2.12	200.00	90 -	110	98.1	
205	Tl	2	209	202.00	ppb	0.67	200.00	90 -	110	101.0	
208	Pb	2	209	199.80	ppb	0.69	200.00	90 -	110	99.9	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)			Flag
6	Li	2	-68986.17	1.12	50.17	-137515.7	70 -	120		ISFail
45	Sc	1	176986.88	0.62	184662.30	95.8	70 -	120		
45	Sc	2	3045267.30	0.77	4233596.00	71.9	70 -	120		
72	Ge	1	106523.80	0.45	110938.56	96.0	70 -	120		
115	In	2	4934320.00	1.08	5887647.50	83.8	70 -	120		
209	Bi	2	5866481.00	0.40	6267448.50	93.6	70 -	120		

CCB QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\054_CCB.D\054_CCB.D#

Date Acquired:	May 19 2016 04:28 pm	Sample Name:	**CCB2-160519**
Acq. Method:	DHL_3Fe.M	Misc Info:	CCB ICPMS_TW
Operator:	KL	Diln Factor:	1.00
Last Cal. Update:	May 19 2016 12:25 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		RSD(%)	MDL S	MDL Aq	Flag
7	Li	2	45	0.410	ppb	10.80	2.00	2.00	
9	Be	2	45	0.176	ppb	11.96	0.40	0.30	
11	B	2	45	2.582	ppb	1.08	10.00	10.00	
23	Na	1	45	11.540	ppb	6.95	50.00	#####	
24	Mg	1	45	14.100	ppb	14.20	50.00	#####	
27	Al	1	45	43.140	ppb	12.15	50.00	10.00	FailAq
39	K	1	45	14.470	ppb	4.27	50.00	#####	
44	Ca	2	45	75.210	ppb	14.02	50.00	#####	Failsoil
47	Ti	1	45	0.450	ppb	55.03	4.00	3.00	
51	V	1	45	0.256	ppb	9.72	4.00	3.00	
52	Cr	1	45	0.224	ppb	14.50	2.00	2.00	
55	Mn	1	45	0.361	ppb	16.43	2.00	3.00	
56	Fe	1	72	50.430	ppb	12.10	50.00	30.00	Failsoil
59	Co	1	72	0.200	ppb	13.80	2.00	3.00	
60	Ni	1	72	0.169	ppb	6.70	2.00	3.00	
63	Cu	1	72	0.222	ppb	11.25	2.00	2.00	
66	Zn	1	72	1.292	ppb	7.71	4.00	2.00	
75	As	1	72	0.244	ppb	10.68	2.00	2.00	
78	Se	1	72	0.240	ppb	27.41	0.60	2.00	
88	Sr	2	115	0.435	ppb	12.20	4.00	3.00	
95	Mo	2	115	0.193	ppb	21.05	2.00	2.00	
107	Ag	2	115	0.142	ppb	17.93	0.40	1.00	
111	Cd	2	115	0.152	ppb	34.83	0.40	0.30	
118	Sn	2	115	0.218	ppb	12.05	20.00	3.00	
121	Sb	2	115	0.178	ppb	3.09	2.00	0.80	
137	Ba	2	115	0.399	ppb	13.08	2.00	3.00	
205	Tl	2	209	0.250	ppb	5.67	2.00	0.50	
208	Pb	2	209	0.182	ppb	14.14	0.40	0.30	

ISTD Elements

Element				CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	RHigh	-66.86	24.60	50.17	-133.3	70 - 120	ISFail
45	Sc	1		175235.83	1.57	184662.30	94.9	70 - 120	
45	Sc	2		3086383.00	0.44	4233596.00	72.9	70 - 120	
72	Ge	1		106955.59	0.43	110938.56	96.4	70 - 120	
115	In	2		4930620.00	0.95	5887647.50	83.7	70 - 120	
209	Bi	2		5957716.00	0.95	6267448.50	95.1	70 - 120	

CCV QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\055LCVL.D\055LCVL.D#

Date Acquired:	May 19 2016 04:34 pm	Sample Name:	**LCVL2-160519**
Acq. Method:	DHL_3Fe.M	Misc Info:	LCVLICPMS_TW
Operator:	KL	Diln Factor:	1.00
Last Cal. Update:	May 19 2016 12:25 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		RSD(%)	Expected	QC Range(%)		Rec(%)	Flag
7	Li	2	45	12.83	ppb	1.43	5.00	70 -	130	256.6	Fail
9	Be	2	45	1.22	ppb	2.82	1.00	70 -	130	122.1	
11	B	2	45	22.88	ppb	3.05	20.00	70 -	130	114.4	
23	Na	1	45	108.70	ppb	0.93	100.00	70 -	130	108.7	
24	Mg	1	45	109.30	ppb	2.73	100.00	70 -	130	109.3	
27	Al	1	45	120.10	ppb	2.58	100.00	70 -	130	120.1	
39	K	1	45	108.70	ppb	1.15	100.00	70 -	130	108.7	
44	Ca	2	45	137.80	ppb	8.98	100.00	70 -	130	137.8	Fail
47	Ti	1	45	5.36	ppb	9.38	5.00	70 -	130	107.2	
51	V	1	45	1.13	ppb	4.98	1.00	70 -	130	112.8	
52	Cr	1	45	5.49	ppb	1.59	5.00	70 -	130	109.8	
55	Mn	1	45	5.06	ppb	3.96	5.00	70 -	130	101.1	
56	Fe	1	72	124.00	ppb	1.93	100.00	70 -	130	124.0	
59	Co	1	72	5.22	ppb	1.49	5.00	70 -	130	104.3	
60	Ni	1	72	5.10	ppb	2.06	5.00	70 -	130	102.0	
63	Cu	1	72	5.24	ppb	0.94	5.00	70 -	130	104.8	
66	Zn	1	72	5.32	ppb	0.76	5.00	70 -	130	106.3	
75	As	1	72	5.17	ppb	0.40	5.00	70 -	130	103.3	
78	Se	1	72	5.08	ppb	5.48	5.00	70 -	130	101.6	
88	Sr	2	115	5.08	ppb	1.51	5.00	70 -	130	101.6	
95	Mo	2	115	4.55	ppb	5.03	5.00	70 -	130	90.9	
107	Ag	2	115	2.01	ppb	0.64	2.00	70 -	130	100.7	
111	Cd	2	115	1.07	ppb	2.41	1.00	70 -	130	107.3	
118	Sn	2	115	5.01	ppb	1.49	5.00	70 -	130	100.1	
121	Sb	2	115	1.97	ppb	2.69	2.00	70 -	130	98.5	
137	Ba	2	115	5.23	ppb	3.02	5.00	70 -	130	104.7	
205	Tl	2	209	1.06	ppb	4.29	1.00	70 -	130	106.0	
208	Pb	2	209	1.01	ppb	4.30	1.00	70 -	130	101.4	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)		Flag
6	Li	2	-1530.75	4.60	50.17	-3051.4	70 -	120	ISFail
45	Sc	1	174175.00	1.56	184662.30	94.3	70 -	120	
45	Sc	2	3143310.30	1.20	4233596.00	74.2	70 -	120	
72	Ge	1	106445.65	0.82	110938.56	96.0	70 -	120	
115	In	2	5019650.00	1.21	5887647.50	85.3	70 -	120	
209	Bi	2	5985461.50	0.93	6267448.50	95.5	70 -	120	

PB QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\056__PB.D\056__PB.D#

Date Acquired:	May 19 2016 04:40 pm	Sample Name:	MB-75169
Acq. Method:	DHL_3Fe.M	Misc Info:	MBLKICPMS_TSDOD
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 19 2016 12:25 pm	Auto Dil:	Undiluted
Instrument:	ICPMS3	Total Dil:	5.00

QC Elements

Element				Conc.		RSD(%)	MDL	RL	Flag
7	Li	2	45	0.128	ppb	6.64	2.0	8.00	
9	Be	2	45	0.022	ppb	3.77	0.4	1.20	
11	B	2	45	1.919	ppb	3.53	10.0	30.00	
23	Na	1	45	14.020	ppb	0.85	50.0	#####	
24	Mg	1	45	5.820	ppb	10.66	50.0	#####	
27	Al	1	45	23.360	ppb	4.94	50.0	#####	
39	K	1	45	11.570	ppb	1.71	50.0	#####	
44	Ca	2	45	63.980	ppb	1.92	50.0	#####	J
47	Ti	1	45	0.001	ppb	34.64	4.0	10.00	
51	V	1	45	0.043	ppb	15.18	4.0	10.00	
52	Cr	1	45	0.196	ppb	0.45	2.0	8.00	
55	Mn	1	45	0.480	ppb	2.10	2.0	8.00	
56	Fe	1	72	17.950	ppb	3.60	50.0	#####	
59	Co	1	72	0.015	ppb	8.17	2.0	8.00	
60	Ni	1	72	0.156	ppb	5.21	2.0	8.00	
63	Cu	1	72	0.206	ppb	2.74	2.0	8.00	
66	Zn	1	72	8.267	ppb	2.72	4.0	10.00	J
75	As	1	72	0.045	ppb	9.07	2.0	4.00	
78	Se	1	72	0.053	ppb	55.71	0.6	2.00	
88	Sr	2	115	0.214	ppb	4.99	4.0	10.00	
95	Mo	2	115	0.059	ppb	18.67	2.0	8.00	
107	Ag	2	115	0.031	ppb	25.16	0.4	0.80	
111	Cd	2	115	0.040	ppb	42.36	0.4	1.20	
118	Sn	2	115	3.862	ppb	2.70	20.0	40.00	
121	Sb	2	115	0.019	ppb	9.94	2.0	4.00	
137	Ba	2	115	0.145	ppb	9.28	2.0	8.00	
205	Tl	2	209	0.057	ppb	0.29	2.0	4.00	
208	Pb	2	209	0.077	ppb	6.59	0.4	1.20	

ISTD Elements

Element				CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	RHig	13.58	57.57	50.17	27.1	70 - 120	ISFail
45	Sc	1		183828.89	0.89	184662.30	99.5	70 - 120	
45	Sc	2		3315618.30	1.65	4233596.00	78.3	70 - 120	
72	Ge	1		109899.66	0.95	110938.56	99.1	70 - 120	
115	In	2		5221821.00	1.49	5887647.50	88.7	70 - 120	
209	Bi	2		6147371.00	0.38	6267448.50	98.1	70 - 120	

LCS QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\058_LCS.D\058_LCS.D#

Date Acquired:	May 19 2016 04:52 pm	Sample Name:	**LCSD-75169**
Acq. Method:	DHL_3Fe.M	Misc Info:	LCSDICPMS_TSDOD1
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 19 2016 12:25 pm	Auto Dil:	Undiluted
Instrument:	ICPMS3	Total Dil:	5.00

QC Elements

Element				Conc.		RSD(%)	Expected	QC Range(%)		Rec(%)	Flag
7	Li	2	45	240.40	ppb	2.31	200.00	80 -	120	120.2	Fail
9	Be	2	45	211.30	ppb	1.12	200.00	80 -	120	105.7	
11	B	2	45	203.30	ppb	1.38	200.00	80 -	120	101.7	
23	Na	1	45	5317.00	ppb	1.25	1000.00	80 -	120	531.7	Fail
24	Mg	1	45	5038.00	ppb	0.50	1000.00	80 -	120	503.8	Fail
27	Al	1	45	1004.00	ppb	1.87	1000.00	80 -	120	100.4	
39	K	1	45	4988.00	ppb	0.27	1000.00	80 -	120	498.8	Fail
44	Ca	2	45	4816.00	ppb	1.67	1000.00	80 -	120	481.6	Fail
47	Ti	1	45	196.60	ppb	2.29	200.00	80 -	120	98.3	
51	V	1	45	196.60	ppb	1.36	200.00	80 -	120	98.3	
52	Cr	1	45	202.30	ppb	0.93	200.00	80 -	120	101.2	
55	Mn	1	45	191.50	ppb	0.62	200.00	80 -	120	95.8	
56	Fe	1	72	1034.00	ppb	1.46	1000.00	80 -	120	103.4	
59	Co	1	72	199.30	ppb	1.87	200.00	80 -	120	99.7	
60	Ni	1	72	193.90	ppb	0.98	200.00	80 -	120	97.0	
63	Cu	1	72	199.70	ppb	1.20	200.00	80 -	120	99.9	
66	Zn	1	72	190.40	ppb	1.75	200.00	80 -	120	95.2	
75	As	1	72	190.40	ppb	0.79	200.00	80 -	120	95.2	
78	Se	1	72	184.00	ppb	0.88	200.00	80 -	120	92.0	
88	Sr	2	115	198.30	ppb	2.05	200.00	80 -	120	99.2	
95	Mo	2	115	178.80	ppb	1.28	200.00	80 -	120	89.4	
107	Ag	2	115	188.20	ppb	1.35	200.00	80 -	120	94.1	
111	Cd	2	115	181.00	ppb	0.96	200.00	80 -	120	90.5	
118	Sn	2	115	195.30	ppb	2.12	200.00	80 -	120	97.7	
121	Sb	2	115	186.20	ppb	1.55	200.00	80 -	120	93.1	
137	Ba	2	115	189.50	ppb	1.71	200.00	80 -	120	94.8	
205	Tl	2	209	200.60	ppb	0.97	200.00	80 -	120	100.3	
208	Pb	2	209	198.20	ppb	1.40	200.00	80 -	120	99.1	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)		Flag
6	Li	2	-66724.61	3.15	50.17	-133007.6	70 -	120	ISFail
45	Sc	1	171354.58	0.15	184662.30	92.8	70 -	120	
45	Sc	2	3181297.00	0.69	4233596.00	75.1	70 -	120	
72	Ge	1	102165.18	0.33	110938.56	92.1	70 -	120	
115	In	2	4942036.00	1.58	5887647.50	83.9	70 -	120	
209	Bi	2	5653811.00	1.32	6267448.50	90.2	70 -	120	

LCS QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\060_LCS.D\060_LCS.D#

Date Acquired:	May 19 2016 05:04 pm	Sample Name:	**LCS-75169**
Acq. Method:	DHL_3Fe.M	Misc Info:	LCS ICPMS_TSDOD1
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 19 2016 12:25 pm	Auto Dil:	Undiluted
Instrument:	ICPMS3	Total Dil:	5.00

QC Elements

Element				Conc.		RSD(%)	Expected	QC Range(%)		Rec(%)	Flag
7	Li	2	45	241.00	ppb	0.80	200.00	80 -	120	120.5	Fail
9	Be	2	45	211.30	ppb	1.01	200.00	80 -	120	105.7	
11	B	2	45	203.80	ppb	1.37	200.00	80 -	120	101.9	
23	Na	1	45	5295.00	ppb	1.14	1000.00	80 -	120	529.5	Fail
24	Mg	1	45	5047.00	ppb	1.33	1000.00	80 -	120	504.7	Fail
27	Al	1	45	1002.00	ppb	1.00	1000.00	80 -	120	100.2	
39	K	1	45	5081.00	ppb	0.74	1000.00	80 -	120	508.1	Fail
44	Ca	2	45	4875.00	ppb	1.54	1000.00	80 -	120	487.5	Fail
47	Ti	1	45	193.50	ppb	1.66	200.00	80 -	120	96.8	
51	V	1	45	196.90	ppb	0.41	200.00	80 -	120	98.5	
52	Cr	1	45	200.30	ppb	1.35	200.00	80 -	120	100.2	
55	Mn	1	45	192.90	ppb	2.00	200.00	80 -	120	96.5	
56	Fe	1	72	1025.00	ppb	0.99	1000.00	80 -	120	102.5	
59	Co	1	72	195.50	ppb	0.34	200.00	80 -	120	97.8	
60	Ni	1	72	190.80	ppb	0.59	200.00	80 -	120	95.4	
63	Cu	1	72	197.00	ppb	0.77	200.00	80 -	120	98.5	
66	Zn	1	72	191.50	ppb	0.74	200.00	80 -	120	95.8	
75	As	1	72	189.50	ppb	0.10	200.00	80 -	120	94.8	
78	Se	1	72	184.30	ppb	1.40	200.00	80 -	120	92.2	
88	Sr	2	115	201.00	ppb	0.82	200.00	80 -	120	100.5	
95	Mo	2	115	182.30	ppb	1.90	200.00	80 -	120	91.2	
107	Ag	2	115	193.30	ppb	1.79	200.00	80 -	120	96.7	
111	Cd	2	115	182.70	ppb	1.61	200.00	80 -	120	91.4	
118	Sn	2	115	197.10	ppb	1.87	200.00	80 -	120	98.6	
121	Sb	2	115	190.20	ppb	0.95	200.00	80 -	120	95.1	
137	Ba	2	115	191.80	ppb	1.57	200.00	80 -	120	95.9	
205	Tl	2	209	200.50	ppb	1.56	200.00	80 -	120	100.3	
208	Pb	2	209	195.80	ppb	0.98	200.00	80 -	120	97.9	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)		Flag
6	Li	2	-69869.54	1.14	50.17	-139276.6	70 -	120	ISFail
45	Sc	1	178983.88	0.32	184662.30	96.9	70 -	120	
45	Sc	2	3248231.80	1.40	4233596.00	76.7	70 -	120	
72	Ge	1	106720.27	0.51	110938.56	96.2	70 -	120	
115	In	2	4961031.00	2.32	5887647.50	84.3	70 -	120	
209	Bi	2	5753684.00	1.17	6267448.50	91.8	70 -	120	

DT QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\062DT1.D\062DT1.D#

Date Acquired:	May 19 2016 05:16 pm	Sample Name:	**1605096-70A SD**
Acq. Method:	DHL_3Fe.M	Misc Info:	SD ICPMS_TSDOD1
Operator:	KL	Bench Diln:	25.00
Last Cal. Update:	May 19 2016 12:25 pm	Auto Diln:	Undiluted
Instrument:	ICPMS3	Total Diln:	25.00

QC Elements

Element				Conc.		RSD(%)	Expected	QC Range(%)	Rec(%)	Flag
7	Li	2	45	13.56	ppb	1.02	-1479.80	90 - 110	-4.6	
9	Be	2	45	0.56	ppb	5.60	2.74	90 - 110	102.5	GOOD
11	B	2	45	15.76	ppb	1.78	67.89	90 - 110	116.1	
23	Na	1	45	180.30	ppb	0.88	878.90	90 - 110	102.6	GOOD
24	Mg	1	45	2310.00	ppb	1.55	11660.00	90 - 110	99.1	GOOD
27	Al	1	45	11690.00	ppb	1.20	59430.00	90 - 110	98.4	GOOD
39	K	1	45	2647.00	ppb	0.49	13160.00	90 - 110	100.6	GOOD
44	Ca	2	45	8770.00	ppb	2.66	41470.00	90 - 110	105.7	GOOD
47	Ti	1	45	31.28	ppb	8.23	158.30	90 - 110	98.8	GOOD
51	V	1	45	18.85	ppb	1.29	92.36	90 - 110	102.0	GOOD
52	Cr	1	45	13.00	ppb	1.09	63.49	90 - 110	102.4	GOOD
55	Mn	1	45	112.30	ppb	0.80	552.20	90 - 110	101.7	GOOD
56	Fe	1	72	12210.00	ppb	1.53	60210.00	90 - 110	101.4	GOOD
59	Co	1	72	5.38	ppb	1.20	26.09	90 - 110	103.0	GOOD
60	Ni	1	72	7.44	ppb	1.85	35.69	90 - 110	104.2	GOOD
63	Cu	1	72	3.24	ppb	2.89	15.10	90 - 110	107.2	GOOD
66	Zn	1	72	45.98	ppb	1.71	203.00	90 - 110	113.3	
75	As	1	72	6.12	ppb	0.81	28.43	90 - 110	107.5	GOOD
78	Se	1	72	4.18	ppb	1.59	21.43	90 - 110	97.6	GOOD
88	Sr	2	115	36.95	ppb	2.35	196.60	90 - 110	94.0	GOOD
95	Mo	2	115	0.30	ppb	7.75	1.30	90 - 110	115.0	
107	Ag	2	115	0.10	ppb	15.97	0.32	90 - 110	151.4	
111	Cd	2	115	0.21	ppb	16.33	0.82	90 - 110	128.5	
118	Sn	2	115	1.26	ppb	1.96	6.33	90 - 110	99.8	GOOD
121	Sb	2	115	2.13	ppb	1.88	10.21	90 - 110	104.5	GOOD
137	Ba	2	115	65.33	ppb	2.33	327.90	90 - 110	99.6	GOOD
205	Tl	2	209	0.22	ppb	8.15	0.82	90 - 110	132.3	
208	Pb	2	209	156.50	ppb	1.52	822.40	90 - 110	95.1	GOOD

ISTD Elements

Element				CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)		Flag
6	Li	2	RHig	-1479.80	7.63	50.17	-2949.8	70 -	120	ISFail
45	Sc	1		178728.13	0.73	184662.30	96.8	70 -	120	
45	Sc	2		3534918.80	2.30	4233596.00	83.5	70 -	120	
72	Ge	1		108152.66	0.61	110938.56	97.5	70 -	120	
115	In	2		5314552.00	1.75	5887647.50	90.3	70 -	120	
209	Bi	2		5953641.50	1.13	6267448.50	95.0	70 -	120	

PDS QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\072_PDS.D\072_PDS.D#

Date Acquired:	May 19 2016 06:15 pm	Sample Name:	**1605096-70A PDS**
Acq. Method:	DHL_3Fe.M	Misc Info:	PDS ICPMS_TSDOD1
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 19 2016 12:25 pm	Auto Diln:	Undiluted
Instrument:	ICPMS3	Total Diln:	5.00

QC Elements

Element				Conc.		RSD(%)	Ref Conc	Spike	Range	Rec(%)	Flag
7	Li	2	45	297.10	ppb	1.34	-33519.40	200	75-125	######	Fail
9	Be	2	45	205.50	ppb	1.56	2.74	200	75-125	101.4	
11	B	2	45	249.40	ppb	2.40	67.89	200	75-125	90.8	
23	Na	1	45	6107.00	ppb	0.60	878.90	5000	75-125	104.6	
24	Mg	1	45	16670.00	ppb	1.75	11660.00	5000	75-125	100.2	
27	Al	1	45	63370.00	ppb	0.98	59430.00	5000	75-125	78.8	
39	K	1	45	18380.00	ppb	2.50	13160.00	5000	75-125	104.4	
44	Ca	2	45	46150.00	ppb	2.08	41470.00	5000	75-125	93.6	
47	Ti	1	45	357.40	ppb	1.58	158.30	200	75-125	99.6	
51	V	1	45	294.40	ppb	1.03	92.36	200	75-125	101.0	
52	Cr	1	45	268.50	ppb	0.54	63.49	200	75-125	102.5	
55	Mn	1	45	731.40	ppb	1.17	552.20	200	75-125	89.6	
56	Fe	1	72	65670.00	ppb	1.69	60210.00	5000	75-125	109.2	
59	Co	1	72	225.20	ppb	0.50	26.09	200	75-125	99.6	
60	Ni	1	72	223.70	ppb	0.19	35.69	200	75-125	94.0	
63	Cu	1	72	204.80	ppb	1.02	15.10	200	75-125	94.9	
66	Zn	1	72	388.50	ppb	1.09	203.00	200	75-125	92.8	
75	As	1	72	222.00	ppb	0.84	28.43	200	75-125	96.8	
78	Se	1	72	202.30	ppb	1.76	21.43	200	75-125	90.4	
88	Sr	2	115	395.00	ppb	1.75	196.60	200	75-125	99.2	
95	Mo	2	115	183.10	ppb	1.93	1.30	200	75-125	90.9	
107	Ag	2	115	168.00	ppb	2.04	0.32	200	75-125	83.8	
111	Cd	2	115	177.90	ppb	1.80	0.82	200	75-125	88.5	
118	Sn	2	115	203.10	ppb	2.15	6.33	200	75-125	98.4	
121	Sb	2	115	202.30	ppb	1.71	10.21	200	75-125	96.0	
137	Ba	2	115	521.60	ppb	2.45	327.90	200	75-125	96.9	
205	Tl	2	209	205.90	ppb	1.84	0.82	200	75-125	102.5	
208	Pb	2	209	1033.00	ppb	1.63	822.40	200	75-125	105.3	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-33519.40	2.20	50.17	-66816.9	70 - 120	ISFail
45	Sc	1	153333.86	0.14	184662.30	83.0	70 - 120	
45	Sc	2	2906345.00	1.84	4233596.00	68.6	70 - 120	ISFail
72	Ge	1	91035.56	0.46	110938.56	82.1	70 - 120	
115	In	2	4522422.00	2.24	5887647.50	76.8	70 - 120	
209	Bi	2	4993793.00	0.76	6267448.50	79.7	70 - 120	

MS/MSD QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\073_MS.D\073_MS.D#

Date Acquired:	May 19 2016 06:21 pm	Sample Name:	**1605096-70A MS**
Acq. Method:	DHL_3Fe.M	Misc Info:	MS ICPMS_TSDOD1
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 19 2016 12:25 pm	Auto Diln:	Undiluted
Instrument:	ICPMS3	Total Diln:	5.00

QC Elements

Element				Conc.		RSD(%)	Ref Conc	Spike	Range	Rec(%)	Flag
7	Li	2	45	284.60	ppb	1.43	########	200	80-120	######	Fail
9	Be	2	45	190.00	ppb	1.51	2.74	200	80-120	93.6	
11	B	2	45	239.50	ppb	1.55	67.89	200	80-120	85.8	
23	Na	1	45	5772.00	ppb	0.50	878.90	1000	80-120	489.3	Fail
24	Mg	1	45	16960.00	ppb	1.39	11660.00	1000	80-120	530.0	Fail
27	Al	1	45	67290.00	ppb	1.82	59430.00	1000	80-120	786.0	Fail
39	K	1	45	19610.00	ppb	2.01	13160.00	1000	80-120	645.0	Fail
44	Ca	2	45	52570.00	ppb	1.62	41470.00	1000	80-120	1110.0	Fail
47	Ti	1	45	326.80	ppb	2.02	158.30	200	80-120	84.3	
51	V	1	45	289.30	ppb	1.10	92.36	200	80-120	98.5	
52	Cr	1	45	255.90	ppb	1.40	63.49	200	80-120	96.2	
55	Mn	1	45	800.00	ppb	1.35	552.20	200	80-120	123.9	Fail
56	Fe	1	72	70240.00	ppb	1.24	60210.00	1000	80-120	1003.0	Fail
59	Co	1	72	210.20	ppb	0.92	26.09	200	80-120	92.1	
60	Ni	1	72	212.80	ppb	1.15	35.69	200	80-120	88.6	
63	Cu	1	72	194.90	ppb	0.39	15.10	200	80-120	89.9	
66	Zn	1	72	390.80	ppb	0.74	203.00	200	80-120	93.9	
75	As	1	72	209.20	ppb	0.32	28.43	200	80-120	90.4	
78	Se	1	72	189.40	ppb	0.57	21.43	200	80-120	84.0	
88	Sr	2	115	402.40	ppb	1.67	196.60	200	80-120	102.9	
95	Mo	2	115	163.70	ppb	1.71	1.30	200	80-120	81.2	
107	Ag	2	115	175.10	ppb	2.10	0.32	200	80-120	87.4	
111	Cd	2	115	171.00	ppb	1.65	0.82	200	80-120	85.1	
118	Sn	2	115	185.60	ppb	1.73	6.33	200	80-120	89.6	
121	Sb	2	115	74.29	ppb	1.68	10.21	200	80-120	32.0	Fail
137	Ba	2	115	577.40	ppb	1.76	327.90	200	80-120	124.8	Fail
205	Tl	2	209	196.90	ppb	1.35	0.82	200	80-120	98.0	
208	Pb	2	209	1024.00	ppb	0.58	822.40	200	80-120	100.8	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-59967.92	3.29	50.17	########	70 - 120	ISFail
45	Sc	1	157312.41	0.32	184662.30	85.2	70 - 120	
45	Sc	2	2966361.30	1.87	4233596.00	70.1	70 - 120	
72	Ge	1	92973.45	0.56	110938.56	83.8	70 - 120	
115	In	2	4556903.50	1.83	5887647.50	77.4	70 - 120	
209	Bi	2	5063612.00	0.50	6267448.50	80.8	70 - 120	

MS/MSD QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\074_MS.D\074_MS.D#

Date Acquired:	May 19 2016 06:27 pm	Sample Name:	**1605096-70A MSD**
Acq. Method:	DHL_3Fe.M	Misc Info:	MSD ICPMS_TSDOD1
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 19 2016 12:25 pm	Auto Diln:	Undiluted
Instrument:	ICPMS3	Total Diln:	5.00

QC Elements

Element				Conc.		RSD(%)	Ref Conc	Spike	Range	Rec(%)	Flag
7	Li	2	45	242.50	ppb	1.16	########	200	80-120	######	Fail
9	Be	2	45	161.90	ppb	1.26	2.74	200	80-120	79.6	Fail
11	B	2	45	212.40	ppb	1.38	67.89	200	80-120	72.3	Fail
23	Na	1	45	4846.00	ppb	1.17	878.90	1000	80-120	396.7	Fail
24	Mg	1	45	13230.00	ppb	0.99	11660.00	1000	80-120	157.0	Fail
27	Al	1	45	51340.00	ppb	0.81	59430.00	1000	80-120	-809.0	Fail
39	K	1	45	14840.00	ppb	0.73	13160.00	1000	80-120	168.0	Fail
44	Ca	2	45	37690.00	ppb	1.45	41470.00	1000	80-120	-378.0	Fail
47	Ti	1	45	263.90	ppb	2.04	158.30	200	80-120	52.8	Fail
51	V	1	45	233.20	ppb	0.96	92.36	200	80-120	70.4	Fail
52	Cr	1	45	210.50	ppb	0.68	63.49	200	80-120	73.5	Fail
55	Mn	1	45	607.10	ppb	0.93	552.20	200	80-120	27.4	Fail
56	Fe	1	72	52430.00	ppb	1.59	60210.00	1000	80-120	-778.0	Fail
59	Co	1	72	175.20	ppb	0.90	26.09	200	80-120	74.6	Fail
60	Ni	1	72	175.00	ppb	0.83	35.69	200	80-120	69.7	Fail
63	Cu	1	72	164.90	ppb	0.88	15.10	200	80-120	74.9	Fail
66	Zn	1	72	336.80	ppb	0.41	203.00	200	80-120	66.9	Fail
75	As	1	72	178.30	ppb	0.44	28.43	200	80-120	74.9	Fail
78	Se	1	72	167.80	ppb	1.43	21.43	200	80-120	73.2	Fail
88	Sr	2	115	323.90	ppb	0.96	196.60	200	80-120	63.6	Fail
95	Mo	2	115	139.80	ppb	2.18	1.30	200	80-120	69.3	Fail
107	Ag	2	115	168.40	ppb	1.63	0.32	200	80-120	84.0	
111	Cd	2	115	156.40	ppb	1.38	0.82	200	80-120	77.8	Fail
118	Sn	2	115	161.40	ppb	1.46	6.33	200	80-120	77.5	Fail
121	Sb	2	115	61.84	ppb	1.89	10.21	200	80-120	25.8	Fail
137	Ba	2	115	421.30	ppb	1.57	327.90	200	80-120	46.7	Fail
205	Tl	2	209	180.50	ppb	1.11	0.82	200	80-120	89.8	
208	Pb	2	209	889.80	ppb	0.77	822.40	200	80-120	33.7	Fail

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)			Flag
6	Li	2	-52682.23	1.57	50.17	########	70	-	120	ISFail
45	Sc	1	162591.61	0.17	184662.30	88.0	70	-	120	
45	Sc	2	2960449.00	2.05	4233596.00	69.9	70	-	120	ISFail
72	Ge	1	96623.24	0.35	110938.56	87.1	70	-	120	
115	In	2	4565721.00	1.11	5887647.50	77.5	70	-	120	
209	Bi	2	5189462.00	1.36	6267448.50	82.8	70	-	120	

CCV QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\076CCV1.D\076CCV1.D#

Date Acquired:	May 19 2016 06:39 pm	Sample Name:	CCV3-160519
Acq. Method:	DHL_3Fe.M	Misc Info:	CCV ICPMS_TW
Operator:	KL	Diln Factor:	1.00
Last Cal. Update:	May 19 2016 12:25 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		RSD(%)	Expected	QC Range(%)		Rec(%)	Flag
7	Li	2	45	233.30	ppb	0.89	200.00	90 -	110	116.7	Fail
9	Be	2	45	217.80	ppb	0.54	200.00	90 -	110	108.9	
11	B	2	45	199.60	ppb	0.98	200.00	90 -	110	99.8	
23	Na	1	45	5350.00	ppb	1.52	5000.00	90 -	110	107.0	
24	Mg	1	45	5099.00	ppb	1.23	5000.00	90 -	110	102.0	
27	Al	1	45	4960.00	ppb	1.24	5000.00	90 -	110	99.2	
39	K	1	45	5135.00	ppb	1.51	5000.00	90 -	110	102.7	
44	Ca	2	45	4931.00	ppb	1.22	5000.00	90 -	110	98.6	
47	Ti	1	45	199.60	ppb	0.78	200.00	90 -	110	99.8	
51	V	1	45	204.10	ppb	0.93	200.00	90 -	110	102.1	
52	Cr	1	45	208.90	ppb	1.65	200.00	90 -	110	104.5	
55	Mn	1	45	196.50	ppb	1.37	200.00	90 -	110	98.3	
56	Fe	1	72	4893.00	ppb	1.68	5000.00	90 -	110	97.9	
59	Co	1	72	201.00	ppb	1.04	200.00	90 -	110	100.5	
60	Ni	1	72	195.60	ppb	1.40	200.00	90 -	110	97.8	
63	Cu	1	72	203.60	ppb	0.53	200.00	90 -	110	101.8	
66	Zn	1	72	204.00	ppb	1.75	200.00	90 -	110	102.0	
75	As	1	72	207.50	ppb	0.40	200.00	90 -	110	103.8	
78	Se	1	72	203.70	ppb	0.69	200.00	90 -	110	101.9	
88	Sr	2	115	203.80	ppb	1.78	200.00	90 -	110	101.9	
95	Mo	2	115	185.70	ppb	1.34	200.00	90 -	110	92.9	
107	Ag	2	115	193.00	ppb	1.95	200.00	90 -	110	96.5	
111	Cd	2	115	191.80	ppb	1.71	200.00	90 -	110	95.9	
118	Sn	2	115	195.00	ppb	1.79	200.00	90 -	110	97.5	
121	Sb	2	115	198.40	ppb	1.20	200.00	90 -	110	99.2	
137	Ba	2	115	196.50	ppb	1.91	200.00	90 -	110	98.3	
205	Tl	2	209	204.10	ppb	1.14	200.00	90 -	110	102.1	
208	Pb	2	209	201.10	ppb	1.65	200.00	90 -	110	100.6	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)			Flag
6	Li	2	-60538.34	2.49	50.17	-120676.0	70 -	120		ISFail
45	Sc	1	153920.53	0.52	184662.30	83.4	70 -	120		
45	Sc	2	2940847.00	1.40	4233596.00	69.5	70 -	120		ISFail
72	Ge	1	94096.41	0.12	110938.56	84.8	70 -	120		
115	In	2	4598399.00	0.90	5887647.50	78.1	70 -	120		
209	Bi	2	5330522.50	0.85	6267448.50	85.1	70 -	120		

CCV QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\079LCVL.D\079LCVL.D#

Date Acquired:	May 19 2016 06:57 pm	Sample Name:	**LCVL3-160519**
Acq. Method:	DHL_3Fe.M	Misc Info:	LCVLICPMS_TW
Operator:	KL	Diln Factor:	1.00
Last Cal. Update:	May 19 2016 12:25 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		RSD(%)	Expected	QC Range(%)		Rec(%)	Flag
7	Li	2	45	11.02	ppb	2.12	5.00	70 -	130	220.4	Fail
9	Be	2	45	1.11	ppb	1.78	1.00	70 -	130	110.5	
11	B	2	45	19.68	ppb	1.31	20.00	70 -	130	98.4	
23	Na	1	45	103.50	ppb	2.45	100.00	70 -	130	103.5	
24	Mg	1	45	101.70	ppb	1.89	100.00	70 -	130	101.7	
27	Al	1	45	100.80	ppb	3.06	100.00	70 -	130	100.8	
39	K	1	45	99.02	ppb	3.20	100.00	70 -	130	99.0	
44	Ca	2	45	95.06	ppb	3.03	100.00	70 -	130	95.1	
47	Ti	1	45	5.07	ppb	16.02	5.00	70 -	130	101.5	
51	V	1	45	1.07	ppb	1.09	1.00	70 -	130	106.6	
52	Cr	1	45	5.27	ppb	1.49	5.00	70 -	130	105.5	
55	Mn	1	45	4.81	ppb	2.27	5.00	70 -	130	96.3	
56	Fe	1	72	99.37	ppb	0.87	100.00	70 -	130	99.4	
59	Co	1	72	4.93	ppb	0.79	5.00	70 -	130	98.7	
60	Ni	1	72	4.82	ppb	1.35	5.00	70 -	130	96.5	
63	Cu	1	72	5.02	ppb	0.44	5.00	70 -	130	100.4	
66	Zn	1	72	5.09	ppb	3.97	5.00	70 -	130	101.8	
75	As	1	72	5.06	ppb	1.74	5.00	70 -	130	101.2	
78	Se	1	72	5.08	ppb	11.99	5.00	70 -	130	101.5	
88	Sr	2	115	4.76	ppb	3.17	5.00	70 -	130	95.2	
95	Mo	2	115	4.52	ppb	4.17	5.00	70 -	130	90.5	
107	Ag	2	115	1.84	ppb	1.32	2.00	70 -	130	92.2	
111	Cd	2	115	0.98	ppb	8.52	1.00	70 -	130	97.8	
118	Sn	2	115	4.83	ppb	1.33	5.00	70 -	130	96.5	
121	Sb	2	115	1.92	ppb	2.25	2.00	70 -	130	95.8	
137	Ba	2	115	4.81	ppb	3.30	5.00	70 -	130	96.2	
205	Tl	2	209	1.01	ppb	0.37	1.00	70 -	130	101.3	
208	Pb	2	209	1.02	ppb	2.21	1.00	70 -	130	102.3	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)		Flag
6	Li	2	-1379.12	4.08	50.17	-2749.1	70 -	120	ISFail
45	Sc	1	158255.47	1.48	184662.30	85.7	70 -	120	
45	Sc	2	3171996.80	0.78	4233596.00	74.9	70 -	120	
72	Ge	1	97767.57	0.23	110938.56	88.1	70 -	120	
115	In	2	4914418.50	1.14	5887647.50	83.5	70 -	120	
209	Bi	2	5610710.00	0.40	6267448.50	89.5	70 -	120	

CCB QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\080_CCB.D\080_CCB.D#

Date Acquired:	May 19 2016 07:04 pm	Sample Name:	**CCB3-160519**
Acq. Method:	DHL_3Fe.M	Misc Info:	CCB ICPMS_TW
Operator:	KL	Diln Factor:	1.00
Last Cal. Update:	May 19 2016 12:25 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		RSD(%)	MDL S	MDL Aq	Flag
7	Li	2	45	0.145	ppb	8.92	2.00	2.00	
9	Be	2	45	0.036	ppb	31.45	0.40	0.30	
11	B	2	45	0.975	ppb	4.34	10.00	10.00	
23	Na	1	45	3.276	ppb	2.68	50.00	#####	
24	Mg	1	45	0.200	ppb	15.23	50.00	#####	
27	Al	1	45	3.169	ppb	4.54	50.00	10.00	
39	K	1	45	4.515	ppb	6.23	50.00	#####	
44	Ca	2	45	3.246	ppb	1.08	50.00	#####	
47	Ti	1	45	-0.007	ppb	43.30	4.00	3.00	
51	V	1	45	0.046	ppb	6.32	4.00	3.00	
52	Cr	1	45	0.022	ppb	20.61	2.00	2.00	
55	Mn	1	45	-0.008	ppb	15.62	2.00	3.00	
56	Fe	1	72	3.061	ppb	4.90	50.00	30.00	
59	Co	1	72	0.019	ppb	7.97	2.00	3.00	
60	Ni	1	72	-0.005	ppb	21.18	2.00	3.00	
63	Cu	1	72	0.026	ppb	9.63	2.00	2.00	
66	Zn	1	72	1.042	ppb	8.63	4.00	2.00	
75	As	1	72	0.056	ppb	14.50	2.00	2.00	
78	Se	1	72	0.047	ppb	36.74	0.60	2.00	
88	Sr	2	115	0.065	ppb	6.84	4.00	3.00	
95	Mo	2	115	0.042	ppb	25.29	2.00	2.00	
107	Ag	2	115	0.037	ppb	23.37	0.40	1.00	
111	Cd	2	115	0.033	ppb	58.71	0.40	0.30	
118	Sn	2	115	0.062	ppb	11.89	20.00	3.00	
121	Sb	2	115	0.046	ppb	5.82	2.00	0.80	
137	Ba	2	115	0.071	ppb	10.29	2.00	3.00	
205	Tl	2	209	0.066	ppb	1.19	2.00	0.50	
208	Pb	2	209	0.074	ppb	6.15	0.40	0.30	

ISTD Elements

Element				CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	RHigh	-8.09	293.57	50.17	-16.1	70 - 120	ISFail
45	Sc	1		162063.92	1.48	184662.30	87.8	70 - 120	
45	Sc	2		3197345.80	1.74	4233596.00	75.5	70 - 120	
72	Ge	1		99819.97	0.93	110938.56	90.0	70 - 120	
115	In	2		4864909.50	0.99	5887647.50	82.6	70 - 120	
209	Bi	2		5670500.50	1.77	6267448.50	90.5	70 - 120	

CCV QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\091CCV1.D\091CCV1.D#

Date Acquired:	May 19 2016 08:09 pm	Sample Name:	**CCV4-160519**
Acq. Method:	DHL_3Fe.M	Misc Info:	CCV ICPMS_TW
Operator:	KL	Diln Factor:	1.00
Last Cal. Update:	May 19 2016 12:25 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		RSD(%)	Expected	QC Range(%)		Rec(%)	Flag
7	Li	2	45	241.90	ppb	1.87	200.00	90 -	110	121.0	Fail
9	Be	2	45	219.20	ppb	1.89	200.00	90 -	110	109.6	
11	B	2	45	192.60	ppb	1.95	200.00	90 -	110	96.3	
23	Na	1	45	5348.00	ppb	1.56	5000.00	90 -	110	107.0	
24	Mg	1	45	5055.00	ppb	2.59	5000.00	90 -	110	101.1	
27	Al	1	45	4895.00	ppb	1.82	5000.00	90 -	110	97.9	
39	K	1	45	5099.00	ppb	1.16	5000.00	90 -	110	102.0	
44	Ca	2	45	4936.00	ppb	2.09	5000.00	90 -	110	98.7	
47	Ti	1	45	201.90	ppb	1.77	200.00	90 -	110	101.0	
51	V	1	45	205.60	ppb	1.87	200.00	90 -	110	102.8	
52	Cr	1	45	209.80	ppb	2.12	200.00	90 -	110	104.9	
55	Mn	1	45	196.80	ppb	1.65	200.00	90 -	110	98.4	
56	Fe	1	72	4938.00	ppb	1.73	5000.00	90 -	110	98.8	
59	Co	1	72	200.10	ppb	1.58	200.00	90 -	110	100.1	
60	Ni	1	72	195.40	ppb	2.05	200.00	90 -	110	97.7	
63	Cu	1	72	202.80	ppb	1.20	200.00	90 -	110	101.4	
66	Zn	1	72	204.30	ppb	2.21	200.00	90 -	110	102.2	
75	As	1	72	206.50	ppb	1.63	200.00	90 -	110	103.3	
78	Se	1	72	194.50	ppb	1.32	200.00	90 -	110	97.3	
88	Sr	2	115	201.80	ppb	2.63	200.00	90 -	110	100.9	
95	Mo	2	115	182.70	ppb	2.50	200.00	90 -	110	91.4	
107	Ag	2	115	188.80	ppb	1.80	200.00	90 -	110	94.4	
111	Cd	2	115	187.20	ppb	2.44	200.00	90 -	110	93.6	
118	Sn	2	115	193.10	ppb	2.03	200.00	90 -	110	96.6	
121	Sb	2	115	197.30	ppb	1.82	200.00	90 -	110	98.7	
137	Ba	2	115	197.10	ppb	2.23	200.00	90 -	110	98.6	
205	Tl	2	209	200.40	ppb	2.34	200.00	90 -	110	100.2	
208	Pb	2	209	191.50	ppb	2.42	200.00	90 -	110	95.8	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)			Flag
6	Li	2	-54111.14	2.17	50.17	-107864.1	70 -	120		ISFail
45	Sc	1	140373.03	1.09	184662.30	76.0	70 -	120		
45	Sc	2	2584627.50	1.06	4233596.00	61.1	70 -	120		ISFail
72	Ge	1	87019.67	0.99	110938.56	78.4	70 -	120		
115	In	2	4212062.00	2.08	5887647.50	71.5	70 -	120		
209	Bi	2	5036638.00	1.69	6267448.50	80.4	70 -	120		

CCV QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\093LCVL.D\093LCVL.D#

Date Acquired:	May 19 2016 08:21 pm	Sample Name:	**LCVL4-160519**
Acq. Method:	DHL_3Fe.M	Misc Info:	LCVLICPMS_TW
Operator:	KL	Diln Factor:	1.00
Last Cal. Update:	May 19 2016 12:25 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		RSD(%)	Expected	QC Range(%)		Rec(%)	Flag
7	Li	2	45	11.18	ppb	2.17	5.00	70 -	130	223.6	Fail
9	Be	2	45	1.13	ppb	4.98	1.00	70 -	130	113.2	
11	B	2	45	19.91	ppb	0.90	20.00	70 -	130	99.6	
23	Na	1	45	104.10	ppb	1.00	100.00	70 -	130	104.1	
24	Mg	1	45	100.90	ppb	2.06	100.00	70 -	130	100.9	
27	Al	1	45	113.10	ppb	3.39	100.00	70 -	130	113.1	
39	K	1	45	108.60	ppb	2.63	100.00	70 -	130	108.6	
44	Ca	2	45	119.40	ppb	9.61	100.00	70 -	130	119.4	
47	Ti	1	45	5.21	ppb	10.36	5.00	70 -	130	104.1	
51	V	1	45	1.08	ppb	3.00	1.00	70 -	130	107.7	
52	Cr	1	45	5.22	ppb	3.44	5.00	70 -	130	104.5	
55	Mn	1	45	5.63	ppb	3.98	5.00	70 -	130	112.7	
56	Fe	1	72	132.40	ppb	3.15	100.00	70 -	130	132.4	Fail
59	Co	1	72	4.86	ppb	3.98	5.00	70 -	130	97.2	
60	Ni	1	72	5.26	ppb	1.20	5.00	70 -	130	105.3	
63	Cu	1	72	5.23	ppb	1.49	5.00	70 -	130	104.5	
66	Zn	1	72	5.08	ppb	5.13	5.00	70 -	130	101.6	
75	As	1	72	5.16	ppb	1.80	5.00	70 -	130	103.1	
78	Se	1	72	5.16	ppb	4.95	5.00	70 -	130	103.2	
88	Sr	2	115	4.92	ppb	3.36	5.00	70 -	130	98.4	
95	Mo	2	115	4.42	ppb	3.34	5.00	70 -	130	88.3	
107	Ag	2	115	1.89	ppb	2.03	2.00	70 -	130	94.5	
111	Cd	2	115	0.95	ppb	8.18	1.00	70 -	130	95.2	
118	Sn	2	115	5.53	ppb	4.95	5.00	70 -	130	110.7	
121	Sb	2	115	1.91	ppb	3.34	2.00	70 -	130	95.4	
137	Ba	2	115	4.96	ppb	2.46	5.00	70 -	130	99.2	
205	Tl	2	209	0.99	ppb	3.42	1.00	70 -	130	98.8	
208	Pb	2	209	1.00	ppb	1.37	1.00	70 -	130	100.0	

ISTD Elements

Element				CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)		Flag
6	Li	2	RHigl	-1172.31	12.63	50.17	-2336.9	70 -	120	ISFail
45	Sc	1		144101.22	1.02	184662.30	78.0	70 -	120	
45	Sc	2		2742480.50	0.98	4233596.00	64.8	70 -	120	ISFail
72	Ge	1		89452.73	1.57	110938.56	80.6	70 -	120	
115	In	2		4343227.00	1.58	5887647.50	73.8	70 -	120	
209	Bi	2		5166432.00	0.69	6267448.50	82.4	70 -	120	

CCB QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\094_CCB.D\094_CCB.D#

Date Acquired:	May 19 2016 08:28 pm	Sample Name:	**CCB4-160519**
Acq. Method:	DHL_3Fe.M	Misc Info:	CCB ICPMS_TW
Operator:	KL	Diln Factor:	1.00
Last Cal. Update:	May 19 2016 12:25 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		RSD(%)	MDL S	MDL Aq	Flag
7	Li	2	45	0.193	ppb	10.90	2.00	2.00	
9	Be	2	45	0.030	ppb	24.99	0.40	0.30	
11	B	2	45	1.072	ppb	1.38	10.00	10.00	
23	Na	1	45	5.902	ppb	3.05	50.00	#####	
24	Mg	1	45	2.114	ppb	15.86	50.00	#####	
27	Al	1	45	10.880	ppb	15.69	50.00	10.00	FailAq
39	K	1	45	6.973	ppb	2.17	50.00	#####	
44	Ca	2	45	13.900	ppb	12.01	50.00	#####	
47	Ti	1	45	0.094	ppb	94.39	4.00	3.00	
51	V	1	45	0.069	ppb	8.44	4.00	3.00	
52	Cr	1	45	0.051	ppb	6.72	2.00	2.00	
55	Mn	1	45	0.125	ppb	11.43	2.00	3.00	
56	Fe	1	72	14.390	ppb	11.49	50.00	30.00	
59	Co	1	72	0.043	ppb	17.78	2.00	3.00	
60	Ni	1	72	0.015	ppb	13.56	2.00	3.00	
63	Cu	1	72	0.050	ppb	11.71	2.00	2.00	
66	Zn	1	72	1.189	ppb	15.17	4.00	2.00	
75	As	1	72	0.087	ppb	6.92	2.00	2.00	
78	Se	1	72	0.132	ppb	8.33	0.60	2.00	
88	Sr	2	115	0.176	ppb	21.38	4.00	3.00	
95	Mo	2	115	0.046	ppb	11.03	2.00	2.00	
107	Ag	2	115	0.032	ppb	5.89	0.40	1.00	
111	Cd	2	115	0.056	ppb	2.57	0.40	0.30	
118	Sn	2	115	0.044	ppb	8.71	20.00	3.00	
121	Sb	2	115	0.042	ppb	25.26	2.00	0.80	
137	Ba	2	115	0.066	ppb	4.17	2.00	3.00	
205	Tl	2	209	0.059	ppb	4.00	2.00	0.50	
208	Pb	2	209	0.055	ppb	5.32	0.40	0.30	

ISTD Elements

Element				CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	RHigh	6.78	181.23	50.17	13.5	70 - 120	ISFail
45	Sc	1		137767.69	0.64	184662.30	74.6	70 - 120	
45	Sc	2		2656546.80	2.11	4233596.00	62.7	70 - 120	ISFail
72	Ge	1		86469.39	0.70	110938.56	77.9	70 - 120	
115	In	2		4135811.50	1.26	5887647.50	70.2	70 - 120	
209	Bi	2		4906259.50	0.73	6267448.50	78.3	70 - 120	

PB QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\095__PB.D\095__PB.D#

Date Acquired:	May 19 2016 08:34 pm	Sample Name:	**MB-75168**
Acq. Method:	DHL_3Fe.M	Misc Info:	MBLKICPMS_TSDOD
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 19 2016 12:25 pm	Auto Dil:	Undiluted
Instrument:	ICPMS3	Total Dil:	5.00

QC Elements

Element				Conc.		RSD(%)	MDL	RL	Flag
7	Li	2	45	0.123	ppb	2.25	2.0	8.00	
9	Be	2	45	0.008	ppb	16.66	0.4	1.20	
11	B	2	45	1.415	ppb	2.82	10.0	30.00	
23	Na	1	45	16.300	ppb	1.09	50.0	#####	
24	Mg	1	45	3.893	ppb	11.76	50.0	#####	
27	Al	1	45	10.960	ppb	12.34	50.0	#####	
39	K	1	45	14.990	ppb	4.68	50.0	#####	
44	Ca	2	45	37.330	ppb	8.58	50.0	#####	
47	Ti	1	45	0.073	ppb	49.50	4.0	10.00	
51	V	1	45	0.015	ppb	17.55	4.0	10.00	
52	Cr	1	45	0.383	ppb	2.03	2.0	8.00	
55	Mn	1	45	0.140	ppb	10.87	2.0	8.00	
56	Fe	1	72	11.080	ppb	15.32	50.0	#####	
59	Co	1	72	0.003	ppb	6.80	2.0	8.00	
60	Ni	1	72	0.348	ppb	6.54	2.0	8.00	
63	Cu	1	72	0.126	ppb	7.10	2.0	8.00	
66	Zn	1	72	3.610	ppb	2.82	4.0	10.00	
75	As	1	72	0.035	ppb	1.90	2.0	4.00	
78	Se	1	72	0.113	ppb	23.31	0.6	2.00	
88	Sr	2	115	0.190	ppb	9.52	4.0	10.00	
95	Mo	2	115	0.012	ppb	29.89	2.0	8.00	
107	Ag	2	115	0.018	ppb	16.95	0.4	0.80	
111	Cd	2	115	0.017	ppb	16.33	0.4	1.20	
118	Sn	2	115	4.019	ppb	1.76	20.0	40.00	
121	Sb	2	115	0.005	ppb	44.12	2.0	4.00	
137	Ba	2	115	0.077	ppb	25.00	2.0	8.00	
205	Tl	2	209	0.027	ppb	11.07	2.0	4.00	
208	Pb	2	209	0.052	ppb	12.53	0.4	1.20	

ISTD Elements

Element				CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	RHig	-2.03	688.02	50.17	-4.0	70 - 120	ISFail
45	Sc	1		136253.06	1.08	184662.30	73.8	70 - 120	
45	Sc	2		2792198.00	0.48	4233596.00	66.0	70 - 120	ISFail
72	Ge	1		85496.91	0.98	110938.56	77.1	70 - 120	
115	In	2		4301248.00	1.30	5887647.50	73.1	70 - 120	
209	Bi	2		4990732.00	0.54	6267448.50	79.6	70 - 120	

LCS QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\096_LCS.D\096_LCS.D#

Date Acquired:	May 19 2016 08:40 pm	Sample Name:	**LCS-75168**
Acq. Method:	DHL_3Fe.M	Misc Info:	LCS ICPMS_TSDOD1
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 19 2016 12:25 pm	Auto Dil:	Undiluted
Instrument:	ICPMS3	Total Dil:	5.00

QC Elements

Element				Conc.		RSD(%)	Expected	QC Range(%)		Rec(%)	Flag
7	Li	2	45	215.50	ppb	0.44	200.00	80 -	120	107.8	
9	Be	2	45	196.70	ppb	1.55	200.00	80 -	120	98.4	
11	B	2	45	182.30	ppb	2.27	200.00	80 -	120	91.2	
23	Na	1	45	5264.00	ppb	1.18	1000.00	80 -	120	526.4	Fail
24	Mg	1	45	5053.00	ppb	1.10	1000.00	80 -	120	505.3	Fail
27	Al	1	45	1001.00	ppb	0.49	1000.00	80 -	120	100.1	
39	K	1	45	5134.00	ppb	0.22	1000.00	80 -	120	513.4	Fail
44	Ca	2	45	4846.00	ppb	1.70	1000.00	80 -	120	484.6	Fail
47	Ti	1	45	201.10	ppb	0.59	200.00	80 -	120	100.6	
51	V	1	45	202.30	ppb	1.76	200.00	80 -	120	101.2	
52	Cr	1	45	206.00	ppb	1.61	200.00	80 -	120	103.0	
55	Mn	1	45	197.60	ppb	1.77	200.00	80 -	120	98.8	
56	Fe	1	72	974.00	ppb	1.97	1000.00	80 -	120	97.4	
59	Co	1	72	195.70	ppb	1.60	200.00	80 -	120	97.9	
60	Ni	1	72	189.50	ppb	1.98	200.00	80 -	120	94.8	
63	Cu	1	72	196.20	ppb	0.95	200.00	80 -	120	98.1	
66	Zn	1	72	193.60	ppb	2.21	200.00	80 -	120	96.8	
75	As	1	72	195.90	ppb	0.95	200.00	80 -	120	98.0	
78	Se	1	72	185.70	ppb	1.48	200.00	80 -	120	92.9	
88	Sr	2	115	203.00	ppb	1.56	200.00	80 -	120	101.5	
95	Mo	2	115	185.30	ppb	1.49	200.00	80 -	120	92.7	
107	Ag	2	115	187.20	ppb	1.25	200.00	80 -	120	93.6	
111	Cd	2	115	182.50	ppb	1.37	200.00	80 -	120	91.3	
118	Sn	2	115	196.30	ppb	2.01	200.00	80 -	120	98.2	
121	Sb	2	115	190.70	ppb	1.94	200.00	80 -	120	95.4	
137	Ba	2	115	194.10	ppb	2.03	200.00	80 -	120	97.1	
205	Tl	2	209	201.10	ppb	1.06	200.00	80 -	120	100.6	
208	Pb	2	209	189.90	ppb	1.44	200.00	80 -	120	95.0	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)		Flag
6	Li	2	-53945.87	2.87	50.17	-107534.7	70 -	120	ISFail
45	Sc	1	137462.33	0.80	184662.30	74.4	70 -	120	
45	Sc	2	2807708.80	1.09	4233596.00	66.3	70 -	120	ISFail
72	Ge	1	84704.94	1.20	110938.56	76.4	70 -	120	
115	In	2	4302853.50	0.55	5887647.50	73.1	70 -	120	
209	Bi	2	4885738.50	0.29	6267448.50	78.0	70 -	120	

LCS QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\097_LCS.D\097_LCS.D#

Date Acquired:	May 19 2016 08:46 pm	Sample Name:	**LCSD-75168**
Acq. Method:	DHL_3Fe.M	Misc Info:	LCSDICPMS_TSDOD1
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 19 2016 12:25 pm	Auto Dil:	Undiluted
Instrument:	ICPMS3	Total Dil:	5.00

QC Elements

Element				Conc.		RSD(%)	Expected	QC Range(%)		Rec(%)	Flag
7	Li	2	45	216.20	ppb	1.36	200.00	80 -	120	108.1	
9	Be	2	45	195.90	ppb	1.79	200.00	80 -	120	98.0	
11	B	2	45	185.40	ppb	1.50	200.00	80 -	120	92.7	
23	Na	1	45	5177.00	ppb	1.82	1000.00	80 -	120	517.7	Fail
24	Mg	1	45	4985.00	ppb	1.82	1000.00	80 -	120	498.5	Fail
27	Al	1	45	1002.00	ppb	1.62	1000.00	80 -	120	100.2	
39	K	1	45	5128.00	ppb	1.42	1000.00	80 -	120	512.8	Fail
44	Ca	2	45	4895.00	ppb	2.57	1000.00	80 -	120	489.5	Fail
47	Ti	1	45	200.40	ppb	0.18	200.00	80 -	120	100.2	
51	V	1	45	199.60	ppb	1.26	200.00	80 -	120	99.8	
52	Cr	1	45	203.30	ppb	1.97	200.00	80 -	120	101.7	
55	Mn	1	45	196.90	ppb	1.14	200.00	80 -	120	98.5	
56	Fe	1	72	980.60	ppb	2.24	1000.00	80 -	120	98.1	
59	Co	1	72	194.90	ppb	0.95	200.00	80 -	120	97.5	
60	Ni	1	72	188.30	ppb	1.12	200.00	80 -	120	94.2	
63	Cu	1	72	195.10	ppb	0.14	200.00	80 -	120	97.6	
66	Zn	1	72	192.60	ppb	0.16	200.00	80 -	120	96.3	
75	As	1	72	195.60	ppb	0.63	200.00	80 -	120	97.8	
78	Se	1	72	188.40	ppb	0.77	200.00	80 -	120	94.2	
88	Sr	2	115	204.20	ppb	1.62	200.00	80 -	120	102.1	
95	Mo	2	115	185.70	ppb	1.54	200.00	80 -	120	92.9	
107	Ag	2	115	188.60	ppb	2.28	200.00	80 -	120	94.3	
111	Cd	2	115	180.90	ppb	1.94	200.00	80 -	120	90.5	
118	Sn	2	115	198.10	ppb	1.92	200.00	80 -	120	99.1	
121	Sb	2	115	190.80	ppb	1.74	200.00	80 -	120	95.4	
137	Ba	2	115	194.40	ppb	1.48	200.00	80 -	120	97.2	
205	Tl	2	209	204.40	ppb	2.02	200.00	80 -	120	102.2	
208	Pb	2	209	192.30	ppb	1.56	200.00	80 -	120	96.2	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)		Flag
6	Li	2	-54686.41	1.35	50.17	-109010.9	70 -	120	ISFail
45	Sc	1	141475.58	0.44	184662.30	76.6	70 -	120	
45	Sc	2	2823139.00	1.42	4233596.00	66.7	70 -	120	ISFail
72	Ge	1	86514.12	0.51	110938.56	78.0	70 -	120	
115	In	2	4329598.00	0.43	5887647.50	73.5	70 -	120	
209	Bi	2	4880613.50	0.59	6267448.50	77.9	70 -	120	

DT QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\100DT1.D\100DT1.D#

Date Acquired:	May 19 2016 09:04 pm	Sample Name:	**1605096-42A SD**
Acq. Method:	DHL_3Fe.M	Misc Info:	SD ICPMS_TSDOD1
Operator:	KL	Bench Diln:	25.00
Last Cal. Update:	May 19 2016 12:25 pm	Auto Diln:	Undiluted
Instrument:	ICPMS3	Total Diln:	25.00

QC Elements

Element				Conc.		RSD(%)	Expected	QC Range(%)	Rec(%)	Flag
7	Li	2	45	9.43	ppb	0.88	-803.23	90 - 110	-5.9	
9	Be	2	45	0.35	ppb	5.38	1.70	90 - 110	103.7	GOOD
11	B	2	45	13.99	ppb	3.86	61.25	90 - 110	114.2	
23	Na	1	45	129.70	ppb	0.89	616.80	90 - 110	105.1	GOOD
24	Mg	1	45	1927.00	ppb	0.60	9844.00	90 - 110	97.9	GOOD
27	Al	1	45	8423.00	ppb	0.99	43690.00	90 - 110	96.4	GOOD
39	K	1	45	2708.00	ppb	1.16	13360.00	90 - 110	101.3	GOOD
44	Ca	2	45	10370.00	ppb	1.57	48780.00	90 - 110	106.3	GOOD
47	Ti	1	45	29.09	ppb	2.36	148.40	90 - 110	98.0	GOOD
51	V	1	45	14.06	ppb	2.15	68.57	90 - 110	102.5	GOOD
52	Cr	1	45	9.76	ppb	2.31	47.79	90 - 110	102.1	GOOD
55	Mn	1	45	96.26	ppb	0.79	473.80	90 - 110	101.6	GOOD
56	Fe	1	72	8615.00	ppb	1.76	42400.00	90 - 110	101.6	GOOD
59	Co	1	72	3.17	ppb	1.43	15.61	90 - 110	101.5	GOOD
60	Ni	1	72	5.29	ppb	3.49	24.99	90 - 110	105.8	GOOD
63	Cu	1	72	4.54	ppb	1.81	21.48	90 - 110	105.6	GOOD
66	Zn	1	72	44.14	ppb	1.90	199.30	90 - 110	110.7	
75	As	1	72	4.28	ppb	2.46	20.09	90 - 110	106.4	GOOD
78	Se	1	72	3.02	ppb	3.14	16.12	90 - 110	93.6	GOOD
88	Sr	2	115	41.81	ppb	0.96	219.90	90 - 110	95.1	GOOD
95	Mo	2	115	0.25	ppb	4.19	1.07	90 - 110	116.9	
107	Ag	2	115	0.06	ppb	15.10	0.17	90 - 110	165.4	
111	Cd	2	115	0.17	ppb	15.02	0.60	90 - 110	142.5	
118	Sn	2	115	0.88	ppb	7.76	4.28	90 - 110	102.5	GOOD
121	Sb	2	115	0.46	ppb	6.02	2.25	90 - 110	101.9	GOOD
137	Ba	2	115	61.48	ppb	2.54	306.50	90 - 110	100.3	GOOD
205	Tl	2	209	0.13	ppb	9.85	0.46	90 - 110	146.2	
208	Pb	2	209	24.55	ppb	1.17	123.00	90 - 110	99.8	GOOD

ISTD Elements

Element				CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)		Flag
6	Li	2	RHig	-803.23	19.27	50.17	-1601.1	70 -	120	ISFail
45	Sc	1		144501.66	1.00	184662.30	78.3	70 -	120	
45	Sc	2		3056931.00	0.69	4233596.00	72.2	70 -	120	
72	Ge	1		89716.13	0.88	110938.56	80.9	70 -	120	
115	In	2		4573493.50	0.88	5887647.50	77.7	70 -	120	
209	Bi	2		5162660.50	0.47	6267448.50	82.4	70 -	120	

PDS QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\110_PDS.D\110_PDS.D#

Date Acquired:	May 19 2016 10:04 pm	Sample Name:	**1605096-42A PDS**
Acq. Method:	DHL_3Fe.M	Misc Info:	PDS ICPMS_TSDOD1
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 19 2016 12:25 pm	Auto Diln:	Undiluted
Instrument:	ICPMS3	Total Diln:	5.00

QC Elements

Element				Conc.		RSD(%)	Ref Conc	Spike	Range	Rec(%)	Flag
7	Li	2	45	252.40	ppb	0.94	-28887.75	200	75-125	######	Fail
9	Be	2	45	192.70	ppb	1.15	1.70	200	75-125	95.5	
11	B	2	45	234.20	ppb	1.82	61.25	200	75-125	86.5	
23	Na	1	45	5669.00	ppb	0.70	616.80	5000	75-125	101.0	
24	Mg	1	45	14560.00	ppb	2.07	9844.00	5000	75-125	94.3	
27	Al	1	45	46680.00	ppb	2.72	43690.00	5000	75-125	59.8	Fail
39	K	1	45	18080.00	ppb	1.71	13360.00	5000	75-125	94.4	
44	Ca	2	45	53090.00	ppb	1.32	48780.00	5000	75-125	86.2	
47	Ti	1	45	340.80	ppb	1.66	148.40	200	75-125	96.2	
51	V	1	45	267.20	ppb	0.77	68.57	200	75-125	99.3	
52	Cr	1	45	249.30	ppb	1.03	47.79	200	75-125	100.8	
55	Mn	1	45	647.60	ppb	2.10	473.80	200	75-125	86.9	
56	Fe	1	72	46680.00	ppb	0.62	42400.00	5000	75-125	85.6	
59	Co	1	72	206.20	ppb	0.59	15.61	200	75-125	95.3	
60	Ni	1	72	205.70	ppb	1.30	24.99	200	75-125	90.4	
63	Cu	1	72	205.10	ppb	1.21	21.48	200	75-125	91.8	
66	Zn	1	72	374.10	ppb	1.14	199.30	200	75-125	87.4	
75	As	1	72	213.70	ppb	0.81	20.09	200	75-125	96.8	
78	Se	1	72	200.60	ppb	0.60	16.12	200	75-125	92.2	
88	Sr	2	115	411.80	ppb	0.74	219.90	200	75-125	96.0	
95	Mo	2	115	179.90	ppb	1.39	1.07	200	75-125	89.4	
107	Ag	2	115	166.70	ppb	2.03	0.17	200	75-125	83.3	
111	Cd	2	115	175.10	ppb	1.73	0.60	200	75-125	87.2	
118	Sn	2	115	200.10	ppb	2.28	4.28	200	75-125	97.9	
121	Sb	2	115	195.90	ppb	2.13	2.25	200	75-125	96.8	
137	Ba	2	115	497.10	ppb	1.82	306.50	200	75-125	95.3	
205	Tl	2	209	201.60	ppb	1.29	0.46	200	75-125	100.6	
208	Pb	2	209	322.70	ppb	1.28	123.00	200	75-125	99.9	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	-28887.75	1.98	50.17	-57584.3	70 - 120	ISFail
45	Sc	1	145720.95	0.35	184662.30	78.9	70 - 120	
45	Sc	2	2855506.80	1.41	4233596.00	67.4	70 - 120	ISFail
72	Ge	1	88283.45	0.70	110938.56	79.6	70 - 120	
115	In	2	4435971.00	1.29	5887647.50	75.3	70 - 120	
209	Bi	2	5005928.50	1.22	6267448.50	79.9	70 - 120	

MS/MSD QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\111_MS.D\111_MS.D#

Date Acquired:	May 19 2016 10:10 pm	Sample Name:	**1605096-42A MS**
Acq. Method:	DHL_3Fe.M	Misc Info:	MS ICPMS_TSDOD1
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 19 2016 12:25 pm	Auto Diln:	Undiluted
Instrument:	ICPMS3	Total Diln:	5.00

QC Elements

Element				Conc.		RSD(%)	Ref Conc	Spike	Range	Rec(%)	Flag
7	Li	2	45	243.00	ppb	1.40	########	200	80-120	######	Fail
9	Be	2	45	173.00	ppb	1.87	1.70	200	80-120	85.7	
11	B	2	45	223.00	ppb	1.75	61.25	200	80-120	80.9	
23	Na	1	45	5307.00	ppb	0.86	616.80	1000	80-120	469.0	Fail
24	Mg	1	45	14850.00	ppb	1.09	9844.00	1000	80-120	500.6	Fail
27	Al	1	45	50180.00	ppb	2.26	43690.00	1000	80-120	649.0	Fail
39	K	1	45	19640.00	ppb	0.80	13360.00	1000	80-120	628.0	Fail
44	Ca	2	45	54820.00	ppb	1.75	48780.00	1000	80-120	604.0	Fail
47	Ti	1	45	349.80	ppb	1.09	148.40	200	80-120	100.7	
51	V	1	45	252.00	ppb	1.09	68.57	200	80-120	91.7	
52	Cr	1	45	229.40	ppb	0.95	47.79	200	80-120	90.8	
55	Mn	1	45	661.80	ppb	0.49	473.80	200	80-120	94.0	
56	Fe	1	72	46300.00	ppb	0.53	42400.00	1000	80-120	390.0	Fail
59	Co	1	72	185.50	ppb	0.58	15.61	200	80-120	84.9	
60	Ni	1	72	188.80	ppb	1.08	24.99	200	80-120	81.9	
63	Cu	1	72	191.70	ppb	0.24	21.48	200	80-120	85.1	
66	Zn	1	72	372.80	ppb	0.36	199.30	200	80-120	86.8	
75	As	1	72	194.90	ppb	0.67	20.09	200	80-120	87.4	
78	Se	1	72	180.60	ppb	3.03	16.12	200	80-120	82.2	
88	Sr	2	115	406.70	ppb	2.66	219.90	200	80-120	93.4	
95	Mo	2	115	160.20	ppb	1.65	1.07	200	80-120	79.6	Fail
107	Ag	2	115	172.20	ppb	1.88	0.17	200	80-120	86.0	
111	Cd	2	115	165.00	ppb	2.11	0.60	200	80-120	82.2	
118	Sn	2	115	178.30	ppb	2.66	4.28	200	80-120	87.0	
121	Sb	2	115	68.10	ppb	1.53	2.25	200	80-120	32.9	Fail
137	Ba	2	115	517.20	ppb	2.11	306.50	200	80-120	105.4	
205	Tl	2	209	191.10	ppb	1.07	0.46	200	80-120	95.3	
208	Pb	2	209	313.80	ppb	1.80	123.00	200	80-120	95.4	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)			Flag
6	Li	2	-52280.91	1.20	50.17	########	70	-	120	ISFail
45	Sc	1	146152.11	0.27	184662.30	79.1	70	-	120	
45	Sc	2	2823832.30	1.18	4233596.00	66.7	70	-	120	ISFail
72	Ge	1	88063.51	0.82	110938.56	79.4	70	-	120	
115	In	2	4370260.00	2.10	5887647.50	74.2	70	-	120	
209	Bi	2	4930649.50	0.97	6267448.50	78.7	70	-	120	

MS/MSD QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\112_MS.D\112_MS.D#

Date Acquired:	May 19 2016 10:16 pm	Sample Name:	**1605096-42A MSD**
Acq. Method:	DHL_3Fe.M	Misc Info:	MSD ICPMS_TSDOD1
Operator:	KL	Bench Diln:	5.00
Last Cal. Update:	May 19 2016 12:25 pm	Auto Diln:	Undiluted
Instrument:	ICPMS3	Total Diln:	5.00

QC Elements

Element				Conc.		RSD(%)	Ref Conc	Spike	Range	Rec(%)	Flag
7	Li	2	45	252.10	ppb	0.59	########	200	80-120	######	Fail
9	Be	2	45	181.00	ppb	1.24	1.70	200	80-120	89.7	
11	B	2	45	231.70	ppb	1.87	61.25	200	80-120	85.2	
23	Na	1	45	5496.00	ppb	0.86	616.80	1000	80-120	487.9	Fail
24	Mg	1	45	15320.00	ppb	1.78	9844.00	1000	80-120	547.6	Fail
27	Al	1	45	51210.00	ppb	1.34	43690.00	1000	80-120	752.0	Fail
39	K	1	45	19960.00	ppb	1.73	13360.00	1000	80-120	660.0	Fail
44	Ca	2	45	55420.00	ppb	1.87	48780.00	1000	80-120	664.0	Fail
47	Ti	1	45	350.80	ppb	1.42	148.40	200	80-120	101.2	
51	V	1	45	261.00	ppb	0.60	68.57	200	80-120	96.2	
52	Cr	1	45	238.00	ppb	1.47	47.79	200	80-120	95.1	
55	Mn	1	45	673.50	ppb	1.04	473.80	200	80-120	99.9	
56	Fe	1	72	46750.00	ppb	1.73	42400.00	1000	80-120	435.0	Fail
59	Co	1	72	194.00	ppb	1.19	15.61	200	80-120	89.2	
60	Ni	1	72	196.40	ppb	0.97	24.99	200	80-120	85.7	
63	Cu	1	72	195.60	ppb	0.64	21.48	200	80-120	87.1	
66	Zn	1	72	378.20	ppb	1.30	199.30	200	80-120	89.5	
75	As	1	72	200.20	ppb	0.58	20.09	200	80-120	90.1	
78	Se	1	72	189.20	ppb	1.08	16.12	200	80-120	86.5	
88	Sr	2	115	416.00	ppb	1.09	219.90	200	80-120	98.1	
95	Mo	2	115	166.20	ppb	1.73	1.07	200	80-120	82.6	
107	Ag	2	115	175.20	ppb	2.00	0.17	200	80-120	87.5	
111	Cd	2	115	171.80	ppb	1.66	0.60	200	80-120	85.6	
118	Sn	2	115	186.00	ppb	1.48	4.28	200	80-120	90.9	
121	Sb	2	115	69.74	ppb	1.94	2.25	200	80-120	33.7	Fail
137	Ba	2	115	504.20	ppb	1.23	306.50	200	80-120	98.9	
205	Tl	2	209	197.70	ppb	1.05	0.46	200	80-120	98.6	
208	Pb	2	209	320.90	ppb	1.29	123.00	200	80-120	99.0	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)			Flag
6	Li	2	-55251.08	3.15	50.17	########	70	-	120	ISFail
45	Sc	1	145649.14	0.33	184662.30	78.9	70	-	120	
45	Sc	2	2824383.00	1.55	4233596.00	66.7	70	-	120	ISFail
72	Ge	1	87906.75	0.46	110938.56	79.2	70	-	120	
115	In	2	4355616.50	1.34	5887647.50	74.0	70	-	120	
209	Bi	2	4926423.50	0.86	6267448.50	78.6	70	-	120	

CCV QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\114CCV1.D\114CCV1.D#

Date Acquired:	May 19 2016 10:28 pm	Sample Name:	**CCV5-160519**
Acq. Method:	DHL_3Fe.M	Misc Info:	CCV ICPMS_TW
Operator:	KL	Diln Factor:	1.00
Last Cal. Update:	May 19 2016 12:25 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		RSD(%)	Expected	QC Range(%)		Rec(%)	Flag
7	Li	2	45	217.40	ppb	1.09	200.00	90 -	110	108.7	
9	Be	2	45	204.90	ppb	1.13	200.00	90 -	110	102.5	
11	B	2	45	185.40	ppb	2.36	200.00	90 -	110	92.7	
23	Na	1	45	5277.00	ppb	1.79	5000.00	90 -	110	105.5	
24	Mg	1	45	4958.00	ppb	1.06	5000.00	90 -	110	99.2	
27	Al	1	45	4891.00	ppb	1.58	5000.00	90 -	110	97.8	
39	K	1	45	5086.00	ppb	0.41	5000.00	90 -	110	101.7	
44	Ca	2	45	4872.00	ppb	1.29	5000.00	90 -	110	97.4	
47	Ti	1	45	199.10	ppb	0.47	200.00	90 -	110	99.6	
51	V	1	45	201.90	ppb	0.49	200.00	90 -	110	101.0	
52	Cr	1	45	205.50	ppb	1.65	200.00	90 -	110	102.8	
55	Mn	1	45	196.80	ppb	0.66	200.00	90 -	110	98.4	
56	Fe	1	72	4762.00	ppb	1.07	5000.00	90 -	110	95.2	
59	Co	1	72	194.90	ppb	0.96	200.00	90 -	110	97.5	
60	Ni	1	72	190.20	ppb	1.08	200.00	90 -	110	95.1	
63	Cu	1	72	196.80	ppb	0.74	200.00	90 -	110	98.4	
66	Zn	1	72	201.00	ppb	1.33	200.00	90 -	110	100.5	
75	As	1	72	205.50	ppb	0.47	200.00	90 -	110	102.8	
78	Se	1	72	203.50	ppb	1.25	200.00	90 -	110	101.8	
88	Sr	2	115	205.20	ppb	1.38	200.00	90 -	110	102.6	
95	Mo	2	115	184.70	ppb	1.88	200.00	90 -	110	92.4	
107	Ag	2	115	191.70	ppb	1.12	200.00	90 -	110	95.9	
111	Cd	2	115	188.70	ppb	1.77	200.00	90 -	110	94.4	
118	Sn	2	115	194.00	ppb	1.55	200.00	90 -	110	97.0	
121	Sb	2	115	198.20	ppb	1.01	200.00	90 -	110	99.1	
137	Ba	2	115	199.40	ppb	1.53	200.00	90 -	110	99.7	
205	Tl	2	209	202.00	ppb	0.83	200.00	90 -	110	101.0	
208	Pb	2	209	190.50	ppb	0.96	200.00	90 -	110	95.3	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)			Flag
6	Li	2	-54427.40	1.72	50.17	-108494.6	70 -	120		ISFail
45	Sc	1	138308.77	0.72	184662.30	74.9	70 -	120		
45	Sc	2	2786980.30	0.18	4233596.00	65.8	70 -	120		ISFail
72	Ge	1	85937.93	0.21	110938.56	77.5	70 -	120		
115	In	2	4326333.50	0.95	5887647.50	73.5	70 -	120		
209	Bi	2	5065979.00	0.62	6267448.50	80.8	70 -	120		

CCV QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\116LCVL.D\116LCVL.D#

Date Acquired:	May 19 2016 10:40 pm	Sample Name:	**LCVL5-160519**
Acq. Method:	DHL_3Fe.M	Misc Info:	LCVLICPMS_TW
Operator:	KL	Diln Factor:	1.00
Last Cal. Update:	May 19 2016 12:25 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		RSD(%)	Expected	QC Range(%)		Rec(%)	Flag
7	Li	2	45	10.65	ppb	0.51	5.00	70 -	130	213.0	Fail
9	Be	2	45	1.09	ppb	2.25	1.00	70 -	130	109.4	
11	B	2	45	19.79	ppb	1.75	20.00	70 -	130	99.0	
23	Na	1	45	103.70	ppb	0.47	100.00	70 -	130	103.7	
24	Mg	1	45	101.40	ppb	0.62	100.00	70 -	130	101.4	
27	Al	1	45	110.40	ppb	2.97	100.00	70 -	130	110.4	
39	K	1	45	104.10	ppb	0.86	100.00	70 -	130	104.1	
44	Ca	2	45	101.40	ppb	1.01	100.00	70 -	130	101.4	
47	Ti	1	45	5.23	ppb	3.41	5.00	70 -	130	104.6	
51	V	1	45	1.08	ppb	4.72	1.00	70 -	130	107.5	
52	Cr	1	45	5.32	ppb	2.19	5.00	70 -	130	106.4	
55	Mn	1	45	4.90	ppb	3.52	5.00	70 -	130	98.1	
56	Fe	1	72	102.50	ppb	1.85	100.00	70 -	130	102.5	
59	Co	1	72	4.98	ppb	1.65	5.00	70 -	130	99.7	
60	Ni	1	72	4.82	ppb	1.82	5.00	70 -	130	96.5	
63	Cu	1	72	4.91	ppb	0.65	5.00	70 -	130	98.3	
66	Zn	1	72	4.87	ppb	3.22	5.00	70 -	130	97.4	
75	As	1	72	5.21	ppb	1.57	5.00	70 -	130	104.2	
78	Se	1	72	5.58	ppb	6.36	5.00	70 -	130	111.6	
88	Sr	2	115	4.97	ppb	1.97	5.00	70 -	130	99.3	
95	Mo	2	115	4.63	ppb	1.49	5.00	70 -	130	92.7	
107	Ag	2	115	1.94	ppb	2.62	2.00	70 -	130	96.9	
111	Cd	2	115	0.90	ppb	5.25	1.00	70 -	130	90.3	
118	Sn	2	115	5.01	ppb	2.82	5.00	70 -	130	100.3	
121	Sb	2	115	2.08	ppb	3.32	2.00	70 -	130	104.1	
137	Ba	2	115	5.09	ppb	2.21	5.00	70 -	130	101.8	
205	Tl	2	209	1.06	ppb	2.10	1.00	70 -	130	105.8	
208	Pb	2	209	1.04	ppb	2.02	1.00	70 -	130	104.1	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)			Flag
6	Li	2	-1316.12	3.31	50.17	-2623.5	70 -	120		ISFail
45	Sc	1	143933.95	0.50	184662.30	77.9	70 -	120		
45	Sc	2	2852097.80	0.74	4233596.00	67.4	70 -	120		ISFail
72	Ge	1	90296.59	0.71	110938.56	81.4	70 -	120		
115	In	2	4453686.00	0.58	5887647.50	75.6	70 -	120		
209	Bi	2	5221460.50	0.85	6267448.50	83.3	70 -	120		

CCB QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\117_CCB.D\117_CCB.D#

Date Acquired:	May 19 2016 10:46 pm	Sample Name:	**CCB5-160519**
Acq. Method:	DHL_3Fe.M	Misc Info:	CCB ICPMS_TW
Operator:	KL	Diln Factor:	1.00
Last Cal. Update:	May 19 2016 12:25 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		RSD(%)	MDL S	MDL Aq	Flag
7	Li	2	45	0.175	ppb	8.00	2.00	2.00	
9	Be	2	45	0.041	ppb	9.18	0.40	0.30	
11	B	2	45	0.883	ppb	0.59	10.00	10.00	
23	Na	1	45	4.200	ppb	2.00	50.00	#####	
24	Mg	1	45	0.947	ppb	2.38	50.00	#####	
27	Al	1	45	5.382	ppb	2.68	50.00	10.00	
39	K	1	45	4.648	ppb	1.96	50.00	#####	
44	Ca	2	45	3.986	ppb	4.28	50.00	#####	
47	Ti	1	45	0.047	ppb	49.99	4.00	3.00	
51	V	1	45	0.059	ppb	19.31	4.00	3.00	
52	Cr	1	45	0.065	ppb	2.81	2.00	2.00	
55	Mn	1	45	0.040	ppb	17.42	2.00	3.00	
56	Fe	1	72	4.156	ppb	12.91	50.00	30.00	
59	Co	1	72	0.040	ppb	11.60	2.00	3.00	
60	Ni	1	72	-0.004	ppb	18.69	2.00	3.00	
63	Cu	1	72	0.044	ppb	11.53	2.00	2.00	
66	Zn	1	72	0.987	ppb	5.43	4.00	2.00	
75	As	1	72	0.081	ppb	11.63	2.00	2.00	
78	Se	1	72	0.107	ppb	25.52	0.60	2.00	
88	Sr	2	115	0.082	ppb	3.47	4.00	3.00	
95	Mo	2	115	0.053	ppb	28.75	2.00	2.00	
107	Ag	2	115	0.055	ppb	6.45	0.40	1.00	
111	Cd	2	115	0.026	ppb	14.44	0.40	0.30	
118	Sn	2	115	0.077	ppb	6.40	20.00	3.00	
121	Sb	2	115	0.029	ppb	30.83	2.00	0.80	
137	Ba	2	115	0.095	ppb	9.36	2.00	3.00	
205	Tl	2	209	0.074	ppb	9.60	2.00	0.50	
208	Pb	2	209	0.066	ppb	5.49	0.40	0.30	

ISTD Elements

Element				CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	RHigh	-8.03	23.08	50.17	-16.0	70 - 120	ISFail
45	Sc	1		141314.92	0.56	184662.30	76.5	70 - 120	
45	Sc	2		2862680.00	0.67	4233596.00	67.6	70 - 120	ISFail
72	Ge	1		88302.31	1.11	110938.56	79.6	70 - 120	
115	In	2		4493180.50	0.97	5887647.50	76.3	70 - 120	
209	Bi	2		5209427.00	1.04	6267448.50	83.1	70 - 120	

CCV QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\128CCV1.D\128CCV1.D#

Date Acquired:	May 19 2016 11:52 pm	Sample Name:	**CCV6-160519**
Acq. Method:	DHL_3Fe.M	Misc Info:	CCV ICPMS_TW
Operator:	KL	Diln Factor:	1.00
Last Cal. Update:	May 19 2016 12:25 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		RSD(%)	Expected	QC Range(%)		Rec(%)	Flag
7	Li	2	45	216.50	ppb	0.68	200.00	90 -	110	108.3	
9	Be	2	45	202.30	ppb	1.21	200.00	90 -	110	101.2	
11	B	2	45	179.30	ppb	1.34	200.00	90 -	110	89.7	Fail
23	Na	1	45	5304.00	ppb	0.88	5000.00	90 -	110	106.1	
24	Mg	1	45	4978.00	ppb	1.67	5000.00	90 -	110	99.6	
27	Al	1	45	4908.00	ppb	1.62	5000.00	90 -	110	98.2	
39	K	1	45	5131.00	ppb	0.95	5000.00	90 -	110	102.6	
44	Ca	2	45	4896.00	ppb	1.46	5000.00	90 -	110	97.9	
47	Ti	1	45	197.60	ppb	0.75	200.00	90 -	110	98.8	
51	V	1	45	203.50	ppb	1.25	200.00	90 -	110	101.8	
52	Cr	1	45	207.10	ppb	1.75	200.00	90 -	110	103.6	
55	Mn	1	45	198.50	ppb	1.10	200.00	90 -	110	99.3	
56	Fe	1	72	4811.00	ppb	0.78	5000.00	90 -	110	96.2	
59	Co	1	72	195.00	ppb	1.16	200.00	90 -	110	97.5	
60	Ni	1	72	189.40	ppb	0.57	200.00	90 -	110	94.7	
63	Cu	1	72	197.60	ppb	0.76	200.00	90 -	110	98.8	
66	Zn	1	72	198.90	ppb	0.66	200.00	90 -	110	99.5	
75	As	1	72	206.30	ppb	1.63	200.00	90 -	110	103.2	
78	Se	1	72	202.60	ppb	2.75	200.00	90 -	110	101.3	
88	Sr	2	115	204.20	ppb	0.60	200.00	90 -	110	102.1	
95	Mo	2	115	182.20	ppb	1.54	200.00	90 -	110	91.1	
107	Ag	2	115	187.80	ppb	1.36	200.00	90 -	110	93.9	
111	Cd	2	115	185.50	ppb	1.93	200.00	90 -	110	92.8	
118	Sn	2	115	191.10	ppb	1.85	200.00	90 -	110	95.6	
121	Sb	2	115	195.20	ppb	1.58	200.00	90 -	110	97.6	
137	Ba	2	115	196.20	ppb	1.26	200.00	90 -	110	98.1	
205	Tl	2	209	203.50	ppb	0.57	200.00	90 -	110	101.8	
208	Pb	2	209	192.30	ppb	2.39	200.00	90 -	110	96.2	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)			Flag
6	Li	2	-53341.95	0.34	50.17	-106330.8	70 -	120		ISFail
45	Sc	1	135540.59	1.12	184662.30	73.4	70 -	120		
45	Sc	2	2759852.50	0.96	4233596.00	65.2	70 -	120		ISFail
72	Ge	1	84950.10	0.21	110938.56	76.6	70 -	120		
115	In	2	4384624.50	1.17	5887647.50	74.5	70 -	120		
209	Bi	2	5071868.50	1.10	6267448.50	80.9	70 -	120		

CCV QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\130LCVL.D\130LCVL.D#

Date Acquired:	May 20 2016 12:04 am	Sample Name:	**LCVL6-160519**
Acq. Method:	DHL_3Fe.M	Misc Info:	LCVLICPMS_TW
Operator:	KL	Diln Factor:	1.00
Last Cal. Update:	May 19 2016 12:25 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		RSD(%)	Expected	QC Range(%)		Rec(%)	Flag
7	Li	2	45	10.07	ppb	1.16	5.00	70 -	130	201.4	Fail
9	Be	2	45	1.03	ppb	7.74	1.00	70 -	130	102.9	
11	B	2	45	18.61	ppb	2.10	20.00	70 -	130	93.1	
23	Na	1	45	101.60	ppb	0.87	100.00	70 -	130	101.6	
24	Mg	1	45	98.92	ppb	1.53	100.00	70 -	130	98.9	
27	Al	1	45	112.50	ppb	0.68	100.00	70 -	130	112.5	
39	K	1	45	105.20	ppb	1.85	100.00	70 -	130	105.2	
44	Ca	2	45	118.20	ppb	2.03	100.00	70 -	130	118.2	
47	Ti	1	45	4.16	ppb	17.06	5.00	70 -	130	83.1	
51	V	1	45	1.05	ppb	4.67	1.00	70 -	130	105.4	
52	Cr	1	45	5.10	ppb	0.46	5.00	70 -	130	101.9	
55	Mn	1	45	5.36	ppb	2.06	5.00	70 -	130	107.2	
56	Fe	1	72	130.50	ppb	1.55	100.00	70 -	130	130.5	Fail
59	Co	1	72	4.71	ppb	3.39	5.00	70 -	130	94.3	
60	Ni	1	72	5.23	ppb	1.63	5.00	70 -	130	104.5	
63	Cu	1	72	5.16	ppb	2.24	5.00	70 -	130	103.1	
66	Zn	1	72	4.86	ppb	5.34	5.00	70 -	130	97.2	
75	As	1	72	5.09	ppb	2.33	5.00	70 -	130	101.7	
78	Se	1	72	5.45	ppb	4.63	5.00	70 -	130	109.1	
88	Sr	2	115	4.97	ppb	0.98	5.00	70 -	130	99.4	
95	Mo	2	115	4.51	ppb	3.99	5.00	70 -	130	90.2	
107	Ag	2	115	1.85	ppb	2.49	2.00	70 -	130	92.4	
111	Cd	2	115	0.89	ppb	9.61	1.00	70 -	130	89.0	
118	Sn	2	115	5.67	ppb	0.20	5.00	70 -	130	113.4	
121	Sb	2	115	1.91	ppb	0.87	2.00	70 -	130	95.3	
137	Ba	2	115	4.88	ppb	1.72	5.00	70 -	130	97.6	
205	Tl	2	209	0.97	ppb	2.19	1.00	70 -	130	97.4	
208	Pb	2	209	1.07	ppb	0.42	1.00	70 -	130	106.5	

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)		Flag
6	Li	2	RHigl -1254.78	10.93	50.17	-2501.2	70 -	120	ISFail
45	Sc	1	150456.14	1.25	184662.30	81.5	70 -	120	
45	Sc	2	3032150.80	1.07	4233596.00	71.6	70 -	120	
72	Ge	1	94466.43	1.59	110938.56	85.2	70 -	120	
115	In	2	4788933.50	0.84	5887647.50	81.3	70 -	120	
209	Bi	2	5560428.00	0.36	6267448.50	88.7	70 -	120	

CCB QC Report

C:\ICPCHEM\1\DATA\16E19l00.B\131_CCB.D\131_CCB.D#

Date Acquired:	May 20 2016 12:10 am	Sample Name:	**CCB6-160519**
Acq. Method:	DHL_3Fe.M	Misc Info:	CCB ICPMS_TW
Operator:	KL	Diln Factor:	1.00
Last Cal. Update:	May 19 2016 12:25 pm		
Instrument:	ICPMS3		

QC Elements

Element				Conc.		RSD(%)	MDL S	MDL Aq	Flag
7	Li	2	45	0.146	ppb	12.77	2.00	2.00	
9	Be	2	45	0.034	ppb	14.20	0.40	0.30	
11	B	2	45	0.701	ppb	10.39	10.00	10.00	
23	Na	1	45	3.600	ppb	1.22	50.00	#####	
24	Mg	1	45	1.658	ppb	9.19	50.00	#####	
27	Al	1	45	10.490	ppb	13.70	50.00	10.00	FailAq
39	K	1	45	4.396	ppb	2.08	50.00	#####	
44	Ca	2	45	13.280	ppb	12.76	50.00	#####	
47	Ti	1	45	0.038	ppb	100.01	4.00	3.00	
51	V	1	45	0.083	ppb	3.95	4.00	3.00	
52	Cr	1	45	0.044	ppb	16.68	2.00	2.00	
55	Mn	1	45	0.059	ppb	4.88	2.00	3.00	
56	Fe	1	72	9.474	ppb	12.39	50.00	30.00	
59	Co	1	72	0.033	ppb	6.01	2.00	3.00	
60	Ni	1	72	0.015	ppb	17.34	2.00	3.00	
63	Cu	1	72	0.050	ppb	6.91	2.00	2.00	
66	Zn	1	72	1.110	ppb	6.38	4.00	2.00	
75	As	1	72	0.076	ppb	11.75	2.00	2.00	
78	Se	1	72	0.033	ppb	33.47	0.60	2.00	
88	Sr	2	115	0.179	ppb	12.40	4.00	3.00	
95	Mo	2	115	0.045	ppb	2.11	2.00	2.00	
107	Ag	2	115	0.037	ppb	22.20	0.40	1.00	
111	Cd	2	115	0.038	ppb	70.02	0.40	0.30	
118	Sn	2	115	0.054	ppb	18.99	20.00	3.00	
121	Sb	2	115	0.040	ppb	24.56	2.00	0.80	
137	Ba	2	115	0.084	ppb	3.46	2.00	3.00	
205	Tl	2	209	0.057	ppb	3.04	2.00	0.50	
208	Pb	2	209	0.099	ppb	15.11	0.40	0.30	

ISTD Elements

Element				CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	RHigh	-12.33	136.76	50.17	-24.6	70 - 120	ISFail
45	Sc	1		149838.34	1.54	184662.30	81.1	70 - 120	
45	Sc	2		3058898.30	0.28	4233596.00	72.3	70 - 120	
72	Ge	1		93800.49	1.27	110938.56	84.6	70 - 120	
115	In	2		4797721.00	0.79	5887647.50	81.5	70 - 120	
209	Bi	2		5520477.00	0.74	6267448.50	88.1	70 - 120	

ICP-MS4
For

DHL Work Order
1605074

ICP-MS4_160516B
For

DHL Work Order
1605074

Lab Data Review Check List
EPA Method 6020 / 6020A / 200.8 - Trace Metals by ICP-MS

PROJECT AND BATCH NUMBERS ARE LISTED ON THE RUN LOG	Run ID: ICP-MS4_160516B SOP: MET-ICPMS-01			
Review Item	**Yes**	**No**	**N/A**	**2nd Level Review**
Data Folder Contents 1. Is the Prep Batch Report included? ***Check the Prep Start/End Dates, Sample Amounts, Bottle #s***	X			x
2. Are the reagents and spikes listed on the Prep Batch Report current with a valid expiration date? ***All standard/QC sample preparations shall be documented in LIMS***	X			
3. Is the Run Log and instrument sequence included? ***Check the Test Code, Sample Type, Batch ID, and Analysis Date/Time***	X			

Daily Demonstration of Performance

QC items that do not meet method/SOP/project requirements will be described on the run log. All variances that impact data quality will be described in the Variance/Comment Section on page 2.

Review Item	Frequency	Limits	Pass	Fail (List Batch/Sample) **See Run Log**		2nd Level Review
Tune	Before ICAL	RSD ≤ 5% / Peak Width@10% <0.9amu	X			x
P/A Factor	Before ICAL	Increasing trend	X			
Initial Calibration Curve (ICAL) (Blank + 4 Standards)	Prior to samples and when ICV fails	R ≥ 0.995 (DoD) R ≥ 0.998 (6020A)	X			
Review Item	**Frequency**	**Limits**	**Pass**	**Fail**	**N/A**	**Review**
ICSA (N/A for Method 200.8+U)	After calibration & every 12 hours	< RL (except Mn & Zn)	X			x
ICSAB (N/A for Method 200.8+U)	After calibration & every 12 hours	80-120% (correct for ICSA result)	X			
Note: LCVLs and ICSA/ICSAB are N/A for Method 200.8 or project-specific exceptions						
ICV (Second Source Verification)	After ICAL	90-110%	X			x
ICB	After calibration	< MDL	X			
CCV	Every 10 samples	90-110%	X			
CCB	Every 10 samples	< MDL (ALL + DoD)	X			
Internal Standards	Every sample and QC sample	> 70% (6020A) 60-125% (200.8) 30-120% (DoD)	X			
LCVL (6020A test code)	After ICAL, every 10 samples and end of run	70-130%			X	
LCVL (All metals test codes except 200.8/6020A)	After ICAL and end of run	70-130%	X			
Method Blank (MB)	Every Batch	< MDL / <½ RL (DoD) or <1/10 the sample/reg limit	X			
Filter/TCLP/SPLP Blank	Filter-Dissolved only TCLP / SPLP	< MDL / <½ RL (DoD) or <1/10 the sample/reg limit			X	
Lab Control Sample (LCS)	Every Batch	80-120%	X			
Lab Control Sample Dup (LCSD)	Every Batch	80-120%	X			
LCSD - RPD	Every LCS/LCSD	15 (H2O) / 20 (Soil)	X			
Matrix Spike/ Matrix Spike Duplicate (MS/MSD)	Every Batch	80-120%	X			
MSD - RPD	Every MS/MSD	15 (H2O) / 20 (Soil)	X			
Dilution Test (SD) - RPD	Every Batch	10	X			
Post Digestion Spike (PDS)	Every Batch	75-125 / 80-120 (6020A)	X			

Lab Data Review Check List
EPA Method 6020 / 6020A / 200.8 - Trace Metals by ICP-MS

Review Item	Criteria	Yes	No	N/A	2nd Level Review
Sample Analysis 1. Are all sample hold times met?	6 months	X			x
2. Are all samples with concentrations > the highest standard used for calibration diluted and reanalyzed?	All results > high point of ICAL must be diluted	X			
3. Are ALL reported analytes and reported results > MDL highlighted by the analyst?		X	**Confirm with analyst if LIMS result does not match Labcore**		

VARIANCE REPORT

QC items that do not meet method/SOP/project requirements will be described on the run log. All variances that impact data quality will be described in this section.

NON-CONFORMANCES / VARIANCE	Criteria	Yes	No	N/A	2nd Level
1. Are all non-conformances and corrective actions included and noted?	All deviations from the method and SOP that affect data quality			X	x
2. Does the variance require approval by the Technical Director/General Manager/QA Manager?				X	

TECHNICAL DIRECTOR / QA MANAGER APPROVAL
SIGNATURE AND DATE STAMP:

Description and Corrective Actions of QC items that do not meet method/SOP/project requirements:

****INCLUDE VARIANCE ITEM / REASON / CORRECTIVE ACTION / IMPACT ON DATA****

VARIANCE ITEM	REASON	CORRECTIVE ACTION
__ CCV out of control (± 10%)	__ Carryover from previous run	__ Reanalyze QC to confirm
__ CCB out of control (> MDL / >½ RL)	__ Cross contamination	__ Recalibrate
__ MB out of control (> RL / >½ RL)	__ Lab Artifact	__ Reprep/Reanalyze sample
__ LCS __ LCSD out of control (± 20%)	__ Prep Spike error (describe)	__ Reprep/Reanalyze Batch
__ MS __ MSD out of control (± 20%)	__ Matrix Effect	__ Reanalyze Batch/Sample/QC
__ RPD out of control for MS/MSD (15/25)	__ High Levels of Target Metals	__ Verify reagents are clean
__ Internal Standard(s) out of control (see Method)	__ Insufficient sample for QC	__ Reanalyze sample to confirm
__ No MS/MSD prepared - LCS/LCSD used instead	__ Digestion/Prep Error	__ Sample results ND w/ dilution
__ Missing QC (other than MS/MSD)	__ Analytical Error	__ Client notified and approved
__ QC sample(s) was mis-spiked	__ Client Request	__ Flag Data/ Case Narative
__ ICSA/ICSAB missing or out of control (± 20%)		__ Accept data
__ LCVL out of control (± 30%)		__ Cal Std high and sample ND
__ Other (describe below)	__ Other (describe below)	__ Other (describe below)

General Comments and Impact on Data: See Run Log

Analyst: _____ Date of Completion: 05/17/2016

Second-Level Review: Janice Whitt Date Stamp: 5/17/2016

REVIEWED BY
By Janice Whitt at 10:36:04 AM, 5/17/2016

DHL Analytical, Inc.

Run ID: **ICP-MS4_160516B** **Run No.:** 85839

Analytical Run Date: 5/16/2016 **InstrumentID:** ICP-MS4

Analyst: Ryan Oliver

SampID	DF	TestCode	SampType	Batch ID	Analysis Date/Time	Q	Comments
BLANK STD 1	1	ICPMS_TWDOD	CAL	R85839	5/16/2016 12:13:00 PM		
L2-160516	1	ICPMS_TWDOD	CAL	R85839	5/16/2016 12:15:00 PM		
L-160516	1	ICPMS_TWDOD	CAL	R85839	5/16/2016 12:17:00 PM		
10X-160516	1	ICPMS_TWDOD	CAL	R85839	5/16/2016 12:19:00 PM		
5X-160516	1	ICPMS_TWDOD	CAL	R85839	5/16/2016 12:21:00 PM		
2X-160516	1	ICPMS_TWDOD	CAL	R85839	5/16/2016 12:23:00 PM		
H-160516	1	ICPMS_TWDOD	CAL	R85839	5/16/2016 12:25:00 PM		
H2-160516	1	ICPMS_TWDOD	CAL	R85839	5/16/2016 12:27:00 PM		
ICSA-160516	1	ICPMS_TWDOD	ICSA	R85839	5/16/2016 12:35:00 PM		
ICSAB-160516	1	ICPMS_TWDOD	ICSB	R85839	5/16/2016 12:37:00 PM		
ICV-160516	1	ICPMS_TWDOD	ICV	R85839	5/16/2016 12:45:00 PM		
LCVL-160516	1	ICPMS_TWDOD	LCVL	R85839	5/16/2016 1:04:00 PM		
ICB-160516	1	ICPMS_TWDOD	ICB	R85839	5/16/2016 1:08:00 PM		
MB-75006	5	ICPMS_TSDOD1	MBLK	75006	5/16/2016 1:10:00 PM		
LCS-75006	5	ICPMS_TSDOD1	LCS	75006	5/16/2016 1:12:00 PM		
LCSD-75006	5	ICPMS_TSDOD1	LCSD	75006	5/16/2016 1:14:00 PM		
1605034-09A	5	ICPMS_TSDOD1	SAMP	75006	5/16/2016 1:18:00 PM		
1605034-09A SD	25	ICPMS_TSDOD1	SD	75006	5/16/2016 1:20:00 PM		
1605034-01A	5	ICPMS_TSDOD1	SAMP	75006	5/16/2016 1:22:00 PM		
1605034-02A	5	ICPMS_TSDOD1	SAMP	75006	5/16/2016 1:24:00 PM		
1605034-03A	5	ICPMS_TSDOD1	SAMP	75006	5/16/2016 1:26:00 PM		
1605034-04A	5	ICPMS_TSDOD1	SAMP	75006	5/16/2016 1:28:00 PM		
1605034-05A	5	ICPMS_TSDOD1	SAMP	75006	5/16/2016 1:30:00 PM		
1605034-06A	5	ICPMS_TSDOD1	SAMP	75006	5/16/2016 1:32:00 PM		
1605034-07A	5	ICPMS_TSDOD1	SAMP	75006	5/16/2016 1:34:00 PM		
1605034-08A	5	ICPMS_TSDOD1	SAMP	75006	5/16/2016 1:36:00 PM		
1605034-10A	5	ICPMS_TSDOD1	SAMP	75006	5/16/2016 1:38:00 PM		
1605034-09A PDS	5	ICPMS_TSDOD1	PDS	75006	5/16/2016 1:40:00 PM		
1605034-09A MS	5	ICPMS_TSDOD1	MS	75006	5/16/2016 1:42:00 PM		
1605034-09A MSD	5	ICPMS_TSDOD1	MSD	75006	5/16/2016 1:44:00 PM		

Std ID	Std Name	Type	Exp. Date
MET-CCV-160426	ICPMS CCV 200/5000 PPB		07/25/2016
MET-H2CAL-1604	ICPMS High Cal2 2000ppb std 8		07/25/2016
MET-HCAL-16042	ICPMS High Cal 500ppb/10ppm s		07/25/2016
MET-ICV-160426	ICPMS ICV 100 ppb		07/25/2016
MET-IS-160323	INTERNAL STANDARD 1 PPM		06/21/2016
MET-L2CAL-16042	ICPMS Low Cal2 1/20ppb std 2		07/25/2016
MET-LCAL-160426	ICPMS Low Cal 10/200ppb std 3		07/25/2016
MET-LCAL10X-16	ICPMS Low Cal 10/200ppb std 4		07/25/2016
MET-LCAL5X-160	ICPMS Low Cal 10/200ppb std 5		07/25/2016
MET-LCVLSPIKE-	LCVL METALS SPIKE (100/500		11/07/2016
MET-MCAL-16042	ICPMS Mid Cal 250/5000ppb std		07/25/2016
MET-PA-160421	ICPMS PA FACTOR SOLUTION		10/20/2016
MET-PDS-160502-	10 PPM Ag+Sb PDS		07/31/2016
MET-PDS-160502-	10 PPM CUSTOM PDS SOLUTI		07/31/2016
MET-PDS-160502-	250 PPM Naturals+Al+Fe PDS		07/31/2016

Run ID: ICP-MS4_160516B **Run No.:** 85839

CCV1-160516	1	ICPMS_TWDOD	CCV	R85839	5/16/2016 1:46:00 PM		
LCVL1-160516	1	ICPMS_TWDOD	LCVL	R85839	5/16/2016 1:54:00 PM		
CCB1-160516	1	ICPMS_TWDOD	CCB	R85839	5/16/2016 1:58:00 PM		
1605034-11A	5	ICPMS_TSDOD1	SAMP	75006	5/16/2016 2:00:00 PM		
1605034-12A	5	ICPMS_TSDOD1	SAMP	75006	5/16/2016 2:02:00 PM		
1605034-13A	5	ICPMS_TSDOD1	SAMP	75006	5/16/2016 2:04:00 PM		
1605034-14A	5	ICPMS_TSDOD1	SAMP	75006	5/16/2016 2:06:00 PM		
1605034-15A	5	ICPMS_TSDOD1	SAMP	75006	5/16/2016 2:08:00 PM		
1605034-16A	5	ICPMS_TSDOD1	SAMP	75006	5/16/2016 2:10:00 PM		
1605034-17A	5	ICPMS_TSDOD1	SAMP	75006	5/16/2016 2:12:00 PM		
1605034-18A	5	ICPMS_TSDOD1	SAMP	75006	5/16/2016 2:14:00 PM		
1605034-19A	5	ICPMS_TSDOD1	SAMP	75006	5/16/2016 2:16:00 PM		
1605034-20A	5	ICPMS_TSDOD1	SAMP	75006	5/16/2016 2:18:00 PM		
CCV2-160516	1	ICPMS_TWDOD	CCV	R85839	5/16/2016 2:20:00 PM		
LCVL2-160516	1	ICPMS_TWDOD	LCVL	R85839	5/16/2016 2:25:00 PM		
CCB2-160516	1	ICPMS_TWDOD	CCB	R85839	5/16/2016 2:30:00 PM		
MB-75009	5	ICPMS_TSDOD1	MBLK	75009	5/16/2016 2:32:00 PM		
LCS-75009	5	ICPMS_TSDOD1	LCS	75009	5/16/2016 2:34:00 PM		
LCSD-75009	5	ICPMS_TSDOD1	LCSD	75009	5/16/2016 2:36:00 PM		
1605047-03A	5	ICPMS_TSDOD1	SAMP	75009	5/16/2016 2:40:00 PM		
1605047-03A SD	25	ICPMS_TSDOD1	SD	75009	5/16/2016 2:42:00 PM		
1605034-21A	5	ICPMS_TSDOD1	SAMP	75009	5/16/2016 2:44:00 PM		
1605034-22A	5	ICPMS_TSDOD1	SAMP	75009	5/16/2016 2:46:00 PM		
1605034-23A	5	ICPMS_TSDOD1	SAMP	75009	5/16/2016 2:48:00 PM		
1605034-24A	5	ICPMS_TSDOD1	SAMP	75009	5/16/2016 2:50:00 PM		
1605034-25A	5	ICPMS_TSDOD1	SAMP	75009	5/16/2016 2:52:00 PM		
1605034-26A	5	ICPMS_TSDOD1	SAMP	75009	5/16/2016 2:54:00 PM		
1605034-27A	5	ICPMS_TSDOD1	SAMP	75009	5/16/2016 2:56:00 PM		
1605034-28A	5	ICPMS_TSDOD1	SAMP	75009	5/16/2016 2:58:00 PM		
1605034-29A	5	ICPMS_TSDOD1	SAMP	75009	5/16/2016 3:00:00 PM		
1605047-03A PDS	5	ICPMS_TSDOD1	PDS	75009	5/16/2016 3:02:00 PM		
1605047-03A MS	5	ICPMS_TSDOD1	MS	75009	5/16/2016 3:04:00 PM		
1605047-03A MSD	5	ICPMS_TSDOD1	MSD	75009	5/16/2016 3:06:00 PM		
CCV3-160516	1	ICPMS_TWDOD	CCV	R85839	5/16/2016 3:08:00 PM		
LCVL3-160516	1	ICPMS_TWDOD	LCVL	R85839	5/16/2016 3:12:00 PM		

Std ID	Std Name	Type	Exp. Date
MET-CCV-160426	ICPMS CCV 200/5000 PPB		07/25/2016
MET-H2CAL-1604	ICPMS High Cal2 2000ppb std 8		07/25/2016
MET-HCAL-16042	ICPMS High Cal 500ppb/10ppm s		07/25/2016
MET-ICV-160426	ICPMS ICV 100 ppb		07/25/2016
MET-IS-160323	INTERNAL STANDARD 1 PPM		06/21/2016
MET-L2CAL-16042	ICPMS Low Cal2 1/20ppb std 2		07/25/2016
MET-LCAL-160426	ICPMS Low Cal 10/200ppb std 3		07/25/2016
MET-LCAL10X-16	ICPMS Low Cal 10/200ppb std 4		07/25/2016
MET-LCAL5X-160	ICPMS Low Cal 10/200ppb std 5		07/25/2016
MET-LCVLSPIKE-	LCVL METALS SPIKE (100/500		11/07/2016
MET-MCAL-16042	ICPMS Mid Cal 250/5000ppb std		07/25/2016
MET-PA-160421	ICPMS PA FACTOR SOLUTION		10/20/2016
MET-PDS-160502-	10 PPM Ag+Sb PDS		07/31/2016
MET-PDS-160502-	10 PPM CUSTOM PDS SOLUTI		07/31/2016
MET-PDS-160502-	250 PPM Naturals+Al+Fe PDS		07/31/2016

Run ID: ICP-MS4_160516B **Run No.:** 85839

CCB3-160516	1	ICPMS_TWDOD	CCB	R85839	5/16/2016 3:14:00 PM		
1605034-30A	5	ICPMS_TSDOD1	SAMP	75009	5/16/2016 3:16:00 PM		
1605047-01A	5	ICPMS_TSDOD1	SAMP	75009	5/16/2016 3:18:00 PM		
1605047-02A	5	ICPMS_TSDOD1	SAMP	75009	5/16/2016 3:20:00 PM		
1605047-04A	5	ICPMS_TSDOD1	SAMP	75009	5/16/2016 3:22:00 PM		
1605047-05A	5	ICPMS_TSDOD1	SAMP	75009	5/16/2016 3:24:00 PM		
1605047-06A	5	ICPMS_TSDOD1	SAMP	75009	5/16/2016 3:26:00 PM		
1605047-07A	5	ICPMS_TSDOD1	SAMP	75009	5/16/2016 3:28:00 PM		
1605047-08A	5	ICPMS_TSDOD1	SAMP	75009	5/16/2016 3:30:00 PM		
1605047-09A	5	ICPMS_TSDOD1	SAMP	75009	5/16/2016 3:33:00 PM		
1605047-10A	5	ICPMS_TSDOD1	SAMP	75009	5/16/2016 3:34:00 PM		
CCV4-160516	1	ICPMS_TWDOD	CCV	R85839	5/16/2016 3:36:00 PM		
LCVL4-160516	1	ICPMS_TWDOD	LCVL	R85839	5/16/2016 3:41:00 PM		
CCB4-160516	1	ICPMS_TWDOD	CCB	R85839	5/16/2016 3:43:00 PM		
MB-75135	5	ICPMS_TSDOD1	MBLK	75135	5/16/2016 3:45:00 PM		
LCS-75135	5	ICPMS_TSDOD1	LCS	75135	5/16/2016 3:47:00 PM		
LCSD-75135	5	ICPMS_TSDOD1	LCSD	75135	5/16/2016 3:49:00 PM		
1605098-41A	5	ICPMS_TSDOD1	SAMP	75135	5/16/2016 3:53:00 PM		
1605098-41A SD	25	ICPMS_TSDOD1	SD	75135	5/16/2016 3:55:00 PM		
1605097-20A	5	ICPMS_TSDOD1	SAMP	75135	5/16/2016 3:57:00 PM		
1605097-21A	5	ICPMS_TSDOD1	SAMP	75135	5/16/2016 3:59:00 PM		
1605097-23A	5	ICPMS_TSDOD1	SAMP	75135	5/16/2016 4:01:00 PM		
1605097-26A	5	ICPMS_TSDOD1	SAMP	75135	5/16/2016 4:03:00 PM		
1605098-31A	5	ICPMS_TSDOD1	SAMP	75135	5/16/2016 4:05:00 PM		
1605098-34A	5	ICPMS_TSDOD1	SAMP	75135	5/16/2016 4:07:00 PM		
1605098-37A	5	ICPMS_TSDOD1	SAMP	75135	5/16/2016 4:09:00 PM		
1605098-40A	5	ICPMS_TSDOD1	SAMP	75135	5/16/2016 4:11:00 PM		
1605098-41A PDS	5	ICPMS_TSDOD1	PDS	75135	5/16/2016 4:15:00 PM		
1605098-41A MS	5	ICPMS_TSDOD1	MS	75135	5/16/2016 4:17:00 PM		
1605098-41A MSD	5	ICPMS_TSDOD1	MSD	75135	5/16/2016 4:19:00 PM		
CCV5-160516	1	ICPMS_TWDOD	CCV	R85839	5/16/2016 4:25:00 PM		
LCVL5-160516	1	ICPMS_TWDOD	LCVL	R85839	5/16/2016 4:29:00 PM		
CCB5-160516	1	ICPMS_TWDOD	CCB	R85839	5/16/2016 4:31:00 PM		
MB-75099	5	ICPMS_TSDOD1	MBLK	75099	5/16/2016 4:33:00 PM		
LCS-75099	5	ICPMS_TSDOD1	LCS	75099	5/16/2016 4:36:00 PM		

Std ID	Std Name	Type	Exp. Date
MET-CCV-160426	ICPMS CCV 200/5000 PPB		07/25/2016
MET-H2CAL-1604	ICPMS High Cal2 2000ppb std 8		07/25/2016
MET-HCAL-16042	ICPMS High Cal 500ppb/10ppm s		07/25/2016
MET-ICV-160426	ICPMS ICV 100 ppb		07/25/2016
MET-IS-160323	INTERNAL STANDARD 1 PPM		06/21/2016
MET-L2CAL-16042	ICPMS Low Cal2 1/20ppb std 2		07/25/2016
MET-LCAL-160426	ICPMS Low Cal 10/200ppb std 3		07/25/2016
MET-LCAL10X-16	ICPMS Low Cal 10/200ppb std 4		07/25/2016
MET-LCAL5X-160	ICPMS Low Cal 10/200ppb std 5		07/25/2016
MET-LCVLSPIKE-	LCVL METALS SPIKE (100/500		11/07/2016
MET-MCAL-16042	ICPMS Mid Cal 250/5000ppb std		07/25/2016
MET-PA-160421	ICPMS PA FACTOR SOLUTION		10/20/2016
MET-PDS-160502-	10 PPM Ag+Sb PDS		07/31/2016
MET-PDS-160502-	10 PPM CUSTOM PDS SOLUTI		07/31/2016
MET-PDS-160502-	250 PPM Naturals+Al+Fe PDS		07/31/2016

Run ID: ICP-MS4_160516B **Run No.:** 85839

LCSD-75099	5	ICPMS_TSDOD1	LCSD	75099	5/16/2016 4:38:00 PM		
1605071-17A	5	ICPMS_TSDOD1	SAMP	75099	5/16/2016 4:42:00 PM		
1605071-17A SD	25	ICPMS_TSDOD1	SD	75099	5/16/2016 4:44:00 PM		
1605071-12A	5	ICPMS_TSDOD1	SAMP	75099	5/16/2016 4:46:00 PM		
1605071-13A	5	ICPMS_TSDOD1	SAMP	75099	5/16/2016 4:48:00 PM		
1605071-14A	5	ICPMS_TSDOD1	SAMP	75099	5/16/2016 4:50:00 PM		
1605071-15A	5	ICPMS_TSDOD1	SAMP	75099	5/16/2016 4:52:00 PM		
1605071-16A	5	ICPMS_TSDOD1	SAMP	75099	5/16/2016 4:54:00 PM		
1605071-18A	5	ICPMS_TSDOD1	SAMP	75099	5/16/2016 4:56:00 PM		
1605071-19A	5	ICPMS_TSDOD1	SAMP	75099	5/16/2016 4:58:00 PM		
1605071-20A	5	ICPMS_TSDOD1	SAMP	75099	5/16/2016 5:00:00 PM		
1605071-21A	5	ICPMS_TSDOD1	SAMP	75099	5/16/2016 5:02:00 PM		
1605071-17A PDS	5	ICPMS_TSDOD1	PDS	75099	5/16/2016 5:04:00 PM		
1605071-17A MS	5	ICPMS_TSDOD1	MS	75099	5/16/2016 5:06:00 PM		
1605071-17A MSD	5	ICPMS_TSDOD1	MSD	75099	5/16/2016 5:08:00 PM		
CCV6-160516	1	ICPMS_TWDOD	CCV	R85839	5/16/2016 5:10:00 PM		
LCVL6-160516	1	ICPMS_TWDOD	LCVL	R85839	5/16/2016 5:14:00 PM		
CCB6-160516	1	ICPMS_TWDOD	CCB	R85839	5/16/2016 5:16:00 PM		
1605071-22A	5	ICPMS_TSDOD1	SAMP	75099	5/16/2016 5:18:00 PM		
1605071-23A	5	ICPMS_TSDOD1	SAMP	75099	5/16/2016 5:20:00 PM		
1605071-24A	5	ICPMS_TSDOD1	SAMP	75099	5/16/2016 5:22:00 PM		
1605071-25A	5	ICPMS_TSDOD1	SAMP	75099	5/16/2016 5:24:00 PM		
1605071-26A	5	ICPMS_TSDOD1	SAMP	75099	5/16/2016 5:26:00 PM		
1605071-27A	5	ICPMS_TSDOD1	SAMP	75099	5/16/2016 5:28:00 PM		
1605071-30A	5	ICPMS_TSDOD1	SAMP	75099	5/16/2016 5:30:00 PM		
1605071-31A	5	ICPMS_TSDOD1	SAMP	75099	5/16/2016 5:32:00 PM		
1605071-33A	5	ICPMS_TSDOD1	SAMP	75099	5/16/2016 5:34:00 PM		
1605071-34A	5	ICPMS_TSDOD1	SAMP	75099	5/16/2016 5:36:00 PM		
CCV7-160516	1	ICPMS_TWDOD	CCV	R85839	5/16/2016 5:38:00 PM		
LCVL7-160516	1	ICPMS_TWDOD	LCVL	R85839	5/16/2016 5:42:00 PM		
CCB7-160516	1	ICPMS_TWDOD	CCB	R85839	5/16/2016 5:44:00 PM		
MB-75104	5	ICPMS_TSDOD1	MBLK	75104	5/16/2016 5:46:00 PM		
LCS-75104	5	ICPMS_TSDOD1	LCS	75104	5/16/2016 5:48:00 PM		
LCSD-75104	5	ICPMS_TSDOD1	LCSD	75104	5/16/2016 5:50:00 PM		
1605071-53A	5	ICPMS_TSDOD1	SAMP	75104	5/16/2016 5:54:00 PM		

Std ID	Std Name	Type	Exp. Date
MET-CCV-160426	ICPMS CCV 200/5000 PPB		07/25/2016
MET-H2CAL-1604	ICPMS High Cal2 2000ppb std 8		07/25/2016
MET-HCAL-16042	ICPMS High Cal 500ppb/10ppm s		07/25/2016
MET-ICV-160426	ICPMS ICV 100 ppb		07/25/2016
MET-IS-160323	INTERNAL STANDARD 1 PPM		06/21/2016
MET-L2CAL-16042	ICPMS Low Cal2 1/20ppb std 2		07/25/2016
MET-LCAL-160426	ICPMS Low Cal 10/200ppb std 3		07/25/2016
MET-LCAL10X-16	ICPMS Low Cal 10/200ppb std 4		07/25/2016
MET-LCAL5X-160	ICPMS Low Cal 10/200ppb std 5		07/25/2016
MET-LCVLSPIKE-	LCVL METALS SPIKE (100/500		11/07/2016
MET-MCAL-16042	ICPMS Mid Cal 250/5000ppb std		07/25/2016
MET-PA-160421	ICPMS PA FACTOR SOLUTION		10/20/2016
MET-PDS-160502-	10 PPM Ag+Sb PDS		07/31/2016
MET-PDS-160502-	10 PPM CUSTOM PDS SOLUTI		07/31/2016
MET-PDS-160502-	250 PPM Naturals+Al+Fe PDS		07/31/2016

DHL Analytical, Inc.

Run ID: ICP-MS4_160516B **Run No.:** 85839

1605071-53A SD	25	ICPMS_TSDOD1	SD	75104	5/16/2016 5:56:00 PM		
1605071-37A	5	ICPMS_TSDOD1	SAMP	75104	5/16/2016 5:59:00 PM		
1605071-40A	5	ICPMS_TSDOD1	SAMP	75104	5/16/2016 6:01:00 PM		
1605071-41A	5	ICPMS_TSDOD1	SAMP	75104	5/16/2016 6:03:00 PM		
1605071-42A	5	ICPMS_TSDOD1	SAMP	75104	5/16/2016 6:05:00 PM		
1605071-43A	5	ICPMS_TSDOD1	SAMP	75104	5/16/2016 6:07:00 PM		
1605071-44A	5	ICPMS_TSDOD1	SAMP	75104	5/16/2016 6:09:00 PM		
1605071-45A	5	ICPMS_TSDOD1	SAMP	75104	5/16/2016 6:11:00 PM		
1605071-46A	5	ICPMS_TSDOD1	SAMP	75104	5/16/2016 6:13:00 PM		
1605071-47A	5	ICPMS_TSDOD1	SAMP	75104	5/16/2016 6:15:00 PM		
1605071-53A PDS	5	ICPMS_TSDOD1	PDS	75104	5/16/2016 6:17:00 PM		
1605071-53A MS	5	ICPMS_TSDOD1	MS	75104	5/16/2016 6:19:00 PM		
1605071-53A MSD	5	ICPMS_TSDOD1	MSD	75104	5/16/2016 6:21:00 PM		
CCV8-160516	1	ICPMS_TWDOD	CCV	R85839	5/16/2016 6:22:00 PM		
LCVL8-160516	1	ICPMS_TWDOD	LCVL	R85839	5/16/2016 6:27:00 PM		
CCB8-160516	1	ICPMS_TWDOD	CCB	R85839	5/16/2016 6:29:00 PM		
1605071-48A	5	ICPMS_TSDOD1	SAMP	75104	5/16/2016 6:31:00 PM		
1605071-49A	5	ICPMS_TSDOD1	SAMP	75104	5/16/2016 6:33:00 PM		
1605071-50A	5	ICPMS_TSDOD1	SAMP	75104	5/16/2016 6:35:00 PM		
1605071-51A	5	ICPMS_TSDOD1	SAMP	75104	5/16/2016 6:37:00 PM		
1605071-52A	5	ICPMS_TSDOD1	SAMP	75104	5/16/2016 6:39:00 PM		
1605071-54A	5	ICPMS_TSDOD1	SAMP	75104	5/16/2016 6:41:00 PM		
1605074-01A	5	ICPMS_TSDOD1	SAMP	75104	5/16/2016 6:43:00 PM		
1605074-02A	5	ICPMS_TSDOD1	SAMP	75104	5/16/2016 6:45:00 PM		
1605074-03A	5	ICPMS_TSDOD1	SAMP	75104	5/16/2016 6:47:00 PM		
1605074-04A	5	ICPMS_TSDOD1	SAMP	75104	5/16/2016 6:49:00 PM		
CCV9-160516	1	ICPMS_TWDOD	CCV	R85839	5/16/2016 6:51:00 PM		
LCVL9-160516	1	ICPMS_TWDOD	LCVL	R85839	5/16/2016 6:55:00 PM		
CCB9-160516	1	ICPMS_TWDOD	CCB	R85839	5/16/2016 7:11:00 PM		

Std ID	Std Name	Type	Exp. Date
MET-CCV-160426	ICPMS CCV 200/5000 PPB		07/25/2016
MET-H2CAL-1604	ICPMS High Cal2 2000ppb std 8		07/25/2016
MET-HCAL-16042	ICPMS High Cal 500ppb/10ppm s		07/25/2016
MET-ICV-160426	ICPMS ICV 100 ppb		07/25/2016
MET-IS-160323	INTERNAL STANDARD 1 PPM		06/21/2016
MET-L2CAL-16042	ICPMS Low Cal2 1/20ppb std 2		07/25/2016
MET-LCAL-160426	ICPMS Low Cal 10/200ppb std 3		07/25/2016
MET-LCAL10X-16	ICPMS Low Cal 10/200ppb std 4		07/25/2016
MET-LCAL5X-160	ICPMS Low Cal 10/200ppb std 5		07/25/2016
MET-LCVLSPIKE-	LCVL METALS SPIKE (100/500		11/07/2016
MET-MCAL-16042	ICPMS Mid Cal 250/5000ppb std		07/25/2016
MET-PA-160421	ICPMS PA FACTOR SOLUTION		10/20/2016
MET-PDS-160502-	10 PPM Ag+Sb PDS		07/31/2016
MET-PDS-160502-	10 PPM CUSTOM PDS SOLUTI		07/31/2016
MET-PDS-160502-	250 PPM Naturals+Al+Fe PDS		07/31/2016

Sample List

Batch Folder C:\Agilent\ICPMH\1\DATA\160516.b

Acquisition Order

#	Sequence Flow
1	Calibration Standards
2	Unknown Samples
3	Blank Samples

Calibration Standards:

#	Sample Type	Sample Name	Comment	Vial#	File Name
1	CCB		CAL ICPMS_TW	1101	
2	CCB		CAL ICPMS_TW	1101	
3	CCB		CAL ICPMS_TW	1101	
4	CCB		CAL ICPMS_TW	1102	
5	CCB		CAL ICPMS_TW	1102	
6	CCB		CAL ICPMS_TW	1102	
7	CCB		CAL ICPMS_TW	1102	
8	CCB		CAL ICPMS_TW	1103	
9	CCB		CAL ICPMS_TW	1103	
10	CCB		CAL ICPMS_TW	1103	
11	CCB		CAL ICPMS_TW	1103	
12	CalBlk	BLANK STD 1	CAL ICPMS_TW	2101	
13	CalStd	L2-160516	CAL ICPMS_TW	2102	
14	CalStd	L-160516	CAL ICPMS_TW	2103	
15	CalStd	10X-160516	CAL ICPMS_TW	2104	
16	CalStd	5X-160516	CAL ICPMS_TW	2105	
17	CalStd	2X-160516	CAL ICPMS_TW	2106	
18	CalStd	H-160516	CAL ICPMS_TW	2107	
19	CalStd	H2-160516	CAL ICPMS_TW	2108	
20	ICB	BLANK	CCB ICPMS_TW	1101	

#	Level	Dilution	Skip
1			Skip
2			Skip
3			Skip
4			Skip
5			Skip
6			Skip
7			Skip
8			
9			
10			
11			
12	1		
13	2		
14	3		
15	4		
16	5		
17	6		
18	7		
19	8		

Sample List

#	Sample Type	Sample Name	Comment	Vial#	File Name
20					
21	ICB	BLANK	CCB ICPMS_TW	1102	
22	ICB	BLANK	CCB ICPMS_TW	1103	
23	ICSA	ICSA-160516	ICSAICPMS_TW	2109	
24	ICSB	ICSAB-160516	ICSBICPMS_TW	2110	
25	ICB	BLANK	CCB ICPMS_TW	1101	
26	ICB	BLANK	CCB ICPMS_TW	1102	
27	ICB	BLANK	CCB ICPMS_TW	1103	
28	ICV	ICV-160516	ICV ICPMS_TW	2111	
29	ICB	ICB-160516	ICB ICPMS_TW	1101	
30	ICB	ICB-160516	ICB ICPMS_TW	1103	
31	LLICV	LCVL-160516	LCVLICPMS_TW	2112	
32	ICB	ICB-160516	ICB ICPMS_TW	1102	
33	ICB	ICB-160516	ICB ICPMS_TW	1103	
34	PB	MB-75006	MBLKICPMS_TSDOD1	2201	
35	LCS_S	LCS-75006	LCS ICPMS_TSDOD1	2202	
36	LCS_S	LCSD-75006	LCSDICPMS_TSDOD1	2203	
37	CCB	RINSE	CCB ICPMS_TW	1101	
38	AllRef	1605034-09A	SAMPICPMS_TSDOD1	2204	
39	SD	1605034-09A SD	SD ICPMS_TSDOD1	2205	
40	Sample	1605034-01A	SAMPICPMS_TSDOD1	2206	

#	Level	Dilution	Skip
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			
32			
33			
34		5	
35		5	
36		5	
37			
38		5	
39		25	
40		5	

#	Sample Type	Sample Name	Comment	Vial#	File Name
41	Sample	1605034-02A	SAMPICPMS_TSDOD1	2207	
42	Sample	1605034-03A	SAMPICPMS_TSDOD1	2208	
43	Sample	1605034-04A	SAMPICPMS_TSDOD1	2209	
44	Sample	1605034-05A	SAMPICPMS_TSDOD1	2210	
45	Sample	1605034-06A	SAMPICPMS_TSDOD1	2211	

Sample List

46	Sample	1605034-07A	SAMPICPMS_TSDOD1	2212
47	Sample	1605034-08A	SAMPICPMS_TSDOD1	2301
48	Sample	1605034-10A	SAMPICPMS_TSDOD1	2302
49	PDS	1605034-09A PDS	PDS ICPMS_TSDOD1	2303
50	MS_S	1605034-09A MS	MS ICPMS_TSDOD1	2304
51	MS_S	1605034-09A MSD	MSD ICPMS_TSDOD1	2305
52	CCV	CCV1-160516	CCV ICPMS_TW	1207
53	CCB	CCB1-160516	CCB ICPMS_TW	1102
54	LLCCV	LCVL1-160516	LCVLICPMS_TW	2112
55	CCB	CCB1-160516	CCB ICPMS_TW	1103
56	Sample	1605034-11A	SAMPICPMS_TSDOD1	2306
57	Sample	1605034-12A	SAMPICPMS_TSDOD1	2307
58	Sample	1605034-13A	SAMPICPMS_TSDOD1	2308
59	Sample	1605034-14A	SAMPICPMS_TSDOD1	2309
60	Sample	1605034-15A	SAMPICPMS_TSDOD1	2310

#	Level	Dilution	Skip
41		5	
42		5	
43		5	
44		5	
45		5	
46		5	
47		5	
48		5	
49		5	
50		5	
51		5	
52			
53			
54			
55			
56		5	
57		5	
58		5	
59		5	
60		5	

#	Sample Type	Sample Name	Comment	Vial#	File Name
61	Sample	1605034-16A	SAMPICPMS_TSDOD1	2311	
62	Sample	1605034-17A	SAMPICPMS_TSDOD1	2312	
63	Sample	1605034-18A	SAMPICPMS_TSDOD1	2401	
64	Sample	1605034-19A	SAMPICPMS_TSDOD1	2402	
65	Sample	1605034-20A	SAMPICPMS_TSDOD1	2403	
66	CCV	CCV2-160516	CCV ICPMS_TW	1207	
67	CCB	CCB2-160516	CCB ICPMS_TW	1102	
68	LLCCV	LCVL2-160516	LCVLICPMS_TW	2112	
69	CCB	CCB2-160516	CCB ICPMS_TW	1103	
70	PB	MB-75009	MBLKICPMS_TSDOD1	3101	
71	LCS_S	LCS-75009	LCS ICPMS_TSDOD1	3102	
72	LCS_S	LCSD-75009	LCSDICPMS_TSDOD1	3103	
73	CCB	RINSE	CCB ICPMS_TW	1101	

Sample List

74	AllRef	1605047-03A	SAMPICPMS_TSDOD1	3104
75	SD	1605047-03A SD	SD ICPMS_TSDOD1	3105
76	Sample	1605034-21A	SAMPICPMS_TSDOD1	3106
77	Sample	1605034-22A	SAMPICPMS_TSDOD1	3107
78	Sample	1605034-23A	SAMPICPMS_TSDOD1	3108
79	Sample	1605034-24A	SAMPICPMS_TSDOD1	3109
80	Sample	1605034-25A	SAMPICPMS_TSDOD1	3110

#	Level	Dilution	Skip
61		5	
62		5	
63		5	
64		5	
65		5	
66			
67			
68			
69			
70		5	
71		5	
72		5	
73			
74		5	
75		25	
76		5	
77		5	
78		5	
79		5	
80		5	

#	Sample Type	Sample Name	Comment	Vial#	File Name
81	Sample	1605034-26A	SAMPICPMS_TSDOD1	3111	
82	Sample	1605034-27A	SAMPICPMS_TSDOD1	3112	
83	Sample	1605034-28A	SAMPICPMS_TSDOD1	3201	
84	Sample	1605034-29A	SAMPICPMS_TSDOD1	3202	
85	PDS	1605047-03A PDS	PDS ICPMS_TSDOD1	3203	
86	MS_S	1605047-03A MS	MS ICPMS_TSDOD1	3204	
87	MS_S	1605047-03A MSD	MSD ICPMS_TSDOD1	3205	
88	CCV	CCV3-160516	CCV ICPMS_TW	1207	
89	CCB	CCB3-160516	CCB ICPMS_TW	1102	
90	LLCCV	LCVL3-160516	LCVLICPMS_TW	2512	
91	CCB	CCB3-160516	CCB ICPMS_TW	1103	
92	Sample	1605034-30A	SAMPICPMS_TSDOD1	3206	
93	Sample	1605047-01A	SAMPICPMS_TSDOD1	3207	
94	Sample	1605047-02A	SAMPICPMS_TSDOD1	3208	
95	Sample	1605047-04A	SAMPICPMS_TSDOD1	3209	
96	Sample	1605047-05A	SAMPICPMS_TSDOD1	3210	
97	Sample	1605047-06A	SAMPICPMS_TSDOD1	3211	
98	Sample	1605047-07A	SAMPICPMS_TSDOD1	3212	
99	Sample	1605047-08A	SAMPICPMS_TSDOD1	3301	
100	Sample	1605047-09A	SAMPICPMS_TSDOD1	3302	

Sample List

#	Level	Dilution	Skip
81		5	
82		5	
83		5	
84		5	
85		5	
86		5	
87		5	
88			
89			
90			
91			
92		5	
93		5	
94		5	
95		5	
96		5	
97		5	
98		5	
99		5	
100		5	

#	Sample Type	Sample Name	Comment	Vial#	File Name
101	Sample	1605047-10A	SAMPICPMS_TSDOD1	3303	
102	CCV	CCV4-160516	CCV ICPMS_TW	1207	
103	CCB	CCB4-160516	CCB ICPMS_TW	1102	
104	LLCCV	LCVL4-160516	LCVLICPMS_TW	2512	
105	CCB	CCB4-160516	CCB ICPMS_TW	1103	
106	PB	MB-75135	MBLKICPMS_TSDOD1	3309	
107	LCS_S	LCS-75135	LCS ICPMS_TSDOD1	3310	
108	LCS_S	LCSD-75135	LCSDICPMS_TSDOD1	3311	
109	CCB	RINSE	CCB ICPMS_TW	1101	
110	AllRef	1605098-41A	SAMPICPMS_TSDOD1	3312	
111	SD	1605098-41A SD	SD ICPMS_TSDOD1	3401	
112	Sample	1605097-20A	SAMPICPMS_TSDOD1	3402	
113	Sample	1605097-21A	SAMPICPMS_TSDOD1	3403	
114	Sample	1605097-23A	SAMPICPMS_TSDOD1	3404	
115	Sample	1605097-26A	SAMPICPMS_TSDOD1	3405	
116	Sample	1605098-31A	SAMPICPMS_TSDOD1	3406	
117	Sample	1605098-34A	SAMPICPMS_TSDOD1	3407	
118	Sample	1605098-37A	SAMPICPMS_TSDOD1	3408	
119	Sample	1605098-40A	SAMPICPMS_TSDOD1	3409	
120	Sample	1605030-02A	SAMP6020A_S	3304	

#	Level	Dilution	Skip
101		5	
102			
103			
104			
105			
106		5	
107		5	

Sample List

108		5
109		
110		5
111		25
112		5
113		5
114		5
115		5
116		5
117		5
118		5
119		5
120		500

#	Sample Type	Sample Name	Comment	Vial#	File Name
121	PDS	1605098-41A PDS	PDS ICPMS_TSDOD1	3410	
122	MS_S	1605098-41A MS	MS ICPMS_TSDOD1	3411	
123	MS_S	1605098-41A MSD	MSD ICPMS_TSDOD1	3412	
124	CCV	CCV5-160516	CCV ICPMS_TW	1207	
125	CCB	CCB5-160516	CCB ICPMS_TW	1102	
126	LLCCV	LCVL5-160516	LCVLICPMS_TW	2511	
127	CCB	CCB5-160516	CCB ICPMS_TW	1103	
128	PB	MB-75099	MBLKICPMS_TSDOD1	4101	
129	LCS_S	LCS-75099	LCS ICPMS_TSDOD1	4102	
130	LCS_S	LCSD-75099	LCSDICPMS_TSDOD1	4103	
131	CCB	RINSE	CCB ICPMS_TW	1101	
132	AllRef	1605071-17A	SAMPICPMS_TSDOD1	4104	
133	SD	1605071-17A SD	SD ICPMS_TSDOD1	4105	
134	Sample	1605071-12A	SAMPICPMS_TSDOD1	4106	
135	Sample	1605071-13A	SAMPICPMS_TSDOD1	4107	
136	Sample	1605071-14A	SAMPICPMS_TSDOD1	4108	
137	Sample	1605071-15A	SAMPICPMS_TSDOD1	4109	
138	Sample	1605071-16A	SAMPICPMS_TSDOD1	4110	
139	Sample	1605071-18A	SAMPICPMS_TSDOD1	4111	
140	Sample	1605071-19A	SAMPICPMS_TSDOD1	4112	

#	Level	Dilution	Skip
121		5	
122		5	
123		5	
124			
125			
126			
127			
128		5	
129		5	
130		5	
131			
132		5	
133		25	
134		5	
135		5	

Sample List

136		5
137		5
138		5
139		5
140		5

#	Sample Type	Sample Name	Comment	Vial#	File Name
141	Sample	1605071-20A	SAMPICPMS_TSDOD1	4201	
142	Sample	1605071-21A	SAMPICPMS_TSDOD1	4202	
143	PDS	1605071-17A PDS	PDS ICPMS_TSDOD1	4203	
144	MS_S	1605071-17A MS	MS ICPMS_TSDOD1	4204	
145	MS_S	1605071-17A MSD	MSD ICPMS_TSDOD1	4205	
146	CCV	CCV6-160516	CCV ICPMS_TW	1207	
147	CCB	CCB6-160516	CCB ICPMS_TW	1102	
148	LLCCV	LCVL6-160516	LCVLICPMS_TW	2511	
149	CCB	CCB6-160516	CCB ICPMS_TW	1103	
150	Sample	1605071-22A	SAMPICPMS_TSDOD1	4206	
151	Sample	1605071-23A	SAMPICPMS_TSDOD1	4207	
152	Sample	1605071-24A	SAMPICPMS_TSDOD1	4208	
153	Sample	1605071-25A	SAMPICPMS_TSDOD1	4209	
154	Sample	1605071-26A	SAMPICPMS_TSDOD1	4210	
155	Sample	1605071-27A	SAMPICPMS_TSDOD1	4211	
156	Sample	1605071-30A	SAMPICPMS_TSDOD1	4212	
157	Sample	1605071-31A	SAMPICPMS_TSDOD1	4301	
158	Sample	1605071-33A	SAMPICPMS_TSDOD1	4302	
159	Sample	1605071-34A	SAMPICPMS_TSDOD1	4303	
160	CCV	CCV7-160516	CCV ICPMS_TW	1207	

#	Level	Dilution	Skip
141		5	
142		5	
143		5	
144		5	
145		5	
146			
147			
148			
149			
150		5	
151		5	
152		5	
153		5	
154		5	
155		5	
156		5	
157		5	
158		5	
159		5	
160			

#	Sample Type	Sample Name	Comment	Vial#	File Name
161	CCB	CCB7-160516	CCB ICPMS_TW	1102	

Sample List

162	LLCCV	LCVL7-160516	LCVLICPMS_TW	2510
163	CCB	CCB7-160516	CCB ICPMS_TW	1102
164	PB	MB-75104	MBLKICPMS_TSDOD1	4310
165	LCS_S	LCS-75104	LCS ICPMS_TSDOD1	4311
166	LCS_S	LCSD-75104	LCSDICPMS_TSDOD1	4312
167	CCB	RINSE	CCB ICPMS_TW	1101
168	AllRef	1605071-53A	SAMPICPMS_TSDOD1	4401
169	SD	1605071-53A SD	SD ICPMS_TSDOD1	4402
170	Sample	1605071-37A	SAMPICPMS_TSDOD1	4403
171	Sample	1605071-40A	SAMPICPMS_TSDOD1	4404
172	Sample	1605071-41A	SAMPICPMS_TSDOD1	4405
173	Sample	1605071-42A	SAMPICPMS_TSDOD1	4406
174	Sample	1605071-43A	SAMPICPMS_TSDOD1	4407
175	Sample	1605071-44A	SAMPICPMS_TSDOD1	4408
176	Sample	1605071-45A	SAMPICPMS_TSDOD1	4409
177	Sample	1605071-46A	SAMPICPMS_TSDOD1	4410
178	Sample	1605071-47A	SAMPICPMS_TSDOD1	4411
179	PDS	1605071-53A PDS	PDS ICPMS_TSDOD1	4412
180	MS_S	1605071-53A MS	MS ICPMS_TSDOD1	4501

#	Level	Dilution	Skip
161			
162			
163			
164		5	
165		5	
166		5	
167			
168		5	
169		25	
170		5	
171		5	
172		5	
173		5	
174		5	
175		5	
176		5	
177		5	
178		5	
179		5	
180		5	

#	Sample Type	Sample Name	Comment	Vial#	File Name
181	MS_S	1605071-53A MSD	MSD ICPMS_TSDOD1	4502	
182	CCV	CCV8-160516	CCV ICPMS_TW	1207	
183	CCB	CCB8-160516	CCB ICPMS_TW	1102	
184	LLCCV	LCVL8-160516	LCVLICPMS_TW	2510	
185	CCB	CCB8-160516	CCB ICPMS_TW	1103	
186	Sample	1605071-48A	SAMPICPMS_TSDOD1	4503	
187	Sample	1605071-49A	SAMPICPMS_TSDOD1	4504	
188	Sample	1605071-50A	SAMPICPMS_TSDOD1	4505	
189	Sample	1605071-51A	SAMPICPMS_TSDOD1	4506	

Sample List

190	Sample	1605071-52A	SAMPICPMS_TSDOD1	4507
191	Sample	1605071-54A	SAMPICPMS_TSDOD1	4508
192	Sample	1605074-01A	SAMPICPMS_TSDOD1	4509
193	Sample	1605074-02A	SAMPICPMS_TSDOD1	4510
194	Sample	1605074-03A	SAMPICPMS_TSDOD1	4511
195	Sample	1605074-04A	SAMPICPMS_TSDOD1	4512
196	CCV	CCV9-160516	CCV ICPMS_TW	1207
197	CCB	CCB9-160516	CCB ICPMS_TW	1102
198	LLCCV	LCVL9-160516	LCVLICPMS_TW	2511
199	CCB	CCB9-160516	CCB ICPMS_TW	1102
200	CCB	CCB9-160516	CCB ICPMS_TW	1102

#	Level	Dilution	Skip
181		5	
182			
183			
184			
185			
186		5	
187		5	
188		5	
189		5	
190		5	
191		5	
192		5	
193		5	
194		5	
195		5	
196			
197			
198			
199			
200			

#	Sample Type	Sample Name	Comment	Vial#	File Name
201	CCB	CCB9-160516	CCB ICPMS_TW	1102	
202	CCB	CCB9-160516	CCB ICPMS_TW	1102	
203	CCB	CCB9-160516	CCB ICPMS_TW	1103	
204	CCB	CCB9-160516	CCB ICPMS_TW	1103	
205	CCB	CCB9-160516	CCB ICPMS_TW	1103	
206	CCB	CCB9-160516	CCB ICPMS_TW	1103	

#	Level	Dilution	Skip
201			
202			
203			
204			
205			
206			

Unknown Samples:

Sample List

Blank Samples:

Periodic Block

#	Block Name	Period	Unit	Reset By

Sublist

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/11/2016 10:25:56 AM**
Digestion:
Prep End Date:

Prep Batch **75104** Prep Code: **3050_IDOD** Technician: **Cassie Van Dyke**

Prep Factor Units: **mL/g**

Equipment List
Hot Block #4
Thermometer #71
Balance #30
Pipette #P-01
Pipette#-P-09

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605071-37A	Soil		1.15	50	50.000	1 of 1	
1605071-40A	Soil		1.02 ~~1.18~~	50	50.000	1 of 1	
1605071-41A	Soil		1.11 ~~1.0~~	50	50.000	1 of 1	
1605071-42A	Soil		1.05	50	50.000	1 of 1	
1605071-43A	Soil		1.05	50	50.000	1 of 1	
1605071-44A	Soil		1.04	50	50.000	1 of 1	
1605071-45A	Soil		1.02	50	50.000	1 of 1	
1605071-46A	Soil		1.04	50	50.000	1 of 1	
1605071-47A	Soil		1.05	50	50.000	1 of 1	
1605071-48A	Soil		1.05	50	50.000	1 of 1	
1605071-49A	Soil		1.03	50	50.000	1 of 1	
1605071-50A	Soil		1.18	50	50.000	1 of 1	
1605071-51A	Soil		1.03	50	50.000	1 of 1	
1605071-52A	Soil		1.09	50	50.000	1 of 1	
1605071-53A	Soil		1.05	50	50.000	3 of 3	
1605071-53A MS	Soil		1.05	50	50.000	3 of 3	
1605071-53A MSD	Soil		1.11	50	50.000	3 of 3	
1605071-54A	Soil		1.03	50	50.000	1 of 1	
1605074-01A	Soil		1.06	50	50.000	1 of 1	
1605074-02A	Soil		1.03	50	50.000	1 of 1	
1605074-03A	Soil		1.04	50	50.000	1 of 1	
1605074-04A	Soil		1.18	50	50.000	1 of 1	
LCS-75104	Soil		1	50	50.000	of	
LCSD-75104	Soil		1	50	50.000	of	
MB-75104	Soil		1	50	50.000	of	

Number	Reagent Name	Amt	Units	Exp. D
9974	Hydrogen Peroxide	3	ml	01/20/2026
10056	Digestion Vessels	1	vessel	02/10/2026
10136	Nitric Acid (Trace Metal Grade)	10	ml	01/10/2026
10137	Hydrochloric Acid (trace metal grade)	5	ml	01/10/2026

Spk ID	Spike Name	SampType	Amt (mL or g)	Exp. Date
MET-150914-10	AL PRIMARY STD 1000 PPM	LCS/MS/MSD	0.25	10/01/2016
MET-150914-9	FE PRIMARY STD 1000 PPM	LCS/MS/MSD	0.25	10/01/2016
MET-SPIKE-160406-1	2500 PPM NATURALS CAL	LCS/MS/MSD	0.5	07/05/2016
MET-SPIKE-160509-4	50 PPM Sb+Ag CAL	LCS/MS/MSD	1	08/07/2016
MET-SPIKE-160509-5	50 PPM Custom+Sn,Ti,B,Mo,Sr CAL	LCS/MS/MSD	1	08/07/2016

11:55-12:05
12:06-2:06
14:18-16:18
17:04-17:19

REVIEWED BY
By Janice Whitt at 10:11:44 AM, 5/17/2016

5/11/16

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/6/2016 4:59:48 PM**
Digestion: **Start: 5/6/2016 5:30:00 PM / Stop: 5/9/2016 9:00:00 AM**
Prep End Date: **5/9/2016 5:00:00 PM**

Prep Batch **74988** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker**

Prep Factor Units: **mL/**

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605071-01A	Soil		0	0	#Num!	1 of 1	
1605071-02A	Soil		0	0	#Num!	1 of 1	
1605071-03A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605071-04A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605071-05A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605071-06A	Soil		0	0	#Num!	1 of 1	
1605071-07A	Soil		0	0	#Num!	1 of 1	
1605071-08A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605071-09A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605071-10A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605071-11A	Soil		0	0	#Num!	1 of 1	
1605071-12A	Soil		0	0	#Num!	1 of 1	
1605071-13A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605071-14A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605071-15A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605071-40A	Soil		0	0	#Num!	1 of 1	
1605071-41A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						

REVIEWED BY
By Janice Whitt at 10:11:48 AM, 5/17/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/6/2016 4:59:48 PM**
Digestion: **Start: 5/6/2016 5:30:00 PM / Stop: 5/9/2016 9:00:00 AM**
Prep End Date: **5/9/2016 5:00:00 PM**

Prep Batch **74988** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker**

Prep Factor Units: **mL/**

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605071-42A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605071-43A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605071-44A	Soil		0	0	#Num!	1 of 1	
1605071-45A	Soil		0	0	#Num!	1 of 1	
1605071-46A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605071-47A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605071-48A	Soil		0	0	#Num!	1 of 1	
1605071-49A	Soil		0	0	#Num!	1 of 1	
1605071-50A	Soil		0	0	#Num!	1 of 1	
1605071-51A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605071-52A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605071-53A	Soil		0	0	#Num!	of 3	
	Extra sample was subsampled for MS/MSD						
1605071-54A	Soil		0	0	#Num!	1 of 1	

REVIEWED BY
By Janice Whitt at 10:11:51 AM, 5/17/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/9/2016 9:45:00 AM**
Digestion: **Start: 5/9/2016 11:00:00 AM / Stop: 5/10/2016 10:00:00 AM**
Prep End Date: **5/10/2016 7:00:00 PM**

Prep Batch **75016** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker**

Prep Factor Units: **mL/**

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605074-01A	Soil		0	0	#Num!	1 of 1	
1605074-02A	Soil		0	0	#Num!	1 of 1	
1605074-03A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subdampling - hard clay						
1605074-04A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subdampling - hard clay						
1605074-05A	Soil		0	0	#Num!	1 of 1	
1605074-06A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605074-07A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605074-08A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605074-09A	Soil		0	0	#Num!	1 of 1	
1605074-10A	Soil		0	0	#Num!	1 of 1	
1605074-11A	Soil		0	0	#Num!	1 of 1	
	Sieved only no sub sampling - hard clay						
1605074-12A	Soil		0	0	#Num!	1 of 1	
	Sieved only no sub sampling - hard clay						
1605074-13A	Soil		0	0	#Num!	of 3	
	Extra subsampled for MS/MSD						
1605074-14A	Soil		0	0	#Num!	1 of 1	
1605074-15A	Soil		0	0	#Num!	1 of 1	
1605074-16A	Soil		0	0	#Num!	1 of 1	
1605074-17A	Soil		0	0	#Num!	1 of 1	
1605074-18A	Soil		0	0	#Num!	1 of 1	
1605074-19A	Soil		0	0	#Num!	1 of 1	

REVIEWED BY
By Janice Whitt at 10:12:33 AM, 5/17/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/9/2016 9:45:00 AM**
Digestion: **Start: 5/9/2016 11:00:00 AM / Stop: 5/10/2016 10:00:00 AM**
Prep End Date: **5/10/2016 7:00:00 PM**

Prep Batch **75016** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker** Prep Factor Units: **mL/**

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605074-20A	Soil		0	0	#Num!	1 of 1	
1605074-21A	Soil		0	0	#Num!	1 of 1	
1605074-22A	Soil		0	0	#Num!	1 of 1	
1605074-23A	Soil		0	0	#Num!	1 of 1	
1605074-24A	Soil		0	0	#Num!	1 of 1	
1605074-25A	Soil		0	0	#Num!	1 of 1	
1605074-26A	Soil		0	0	#Num!	of 3	
	Extra subsampled for MS/MSD						
1605074-27A	Soil		0	0	#Num!	1 of 1	
1605074-36A	Soil		0	0	#Num!	1 of 1	
1605074-37A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605074-38A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605074-39A	Soil		0	0	#Num!	1 of 1	
1605074-40A	Soil		0	0	#Num!	1 of 1	
1605074-41A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605074-42A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605074-43A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605074-44A	Soil		0	0	#Num!	of 3	
	Extra subsampled for MS/MSD						
1605074-45A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						

REVIEWED BY
By Janice Whitt at 10:12:36 AM, 5/17/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/9/2016 9:45:00 AM**
Digestion: **Start: 5/9/2016 11:00:00 AM / Stop: 5/10/2016 10:00:00 AM**
Prep End Date: **5/10/2016 7:00:00 PM**

Prep Batch **75016** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker**

Prep Factor Units: **mL/**

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605074-46A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605074-47A	Soil		0	0	#Num!	1 of 1	

REVIEWED BY
By Janice Whitt at 10:12:38 AM, 5/17/2016

MECHANICAL VOLUMETRIC PIPETTE VOLUME DAILY CHECK - DOD QSM 5.0

ANALYST:	CVD	**BALANCE #:**	26	
TEST DATE:	05/11/2016	**Water is at Room Temperatue (70-73°F) / (21-23°C)**		
PIPETTER LAB ID:	P-01, P-09	**WATER TEMP (°C):**	21-23°C	
TEST VOLUME:	See Below	**WATER DENSITY:**	0.998	(0.9980-0.9976)

REFERENCE:	DoD QSM 5.0
# of REPLICATES:	3
LABWARE TYPE:	MECHANICAL VOLUMETRIC PIPETTE
FREQUENCY:	DAILY BEFORE USE
MEAN CRITERIA:	± 2% OF NOMINAL VOLUME (VOLUME OF USE/TEST VOLUME)
RSD CRITERIA:	< 1% OF NOMINAL VOLUME (BASED ON MINIMUM OF 3 REPLICATE MEASUREMENTS)

1) RECORD ROOM AND WATER TEMPERATURE
2) TARE VESSEL ON BALANCE. ADD TEST VOLUME.
3) WEIGH 3 REPLICATES AT THE TEST VOLUME.
4) DETERMINE TOTAL WT.
5) CALCULATE VOLUME OF H2O AT °C (in mL)

% TEST VOL = Volume of H2O at °C/Test Volume * 100

%RSD = STDEV (Mean Volume)/AVERAGE (Mean Volume) *100

VOLUME OF H2O AT °C = TOTAL WT * WATER DENSITY

					BIAS	PRECISION
PIPETTE ID: P-01	**TEST VOLUME (mL)**	**TOTAL WT (g)**	**Volume of H_2O at °C**	**% TEST VOL (98-102%)**	**MEAN CRITERIA (± 2%)**	**% RSD Calculated**
1	5.00	5.0017	4.9917	99.83	PASS	RSD MUST BE ≤ 1% OF TEST VOLUME VALUE
2		4.9993	4.9893	99.79		
3		4.9963	4.9863	99.73		
AVERAGE (MEAN)		**4.999**	**4.989**	**99.78**		**0.054**
						PASS

PIPETTE ID: P-09	**TEST VOLUME (mL)**	**TOTAL WT (g)**	**Volume of H_2O at °C**	**% TEST VOL (98-102%)**	**MEAN CRITERIA (± 2%)**	**% RSD Calculated**
1	0.20	0.2016	0.2012	100.60	PASS	RSD MUST BE ≤ 1% OF TEST VOLUME VALUE
2		0.2015	0.2011	100.55		
3		0.2000	0.1996	99.80		
AVERAGE (MEAN)		**0.201**	**0.201**	**100.32**		**0.446**
						PASS

PIPETTE ID:	**TEST VOLUME (mL)**	**TOTAL WT (g)**	**Volume of H_2O at °C**	**% TEST VOL (98-102%)**	**MEAN CRITERIA (± 2%)**	**% RSD Calculated**
1						RSD MUST BE ≤ 1% OF TEST VOLUME VALUE
2						
3						
AVERAGE (MEAN)						

5/11/16
Analyst / Date

REVIEWED BY
By Janice Whitt at 10:12:46 AM, 5/17/2016
Review and Approved / Date

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/11/2016 10:25:56 AM**
Digestion: **Start: 5/11/2016 11:55:00 AM / Stop: 5/11/2016 5:19:00 PM**
Prep End Date: **5/11/2016 8:00:00 PM**

Prep Batch **75104** Prep Code: **3050_IDOD** Technician: **Cassie Van Dyke**

Prep Factor Units: **mL/g**

Equipment List

Hot Block #4
Thermometer #71
Balance #20
Pipette #P-01
Pipette#-P-09

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605071-37A	Soil		1.15	50	43.478	1 of 1	
1605071-40A	Soil		1.02	50	49.020	1 of 1	
1605071-41A	Soil		1.11	50	45.045	1 of 1	
1605071-42A	Soil		1.05	50	47.619	1 of 1	
1605071-43A	Soil		1.05	50	47.619	1 of 1	
1605071-44A	Soil		1.04	50	48.077	1 of 1	
1605071-45A	Soil		1.02	50	49.020	1 of 1	
1605071-46A	Soil		1.04	50	48.077	1 of 1	
1605071-47A	Soil		1.05	50	47.619	1 of 1	
1605071-48A	Soil		1.05	50	47.619	1 of 1	
1605071-49A	Soil		1.03	50	48.544	1 of 1	
1605071-50A	Soil		1.18	50	42.373	1 of 1	
1605071-51A	Soil		1.03	50	48.544	1 of 1	
1605071-52A	Soil		1.09	50	45.872	1 of 1	
1605071-53A	Soil		1.05	50	47.619	of 3	
1605071-53A MS	Soil		1.05	50	47.619	of	
1605071-53A MSD	Soil		1.11	50	45.045	of	
1605071-53A PDS	Soil		1.05	50	47.619	of	
1605071-53A SD	Soil		1.05	50	47.619	of	
1605071-54A	Soil		1.03	50	48.544	1 of 1	
1605074-01A	Soil		1.06	50	47.170	1 of 1	
1605074-02A	Soil		1.03	50	48.544	1 of 1	
1605074-03A	Soil		1.04	50	48.077	1 of 1	
1605074-04A	Soil		1.18	50	42.373	1 of 1	
LCS-75104	Soil		1	50	50.000	of	
LCSD-75104	Soil		1	50	50.000	of	
MB-75104	Soil		1	50	50.000	of	

Number	Reagent Name	Amt	Units	Exp. Da
9974	Hydrogen Peroxide	3	ml	01/20/2026
10056	Digestion Vessels	1	vessel	02/10/2026
10136	Nitric Acid (Trace Metal Grade)	10	ml	01/10/2026
10137	Hydrochloric Acid (trace metal grade)	5	ml	01/10/2026

Spk ID	Spike Name	SampType	Amt (mL or g)	Exp. Date
MET-150914-10	AL PRIMARY STD 1000 PPM	LCS/MS/MSD	0.25	10/01/2016
MET-150914-9	FE PRIMARY STD 1000 PPM	LCS/MS/MSD	0.25	10/01/2016
MET-SPIKE-160406-1	2500 PPM NATURALS CAL	LCS/MS/MSD	0.5	07/05/2016
MET-SPIKE-160509-4	50 PPM Sb+Ag CAL	LCS/MS/MSD	1	08/07/2016
MET-SPIKE-160509-5	50 PPM Custom+Sn,Ti,B,Mo,Sr CAL	LCS/MS/MSD	1	08/07/2016

REVIEWED BY
By Janice Whitt at 10:13:00 AM, 5/17/2016

Calibration Summary Report

Date Acquired 5/16/2016 12:13
Data Batch 160516.b

Level	Calibration File Name
1	034CALB.d
2	035CALS.d
3	036CALS.d
4	037CALS.d
5	038CALS.d
6	039CALS.d
7	040CALS.d
8	041CALS.d

Calibration Table

Ele	Corr Coef	Curve Equation
As	1.0000	y = 0.0013 * x + 2.1604E-004
Be	1.0000	y = 6.4330E-005 * x + 2.0153E-006
B	0.9999	y = 2.0450E-005 * x + 1.5046E-004
Na	1.0000	y = 7.6435E-004 * x + 0.0537
Mg	1.0000	y = 3.7787E-004 * x + 7.7363E-004
Al	0.9999	y = 1.3498E-004 * x + 1.9756E-004
K	1.0000	y = 3.8112E-004 * x + 0.0514
Ca	0.9999	y = 2.1721E-005 * x + 2.3138E-004
Ti	1.0000	y = 1.4560E-004 * x + 2.2346E-006
V	1.0000	y = 0.0050 * x + 0.0025
Cr	1.0000	y = 0.0060 * x + 0.0021
Mn	1.0000	y = 0.0032 * x + 9.1295E-004
Fe	1.0000	y = 0.0051 * x + 0.0175
Co	1.0000	y = 0.0129 * x + 1.7398E-004
Ni	1.0000	y = 0.0036 * x + 5.7511E-004
Cu	1.0000	y = 0.0098 * x + 0.0049
Zn	1.0000	y = 0.0016 * x + 4.3144E-004
Se	1.0000	y = 7.5403E-005 * x + 1.0251E-004
Sr	1.0000	y = 6.4423E-004 * x + 2.2509E-005
Mo	1.0000	y = 5.9258E-004 * x + 7.2626E-006
Ag	0.9999	y = 0.0019 * x + 1.4898E-005
Cd	1.0000	y = 2.6872E-004 * x + 1.5289E-006
Sn	1.0000	y = 5.5204E-004 * x + 1.8213E-004
Sb	0.9999	y = 8.5259E-004 * x + 3.1272E-005
Tl	1.0000	y = 0.0016 * x + 1.9351E-005
Ba	1.0000	y = 2.6911E-004 * x + 5.0734E-006
Pb	1.0000	y = 0.0022 * x + 3.1769E-004
Li	1.0000	y = 4.8609E-005 * x + 1.9222E-005

REVIEWED BY
By Janice Whitt at 9:32:33 AM, 5/17/2016

Calibration Summary Report

Level 7 Cal

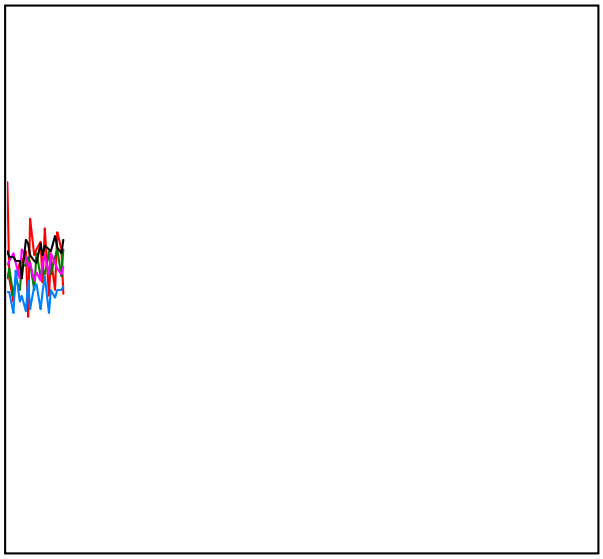
Ele	Conc	Calc	%Rec
As	500	494.73	99
Be	500	505.30	101
B	500	518.78	104
Na	10000	10141.06	101
Mg	10000	10196.11	102
Al	10000	10049.08	100
K	10000	10164.23	102
Ca	10000	9672.61	97
Ti	500	507.22	101
V	500	502.82	101
Cr	500	504.88	101
Mn	500	498.41	100
Fe	10000	10015.95	100
Co	500	501.56	100
Ni	500	502.25	100
Cu	500	503.81	101
Zn	500	497.18	99
Se	500	495.31	99
Sr	500	495.73	99
Mo	500	494.04	99
Ag	500	502.57	101
Cd	500	497.12	99
Sn	500	493.81	99
Sb	500	503.35	101
Tl	500	513.35	103
Ba	500	496.71	99
Pb	500	500.73	100

Level 8 Cal

Ele	Conc	Calc	%Rec
As	2000	2001.70	100
Be	2000	1998.96	100
B	2000	1994.14	100
Na	25000	24916.54	100
Mg	25000	24905.02	100
K	25000	24930.40	100
Ca	25000	25173.08	99
Ti	2000	1998.19	100
V	2000	1999.64	100
Cr	2000	1999.12	100
Mn	2000	2001.04	100
Co	2000	1999.34	100
Ni	2000	1999.12	100
Cu	2000	1998.30	100
Zn	2000	2000.57	100
Se	2000	2001.36	100
Sr	2000	2002.63	100
Mo	2000	2003.15	100
Cd	2000	2001.51	100
Sn	2000	2002.77	100
Tl	2000	1996.39	100
Ba	2000	2002.28	100
Pb	2000	2000.05	100
Li	2000	1997.30	100

REVIEWED BY
By Janice Whitt at 9:32:37 AM, 5/17/2016

Current Signal



Mass	Range	Count	Avg. Count	RSD [%]
51	200	95	106.6	11.12
59	2000	1109	1037.2	4.91
89	2000	978	946.7	4.83
140	5000	2619	2627.2	3.15
205	5000	2855	2745.7	3.20
156/140	1	0.267 %	0.281 %	38.48
75	200	14	20.2	100.82
78	20	5	7.7	42.78
56	5000	2302	2186.5	4.18
31	200	94	119.5	15.15

Integration Time [sec] 0.10

Plasma Parameters

RF Power	1550	Carrier Gas	0.53
RF Matching	1.90	Option Gas	0.0
Smpl Depth	8.0	Nebulizer Pump	0.10
S/C Temp	2		

Lenses Parameters

Extract 1	0.0	Omega Lens	6.3
Extract 2	-200.0	Cell Entrance	-40
Omega Bias	-90	Cell Exit	-60
Deflect	2.6		

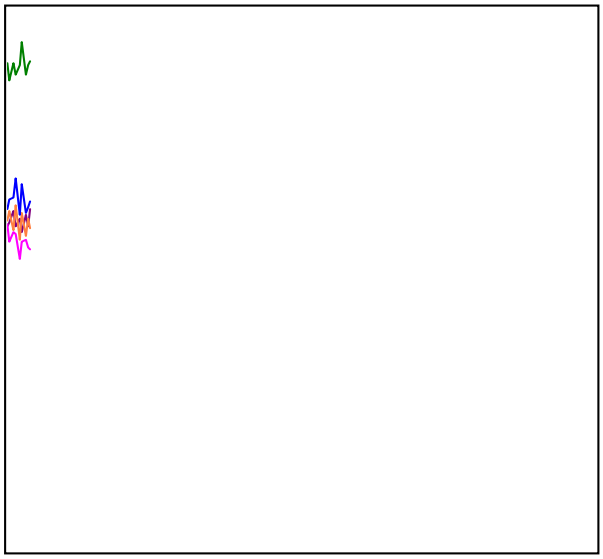
Cell Parameters

Use Gas	true	3rd Gas Flow	0
He Flow	4.7	OctP Bias	-18.0
H2 Flow	0.0	OctP RF	200
Energy Discrimination	3.0		

Meters

IF/BK Press	2.36E+2	Pa	Carrier Gas(BP)	1.99E+2	kPa
Analyzer Press	2.11E-4	Pa	Reflected Power	2	W
Forward Power	1551	W			

Current Signal



Mass	Range	Count	Avg. Count	RSD [%]
7	2000	1259	1214.6	2.40
59	2000	1799	1786.0	2.24
89	5000	2971	3021.6	3.65
140	5000	2768	2851.1	3.27
205	5000	1987	2069.0	3.42
156/140	2	1.265 %	1.084 %	10.85
78	5000	2298	2330.2	2.02
63	1000	644	644.6	3.48
75	10000	6167	6160.6	1.98
Integration Time [sec]		0.10		

Plasma Parameters

RF Power	1550	Carrier Gas	0.53
RF Matching	1.90	Option Gas	0.0
Smpl Depth	8.0	Nebulizer Pump	0.10
S/C Temp	2		

Lenses Parameters

Extract 1	0.0	Omega Lens	6.3
Extract 2	-200.0	Cell Entrance	-40
Omega Bias	-90	Cell Exit	-60
Deflect	7.0		

Cell Parameters

Use Gas	false	3rd Gas Flow	0
He Flow	4.2	OctP Bias	-18.0
H2 Flow	0.0	OctP RF	200
Energy Discrimination	3.0		

Meters

IF/BK Press	2.35E+2	Pa	Carrier Gas(BP)	2.01E+2	kPa
Analyzer Press	1.25E-4	Pa	Reflected Power	2	W
Forward Power	1549	W			

US EPA Tune Check Sample Report

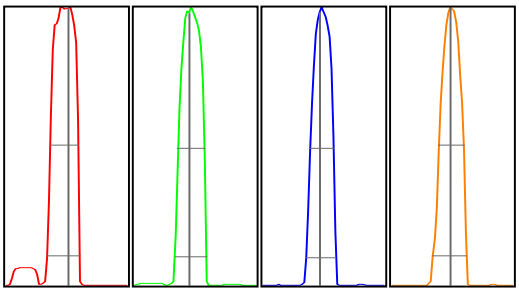
Batch Folder C:\Agilent\ICPMH\1\DATA\DHL TEMPLATE Li.b
Report Comment
Instrument Name ICPMS4 JP12361998

[No gas]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
7	804620	0.70	5.00	
59	1068250	1.07	5.00	
115	1403611	0.41	5.00	
205	1211243	1.76	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
7	805420	812074	797893	800352	807359
59	1087360	1060308	1070307	1062123	1061152
115	1411650	1403412	1406438	1398545	1398009
205	1244073	1221795	1196407	1198551	1195389

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	Width-X% (Flag)
7	121133	7.05	6.9 - 7.1		0.789	0.850	
59	176131	58.90	58.9 - 59.1		0.762	0.850	
115	262817	114.95	114.9 - 115.1		0.726	0.850	
205	217175	205.00	204.9 - 205.1		0.820	0.850	

X% = 10 **Int Time [sec] =** 0.1 **Acq Time [sec] =** 135.05 **Y Axis =** Linear

Tune Parameters

Plasma Paramters

ParameterName	Value	Unit	ParameterName	Value	Unit
RF Power	1550	W	Nebulizer Pump	0.10	rps
RF Matching	1.90	V	S/C Temp	2	℃
Smpl Depth	8.0	mm	Gas Switch	Dilution Gas	
Carrier Gas	0.53	L/min	Makeup/Dilution Gas	0.52	L/min
Option Gas	0.0	%			

Lenses Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	0.0	V	Cell Entrance	-40	V
Extract 2	-200.0	V	Cell Exit	-60	V
Omega Bias	-90	V	Deflect	7.0	V
Omega Lens	6.3	V	Plate Bias	-60	V

REVIEWED BY
By Janice Whitt at 9:32:42 AM, 5/17/2016

Cell Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit
Use Gas	false		OctP Bias	-18.0	V
He Flow	0.0	mL/min	OctP RF	200	V
H2 Flow	0.0	mL/min	Energy Discrimination	3.0	V
3rd Gas Flow	0	%			

P/A Factor Tuning Report

Current Sample

Sample Name: BLANK STD 1
Data File: 034CALB.d
Acquired: 05/16/2016 12:13:29

Detector Parameters and P/A Factors

Discriminator: 4.5 mV
AnalogHV: 1760 V
PulseHV: 1210 V

Acquired: 05/16/2016 10:47:39

Mass[u]	Element	P/A Factor
6	Li	0.098496
9	Be	0.112338
23	Na	0.119180
24	Mg	0.123864
27	Al	0.128284
39	K	0.130182
45	Sc	0.131718
48		0.131992
51	V	0.133425
52	Cr	0.136299
55	Mn	0.138470
59	Co	0.141580
60	Ni	0.142019
63	Cu	0.145427
66	Zn	0.144313
72		0.143606
74	Ge	0.144250
75	As	0.143445
88	Sr	0.144615
89		0.143433
95		0.143749
97	Mo	0.143776
98	Mo	0.144291
99	[Mo]	0.145862
101		0.145734
105		0.148493
111	Cd	0.149753
114	Cd	0.150176
115	In	0.149972
118	Sn	0.149689
121		0.149797
123	Sb	0.149409
135	Ba	0.149385
138		0.150991
175		0.154667
193		0.155688
205	Tl	0.156379
206	[Pb]	0.156315
207	[Pb]	0.156903
208	Pb	0.157338
209	Bi	0.157512
232		0.157913
238	U	0.157505
44	Ca	Signal too low
78	Se	Signal too low
107	Ag	Signal too low
172		Signal too low

REVIEWED BY
By Janice Whitt at 9:32:46 AM, 5/17/2016

Calibration Blank Report

Date Acquired	5/16/2016 12:13	Sample Name	BLANK STD 1
Data Batch	160516.b	Comment	CAL ICPMS_TW
Data File Name	034CALB.d	Dilution	1

Mass	Name	IS	CPS	%RSD
7	Li	45	19	27.85
9	Be	45	2	50.00
11	B	45	149	19.04
23	Na	45	53132	1.44
24	Mg	45	766	2.40
27	Al	45	196	6.45
39	K	45	50902	0.38
44	Ca	45	229	21.81
47	Ti	45	2	173.21
51	V	45	2487	1.93
52	Cr	45	2071	4.20
55	Mn	45	903	3.52
56	Fe	45	17343	1.25
59	Co	72	129	26.04
60	Ni	72	426	16.10
63	Cu	72	3644	4.38
66	Zn	72	319	18.83
75	As	72	160	7.23
78	Se	72	76	16.17
88	Sr	115	148	9.12
95	Mo	115	48	38.42
107	Ag	115	98	18.78
111	Cd	115	10	57.72
118	Sn	115	1196	2.25
121	Sb	115	206	22.02
137	Ba	115	33	20.00
205	Tl	209	294	9.22
208	Pb	209	4836	1.04

QC ISTD Table

Mass	Name	CPS	%RSD
45	Sc	989663	0.96
72	Ge	739879	0.79
115	In	6565136	0.89
209	Bi	15222533	1.19

Calibration Standard Report

Date Acquired	5/16/2016 12:15	Sample Name	L2-160516
Data Batch	160516.b	Comment	CAL ICPMS_TW
Data File Name	035CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
7	Li	45	52	8.81
9	Be	45	59	10.58
11	B	45	124	19.00
23	Na	45	71682	0.85
24	Mg	45	8137	1.03
27	Al	45	2891	2.94
39	K	45	59356	0.32
44	Ca	45	756	8.57
47	Ti	45	128	26.26
51	V	45	7186	1.96
52	Cr	45	8019	2.41
55	Mn	45	3640	8.86
56	Fe	45	113349	1.91
59	Co	72	10004	3.73
60	Ni	72	3400	3.10
63	Cu	72	10884	1.65
66	Zn	72	1648	6.72
75	As	72	1181	3.38
78	Se	72	134	9.83
88	Sr	115	4270	4.86
95	Mo	115	3778	3.97
107	Ag	115	12176	1.65
111	Cd	115	1718	7.71
118	Sn	115	4740	1.89
121	Sb	115	5570	2.20
137	Ba	115	1688	3.37
205	Tl	209	24540	1.05
208	Pb	209	37281	1.63

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	969970	0.87	989663	98.01	70	120	
72	Ge	734187	0.45	739879	99.23	70	120	
115	In	6588367	0.10	6565136	100.35	70	120	
209	Bi	15295093	1.60	15222533	100.48	70	120	

Calibration Standard Report

Date Acquired	5/16/2016 12:17	Sample Name	L-160516
Data Batch	160516.b	Comment	CAL ICPMS_TW
Data File Name	036CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
7	Li	45	495	3.85
9	Be	45	597	8.29
11	B	45	312	5.05
23	Na	45	205126	0.48
24	Mg	45	74731	0.07
27	Al	45	26279	1.15
39	K	45	123721	0.29
44	Ca	45	4301	1.84
47	Ti	45	1460	1.95
51	V	45	50191	1.05
52	Cr	45	58887	0.52
55	Mn	45	31167	2.81
56	Fe	45	971108	0.61
59	Co	72	95222	0.74
60	Ni	72	26831	1.92
63	Cu	72	76207	0.55
66	Zn	72	12242	0.84
75	As	72	9915	1.71
78	Se	72	595	9.12
88	Sr	115	41031	1.31
95	Mo	115	36831	1.59
107	Ag	115	119481	0.70
111	Cd	115	17216	0.66
118	Sn	115	35887	2.89
121	Sb	115	54655	0.34
137	Ba	115	17381	2.11
205	Tl	209	240935	0.41
208	Pb	209	327437	0.60

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	959742	0.61	989663	96.98	70	120	
72	Ge	723998	0.63	739879	97.85	70	120	
115	In	6490295	1.02	6565136	98.86	70	120	
209	Bi	15205984	2.69	15222533	99.89	70	120	

Calibration Standard Report

Date Acquired	5/16/2016 12:19	Sample Name	10X-160516
Data Batch	160516.b	Comment	CAL ICPMS_TW
Data File Name	037CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
7	Li	45	2322	3.95
9	Be	45	3052	2.16
11	B	45	1149	7.19
23	Na	45	799876	0.39
24	Mg	45	367858	0.41
27	Al	45	127462	0.27
39	K	45	418941	0.74
44	Ca	45	20262	1.18
47	Ti	45	7058	1.16
51	V	45	240041	1.06
52	Cr	45	290373	0.87
55	Mn	45	154609	0.91
56	Fe	45	4864100	0.46
59	Co	72	478327	0.93
60	Ni	72	131742	0.81
63	Cu	72	369411	0.32
66	Zn	72	59301	1.84
75	As	72	48628	0.99
78	Se	72	2822	3.23
88	Sr	115	204443	0.59
95	Mo	115	186130	1.18
107	Ag	115	606219	0.29
111	Cd	115	86359	0.73
118	Sn	115	177055	0.68
121	Sb	115	273825	0.97
137	Ba	115	85357	0.50
205	Tl	209	1200243	0.79
208	Pb	209	1625521	1.26

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	965684	0.40	989663	97.58	70	120	
72	Ge	726561	0.51	739879	98.20	70	120	
115	In	6502907	1.15	6565136	99.05	70	120	
209	Bi	15363317	2.30	15222533	100.92	70	120	

Calibration Standard Report

Date Acquired	5/16/2016 12:21	Sample Name	5X-160516
Data Batch	160516.b	Comment	CAL ICPMS_TW
Data File Name	038CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
7	Li	45	4748	1.40
9	Be	45	6059	0.27
11	B	45	2143	2.91
23	Na	45	1559150	0.34
24	Mg	45	742202	0.21
27	Al	45	258296	0.93
39	K	45	795677	0.41
44	Ca	45	40346	1.20
47	Ti	45	13950	0.34
51	V	45	478438	0.52
52	Cr	45	574104	0.42
55	Mn	45	304849	0.39
56	Fe	45	9711093	0.83
59	Co	72	951253	0.55
60	Ni	72	262622	0.59
63	Cu	72	733309	0.46
66	Zn	72	117365	0.32
75	As	72	97474	0.40
78	Se	72	5569	2.50
88	Sr	115	412067	0.70
95	Mo	115	375370	0.89
107	Ag	115	1214271	0.47
111	Cd	115	174217	1.11
118	Sn	115	354830	0.90
121	Sb	115	554782	0.12
137	Ba	115	172424	0.56
205	Tl	209	2464090	0.70
208	Pb	209	3268962	0.35

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	970285	0.25	989663	98.04	70	120	
72	Ge	727408	0.46	739879	98.31	70	120	
115	In	6520475	2.66	6565136	99.32	70	120	
209	Bi	15160200	1.63	15222533	99.59	70	120	

Calibration Standard Report

Date Acquired	5/16/2016 12:23	Sample Name	2X-160516
Data Batch	160516.b	Comment	CAL ICPMS_TW
Data File Name	039CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
7	Li	45	11895	0.36
9	Be	45	15606	0.20
11	B	45	5304	5.31
23	Na	45	3863011	0.24
24	Mg	45	1867398	0.89
27	Al	45	646706	0.73
39	K	45	1910456	0.88
44	Ca	45	102550	1.48
47	Ti	45	35516	0.05
51	V	45	1206201	0.56
52	Cr	45	1444024	0.77
55	Mn	45	769961	0.65
56	Fe	45	24931975	0.46
59	Co	72	2390685	0.36
60	Ni	72	660422	0.83
63	Cu	72	1847014	0.29
66	Zn	72	294429	0.55
75	As	72	245969	0.54
78	Se	72	13903	1.73
88	Sr	115	1032756	0.51
95	Mo	115	948565	0.69
107	Ag	115	3067540	0.35
111	Cd	115	440590	0.22
118	Sn	115	895873	0.74
121	Sb	115	1395441	1.19
137	Ba	115	432794	1.07
205	Tl	209	6236297	0.22
208	Pb	209	8321908	0.74

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	973916	0.73	989663	98.41	70	120	
72	Ge	738284	1.03	739879	99.78	70	120	
115	In	6720201	0.86	6565136	102.36	70	120	
209	Bi	15434354	1.75	15222533	101.39	70	120	

Calibration Standard Report

Date Acquired	5/16/2016 12:25	Sample Name	H-160516
Data Batch	160516.b	Comment	CAL ICPMS_TW
Data File Name	040CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
7	Li	45	23890	0.39
9	Be	45	31279	0.04
11	B	45	10353	1.63
23	Na	45	7510621	3.10
24	Mg	45	3707935	0.17
27	Al	45	1305356	0.40
39	K	45	3776973	0.76
44	Ca	45	202385	1.53
47	Ti	45	71062	0.10
51	V	45	2413827	0.54
52	Cr	45	2904600	1.41
55	Mn	45	1540539	1.08
56	Fe	45	49403441	1.28
59	Co	72	4783151	0.37
60	Ni	72	1320488	0.64
63	Cu	72	3658397	1.04
66	Zn	72	585875	0.13
75	As	72	493223	0.26
78	Se	72	27720	0.17
88	Sr	115	2074048	0.70
95	Mo	115	1901227	0.86
107	Ag	115	6083712	0.42
111	Cd	115	867531	0.98
118	Sn	115	1771469	1.23
121	Sb	115	2787137	1.45
137	Ba	115	868070	0.81
205	Tl	209	12606041	2.70
208	Pb	209	16616909	1.05

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	962220	0.53	989663	97.23	70	120	
72	Ge	740203	0.39	739879	100.04	70	120	
115	In	6493983	0.74	6565136	98.92	70	120	
209	Bi	15306948	1.93	15222533	100.55	70	120	

Calibration Standard Report

Date Acquired	5/16/2016 12:27	Sample Name	H2-160516
Data Batch	160516.b	Comment	CAL ICPMS_TW
Data File Name	041CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
7	Li	45	94360	0.15
9	Be	45	124959	1.20
11	B	45	39777	1.09
23	Na	45	18560536	1.58
24	Mg	45	9144615	2.14
27	Al	45	2090	11.76
39	K	45	9282861	0.46
44	Ca	45	531593	1.29
47	Ti	45	282740	1.21
51	V	45	9688266	1.64
52	Cr	45	11609230	0.52
55	Mn	45	6243744	0.55
56	Fe	45	53024	13.58
59	Co	72	18953981	0.49
60	Ni	72	5223729	0.31
63	Cu	72	14414170	0.84
66	Zn	72	2342558	0.44
75	As	72	1983313	0.39
78	Se	72	111116	0.41
88	Sr	115	8400397	2.43
95	Mo	115	7728986	0.21
107	Ag	115	2097	23.47
111	Cd	115	3502037	0.15
118	Sn	115	7200028	0.67
121	Sb	115	4263	0.91
137	Ba	115	3508378	0.98
205	Tl	209	49941925	0.91
208	Pb	209	67594172	1.11

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	971821	1.15	989663	98.20	70	120	
72	Ge	735820	0.24	739879	99.45	70	120	
115	In	6511206	0.33	6565136	99.18	70	120	
209	Bi	15593242	1.38	15222533	102.44	70	120	

Interference Check Solution A (ICS-A) Report

Date Acquired	5/16/2016 12:35	Sample Name	ICSA-160516
Data Batch	160516.b	Comment	ICSAICPMS_TW
Data File Name	045ICSA.d	Dilution	1

Mass	Name	Conc	CPS	%RSD	MDL S	MDL Aq	QC Flag
9	Be	0.070	6	72.6	1.2	0.8	
11	B	13.327	389	1.3	30	30	
51	V	-0.061	2029	8.2	10	10	
52	Cr	0.433	4304	0.4	8	5	
55	Mn	1.249	4525	1.7	8	10	
59	Co	0.564	5136	0.7	8	10	
60	Ni	0.462	1530	7.8	8	10	
63	Cu	0.750	8480	4.6	8	10	
66	Zn	1.702	2168	2.6	10	5	
75	As	0.707	807	6.2	4	5	
78	Se	0.297	86	2.0	2	5	
88	Sr	1.472	5996	1.7	10	10	
107	Ag	0.164	1976	2.6	0.8	2	
111	Cd	0.489	822	11.4	1.2	1	
118	Sn	0.633	3287	7.3	10	10	
121	Sb	0.403	2317	4.2	4	2.5	
137	Ba	0.344	602	2.6	8	10	
205	Tl	0.167	4113	7.2	4	1.5	
208	Pb	0.423	17708	3.8	1.2	1	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	919349	0.18	989663	92.90	70	120	
72	Ge	690788	0.75	739879	93.37	70	120	
115	In	6178274	2.21	6565136	94.11	70	120	
209	Bi	14330312	1.00	15222533	94.14	70	120	

Interference Check Solution AB (ICS-AB) Report

Date Acquired	5/16/2016 12:37	Sample Name	ICSAB-160516
Data Batch	160516.b	Comment	ICSBICPMS_TW
Data File Name	046ICSB.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
51	V	45	40.920	188413	1.25	40	102.3	80	120	
52	Cr	45	21.538	119346	1.23	20	107.7	80	120	
55	Mn	45	19.546	58095	0.39	20	97.7	80	120	
59	Co	72	40.820	364572	0.76	40	102.0	80	120	
60	Ni	72	38.796	95861	0.69	40	97.0	80	120	
63	Cu	72	20.922	145497	1.14	20	104.6	80	120	
66	Zn	72	20.159	22525	1.25	20	100.8	80	120	
75	As	72	20.311	19101	0.64	20	101.6	80	120	
78	Se	72	19.952	1114	4.41	20	99.8	80	120	
107	Ag	115	18.823	217557	0.91	20	94.1	80	120	
111	Cd	115	10.001	16661	2.33	10	100.0	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	912523	0.80	989663	92.21	70	120	
72	Ge	692993	0.59	739879	93.66	70	120	
115	In	6198552	1.89	6565136	94.42	70	120	
209	Bi	14414928	2.43	15222533	94.69	70	120	

Initial Calibration Verification (ICV) Report

Date Acquired	5/16/2016 12:45	Sample Name	ICV-160516
Data Batch	160516.b	Comment	ICV ICPMS_TW
Data File Name	050_ICV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	102.036	4901	1.27	100	102.0	90	110	
9	Be	45	101.265	6415	2.24	100	101.3	90	110	
11	B	45	105.632	2275	3.87	100	105.6	90	110	
23	Na	45	2641.859	2040670	0.44	2500	105.7	90	110	
24	Mg	45	2627.634	978183	0.43	2500	105.1	90	110	
27	Al	45	2529.069	336250	0.45	2500	101.2	90	110	
39	K	45	2571.354	1015339	0.69	2500	102.9	90	110	
44	Ca	45	2404.069	51631	0.85	2500	96.2	90	110	
47	Ti	45	100.717	14438	1.01	100	100.7	90	110	
51	V	45	102.938	507538	1.36	100	102.9	90	110	
52	Cr	45	108.084	637805	0.16	100	108.1	90	110	
55	Mn	45	100.675	319085	1.43	100	100.7	90	110	
56	Fe	45	2559.298	12927694	1.12	2500	102.4	90	110	
59	Co	72	105.570	1020966	0.69	100	105.6	90	110	
60	Ni	72	107.126	285930	1.50	100	107.1	90	110	
63	Cu	72	103.286	763431	0.92	100	103.3	90	110	
66	Zn	72	104.068	124607	2.02	100	104.1	90	110	
75	As	72	101.470	102703	0.07	100	101.5	90	110	
78	Se	72	101.426	5817	1.69	100	101.4	90	110	
88	Sr	115	100.132	432908	0.62	100	100.1	90	110	
95	Mo	115	97.187	386430	0.14	100	97.2	90	110	
107	Ag	115	97.927	1224850	0.49	100	97.9	90	110	
111	Cd	115	99.729	179816	0.44	100	99.7	90	110	
118	Sn	115	102.527	380996	1.21	100	102.5	90	110	
121	Sb	115	99.369	568617	0.55	100	99.4	90	110	
137	Ba	115	98.986	178765	1.21	100	99.0	90	110	
205	Tl	209	101.079	2558610	1.05	100	101.1	90	110	
208	Pb	209	101.129	3463213	1.15	100	101.1	90	110	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	984407	0.20	989663	99.47	70	120	
72	Ge	750542	0.33	739879	101.44	70	120	
115	In	6712010	2.48	6565136	102.24	70	120	
209	Bi	15780912	2.94	15222533	103.67	70	120	

Low Level Calibration Verification (LLCV) Report

Date Acquired	5/16/2016 13:04	Sample Name	LCVL-160516
Data Batch	160516.b	Comment	LCVLICPMS_TW
Data File Name	053LICV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	10.085	497	6.39	10	100.8	70	130	
9	Be	45	1.110	72	10.47	1	111.0	70	130	
11	B	45	23.217	610	6.44	20	116.1	70	130	
23	Na	45	101.480	128091	0.99	100	101.5	70	130	
24	Mg	45	100.262	37729	0.40	100	100.3	70	130	
27	Al	45	100.461	13428	1.73	100	100.5	70	130	
39	K	45	103.524	88702	0.46	100	103.5	70	130	
44	Ca	45	102.198	2392	1.67	100	102.2	70	130	
47	Ti	45	4.941	704	5.44	5	98.8	70	130	
51	V	45	1.016	7394	1.69	1	101.6	70	130	
52	Cr	45	5.074	31630	0.88	5	101.5	70	130	
55	Mn	45	4.672	15531	2.01	5	93.4	70	130	
56	Fe	45	96.898	501663	1.07	100	96.9	70	130	
59	Co	72	5.113	49253	2.39	5	102.3	70	130	
60	Ni	72	5.281	14413	2.97	5	105.6	70	130	
63	Cu	72	5.054	40605	1.89	5	101.1	70	130	
66	Zn	72	5.152	6435	3.09	5	103.0	70	130	
75	As	72	4.955	5136	1.31	5	99.1	70	130	
78	Se	72	5.352	377	10.14	5	107.0	70	130	
88	Sr	115	4.896	21492	0.69	5	97.9	70	130	
95	Mo	115	4.707	18923	1.22	5	94.1	70	130	
107	Ag	115	1.880	23820	0.84	2	94.0	70	130	
111	Cd	115	0.943	1725	0.80	1	94.3	70	130	
118	Sn	115	4.941	19687	0.90	5	98.8	70	130	
121	Sb	115	1.895	11143	1.50	2	94.7	70	130	
137	Ba	115	4.844	8856	2.19	5	96.9	70	130	
205	Tl	209	0.990	24961	1.27	1	99.0	70	130	
208	Pb	209	0.965	37433	0.96	1	96.5	70	130	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	975960	0.75	989663	98.62	70	120	
72	Ge	745697	0.56	739879	100.79	70	120	
115	In	6766926	1.32	6565136	103.07	70	120	
209	Bi	15530111	0.87	15222533	102.02	70	120	

Initial Calibration Blank (ICB) Report

Date Acquired	5/16/2016 13:08	Sample Name	ICB-160516
Data Batch	160516.b	Comment	ICB ICPMS_TW
Data File Name	055_ICB.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	MDL S	MDL Aq	QC Flag
7	Li	45	-0.209	9	33.3	2	5	
9	Be	45	0.016	3	145.3	0.4	0.3	
11	B	45	0.800	166	4.2	10	10	
23	Na	45	-0.159	53162	0.6	50	100	
24	Mg	45	-1.218	311	2.2	50	100	
27	Al	45	0.038	201	20.1	50	10	
39	K	45	1.719	51697	1.1	50	100	
44	Ca	45	0.906	249	10.0	50	100	
47	Ti	45	-0.008	1	173.2	4	3	
51	V	45	-0.036	2316	8.1	4	3	
52	Cr	45	-0.016	1983	3.7	2	2	
55	Mn	45	-0.171	360	12.1	2	3	
56	Fe	45	-1.175	11419	2.5	50	50	
59	Co	72	-0.004	93	3.6	2	3	
60	Ni	72	0.008	453	3.7	2	3	
63	Cu	72	-0.129	2740	7.3	2	2	
66	Zn	72	0.047	379	9.2	4	2	
75	As	72	-0.007	154	16.5	2	2	
78	Se	72	0.011	77	18.9	1	2	
88	Sr	115	-0.008	116	28.9	4	3	
95	Mo	115	-0.003	36	37.9	2	2	
107	Ag	115	0.002	122	22.0	0.4	1	
111	Cd	115	-0.001	8	107.8	0.4	0.3	
118	Sn	115	-0.027	1132	6.9	4	3	
121	Sb	115	-0.005	180	38.3	2	0.8	
137	Ba	115	-0.007	22	48.2	2	3	
205	Tl	209	-0.004	194	12.9	2	0.5	
208	Pb	209	-0.030	3948	5.4	0.4	0.3	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	992459	0.15	989663	100.28	70	120	
72	Ge	749087	0.80	739879	101.24	70	120	
115	In	6765962	1.39	6565136	103.06	70	120	
209	Bi	15607134	1.04	15222533	102.53	70	120	

Method Blank Report

Date Acquired	5/16/16 1:10 PM	Sample Name	MB-75006
Data Batch	160516.b	Comment	MBLKICPMS_TSDOD1
Data File Name	056_PB.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	-0.146	12	50.00		
9	Be	45	0.005	2	65.47		
11	B	45	2.415	198	10.83		
23	Na	45	6.305	57904	1.24		
24	Mg	45	1.447	1307	7.45		
27	Al	45	6.560	1072	10.13		
39	K	45	4.983	52785	1.07		
44	Ca	45	25.949	787	4.64		
47	Ti	45	0.193	30	11.10		
51	V	45	0.012	2545	7.63		
52	Cr	45	-0.019	1957	3.40		
55	Mn	45	-0.169	366	12.04		
56	Fe	45	1.612	25517	1.62		
59	Co	72	-0.001	122	41.39		
60	Ni	72	0.896	2752	6.12		
63	Cu	72	0.027	3805	4.06		
66	Zn	72	2.641	3396	3.83		
75	As	72	0.006	164	15.30		
78	Se	72	0.019	76	11.54		
88	Sr	115	0.105	603	7.25		
95	Mo	115	0.015	107	29.81		
107	Ag	115	0.003	132	16.21		
111	Cd	115	0.001	11	45.82		
118	Sn	115	3.710	14888	0.24		
121	Sb	115	0.015	292	11.71		
137	Ba	115	0.033	93	14.29		
205	Tl	209	-0.003	228	16.18		
208	Pb	209	0.087	8113	4.64		

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	989768	0.68	989663	100.01	70	120	
72	Ge	732862	0.79	739879	99.05	70	120	
115	In	6675589	0.28	6565136	101.68	70	120	
209	Bi	16015037	1.36	15222533	105.21	70	120	

Laboratory Control Sample (LCS) Report

Date Acquired	5/16/2016 13:12	Sample Name	LCS-75006
Data Batch	160516.b	Comment	LCS ICPMS_TSDOD1
Data File Name	057_LS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	209.944	9921	1.65	200	105.0	80	120	
9	Be	45	206.367	12884	1.01	200	103.2	80	120	
11	B	45	208.122	4276	1.34	200	104.1	80	120	
23	Na	45	5237.709	3936752	1.49	1000	523.8	80	120	Fail
24	Mg	45	5226.543	1917199	0.61	1000	522.7	80	120	Fail
27	Al	45	1023.887	134300	0.46	1000	102.4	80	120	
39	K	45	5185.325	1967489	1.09	1000	518.5	80	120	Fail
44	Ca	45	4923.988	104003	1.35	1000	492.4	80	120	Fail
47	Ti	45	207.009	29250	1.03	200	103.5	80	120	
51	V	45	208.631	1011485	0.38	200	104.3	80	120	
52	Cr	45	210.321	1221452	0.44	200	105.2	80	120	
55	Mn	45	204.962	639471	1.17	200	102.5	80	120	
56	Fe	45	1005.837	5018600	0.96	1000	100.6	80	120	
59	Co	72	212.928	2009387	0.97	200	106.5	80	120	
60	Ni	72	213.025	554460	0.43	200	106.5	80	120	
63	Cu	72	211.182	1519571	0.47	200	105.6	80	120	
66	Zn	72	209.961	245013	0.37	200	105.0	80	120	
75	As	72	206.420	203729	0.78	200	103.2	80	120	
78	Se	72	207.574	11540	0.76	200	103.8	80	120	
88	Sr	115	201.554	843090	0.77	200	100.8	80	120	
95	Mo	115	203.315	782237	0.32	200	101.7	80	120	
107	Ag	115	204.282	2472298	0.23	200	102.1	80	120	
111	Cd	115	206.011	359420	0.15	200	103.0	80	120	
118	Sn	115	211.760	760125	0.88	200	105.9	80	120	
121	Sb	115	203.526	1126727	0.71	200	101.8	80	120	
137	Ba	115	206.707	361137	1.07	200	103.4	80	120	
205	Tl	209	208.998	5189092	0.67	200	104.5	80	120	
208	Pb	209	205.479	6898435	1.16	200	102.7	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	970404	0.80	989663	98.05	70	120	
72	Ge	732468	0.57	739879	99.00	70	120	
115	In	6493298	1.62	6565136	98.91	70	120	
209	Bi	15481261	2.76	15222533	101.70	70	120	

Laboratory Control Sample (LCS) Report

Date Acquired	5/16/2016 13:14	Sample Name	LCSD-75006
Data Batch	160516.b	Comment	LCSDICPMS_TSDOD1
Data File Name	058_LS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	207.884	9790	1.78	200	103.9	80	120	
9	Be	45	209.962	13063	0.88	200	105.0	80	120	
11	B	45	208.625	4272	5.15	200	104.3	80	120	
23	Na	45	5183.054	3882782	0.22	1000	518.3	80	120	Fail
24	Mg	45	5157.745	1885329	0.26	1000	515.8	80	120	Fail
27	Al	45	1012.501	132349	0.21	1000	101.3	80	120	
39	K	45	5106.947	1931794	0.83	1000	510.7	80	120	Fail
44	Ca	45	4900.715	103151	1.63	1000	490.1	80	120	Fail
47	Ti	45	204.847	28844	1.06	200	102.4	80	120	
51	V	45	206.156	996055	1.12	200	103.1	80	120	
52	Cr	45	207.067	1198447	0.64	200	103.5	80	120	
55	Mn	45	202.790	630455	0.61	200	101.4	80	120	
56	Fe	45	998.242	4963385	0.31	1000	99.8	80	120	
59	Co	72	213.369	1984897	0.53	200	106.7	80	120	
60	Ni	72	214.072	549238	1.47	200	107.0	80	120	
63	Cu	72	210.965	1496329	0.84	200	105.5	80	120	
66	Zn	72	209.358	240821	0.60	200	104.7	80	120	
75	As	72	205.413	199838	0.76	200	102.7	80	120	
78	Se	72	205.781	11277	0.65	200	102.9	80	120	
88	Sr	115	197.382	832329	0.24	200	98.7	80	120	
95	Mo	115	198.127	768348	0.52	200	99.1	80	120	
107	Ag	115	201.339	2456251	0.68	200	100.7	80	120	
111	Cd	115	203.225	357380	0.59	200	101.6	80	120	
118	Sn	115	207.461	750676	0.31	200	103.7	80	120	
121	Sb	115	201.420	1124074	0.55	200	100.7	80	120	
137	Ba	115	201.315	354570	0.64	200	100.7	80	120	
205	Tl	209	209.481	5110641	1.07	200	104.7	80	120	
208	Pb	209	208.125	6864665	0.12	200	104.1	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	966996	0.53	989663	97.71	70	120	
72	Ge	722003	0.48	739879	97.58	70	120	
115	In	6545303	1.51	6565136	99.70	70	120	
209	Bi	15205868	0.85	15222533	99.89	70	120	

Dilution Sample (Dil) Report

Date Acquired	5/16/2016 13:20	Sample Name	1605034-09A SD
Data Batch	160516.b	Comment	SD ICPMS_TSDOD1
Data File Name	061_SD.d	Dilution	25

Mass	Name	IS	Conc	CPS	%RSD	Ref Value	%Rec	Low	High	Flag
7	Li	45	26.640	1276	2.83	134.8	98.8	110	90	Good
9	Be	45	0.673	44	17.75	3.3	102.3	110	90	Good
11	B	45	35.106	843	2.05	175.1	100.3	110	90	Good
23	Na	45	1341.138	1047781	1.49	6535.8	102.6	110	90	Good
24	Mg	45	3494.518	1283260	1.37	16837.3	103.8	110	90	Good
27	Al	45	14690.969	1926174	0.39	73374.6	100.1	110	90	Good
39	K	45	3527.955	1355883	1.85	17339.4	101.7	110	90	Good
44	Ca	45	12320.196	260127	0.90	60377.4	102.0	110	90	Good
47	Ti	45	34.854	4931	3.30	169.9	102.5	110	90	Good
51	V	45	24.533	121203	0.96	120.9	101.5	110	90	Good
52	Cr	45	17.126	101420	1.31	83.9	102.1	110	90	Good
55	Mn	45	28.811	90727	2.44	139.3	103.4	110	90	Good
56	Fe	45	20147.777	100294176	1.66	98301.1	102.5	110	90	Good
59	Co	72	3.980	37400	1.12	19.4	102.8	110	90	Good
60	Ni	72	7.622	20089	0.89	37.0	103.1	110	90	Good
63	Cu	72	3.147	25995	1.12	15.5	101.6	110	90	Good
66	Zn	72	44.997	52356	1.83	213.7	105.3	110	90	Good
75	As	72	4.484	4546	2.63	22.1	101.5	110	90	Good
78	Se	72	1.288	145	16.44	4.8	132.8	110	90	
88	Sr	115	131.704	559348	0.67	658.1	100.1	110	90	Good
95	Mo	115	0.163	686	4.41	0.8	106.6	110	90	Good
107	Ag	115	0.015	281	20.96	0.0	213.5	110	90	
111	Cd	115	0.019	44	33.82	0.1	96.8	110	90	Good
118	Sn	115	0.928	4576	2.48	5.4	86.0	110	90	
121	Sb	115	0.052	497	12.54	0.2	141.5	110	90	
137	Ba	115	16.132	28651	2.10	81.5	99.0	110	90	Good
205	Tl	209	0.091	2566	0.20	0.4	107.4	110	90	Good
208	Pb	209	8.477	290720	0.93	42.2	100.5	110	90	Good

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	971239	0.33	989663	98.14	70	120	
72	Ge	726881	0.26	739879	98.24	70	120	
115	In	6592914	2.11	6565136	100.42	70	120	
209	Bi	15555554	1.23	15222533	102.19	70	120	

Post Digestion Spike Sample (PDS) Report

Date Acquired	5/16/2016 13:40	Sample Name	1605034-09A PDS
Data Batch	160516.b	Comment	PDS ICPMS_TSDOD1
Data File Name	071_PDS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
7	Li	45	333.603	14929	0.57	134.8	200	99.4	75	125	
9	Be	45	199.550	11806	0.84	3.3	200	98.1	75	125	
11	B	45	363.902	6980	2.96	175.1	200	94.4	75	125	
23	Na	45	11259.262	7963257	2.07	6535.8	5000	94.5	75	125	
24	Mg	45	21484.494	7465063	3.08	16837.3	5000	92.9	75	125	
27	Al	45	76254.063	9464344	1.62	73374.6	5000	57.6	75	125	Fail
39	K	45	22399.065	7897508	0.83	17339.4	5000	101.2	75	125	
44	Ca	45	64626.998	1291046	0.41	60377.4	5000	85.0	75	125	
47	Ti	45	368.848	49389	1.00	169.9	200	99.5	75	125	
51	V	45	319.957	1468813	0.62	120.9	200	99.5	75	125	
52	Cr	45	284.913	1567370	0.63	83.9	200	100.5	75	125	
55	Mn	45	325.385	961526	1.10	139.3	200	93.0	75	125	
56	Fe	45	########	483426221	1.94	98301.1	5000	85.5	75	125	
59	Co	72	219.507	1933532	1.74	19.4	200	100.1	75	125	
60	Ni	72	231.557	562479	1.26	37.0	200	97.3	75	125	
63	Cu	72	207.702	1394917	0.67	15.5	200	96.1	75	125	
66	Zn	72	408.096	444204	0.95	213.7	200	97.2	75	125	
75	As	72	221.100	203668	1.34	22.1	200	99.5	75	125	
78	Se	72	198.308	10292	0.87	4.8	200	96.7	75	125	
88	Sr	115	864.726	3346085	1.40	658.1	200	103.3	75	125	
95	Mo	115	197.110	701583	0.78	0.8	200	98.2	75	125	
107	Ag	115	184.889	2070097	0.89	0.0	200	92.4	75	125	
111	Cd	115	192.671	310976	0.84	0.1	200	96.3	75	125	
118	Sn	115	212.209	704715	0.27	5.4	200	103.4	75	125	
121	Sb	115	199.393	1021239	0.53	0.2	200	99.6	75	125	
137	Ba	115	280.531	453461	0.67	81.5	200	99.5	75	125	
205	Tl	209	204.741	4567036	0.97	0.4	200	102.2	75	125	
208	Pb	209	245.105	7390663	0.39	42.2	200	101.5	75	125	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	919593	0.91	989663	92.92	70	120	
72	Ge	683645	1.04	739879	92.40	70	120	
115	In	6006664	0.89	6565136	91.49	70	120	
209	Bi	13902007	0.54	15222533	91.33	70	120	

Matrix Spike Sample (MS) Report

Date Acquired	5/16/2016 13:42	Sample Name	1605034-09A MS
Data Batch	160516.b	Comment	MS ICPMS_TSDOD1
Data File Name	072_MSS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
7	Li	45	334.787	15092	0.78	134.8	200	100.0	80	120	
9	Be	45	196.459	11710	0.95	3.3	200	96.6	80	120	
11	B	45	364.078	7037	2.00	175.1	200	94.5	80	120	
23	Na	45	12070.592	8596574	0.79	6535.8	1000	553.5	80	120	Fail
24	Mg	45	22789.795	7977364	1.24	16837.3	1000	595.2	80	120	Fail
27	Al	45	85785.137	10726957	0.60	73374.6	1000	1241.1	80	120	Fail
39	K	45	22708.720	8065917	2.30	17339.4	1000	536.9	80	120	Fail
44	Ca	45	73115.949	1471358	0.30	60377.4	1000	1273.9	80	120	Fail
47	Ti	45	258.838	34916	2.92	169.9	200	44.5	80	120	Fail
51	V	45	334.371	1546245	1.11	120.9	200	106.7	80	120	
52	Cr	45	289.487	1604306	1.20	83.9	200	102.8	80	120	
55	Mn	45	329.353	980435	1.48	139.3	200	95.0	80	120	
56	Fe	45	########	534186859	2.86	98301.1	1000	1421.2	80	120	Fail
59	Co	72	220.444	1946431	1.24	19.4	200	100.5	80	120	
60	Ni	72	236.094	574920	1.17	37.0	200	99.6	80	120	
63	Cu	72	215.249	1449006	0.66	15.5	200	99.9	80	120	
66	Zn	72	431.091	470375	1.05	213.7	200	108.7	80	120	
75	As	72	224.408	207200	0.51	22.1	200	101.2	80	120	
78	Se	72	196.949	10247	0.74	4.8	200	96.1	80	120	
88	Sr	115	787.560	3061934	0.66	658.1	200	64.8	80	120	Fail
95	Mo	115	177.496	634779	0.35	0.8	200	88.4	80	120	
107	Ag	115	194.406	2187046	0.62	0.0	200	97.2	80	120	
111	Cd	115	196.122	318047	0.82	0.1	200	98.0	80	120	
118	Sn	115	202.110	674396	1.40	5.4	200	98.4	80	120	
121	Sb	115	59.744	307567	2.24	0.2	200	29.8	80	120	Fail
137	Ba	115	282.677	459086	1.14	81.5	200	100.6	80	120	
205	Tl	209	199.998	4584911	0.51	0.4	200	99.8	80	120	
208	Pb	209	243.308	7540652	0.99	42.2	200	100.6	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	926378	0.96	989663	93.61	70	120	
72	Ge	685316	0.91	739879	92.63	70	120	
115	In	6034722	0.26	6565136	91.92	70	120	
209	Bi	14293476	2.72	15222533	93.90	70	120	

Matrix Spike Sample (MS) Report

Date Acquired	5/16/2016 13:44	Sample Name	1605034-09A MSD
Data Batch	160516.b	Comment	MSD ICPMS_TSDOD1
Data File Name	073_MSS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
7	Li	45	334.807	15319	0.79	134.8	200	100.0	80	120	
9	Be	45	197.628	11955	0.63	3.3	200	97.2	80	120	
11	B	45	367.083	7199	1.24	175.1	200	96.0	80	120	
23	Na	45	12120.945	8761353	2.21	6535.8	1000	558.5	80	120	Fail
24	Mg	45	22881.031	8129418	0.65	16837.3	1000	604.4	80	120	Fail
27	Al	45	81820.065	10384114	1.50	73374.6	1000	844.6	80	120	Fail
39	K	45	22745.606	8199060	2.36	17339.4	1000	540.6	80	120	Fail
44	Ca	45	64325.791	1313856	1.03	60377.4	1000	394.8	80	120	Fail
47	Ti	45	272.580	37316	2.10	169.9	200	51.3	80	120	Fail
51	V	45	327.263	1535923	0.43	120.9	200	103.2	80	120	
52	Cr	45	285.177	1603976	0.11	83.9	200	100.7	80	120	
55	Mn	45	335.991	1015037	0.17	139.3	200	98.3	80	120	
56	Fe	45	########	505742540	1.83	98301.1	1000	666.7	80	120	Fail
59	Co	72	220.595	1969623	1.18	19.4	200	100.6	80	120	
60	Ni	72	235.750	580505	0.47	37.0	200	99.4	80	120	
63	Cu	72	213.306	1452078	0.35	15.5	200	98.9	80	120	
66	Zn	72	419.979	463373	0.88	213.7	200	103.2	80	120	
75	As	72	220.613	205993	0.30	22.1	200	99.3	80	120	
78	Se	72	198.769	10457	1.41	4.8	200	97.0	80	120	
88	Sr	115	790.029	3117285	0.26	658.1	200	66.0	80	120	Fail
95	Mo	115	175.082	635454	0.42	0.8	200	87.2	80	120	
107	Ag	115	194.843	2224669	0.75	0.0	200	97.4	80	120	
111	Cd	115	196.720	323764	0.60	0.1	200	98.3	80	120	
118	Sn	115	199.467	675482	0.30	5.4	200	97.0	80	120	
121	Sb	115	57.570	300801	0.31	0.2	200	28.7	80	120	Fail
137	Ba	115	287.418	473748	0.86	81.5	200	103.0	80	120	
205	Tl	209	203.827	4601821	0.90	0.4	200	101.7	80	120	
208	Pb	209	249.705	7621002	1.25	42.2	200	103.8	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	940177	0.43	989663	95.00	70	120	
72	Ge	692978	0.20	739879	93.66	70	120	
115	In	6124954	1.14	6565136	93.30	70	120	
209	Bi	14071667	1.48	15222533	92.44	70	120	

Continuing Calibration Verification (CCV) Report

Date Acquired	5/16/2016 13:46	Sample Name	CCV1-160516
Data Batch	160516.b	Comment	CCV ICPMS_TW
Data File Name	074_CCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	209.695	9481	0.51	200	104.8	90	110	
9	Be	45	205.110	12253	0.74	200	102.6	90	110	
11	B	45	206.377	4057	4.27	200	103.2	90	110	
23	Na	45	5106.625	3673844	0.35	5000	102.1	90	110	
24	Mg	45	5020.981	1762261	0.22	5000	100.4	90	110	
27	Al	45	4809.347	602962	1.31	5000	96.2	90	110	
39	K	45	4998.473	1816524	0.30	5000	100.0	90	110	
44	Ca	45	4653.452	94065	1.15	5000	93.1	90	110	
47	Ti	45	200.562	27114	1.25	200	100.3	90	110	
51	V	45	199.852	927228	0.75	200	99.9	90	110	
52	Cr	45	202.006	1122662	0.98	200	101.0	90	110	
55	Mn	45	196.971	588019	0.76	200	98.5	90	110	
56	Fe	45	4984.138	23730162	0.88	5000	99.7	90	110	
59	Co	72	206.099	1856924	0.63	200	103.0	90	110	
60	Ni	72	207.112	514673	0.72	200	103.6	90	110	
63	Cu	72	206.916	1421556	0.21	200	103.5	90	110	
66	Zn	72	205.297	228724	0.68	200	102.6	90	110	
75	As	72	201.853	190213	0.43	200	100.9	90	110	
78	Se	72	198.619	10545	0.60	200	99.3	90	110	
88	Sr	115	192.983	791908	0.15	200	96.5	90	110	
95	Mo	115	195.082	736231	0.53	200	97.5	90	110	
107	Ag	115	201.631	2393789	0.25	200	100.8	90	110	
111	Cd	115	198.022	338891	0.76	200	99.0	90	110	
118	Sn	115	196.732	692801	0.28	200	98.4	90	110	
121	Sb	115	198.003	1075274	0.65	200	99.0	90	110	
137	Ba	115	194.735	333740	1.62	200	97.4	90	110	
205	Tl	209	201.942	4866803	0.48	200	101.0	90	110	
208	Pb	209	198.484	6466924	0.23	200	99.2	90	110	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	928507	0.89	989663	93.82	70	120	
72	Ge	699337	0.87	739879	94.52	70	120	
115	In	6368736	0.83	6565136	97.01	70	120	
209	Bi	15021348	1.41	15222533	98.68	70	120	

Low Level Calibration Verification (LLCV) Report

Date Acquired	5/16/2016 13:54	Sample Name	LCVL1-160516
Data Batch	160516.b	Comment	LCVLICPMS_TW
Data File Name	076LCCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	10.263	471	7.65	10	102.6	70	130	
9	Be	45	1.052	63	9.12	1	105.2	70	130	
11	B	45	23.964	582	6.18	20	119.8	70	130	
23	Na	45	106.088	122505	0.07	100	106.1	70	130	
24	Mg	45	101.096	35425	2.20	100	101.1	70	130	
27	Al	45	100.459	12505	1.58	100	100.5	70	130	
39	K	45	95.468	79821	1.13	100	95.5	70	130	
44	Ca	45	102.467	2233	4.69	100	102.5	70	130	
47	Ti	45	5.686	754	0.92	5	113.7	70	130	
51	V	45	0.895	6337	2.56	1	89.5	70	130	
52	Cr	45	5.191	30094	1.68	5	103.8	70	130	
55	Mn	45	4.733	14641	0.97	5	94.7	70	130	
56	Fe	45	96.494	465380	0.29	100	96.5	70	130	
59	Co	72	5.193	46491	2.05	5	103.9	70	130	
60	Ni	72	5.211	13222	0.39	5	104.2	70	130	
63	Cu	72	5.077	37896	0.35	5	101.5	70	130	
66	Zn	72	5.065	5884	1.66	5	101.3	70	130	
75	As	72	4.981	4797	1.58	5	99.6	70	130	
78	Se	72	5.124	339	6.38	5	102.5	70	130	
88	Sr	115	4.889	19577	1.64	5	97.8	70	130	
95	Mo	115	4.784	17541	1.98	5	95.7	70	130	
107	Ag	115	1.925	22237	1.79	2	96.2	70	130	
111	Cd	115	0.948	1582	5.17	1	94.8	70	130	
118	Sn	115	4.834	17596	0.91	5	96.7	70	130	
121	Sb	115	1.958	10494	2.37	2	97.9	70	130	
137	Ba	115	4.925	8211	3.17	5	98.5	70	130	
205	Tl	209	1.037	23711	1.77	1	103.7	70	130	
208	Pb	209	1.008	35274	2.34	1	100.8	70	130	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	908967	0.56	989663	91.85	70	120	
72	Ge	693086	1.07	739879	93.68	70	120	
115	In	6172107	0.18	6565136	94.01	70	120	
209	Bi	14093720	2.54	15222533	92.58	70	120	

Continuing Calibration Blank (CCB) Report

Date Acquired	5/16/2016 13:58	Sample Name	CCB1-160516
Data Batch	160516.b	Comment	CCB ICPMS_TW
Data File Name	077_CCB.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	MDL S	MDL Aq	QC Flag
7	Li	45	-0.178	10	31.6	2	5	
9	Be	45	0.031	4	87.7	0.4	0.3	
11	B	45	2.793	190	29.3	10	10	
23	Na	45	5.850	53156	0.4	50	100	
24	Mg	45	-1.195	294	8.2	50	100	
27	Al	45	0.177	202	17.2	50	10	
39	K	45	-2.921	45993	0.6	50	100	
44	Ca	45	4.532	301	13.9	50	100	
47	Ti	45	0.018	4	43.4	4	3	
51	V	45	-0.137	1673	3.4	4	3	
52	Cr	45	0.000	1912	3.3	2	2	
55	Mn	45	-0.151	390	5.6	2	3	
56	Fe	45	-0.961	11519	2.0	50	50	
59	Co	72	-0.005	72	46.2	2	3	
60	Ni	72	0.019	447	18.7	2	3	
63	Cu	72	-0.092	2800	6.5	2	2	
66	Zn	72	0.080	389	12.5	4	2	
75	As	72	-0.039	114	6.0	2	2	
78	Se	72	0.347	90	7.0	1	2	
88	Sr	115	-0.002	132	11.4	4	3	
95	Mo	115	0.002	53	59.6	2	2	
107	Ag	115	0.008	183	4.8	0.4	1	
111	Cd	115	0.002	12	68.7	0.4	0.3	
118	Sn	115	-0.093	811	1.0	4	3	
121	Sb	115	0.029	349	19.0	2	0.8	
137	Ba	115	-0.007	20	66.7	2	3	
205	Tl	209	0.006	407	3.0	2	0.5	
208	Pb	209	-0.006	4324	2.7	0.4	0.3	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	913989	0.76	989663	92.35	70	120	
72	Ge	695826	1.03	739879	94.05	70	120	
115	In	6207349	1.28	6565136	94.55	70	120	
209	Bi	14220201	0.47	15222533	93.42	70	120	

Continuing Calibration Verification (CCV) Report

Date Acquired	5/16/2016 14:20	Sample Name	CCV2-160516
Data Batch	160516.b	Comment	CCV ICPMS_TW
Data File Name	088_CCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	213.033	9240	0.78	200	106.5	90	110	
9	Be	45	213.059	12210	1.37	200	106.5	90	110	
11	B	45	210.257	3965	5.16	200	105.1	90	110	
23	Na	45	5186.963	3578726	0.72	5000	103.7	90	110	
24	Mg	45	5136.646	1729446	1.20	5000	102.7	90	110	
27	Al	45	4901.582	589439	0.63	5000	98.0	90	110	
39	K	45	5108.327	1779741	0.55	5000	102.2	90	110	
44	Ca	45	4758.506	92256	0.35	5000	95.2	90	110	
47	Ti	45	202.045	26202	1.44	200	101.0	90	110	
51	V	45	203.964	907653	0.60	200	102.0	90	110	
52	Cr	45	206.157	1098834	0.46	200	103.1	90	110	
55	Mn	45	201.004	575528	0.37	200	100.5	90	110	
56	Fe	45	5062.950	23120077	1.09	5000	101.3	90	110	
59	Co	72	208.057	1823033	0.48	200	104.0	90	110	
60	Ni	72	207.396	501213	0.47	200	103.7	90	110	
63	Cu	72	208.061	1390045	0.62	200	104.0	90	110	
66	Zn	72	205.378	222535	0.99	200	102.7	90	110	
75	As	72	204.385	187302	0.95	200	102.2	90	110	
78	Se	72	199.465	10299	2.59	200	99.7	90	110	
88	Sr	115	193.617	766049	0.24	200	96.8	90	110	
95	Mo	115	196.104	713617	0.18	200	98.1	90	110	
107	Ag	115	202.307	2315877	0.31	200	101.2	90	110	
111	Cd	115	197.206	325392	0.77	200	98.6	90	110	
118	Sn	115	197.488	670571	1.04	200	98.7	90	110	
121	Sb	115	200.009	1047389	0.79	200	100.0	90	110	
137	Ba	115	194.789	321899	0.74	200	97.4	90	110	
205	Tl	209	202.318	4673824	0.52	200	101.2	90	110	
208	Pb	209	199.925	6244306	0.31	200	100.0	90	110	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	890725	1.58	989663	90.00	70	120	
72	Ge	680078	0.51	739879	91.92	70	120	
115	In	6141454	1.52	6565136	93.55	70	120	
209	Bi	14398494	0.91	15222533	94.59	70	120	

Low Level Calibration Verification (LLCV) Report

Date Acquired	5/16/2016 14:25	Sample Name	LCVL2-160516
Data Batch	160516.b	Comment	LCVLICPMS_TW
Data File Name	090LCCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	10.684	508	6.14	10	106.8	70	130	
9	Be	45	0.913	57	12.86	1	91.3	70	130	
11	B	45	25.649	637	4.16	20	128.2	70	130	
23	Na	45	101.337	123703	0.30	100	101.3	70	130	
24	Mg	45	98.535	35850	0.56	100	98.5	70	130	
27	Al	45	95.191	12306	1.03	100	95.2	70	130	
39	K	45	94.245	82395	1.70	100	94.2	70	130	
44	Ca	45	96.283	2191	2.65	100	96.3	70	130	
47	Ti	45	4.772	658	11.27	5	95.4	70	130	
51	V	45	0.872	6468	3.31	1	87.2	70	130	
52	Cr	45	5.122	30844	1.45	5	102.4	70	130	
55	Mn	45	4.683	15045	2.31	5	93.7	70	130	
56	Fe	45	97.005	485419	0.45	100	97.0	70	130	
59	Co	72	5.216	48012	0.86	5	104.3	70	130	
60	Ni	72	5.377	14016	0.74	5	107.5	70	130	
63	Cu	72	5.035	38673	0.28	5	100.7	70	130	
66	Zn	72	5.111	6105	6.53	5	102.2	70	130	
75	As	72	5.104	5051	0.63	5	102.1	70	130	
78	Se	72	4.867	335	14.84	5	97.3	70	130	
88	Sr	115	4.930	20190	1.55	5	98.6	70	130	
95	Mo	115	4.782	17932	1.64	5	95.6	70	130	
107	Ag	115	1.968	23257	3.54	2	98.4	70	130	
111	Cd	115	0.982	1675	1.55	1	98.2	70	130	
118	Sn	115	4.833	17991	0.43	5	96.7	70	130	
121	Sb	115	1.965	10774	4.26	2	98.3	70	130	
137	Ba	115	4.941	8425	3.09	5	98.8	70	130	
205	Tl	209	0.968	23957	0.43	1	96.8	70	130	
208	Pb	209	0.937	35793	1.11	1	93.7	70	130	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	943274	0.57	989663	95.31	70	120	
72	Ge	712639	0.65	739879	96.32	70	120	
115	In	6312100	0.56	6565136	96.15	70	120	
209	Bi	15245130	2.67	15222533	100.15	70	120	

Continuing Calibration Blank (CCB) Report

Date Acquired	5/16/2016 14:30	Sample Name	CCB2-160516
Data Batch	160516.b	Comment	CCB ICPMS_TW
Data File Name	091_CCB.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	MDL S	MDL Aq	QC Flag
7	Li	45	-0.129	12	50.7	2	5	
9	Be	45	0.019	3	33.3	0.4	0.3	
11	B	45	3.155	199	4.2	10	10	
23	Na	45	3.498	52147	2.0	50	100	
24	Mg	45	-1.081	338	21.7	50	100	
27	Al	45	0.164	203	13.4	50	10	
39	K	45	-4.378	46046	1.4	50	100	
44	Ca	45	1.363	241	22.1	50	100	
47	Ti	45	0.042	8	89.2	4	3	
51	V	45	-0.173	1527	5.6	4	3	
52	Cr	45	-0.004	1912	1.4	2	2	
55	Mn	45	-0.165	356	11.8	2	3	
56	Fe	45	-0.836	12254	2.8	50	50	
59	Co	72	-0.007	54	18.7	2	3	
60	Ni	72	0.009	424	9.6	2	3	
63	Cu	72	-0.108	2702	1.7	2	2	
66	Zn	72	0.029	333	16.7	4	2	
75	As	72	-0.046	108	7.9	2	2	
78	Se	72	0.271	86	9.2	1	2	
88	Sr	115	-0.003	128	13.4	4	3	
95	Mo	115	-0.002	39	47.2	2	2	
107	Ag	115	0.004	140	14.5	0.4	1	
111	Cd	115	0.004	16	24.8	0.4	0.3	
118	Sn	115	-0.139	660	3.6	4	3	
121	Sb	115	-0.001	189	24.3	2	0.8	
137	Ba	115	-0.008	18	43.3	2	3	
205	Tl	209	-0.001	274	7.9	2	0.5	
208	Pb	209	-0.045	3275	2.7	0.4	0.3	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	925238	0.43	989663	93.49	70	120	
72	Ge	698858	0.63	739879	94.46	70	120	
115	In	6255951	2.77	6565136	95.29	70	120	
209	Bi	14909903	2.36	15222533	97.95	70	120	

Method Blank Report

Date Acquired	5/16/16 2:32 PM	Sample Name	MB-75009
Data Batch	160516.b	Comment	MBLKICPMS_TSDOD1
Data File Name	092_PB.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	0.027	19	32.73		
9	Be	45	0.009	2	65.47		
11	B	45	2.637	186	23.92		
23	Na	45	6.956	53588	2.18		
24	Mg	45	2.038	1402	4.55		
27	Al	45	8.923	1273	3.40		
39	K	45	2.983	47748	0.98		
44	Ca	45	36.523	930	11.30		
47	Ti	45	0.153	22	31.22		
51	V	45	-0.142	1638	2.06		
52	Cr	45	-0.018	1805	8.99		
55	Mn	45	-0.072	620	3.88		
56	Fe	45	3.338	31454	2.81		
59	Co	72	-0.005	73	25.31		
60	Ni	72	0.023	453	5.15		
63	Cu	72	0.026	3572	4.89		
66	Zn	72	2.765	3328	3.78		
75	As	72	-0.042	110	16.39		
78	Se	72	0.144	78	17.13		
88	Sr	115	0.109	580	12.29		
95	Mo	115	0.009	80	4.16		
107	Ag	115	0.005	154	10.65		
111	Cd	115	-0.004	2	86.60		
118	Sn	115	3.533	13375	1.33		
121	Sb	115	0.026	336	8.45		
137	Ba	115	0.051	118	26.30		
205	Tl	209	-0.003	224	18.15		
208	Pb	209	0.049	6332	6.50		

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	908247	0.34	989663	91.77	70	120	
72	Ge	688962	0.91	739879	93.12	70	120	
115	In	6273036	1.35	6565136	95.55	70	120	
209	Bi	14910407	0.24	15222533	97.95	70	120	

Laboratory Control Sample (LCS) Report

Date Acquired	5/16/2016 14:34	Sample Name	LCS-75009
Data Batch	160516.b	Comment	LCS ICPMS_TSDOD1
Data File Name	093_LS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	208.024	9142	1.19	200	104.0	80	120	
9	Be	45	205.622	11939	3.25	200	102.8	80	120	
11	B	45	194.547	3726	1.82	200	97.3	80	120	
23	Na	45	5164.230	3610071	0.08	1000	516.4	80	120	Fail
24	Mg	45	5067.667	1728543	1.12	1000	506.8	80	120	Fail
27	Al	45	983.135	119920	0.60	1000	98.3	80	120	
39	K	45	5059.248	1786212	0.29	1000	505.9	80	120	Fail
44	Ca	45	4753.182	93367	0.49	1000	475.3	80	120	Fail
47	Ti	45	200.060	26287	1.96	200	100.0	80	120	
51	V	45	203.459	917352	1.03	200	101.7	80	120	
52	Cr	45	204.354	1103705	0.95	200	102.2	80	120	
55	Mn	45	197.674	573523	1.48	200	98.8	80	120	
56	Fe	45	985.714	4573618	0.63	1000	98.6	80	120	
59	Co	72	208.060	1826727	0.33	200	104.0	80	120	
60	Ni	72	208.232	504243	0.33	200	104.1	80	120	
63	Cu	72	207.062	1386187	1.33	200	103.5	80	120	
66	Zn	72	205.376	222975	2.04	200	102.7	80	120	
75	As	72	200.553	184155	0.52	200	100.3	80	120	
78	Se	72	194.783	10078	0.11	200	97.4	80	120	
88	Sr	115	192.224	755668	0.80	200	96.1	80	120	
95	Mo	115	198.636	718181	0.25	200	99.3	80	120	
107	Ag	115	198.125	2253487	0.63	200	99.1	80	120	
111	Cd	115	198.571	325603	0.77	200	99.3	80	120	
118	Sn	115	200.894	677734	0.30	200	100.4	80	120	
121	Sb	115	195.706	1018319	0.64	200	97.9	80	120	
137	Ba	115	193.616	317914	0.78	200	96.8	80	120	
205	Tl	209	200.363	4622373	0.35	200	100.2	80	120	
208	Pb	209	198.232	6183218	0.67	200	99.1	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	902361	1.03	989663	91.18	70	120	
72	Ge	681425	0.16	739879	92.10	70	120	
115	In	6103148	2.16	6565136	92.96	70	120	
209	Bi	14379141	0.99	15222533	94.46	70	120	

Laboratory Control Sample (LCS) Report

Date Acquired	5/16/2016 14:36	Sample Name	LCSD-75009
Data Batch	160516.b	Comment	LCSDICPMS_TSDOD1
Data File Name	094_LS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	213.775	9357	0.60	200	106.9	80	120	
9	Be	45	209.701	12126	0.95	200	104.9	80	120	
11	B	45	207.676	3953	2.69	200	103.8	80	120	
23	Na	45	5184.619	3609957	0.78	1000	518.5	80	120	Fail
24	Mg	45	5093.188	1730354	1.10	1000	509.3	80	120	Fail
27	Al	45	993.991	120770	0.64	1000	99.4	80	120	
39	K	45	5114.530	1798199	0.45	1000	511.5	80	120	Fail
44	Ca	45	4805.621	94033	2.30	1000	480.6	80	120	Fail
47	Ti	45	204.026	26702	0.92	200	102.0	80	120	
51	V	45	207.397	931357	0.62	200	103.7	80	120	
52	Cr	45	208.941	1123987	0.60	200	104.5	80	120	
55	Mn	45	201.998	583733	0.85	200	101.0	80	120	
56	Fe	45	997.168	4608469	0.43	1000	99.7	80	120	
59	Co	72	212.817	1861920	0.25	200	106.4	80	120	
60	Ni	72	211.812	511122	0.96	200	105.9	80	120	
63	Cu	72	210.355	1403204	0.22	200	105.2	80	120	
66	Zn	72	209.372	226501	0.23	200	104.7	80	120	
75	As	72	205.183	187733	0.36	200	102.6	80	120	
78	Se	72	197.546	10184	0.69	200	98.8	80	120	
88	Sr	115	196.237	764524	0.11	200	98.1	80	120	
95	Mo	115	200.506	718468	1.30	200	100.3	80	120	
107	Ag	115	201.869	2275549	1.58	200	100.9	80	120	
111	Cd	115	201.161	326874	1.08	200	100.6	80	120	
118	Sn	115	206.658	690902	0.40	200	103.3	80	120	
121	Sb	115	198.886	1025421	0.45	200	99.4	80	120	
137	Ba	115	197.484	321364	0.37	200	98.7	80	120	
205	Tl	209	205.510	4676829	1.02	200	102.8	80	120	
208	Pb	209	204.328	6286160	0.22	200	102.2	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	898812	0.74	989663	90.82	70	120	
72	Ge	679059	0.95	739879	91.78	70	120	
115	In	6046732	1.04	6565136	92.10	70	120	
209	Bi	14185433	1.91	15222533	93.19	70	120	

Dilution Sample (Dil) Report

Date Acquired	5/16/2016 14:42	Sample Name	1605047-03A SD
Data Batch	160516.b	Comment	SD ICPMS_TSDOD1
Data File Name	097_SD.d	Dilution	25

Mass	Name	IS	Conc	CPS	%RSD	Ref Value	%Rec	Low	High	Flag
7	Li	45	13.410	616	3.67	68.1	98.4	110	90	Good
9	Be	45	0.680	42	16.50	3.0	112.5	110	90	
11	B	45	25.201	611	2.46	101.6	124.0	110	90	
23	Na	45	864.633	655835	0.43	4220.6	102.4	110	90	Good
24	Mg	45	2725.860	946078	0.37	13257.3	102.8	110	90	Good
27	Al	45	9615.652	1191431	0.81	47193.0	101.9	110	90	Good
39	K	45	2757.478	1011743	0.48	13489.0	102.2	110	90	Good
44	Ca	45	35496.402	707830	0.43	174560.5	101.7	110	90	Good
47	Ti	45	30.376	4062	1.93	144.6	105.0	110	90	Good
51	V	45	18.986	89161	0.42	94.5	100.4	110	90	Good
52	Cr	45	12.532	70643	0.57	62.5	100.2	110	90	Good
55	Mn	45	215.981	637257	0.32	1054.3	102.4	110	90	Good
56	Fe	45	13146.525	61841811	2.17	63421.0	103.6	110	90	Good
59	Co	72	5.251	46870	0.39	26.0	100.9	110	90	Good
60	Ni	72	7.315	18345	0.88	36.3	100.6	110	90	Good
63	Cu	72	1.542	13846	1.20	8.4	91.7	110	90	Good
66	Zn	72	27.250	30260	1.39	134.4	101.3	110	90	Good
75	As	72	3.586	3485	2.75	18.1	99.2	110	90	Good
78	Se	72	1.545	151	9.83	5.0	154.3	110	90	
88	Sr	115	80.592	325660	0.35	418.9	96.2	110	90	Good
95	Mo	115	0.394	1510	8.55	2.0	99.3	110	90	Good
107	Ag	115	0.016	277	9.10	0.0	199.4	110	90	
111	Cd	115	0.035	68	2.84	0.2	86.8	110	90	
118	Sn	115	0.674	3478	11.05	4.2	81.2	110	90	
121	Sb	115	0.036	387	13.47	0.2	89.2	110	90	
137	Ba	115	93.091	157093	0.43	473.7	98.3	110	90	Good
205	Tl	209	0.078	2115	1.50	0.4	106.4	110	90	Good
208	Pb	209	4.626	151787	0.51	23.5	98.5	110	90	Good

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	917829	0.67	989663	92.74	70	120	
72	Ge	691021	0.38	739879	93.40	70	120	
115	In	6270566	1.51	6565136	95.51	70	120	
209	Bi	14670653	0.75	15222533	96.37	70	120	

Post Digestion Spike Sample (PDS) Report

Date Acquired	5/16/2016 15:02	Sample Name	1605047-03A PDS
Data Batch	160516.b	Comment	PDS ICPMS_TSDOD1
Data File Name	107_PDS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
7	Li	45	282.252	11626	1.83	68.1	200	107.1	75	125	
9	Be	45	212.962	11596	2.26	3.0	200	105.0	75	125	
11	B	45	320.548	5673	1.66	101.6	200	109.5	75	125	
23	Na	45	9315.548	6070779	1.11	4220.6	5000	101.9	75	125	
24	Mg	45	18371.461	5874203	1.70	13257.3	5000	102.3	75	125	
27	Al	45	53645.260	6128017	1.22	47193.0	5000	129.0	75	125	Fail
39	K	45	18732.800	6083848	1.27	13489.0	5000	104.9	75	125	
44	Ca	45	########	3388838	0.79	174560.5	5000	196.1	75	125	Fail
47	Ti	45	354.886	43727	0.95	144.6	200	105.1	75	125	
51	V	45	303.996	1284201	0.47	94.5	200	104.7	75	125	
52	Cr	45	273.854	1386360	1.01	62.5	200	105.7	75	125	
55	Mn	45	1296.284	3522368	0.76	1054.3	200	121.0	75	125	
56	Fe	45	71675.280	310799197	0.37	63421.0	5000	165.1	75	125	Fail
59	Co	72	237.740	1924720	1.05	26.0	200	105.9	75	125	
60	Ni	72	241.924	540132	1.04	36.3	200	102.8	75	125	
63	Cu	72	210.477	1299125	0.27	8.4	200	101.0	75	125	
66	Zn	72	341.710	341884	0.35	134.4	200	103.6	75	125	
75	As	72	224.272	189863	1.06	18.1	200	103.1	75	125	
78	Se	72	209.328	9983	2.44	5.0	200	102.2	75	125	
88	Sr	115	634.602	2295721	0.40	418.9	200	107.8	75	125	
95	Mo	115	206.122	685878	0.78	2.0	200	102.1	75	125	
107	Ag	115	190.222	1991138	0.45	0.0	200	95.1	75	125	
111	Cd	115	199.687	301306	1.30	0.2	200	99.7	75	125	
118	Sn	115	216.081	670802	0.86	4.2	200	106.0	75	125	
121	Sb	115	208.283	997303	0.51	0.2	200	104.0	75	125	
137	Ba	115	712.227	1076238	1.00	473.7	200	119.3	75	125	
205	Tl	209	204.644	4473080	0.77	0.4	200	102.1	75	125	
208	Pb	209	228.069	6738590	0.43	23.5	200	102.3	75	125	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	846267	1.45	989663	85.51	70	120	
72	Ge	628386	1.56	739879	84.93	70	120	
115	In	5615055	0.28	6565136	85.53	70	120	
209	Bi	13624114	1.72	15222533	89.50	70	120	

Matrix Spike Sample (MS) Report

Date Acquired	5/16/2016 15:04	Sample Name	1605047-03A MS
Data Batch	160516.b	Comment	MS ICPMS_TSDOD1
Data File Name	108_MSS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
7	Li	45	281.458	11850	1.03	68.1	200	106.7	80	120	
9	Be	45	210.176	11697	1.50	3.0	200	103.6	80	120	
11	B	45	308.377	5585	4.63	101.6	200	103.4	80	120	
23	Na	45	9465.008	6304207	1.76	4220.6	1000	524.4	80	120	Fail
24	Mg	45	19328.400	6318243	1.87	13257.3	1000	607.1	80	120	Fail
27	Al	45	56169.246	6558457	1.73	47193.0	1000	897.6	80	120	Fail
39	K	45	19767.611	6560292	1.65	13489.0	1000	627.9	80	120	Fail
44	Ca	45	########	3605089	0.99	174560.5	1000	1731.9	80	120	Fail
47	Ti	45	311.679	39251	1.55	144.6	200	83.5	80	120	
51	V	45	310.840	1342239	0.49	94.5	200	108.2	80	120	
52	Cr	45	270.665	1400667	0.70	62.5	200	104.1	80	120	
55	Mn	45	1302.154	3616723	0.38	1054.3	200	123.9	80	120	Fail
56	Fe	45	70661.973	313189410	1.15	63421.0	1000	724.1	80	120	Fail
59	Co	72	229.945	1906373	0.56	26.0	200	102.0	80	120	
60	Ni	72	239.028	546515	0.54	36.3	200	101.3	80	120	
63	Cu	72	208.029	1315024	0.49	8.4	200	99.8	80	120	
66	Zn	72	340.197	348573	1.04	134.4	200	102.9	80	120	
75	As	72	219.918	190668	0.62	18.1	200	100.9	80	120	
78	Se	72	199.818	9761	1.95	5.0	200	97.4	80	120	
88	Sr	115	647.704	2373714	0.46	418.9	200	114.4	80	120	
95	Mo	115	192.975	650580	0.85	2.0	200	95.5	80	120	
107	Ag	115	198.544	2105668	1.02	0.0	200	99.3	80	120	
111	Cd	115	200.323	306243	1.74	0.2	200	100.1	80	120	
118	Sn	115	206.509	649526	0.95	4.2	200	101.2	80	120	
121	Sb	115	63.768	309417	0.79	0.2	200	31.8	80	120	Fail
137	Ba	115	674.685	1032828	1.11	473.7	200	100.5	80	120	
205	Tl	209	203.357	4496542	0.77	0.4	200	101.5	80	120	
208	Pb	209	224.379	6706910	0.44	23.5	200	100.5	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	864954	0.67	989663	87.40	70	120	
72	Ge	643468	0.48	739879	86.97	70	120	
115	In	5689651	1.83	6565136	86.66	70	120	
209	Bi	13781458	1.35	15222533	90.53	70	120	

Matrix Spike Sample (MS) Report

Date Acquired	5/16/2016 15:06	Sample Name	1605047-03A MSD
Data Batch	160516.b	Comment	MSD ICPMS_TSDOD1
Data File Name	109_MSS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
7	Li	45	293.951	12432	0.34	68.1	200	112.9	80	120	
9	Be	45	213.874	11957	0.77	3.0	200	105.4	80	120	
11	B	45	311.980	5674	0.79	101.6	200	105.2	80	120	
23	Na	45	9817.862	6567309	1.12	4220.6	1000	559.7	80	120	Fail
24	Mg	45	20331.783	6676917	2.89	13257.3	1000	707.4	80	120	Fail
27	Al	45	60908.582	7143914	0.71	47193.0	1000	1371.6	80	120	Fail
39	K	45	20149.595	6717039	0.72	13489.0	1000	666.1	80	120	Fail
44	Ca	45	########	3806997	0.91	174560.5	1000	2714.0	80	120	Fail
47	Ti	45	315.850	39962	1.61	144.6	200	85.6	80	120	
51	V	45	319.241	1384822	1.35	94.5	200	112.4	80	120	
52	Cr	45	276.258	1436103	0.60	62.5	200	106.9	80	120	
55	Mn	45	1262.937	3523882	0.64	1054.3	200	104.3	80	120	
56	Fe	45	76179.357	339178467	2.23	63421.0	1000	1275.8	80	120	Fail
59	Co	72	233.362	1966638	0.83	26.0	200	103.7	80	120	
60	Ni	72	241.608	561532	0.61	36.3	200	102.6	80	120	
63	Cu	72	208.702	1341099	0.98	8.4	200	100.1	80	120	
66	Zn	72	349.098	363628	0.50	134.4	200	107.3	80	120	
75	As	72	222.315	195933	1.31	18.1	200	102.1	80	120	
78	Se	72	197.588	9814	1.28	5.0	200	96.3	80	120	
88	Sr	115	670.708	2497394	1.21	418.9	200	125.9	80	120	Fail
95	Mo	115	193.859	663950	1.19	2.0	200	95.9	80	120	
107	Ag	115	197.129	2123802	0.49	0.0	200	98.5	80	120	
111	Cd	115	198.055	307585	0.29	0.2	200	98.9	80	120	
118	Sn	115	206.433	659642	0.61	4.2	200	101.1	80	120	
121	Sb	115	63.510	313124	0.95	0.2	200	31.7	80	120	Fail
137	Ba	115	722.393	1123557	0.98	473.7	200	124.3	80	120	Fail
205	Tl	209	205.472	4551958	0.59	0.4	200	102.6	80	120	
208	Pb	209	229.111	6861346	0.08	23.5	200	102.8	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	868908	0.67	989663	87.80	70	120	
72	Ge	654177	1.16	739879	88.42	70	120	
115	In	5779347	0.64	6565136	88.03	70	120	
209	Bi	13809348	1.67	15222533	90.72	70	120	

Continuing Calibration Verification (CCV) Report

Date Acquired	5/16/2016 15:08	Sample Name	CCV3-160516
Data Batch	160516.b	Comment	CCV ICPMS_TW
Data File Name	110_CCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	216.864	9324	1.06	200	108.4	90	110	
9	Be	45	214.637	12193	0.88	200	107.3	90	110	
11	B	45	211.711	3955	1.45	200	105.9	90	110	
23	Na	45	5181.433	3543946	0.85	5000	103.6	90	110	
24	Mg	45	5114.814	1707034	0.26	5000	102.3	90	110	
27	Al	45	4854.345	578666	0.40	5000	97.1	90	110	
39	K	45	5050.532	1744742	0.86	5000	101.0	90	110	
44	Ca	45	4764.941	91582	0.89	5000	95.3	90	110	
47	Ti	45	203.393	26148	1.76	200	101.7	90	110	
51	V	45	203.565	898018	0.72	200	101.8	90	110	
52	Cr	45	206.027	1088757	1.54	200	103.0	90	110	
55	Mn	45	199.041	564995	0.40	200	99.5	90	110	
56	Fe	45	4996.050	22620042	2.05	5000	99.9	90	110	
59	Co	72	207.892	1798397	0.90	200	103.9	90	110	
60	Ni	72	207.218	494403	0.60	200	103.6	90	110	
63	Cu	72	207.983	1371854	0.70	200	104.0	90	110	
66	Zn	72	203.785	217977	0.95	200	101.9	90	110	
75	As	72	204.118	184666	0.53	200	102.1	90	110	
78	Se	72	199.995	10193	1.33	200	100.0	90	110	
88	Sr	115	192.356	755939	0.94	200	96.2	90	110	
95	Mo	115	197.357	713336	0.47	200	98.7	90	110	
107	Ag	115	203.576	2314645	0.52	200	101.8	90	110	
111	Cd	115	198.099	324686	0.72	200	99.0	90	110	
118	Sn	115	195.109	658038	0.50	200	97.6	90	110	
121	Sb	115	198.275	1031237	1.25	200	99.1	90	110	
137	Ba	115	195.746	321320	0.61	200	97.9	90	110	
205	Tl	209	201.803	4656789	0.76	200	100.9	90	110	
208	Pb	209	200.216	6246472	0.59	200	100.1	90	110	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	882899	0.82	989663	89.21	70	120	
72	Ge	671409	0.78	739879	90.75	70	120	
115	In	6099239	0.39	6565136	92.90	70	120	
209	Bi	14383100	1.15	15222533	94.49	70	120	

Low Level Calibration Verification (LLCV) Report

Date Acquired	5/16/2016 15:12	Sample Name	LCVL3-160516
Data Batch	160516.b	Comment	LCVLICPMS_TW
Data File Name	112LCCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	10.284	457	5.86	10	102.8	70	130	
9	Be	45	0.911	53	41.60	1	91.1	70	130	
11	B	45	29.694	667	16.26	20	148.5	70	130	Fail
23	Na	45	103.321	116708	0.27	100	103.3	70	130	
24	Mg	45	101.462	34409	1.30	100	101.5	70	130	
27	Al	45	98.606	11883	1.75	100	98.6	70	130	
39	K	45	104.646	80337	0.24	100	104.6	70	130	
44	Ca	45	99.546	2106	4.03	100	99.5	70	130	
47	Ti	45	5.398	693	3.47	5	108.0	70	130	
51	V	45	0.861	5988	3.42	1	86.1	70	130	
52	Cr	45	5.302	29712	0.98	5	106.0	70	130	
55	Mn	45	4.758	14243	0.41	5	95.2	70	130	
56	Fe	45	98.346	458768	0.53	100	98.3	70	130	
59	Co	72	5.210	45254	0.38	5	104.2	70	130	
60	Ni	72	5.377	13227	0.30	5	107.5	70	130	
63	Cu	72	5.109	36981	1.89	5	102.2	70	130	
66	Zn	72	5.187	5840	0.34	5	103.7	70	130	
75	As	72	5.099	4762	1.06	5	102.0	70	130	
78	Se	72	6.386	393	7.14	5	127.7	70	130	
88	Sr	115	4.855	19053	1.29	5	97.1	70	130	
95	Mo	115	4.783	17185	1.92	5	95.7	70	130	
107	Ag	115	1.977	22380	1.11	2	98.8	70	130	
111	Cd	115	0.987	1615	10.05	1	98.7	70	130	
118	Sn	115	4.940	17593	1.08	5	98.8	70	130	
121	Sb	115	2.047	10743	1.42	2	102.3	70	130	
137	Ba	115	4.909	8018	4.05	5	98.2	70	130	
205	Tl	209	1.070	24582	1.20	1	107.0	70	130	
208	Pb	209	0.994	34998	1.97	1	99.4	70	130	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	879743	0.17	989663	88.89	70	120	
72	Ge	672492	0.43	739879	90.89	70	120	
115	In	6048948	1.50	6565136	92.14	70	120	
209	Bi	14161166	1.15	15222533	93.03	70	120	

Continuing Calibration Blank (CCB) Report

Date Acquired	5/16/2016 15:14	Sample Name	CCB3-160516
Data Batch	160516.b	Comment	CCB ICPMS_TW
Data File Name	113_CCB.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	MDL S	MDL Aq	QC Flag
7	Li	45	0.041	19	31.4	2	5	
9	Be	45	0.063	5	10.8	0.4	0.3	
11	B	45	6.906	257	11.2	10	10	
23	Na	45	2.473	48917	0.8	50	100	
24	Mg	45	-1.012	344	26.3	50	100	
27	Al	45	0.398	221	2.3	50	10	
39	K	45	2.272	46033	1.1	50	100	
44	Ca	45	3.876	278	11.8	50	100	
47	Ti	45	0.028	6	124.9	4	3	
51	V	45	-0.180	1421	9.2	4	3	
52	Cr	45	0.012	1907	5.2	2	2	
55	Mn	45	-0.134	424	8.4	2	3	
56	Fe	45	-0.438	13448	1.4	50	50	
59	Co	72	-0.001	104	9.2	2	3	
60	Ni	72	0.033	461	11.5	2	3	
63	Cu	72	-0.138	2379	6.0	2	2	
66	Zn	72	0.094	388	8.7	4	2	
75	As	72	-0.028	119	22.8	2	2	
78	Se	72	0.338	85	4.1	1	2	
88	Sr	115	0.005	159	21.5	4	3	
95	Mo	115	0.011	83	8.0	2	2	
107	Ag	115	0.012	226	4.7	0.4	1	
111	Cd	115	0.000	10	66.7	0.4	0.3	
118	Sn	115	-0.116	720	3.8	4	3	
121	Sb	115	0.023	312	20.2	2	0.8	
137	Ba	115	0.015	56	9.2	2	3	
205	Tl	209	0.034	1038	10.8	2	0.5	
208	Pb	209	-0.013	4114	3.0	0.4	0.3	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	880130	0.24	989663	88.93	70	120	
72	Ge	666505	0.25	739879	90.08	70	120	
115	In	6113700	2.32	6565136	93.12	70	120	
209	Bi	14165135	1.63	15222533	93.05	70	120	

Continuing Calibration Verification (CCV) Report

Date Acquired	5/16/2016 15:36	Sample Name	CCV4-160516
Data Batch	160516.b	Comment	CCV ICPMS_TW
Data File Name	124_CCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	224.410	9148	1.48	200	112.2	90	110	Fail
9	Be	45	220.810	11894	2.13	200	110.4	90	110	Fail
11	B	45	212.634	3766	0.57	200	106.3	90	110	
23	Na	45	5342.109	3463214	0.04	5000	106.8	90	110	
24	Mg	45	5267.668	1666938	0.68	5000	105.4	90	110	
27	Al	45	5001.773	565380	0.27	5000	100.0	90	110	
39	K	45	5193.221	1700014	0.33	5000	103.9	90	110	
44	Ca	45	4857.498	88528	1.18	5000	97.1	90	110	
47	Ti	45	205.408	25041	1.86	200	102.7	90	110	
51	V	45	209.520	876379	0.78	200	104.8	90	110	
52	Cr	45	210.707	1055728	0.34	200	105.4	90	110	
55	Mn	45	206.588	556043	0.76	200	103.3	90	110	
56	Fe	45	5210.511	22368586	2.60	5000	104.2	90	110	
59	Co	72	211.145	1778364	0.67	200	105.6	90	110	
60	Ni	72	209.121	485777	0.38	200	104.6	90	110	
63	Cu	72	209.794	1347254	0.53	200	104.9	90	110	
66	Zn	72	206.275	214830	0.52	200	103.1	90	110	
75	As	72	204.214	179879	0.25	200	102.1	90	110	
78	Se	72	201.271	9987	2.17	200	100.6	90	110	
88	Sr	115	194.821	736962	0.63	200	97.4	90	110	
95	Mo	115	199.494	693991	1.03	200	99.7	90	110	
107	Ag	115	205.509	2248881	0.40	200	102.8	90	110	
111	Cd	115	201.282	317525	0.45	200	100.6	90	110	
118	Sn	115	201.325	653580	1.29	200	100.7	90	110	
121	Sb	115	204.940	1025935	0.31	200	102.5	90	110	
137	Ba	115	201.758	318761	0.46	200	100.9	90	110	
205	Tl	209	205.312	4588353	0.03	200	102.7	90	110	
208	Pb	209	203.072	6135497	0.73	200	101.5	90	110	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	837252	1.41	989663	84.60	70	120	
72	Ge	653686	0.29	739879	88.35	70	120	
115	In	5871806	1.99	6565136	89.44	70	120	
209	Bi	13929813	1.34	15222533	91.51	70	120	

Low Level Calibration Verification (LLCV) Report

Date Acquired	5/16/2016 15:41	Sample Name	LCVL4-160516
Data Batch	160516.b	Comment	LCVLICPMS_TW
Data File Name	126LCCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	11.374	502	9.57	10	113.7	70	130	
9	Be	45	1.008	59	22.89	1	100.8	70	130	
11	B	45	27.691	629	11.43	20	138.5	70	130	Fail
23	Na	45	101.963	115499	0.46	100	102.0	70	130	
24	Mg	45	100.373	33960	0.92	100	100.4	70	130	
27	Al	45	95.963	11540	2.07	100	96.0	70	130	
39	K	45	101.973	79237	0.32	100	102.0	70	130	
44	Ca	45	96.103	2035	1.02	100	96.1	70	130	
47	Ti	45	4.933	632	3.89	5	98.7	70	130	
51	V	45	0.865	5988	3.20	1	86.5	70	130	
52	Cr	45	5.198	29089	0.17	5	104.0	70	130	
55	Mn	45	4.802	14330	0.81	5	96.0	70	130	
56	Fe	45	98.288	457336	0.28	100	98.3	70	130	
59	Co	72	5.218	44802	0.75	5	104.4	70	130	
60	Ni	72	5.289	12868	1.09	5	105.8	70	130	
63	Cu	72	5.043	36126	0.63	5	100.9	70	130	
66	Zn	72	5.259	5850	2.54	5	105.2	70	130	
75	As	72	5.049	4663	2.16	5	101.0	70	130	
78	Se	72	5.656	352	3.23	5	113.1	70	130	
88	Sr	115	4.842	19027	2.14	5	96.8	70	130	
95	Mo	115	4.750	17094	1.79	5	95.0	70	130	
107	Ag	115	1.962	22254	1.53	2	98.1	70	130	
111	Cd	115	1.011	1655	4.04	1	101.1	70	130	
118	Sn	115	4.861	17352	3.40	5	97.2	70	130	
121	Sb	115	1.983	10434	1.22	2	99.2	70	130	
137	Ba	115	4.867	7966	3.12	5	97.3	70	130	
205	Tl	209	1.027	23862	1.70	1	102.7	70	130	
208	Pb	209	0.968	34594	0.27	1	96.8	70	130	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	877488	0.15	989663	88.67	70	120	
72	Ge	664769	0.40	739879	89.85	70	120	
115	In	6060456	2.56	6565136	92.31	70	120	
209	Bi	14322636	1.51	15222533	94.09	70	120	

Continuing Calibration Blank (CCB) Report

Date Acquired	5/16/2016 15:43	Sample Name	CCB4-160516
Data Batch	160516.b	Comment	CCB ICPMS_TW
Data File Name	127_CCB.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	MDL S	MDL Aq	QC Flag
7	Li	45	0.218	26	12.2	2	5	
9	Be	45	-0.014	1	100.0	0.4	0.3	
11	B	45	7.323	264	16.0	10	10	
23	Na	45	0.413	47620	0.8	50	100	
24	Mg	45	-1.201	282	16.8	50	100	
27	Al	45	0.040	179	14.9	50	10	
39	K	45	7.200	47778	1.3	50	100	
44	Ca	45	1.169	227	21.5	50	100	
47	Ti	45	0.011	3	100.1	4	3	
51	V	45	-0.151	1550	2.6	4	3	
52	Cr	45	0.034	2026	4.7	2	2	
55	Mn	45	-0.178	301	10.3	2	3	
56	Fe	45	-0.294	14124	1.8	50	50	
59	Co	72	-0.003	92	16.7	2	3	
60	Ni	72	0.037	481	16.0	2	3	
63	Cu	72	-0.120	2550	3.6	2	2	
66	Zn	72	0.003	297	7.8	4	2	
75	As	72	-0.030	119	9.6	2	2	
78	Se	72	0.277	84	7.9	1	2	
88	Sr	115	0.005	159	34.6	4	3	
95	Mo	115	0.000	46	30.5	2	2	
107	Ag	115	0.005	148	31.1	0.4	1	
111	Cd	115	0.000	9	78.1	0.4	0.3	
118	Sn	115	-0.117	724	14.6	4	3	
121	Sb	115	0.019	293	18.8	2	0.8	
137	Ba	115	0.001	33	10.0	2	3	
205	Tl	209	0.013	578	10.2	2	0.5	
208	Pb	209	-0.027	3748	2.9	0.4	0.3	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	881830	1.06	989663	89.10	70	120	
72	Ge	680733	0.48	739879	92.01	70	120	
115	In	6172345	0.67	6565136	94.02	70	120	
209	Bi	14448499	0.64	15222533	94.92	70	120	

Method Blank Report

Date Acquired	5/16/16 3:45 PM	Sample Name	MB-75135
Data Batch	160516.b	Comment	MBLKICPMS_TSDOD1
Data File Name	128_PB.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	0.619	43	11.08		
9	Be	45	-0.013	1	100.00		
11	B	45	10.299	312	15.15		J
23	Na	45	734905.569	486094398	0.82		FAIL
24	Mg	45	1.740	1238	3.16		
27	Al	45	8.364	1148	13.30		
39	K	45	93.009	75173	1.14		FAIL
44	Ca	45	43.116	1010	5.83		
47	Ti	45	0.152	21	48.24		
51	V	45	-0.178	1409	10.30		
52	Cr	45	2.620	15352	2.37		J
55	Mn	45	0.453	2048	5.75		
56	Fe	45	15.607	84359	0.26		
59	Co	72	0.028	352	3.82		
60	Ni	72	5.062	12190	1.90		J
63	Cu	72	0.397	5793	3.74		
66	Zn	72	1.991	2366	2.61		
75	As	72	-0.015	128	12.00		
78	Se	72	0.467	91	9.83		
88	Sr	115	0.215	949	8.67		
95	Mo	115	0.072	294	12.21		
107	Ag	115	0.045	581	9.88		
111	Cd	115	0.001	11	91.66		
118	Sn	115	4.069	14302	0.93		J
121	Sb	115	0.017	271	24.97		
137	Ba	115	0.068	138	9.78		
205	Tl	209	0.005	353	8.17		
208	Pb	209	-0.001	4130	2.74		

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	865387	1.61	989663	87.44	70	120	
72	Ge	657188	0.54	739879	88.82	70	120	
115	In	5890096	1.14	6565136	89.72	70	120	
209	Bi	13132845	0.29	15222533	86.27	70	120	

Laboratory Control Sample (LCS) Report

Date Acquired	5/16/2016 15:47	Sample Name	LCS-75135
Data Batch	160516.b	Comment	LCS ICPMS_TSDOD1
Data File Name	129_LS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	198.362	8604	0.75	200	99.2	80	120	
9	Be	45	197.528	11318	0.99	200	98.8	80	120	
11	B	45	201.122	3796	2.73	200	100.6	80	120	
23	Na	45	679309.210	462512604	1.88	1000	#####	80	120	Fail
24	Mg	45	4878.738	1642643	1.56	1000	487.9	80	120	Fail
27	Al	45	967.115	116443	1.24	1000	96.7	80	120	
39	K	45	5022.195	1750579	1.49	1000	502.2	80	120	Fail
44	Ca	45	4758.500	92260	1.46	1000	475.9	80	120	Fail
47	Ti	45	199.898	25923	0.88	200	99.9	80	120	
51	V	45	199.811	889145	0.31	200	99.9	80	120	
52	Cr	45	194.745	1038157	0.50	200	97.4	80	120	
55	Mn	45	190.016	544146	1.00	200	95.0	80	120	
56	Fe	45	953.343	4366605	1.24	1000	95.3	80	120	
59	Co	72	198.205	1704422	1.10	200	99.1	80	120	
60	Ni	72	197.795	469150	1.74	200	98.9	80	120	
63	Cu	72	193.731	1270485	0.92	200	96.9	80	120	
66	Zn	72	199.601	212251	0.20	200	99.8	80	120	
75	As	72	202.962	182533	0.69	200	101.5	80	120	
78	Se	72	200.786	10173	1.52	200	100.4	80	120	
88	Sr	115	191.774	741276	1.54	200	95.9	80	120	
95	Mo	115	195.792	696024	0.94	200	97.9	80	120	
107	Ag	115	188.937	2112785	0.42	200	94.5	80	120	
111	Cd	115	191.277	308338	0.59	200	95.6	80	120	
118	Sn	115	201.128	667107	0.57	200	100.6	80	120	
121	Sb	115	197.546	1010535	1.18	200	98.8	80	120	
137	Ba	115	195.823	316149	1.03	200	97.9	80	120	
205	Tl	209	195.168	4315424	0.69	200	97.6	80	120	
208	Pb	209	195.844	5854296	0.73	200	97.9	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	890635	1.23	989663	89.99	70	120	
72	Ge	667410	0.46	739879	90.21	70	120	
115	In	5998629	0.65	6565136	91.37	70	120	
209	Bi	13785028	2.56	15222533	90.56	70	120	

Laboratory Control Sample (LCS) Report

Date Acquired	5/16/2016 15:49	Sample Name	LCSD-75135
Data Batch	160516.b	Comment	LCSDICPMS_TSDOD1
Data File Name	130_LS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	183.483	7785	1.88	200	91.7	80	120	
9	Be	45	181.005	10143	2.46	200	90.5	80	120	
11	B	45	195.514	3614	3.37	200	97.8	80	120	
23	Na	45	670047.494	446099938	1.37	1000	#####	80	120	Fail
24	Mg	45	4951.178	1630126	1.34	1000	495.1	80	120	Fail
27	Al	45	989.925	116548	0.92	1000	99.0	80	120	
39	K	45	5160.438	1757736	1.41	1000	516.0	80	120	Fail
44	Ca	45	4814.865	91289	1.73	1000	481.5	80	120	Fail
47	Ti	45	184.650	23416	1.21	200	92.3	80	120	
51	V	45	186.649	812468	1.65	200	93.3	80	120	
52	Cr	45	182.647	952294	0.91	200	91.3	80	120	
55	Mn	45	175.236	490813	1.59	200	87.6	80	120	
56	Fe	45	964.517	4319874	1.26	1000	96.5	80	120	
59	Co	72	181.768	1537382	0.93	200	90.9	80	120	
60	Ni	72	182.449	425659	1.10	200	91.2	80	120	
63	Cu	72	181.484	1170785	0.95	200	90.7	80	120	
66	Zn	72	183.545	192000	1.59	200	91.8	80	120	
75	As	72	188.183	166468	0.96	200	94.1	80	120	
78	Se	72	181.114	9034	3.54	200	90.6	80	120	
88	Sr	115	181.458	678979	1.39	200	90.7	80	120	
95	Mo	115	183.680	632067	0.94	200	91.8	80	120	
107	Ag	115	193.727	2097189	1.51	200	96.9	80	120	
111	Cd	115	177.411	276833	0.97	200	88.7	80	120	
118	Sn	115	189.445	608347	1.12	200	94.7	80	120	
121	Sb	115	205.687	1018453	0.29	200	102.8	80	120	
137	Ba	115	181.803	284119	1.18	200	90.9	80	120	
205	Tl	209	184.139	3856669	0.36	200	92.1	80	120	
208	Pb	209	184.660	5229916	0.99	200	92.3	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	870940	1.10	989663	88.00	70	120	
72	Ge	656446	1.08	739879	88.72	70	120	
115	In	5807204	1.47	6565136	88.46	70	120	
209	Bi	13059865	2.73	15222533	85.79	70	120	

Dilution Sample (Dil) Report

Date Acquired	5/16/2016 15:55	Sample Name	1605098-41A SD
Data Batch	160516.b	Comment	SD ICPMS_TSDOD1
Data File Name	133_SD.d	Dilution	25

Mass	Name	IS	Conc	CPS	%RSD	Ref Value	%Rec	Low	High	Flag
7	Li	45	13.732	610	3.33	65.6	104.6	110	90	Good
9	Be	45	0.429	26	28.50	2.2	95.7	110	90	Good
11	B	45	18.748	474	7.04	87.3	107.4	110	90	Good
23	Na	45	153535.007	104303520	1.99	735299.9	104.4	110	90	Good
24	Mg	45	2252.734	756965	0.73	10867.0	103.7	110	90	Good
27	Al	45	11368.988	1363580	1.29	55771.4	101.9	110	90	Good
39	K	45	2502.022	892876	0.96	12204.8	102.5	110	90	Good
44	Ca	45	19456.488	375662	1.17	94381.5	103.1	110	90	Good
47	Ti	45	39.614	5126	2.25	195.1	101.5	110	90	Good
51	V	45	18.977	86269	0.78	92.8	102.2	110	90	Good
52	Cr	45	13.472	73380	1.17	66.4	101.4	110	90	Good
55	Mn	45	105.959	303045	0.56	510.4	103.8	110	90	Good
56	Fe	45	11930.117	54329471	1.26	57124.3	104.4	110	90	Good
59	Co	72	4.877	41927	0.33	23.5	103.7	110	90	Good
60	Ni	72	9.268	22284	2.63	44.7	103.6	110	90	Good
63	Cu	72	3.455	25807	2.17	16.7	103.3	110	90	Good
66	Zn	72	39.665	42289	1.13	189.0	104.9	110	90	Good
75	As	72	3.871	3613	0.56	19.1	101.5	110	90	Good
78	Se	72	1.465	142	10.02	5.1	143.1	110	90	
88	Sr	115	60.952	240478	0.97	311.0	98.0	110	90	Good
95	Mo	115	0.278	1054	4.02	1.4	97.5	110	90	Good
107	Ag	115	0.023	358	17.91	0.1	113.7	110	90	
111	Cd	115	0.077	136	5.12	0.4	100.8	110	90	Good
118	Sn	115	0.837	3944	1.26	4.9	86.1	110	90	
121	Sb	115	0.383	2190	7.71	2.0	95.1	110	90	Good
137	Ba	115	134.801	222052	1.12	683.2	98.7	110	90	Good
205	Tl	209	0.101	2568	5.13	0.5	103.3	110	90	Good
208	Pb	209	14.215	439648	0.21	71.2	99.8	110	90	Good

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	888480	0.69	989663	89.78	70	120	
72	Ge	665520	1.04	739879	89.95	70	120	
115	In	6121311	1.28	6565136	93.24	70	120	
209	Bi	14122912	0.83	15222533	92.78	70	120	

Post Digestion Spike Sample (PDS) Report

Date Acquired	5/16/2016 16:15	Sample Name	1605098-41A PDS
Data Batch	160516.b	Comment	PDS ICPMS_TSDOD1
Data File Name	143_PDS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
7	Li	45	256.613	11136	0.48	65.6	200	95.5	75	125	
9	Be	45	198.218	11369	1.66	2.2	200	98.0	75	125	
11	B	45	280.582	5249	7.40	87.3	200	96.7	75	125	
23	Na	45	########	528983108	0.71	735299.9	5000	820.4	75	125	Fail
24	Mg	45	16616.877	5597919	1.96	10867.0	5000	115.0	75	125	
27	Al	45	64561.025	7768596	1.04	55771.4	5000	175.8	75	125	Fail
39	K	45	18033.773	6173158	2.61	12204.8	5000	116.6	75	125	
44	Ca	45	########	2031241	2.14	94381.5	5000	210.2	75	125	Fail
47	Ti	45	407.883	52938	1.61	195.1	200	106.4	75	125	
51	V	45	302.038	1344224	0.91	92.8	200	104.6	75	125	
52	Cr	45	269.474	1437179	0.94	66.4	200	101.5	75	125	
55	Mn	45	730.992	2092873	0.68	510.4	200	110.3	75	125	
56	Fe	45	63846.894	291653713	0.53	57124.3	5000	134.5	75	125	Fail
59	Co	72	229.911	1938411	1.01	23.5	200	103.2	75	125	
60	Ni	72	243.798	566856	0.97	44.7	200	99.5	75	125	
63	Cu	72	212.546	1366314	1.19	16.7	200	97.9	75	125	
66	Zn	72	399.528	416286	1.95	189.0	200	105.2	75	125	
75	As	72	230.685	203388	1.43	19.1	200	105.8	75	125	
78	Se	72	212.903	10572	0.56	5.1	200	103.9	75	125	
88	Sr	115	545.437	2013784	1.36	311.0	200	117.2	75	125	
95	Mo	115	207.217	703693	1.34	1.4	200	102.9	75	125	
107	Ag	115	185.792	1984767	1.52	0.1	200	92.8	75	125	
111	Cd	115	200.192	308302	0.28	0.4	200	99.9	75	125	
118	Sn	115	217.883	690368	0.50	4.9	200	106.5	75	125	
121	Sb	115	219.447	1072368	1.36	2.0	200	108.7	75	125	
137	Ba	115	935.547	1442775	1.83	683.2	200	126.2	75	125	Fail
205	Tl	209	205.746	4313643	1.08	0.5	200	102.6	75	125	
208	Pb	209	283.997	8048616	1.14	71.2	200	106.4	75	125	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	891413	0.77	989663	90.07	70	120	
72	Ge	654359	0.78	739879	88.44	70	120	
115	In	5731271	1.07	6565136	87.30	70	120	
209	Bi	13068234	1.17	15222533	85.85	70	120	

Matrix Spike Sample (MS) Report

Date Acquired	5/16/2016 16:17	Sample Name	1605098-41A MS
Data Batch	160516.b	Comment	MS ICPMS_TSDOD1
Data File Name	144_MSS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
7	Li	45	254.204	10677	0.62	65.6	200	94.3	80	120	
9	Be	45	188.856	10483	1.46	2.2	200	93.3	80	120	
11	B	45	273.766	4961	3.56	87.3	200	93.2	80	120	
23	Na	45	########	443263387	1.01	735299.9	1000	#####	80	120	Fail
24	Mg	45	16140.179	5262475	1.30	10867.0	1000	527.3	80	120	Fail
27	Al	45	65308.102	7605936	1.16	55771.4	1000	953.7	80	120	Fail
39	K	45	18021.943	5970758	2.07	12204.8	1000	581.7	80	120	Fail
44	Ca	45	72937.999	1367071	1.19	94381.5	1000	#####	80	120	Fail
47	Ti	45	421.259	52920	1.60	195.1	200	113.1	80	120	
51	V	45	298.703	1286682	1.67	92.8	200	102.9	80	120	
52	Cr	45	257.379	1328553	1.27	66.4	200	95.5	80	120	
55	Mn	45	668.029	1851181	1.83	510.4	200	78.8	80	120	Fail
56	Fe	45	62302.156	275442585	1.69	57124.3	1000	517.8	80	120	Fail
59	Co	72	220.781	1787351	1.10	23.5	200	98.6	80	120	
60	Ni	72	236.550	528158	1.18	44.7	200	95.9	80	120	
63	Cu	72	209.289	1291978	1.22	16.7	200	96.3	80	120	
66	Zn	72	382.631	382814	0.71	189.0	200	96.8	80	120	
75	As	72	221.342	187411	1.49	19.1	200	101.1	80	120	
78	Se	72	203.777	9719	2.01	5.1	200	99.3	80	120	
88	Sr	115	485.758	1727743	0.87	311.0	200	87.4	80	120	
95	Mo	115	190.112	621994	1.73	1.4	200	94.3	80	120	
107	Ag	115	191.711	1973026	1.36	0.1	200	95.8	80	120	
111	Cd	115	194.408	288423	1.89	0.4	200	97.0	80	120	
118	Sn	115	204.909	625499	1.39	4.9	200	100.0	80	120	
121	Sb	115	68.660	323342	1.28	2.0	200	33.3	80	120	Fail
137	Ba	115	726.397	1079180	1.10	683.2	200	21.6	80	120	Fail
205	Tl	209	202.015	4080858	2.33	0.5	200	100.8	80	120	
208	Pb	209	262.652	7171405	1.65	71.2	200	95.7	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	862772	1.00	989663	87.18	70	120	
72	Ge	628395	1.53	739879	84.93	70	120	
115	In	5520546	0.68	6565136	84.09	70	120	
209	Bi	12591981	2.95	15222533	82.72	70	120	

Matrix Spike Sample (MS) Report

Date Acquired	5/16/2016 16:19	Sample Name	1605098-41A MSD
Data Batch	160516.b	Comment	MSD ICPMS_TSDOD1
Data File Name	145_MSS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
7	Li	45	255.246	10865	1.98	65.6	200	94.8	80	120	
9	Be	45	190.808	10734	0.41	2.2	200	94.3	80	120	
11	B	45	293.327	5376	4.19	87.3	200	103.0	80	120	
23	Na	45	########	435652756	2.06	735299.9	1000	#####	80	120	Fail
24	Mg	45	16531.024	5462352	1.97	10867.0	1000	566.4	80	120	Fail
27	Al	45	65256.561	7701913	1.89	55771.4	1000	948.5	80	120	Fail
39	K	45	18310.868	6146779	1.38	12204.8	1000	610.6	80	120	Fail
44	Ca	45	95161.372	1807428	0.75	94381.5	1000	78.0	80	120	Fail
47	Ti	45	405.280	51595	0.82	195.1	200	105.1	80	120	
51	V	45	296.933	1296195	0.64	92.8	200	102.1	80	120	
52	Cr	45	258.645	1353051	0.66	66.4	200	96.1	80	120	
55	Mn	45	796.809	2237525	1.54	510.4	200	143.2	80	120	Fail
56	Fe	45	63861.319	286144140	2.28	57124.3	1000	673.7	80	120	Fail
59	Co	72	221.383	1831911	1.24	23.5	200	98.9	80	120	
60	Ni	72	241.232	550492	0.77	44.7	200	98.3	80	120	
63	Cu	72	209.235	1320141	0.99	16.7	200	96.3	80	120	
66	Zn	72	389.022	397817	1.32	189.0	200	100.0	80	120	
75	As	72	219.842	190245	1.11	19.1	200	100.4	80	120	
78	Se	72	201.744	9835	1.09	5.1	200	98.3	80	120	
88	Sr	115	530.621	1957423	0.58	311.0	200	109.8	80	120	
95	Mo	115	187.342	635679	0.55	1.4	200	93.0	80	120	
107	Ag	115	187.037	1996398	0.41	0.1	200	93.5	80	120	
111	Cd	115	192.011	295441	0.68	0.4	200	95.8	80	120	
118	Sn	115	200.532	634858	0.74	4.9	200	97.8	80	120	
121	Sb	115	62.566	305611	1.27	2.0	200	30.3	80	120	Fail
137	Ba	115	741.540	1142634	1.14	683.2	200	29.2	80	120	Fail
205	Tl	209	199.436	4203781	0.71	0.5	200	99.5	80	120	
208	Pb	209	259.312	7389600	0.40	71.2	200	94.0	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	874334	0.26	989663	88.35	70	120	
72	Ge	642228	0.62	739879	86.80	70	120	
115	In	5726650	1.46	6565136	87.23	70	120	
209	Bi	13144669	2.77	15222533	86.35	70	120	

Continuing Calibration Verification (CCV) Report

Date Acquired	5/16/2016 16:25	Sample Name	CCV5-160516
Data Batch	160516.b	Comment	CCV ICPMS_TW
Data File Name	146_CCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	206.323	9457	1.56	200	103.2	90	110	
9	Be	45	201.793	12219	1.03	200	100.9	90	110	
11	B	45	199.736	3986	4.71	200	99.9	90	110	
23	Na	45	5194.867	3787479	0.52	5000	103.9	90	110	
24	Mg	45	5035.842	1791603	0.36	5000	100.7	90	110	
27	Al	45	4892.202	621693	0.53	5000	97.8	90	110	
39	K	45	5097.711	1876924	0.39	5000	102.0	90	110	
44	Ca	45	4707.355	96450	1.70	5000	94.1	90	110	
47	Ti	45	198.296	27174	1.17	200	99.1	90	110	
51	V	45	202.995	954642	1.55	200	101.5	90	110	
52	Cr	45	204.436	1151646	1.23	200	102.2	90	110	
55	Mn	45	199.017	602232	0.90	200	99.5	90	110	
56	Fe	45	5006.943	24164590	1.11	5000	100.1	90	110	
59	Co	72	204.633	1895027	0.34	200	102.3	90	110	
60	Ni	72	204.929	523438	0.87	200	102.5	90	110	
63	Cu	72	204.331	1442904	1.15	200	102.2	90	110	
66	Zn	72	203.991	233596	0.50	200	102.0	90	110	
75	As	72	204.799	198340	0.59	200	102.4	90	110	
78	Se	72	201.947	11018	1.35	200	101.0	90	110	
88	Sr	115	192.449	816604	1.12	200	96.2	90	110	
95	Mo	115	191.230	746260	0.18	200	95.6	90	110	
107	Ag	115	197.611	2425915	0.25	200	98.8	90	110	
111	Cd	115	196.765	348225	0.80	200	98.4	90	110	
118	Sn	115	195.719	712818	1.83	200	97.9	90	110	
121	Sb	115	198.547	1114972	0.65	200	99.3	90	110	
137	Ba	115	195.085	345725	0.55	200	97.5	90	110	
205	Tl	209	196.802	4879191	0.89	200	98.4	90	110	
208	Pb	209	194.162	6508257	0.20	200	97.1	90	110	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	941156	0.45	989663	95.10	70	120	
72	Ge	718752	0.68	739879	97.14	70	120	
115	In	6586431	1.72	6565136	100.32	70	120	
209	Bi	15451891	0.40	15222533	101.51	70	120	

Low Level Calibration Verification (LLCV) Report

Date Acquired	5/16/2016 16:29	Sample Name	LCVL5-160516
Data Batch	160516.b	Comment	LCVLICPMS_TW
Data File Name	148LCCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	11.164	511	8.30	10	111.6	70	130	
9	Be	45	1.182	71	24.44	1	118.2	70	130	
11	B	45	24.283	589	6.44	20	121.4	70	130	
23	Na	45	194.307	184043	0.99	100	194.3	70	130	Fail
24	Mg	45	101.507	35615	1.15	100	101.5	70	130	
27	Al	45	100.026	12468	1.60	100	100.0	70	130	
39	K	45	98.303	80915	0.97	100	98.3	70	130	
44	Ca	45	97.785	2144	2.59	100	97.8	70	130	
47	Ti	45	5.123	681	14.33	5	102.5	70	130	
51	V	45	0.866	6215	4.38	1	86.6	70	130	
52	Cr	45	5.192	30140	2.12	5	103.8	70	130	
55	Mn	45	4.706	14581	1.02	5	94.1	70	130	
56	Fe	45	97.048	468580	1.20	100	97.0	70	130	
59	Co	72	5.101	46233	0.45	5	102.0	70	130	
60	Ni	72	5.130	13184	1.41	5	102.6	70	130	
63	Cu	72	4.965	37595	0.43	5	99.3	70	130	
66	Zn	72	5.039	5929	1.87	5	100.8	70	130	
75	As	72	5.160	5026	1.50	5	103.2	70	130	
78	Se	72	5.547	365	11.38	5	110.9	70	130	
88	Sr	115	4.771	19965	0.60	5	95.4	70	130	
95	Mo	115	4.670	17893	2.01	5	93.4	70	130	
107	Ag	115	1.914	23111	2.39	2	95.7	70	130	
111	Cd	115	1.024	1785	5.62	1	102.4	70	130	
118	Sn	115	4.787	18217	1.29	5	95.7	70	130	
121	Sb	115	1.985	11114	1.51	2	99.2	70	130	
137	Ba	115	4.865	8476	0.79	5	97.3	70	130	
205	Tl	209	0.985	24064	1.38	1	98.5	70	130	
208	Pb	209	0.940	35435	0.67	1	94.0	70	130	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	910164	0.31	989663	91.97	70	120	
72	Ge	701664	1.19	739879	94.83	70	120	
115	In	6448967	0.50	6565136	98.23	70	120	
209	Bi	15047127	0.89	15222533	98.85	70	120	

Continuing Calibration Blank (CCB) Report

Date Acquired	5/16/2016 16:31	Sample Name	CCB5-160516
Data Batch	160516.b	Comment	CCB ICPMS_TW
Data File Name	149_CCB.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	MDL S	MDL Aq	QC Flag
7	Li	45	0.406	35	15.9	2	5	
9	Be	45	0.003	2	132.3	0.4	0.3	
11	B	45	2.921	189	10.6	10	10	
23	Na	45	94.470	113138	0.2	50	100	FailSoil
24	Mg	45	-1.121	314	8.0	50	100	
27	Al	45	-0.236	149	7.9	50	10	
39	K	45	7.526	48801	0.7	50	100	
44	Ca	45	4.265	291	16.9	50	100	
47	Ti	45	-0.015	0	#DIV/0!	4	3	
51	V	45	-0.147	1600	7.5	4	3	
52	Cr	45	0.000	1882	5.1	2	2	
55	Mn	45	-0.175	317	2.8	2	3	
56	Fe	45	-0.720	12432	2.0	50	50	
59	Co	72	0.001	133	32.5	2	3	
60	Ni	72	0.034	482	4.9	2	3	
63	Cu	72	-0.094	2782	5.9	2	2	
66	Zn	72	0.148	463	8.8	4	2	
75	As	72	-0.038	114	11.7	2	2	
78	Se	72	0.213	82	22.7	1	2	
88	Sr	115	0.001	149	2.6	4	3	
95	Mo	115	0.007	72	21.3	2	2	
107	Ag	115	0.010	216	18.6	0.4	1	
111	Cd	115	0.003	14	48.0	0.4	0.3	
118	Sn	115	-0.080	874	5.4	4	3	
121	Sb	115	0.012	264	34.6	2	0.8	
137	Ba	115	0.008	46	30.5	2	3	
205	Tl	209	0.011	549	2.5	2	0.5	
208	Pb	209	-0.047	3159	4.0	0.4	0.3	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	898656	0.09	989663	90.80	70	120	
72	Ge	694759	0.65	739879	93.90	70	120	
115	In	6347033	0.63	6565136	96.68	70	120	
209	Bi	14584411	0.90	15222533	95.81	70	120	

Method Blank Report

Date Acquired	5/16/16 4:33 PM	Sample Name	MB-75099
Data Batch	160516.b	Comment	MBLKICPMS_TSDOD1
Data File Name	150_PB.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	0.545	41	20.91		
9	Be	45	-0.020	1	86.60		
11	B	45	4.659	219	3.17		
23	Na	45	97.635	114280	0.75		FAIL
24	Mg	45	3.322	1807	5.10		
27	Al	45	8.779	1231	3.61		
39	K	45	6.840	48129	1.70		
44	Ca	45	123.383	2592	4.93		FAIL
47	Ti	45	0.174	24	68.62		
51	V	45	-0.122	1696	5.70		
52	Cr	45	0.227	3070	4.64		
55	Mn	45	0.024	880	5.34		
56	Fe	45	11.621	68647	0.97		
59	Co	72	0.004	152	11.02		
60	Ni	72	0.146	734	3.44		
63	Cu	72	0.076	3812	1.19		
66	Zn	72	4.223	4805	3.44		J
75	As	72	-0.016	131	6.29		
78	Se	72	0.408	90	7.13		
88	Sr	115	0.174	826	12.16		
95	Mo	115	0.016	102	27.74		
107	Ag	115	0.010	203	17.35		
111	Cd	115	0.001	11	148.01		
118	Sn	115	3.912	14367	1.96		
121	Sb	115	0.011	250	30.75		
137	Ba	115	0.056	123	22.12		
205	Tl	209	0.005	413	6.40		
208	Pb	209	0.005	4959	3.30		

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	890707	1.02	989663	90.00	70	120	
72	Ge	672082	0.88	739879	90.84	70	120	
115	In	6136501	0.90	6565136	93.47	70	120	
209	Bi	15100168	1.28	15222533	99.20	70	120	

Laboratory Control Sample (LCS) Report

Date Acquired	5/16/2016 16:36	Sample Name	LCS-75099
Data Batch	160516.b	Comment	LCS ICPMS_TSDOD1
Data File Name	151_LS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	211.417	9070	1.58	200	105.7	80	120	
9	Be	45	206.616	11712	2.23	200	103.3	80	120	
11	B	45	209.458	3906	2.41	200	104.7	80	120	
23	Na	45	5216.669	3559748	0.48	1000	521.7	80	120	Fail
24	Mg	45	5032.793	1675945	0.86	1000	503.3	80	120	Fail
27	Al	45	992.967	118244	0.53	1000	99.3	80	120	
39	K	45	5065.025	1745729	0.15	1000	506.5	80	120	Fail
44	Ca	45	4738.137	90862	0.95	1000	473.8	80	120	Fail
47	Ti	45	200.775	25753	1.43	200	100.4	80	120	
51	V	45	202.937	893252	0.77	200	101.5	80	120	
52	Cr	45	202.975	1070242	1.15	200	101.5	80	120	
55	Mn	45	198.795	563039	0.59	200	99.4	80	120	
56	Fe	45	978.989	4434513	0.39	1000	97.9	80	120	
59	Co	72	205.339	1785326	1.04	200	102.7	80	120	
60	Ni	72	204.811	491138	0.26	200	102.4	80	120	
63	Cu	72	203.963	1352186	0.51	200	102.0	80	120	
66	Zn	72	201.647	216805	0.59	200	100.8	80	120	
75	As	72	201.727	183429	0.41	200	100.9	80	120	
78	Se	72	198.881	10189	0.98	200	99.4	80	120	
88	Sr	115	193.026	759204	1.01	200	96.5	80	120	
95	Mo	115	195.396	706820	0.94	200	97.7	80	120	
107	Ag	115	196.949	2241090	1.35	200	98.5	80	120	
111	Cd	115	196.589	322473	1.19	200	98.3	80	120	
118	Sn	115	203.437	686623	0.65	200	101.7	80	120	
121	Sb	115	198.244	1031908	1.48	200	99.1	80	120	
137	Ba	115	198.057	325371	0.96	200	99.0	80	120	
205	Tl	209	204.721	4686722	1.10	200	102.4	80	120	
208	Pb	209	200.685	6211983	0.79	200	100.3	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	880920	0.93	989663	89.01	70	120	
72	Ge	674825	0.74	739879	91.21	70	120	
115	In	6104033	0.35	6565136	92.98	70	120	
209	Bi	14271697	1.64	15222533	93.75	70	120	

Laboratory Control Sample (LCS) Report

Date Acquired	5/16/2016 16:38	Sample Name	LCSD-75099
Data Batch	160516.b	Comment	LCSDICPMS_TSDOD1
Data File Name	152_LS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	218.452	9280	0.17	200	109.2	80	120	
9	Be	45	210.604	11821	1.70	200	105.3	80	120	
11	B	45	211.020	3896	3.69	200	105.5	80	120	
23	Na	45	5320.224	3594373	0.28	1000	532.0	80	120	Fail
24	Mg	45	5177.795	1707513	0.81	1000	517.8	80	120	Fail
27	Al	45	1003.022	118285	0.41	1000	100.3	80	120	
39	K	45	5163.498	1761669	0.74	1000	516.3	80	120	Fail
44	Ca	45	4834.228	91805	1.62	1000	483.4	80	120	Fail
47	Ti	45	207.478	26355	1.98	200	103.7	80	120	
51	V	45	211.478	921732	0.45	200	105.7	80	120	
52	Cr	45	210.424	1098676	0.66	200	105.2	80	120	
55	Mn	45	205.083	575201	0.43	200	102.5	80	120	
56	Fe	45	1004.460	4505623	0.66	1000	100.4	80	120	
59	Co	72	209.572	1808551	0.32	200	104.8	80	120	
60	Ni	72	208.938	497291	1.17	200	104.5	80	120	
63	Cu	72	210.672	1386181	0.54	200	105.3	80	120	
66	Zn	72	209.169	223198	0.58	200	104.6	80	120	
75	As	72	205.081	185089	0.54	200	102.5	80	120	
78	Se	72	198.397	10088	2.47	200	99.2	80	120	
88	Sr	115	195.305	772806	0.53	200	97.7	80	120	
95	Mo	115	196.504	715150	1.11	200	98.3	80	120	
107	Ag	115	199.059	2278955	0.83	200	99.5	80	120	
111	Cd	115	201.106	331894	0.30	200	100.6	80	120	
118	Sn	115	207.469	704471	0.34	200	103.7	80	120	
121	Sb	115	200.288	1048884	0.28	200	100.1	80	120	
137	Ba	115	200.495	331372	0.23	200	100.2	80	120	
205	Tl	209	207.267	4756871	0.74	200	103.6	80	120	
208	Pb	209	203.447	6313124	0.87	200	101.7	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	872384	0.27	989663	88.15	70	120	
72	Ge	669778	0.37	739879	90.53	70	120	
115	In	6141658	1.07	6565136	93.55	70	120	
209	Bi	14305373	1.16	15222533	93.97	70	120	

Dilution Sample (Dil) Report

Date Acquired	5/16/2016 16:44	Sample Name	1605071-17A SD
Data Batch	160516.b	Comment	SD ICPMS_TSDOD1
Data File Name	155_SD.d	Dilution	25

Mass	Name	IS	Conc	CPS	%RSD	Ref Value	%Rec	Low	High	Flag
7	Li	45	10.644	493	1.33	52.0	102.3	110	90	Good
9	Be	45	0.380	24	31.92	1.9	101.4	110	90	Good
11	B	45	16.536	449	7.62	61.0	135.6	110	90	
23	Na	45	209.019	196095	0.29	784.5	133.2	110	90	
24	Mg	45	1999.766	694904	0.76	9739.2	102.7	110	90	Good
27	Al	45	9813.836	1217167	0.56	47702.7	102.9	110	90	Good
39	K	45	2321.700	860141	0.67	11378.3	102.0	110	90	Good
44	Ca	45	13060.789	260829	0.68	64190.3	101.7	110	90	Good
47	Ti	45	73.855	9881	1.87	363.5	101.6	110	90	Good
51	V	45	16.007	75604	0.97	80.1	99.9	110	90	Good
52	Cr	45	9.576	54484	1.61	46.9	102.1	110	90	Good
55	Mn	45	124.007	366588	0.11	604.1	102.6	110	90	Good
56	Fe	45	10236.620	48202027	1.06	49589.4	103.2	110	90	Good
59	Co	72	3.386	30289	1.22	16.5	102.5	110	90	Good
60	Ni	72	6.581	16557	1.07	32.0	102.9	110	90	Good
63	Cu	72	6.002	44084	1.39	29.3	102.5	110	90	Good
66	Zn	72	56.711	62701	0.85	271.8	104.3	110	90	Good
75	As	72	3.156	3088	1.26	15.3	103.2	110	90	Good
78	Se	72	0.926	119	12.77	3.7	123.6	110	90	
88	Sr	115	55.717	233086	1.27	283.2	98.4	110	90	Good
95	Mo	115	0.299	1197	3.64	1.5	98.3	110	90	Good
107	Ag	115	0.028	437	11.85	0.1	124.8	110	90	
111	Cd	115	0.093	173	30.22	0.5	99.3	110	90	Good
118	Sn	115	0.834	4170	3.85	5.1	81.8	110	90	
121	Sb	115	0.312	1928	5.18	1.5	101.2	110	90	Good
137	Ba	115	85.819	149905	0.66	440.6	97.4	110	90	Good
205	Tl	209	0.110	2994	1.93	0.5	109.1	110	90	Good
208	Pb	209	9.430	316254	0.56	47.8	98.6	110	90	Good

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	918751	1.19	989663	92.83	70	120	
72	Ge	691568	0.91	739879	93.47	70	120	
115	In	6490438	1.19	6565136	98.86	70	120	
209	Bi	15236152	0.99	15222533	100.09	70	120	

Post Digestion Spike Sample (PDS) Report

Date Acquired	5/16/2016 17:04	Sample Name	1605071-17A PDS
Data Batch	160516.b	Comment	PDS ICPMS_TSDOD1
Data File Name	165_PDS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
7	Li	45	247.200	10816	1.06	52.0	200	97.6	75	125	
9	Be	45	201.085	11627	1.56	1.9	200	99.6	75	125	
11	B	45	260.938	4931	1.67	61.0	200	100.0	75	125	
23	Na	45	5691.224	3957682	0.25	784.5	5000	98.1	75	125	
24	Mg	45	14724.088	5001014	1.43	9739.2	5000	99.7	75	125	
27	Al	45	52838.696	6409687	1.93	47702.7	5000	102.7	75	125	
39	K	45	16274.772	5620821	1.18	11378.3	5000	97.9	75	125	
44	Ca	45	68260.052	1332674	0.72	64190.3	5000	81.4	75	125	
47	Ti	45	553.090	72373	1.07	363.5	200	94.8	75	125	
51	V	45	276.843	1242357	0.98	80.1	200	98.4	75	125	
52	Cr	45	245.300	1319097	0.74	46.9	200	99.2	75	125	
55	Mn	45	786.718	2270785	0.23	604.1	200	91.3	75	125	
56	Fe	45	53618.491	246945012	0.33	49589.4	5000	80.6	75	125	
59	Co	72	217.711	1882782	0.89	16.5	200	100.6	75	125	
60	Ni	72	227.089	541640	0.92	32.0	200	97.6	75	125	
63	Cu	72	221.704	1461757	0.72	29.3	200	96.2	75	125	
66	Zn	72	464.756	496641	0.12	271.8	200	96.5	75	125	
75	As	72	213.879	193445	1.44	15.3	200	99.3	75	125	
78	Se	72	196.894	10033	1.20	3.7	200	96.6	75	125	
88	Sr	115	465.379	1862168	0.98	283.2	200	91.1	75	125	
95	Mo	115	185.975	684465	0.53	1.5	200	92.2	75	125	
107	Ag	115	175.247	2029028	0.89	0.1	200	87.6	75	125	
111	Cd	115	183.985	307061	0.35	0.5	200	91.8	75	125	
118	Sn	115	201.479	691897	0.29	5.1	200	98.2	75	125	
121	Sb	115	195.454	1035088	0.54	1.5	200	97.0	75	125	
137	Ba	115	621.791	1039225	0.11	440.6	200	90.6	75	125	
205	Tl	209	195.396	4520825	0.47	0.5	200	97.4	75	125	
208	Pb	209	241.036	7539582	0.33	47.8	200	96.6	75	125	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	898721	0.50	989663	90.81	70	120	
72	Ge	671245	0.93	739879	90.72	70	120	
115	In	6210825	0.96	6565136	94.60	70	120	
209	Bi	14426342	2.48	15222533	94.77	70	120	

Matrix Spike Sample (MS) Report

Date Acquired	5/16/2016 17:06	Sample Name	1605071-17A MS
Data Batch	160516.b	Comment	MS ICPMS_TSDOD1
Data File Name	166_MSS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
7	Li	45	259.919	11261	0.27	52.0	200	104.0	80	120	
9	Be	45	205.351	11758	0.77	1.9	200	101.7	80	120	
11	B	45	264.827	4954	3.62	61.0	200	101.9	80	120	
23	Na	45	5809.770	3999911	0.80	784.5	1000	502.5	80	120	Fail
24	Mg	45	15702.101	5281388	2.15	9739.2	1000	596.3	80	120	Fail
27	Al	45	56480.714	6784995	1.73	47702.7	1000	877.8	80	120	Fail
39	K	45	17651.641	6032955	0.80	11378.3	1000	627.3	80	120	Fail
44	Ca	45	74337.558	1437204	0.75	64190.3	1000	1014.7	80	120	Fail
47	Ti	45	616.579	79899	1.04	363.5	200	126.5	80	120	Fail
51	V	45	288.140	1280393	0.96	80.1	200	104.0	80	120	
52	Cr	45	251.182	1337574	0.62	46.9	200	102.1	80	120	
55	Mn	45	857.618	2451308	0.48	604.1	200	126.7	80	120	Fail
56	Fe	45	53563.507	244289599	0.26	49589.4	1000	397.4	80	120	Fail
59	Co	72	221.300	1904045	0.96	16.5	200	102.4	80	120	
60	Ni	72	236.366	560880	1.04	32.0	200	102.2	80	120	
63	Cu	72	230.447	1511523	0.24	29.3	200	100.6	80	120	
66	Zn	72	494.493	525728	0.14	271.8	200	111.4	80	120	
75	As	72	216.185	194542	1.08	15.3	200	100.4	80	120	
78	Se	72	198.317	10055	1.11	3.7	200	97.3	80	120	
88	Sr	115	511.202	1986730	0.56	283.2	200	114.0	80	120	
95	Mo	115	184.004	657776	0.73	1.5	200	91.2	80	120	
107	Ag	115	191.184	2149938	0.67	0.1	200	95.5	80	120	
111	Cd	115	193.934	314409	1.29	0.5	200	96.7	80	120	
118	Sn	115	199.653	665913	0.28	5.1	200	97.3	80	120	
121	Sb	115	62.302	320538	0.84	1.5	200	30.4	80	120	Fail
137	Ba	115	651.855	1058110	0.32	440.6	200	105.6	80	120	
205	Tl	209	196.854	4554672	0.54	0.5	200	98.2	80	120	
208	Pb	209	245.079	7665397	0.43	47.8	200	98.6	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	889967	0.37	989663	89.93	70	120	
72	Ge	667863	1.10	739879	90.27	70	120	
115	In	6034223	2.49	6565136	91.91	70	120	
209	Bi	14421481	1.04	15222533	94.74	70	120	

Matrix Spike Sample (MS) Report

Date Acquired	5/16/2016 17:08	Sample Name	1605071-17A MSD
Data Batch	160516.b	Comment	MSD ICPMS_TSDOD1
Data File Name	167_MSS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
7	Li	45	267.374	11574	0.76	52.0	200	107.7	80	120	
9	Be	45	214.885	12295	0.67	1.9	200	106.5	80	120	
11	B	45	261.468	4887	3.98	61.0	200	100.3	80	120	
23	Na	45	5834.218	4013119	0.78	784.5	1000	505.0	80	120	Fail
24	Mg	45	15041.203	5054659	0.58	9739.2	1000	530.2	80	120	Fail
27	Al	45	52391.073	6288694	0.74	47702.7	1000	468.8	80	120	Fail
39	K	45	17092.843	5838489	2.44	11378.3	1000	571.5	80	120	Fail
44	Ca	45	69132.409	1335607	1.23	64190.3	1000	494.2	80	120	Fail
47	Ti	45	604.194	78237	0.96	363.5	200	120.3	80	120	Fail
51	V	45	287.227	1275272	0.44	80.1	200	103.6	80	120	
52	Cr	45	254.161	1352350	0.43	46.9	200	103.6	80	120	
55	Mn	45	802.887	2293341	1.12	604.1	200	99.4	80	120	
56	Fe	45	50659.655	230907360	1.85	49589.4	1000	107.0	80	120	
59	Co	72	225.222	1934550	0.59	16.5	200	104.4	80	120	
60	Ni	72	238.956	566054	0.32	32.0	200	103.5	80	120	
63	Cu	72	236.095	1545826	0.93	29.3	200	103.4	80	120	
66	Zn	72	478.406	507761	0.23	271.8	200	103.3	80	120	
75	As	72	220.736	198292	1.08	15.3	200	102.7	80	120	
78	Se	72	206.160	10432	0.24	3.7	200	101.2	80	120	
88	Sr	115	484.923	1912374	0.52	283.2	200	100.9	80	120	
95	Mo	115	186.415	676222	0.61	1.5	200	92.4	80	120	
107	Ag	115	191.941	2190250	0.78	0.1	200	95.9	80	120	
111	Cd	115	197.494	324862	0.61	0.5	200	98.5	80	120	
118	Sn	115	201.437	681793	0.55	5.1	200	98.2	80	120	
121	Sb	115	61.972	323605	0.25	1.5	200	30.2	80	120	Fail
137	Ba	115	626.837	1032576	1.08	440.6	200	93.1	80	120	
205	Tl	209	203.906	4723800	1.16	0.5	200	101.7	80	120	
208	Pb	209	246.677	7725494	0.58	47.8	200	99.4	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	889383	1.43	989663	89.87	70	120	
72	Ge	666687	0.57	739879	90.11	70	120	
115	In	6121127	0.48	6565136	93.24	70	120	
209	Bi	14439468	0.76	15222533	94.86	70	120	

Continuing Calibration Verification (CCV) Report

Date Acquired	5/16/2016 17:10	Sample Name	CCV6-160516
Data Batch	160516.b	Comment	CCV ICPMS_TW
Data File Name	168_CCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	213.408	9181	1.38	200	106.7	90	110	
9	Be	45	209.990	11935	0.20	200	105.0	90	110	
11	B	45	213.840	3996	0.84	200	106.9	90	110	
23	Na	45	5171.083	3539097	0.44	5000	103.4	90	110	
24	Mg	45	5086.882	1698736	0.49	5000	101.7	90	110	
27	Al	45	4842.871	577658	0.77	5000	96.9	90	110	
39	K	45	5045.732	1744250	0.57	5000	100.9	90	110	
44	Ca	45	4718.312	90740	1.17	5000	94.4	90	110	
47	Ti	45	200.612	25805	0.82	200	100.3	90	110	
51	V	45	201.521	889543	0.73	200	100.8	90	110	
52	Cr	45	203.307	1074995	0.58	200	101.7	90	110	
55	Mn	45	198.168	562858	1.38	200	99.1	90	110	
56	Fe	45	5027.582	22774697	1.66	5000	100.6	90	110	
59	Co	72	208.093	1786647	0.63	200	104.0	90	110	
60	Ni	72	207.703	491836	0.30	200	103.9	90	110	
63	Cu	72	209.231	1369624	0.46	200	104.6	90	110	
66	Zn	72	206.124	218823	0.46	200	103.1	90	110	
75	As	72	205.667	184669	0.58	200	102.8	90	110	
78	Se	72	202.565	10246	1.71	200	101.3	90	110	
88	Sr	115	189.324	757736	0.18	200	94.7	90	110	
95	Mo	115	192.790	709739	0.87	200	96.4	90	110	
107	Ag	115	198.503	2298708	1.16	200	99.3	90	110	
111	Cd	115	193.880	323642	0.69	200	96.9	90	110	
118	Sn	115	194.979	669765	1.08	200	97.5	90	110	
121	Sb	115	196.776	1042390	0.76	200	98.4	90	110	
137	Ba	115	194.044	324379	0.70	200	97.0	90	110	
205	Tl	209	199.953	4622761	0.61	200	100.0	90	110	
208	Pb	209	199.348	6230635	0.30	200	99.7	90	110	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	883401	0.02	989663	89.26	70	120	
72	Ge	666377	0.90	739879	90.07	70	120	
115	In	6213763	2.37	6565136	94.65	70	120	
209	Bi	14408785	0.75	15222533	94.65	70	120	

Low Level Calibration Verification (LLCV) Report

Date Acquired	5/16/2016 17:14	Sample Name	LCVL6-160516
Data Batch	160516.b	Comment	LCVLICPMS_TW
Data File Name	170LCCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	11.588	503	7.46	10	115.9	70	130	
9	Be	45	1.211	69	16.71	1	121.1	70	130	
11	B	45	23.866	551	8.26	20	119.3	70	130	
23	Na	45	147.871	143854	0.30	100	147.9	70	130	Fail
24	Mg	45	100.455	33419	2.27	100	100.5	70	130	
27	Al	45	95.751	11322	3.30	100	95.8	70	130	
39	K	45	99.537	77117	0.07	100	99.5	70	130	
44	Ca	45	101.553	2103	9.19	100	101.6	70	130	
47	Ti	45	5.098	642	9.81	5	102.0	70	130	
51	V	45	0.829	5732	5.08	1	82.9	70	130	
52	Cr	45	5.265	28950	0.91	5	105.3	70	130	
55	Mn	45	4.732	13897	2.00	5	94.6	70	130	
56	Fe	45	97.688	447073	0.50	100	97.7	70	130	
59	Co	72	5.197	44135	0.84	5	103.9	70	130	
60	Ni	72	5.183	12477	0.63	5	103.7	70	130	
63	Cu	72	5.007	35499	1.88	5	100.1	70	130	
66	Zn	72	5.313	5841	4.84	5	106.3	70	130	
75	As	72	5.103	4660	1.42	5	102.1	70	130	
78	Se	72	5.529	342	0.72	5	110.6	70	130	
88	Sr	115	4.865	19052	1.73	5	97.3	70	130	
95	Mo	115	4.802	17216	1.23	5	96.0	70	130	
107	Ag	115	1.889	21347	1.23	2	94.5	70	130	
111	Cd	115	1.007	1642	8.09	1	100.7	70	130	
118	Sn	115	4.920	17492	1.45	5	98.4	70	130	
121	Sb	115	1.994	10448	0.24	2	99.7	70	130	
137	Ba	115	4.812	7845	1.44	5	96.2	70	130	
205	Tl	209	1.077	24577	1.17	1	107.7	70	130	
208	Pb	209	0.940	33131	0.60	1	94.0	70	130	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	862900	0.58	989663	87.19	70	120	
72	Ge	657469	0.73	739879	88.86	70	120	
115	In	6035394	0.32	6565136	91.93	70	120	
209	Bi	14076246	2.11	15222533	92.47	70	120	

Continuing Calibration Blank (CCB) Report

Date Acquired	5/16/2016 17:16	Sample Name	CCB6-160516
Data Batch	160516.b	Comment	CCB ICPMS_TW
Data File Name	171_CCB.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	MDL S	MDL Aq	QC Flag
7	Li	45	0.442	35	14.5	2	5	
9	Be	45	0.023	3	0.0	0.4	0.3	
11	B	45	1.888	161	10.2	10	10	
23	Na	45	50.705	78783	1.0	50	100	FailSoil
24	Mg	45	-1.015	332	19.0	50	100	
27	Al	45	0.219	193	27.1	50	10	
39	K	45	7.289	46205	0.6	50	100	
44	Ca	45	2.941	251	14.3	50	100	
47	Ti	45	0.056	9	21.6	4	3	
51	V	45	-0.149	1507	2.9	4	3	
52	Cr	45	-0.011	1725	3.4	2	2	
55	Mn	45	-0.154	358	20.1	2	3	
56	Fe	45	-0.338	13462	3.4	50	50	
59	Co	72	0.000	118	18.8	2	3	
60	Ni	72	0.071	540	3.4	2	3	
63	Cu	72	-0.181	2059	0.2	2	2	
66	Zn	72	0.170	459	16.8	4	2	
75	As	72	-0.012	130	15.8	2	2	
78	Se	72	0.088	71	20.7	1	2	
88	Sr	115	-0.005	113	15.6	4	3	
95	Mo	115	0.005	60	33.8	2	2	
107	Ag	115	0.011	204	19.7	0.4	1	
111	Cd	115	0.001	10	33.3	0.4	0.3	
118	Sn	115	-0.122	672	0.8	4	3	
121	Sb	115	0.017	267	17.7	2	0.8	
137	Ba	115	0.013	50	40.5	2	3	
205	Tl	209	0.044	1247	11.2	2	0.5	
208	Pb	209	-0.054	2775	5.0	0.4	0.3	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	852332	1.06	989663	86.12	70	120	
72	Ge	653355	0.84	739879	88.31	70	120	
115	In	5871850	2.36	6565136	89.44	70	120	
209	Bi	13867207	0.86	15222533	91.10	70	120	

Continuing Calibration Verification (CCV) Report

Date Acquired	5/16/2016 17:38	Sample Name	CCV7-160516
Data Batch	160516.b	Comment	CCV ICPMS_TW
Data File Name	182_CCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	216.848	8948	0.27	200	108.4	90	110	
9	Be	45	210.738	11489	2.67	200	105.4	90	110	
11	B	45	209.770	3763	4.04	200	104.9	90	110	
23	Na	45	5239.304	3439015	1.19	5000	104.8	90	110	
24	Mg	45	5123.893	1641326	0.85	5000	102.5	90	110	
27	Al	45	5004.156	572553	0.80	5000	100.1	90	110	
39	K	45	5155.804	1708647	0.71	5000	103.1	90	110	
44	Ca	45	4888.281	90169	1.01	5000	97.8	90	110	
47	Ti	45	197.926	24421	1.17	200	99.0	90	110	
51	V	45	202.794	858621	0.50	200	101.4	90	110	
52	Cr	45	202.971	1029441	0.11	200	101.5	90	110	
55	Mn	45	198.523	540873	1.33	200	99.3	90	110	
56	Fe	45	5066.456	22014587	0.27	5000	101.3	90	110	
59	Co	72	203.517	1709552	0.13	200	101.8	90	110	
60	Ni	72	202.583	469370	0.32	200	101.3	90	110	
63	Cu	72	203.016	1300410	1.01	200	101.5	90	110	
66	Zn	72	202.687	210560	1.04	200	101.3	90	110	
75	As	72	203.221	178552	1.23	200	101.6	90	110	
78	Se	72	200.940	9946	1.59	200	100.5	90	110	
88	Sr	115	191.847	735348	0.49	200	95.9	90	110	
95	Mo	115	192.891	680000	0.37	200	96.4	90	110	
107	Ag	115	198.078	2196549	0.80	200	99.0	90	110	
111	Cd	115	195.089	311857	0.78	200	97.5	90	110	
118	Sn	115	194.926	641184	0.80	200	97.5	90	110	
121	Sb	115	198.600	1007405	1.03	200	99.3	90	110	
137	Ba	115	197.372	315985	0.91	200	98.7	90	110	
205	Tl	209	196.484	4428415	0.55	200	98.2	90	110	
208	Pb	209	195.125	5945664	0.41	200	97.6	90	110	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	847374	0.44	989663	85.62	70	120	
72	Ge	652051	1.49	739879	88.13	70	120	
115	In	5948718	0.47	6565136	90.61	70	120	
209	Bi	14047653	0.98	15222533	92.28	70	120	

Low Level Calibration Verification (LLCV) Report

Date Acquired	5/16/2016 17:42	Sample Name	LCVL7-160516
Data Batch	160516.b	Comment	LCVLICPMS_TW
Data File Name	184LCCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	10.735	472	4.98	10	107.3	70	130	
9	Be	45	1.168	67	14.65	1	116.8	70	130	
11	B	45	25.393	584	9.75	20	127.0	70	130	
23	Na	45	132.710	135333	0.65	100	132.7	70	130	Fail
24	Mg	45	100.664	33859	0.52	100	100.7	70	130	
27	Al	45	101.267	12097	3.16	100	101.3	70	130	
39	K	45	100.626	78326	1.12	100	100.6	70	130	
44	Ca	45	102.547	2145	2.76	100	102.5	70	130	
47	Ti	45	5.249	669	7.63	5	105.0	70	130	
51	V	45	0.920	6193	3.31	1	92.0	70	130	
52	Cr	45	5.136	28600	0.48	5	102.7	70	130	
55	Mn	45	4.819	14294	2.98	5	96.4	70	130	
56	Fe	45	101.912	470909	1.83	100	101.9	70	130	
59	Co	72	5.213	44755	0.50	5	104.3	70	130	
60	Ni	72	5.215	12690	1.30	5	104.3	70	130	
63	Cu	72	5.038	36090	1.00	5	100.8	70	130	
66	Zn	72	5.321	5913	1.25	5	106.4	70	130	
75	As	72	5.070	4680	1.77	5	101.4	70	130	
78	Se	72	4.843	311	5.91	5	96.9	70	130	
88	Sr	115	4.752	19127	1.78	5	95.0	70	130	
95	Mo	115	4.718	17387	1.36	5	94.4	70	130	
107	Ag	115	1.928	22382	1.43	2	96.4	70	130	
111	Cd	115	0.935	1569	4.12	1	93.5	70	130	
118	Sn	115	4.792	17536	1.00	5	95.8	70	130	
121	Sb	115	1.933	10418	2.17	2	96.7	70	130	
137	Ba	115	4.859	8143	2.71	5	97.2	70	130	
205	Tl	209	1.004	23695	0.69	1	100.4	70	130	
208	Pb	209	0.919	33561	1.82	1	91.9	70	130	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	872405	0.53	989663	88.15	70	120	
72	Ge	664615	0.55	739879	89.83	70	120	
115	In	6203310	1.23	6565136	94.49	70	120	
209	Bi	14532820	1.06	15222533	95.47	70	120	

Continuing Calibration Blank (CCB) Report

Date Acquired	5/16/2016 17:44	Sample Name	CCB7-160516
Data Batch	160516.b	Comment	CCB ICPMS_TW
Data File Name	185_CCB.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	MDL S	MDL Aq	QC Flag
7	Li	45	0.284	29	25.7	2	5	
9	Be	45	0.017	3	142.0	0.4	0.3	
11	B	45	5.548	229	12.4	10	10	
23	Na	45	31.448	67435	0.8	50	100	
24	Mg	45	-0.640	461	17.2	50	100	
27	Al	45	1.859	389	15.9	50	10	
39	K	45	2.600	45489	1.5	50	100	
44	Ca	45	2.613	250	9.3	50	100	
47	Ti	45	0.029	6	69.3	4	3	
51	V	45	-0.105	1728	5.6	4	3	
52	Cr	45	-0.004	1793	4.2	2	2	
55	Mn	45	-0.145	387	17.7	2	3	
56	Fe	45	1.218	20605	18.0	50	50	
59	Co	72	0.007	178	24.9	2	3	
60	Ni	72	-0.009	361	11.7	2	3	
63	Cu	72	-0.181	2093	7.1	2	2	
66	Zn	72	-0.011	276	18.1	4	2	
75	As	72	-0.005	139	5.7	2	2	
78	Se	72	0.230	80	9.2	1	2	
88	Sr	115	0.009	172	25.8	4	3	
95	Mo	115	0.015	99	13.6	2	2	
107	Ag	115	0.011	217	7.1	0.4	1	
111	Cd	115	0.008	22	60.6	0.4	0.3	
118	Sn	115	-0.101	777	6.0	4	3	
121	Sb	115	0.022	308	26.9	2	0.8	
137	Ba	115	0.044	104	29.7	2	3	
205	Tl	209	0.029	932	15.5	2	0.5	
208	Pb	209	-0.062	2598	8.1	0.4	0.3	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	867642	0.63	989663	87.67	70	120	
72	Ge	664975	0.97	739879	89.88	70	120	
115	In	6146026	0.40	6565136	93.62	70	120	
209	Bi	14268893	2.38	15222533	93.74	70	120	

Method Blank Report

Date Acquired	5/16/16 5:46 PM	Sample Name	MB-75104
Data Batch	160516.b	Comment	MBLKICPMS_TSDOD1
Data File Name	186_PB.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	0.159	24	11.02		
9	Be	45	0.016	3	141.97		
11	B	45	6.222	248	13.20		
23	Na	45	39.858	75037	0.96		
24	Mg	45	2.766	1622	5.80		
27	Al	45	7.875	1123	10.44		
39	K	45	8.803	48852	0.86		
44	Ca	45	39.260	967	3.41		
47	Ti	45	0.267	37	15.75		
51	V	45	-0.152	1563	6.34		
52	Cr	45	-0.004	1842	6.31		
55	Mn	45	-0.148	390	8.15		
56	Fe	45	3.701	32534	3.67		
59	Co	72	0.002	132	5.82		
60	Ni	72	0.033	468	9.46		
63	Cu	72	-0.081	2794	7.24		
66	Zn	72	2.585	3074	4.46		
75	As	72	-0.035	114	16.90		
78	Se	72	0.031	71	15.23		
88	Sr	115	0.116	623	12.05		
95	Mo	115	0.026	143	26.82		
107	Ag	115	0.007	179	16.91		
111	Cd	115	0.002	13	0.00		
118	Sn	115	3.494	13551	4.51		
121	Sb	115	0.009	252	28.23		
137	Ba	115	0.056	130	26.77		
205	Tl	209	0.014	640	9.04		
208	Pb	209	-0.040	3500	1.03		

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	891697	0.83	989663	90.10	70	120	
72	Ge	676387	0.23	739879	91.42	70	120	
115	In	6417437	1.76	6565136	97.75	70	120	
209	Bi	15159244	0.36	15222533	99.58	70	120	

Laboratory Control Sample (LCS) Report

Date Acquired	5/16/2016 17:48	Sample Name	LCS-75104
Data Batch	160516.b	Comment	LCS ICPMS_TSDOD1
Data File Name	187_LS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	217.307	9304	2.17	200	108.7	80	120	
9	Be	45	211.209	11948	0.37	200	105.6	80	120	
11	B	45	212.171	3947	1.85	200	106.1	80	120	
23	Na	45	5186.769	3533063	1.13	1000	518.7	80	120	Fail
24	Mg	45	5074.940	1686759	0.46	1000	507.5	80	120	Fail
27	Al	45	982.133	116730	0.66	1000	98.2	80	120	
39	K	45	5102.024	1754985	1.20	1000	510.2	80	120	Fail
44	Ca	45	4796.504	91807	0.70	1000	479.7	80	120	Fail
47	Ti	45	202.170	25884	2.64	200	101.1	80	120	
51	V	45	206.829	908606	0.67	200	103.4	80	120	
52	Cr	45	209.381	1101893	1.32	200	104.7	80	120	
55	Mn	45	202.060	571185	0.05	200	101.0	80	120	
56	Fe	45	994.334	4495360	0.17	1000	99.4	80	120	
59	Co	72	207.600	1802640	0.78	200	103.8	80	120	
60	Ni	72	208.276	498798	0.29	200	104.1	80	120	
63	Cu	72	206.224	1365382	0.45	200	103.1	80	120	
66	Zn	72	204.721	219813	0.56	200	102.4	80	120	
75	As	72	204.335	185560	0.09	200	102.2	80	120	
78	Se	72	199.405	10202	2.02	200	99.7	80	120	
88	Sr	115	193.308	765214	0.58	200	96.7	80	120	
95	Mo	115	196.878	716794	0.47	200	98.4	80	120	
107	Ag	115	197.715	2264311	0.24	200	98.9	80	120	
111	Cd	115	196.096	323738	0.59	200	98.0	80	120	
118	Sn	115	201.661	685012	0.46	200	100.8	80	120	
121	Sb	115	196.868	1031342	0.30	200	98.4	80	120	
137	Ba	115	197.246	326103	0.77	200	98.6	80	120	
205	Tl	209	200.742	4673451	0.37	200	100.4	80	120	
208	Pb	209	199.049	6265029	0.46	200	99.5	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	879268	0.83	989663	88.85	70	120	
72	Ge	673931	0.26	739879	91.09	70	120	
115	In	6144786	1.91	6565136	93.60	70	120	
209	Bi	14509519	0.36	15222533	95.32	70	120	

Laboratory Control Sample (LCS) Report

Date Acquired	5/16/2016 17:50	Sample Name	LCSD-75104
Data Batch	160516.b	Comment	LCSDICPMS_TSDOD1
Data File Name	188_LS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	216.426	9354	1.13	200	108.2	80	120	
9	Be	45	212.684	12142	0.97	200	106.3	80	120	
11	B	45	212.325	3988	4.41	200	106.2	80	120	
23	Na	45	5194.382	3571044	0.53	1000	519.4	80	120	Fail
24	Mg	45	5110.510	1714436	0.64	1000	511.1	80	120	Fail
27	Al	45	979.320	117482	0.26	1000	97.9	80	120	
39	K	45	5080.396	1763607	0.78	1000	508.0	80	120	Fail
44	Ca	45	4739.837	91581	1.88	1000	474.0	80	120	Fail
47	Ti	45	199.433	25770	1.59	200	99.7	80	120	
51	V	45	205.748	912093	1.03	200	102.9	80	120	
52	Cr	45	206.480	1096723	0.66	200	103.2	80	120	
55	Mn	45	199.979	570579	0.47	200	100.0	80	120	
56	Fe	45	999.344	4560486	1.26	1000	99.9	80	120	
59	Co	72	210.802	1817306	0.87	200	105.4	80	120	
60	Ni	72	208.925	496761	0.22	200	104.5	80	120	
63	Cu	72	207.598	1364596	0.16	200	103.8	80	120	
66	Zn	72	206.258	219874	0.99	200	103.1	80	120	
75	As	72	205.548	185321	0.79	200	102.8	80	120	
78	Se	72	196.657	9990	0.84	200	98.3	80	120	
88	Sr	115	191.400	760364	0.45	200	95.7	80	120	
95	Mo	115	194.808	711841	0.48	200	97.4	80	120	
107	Ag	115	196.119	2254545	0.90	200	98.1	80	120	
111	Cd	115	197.057	326540	0.57	200	98.5	80	120	
118	Sn	115	202.138	689326	1.71	200	101.1	80	120	
121	Sb	115	197.646	1039393	1.00	200	98.8	80	120	
137	Ba	115	197.200	327227	0.21	200	98.6	80	120	
205	Tl	209	200.607	4691591	1.48	200	100.3	80	120	
208	Pb	209	199.945	6321709	0.55	200	100.0	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	887672	2.27	989663	89.69	70	120	
72	Ge	669090	0.15	739879	90.43	70	120	
115	In	6169843	3.20	6565136	93.98	70	120	
209	Bi	14575012	0.59	15222533	95.75	70	120	

Dilution Sample (Dil) Report

Date Acquired	5/16/2016 17:56	Sample Name	1605071-53A SD
Data Batch	160516.b	Comment	SD ICPMS_TSDOD1
Data File Name	191_SD.d	Dilution	25

Mass	Name	IS	Conc	CPS	%RSD	Ref Value	%Rec	Low	High	Flag
7	Li	45	20.183	865	3.69	98.9	102.1	110	90	Good
9	Be	45	0.758	44	28.48	3.8	99.9	110	90	Good
11	B	45	38.615	812	9.25	177.0	109.1	110	90	Good
23	Na	45	2179.930	1487065	0.77	10853.8	100.4	110	90	Good
24	Mg	45	3538.431	1156768	1.42	17593.3	100.6	110	90	Good
27	Al	45	11876.356	1386222	0.65	59013.6	100.6	110	90	Good
39	K	45	4083.408	1389954	0.43	20156.4	101.3	110	90	Good
44	Ca	45	25548.076	479976	0.66	125427.9	101.8	110	90	Good
47	Ti	45	73.435	9246	0.43	359.6	102.1	110	90	Good
51	V	45	17.472	77464	0.54	88.1	99.1	110	90	Good
52	Cr	45	14.728	77896	0.88	73.0	100.9	110	90	Good
55	Mn	45	79.829	222393	1.36	389.4	102.5	110	90	Good
56	Fe	45	19080.842	84548612	0.25	90986.7	104.9	110	90	Good
59	Co	72	6.078	51050	1.18	29.2	103.9	110	90	Good
60	Ni	72	7.488	17670	0.81	36.5	102.6	110	90	Good
63	Cu	72	1.143	10487	2.59	5.5	103.1	110	90	Good
66	Zn	72	40.643	42350	1.90	195.8	103.8	110	90	Good
75	As	72	3.585	3281	2.26	17.7	101.3	110	90	Good
78	Se	72	1.180	125	13.73	5.4	109.4	110	90	Good
88	Sr	115	96.724	378414	0.70	499.3	96.9	110	90	Good
95	Mo	115	0.266	1002	7.94	1.4	95.4	110	90	Good
107	Ag	115	0.023	348	23.01	0.1	186.0	110	90	
111	Cd	115	0.034	64	31.18	0.2	112.0	110	90	
118	Sn	115	0.798	3779	3.89	5.1	78.9	110	90	
121	Sb	115	0.050	451	21.24	0.2	131.7	110	90	
137	Ba	115	26.183	42802	1.88	135.0	97.0	110	90	Good
205	Tl	209	0.117	2970	10.41	0.4	137.7	110	90	
208	Pb	209	3.448	111947	1.57	17.5	98.3	110	90	Good

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	864639	1.16	989663	87.37	70	120	
72	Ge	650517	0.67	739879	87.92	70	120	
115	In	6070614	0.34	6565136	92.47	70	120	
209	Bi	14367769	1.01	15222533	94.38	70	120	

Post Digestion Spike Sample (PDS) Report

Date Acquired	5/16/2016 18:17	Sample Name	1605071-53A PDS
Data Batch	160516.b	Comment	PDS ICPMS_TSDOD1
Data File Name	201_PDS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
7	Li	45	299.530	12602	1.66	98.9	200	100.3	75	125	
9	Be	45	205.480	11427	1.26	3.8	200	100.8	75	125	
11	B	45	381.572	6875	0.38	177.0	200	102.3	75	125	
23	Na	45	15731.814	10440065	1.58	10853.8	5000	97.6	75	125	
24	Mg	45	22867.217	7469823	2.53	17593.3	5000	105.5	75	125	
27	Al	45	64658.101	7543925	1.12	59013.6	5000	112.9	75	125	
39	K	45	25711.946	8514482	0.22	20156.4	5000	111.1	75	125	
44	Ca	45	########	2446259	0.46	125427.9	5000	97.1	75	125	
47	Ti	45	557.449	70151	2.14	359.6	200	98.9	75	125	
51	V	45	288.642	1245711	0.55	88.1	200	100.3	75	125	
52	Cr	45	274.616	1420132	0.75	73.0	200	100.8	75	125	
55	Mn	45	575.449	1597709	0.40	389.4	200	93.0	75	125	
56	Fe	45	97102.927	430087547	1.29	90986.7	5000	122.3	75	125	
59	Co	72	228.797	1895552	0.56	29.2	200	99.8	75	125	
60	Ni	72	231.028	527844	0.52	36.5	200	97.3	75	125	
63	Cu	72	195.540	1235329	0.74	5.5	200	95.0	75	125	
66	Zn	72	388.674	397934	0.44	195.8	200	96.4	75	125	
75	As	72	217.689	188613	0.76	17.7	200	100.0	75	125	
78	Se	72	201.489	9835	1.03	5.4	200	98.0	75	125	
88	Sr	115	687.559	2602796	0.41	499.3	200	94.1	75	125	
95	Mo	115	192.436	669975	1.11	1.4	200	95.5	75	125	
107	Ag	115	176.982	1938519	0.78	0.1	200	88.5	75	125	
111	Cd	115	187.555	296143	0.83	0.2	200	93.7	75	125	
118	Sn	115	204.809	665385	0.52	5.1	200	99.9	75	125	
121	Sb	115	191.198	958126	0.20	0.2	200	95.5	75	125	
137	Ba	115	330.052	522018	0.49	135.0	200	97.5	75	125	
205	Tl	209	194.627	4378810	0.79	0.4	200	97.1	75	125	
208	Pb	209	209.523	6372901	0.88	17.5	200	96.0	75	125	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	864374	0.64	989663	87.34	70	120	
72	Ge	643068	1.44	739879	86.92	70	120	
115	In	5880658	3.30	6565136	89.57	70	120	
209	Bi	14021642	0.43	15222533	92.11	70	120	

Matrix Spike Sample (MS) Report

Date Acquired	5/16/2016 18:19	Sample Name	1605071-53A MS
Data Batch	160516.b	Comment	MS ICPMS_TSDOD1
Data File Name	202_MSS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
7	Li	45	308.595	12613	0.92	98.9	200	104.9	80	120	
9	Be	45	209.250	11306	0.87	3.8	200	102.7	80	120	
11	B	45	374.255	6554	1.62	177.0	200	98.6	80	120	
23	Na	45	15939.921	10276454	1.36	10853.8	1000	508.6	80	120	Fail
24	Mg	45	23014.948	7304144	1.86	17593.3	1000	542.2	80	120	Fail
27	Al	45	66648.950	7555516	2.01	59013.6	1000	763.5	80	120	Fail
39	K	45	25651.305	8252989	0.71	20156.4	1000	549.5	80	120	Fail
44	Ca	45	########	2320114	1.02	125427.9	1000	175.7	80	120	Fail
47	Ti	45	563.962	68956	0.49	359.6	200	102.2	80	120	
51	V	45	293.770	1231755	1.25	88.1	200	102.8	80	120	
52	Cr	45	274.475	1379018	1.11	73.0	200	100.7	80	120	
55	Mn	45	594.926	1604792	1.10	389.4	200	102.8	80	120	
56	Fe	45	95000.102	408813904	1.30	90986.7	1000	401.3	80	120	Fail
59	Co	72	229.114	1855863	1.71	29.2	200	99.9	80	120	
60	Ni	72	235.680	526494	1.03	36.5	200	99.6	80	120	
63	Cu	72	201.361	1243805	0.55	5.5	200	97.9	80	120	
66	Zn	72	399.014	399440	1.56	195.8	200	101.6	80	120	
75	As	72	219.944	186316	0.25	17.7	200	101.1	80	120	
78	Se	72	200.431	9566	0.26	5.4	200	97.5	80	120	
88	Sr	115	706.068	2577754	0.26	499.3	200	103.4	80	120	
95	Mo	115	187.664	630247	0.52	1.4	200	93.1	80	120	
107	Ag	115	192.357	2032087	0.56	0.1	200	96.1	80	120	
111	Cd	115	195.392	297553	0.85	0.2	200	97.6	80	120	
118	Sn	115	202.004	632934	0.66	5.1	200	98.5	80	120	
121	Sb	115	64.760	313042	0.79	0.2	200	32.3	80	120	Fail
137	Ba	115	429.321	654808	1.16	135.0	200	147.2	80	120	Fail
205	Tl	209	195.267	4334928	1.25	0.4	200	97.4	80	120	
208	Pb	209	211.624	6351126	0.89	17.5	200	97.0	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	839765	0.62	989663	84.85	70	120	
72	Ge	628707	0.64	739879	84.97	70	120	
115	In	5667651	1.50	6565136	86.33	70	120	
209	Bi	13837731	1.29	15222533	90.90	70	120	

Matrix Spike Sample (MS) Report

Date Acquired	5/16/2016 18:21	Sample Name	1605071-53A MSD
Data Batch	160516.b	Comment	MSD ICPMS_TSDOD1
Data File Name	203_MSS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
7	Li	45	312.784	12601	0.80	98.9	200	107.0	80	120	
9	Be	45	205.879	10964	1.59	3.8	200	101.0	80	120	
11	B	45	389.221	6713	2.10	177.0	200	106.1	80	120	
23	Na	45	16296.448	10354763	1.38	10853.8	1000	544.3	80	120	Fail
24	Mg	45	23416.729	7324631	0.73	17593.3	1000	582.3	80	120	Fail
27	Al	45	66515.586	7431867	2.24	59013.6	1000	750.2	80	120	Fail
39	K	45	26303.800	8340229	1.42	20156.4	1000	614.7	80	120	Fail
44	Ca	45	########	2382698	0.24	125427.9	1000	709.3	80	120	Fail
47	Ti	45	550.353	66328	0.42	359.6	200	95.4	80	120	
51	V	45	291.860	1206166	0.78	88.1	200	101.9	80	120	
52	Cr	45	276.385	1368636	0.25	73.0	200	101.7	80	120	
55	Mn	45	603.095	1603413	0.39	389.4	200	106.9	80	120	
56	Fe	45	98689.312	418598792	1.03	90986.7	1000	770.3	80	120	Fail
59	Co	72	229.105	1825824	0.60	29.2	200	99.9	80	120	
60	Ni	72	236.759	520351	0.58	36.5	200	100.1	80	120	
63	Cu	72	201.871	1226801	0.87	5.5	200	98.2	80	120	
66	Zn	72	401.478	395393	0.72	195.8	200	102.8	80	120	
75	As	72	219.113	182613	0.12	17.7	200	100.7	80	120	
78	Se	72	200.156	9399	2.64	5.4	200	97.4	80	120	
88	Sr	115	692.136	2500189	1.14	499.3	200	96.4	80	120	
95	Mo	115	187.886	624354	0.02	1.4	200	93.2	80	120	
107	Ag	115	191.984	2006779	0.73	0.1	200	96.0	80	120	
111	Cd	115	191.752	288897	1.07	0.2	200	95.8	80	120	
118	Sn	115	201.590	625024	0.19	5.1	200	98.3	80	120	
121	Sb	115	65.168	311734	0.39	0.2	200	32.5	80	120	Fail
137	Ba	115	351.108	529883	0.52	135.0	200	108.0	80	120	
205	Tl	209	198.799	4289995	1.11	0.4	200	99.2	80	120	
208	Pb	209	213.166	6218209	0.73	17.5	200	97.8	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	827709	0.36	989663	83.64	70	120	
72	Ge	618540	0.50	739879	83.60	70	120	
115	In	5609453	2.38	6565136	85.44	70	120	
209	Bi	13452531	2.44	15222533	88.37	70	120	

Continuing Calibration Verification (CCV) Report

Date Acquired	5/16/2016 18:22	Sample Name	CCV8-160516
Data Batch	160516.b	Comment	CCV ICPMS_TW
Data File Name	204_CCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	217.071	8691	1.98	200	108.5	90	110	
9	Be	45	209.591	11086	0.59	200	104.8	90	110	
11	B	45	217.666	3784	4.20	200	108.8	90	110	
23	Na	45	5138.682	3273142	0.83	5000	102.8	90	110	
24	Mg	45	5094.892	1583302	0.76	5000	101.9	90	110	
27	Al	45	4949.710	549432	1.01	5000	99.0	90	110	
39	K	45	5067.389	1629970	0.95	5000	101.3	90	110	
44	Ca	45	4809.238	86073	1.65	5000	96.2	90	110	
47	Ti	45	202.801	24274	2.43	200	101.4	90	110	
51	V	45	203.029	833961	0.84	200	101.5	90	110	
52	Cr	45	203.781	1002690	0.81	200	101.9	90	110	
55	Mn	45	200.190	529115	1.02	200	100.1	90	110	
56	Fe	45	5203.833	21934996	2.16	5000	104.1	90	110	
59	Co	72	205.681	1676341	0.68	200	102.8	90	110	
60	Ni	72	204.373	459404	0.46	200	102.2	90	110	
63	Cu	72	205.669	1278115	0.49	200	102.8	90	110	
66	Zn	72	203.898	205488	0.61	200	101.9	90	110	
75	As	72	204.425	174242	0.24	200	102.2	90	110	
78	Se	72	199.208	9566	2.02	200	99.6	90	110	
88	Sr	115	191.552	720339	1.21	200	95.8	90	110	
95	Mo	115	192.399	665494	1.01	200	96.2	90	110	
107	Ag	115	198.179	2156401	0.68	200	99.1	90	110	
111	Cd	115	194.119	304492	0.48	200	97.1	90	110	
118	Sn	115	195.223	630237	0.46	200	97.6	90	110	
121	Sb	115	199.385	992480	0.39	200	99.7	90	110	
137	Ba	115	197.076	309611	0.96	200	98.5	90	110	
205	Tl	209	194.374	4391033	0.40	200	97.2	90	110	
208	Pb	209	193.592	5912909	0.27	200	96.8	90	110	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	822124	0.71	989663	83.07	70	120	
72	Ge	632554	0.47	739879	85.49	70	120	
115	In	5841340	3.11	6565136	88.98	70	120	
209	Bi	14080226	0.99	15222533	92.50	70	120	

Low Level Calibration Verification (LLCV) Report

Date Acquired	5/16/2016 18:27	Sample Name	LCVL8-160516
Data Batch	160516.b	Comment	LCVLICPMS_TW
Data File Name	206LCCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	11.521	491	5.81	10	115.2	70	130	
9	Be	45	1.258	70	14.03	1	125.8	70	130	
11	B	45	29.502	639	4.85	20	147.5	70	130	Fail
23	Na	45	124.345	126077	2.38	100	124.3	70	130	
24	Mg	45	113.461	37009	7.99	100	113.5	70	130	
27	Al	45	140.685	16278	18.19	100	140.7	70	130	Fail
39	K	45	104.872	77480	2.08	100	104.9	70	130	
44	Ca	45	162.410	3190	21.96	100	162.4	70	130	Fail
47	Ti	45	5.521	683	2.97	5	110.4	70	130	
51	V	45	0.993	6328	8.96	1	99.3	70	130	
52	Cr	45	5.331	28773	0.10	5	106.6	70	130	
55	Mn	45	5.285	15158	2.92	5	105.7	70	130	
56	Fe	45	156.792	696607	20.79	100	156.8	70	130	Fail
59	Co	72	5.257	44412	2.08	5	105.1	70	130	
60	Ni	72	5.329	12752	0.48	5	106.6	70	130	
63	Cu	72	4.989	35204	1.26	5	99.8	70	130	
66	Zn	72	5.375	5877	4.72	5	107.5	70	130	
75	As	72	5.060	4598	3.88	5	101.2	70	130	
78	Se	72	5.407	334	6.57	5	108.1	70	130	
88	Sr	115	5.213	20409	4.20	5	104.3	70	130	
95	Mo	115	4.799	17210	0.05	5	96.0	70	130	
107	Ag	115	2.006	22664	0.95	2	100.3	70	130	
111	Cd	115	1.126	1836	5.35	1	112.6	70	130	
118	Sn	115	4.917	17485	1.48	5	98.3	70	130	
121	Sb	115	2.115	11077	4.55	2	105.8	70	130	
137	Ba	115	5.039	8217	3.61	5	100.8	70	130	
205	Tl	209	1.139	26973	4.27	1	113.9	70	130	
208	Pb	209	1.012	36688	6.02	1	101.2	70	130	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	847606	0.79	989663	85.65	70	120	
72	Ge	654071	0.41	739879	88.40	70	120	
115	In	6036873	1.64	6565136	91.95	70	120	
209	Bi	14617183	1.77	15222533	96.02	70	120	

Continuing Calibration Blank (CCB) Report

Date Acquired	5/16/2016 18:29	Sample Name	CCB8-160516
Data Batch	160516.b	Comment	CCB ICPMS_TW
Data File Name	207_CCB.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	MDL S	MDL Aq	QC Flag
7	Li	45	0.494	37	29.2	2	5	
9	Be	45	0.146	10	47.8	0.4	0.3	
11	B	45	9.616	294	8.3	10	10	
23	Na	45	25.846	62342	1.4	50	100	
24	Mg	45	5.066	2275	65.7	50	100	
27	Al	45	21.968	2680	57.0	50	10	FailAq
39	K	45	8.951	46562	0.7	50	100	
44	Ca	45	33.489	812	59.2	50	100	
47	Ti	45	0.192	26	49.4	4	3	
51	V	45	-0.075	1816	21.0	4	3	
52	Cr	45	0.093	2249	15.8	2	2	
55	Mn	45	0.028	851	35.9	2	3	
56	Fe	45	29.671	143637	58.9	50	50	
59	Co	72	0.069	698	43.1	2	3	
60	Ni	72	0.174	786	18.9	2	3	
63	Cu	72	-0.141	2330	10.6	2	2	
66	Zn	72	0.316	614	8.2	4	2	
75	As	72	0.022	162	11.2	2	2	
78	Se	72	0.142	75	5.7	1	2	
88	Sr	115	0.224	1007	61.7	4	3	
95	Mo	115	0.077	319	65.6	2	2	
107	Ag	115	0.045	598	54.9	0.4	1	
111	Cd	115	0.060	107	43.0	0.4	0.3	
118	Sn	115	-0.038	972	19.2	4	3	
121	Sb	115	0.145	936	37.3	2	0.8	
137	Ba	115	0.117	220	63.7	2	3	
205	Tl	209	0.109	2824	27.2	2	0.5	
208	Pb	209	-0.006	4431	22.9	0.4	0.3	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	849034	1.40	989663	85.79	70	120	
72	Ge	658317	0.65	739879	88.98	70	120	
115	In	6023431	0.85	6565136	91.75	70	120	
209	Bi	14490985	1.44	15222533	95.19	70	120	

Sample Report

Date Acquired	5/16/16 6:43 PM	Sample Name	1605074-01A
Data Batch	160516.b	Comment	SAMPICPMS_TSDOD1
Data File Name	214SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	68.601	2904	1.69	2000	>RL
9	Be	45	3.010	169	5.49	2000	>RL
11	B	45	82.021	1582	3.89	2000	>RL
23	Na	45	2122.985	1451479	0.46	25000	>RL
24	Mg	45	18069.693	5912539	1.14	25000	>RL
27	Al	45	71256.445	8327483	1.30	10000	OUTCAL
39	K	45	15301.966	5093604	1.79	25000	>RL
44	Ca	45	191297.151	3597750	0.02	25000	OUTCAL
47	Ti	45	743.164	93683	0.99	2000	>RL
51	V	45	130.227	564157	0.68	2000	>RL
52	Cr	45	66.514	345898	1.60	2000	>RL
55	Mn	45	884.003	2458091	0.69	2000	>RL
56	Fe	45	65840.414	292139091	0.89	10000	OUTCAL
59	Co	72	23.881	196279	0.35	2000	>RL
60	Ni	72	46.021	104560	0.27	2000	>RL
63	Cu	72	38.298	242466	0.81	2000	>RL
66	Zn	72	226.114	229678	0.43	2000	>RL
75	As	72	22.868	19772	1.25	2000	>RL
78	Se	72	5.664	338	8.87	2000	>RL
88	Sr	115	650.724	2495254	0.54	2000	>RL
95	Mo	115	2.512	8903	2.18	2000	>RL
107	Ag	115	0.166	1932	7.69	500	
111	Cd	115	0.686	1107	9.91	2000	>RL
118	Sn	115	4.794	16835	0.87	2000	>RL
121	Sb	115	1.581	8210	1.59	500	
137	Ba	115	689.162	1103893	0.55	2000	>RL
205	Tl	209	0.788	18013	0.82	2000	
208	Pb	209	60.013	1829206	0.49	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	865845	0.74	989663	87.49	70	120	
72	Ge	637674	1.29	739879	86.19	70	120	
115	In	5952149	0.76	6565136	90.66	70	120	
209	Bi	14027606	1.18	15222533	92.15	70	120	

Sample Report

Date Acquired	5/16/16 6:45 PM	Sample Name	1605074-02A
Data Batch	160516.b	Comment	SAMPICPMS_TSDOD1
Data File Name	215SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	58.062	2402	1.90	2000	>RL
9	Be	45	2.304	127	8.77	2000	>RL
11	B	45	78.543	1486	1.87	2000	>RL
23	Na	45	4633.448	3040199	0.78	25000	>RL
24	Mg	45	13370.563	4272759	0.74	25000	>RL
27	Al	45	56925.254	6497673	0.64	10000	OUTCAL
39	K	45	11627.390	3790652	0.56	25000	>RL
44	Ca	45	152308.989	2797964	1.70	25000	OUTCAL
47	Ti	45	459.378	56558	0.88	2000	>RL
51	V	45	101.792	431126	0.58	2000	>RL
52	Cr	45	54.233	275779	1.36	2000	>RL
55	Mn	45	596.304	1619756	1.30	2000	>RL
56	Fe	45	51321.684	222392160	0.53	10000	OUTCAL
59	Co	72	18.325	148546	1.29	2000	>RL
60	Ni	72	33.792	75798	0.93	2000	>RL
63	Cu	72	26.536	166595	0.93	2000	>RL
66	Zn	72	172.001	172337	1.42	2000	>RL
75	As	72	22.914	19533	1.19	2000	>RL
78	Se	72	4.112	259	15.51	2000	>RL
88	Sr	115	433.718	1653279	0.64	2000	>RL
95	Mo	115	2.746	9672	1.96	2000	>RL
107	Ag	115	0.109	1291	8.03	500	
111	Cd	115	0.490	788	13.95	2000	>RL
118	Sn	115	4.094	14447	2.02	2000	>RL
121	Sb	115	3.685	18773	1.55	500	>RL
137	Ba	115	546.012	869258	0.90	2000	>RL
205	Tl	209	0.539	12467	1.54	2000	
208	Pb	209	230.438	7048092	1.04	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	845702	1.72	989663	85.45	70	120	
72	Ge	628702	0.81	739879	84.97	70	120	
115	In	5916956	1.43	6565136	90.13	70	120	
209	Bi	14100912	0.26	15222533	92.63	70	120	

Sample Report

Date Acquired	5/16/16 6:47 PM	Sample Name	1605074-03A
Data Batch	160516.b	Comment	SAMPICPMS_TSDOD1
Data File Name	216SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	73.568	3005	1.87	2000	>RL
9	Be	45	2.407	131	11.92	2000	>RL
11	B	45	119.414	2166	5.78	2000	>RL
23	Na	45	9015.203	5803434	2.24	25000	>RL
24	Mg	45	15285.265	4827218	1.02	25000	>RL
27	Al	45	61131.787	6895609	0.98	10000	OUTCAL
39	K	45	12530.933	4034045	0.78	25000	>RL
44	Ca	45	116143.699	2108286	0.81	25000	OUTCAL
47	Ti	45	309.760	37689	0.71	2000	>RL
51	V	45	100.770	421834	0.72	2000	>RL
52	Cr	45	74.518	373848	1.14	2000	>RL
55	Mn	45	514.775	1381940	1.33	2000	>RL
56	Fe	45	55177.867	236314835	1.71	10000	OUTCAL
59	Co	72	20.862	168691	0.30	2000	>RL
60	Ni	72	47.202	105489	1.25	2000	>RL
63	Cu	72	25.776	161530	0.76	2000	>RL
66	Zn	72	189.721	189609	0.57	2000	>RL
75	As	72	18.944	16134	1.79	2000	>RL
78	Se	72	3.976	252	9.66	2000	>RL
88	Sr	115	455.203	1690763	0.92	2000	>RL
95	Mo	115	2.953	10129	2.34	2000	>RL
107	Ag	115	0.098	1141	12.26	500	
111	Cd	115	0.531	832	0.46	2000	>RL
118	Sn	115	4.404	15065	0.49	2000	>RL
121	Sb	115	1.726	8663	2.77	500	
137	Ba	115	600.069	931070	0.27	2000	>RL
205	Tl	209	0.560	12596	3.41	2000	
208	Pb	209	62.648	1869349	0.33	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	835685	0.83	989663	84.44	70	120	
72	Ge	627216	0.55	739879	84.77	70	120	
115	In	5767094	1.97	6565136	87.84	70	120	
209	Bi	13735044	1.34	15222533	90.23	70	120	

Sample Report

Date Acquired	5/16/16 6:49 PM	Sample Name	1605074-04A
Data Batch	160516.b	Comment	SAMPICPMS_TSDOD1
Data File Name	217SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	125.561	5001	3.77	2000	>RL
9	Be	45	3.578	190	5.41	2000	>RL
11	B	45	172.229	3000	1.26	2000	>RL
23	Na	45	10409.460	6544780	1.47	25000	>RL
24	Mg	45	18100.581	5588551	0.64	25000	>RL
27	Al	45	67419.364	7435850	0.81	10000	OUTCAL
39	K	45	14684.699	4614789	0.71	25000	>RL
44	Ca	45	179777.721	3190587	0.77	25000	OUTCAL
47	Ti	45	290.616	34574	0.87	2000	>RL
51	V	45	117.927	482293	0.47	2000	>RL
52	Cr	45	76.235	373881	1.20	2000	>RL
55	Mn	45	303.245	796195	0.17	2000	>RL
56	Fe	45	92558.648	387545167	0.88	10000	OUTCAL
59	Co	72	25.357	199289	0.82	2000	>RL
60	Ni	72	48.410	105149	2.40	2000	>RL
63	Cu	72	16.008	98651	1.32	2000	>RL
66	Zn	72	219.911	213588	1.25	2000	>RL
75	As	72	32.126	26503	0.86	2000	>RL
78	Se	72	5.506	316	7.47	2000	>RL
88	Sr	115	597.330	2109618	1.33	2000	>RL
95	Mo	115	3.639	11860	2.55	2000	>RL
107	Ag	115	0.051	606	13.85	500	
111	Cd	115	0.240	362	4.54	2000	
118	Sn	115	5.155	16596	3.11	2000	>RL
121	Sb	115	0.821	4011	2.59	500	
137	Ba	115	975.889	1439630	0.21	2000	>RL
205	Tl	209	0.783	17313	2.13	2000	
208	Pb	209	39.380	1162571	0.31	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	817092	1.20	989663	82.56	70	120	
72	Ge	609719	0.76	739879	82.41	70	120	
115	In	5481768	0.31	6565136	83.50	70	120	
209	Bi	13570256	1.28	15222533	89.15	70	120	

Continuing Calibration Verification (CCV) Report

Date Acquired	5/16/2016 18:51	Sample Name	CCV9-160516
Data Batch	160516.b	Comment	CCV ICPMS_TW
Data File Name	218_CCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	213.687	8601	1.68	200	106.8	90	110	
9	Be	45	210.421	11188	1.47	200	105.2	90	110	
11	B	45	221.927	3875	1.45	200	111.0	90	110	Fail
23	Na	45	5078.194	3252299	0.32	5000	101.6	90	110	
24	Mg	45	5012.323	1565994	0.39	5000	100.2	90	110	
27	Al	45	4899.318	546714	1.00	5000	98.0	90	110	
39	K	45	5071.714	1639996	0.43	5000	101.4	90	110	
44	Ca	45	4834.518	86981	0.63	5000	96.7	90	110	
47	Ti	45	199.759	24039	1.15	200	99.9	90	110	
51	V	45	203.382	839924	0.81	200	101.7	90	110	
52	Cr	45	203.141	1004906	0.43	200	101.6	90	110	
55	Mn	45	197.856	525743	0.71	200	98.9	90	110	
56	Fe	45	5087.905	21562741	0.26	5000	101.8	90	110	
59	Co	72	206.484	1677647	0.83	200	103.2	90	110	
60	Ni	72	204.471	458192	0.91	200	102.2	90	110	
63	Cu	72	205.512	1273165	0.51	200	102.8	90	110	
66	Zn	72	203.486	204438	0.21	200	101.7	90	110	
75	As	72	204.877	174084	0.19	200	102.4	90	110	
78	Se	72	200.033	9576	0.84	200	100.0	90	110	
88	Sr	115	189.674	720787	1.13	200	94.8	90	110	
95	Mo	115	190.352	665218	0.42	200	95.2	90	110	
107	Ag	115	195.760	2151943	0.31	200	97.9	90	110	
111	Cd	115	191.441	303397	0.64	200	95.7	90	110	
118	Sn	115	192.350	627291	0.66	200	96.2	90	110	
121	Sb	115	195.566	983471	0.43	200	97.8	90	110	
137	Ba	115	195.752	310670	0.16	200	97.9	90	110	
205	Tl	209	195.609	4391889	0.58	200	97.8	90	110	
208	Pb	209	193.568	5876364	0.63	200	96.8	90	110	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	826513	0.88	989663	83.51	70	120	
72	Ge	630588	0.45	739879	85.23	70	120	
115	In	5898037	1.62	6565136	89.84	70	120	
209	Bi	13995254	1.38	15222533	91.94	70	120	

Low Level Calibration Verification (LLCV) Report

Date Acquired	5/16/2016 18:55	Sample Name	LCVL9-160516
Data Batch	160516.b	Comment	LCVLICPMS_TW
Data File Name	220LCCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	10.985	465	2.27	10	109.9	70	130	
9	Be	45	1.146	64	7.75	1	114.6	70	130	
11	B	45	25.219	560	6.44	20	126.1	70	130	
23	Na	45	114.350	118595	1.84	100	114.4	70	130	
24	Mg	45	100.628	32613	2.30	100	100.6	70	130	
27	Al	45	97.887	11273	1.62	100	97.9	70	130	
39	K	45	100.969	75584	1.65	100	101.0	70	130	
44	Ca	45	102.701	2070	5.20	100	102.7	70	130	
47	Ti	45	4.724	580	7.34	5	94.5	70	130	
51	V	45	0.864	5730	1.43	1	86.4	70	130	
52	Cr	45	5.144	27595	0.32	5	102.9	70	130	
55	Mn	45	4.733	13541	1.92	5	94.7	70	130	
56	Fe	45	98.886	440677	0.92	100	98.9	70	130	
59	Co	72	5.131	42820	1.16	5	102.6	70	130	
60	Ni	72	5.150	12187	1.96	5	103.0	70	130	
63	Cu	72	4.877	34066	2.03	5	97.5	70	130	
66	Zn	72	4.988	5407	0.16	5	99.8	70	130	
75	As	72	5.006	4495	2.84	5	100.1	70	130	
78	Se	72	5.181	319	14.40	5	103.6	70	130	
88	Sr	115	4.796	18654	1.59	5	95.9	70	130	
95	Mo	115	4.789	17056	1.01	5	95.8	70	130	
107	Ag	115	1.910	21434	1.26	2	95.5	70	130	
111	Cd	115	0.912	1478	10.96	1	91.2	70	130	
118	Sn	115	4.624	16394	2.04	5	92.5	70	130	
121	Sb	115	1.984	10328	3.20	2	99.2	70	130	
137	Ba	115	4.890	7918	1.52	5	97.8	70	130	
205	Tl	209	1.010	23545	1.60	1	101.0	70	130	
208	Pb	209	0.921	33200	0.96	1	92.1	70	130	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	840578	0.23	989663	84.94	70	120	
72	Ge	646097	0.65	739879	87.32	70	120	
115	In	5994768	0.82	6565136	91.31	70	120	
209	Bi	14351976	0.52	15222533	94.28	70	120	

Continuing Calibration Blank (CCB) Report

Date Acquired	5/16/2016 19:11	Sample Name	CCB9-160516
Data Batch	160516.b	Comment	CCB ICPMS_TW
Data File Name	228_CCB.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	MDL S	MDL Aq	QC Flag
7	Li	45	0.216	24	8.6	2	5	
9	Be	45	0.013	2	173.2	0.4	0.3	
11	B	45	2.796	170	2.0	10	10	
23	Na	45	14.825	53228	0.6	50	100	
24	Mg	45	1.497	1097	48.4	50	100	
27	Al	45	11.145	1393	46.9	50	10	FailAq
39	K	45	8.291	44695	0.7	50	100	
44	Ca	45	15.708	468	40.4	50	100	
47	Ti	45	0.087	12	31.5	4	3	
51	V	45	-0.134	1511	1.3	4	3	
52	Cr	45	0.010	1762	7.4	2	2	
55	Mn	45	-0.085	524	26.1	2	3	
56	Fe	45	11.572	62879	50.0	50	50	
59	Co	72	0.003	133	52.0	2	3	
60	Ni	72	0.072	526	8.3	2	3	
63	Cu	72	-0.232	1680	2.7	2	2	
66	Zn	72	0.173	448	1.9	4	2	
75	As	72	-0.044	99	14.0	2	2	
78	Se	72	0.207	75	0.8	1	2	
88	Sr	115	0.065	376	53.3	4	3	
95	Mo	115	0.013	87	16.8	2	2	
107	Ag	115	0.009	182	29.4	0.4	1	
111	Cd	115	0.009	23	14.3	0.4	0.3	
118	Sn	115	-0.187	462	8.1	4	3	
121	Sb	115	0.008	223	19.6	2	0.8	
137	Ba	115	0.068	137	51.9	2	3	
205	Tl	209	0.010	499	7.0	2	0.5	
208	Pb	209	-0.078	2105	12.9	0.4	0.3	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	818678	0.55	989663	82.72	70	120	
72	Ge	633690	0.50	739879	85.65	70	120	
115	In	5856719	0.63	6565136	89.21	70	120	
209	Bi	14267833	1.92	15222533	93.73	70	120	

ICP-MS4_160520C
For

DHL Work Order
1605074

Lab Data Review Check List
EPA Method 6020 / 6020A / 200.8 - Trace Metals by ICP-MS

PROJECT AND BATCH NUMBERS ARE LISTED ON THE RUN LOG	Run ID: ICP-MS4_160520C SOP: MET-ICPMS-01			
Review Item	**Yes**	**No**	**N/A**	**2nd Level Review**
Data Folder Contents 1. Is the Prep Batch Report included? ***Check the Prep Start/End Dates, Sample Amounts, Bottle #s***	X			x
2. Are the reagents and spikes listed on the Prep Batch Report current with a valid expiration date? ***All standard/QC sample preparations shall be documented in LIMS***	X			
3. Is the Run Log and instrument sequence included? ***Check the Test Code, Sample Type, Batch ID, and Analysis Date/Time***	X			

Daily Demonstration of Performance

QC items that do not meet method/SOP/project requirements will be described on the run log. All variances that impact data quality will be described in the Variance/Comment Section on page 2.

Review Item	Frequency	Limits	Pass	Fail (List Batch/Sample) **See Run Log**		2nd Level Review
Tune	Before ICAL	RSD ≤ 5% / Peak Width@10% <0.9amu	X			x
P/A Factor	Before ICAL	Increasing trend	X			
Initial Calibration Curve (ICAL) (Blank + 4 Standards)	Prior to samples and when ICV fails	R ≥ 0.995 (DoD) R ≥ 0.998 (6020A)	X			
Review Item	**Frequency**	**Limits**	**Pass**	**Fail**	**N/A**	**Review**
ICSA (N/A for Method 200.8+U)	After calibration & every 12 hours	< RL (except Mn & Zn)	X			x
ICSAB (N/A for Method 200.8+U)	After calibration & every 12 hours	80-120% (correct for ICSA result)	X			
Note: LCVLs and ICSA/ICSAB are N/A for Method 200.8 or project-specific exceptions						
ICV (Second Source Verification)	After ICAL	90-110%	X			x
ICB	After calibration	< MDL	X			
CCV	Every 10 samples	90-110%	X			
CCB	Every 10 samples	< MDL (ALL + DoD)	X			
Internal Standards	Every sample and QC sample	> 70% (6020A) 60-125% (200.8) 30-120% (DoD)	X			
LCVL (6020A test code)	After ICAL, every 10 samples and end of run	70-130%	X			
LCVL (All metals test codes except 200.8/6020A)	After ICAL and end of run	70-130%			X	
Method Blank (MB)	Every Batch	< MDL / <½ RL (DoD) or <1/10 the sample/reg limit	X			
Filter/TCLP/SPLP Blank	Filter-Dissolved only TCLP / SPLP	< MDL / <½ RL (DoD) or <1/10 the sample/reg limit			X	
Lab Control Sample (LCS)	Every Batch	80-120%	X			
Lab Control Sample Dup (LCSD)	Every Batch	80-120%	X			
LCSD - RPD	Every LCS/LCSD	15 (H2O) / 20 (Soil)	X			
Matrix Spike/ Matrix Spike Duplicate (MS/MSD)	Every Batch	80-120%		X		
MSD - RPD	Every MS/MSD	15 (H2O) / 20 (Soil)	X			
Dilution Test (SD) - RPD	Every Batch	10	X			
Post Digestion Spike (PDS)	Every Batch	75-125 / 80-120 (6020A)	X			

Lab Data Review Check List
EPA Method 6020 / 6020A / 200.8 - Trace Metals by ICP-MS

Review Item	Criteria	Yes	No	N/A	2nd Level Review
Sample Analysis 1. Are all sample hold times met?	6 months	X			x
2. Are all samples with concentrations > the highest standard used for calibration diluted and reanalyzed?	All results > high point of ICAL must be diluted	X			
3. Are ALL reported analytes and reported results > MDL highlighted by the analyst?		X	**Confirm with analyst if LIMS result does not match Labcore**		

VARIANCE REPORT

QC items that do not meet method/SOP/project requirements will be described on the run log. All variances that impact data quality will be described in this section.

NON-CONFORMANCES / VARIANCE	Criteria	Yes	No	N/A	2nd Level
1. Are all non-conformances and corrective actions included and noted?	All deviations from the method and SOP that affect data quality	X			x
2. Does the variance require approval by the Technical Director/General Manager/QA Manager?		X			

TECHNICAL DIRECTOR / QA MANAGER APPROVAL
SIGNATURE AND DATE STAMP:

Description and Corrective Actions of QC items that do not meet method/SOP/project requirements:

****INCLUDE VARIANCE ITEM / REASON / CORRECTIVE ACTION / IMPACT ON DATA****

VARIANCE ITEM	REASON	CORRECTIVE ACTION
__ CCV out of control (± 10%)	__ Carryover from previous run	__ Reanalyze QC to confirm
__ CCB out of control (> MDL / >½ RL)	__ Cross contamination	__ Recalibrate
__ MB out of control (> RL / >½ RL)	__ Lab Artifact	__ Reprep/Reanalyze sample
__ LCS __ LCSD out of control (± 20%)	__ Prep Spike error (describe)	__ Reprep/Reanalyze Batch
__ MS __ MSD out of control (± 20%)	__ Matrix Effect	__ Reanalyze Batch/Sample/QC
__ RPD out of control for MS/MSD (15/25)	__ High Levels of Target Metals	__ Verify reagents are clean
__ Internal Standard(s) out of control (see Method)	__ Insufficient sample for QC	__ Reanalyze sample to confirm
__ No MS/MSD prepared - LCS/LCSD used instead	__ Digestion/Prep Error	__ Sample results ND w/ dilution
__ Missing QC (other than MS/MSD)	__ Analytical Error	__ Client notified and approved
__ QC sample(s) was mis-spiked	__ Client Request	__ Flag Data/ Case Narative
__ ICSA/ICSAB missing or out of control (± 20%)		__ Accept data
__ LCVL out of control (± 30%)		__ Cal Std high and sample ND
__ Other (describe below)	__ Other (describe below)	__ Other (describe below)

General Comments and Impact on Data: See Run Log

Analyst: _____ Date of Completion: 05/23/2016

Second-Level Review: Janice Whitt Date Stamp: 5/23/2016

REVIEWED BY
By Janice Whitt at 2:57:44 PM, 5/23/2016

DHL Analytical, Inc.

Run ID: **ICP-MS4_160520C** **Run No.:** 85935

Analytical Run Date: 5/20/2016 **InstrumentID:** ICP-MS4

Analyst: Ryan Oliver

SampID	DF	TestCode	SampType	Batch ID	Analysis Date/Time	Q	Comments
BLANK STD 1	1	ICPMS_TWDOD	CAL	R85935	5/20/2016 10:52:00 AM		
L2-160520	1	ICPMS_TWDOD	CAL	R85935	5/20/2016 10:54:00 AM		
L-160520	1	ICPMS_TWDOD	CAL	R85935	5/20/2016 10:56:00 AM		
10X-160520	1	ICPMS_TWDOD	CAL	R85935	5/20/2016 10:58:00 AM		
5X-160520	1	ICPMS_TWDOD	CAL	R85935	5/20/2016 11:00:00 AM		
2X-160520	1	ICPMS_TWDOD	CAL	R85935	5/20/2016 11:02:00 AM		
H-160520	1	ICPMS_TWDOD	CAL	R85935	5/20/2016 11:04:00 AM		
H2-160520	1	ICPMS_TWDOD	CAL	R85935	5/20/2016 11:06:00 AM		
ICSA-160520	1	ICPMS_TWDOD	ICSA	R85935	5/20/2016 11:14:00 AM		
ICSAB-160520	1	ICPMS_TWDOD	ICSB	R85935	5/20/2016 11:16:00 AM		
ICV-160520	1	ICPMS_TWDOD	ICV	R85935	5/20/2016 11:28:00 AM		
LCVL-160520	1	ICPMS_TWDOD	LCVL	R85935	5/20/2016 11:40:00 AM		
ICB-160520	1	ICPMS_TWDOD	ICB	R85935	5/20/2016 11:45:00 AM		
CCV2-160520	1	ICPMS_TWDOD	CCV	R85935	5/20/2016 1:06:00 PM		
LCVL2-160520	1	ICPMS_TWDOD	LCVL	R85935	5/20/2016 1:11:00 PM		
CCB2-160520	1	ICPMS_TWDOD	CCB	R85935	5/20/2016 1:20:00 PM		
MB-75180	1	ICPMS_TWDOD	MBLK	75180	5/20/2016 1:22:00 PM		
LCS-75180	1	ICPMS_TWDOD	LCS	75180	5/20/2016 1:24:00 PM		
LCSD-75180	1	ICPMS_TWDOD	LCSD	75180	5/20/2016 1:26:00 PM		
1605097-27A	1	ICPMS_TWDOD	SAMP	75180	5/20/2016 1:30:00 PM		
1605097-27A SD	5	ICPMS_TWDOD	SD	75180	5/20/2016 1:32:00 PM		
1605047-31A	1	ICPMS_TWDOD	SAMP	75180	5/20/2016 1:34:00 PM		
1605047-32A	1	ICPMS_TWDOD	SAMP	75180	5/20/2016 1:36:00 PM		
1605047-38A	1	ICPMS_TWDOD	SAMP	75180	5/20/2016 1:38:00 PM		
1605071-28A	1	ICPMS_TWDOD	SAMP	75180	5/20/2016 1:40:00 PM		
1605071-29A	1	ICPMS_TWDOD	SAMP	75180	5/20/2016 1:42:00 PM		
1605074-33A	1	ICPMS_TWDOD	SAMP	75180	5/20/2016 1:44:00 PM		
1605074-34A	1	ICPMS_TWDOD	SAMP	75180	5/20/2016 1:46:00 PM		
1605074-35A	1	ICPMS_TWDOD	SAMP	75180	5/20/2016 1:48:00 PM		
1605096-36A	1	ICPMS_TWDOD	SAMP	75180	5/20/2016 1:50:00 PM		

Std ID	Std Name	Type	Exp. Date
MET-CCV-160511	ICPMS CCV 200/5000 PPB		08/10/2016
MET-H2CAL-1605	ICPMS High Cal2 2000ppb std 8		08/10/2016
MET-HCAL-16051	ICPMS High Cal 500ppb/10ppm s		08/10/2016
MET-ICV-160511	ICPMS ICV 100 ppb		08/10/2016
MET-IS-160511	INTERNAL STANDARD 1 PPM		11/09/2016
MET-L2CAL-16051	ICPMS Low Cal2 1/20ppb std 2		08/10/2016
MET-LCAL-160511	ICPMS Low Cal 10/200ppb std 3		08/10/2016
MET-LCAL10X-16	ICPMS Low Cal 10/200ppb std 4		08/10/2016
MET-LCAL5X-160	ICPMS Low Cal 10/200ppb std 5		08/09/2016
MET-LCVLSPIKE-	LCVL METALS SPIKE (100/500		11/07/2016
MET-MCAL-16051	ICPMS Mid Cal 250/5000ppb std		08/10/2016
MET-PA-160421	ICPMS PA FACTOR SOLUTION		10/20/2016
MET-PDS-160520-	10 PPM Ag+Sb PDS		11/18/2016
MET-PDS-160520-	10 PPM CUSTOM PDS SOLUTI		11/18/2016
MET-PDS-160520-	250 PPM Naturals+Al+Fe PDS		11/18/2016

DHL Analytical, Inc.

Run ID: ICP-MS4_160520C **Run No.:** 85935

1605097-27A PDS	1	ICPMS_TWDOD	PDS	75180	5/20/2016 1:52:00 PM		
1605097-27A MS	1	ICPMS_TWDOD	MS	75180	5/20/2016 1:54:00 PM		S-flag Pb- Low
1605097-27A MSD	1	ICPMS_TWDOD	MSD	75180	5/20/2016 1:56:00 PM		
CCV3-160520	1	ICPMS_TWDOD	CCV	R85935	5/20/2016 1:58:00 PM		
LCVL3-160520	1	ICPMS_TWDOD	LCVL	R85935	5/20/2016 2:04:00 PM		
CCB3-160520	1	ICPMS_TWDOD	CCB	R85935	5/20/2016 2:06:00 PM		
1605096-37A	1	ICPMS_TWDOD	SAMP	75180	5/20/2016 2:08:00 PM		
1605096-44A	1	ICPMS_TWDOD	SAMP	75180	5/20/2016 2:10:00 PM		
1605097-30A	1	ICPMS_TWDOD	SAMP	75180	5/20/2016 2:12:00 PM		
1605098-42A	1	ICPMS_TWDOD	SAMP	75180	5/20/2016 2:14:00 PM		
1605121-46A	1	ICPMS_TWDOD	SAMP	75180	5/20/2016 2:16:00 PM		
1605121-47A	1	ICPMS_TWDOD	SAMP	75180	5/20/2016 2:18:00 PM		
1605135-46A	1	ICPMS_TWDOD	SAMP	75180	5/20/2016 2:20:00 PM		
1605144-16A	1	ICPMS_TWDOD	SAMP	75180	5/20/2016 2:22:00 PM		
CCV4-160520	1	ICPMS_TWDOD	CCV	R85935	5/20/2016 2:24:00 PM		
LCVL4-160520	1	ICPMS_TWDOD	LCVL	R85935	5/20/2016 2:41:00 PM		
CCB4-160520	1	ICPMS_TWDOD	CCB	R85935	5/20/2016 2:48:00 PM		

Std ID	Std Name	Type	Exp. Date
MET-CCV-160511	ICPMS CCV 200/5000 PPB		08/10/2016
MET-H2CAL-1605	ICPMS High Cal2 2000ppb std 8		08/10/2016
MET-HCAL-16051	ICPMS High Cal 500ppb/10ppm s		08/10/2016
MET-ICV-160511	ICPMS ICV 100 ppb		08/10/2016
MET-IS-160511	INTERNAL STANDARD 1 PPM		11/09/2016
MET-L2CAL-16051	ICPMS Low Cal2 1/20ppb std 2		08/10/2016
MET-LCAL-160511	ICPMS Low Cal 10/200ppb std 3		08/10/2016
MET-LCAL10X-16	ICPMS Low Cal 10/200ppb std 4		08/10/2016
MET-LCAL5X-160	ICPMS Low Cal 10/200ppb std 5		08/09/2016
MET-LCVLSPIKE-	LCVL METALS SPIKE (100/500		11/07/2016
MET-MCAL-16051	ICPMS Mid Cal 250/5000ppb std		08/10/2016
MET-PA-160421	ICPMS PA FACTOR SOLUTION		10/20/2016
MET-PDS-160520-	10 PPM Ag+Sb PDS		11/18/2016
MET-PDS-160520-	10 PPM CUSTOM PDS SOLUTI		11/18/2016
MET-PDS-160520-	250 PPM Naturals+Al+Fe PDS		11/18/2016

Sample List

Batch Folder C:\Agilent\ICPMH\1\DATA\160520.b

Acquisition Order

#	Sequence Flow
1	Calibration Standards
2	Unknown Samples
3	Blank Samples

Calibration Standards:

#	Sample Type	Sample Name	Comment	Vial#	File Name
1	CCB		CAL ICPMS_TW	1101	
2	CCB		CAL ICPMS_TW	1101	
3	CCB		CAL ICPMS_TW	1101	
4	CCB		CAL ICPMS_TW	1102	
5	CCB		CAL ICPMS_TW	1102	
6	CCB		CAL ICPMS_TW	1102	
7	CCB		CAL ICPMS_TW	1102	
8	CCB		CAL ICPMS_TW	1103	
9	CCB		CAL ICPMS_TW	1103	
10	CCB		CAL ICPMS_TW	1103	
11	CCB		CAL ICPMS_TW	1103	
12	CalBlk	BLANK STD 1	CAL ICPMS_TW	2101	
13	CalStd	L2-160520	CAL ICPMS_TW	2102	
14	CalStd	L-160520	CAL ICPMS_TW	2103	
15	CalStd	10X-160520	CAL ICPMS_TW	2104	
16	CalStd	5X-160520	CAL ICPMS_TW	2105	
17	CalStd	2X-160520	CAL ICPMS_TW	2106	
18	CalStd	H-160520	CAL ICPMS_TW	2107	
19	CalStd	H2-160520	CAL ICPMS_TW	2108	
20	ICB	BLANK	CCB ICPMS_TW	1101	

#	Level	Dilution	Skip
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12	1		
13	2		
14	3		
15	4		
16	5		
17	6		
18	7		
19	8		

Sample List

#	Sample Type	Sample Name	Comment	Vial#	File Name
20					
21	ICB	BLANK	CCB ICPMS_TW	1102	
22	ICB	BLANK	CCB ICPMS_TW	1103	
23	ICSA	ICSA-160520	ICSAICPMS_TW	2109	
24	ICSB	ICSAB-160520	ICSBICPMS_TW	2110	
25	ICB	BLANK	CCB ICPMS_TW	1101	
26	ICB	BLANK	CCB ICPMS_TW	1102	
27	ICB	BLANK	CCB ICPMS_TW	1103	
28	ICV	ICV-160520	ICV ICPMS_TW	2111	
29	ICB	ICB-160520	ICB ICPMS_TW	1101	
30	ICB	ICB-160520	ICB ICPMS_TW	1103	
31	LLICV	LCVL-160520	LCVLICPMS_TW	2112	
32	ICB	ICB-160520	ICB ICPMS_TW	1102	
33	ICB	ICB-160520	ICB ICPMS_TW	1103	
34	PB_W	MB-75206	MBLK200.8_EPA	2201	
35	LCS_W	LCS-75206	LCS 200.8_EPA	2202	
36	LCS_W	LCSD-75206	LCSD200.8_EPA	2203	
37	CCB	RINSE	CCB ICPMS_TW	1101	
38	AllRef	1605161-13A	SAMP200.8_EPA	2204	
39	SD	1605161-13A SD	SD 200.8_EPA	2205	
40	SAMP_W	1605161-01A	SAMP200.8_EPA	2206	

#	Level	Dilution	Skip
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			
32			
33			
34		1	
35		1	
36		1	
37			
38		1	
39		5	
40		1	

#	Sample Type	Sample Name	Comment	Vial#	File Name
41	SAMP_W	1605161-02A	SAMP200.8_EPA	2207	
42	SAMP_W	1605161-03A	SAMP200.8_EPA	2208	
43	SAMP_W	1605161-04A	SAMP200.8_EPA	2209	
44	SAMP_W	1605161-05A	SAMP200.8_EPA	2210	
45	SAMP_W	1605161-06A	SAMP200.8_EPA	2211	

Sample List

46	SAMP_W	1605161-07A	SAMP200.8_EPA	2212
47	SAMP_W	1605161-08A	SAMP200.8_EPA	2301
48	SAMP_W	1605161-09A	SAMP200.8_EPA	2302
49	PDS	1605161-13A PDS	PDS 200.8_EPA	2303
50	MS_W	1605161-13A MS	MS 200.8_EPA	2304
51	MS_W	1605161-13A MSD	MSD 200.8_EPA	2305
52	CCV	CCV1-160520	CCV ICPMS_TW	1207
53	CCB	CCB1-160520	CCB ICPMS_TW	1102
54	LLCCV	LCVL1-160520	LCVLICPMS_TW	2112
55	CCB	CCB1-160520	CCB ICPMS_TW	1103
56	SAMP_W	1605161-10A	SAMP200.8_EPA	2306
57	SAMP_W	1605161-11A	SAMP200.8_EPA	2307
58	SAMP_W	1605161-12A	SAMP200.8_EPA	2308
59	SAMP_W	1605161-13A	SAMP200.8_EPA	2309
60	SAMP_W	1605161-14A	SAMP200.8_EPA	2310

#	Level	Dilution	Skip
41		1	
42		1	
43		1	
44		1	
45		1	
46		1	
47		1	
48		1	
49		1	
50		1	
51		1	
52			
53			
54			
55			
56		1	
57		1	
58		1	
59		1	
60		1	

#	Sample Type	Sample Name	Comment	Vial#	File Name
61	SAMP_W	1605161-15A	SAMP200.8_EPA	2311	
62	SAMP_W	1605161-16A	SAMP200.8_EPA	2312	
63	SAMP_W	1605161-17A	SAMP200.8_EPA	2401	
64	SAMP_W	1605161-18A	SAMP200.8_EPA	2402	
65	SAMP_W	1605161-19A	SAMP200.8_EPA	2403	
66	CCV	CCV2-160520	CCV ICPMS_TW	1207	
67	CCB	CCB2-160520	CCB ICPMS_TW	1102	
68	LLCCV	LCVL2-160520	LCVLICPMS_TW	2112	
69	CCB	CCB2-160520	CCB ICPMS_TW	1103	
70	PB_W	MB-75180	MBLKICPMS_TWDOD	3101	
71	LCS_W	LCS-75180	LCS ICPMS_TWDOD	3102	
72	LCS_W	LCSD-75180	LCSDICPMS_TWDOD	3103	
73	CCB	RINSE	CCB ICPMS_TW	1101	

Sample List

74	AllRef	1605097-27A	SAMPICPMS_TWDOD	3104
75	SD	1605097-27A SD	SD ICPMS_TWDOD	3105
76	SAMP_W	1605047-31A	SAMPICPMS_TWDOD	3106
77	SAMP_W	1605047-32A	SAMPICPMS_TWDOD	3107
78	SAMP_W	1605047-38A	SAMPICPMS_TWDOD	3108
79	SAMP_W	1605071-28A	SAMPICPMS_TWDOD	3109
80	SAMP_W	1605071-29A	SAMPICPMS_TWDOD	3110

#	Level	Dilution	Skip
61		1	
62		1	
63		1	
64		1	
65		1	
66			
67			
68			
69			
70		1	
71		1	
72		1	
73			
74		1	
75		5	
76		1	
77		1	
78		1	
79		1	
80		1	

#	Sample Type	Sample Name	Comment	Vial#	File Name
81	SAMP_W	1605074-33A	SAMPICPMS_TWDOD	3111	
82	SAMP_W	1605074-34A	SAMPICPMS_TWDOD	3112	
83	SAMP_W	1605074-35A	SAMPICPMS_TWDOD	3201	
84	SAMP_W	1605096-36A	SAMPICPMS_TWDOD	3202	
85	PDS	1605097-27A PDS	PDS ICPMS_TWDOD	3203	
86	MS_W	1605097-27A MS	MS ICPMS_TWDOD	3204	
87	MS_W	1605097-27A MSD	MSD ICPMS_TWDOD	3205	
88	CCV	CCV3-160520	CCV ICPMS_TW	1207	
89	CCB	CCB3-160520	CCB ICPMS_TW	1102	
90	LLCCV	LCVL3-160520	LCVLICPMS_TW	2512	
91	CCB	CCB3-160520	CCB ICPMS_TW	1103	
92	SAMP_W	1605096-37A	SAMPICPMS_TWDOD	3206	
93	SAMP_W	1605096-44A	SAMPICPMS_TWDOD	3207	
94	SAMP_W	1605097-30A	SAMPICPMS_TWDOD	3208	
95	SAMP_W	1605098-42A	SAMPICPMS_TWDOD	3209	
96	SAMP_W	1605121-46A	SAMPICPMS_TWDOD	3210	
97	SAMP_W	1605121-47A	SAMPICPMS_TWDOD	3211	
98	SAMP_W	1605135-46A	SAMPICPMS_TWDOD	3212	
99	SAMP_W	1605144-16A	SAMPICPMS_TWDOD	2501	
100	CCV	CCV4-160520	CCV ICPMS_TW	1207	

Sample List

#	Level	Dilution	Skip
81		1	
82		1	
83		1	
84		1	
85		1	
86		1	
87		1	
88			
89			
90			
91			
92		1	
93		1	
94		1	
95		1	
96		1	
97		1	
98		1	
99		1	
100			

#	Sample Type	Sample Name	Comment	Vial#	File Name
101	CCB	CCB4-160520	CCB ICPMS_TW	1102	
102	LLCCV	LCVL4-160520	LCVLICPMS_TW	2512	
103	CCB	CCB4-160520	CCB ICPMS_TW	1103	
104	PB_W	MB-75233	MBLKICPMS_TW	3301	
105	LCS_W	LCS-75233	LCS ICPMS_TW	3302	
106	LCS_W	LCSD-75233	LCSDICPMS_TW	3303	
107	CCB	RINSE	CCB ICPMS_TW	1101	
108	AllRef	1605172-04C	SAMPICPMS_TW	3304	
109	SD	1605172-04C SD	SD ICPMS_TW	3305	
110	SAMP_W	1605169-01C	SAMPICPMS_TW	3306	
111	SAMP_W	1605183-01C	SAMP6020A_W	3307	
112	SAMP_W	1605173-01E	SAMPICPMS_TW	3308	
113	SAMP_W	1605173-02E	SAMPICPMS_TW	3309	
114	SAMP_W	1605173-03E	SAMPICPMS_TW	3310	
115	SAMP_W	1605173-04E	SAMPICPMS_TW	3311	
116	SAMP_W	1604114-25B	SAMPICPMS_TW	3312	
117	SAMP_W	1604114-26B	SAMPICPMS_TW	3401	
118	SAMP_W	1604114-27B	SAMPICPMS_TW	3402	
119	PDS	1605172-04C PDS	PDS ICPMS_TW	3403	
120	MS_W	1605172-04C MS	MS ICPMS_TW	3404	

#	Level	Dilution	Skip
101			
102			
103			
104		1	
105		1	
106		1	
107			

Sample List

108		1
109		5
110		1
111		1
112		1
113		1
114		1
115		1
116		1
117		1
118		1
119		1
120		1

#	Sample Type	Sample Name	Comment	Vial#	File Name
121	MS_W	1605172-04C MSD	MSD ICPMS_TW	3405	
122	CCV	CCV5-160520	CCV ICPMS_TW	1207	
123	CCB	CCB5-160520	CCB ICPMS_TW	1102	
124	CCB	CCB5-160520	CCB ICPMS_TW	1102	
125	CCB	CCB5-160520	CCB ICPMS_TW	1102	
126	CCB	CCB5-160520	CCB ICPMS_TW	1103	
127	CCB	CCB5-160520	CCB ICPMS_TW	1103	
128	CCB	CCB5-160520	CCB ICPMS_TW	1103	
129	LLCCV	LCVL5-160520	LCVLICPMS_TW	2511	
130	CCB	CCB5-160520	CCB ICPMS_TW	1103	
131	SAMP_W	1605172-01C	SAMPICPMS_TW	3406	
132	SAMP_W	1605172-02C	SAMPICPMS_TW	3407	
133	SAMP_W	1605172-03C	SAMPICPMS_TW	3408	
134	SAMP_W	1605181-01A	SAMPICPMS_TW	3409	
135	CCV	CCV6-160520	CCV ICPMS_TW	1207	
136	CCB	CCB6-160520	CCB ICPMS_TW	1102	
137	CCB	CCB6-160520	CCB ICPMS_TW	1102	
138	CCB	CCB6-160520	CCB ICPMS_TW	1103	
139	CCB	CCB6-160520	CCB ICPMS_TW	1103	
140	LLCCV	LCVL6-160520	LCVLICPMS_TW	2511	

#	Level	Dilution	Skip
121		1	
122			
123			
124			
125			
126			
127			
128			
129			
130			
131		1	
132		1	
133		1	
134		1	
135			

Sample List

136
137
138
139
140

#	Sample Type	Sample Name	Comment	Vial#	File Name
141	CCB	CCB6-160520	CCB ICPMS_TW	1102	
142	CCB	CCB6-160520	CCB ICPMS_TW	1102	
143	CCB	CCB6-160520	CCB ICPMS_TW	1102	
144	CCB	CCB6-160520	CCB ICPMS_TW	1103	
145	CCB	CCB6-160520	CCB ICPMS_TW	1103	
146	CCB	CCB6-160520	CCB ICPMS_TW	1103	

#	Level	Dilution	Skip
141			
142			
143			
144			
145			
146			

Unknown Samples:

Blank Samples:

Periodic Block

#	Block Name	Period	Unit	Reset By

Sublist

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/19/2016 8:30:00 AM**
Digestion:
Prep End Date:

Prep Batch **75180** Prep Code: **3005ADOD** Technician: **Cassie Van Dyke**

Prep Factor Units: **mL/mL**

Equipment List

- Hot Block #4
- Thermometer #71
- Pipette #P-09-Spikes
- Pipette #P-01 Samples

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605047-31A	Equip Blank		50	50	1.000	1 of 1	
1605047-32A	Equip Blank		50	50	1.000	1 of 1	
1605047-38A	Equip Blank		50	50	1.000	1 of 1	
1605071-28A	Equip Blank		50	50	1.000	1 of 1	
1605071-29A	Equip Blank		50	50	1.000	1 of 1	
1605074-33A	Equip Blank		50	50	1.000	1 of 1	
1605074-34A	Equip Blank		50	50	1.000	1 of 1	
1605074-35A	Equip Blank		50	50	1.000	1 of 1	
1605096-36A	Equip Blank		50	50	1.000	1 of 1	
1605096-37A	Equip Blank		50	50	1.000	1 of 1	
1605096-44A	Equip Blank		50	50	1.000	1 of 1	
1605097-27A	Equip Blank		50	50	1.000	1 of 1	MS + MSD
1605097-30A	Equip Blank		50	50	1.000	1 of 1	
1605098-42A	Equip Blank		50	50	1.000	1 of 1	
1605121-46A	Equip Blank		50	50	1.000	1 of 1	
1605121-47A	Equip Blank		50	50	1.000	1 of 1	
1605135-46A	Equip Blank		50	50	1.000	1 of 1	
1605144-16A	Equip Blank		50	50	1.000	1 of 1	
LCS-75180	Aqueous		50	50	1.000	of	
LCSD-75180	Aqueous		50	50	1.000	of	
MB-75180	Aqueous		50	50	1.000	of	

Number	Reagent Name	Amt	Units	Exp. Da
9641	Hydrochloric Acid (trace metal grade)	1	ml	09/22/2025
10056	Digestion Vessels	1	ml	02/10/2026
10136	Nitric Acid (Trace Metal Grade)	1	ml	01/10/2026

9:54 - 15:33

REVIEWED BY
By Janice Whitt at 2:45:04 PM, 5/23/2016

Spk ID	Spike Name	SampType	Amt (mL or g)	Exp. Date
MET-150914-10	AL PRIMARY STD 1000 PPM	LCS/MS/MSD	0.25	10/01/2016
MET-150914-9	FE PRIMARY STD 1000 PPM	LCS/MS/MSD	0.25	10/01/2016
MET-SPIKE-160406-1	2500 PPM NATURALS CAL	LCS/MS/MSD	0.1	07/05/2016
MET-SPIKE-160511-1	50 PPM Custom+Sn,Ti,B,Mo,Sr CAL	LCS/MS/MSD	0.2	08/09/2016
MET-SPIKE-160511-2	50 PPM Sb+Ag CAL	LCS/MS/MSD	0.2	08/09/2016

5/19/16

MECHANICAL VOLUMETRIC PIPETTE VOLUME DAILY CHECK - DOD QSM 5.0

ANALYST:	CVD	**BALANCE #:**	26	
TEST DATE:	05/19/2016	**Water is at Room Temperatue (70-73°F) / (21-23°C)**		
PIPETTER LAB ID:	P-01, P-09	**WATER TEMP (°C):**	**21-23°C**	
TEST VOLUME:	See Below	**WATER DENSITY:**	**0.998**	**(0.9980-0.9976)**

REFERENCE:	DoD QSM 5.0
# of REPLICATES:	3
LABWARE TYPE:	MECHANICAL VOLUMETRIC PIPETTE
FREQUENCY:	DAILY BEFORE USE
MEAN CRITERIA:	± 2% OF NOMINAL VOLUME (VOLUME OF USE/TEST VOLUME)
RSD CRITERIA:	< 1% OF NOMINAL VOLUME (BASED ON MINIMUM OF 3 REPLICATE MEASUREMENTS)

1) RECORD ROOM AND WATER TEMPERATURE	**% TEST VOL = Volume of H2O at °C/Test Volume * 100**
2) TARE VESSEL ON BALANCE. ADD TEST VOLUME.	**%RSD = STDEV (Mean Volume)/AVERAGE (Mean Volume) *100**
3) WEIGH 3 REPLICATES AT THE TEST VOLUME.	
4) DETERMINE TOTAL WT.	
5) CALCULATE VOLUME OF H2O AT °C (in mL)	**VOLUME OF H2O AT °C = TOTAL WT * WATER DENSITY**

					BIAS	PRECISION
PIPETTE ID: P-01	**TEST VOLUME (mL)**	**TOTAL WT (g)**	**Volume of H_2O at °C**	**% TEST VOL (98-102%)**	**MEAN CRITERIA (± 2%)**	**% RSD Calculated**
1	5.00	4.9999	4.9899	99.80	PASS	RSD MUST BE ≤ 1% OF TEST VOLUME VALUE
2		4.9998	4.9898	99.80		
3		4.9952	4.9852	99.70		
AVERAGE (MEAN)		**4.998**	**4.988**	**99.77**		**0.054**
						PASS

PIPETTE ID: P-09	**TEST VOLUME (mL)**	**TOTAL WT (g)**	**Volume of H_2O at °C**	**% TEST VOL (98-102%)**	**MEAN CRITERIA (± 2%)**	**% RSD Calculated**
1	0.20	0.2007	0.2003	100.15	PASS	RSD MUST BE ≤ 1% OF TEST VOLUME VALUE
2		0.2025	0.2021	101.05		
3		0.2027	0.2023	101.15		
AVERAGE (MEAN)		**0.202**	**0.202**	**100.78**		**0.545**
						PASS

PIPETTE ID:	**TEST VOLUME (mL)**	**TOTAL WT (g)**	**Volume of H_2O at °C**	**% TEST VOL (98-102%)**	**MEAN CRITERIA (± 2%)**	**% RSD Calculated**
1						RSD MUST BE ≤ 1% OF TEST VOLUME VALUE
2						
3						
AVERAGE (MEAN)						

5/19/16
Analyst / Date

REVIEWED BY
By Janice Whitt at 2:45:08 PM, 5/23/2016
Review and Approved / Date

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/19/2016 8:30:00 AM**
Digestion: **Start: 5/19/2016 9:54:00 AM / Stop: 5/19/2016 3:33:00 PM**
Prep End Date: **5/19/2016 3:41:51 PM**

Prep Batch **75180** Prep Code: **3005ADOD** Technician: **Cassie Van Dyke**

Prep Factor Units: **mL/mL**

Equipment List

Hot Block #4
Thermometer #71
Pipette #P-09-Spikes
Pipette #P-01 Samples

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605047-31A	Equip Blank		50	50	1.000	1 of 1	
1605047-32A	Equip Blank		50	50	1.000	1 of 1	
1605047-38A	Equip Blank		50	50	1.000	1 of 1	
1605071-28A	Equip Blank		50	50	1.000	1 of 1	
1605071-29A	Equip Blank		50	50	1.000	1 of 1	
1605074-33A	Equip Blank		50	50	1.000	1 of 1	
1605074-34A	Equip Blank		50	50	1.000	1 of 1	
1605074-35A	Equip Blank		50	50	1.000	1 of 1	
1605096-36A	Equip Blank		50	50	1.000	1 of 1	
1605096-37A	Equip Blank		50	50	1.000	1 of 1	
1605096-44A	Equip Blank		50	50	1.000	1 of 1	
1605097-27A	Equip Blank		50	50	1.000	1 of 1	
1605097-27A MS	Equip Blank		50	50	1.000	of	
1605097-27A MSD	Equip Blank		50	50	1.000	of	
1605097-27A PDS	Equip Blank		50	50	1.000	of	
1605097-27A SD	Equip Blank		50	50	1.000	of	
1605097-30A	Equip Blank		50	50	1.000	1 of 1	
1605098-42A	Equip Blank		50	50	1.000	1 of 1	
1605121-46A	Equip Blank		50	50	1.000	1 of 1	
1605121-47A	Equip Blank		50	50	1.000	1 of 1	
1605135-46A	Equip Blank		50	50	1.000	1 of 1	
1605144-16A	Equip Blank		50	50	1.000	1 of 1	
LCS-75180	Aqueous		50	50	1.000	of	
LCSD-75180	Aqueous		50	50	1.000	of	
MB-75180	Aqueous		50	50	1.000	of	

Number	Reagent Name	Amt	Units	Exp. Da
9641	Hydrochloric Acid (trace metal grade)	1	ml	09/22/2025
10056	Digestion Vessels	1	ml	02/10/2026
10136	Nitric Acid (Trace Metal Grade)	1	ml	01/10/2026

Spk ID	Spike Name	SampType	Amt (mL or g)	Exp. Date
MET-150914-10	AL PRIMARY STD 1000 PPM	LCS/MS/MSD	0.25	10/01/2016
MET-150914-9	FE PRIMARY STD 1000 PPM	LCS/MS/MSD	0.25	10/01/2016
MET-SPIKE-160406-1	2500 PPM NATURALS CAL	LCS/MS/MSD	0.1	07/05/2016
MET-SPIKE-160511-1	50 PPM Custom+Sn,Ti,B,Mo,Sr CAL	LCS/MS/MSD	0.2	08/09/2016
MET-SPIKE-160511-2	50 PPM Sb+Ag CAL	LCS/MS/MSD	0.2	08/09/2016

REVIEWED BY
By Janice Whitt at 2:45:11 PM, 5/23/2016

MECHANICAL VOLUMETRIC PIPETTE VOLUME DAILY CHECK - DOD QSM 5.0

ANALYST:	RO	**BALANCE #:**	30
TEST DATE:	05/20/2016	**Water is at Room Temperatue (70-73°F) / (21-23°C)**	
PIPETTER LAB ID:	See Below	**WATER TEMP (°C):**	21-23°C
TEST VOLUME:	See Below	**WATER DENSITY:**	0.998 (0.9980-0.9976)

REFERENCE:	DoD QSM 5.0
# of REPLICATES:	3
LABWARE TYPE:	MECHANICAL VOLUMETRIC PIPETTE
FREQUENCY:	DAILY BEFORE USE
MEAN CRITERIA:	± 2% OF NOMINAL VOLUME (VOLUME OF USE/TEST VOLUME)
RSD CRITERIA:	< 1% OF NOMINAL VOLUME (BASED ON MINIMUM OF 3 REPLICATE MEASUREMENTS)

1) RECORD ROOM AND WATER TEMPERATURE
2) TARE VESSEL ON BALANCE. ADD TEST VOLUME.
3) WEIGH 3 REPLICATES AT THE TEST VOLUME.
4) DETERMINE TOTAL WT.
5) CALCULATE VOLUME OF H2O AT °C (in mL)

% TEST VOL = Volume of H2O at °C/Test Volume * 100

%RSD = STDEV (Mean Volume)/AVERAGE (Mean Volume) *100

VOLUME OF H2O AT °C = TOTAL WT * WATER DENSITY

					BIAS	PRECISION
PIPETTE ID: P-31	**TEST VOLUME (mL)**	**TOTAL WT (g)**	**Volume of H_2O at °C**	**% TEST VOL (98-102%)**	**MEAN CRITERIA (± 2%)**	**% RSD Calculated**
1	4.00	3.9957	3.9877	99.69	PASS	RSD MUST BE ≤ 1% OF TEST VOLUME VALUE
2		3.9968	3.9888	99.72		
3		3.9926	3.9846	99.62		
AVERAGE (MEAN)		**3.995**	**3.987**	**99.68**		**0.055**
						PASS

PIPETTE ID: P-21	**TEST VOLUME (mL)**	**TOTAL WT (g)**	**Volume of H_2O at °C**	**% TEST VOL (98-102%)**	**MEAN CRITERIA (± 2%)**	**% RSD Calculated**
1	1.00	0.9998	0.9978	99.78	PASS	RSD MUST BE ≤ 1% OF TEST VOLUME VALUE
2		0.9976	0.9956	99.56		
3		0.9977	0.9957	99.57		
AVERAGE (MEAN)		**0.998**	**0.996**	**99.64**		**0.124**
						PASS

PIPETTE ID: P-39	**TEST VOLUME (mL)**	**TOTAL WT (g)**	**Volume of H_2O at °C**	**% TEST VOL (98-102%)**	**MEAN CRITERIA (± 2%)**	**% RSD Calculated**
1	0.500	0.4996	0.4986	99.72	PASS	RSD MUST BE ≤ 1% OF TEST VOLUME VALUE
2		0.4999	0.4989	99.78		
3		0.4989	0.4979	99.58		
AVERAGE (MEAN)		**0.499**	**0.498**	**99.69**		**0.103**
						PASS

5/20/16

Analyst / Date

REVIEWED BY
By Janice Whitt at 2:45:14 PM, 5/23/2016

Review and Approved / Date

Calibration Summary Report

Date Acquired 5/20/2016 10:52
Data Batch 160520.b

Level	Calibration File Name
1	012CALB.d
2	013CALS.d
3	014CALS.d
4	015CALS.d
5	016CALS.d
6	017CALS.d
7	018CALS.d
8	019CALS.d

Calibration Table

Ele	Corr Coef	Curve Equation
As	1.0000	y = 0.0014 * x + 1.9173E-004
Be	1.0000	y = 6.7611E-005 * x + 4.0753E-006
B	1.0000	y = 2.3935E-005 * x + 6.6671E-005
Na	0.9999	y = 8.2020E-004 * x + 0.0425
Mg	0.9999	y = 4.1094E-004 * x + 0.0010
Al	1.0000	y = 1.4756E-004 * x + 3.6385E-004
K	0.9999	y = 3.9899E-004 * x + 0.0507
Ca	1.0000	y = 2.2762E-005 * x + 2.4734E-004
Ti	1.0000	y = 1.5550E-004 * x + 2.4548E-006
V	1.0000	y = 0.0053 * x + 0.0030
Cr	1.0000	y = 0.0064 * x + 0.0010
Mn	1.0000	y = 0.0034 * x + 1.2334E-004
Fe	1.0000	y = 0.0054 * x + 0.0075
Co	1.0000	y = 0.0134 * x + 1.6697E-004
Ni	1.0000	y = 0.0037 * x + 5.9595E-004
Cu	1.0000	y = 0.0102 * x + 0.0033
Zn	1.0000	y = 0.0017 * x + 3.7275E-004
Se	1.0000	y = 7.9937E-005 * x + 9.8739E-005
Sr	1.0000	y = 6.4021E-004 * x + 3.3178E-005
Mo	1.0000	y = 6.0622E-004 * x + 4.8584E-006
Ag	0.9999	y = 0.0019 * x + 7.8947E-006
Cd	1.0000	y = 2.8420E-004 * x + 1.5075E-006
Sn	1.0000	y = 5.9872E-004 * x + 6.4692E-005
Sb	1.0000	y = 9.1882E-004 * x + 2.1127E-005
Tl	1.0000	y = 0.0017 * x + 2.3075E-006
Ba	1.0000	y = 2.9131E-004 * x + 3.1689E-006
Pb	1.0000	y = 0.0023 * x + 2.2673E-005
Li	1.0000	y = 5.2630E-005 * x + 1.4809E-005

REVIEWED BY
By Janice Whitt at 2:45:18 PM, 5/23/2016

Calibration Summary Report

Level 7 Cal

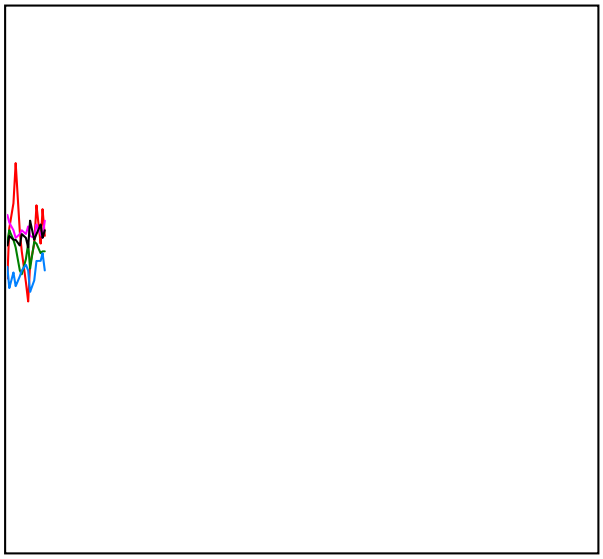
Ele	Conc	Calc	%Rec
As	500	494.27	99
Be	500	507.25	101
B	500	512.43	102
Na	10000	10274.86	103
Mg	10000	10243.18	102
Al	10000	9999.22	100
K	10000	10218.11	102
Ca	10000	9805.32	98
Ti	500	501.17	100
V	500	507.40	101
Cr	500	509.33	102
Mn	500	509.95	102
Fe	10000	9967.53	100
Co	500	512.00	102
Ni	500	505.16	101
Cu	500	508.82	102
Zn	500	506.99	101
Se	500	497.89	100
Sr	500	505.73	101
Mo	500	498.28	100
Ag	500	497.63	100
Cd	500	496.13	99
Sn	500	494.23	99
Sb	500	501.03	100
Tl	500	509.21	102
Ba	500	495.71	99
Pb	500	503.45	101

Level 8 Cal

Ele	Conc	Calc	%Rec
As	2000	2001.88	100
Be	2000	1997.64	100
B	2000	1996.74	100
Na	25000	24858.90	101
Mg	25000	24867.65	101
K	25000	24896.46	100
Ca	25000	25100.13	100
Ti	2000	1999.82	100
V	2000	1997.81	100
Cr	2000	1997.17	100
Mn	2000	1996.76	100
Co	2000	1995.80	100
Ni	2000	1997.77	100
Cu	2000	1996.80	100
Zn	2000	1997.23	100
Se	2000	2000.32	100
Sr	2000	1998.31	100
Mo	2000	2000.69	100
Cd	2000	2001.01	100
Sn	2000	2001.88	100
Tl	2000	1997.65	100
Ba	2000	2001.53	100
Pb	2000	1999.22	100
Li	2000	1995.26	100

REVIEWED BY
By Janice Whitt at 2:45:21 PM, 5/23/2016

Current Signal



Mass	Range	Count	Avg. Count	RSD [%]
51	200	116	114.9	11.79
59	2000	1105	1102.9	4.38
89	2000	1032	1025.3	4.05
140	5000	3033	2949.5	2.29
205	5000	2959	2890.5	2.51
156/140	1	0.462 %	0.345 %	35.57
75	20	3	4.9	44.86
78	20	3	7.9	39.26
56	5000	2420	2326.3	2.61
31	100	56	49.2	9.44

Integration Time [sec] 0.10

Plasma Parameters

RF Power	1550	Carrier Gas	0.55
RF Matching	1.90	Option Gas	0.0
Smpl Depth	8.0	Nebulizer Pump	0.10
S/C Temp	2		

Lenses Parameters

Extract 1	0.0	Omega Lens	6.6
Extract 2	-200.0	Cell Entrance	-40
Omega Bias	-80	Cell Exit	-60
Deflect	2.4		

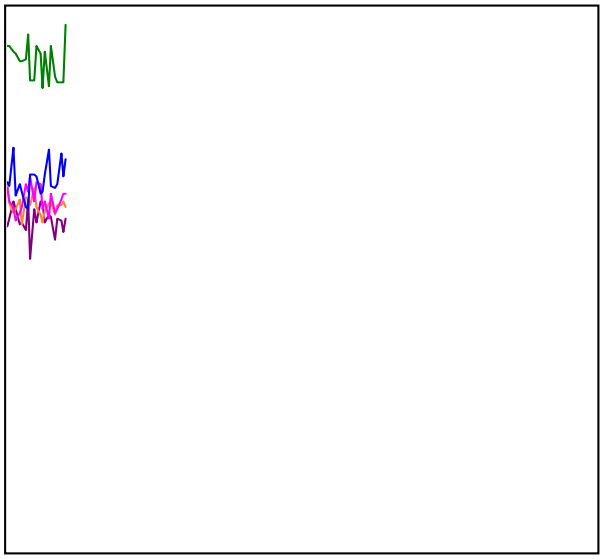
Cell Parameters

Use Gas	true	3rd Gas Flow	0
He Flow	4.7	OctP Bias	-18.0
H2 Flow	0.0	OctP RF	200
Energy Discrimination	3.0		

Meters

IF/BK Press	2.26E+2	Pa	Carrier Gas(BP)	2.53E+2	kPa
Analyzer Press	2.03E-4	Pa	Reflected Power	1	W
Forward Power	1550	W			

Current Signal



Mass	Range	Count	Avg. Count	RSD [%]
7	2000	1222	1219.4	4.17
59	2000	1933	1800.7	3.77
89	5000	3170	3179.9	2.86
140	5000	3279	3231.5	3.58
205	5000	2137	2197.3	4.10
156/140	2	1.373 %	1.107 %	20.36
78	5000	2219	2298.0	2.84
63	500	361	341.0	4.61
75	10000	5042	4978.2	1.76
Integration Time [sec]		0.10		

Plasma Parameters

RF Power	1550	Carrier Gas	0.55
RF Matching	1.90	Option Gas	0.0
Smpl Depth	8.0	Nebulizer Pump	0.10
S/C Temp	2		

Lenses Parameters

Extract 1	0.0	Omega Lens	6.6
Extract 2	-200.0	Cell Entrance	-40
Omega Bias	-80	Cell Exit	-60
Deflect	7.0		

Cell Parameters

Use Gas	false	3rd Gas Flow	0
He Flow	4.2	OctP Bias	-18.0
H2 Flow	0.0	OctP RF	200
Energy Discrimination	3.0		

Meters

IF/BK Press	2.25E+2	Pa	Carrier Gas(BP)	2.51E+2	kPa
Analyzer Press	1.15E-4	Pa	Reflected Power	1	W
Forward Power	1549	W			

US EPA Tune Check Sample Report

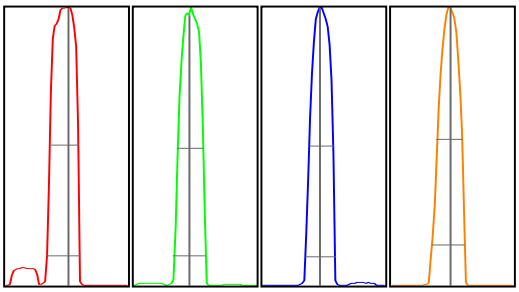
Batch Folder C:\Agilent\ICPMH\1\DATA\DHL TEMPLATE Li.b
Report Comment
Instrument Name ICPMS4 JP12361998

[No gas]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
7	766071	0.59	5.00	
59	1002535	0.88	5.00	
115	1534120	0.47	5.00	
205	1337735	0.65	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
7	761000	762770	766402	767567	772618
59	994287	996607	1000508	1004518	1016753
115	1531586	1527087	1528422	1540459	1543047
205	1347346	1339137	1338492	1340161	1323539

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	Width-X% (Flag)
7	114427	7.05	6.9 - 7.1		0.792	0.850	
59	169781	58.90	58.9 - 59.1		0.757	0.850	
115	281192	114.95	114.9 - 115.1		0.715	0.850	
205	235049	205.00	204.9 - 205.1		0.792	0.850	

X% = 10 **Int Time [sec] =** 0.1 **Acq Time [sec] =** 135.05 **Y Axis =** Linear

Tune Parameters

Plasma Paramters

ParameterName	Value	Unit	ParameterName	Value	Unit
RF Power	1550	W	Nebulizer Pump	0.10	rps
RF Matching	1.90	V	S/C Temp	2	℃
Smpl Depth	8.0	mm	Gas Switch	Dilution Gas	
Carrier Gas	0.55	L/min	Makeup/Dilution Gas	0.50	L/min
Option Gas	0.0	%			

Lenses Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	0.0	V	Cell Entrance	-40	V
Extract 2	-200.0	V	Cell Exit	-60	V
Omega Bias	-80	V	Deflect	7.0	V
Omega Lens	6.6	V	Plate Bias	-60	V

Cell Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit
Use Gas	false		OctP Bias	-18.0	V
He Flow	0.0	mL/min	OctP RF	200	V
H2 Flow	0.0	mL/min	Energy Discrimination	3.0	V
3rd Gas Flow	0	%			

REVIEWED BY
By Janice Whitt at 2:45:29 PM, 5/23/2016

P/A Factor Tuning Report

Current Sample

Sample Name: BLANK STD 1
Data File: 012CALB.d
Acquired: 05/20/2016 10:52:47

Detector Parameters and P/A Factors

Discriminator: 4.5 mV
AnalogHV: 1756 V
PulseHV: 1224 V

Acquired: 05/20/2016 10:17:33

Mass[u]	Element	P/A Factor
6	Li	0.098134
9	Be	0.112424
23	Na	0.120362
24	Mg	0.125799
27	Al	0.129086
39	K	0.130962
45	Sc	0.132626
48		0.132901
51	V	0.134336
52	Cr	0.138170
55	Mn	0.140003
59	Co	0.143275
60	Ni	0.144291
63	Cu	0.146894
66	Zn	0.146603
72		0.145810
74	Ge	0.145819
75	As	0.144825
88	Sr	0.145917
89		0.145627
95		0.145741
97	Mo	0.145945
98	Mo	0.146160
99	[Mo]	0.149063
101		0.148703
105		0.151466
111	Cd	0.152171
114	Cd	0.152307
115	In	0.152070
118	Sn	0.152341
121		0.151907
123	Sb	0.151213
135	Ba	0.153085
138		0.153114
175		0.157166
193		0.158115
205	Tl	0.159390
206	[Pb]	0.158901
207	[Pb]	0.160233
208	Pb	0.160034
209	Bi	0.160265
232		0.160153
238	U	0.160001
44	Ca	Signal too low
78	Se	Signal too low
107	Ag	Signal too low
172		Signal too low

REVIEWED BY
By Janice Whitt at 2:45:32 PM, 5/23/2016

Calibration Blank Report

Date Acquired	5/20/2016 10:52	Sample Name	BLANK STD 1
Data Batch	160520.b	Comment	CAL ICPMS_TW
Data File Name	012CALB.d	Dilution	1

Mass	Name	IS	CPS	%RSD
7	Li	45	13	11.46
9	Be	45	4	31.49
11	B	45	60	38.88
23	Na	45	38295	1.98
24	Mg	45	929	4.13
27	Al	45	328	9.67
39	K	45	45687	1.92
44	Ca	45	223	14.74
47	Ti	45	2	173.21
51	V	45	2712	3.25
52	Cr	45	932	8.94
55	Mn	45	111	4.58
56	Fe	45	6780	0.46
59	Co	72	116	10.13
60	Ni	72	412	4.45
63	Cu	72	2314	7.14
66	Zn	72	258	12.02
75	As	72	133	9.18
78	Se	72	68	18.46
88	Sr	115	220	6.60
95	Mo	115	32	39.17
107	Ag	115	52	47.91
111	Cd	115	10	0.00
118	Sn	115	429	7.22
121	Sb	115	140	14.48
137	Ba	115	21	59.77
205	Tl	209	38	10.19
208	Pb	209	371	5.49

QC ISTD Table

Mass	Name	CPS	%RSD
45	Sc	900744	0.58
72	Ge	691836	0.52
115	In	6634288	1.31
209	Bi	16365010	0.86

Calibration Standard Report

Date Acquired	5/20/2016 10:54	Sample Name	L2-160520
Data Batch	160520.b	Comment	CAL ICPMS_TW
Data File Name	013CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
7	Li	45	51	19.61
9	Be	45	59	16.17
11	B	45	81	47.63
23	Na	45	54693	1.98
24	Mg	45	8631	1.06
27	Al	45	3024	4.27
39	K	45	52837	1.33
44	Ca	45	673	9.59
47	Ti	45	142	21.27
51	V	45	7566	1.37
52	Cr	45	6659	1.56
55	Mn	45	3339	3.35
56	Fe	45	103212	0.39
59	Co	72	9894	1.63
60	Ni	72	3053	2.78
63	Cu	72	9651	1.49
66	Zn	72	1510	9.51
75	As	72	1134	3.65
78	Se	72	138	13.66
88	Sr	115	4758	9.98
95	Mo	115	4017	1.96
107	Ag	115	13061	1.16
111	Cd	115	1892	1.58
118	Sn	115	4368	1.85
121	Sb	115	6040	1.52
137	Ba	115	1957	3.12
205	Tl	209	28454	0.85
208	Pb	209	38051	1.40

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	888675	0.90	900744	98.66	70	120	
72	Ge	693617	1.22	691836	100.26	70	120	
115	In	6537693	1.64	6634288	98.54	70	120	
209	Bi	16272142	1.22	16365010	99.43	70	120	

Calibration Standard Report

Date Acquired	5/20/2016 10:56	Sample Name	L-160520
Data Batch	160520.b	Comment	CAL ICPMS_TW
Data File Name	014CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
7	Li	45	475	4.33
9	Be	45	589	2.81
11	B	45	213	8.70
23	Na	45	187072	0.24
24	Mg	45	75079	1.15
27	Al	45	26142	0.55
39	K	45	117199	0.47
44	Ca	45	4092	2.49
47	Ti	45	1508	7.61
51	V	45	49367	1.70
52	Cr	45	57479	0.64
55	Mn	45	30593	1.12
56	Fe	45	958300	0.88
59	Co	72	94946	1.52
60	Ni	72	26516	2.15
63	Cu	72	74283	1.74
66	Zn	72	11910	2.27
75	As	72	9774	0.72
78	Se	72	636	2.65
88	Sr	115	41218	0.48
95	Mo	115	38411	0.41
107	Ag	115	126475	0.65
111	Cd	115	18563	1.42
118	Sn	115	38626	1.15
121	Sb	115	58717	1.10
137	Ba	115	18171	0.63
205	Tl	209	272304	0.87
208	Pb	209	366431	0.81

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	873243	0.62	900744	96.95	70	120	
72	Ge	678023	0.58	691836	98.00	70	120	
115	In	6551099	0.64	6634288	98.75	70	120	
209	Bi	15917913	1.04	16365010	97.27	70	120	

Calibration Standard Report

Date Acquired	5/20/2016 10:58	Sample Name	10X-160520
Data Batch	160520.b	Comment	CAL ICPMS_TW
Data File Name	015CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
7	Li	45	2372	1.63
9	Be	45	2923	2.25
11	B	45	1067	9.08
23	Na	45	770119	0.18
24	Mg	45	367454	0.88
27	Al	45	128655	0.92
39	K	45	399073	0.48
44	Ca	45	19370	0.75
47	Ti	45	6789	2.58
51	V	45	235086	0.94
52	Cr	45	281473	0.22
55	Mn	45	151664	1.11
56	Fe	45	4726262	0.52
59	Co	72	472848	1.31
60	Ni	72	128482	0.55
63	Cu	72	359776	1.03
66	Zn	72	59442	1.18
75	As	72	47843	0.10
78	Se	72	2827	1.34
88	Sr	115	207253	0.76
95	Mo	115	189832	0.47
107	Ag	115	625220	0.51
111	Cd	115	90493	0.63
118	Sn	115	188562	0.79
121	Sb	115	291979	0.59
137	Ba	115	91676	0.52
205	Tl	209	1369668	0.21
208	Pb	209	1836011	0.28

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	870783	0.49	900744	96.67	70	120	
72	Ge	675804	0.16	691836	97.68	70	120	
115	In	6511848	1.01	6634288	98.15	70	120	
209	Bi	15817982	1.93	16365010	96.66	70	120	

Calibration Standard Report

Date Acquired	5/20/2016 11:00	Sample Name	5X-160520
Data Batch	160520.b	Comment	CAL ICPMS_TW
Data File Name	016CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
7	Li	45	4719	0.99
9	Be	45	6031	2.61
11	B	45	2106	2.38
23	Na	45	1487744	0.34
24	Mg	45	730325	0.75
27	Al	45	254158	1.00
39	K	45	743764	0.35
44	Ca	45	38890	0.92
47	Ti	45	13122	1.48
51	V	45	464545	0.24
52	Cr	45	553845	0.36
55	Mn	45	296245	0.64
56	Fe	45	9475567	0.90
59	Co	72	929518	0.70
60	Ni	72	254645	0.94
63	Cu	72	705956	0.91
66	Zn	72	115636	0.55
75	As	72	94999	1.00
78	Se	72	5517	1.18
88	Sr	115	407209	0.73
95	Mo	115	382159	0.27
107	Ag	115	1246974	0.27
111	Cd	115	180002	0.67
118	Sn	115	373685	0.75
121	Sb	115	581845	0.44
137	Ba	115	181959	0.36
205	Tl	209	2721048	0.56
208	Pb	209	3638595	0.14

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	867111	0.94	900744	96.27	70	120	
72	Ge	670073	0.40	691836	96.85	70	120	
115	In	6345212	1.15	6634288	95.64	70	120	
209	Bi	15774838	1.13	16365010	96.39	70	120	

Calibration Standard Report

Date Acquired	5/20/2016 11:02	Sample Name	2X-160520
Data Batch	160520.b	Comment	CAL ICPMS_TW
Data File Name	017CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
7	Li	45	11645	1.45
9	Be	45	14799	0.87
11	B	45	5271	3.09
23	Na	45	3674579	0.75
24	Mg	45	1829610	0.19
27	Al	45	638745	0.27
39	K	45	1790546	0.40
44	Ca	45	96796	0.45
47	Ti	45	33606	0.77
51	V	45	1166196	0.37
52	Cr	45	1399555	0.43
55	Mn	45	749211	1.10
56	Fe	45	23607094	0.99
59	Co	72	2343107	0.54
60	Ni	72	639981	0.74
63	Cu	72	1763980	0.57
66	Zn	72	293583	0.29
75	As	72	238361	0.79
78	Se	72	13619	1.02
88	Sr	115	1023414	0.41
95	Mo	115	955739	0.13
107	Ag	115	3129309	0.67
111	Cd	115	450580	1.28
118	Sn	115	940332	0.60
121	Sb	115	1446811	0.41
137	Ba	115	456887	0.89
205	Tl	209	6865122	2.34
208	Pb	209	9182346	0.28

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	863899	0.62	900744	95.91	70	120	
72	Ge	676172	1.16	691836	97.74	70	120	
115	In	6342174	1.08	6634288	95.60	70	120	
209	Bi	15798184	1.06	16365010	96.54	70	120	

Calibration Standard Report

Date Acquired	5/20/2016 11:04	Sample Name	H-160520
Data Batch	160520.b	Comment	CAL ICPMS_TW
Data File Name	018CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
7	Li	45	23477	0.78
9	Be	45	29678	0.77
11	B	45	10670	2.57
23	Na	45	7328693	1.45
24	Mg	45	3642987	0.46
27	Al	45	1276992	0.43
39	K	45	3571412	0.39
44	Ca	45	193325	1.27
47	Ti	45	67432	0.26
51	V	45	2342136	0.46
52	Cr	45	2811568	0.73
55	Mn	45	1497737	1.02
56	Fe	45	46607699	0.12
59	Co	72	4664541	0.37
60	Ni	72	1265436	0.57
63	Cu	72	3510221	0.93
66	Zn	72	580522	0.69
75	As	72	478495	0.53
78	Se	72	27052	0.42
88	Sr	115	2062251	0.76
95	Mo	115	1923834	1.60
107	Ag	115	6149064	1.18
111	Cd	115	897958	0.69
118	Sn	115	1885001	0.48
121	Sb	115	2931945	1.17
137	Ba	115	919713	0.73
205	Tl	209	13843577	0.15
208	Pb	209	18376231	1.17

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	865250	0.07	900744	96.06	70	120	
72	Ge	678053	0.72	691836	98.01	70	120	
115	In	6368809	0.55	6634288	96.00	70	120	
209	Bi	15682376	1.12	16365010	95.83	70	120	

Calibration Standard Report

Date Acquired	5/20/2016 11:06	Sample Name	H2-160520
Data Batch	160520.b	Comment	CAL ICPMS_TW
Data File Name	019CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
7	Li	45	91520	0.61
9	Be	45	117696	1.05
11	B	45	41703	2.00
23	Na	45	17804069	1.61
24	Mg	45	8905730	0.41
27	Al	45	1268	15.64
39	K	45	8700336	3.99
44	Ca	45	498064	0.89
47	Ti	45	270980	0.88
51	V	45	9279476	1.91
52	Cr	45	11100250	2.57
55	Mn	45	5906029	1.36
56	Fe	45	31079	21.18
59	Co	72	18091149	2.15
60	Ni	72	4978053	0.80
63	Cu	72	13698455	1.21
66	Zn	72	2274547	0.47
75	As	72	1927729	0.53
78	Se	72	107929	0.33
88	Sr	115	8069912	1.86
95	Mo	115	7651186	1.88
107	Ag	115	2167	27.48
111	Cd	115	3587268	0.74
118	Sn	115	7561068	0.94
121	Sb	115	4899	3.75
137	Ba	115	3678176	0.64
205	Tl	209	54027345	1.56
208	Pb	209	72597616	1.51

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	871411	0.35	900744	96.74	70	120	
72	Ge	674585	0.55	691836	97.51	70	120	
115	In	6308303	0.56	6634288	95.09	70	120	
209	Bi	15600790	0.51	16365010	95.33	70	120	

Interference Check Solution A (ICS-A) Report

Date Acquired	5/20/2016 11:14	Sample Name	ICSA-160520
Data Batch	160520.b	Comment	ICSAICPMS_TW
Data File Name	023ICSA.d	Dilution	1

Mass	Name	Conc	CPS	%RSD	MDL S	MDL Aq	QC Flag
9	Be	0.178	13	11.5	1.2	0.8	
11	B	12.857	310	15.8	30	30	
51	V	-0.035	2337	3.4	10	10	
52	Cr	0.435	3153	9.6	8	5	
55	Mn	1.453	4183	2.6	8	10	
59	Co	0.572	5053	6.0	8	10	
60	Ni	0.460	1477	4.3	8	10	
63	Cu	0.966	8479	8.6	8	10	
66	Zn	1.514	1886	2.4	10	5	
75	As	0.723	788	5.3	4	5	
78	Se	0.403	84	12.1	2	5	
88	Sr	1.450	5706	4.5	10	10	
107	Ag	0.149	1757	1.5	0.8	2	
111	Cd	0.508	864	8.0	1.2	1	
118	Sn	1.337	5130	5.4	10	10	
121	Sb	0.431	2474	8.2	4	2.5	
137	Ba	0.360	641	0.8	8	10	
205	Tl	0.057	1457	3.8	4	1.5	
208	Pb	0.112	4071	5.3	1.2	1	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	827611	0.57	900744	91.88	70	120	
72	Ge	643920	0.43	691836	93.07	70	120	
115	In	5931990	0.71	6634288	89.41	70	120	
209	Bi	14414677	1.32	16365010	88.08	70	120	

Interference Check Solution AB (ICS-AB) Report

Date Acquired	5/20/2016 11:16	Sample Name	ICSAB-160520
Data Batch	160520.b	Comment	ICSBICPMS_TW
Data File Name	024ICSB.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
51	V	45	40.230	179228	0.38	40	100.6	80	120	
52	Cr	45	21.180	112220	0.68	20	105.9	80	120	
55	Mn	45	20.090	56319	0.85	20	100.5	80	120	
59	Co	72	40.765	350154	0.67	40	101.9	80	120	
60	Ni	72	37.991	90057	0.27	40	95.0	80	120	
63	Cu	72	21.028	138786	0.46	20	105.1	80	120	
66	Zn	72	20.320	22160	1.43	20	101.6	80	120	
75	As	72	19.962	18332	0.50	20	99.8	80	120	
78	Se	72	20.880	1130	1.09	20	104.4	80	120	
107	Ag	115	19.272	219521	0.59	20	96.4	80	120	
111	Cd	115	10.173	16977	1.44	10	101.7	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	824440	0.46	900744	91.53	70	120	
72	Ge	639098	0.68	691836	92.38	70	120	
115	In	5869841	0.52	6634288	88.48	70	120	
209	Bi	14474563	1.18	16365010	88.45	70	120	

Initial Calibration Verification (ICV) Report

Date Acquired	5/20/2016 11:28	Sample Name	ICV-160520
Data Batch	160520.b	Comment	ICV ICPMS_TW
Data File Name	028_ICV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	100.332	4824	1.81	100	100.3	90	110	
9	Be	45	103.176	6359	1.46	100	103.2	90	110	
11	B	45	106.105	2375	2.15	100	106.1	90	110	
23	Na	45	2619.649	1996303	0.67	2500	104.8	90	110	
24	Mg	45	2613.352	979367	0.11	2500	104.5	90	110	
27	Al	45	2492.346	335405	0.21	2500	99.7	90	110	
39	K	45	2576.179	982676	0.45	2500	103.0	90	110	
44	Ca	45	2392.260	49836	0.98	2500	95.7	90	110	
47	Ti	45	102.414	14511	1.78	100	102.4	90	110	
51	V	45	103.304	504292	0.75	100	103.3	90	110	
52	Cr	45	105.424	613523	0.38	100	105.4	90	110	
55	Mn	45	102.300	316459	1.21	100	102.3	90	110	
56	Fe	45	2567.305	12645614	0.68	2500	102.7	90	110	
59	Co	72	106.357	1016420	0.67	100	106.4	90	110	
60	Ni	72	103.434	272118	0.62	100	103.4	90	110	
63	Cu	72	102.858	746210	0.57	100	102.9	90	110	
66	Zn	72	103.642	124695	1.04	100	103.6	90	110	
75	As	72	100.339	101992	0.91	100	100.3	90	110	
78	Se	72	104.060	5986	1.79	100	104.1	90	110	
88	Sr	115	103.091	442072	0.16	100	103.1	90	110	
95	Mo	115	98.299	398988	0.75	100	98.3	90	110	
107	Ag	115	98.962	1285452	0.32	100	99.0	90	110	
111	Cd	115	99.483	189297	1.17	100	99.5	90	110	
118	Sn	115	101.471	407166	1.20	100	101.5	90	110	
121	Sb	115	98.770	607715	0.72	100	98.8	90	110	
137	Ba	115	98.652	192414	0.96	100	98.7	90	110	
205	Tl	209	101.466	2836271	0.84	100	101.5	90	110	
208	Pb	209	101.685	3816480	0.50	100	101.7	90	110	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	911084	0.27	900744	101.15	70	120	
72	Ge	711191	0.51	691836	102.80	70	120	
115	In	6694931	0.54	6634288	100.91	70	120	
209	Bi	16123032	0.92	16365010	98.52	70	120	

Low Level Calibration Verification (LLCV) Report

Date Acquired	5/20/2016 11:40	Sample Name	LCVL-160520
Data Batch	160520.b	Comment	LCVLICPMS_TW
Data File Name	031LICV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	10.211	493	3.28	10	102.1	70	130	
9	Be	45	0.883	57	3.51	1	88.3	70	130	
11	B	45	23.200	556	15.56	20	116.0	70	130	
23	Na	45	105.249	115108	0.58	100	105.2	70	130	
24	Mg	45	100.404	37782	2.89	100	100.4	70	130	
27	Al	45	96.019	12984	1.75	100	96.0	70	130	
39	K	45	105.822	83035	0.80	100	105.8	70	130	
44	Ca	45	97.034	2194	6.79	100	97.0	70	130	
47	Ti	45	4.981	694	16.24	5	99.6	70	130	
51	V	45	0.990	7405	1.67	1	99.0	70	130	
52	Cr	45	5.164	30348	0.92	5	103.3	70	130	
55	Mn	45	4.932	15067	0.98	5	98.6	70	130	
56	Fe	45	98.316	481338	0.67	100	98.3	70	130	
59	Co	72	5.160	48099	1.92	5	103.2	70	130	
60	Ni	72	5.266	13871	3.84	5	105.3	70	130	
63	Cu	72	5.055	37891	1.05	5	101.1	70	130	
66	Zn	72	5.003	6103	1.75	5	100.1	70	130	
75	As	72	5.096	5168	1.25	5	101.9	70	130	
78	Se	72	4.860	337	3.91	5	97.2	70	130	
88	Sr	115	5.140	21310	1.33	5	102.8	70	130	
95	Mo	115	4.953	19283	2.26	5	99.1	70	130	
107	Ag	115	1.964	24482	0.47	2	98.2	70	130	
111	Cd	115	1.030	1888	5.78	1	103.0	70	130	
118	Sn	115	5.127	20100	1.89	5	102.5	70	130	
121	Sb	115	1.951	11631	2.50	2	97.6	70	130	
137	Ba	115	5.004	9363	2.13	5	100.1	70	130	
205	Tl	209	0.992	27078	1.04	1	99.2	70	130	
208	Pb	209	0.967	35772	0.59	1	96.7	70	130	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	893427	0.34	900744	99.19	70	120	
72	Ge	692133	0.84	691836	100.04	70	120	
115	In	6412520	1.80	6634288	96.66	70	120	
209	Bi	15729452	0.95	16365010	96.12	70	120	

Initial Calibration Blank (ICB) Report

Date Acquired	5/20/2016 11:45	Sample Name	ICB-160520
Data Batch	160520.b	Comment	ICB ICPMS_TW
Data File Name	033_ICB.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	MDL S	MDL Aq	QC Flag
7	Li	45	0.079	17	24.0	2	5	
9	Be	45	0.096	10	11.9	0.4	0.3	
11	B	45	2.797	122	14.0	10	10	
23	Na	45	1.389	39897	0.2	50	100	
24	Mg	45	-0.816	636	7.3	50	100	
27	Al	45	-0.630	248	10.8	50	10	
39	K	45	4.622	48039	0.4	50	100	
44	Ca	45	0.493	236	7.3	50	100	
47	Ti	45	0.032	7	132.3	4	3	
51	V	45	0.003	2768	7.0	4	3	
52	Cr	45	-0.004	922	6.2	2	2	
55	Mn	45	0.012	149	15.9	2	3	
56	Fe	45	0.182	7778	2.3	50	50	
59	Co	72	0.001	131	10.3	2	3	
60	Ni	72	-0.045	304	13.2	2	3	
63	Cu	72	-0.086	1743	2.3	2	2	
66	Zn	72	0.005	270	10.7	4	2	
75	As	72	0.026	161	5.5	2	2	
78	Se	72	0.216	82	13.1	1	2	
88	Sr	115	-0.005	196	17.2	4	3	
95	Mo	115	0.004	49	43.3	2	2	
107	Ag	115	0.002	71	15.1	0.4	1	
111	Cd	115	-0.002	7	50.0	0.4	0.3	
118	Sn	115	0.236	1351	4.6	4	3	
121	Sb	115	0.008	189	2.7	2	0.8	
137	Ba	115	-0.002	18	57.3	2	3	
205	Tl	209	0.000	32	39.2	2	0.5	
208	Pb	209	-0.001	313	21.3	0.4	0.3	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	914027	1.10	900744	101.47	70	120	
72	Ge	707118	0.50	691836	102.21	70	120	
115	In	6559701	1.67	6634288	98.88	70	120	
209	Bi	15784059	0.77	16365010	96.45	70	120	

Continuing Calibration Verification (CCV) Report

Date Acquired	5/20/2016 13:06	Sample Name	CCV2-160520
Data Batch	160520.b	Comment	CCV ICPMS_TW
Data File Name	066_CCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	206.782	9383	0.75	200	103.4	90	110	
9	Be	45	206.653	12034	2.11	200	103.3	90	110	
11	B	45	208.432	4353	3.34	200	104.2	90	110	
23	Na	45	5168.925	3686872	0.54	5000	103.4	90	110	
24	Mg	45	5109.315	1808629	0.07	5000	102.2	90	110	
27	Al	45	4965.141	631105	1.07	5000	99.3	90	110	
39	K	45	5070.813	1785627	0.49	5000	101.4	90	110	
44	Ca	45	4837.310	95013	0.31	5000	96.7	90	110	
47	Ti	45	201.140	26931	1.95	200	100.6	90	110	
51	V	45	203.158	934716	0.26	200	101.6	90	110	
52	Cr	45	203.913	1120596	0.27	200	102.0	90	110	
55	Mn	45	203.279	594158	0.25	200	101.6	90	110	
56	Fe	45	5042.514	23467994	2.63	5000	100.9	90	110	
59	Co	72	209.877	1876358	0.40	200	104.9	90	110	
60	Ni	72	207.066	509243	0.87	200	103.5	90	110	
63	Cu	72	208.708	1414211	0.15	200	104.4	90	110	
66	Zn	72	207.264	233038	0.84	200	103.6	90	110	
75	As	72	201.926	191894	0.46	200	101.0	90	110	
78	Se	72	202.755	10849	1.10	200	101.4	90	110	
88	Sr	115	204.295	814939	0.35	200	102.1	90	110	
95	Mo	115	202.212	763670	0.55	200	101.1	90	110	
107	Ag	115	205.239	2480385	1.13	200	102.6	90	110	
111	Cd	115	199.199	352656	0.69	200	99.6	90	110	
118	Sn	115	197.089	735458	0.76	200	98.5	90	110	
121	Sb	115	199.804	1143701	0.34	200	99.9	90	110	
137	Ba	115	198.088	359480	0.42	200	99.0	90	110	
205	Tl	209	200.163	5318716	0.54	200	100.1	90	110	
208	Pb	209	199.769	7127416	0.69	200	99.9	90	110	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	861013	0.67	900744	95.59	70	120	
72	Ge	665333	0.20	691836	96.17	70	120	
115	In	6231428	2.47	6634288	93.93	70	120	
209	Bi	15327196	0.94	16365010	93.66	70	120	

Low Level Calibration Verification (LLCV) Report

Date Acquired	5/20/2016 13:11	Sample Name	LCVL2-160520
Data Batch	160520.b	Comment	LCVLICPMS_TW
Data File Name	068LCCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	10.180	474	2.40	10	101.8	70	130	
9	Be	45	0.959	59	8.65	1	95.9	70	130	
11	B	45	21.476	500	5.81	20	107.4	70	130	
23	Na	45	114.680	117582	1.00	100	114.7	70	130	
24	Mg	45	102.970	37317	0.48	100	103.0	70	130	
27	Al	45	98.909	12880	4.15	100	98.9	70	130	
39	K	45	108.787	81036	0.93	100	108.8	70	130	
44	Ca	45	94.480	2064	3.75	100	94.5	70	130	
47	Ti	45	5.005	672	10.88	5	100.1	70	130	
51	V	45	1.123	7743	1.49	1	112.3	70	130	
52	Cr	45	5.141	29121	0.49	5	102.8	70	130	
55	Mn	45	4.988	14682	1.06	5	99.8	70	130	
56	Fe	45	99.852	470995	0.94	100	99.9	70	130	
59	Co	72	5.265	47388	0.94	5	105.3	70	130	
60	Ni	72	5.263	13389	2.18	5	105.3	70	130	
63	Cu	72	4.987	36119	2.85	5	99.7	70	130	
66	Zn	72	5.046	5941	3.03	5	100.9	70	130	
75	As	72	5.075	4969	1.43	5	101.5	70	130	
78	Se	72	4.862	326	7.08	5	97.2	70	130	
88	Sr	115	5.081	20655	2.50	5	101.6	70	130	
95	Mo	115	4.888	18659	3.10	5	97.8	70	130	
107	Ag	115	1.957	23909	0.54	2	97.8	70	130	
111	Cd	115	0.957	1719	2.72	1	95.7	70	130	
118	Sn	115	5.006	19243	1.11	5	100.1	70	130	
121	Sb	115	1.956	11427	1.88	2	97.8	70	130	
137	Ba	115	4.966	9110	2.66	5	99.3	70	130	
205	Tl	209	0.981	26754	0.55	1	98.1	70	130	
208	Pb	209	0.963	35540	1.14	1	96.3	70	130	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	860941	0.31	900744	95.58	70	120	
72	Ge	668324	0.73	691836	96.60	70	120	
115	In	6285266	1.03	6634288	94.74	70	120	
209	Bi	15704344	0.74	16365010	95.96	70	120	

Continuing Calibration Blank (CCB) Report

Date Acquired	5/20/2016 13:20	Sample Name	CCB2-160520
Data Batch	160520.b	Comment	CCB ICPMS_TW
Data File Name	069_CCB.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	MDL S	MDL Aq	QC Flag
7	Li	45	-0.014	13	25.4	2	5	
9	Be	45	-0.006	3	34.6	0.4	0.3	
11	B	45	2.688	118	17.3	10	10	
23	Na	45	1.684	39484	2.0	50	100	
24	Mg	45	-0.399	780	2.7	50	100	
27	Al	45	-0.348	281	7.9	50	10	
39	K	45	7.540	48329	1.2	50	100	
44	Ca	45	-1.660	189	6.3	50	100	
47	Ti	45	0.008	3	100.1	4	3	
51	V	45	0.049	2943	3.7	4	3	
52	Cr	45	-0.015	847	3.8	2	2	
55	Mn	45	-0.011	78	8.9	2	3	
56	Fe	45	0.069	7107	2.5	50	50	
59	Co	72	-0.007	53	43.7	2	3	
60	Ni	72	-0.065	244	13.7	2	3	
63	Cu	72	-0.125	1426	1.3	2	2	
66	Zn	72	-0.037	213	14.9	4	2	
75	As	72	0.009	141	11.2	2	2	
78	Se	72	-0.189	58	22.2	1	2	
88	Sr	115	0.038	371	62.4	4	3	
95	Mo	115	-0.003	19	56.7	2	2	
107	Ag	115	0.003	94	22.4	0.4	1	
111	Cd	115	0.005	19	62.0	0.4	0.3	
118	Sn	115	0.076	714	4.9	4	3	
121	Sb	115	0.016	233	23.8	2	0.8	
137	Ba	115	0.007	33	17.3	2	3	
205	Tl	209	0.000	34	39.1	2	0.5	
208	Pb	209	-0.001	310	17.2	0.4	0.3	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	899519	0.65	900744	99.86	70	120	
72	Ge	688533	0.82	691836	99.52	70	120	
115	In	6468049	0.42	6634288	97.49	70	120	
209	Bi	16017395	0.29	16365010	97.88	70	120	

Method Blank Report

Date Acquired	5/20/16 1:22 PM	Sample Name	MB-75180
Data Batch	160520.b	Comment	MBLKICPMS_TWDOD
Data File Name	070_LRB.d	Dilution	1

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	0.065	16	43.00		
9	Be	45	-0.016	3	43.30		
11	B	45	3.680	139	7.33		
23	Na	45	1.602	39357	1.68		
24	Mg	45	1.079	1323	9.33		
27	Al	45	6.638	1207	6.50		
39	K	45	6.087	47729	1.50		
44	Ca	45	17.031	570	6.85		
47	Ti	45	0.000	2	86.60		
51	V	45	0.098	3175	2.84		
52	Cr	45	0.003	946	10.81		
55	Mn	45	0.007	131	27.42		
56	Fe	45	0.701	10161	1.53		
59	Co	72	-0.006	58	35.25		
60	Ni	72	-0.056	270	9.64		
63	Cu	72	-0.120	1478	9.63		
66	Zn	72	0.584	947	5.99		
75	As	72	-0.003	131	9.62		
78	Se	72	0.231	82	12.61		
88	Sr	115	0.102	651	7.42		
95	Mo	115	-0.004	14	74.18		
107	Ag	115	0.004	98	20.55		
111	Cd	115	-0.005	0	#DIV/0!		
118	Sn	115	0.027	536	6.23		
121	Sb	115	0.014	222	8.66		
137	Ba	115	0.032	82	24.77		
205	Tl	209	0.000	47	25.75		
208	Pb	209	0.004	533	7.68		

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	898027	1.16	900744	99.70	70	120	
72	Ge	696733	0.54	691836	100.71	70	120	
115	In	6624535	1.15	6634288	99.85	70	120	
209	Bi	16420634	0.64	16365010	100.34	70	120	

Laboratory Control Sample (LCS) Report

Date Acquired	5/20/2016 13:24	Sample Name	LCS-75180
Data Batch	160520.b	Comment	LCS ICPMS_TWDOD
Data File Name	071_LFB.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	207.477	9515	1.62	200	103.7	80	120	
9	Be	45	202.266	11905	1.32	200	101.1	80	120	
11	B	45	195.161	4124	4.40	200	97.6	80	120	
23	Na	45	5153.894	3715782	0.89	5000	103.1	80	120	
24	Mg	45	5118.954	1831544	0.71	5000	102.4	80	120	
27	Al	45	4981.246	639961	1.20	5000	99.6	80	120	
39	K	45	5041.266	1794560	0.13	5000	100.8	80	120	
44	Ca	45	4740.164	94110	0.45	5000	94.8	80	120	
47	Ti	45	192.838	26098	0.93	200	96.4	80	120	
51	V	45	200.032	930245	0.81	200	100.0	80	120	
52	Cr	45	200.955	1116256	0.75	200	100.5	80	120	
55	Mn	45	199.655	589846	0.43	200	99.8	80	120	
56	Fe	45	5071.775	23856763	1.05	5000	101.4	80	120	
59	Co	72	207.626	1874260	0.84	200	103.8	80	120	
60	Ni	72	204.682	508272	0.59	200	102.3	80	120	
63	Cu	72	205.447	1405663	1.66	200	102.7	80	120	
66	Zn	72	202.971	230430	0.68	200	101.5	80	120	
75	As	72	196.603	188655	0.16	200	98.3	80	120	
78	Se	72	200.300	10823	0.38	200	100.1	80	120	
88	Sr	115	196.190	794822	0.55	200	98.1	80	120	
95	Mo	115	195.187	748613	0.26	200	97.6	80	120	
107	Ag	115	196.529	2412668	1.27	200	98.3	80	120	
111	Cd	115	196.284	352950	1.05	200	98.1	80	120	
118	Sn	115	193.543	733613	1.09	200	96.8	80	120	
121	Sb	115	198.951	1156640	0.59	200	99.5	80	120	
137	Ba	115	195.083	359597	1.11	200	97.5	80	120	
205	Tl	209	200.277	5442896	1.66	200	100.1	80	120	
208	Pb	209	196.766	7180277	0.50	200	98.4	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	870277	0.61	900744	96.62	70	120	
72	Ge	671795	0.07	691836	97.10	70	120	
115	In	6329080	2.64	6634288	95.40	70	120	
209	Bi	15677643	1.30	16365010	95.80	70	120	

Laboratory Control Sample (LCS) Report

Date Acquired	5/20/2016 13:26	Sample Name	LCSD-75180
Data Batch	160520.b	Comment	LCSDICPMS_TWDOD
Data File Name	072_LFB.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	211.628	9552	1.66	200	105.8	80	120	
9	Be	45	207.907	12043	0.86	200	104.0	80	120	
11	B	45	207.539	4312	1.43	200	103.8	80	120	
23	Na	45	5362.484	3803524	0.49	5000	107.2	80	120	
24	Mg	45	5350.645	1884119	0.41	5000	107.0	80	120	
27	Al	45	4623.801	584689	0.66	5000	92.5	80	120	
39	K	45	5298.886	1854221	0.78	5000	106.0	80	120	
44	Ca	45	4926.669	96259	0.97	5000	98.5	80	120	
47	Ti	45	200.210	26667	0.20	200	100.1	80	120	
51	V	45	205.077	938586	0.55	200	102.5	80	120	
52	Cr	45	204.586	1118439	0.90	200	102.3	80	120	
55	Mn	45	205.641	597919	0.06	200	102.8	80	120	
56	Fe	45	5087.447	23550804	1.09	5000	101.7	80	120	
59	Co	72	214.414	1904053	0.24	200	107.2	80	120	
60	Ni	72	209.839	512595	0.45	200	104.9	80	120	
63	Cu	72	210.981	1419956	0.46	200	105.5	80	120	
66	Zn	72	204.234	228100	0.64	200	102.1	80	120	
75	As	72	202.120	190788	0.15	200	101.1	80	120	
78	Se	72	201.529	10711	1.06	200	100.8	80	120	
88	Sr	115	196.352	801400	0.82	200	98.2	80	120	
95	Mo	115	195.900	756939	0.79	200	98.0	80	120	
107	Ag	115	195.076	2412277	0.22	200	97.5	80	120	
111	Cd	115	198.025	358702	0.47	200	99.0	80	120	
118	Sn	115	194.683	743307	0.78	200	97.3	80	120	
121	Sb	115	195.279	1143707	0.47	200	97.6	80	120	
137	Ba	115	194.998	362068	0.19	200	97.5	80	120	
205	Tl	209	201.393	5413984	0.64	200	100.7	80	120	
208	Pb	209	200.604	7241369	0.67	200	100.3	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	856491	0.13	900744	95.09	70	120	
72	Ge	660905	0.92	691836	95.53	70	120	
115	In	6373621	0.51	6634288	96.07	70	120	
209	Bi	15514322	2.64	16365010	94.80	70	120	

Dilution Sample (Dil) Report

Date Acquired	5/20/2016 13:32	Sample Name	1605097-27A SD
Data Batch	160520.b	Comment	SD ICPMS_TWDOD
Data File Name	075_SD.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Ref Value	%Rec	Low	High	Flag
7	Li	45	0.068	16	12.50	0.2	180.5	110	90	
9	Be	45	-0.038	1	114.56	0.1	-141.3	110	90	
11	B	45	17.535	423	8.52	77.9	112.5	110	90	
23	Na	45	35.699	62521	0.91	172.1	103.7	110	90	Good
24	Mg	45	3.836	2271	5.49	19.3	99.3	110	90	Good
27	Al	45	34.453	4743	3.67	166.6	103.4	110	90	Good
39	K	45	11.074	48015	1.21	33.2	166.9	110	90	
44	Ca	45	74.540	1693	4.14	360.4	103.4	110	90	Good
47	Ti	45	0.107	17	87.16	0.3	169.7	110	90	
51	V	45	0.073	2960	6.49	0.2	205.2	110	90	
52	Cr	45	0.197	1996	7.06	1.1	92.7	110	90	Good
55	Mn	45	0.148	544	14.36	0.8	93.8	110	90	Good
56	Fe	45	5.267	31343	1.57	26.2	100.7	110	90	Good
59	Co	72	0.009	193	14.73	0.0	121.3	110	90	
60	Ni	72	0.263	1052	2.56	1.7	76.4	110	90	
63	Cu	72	-0.047	1923	10.96	0.3	-91.9	110	90	
66	Zn	72	0.853	1217	12.34	4.1	103.4	110	90	Good
75	As	72	0.029	157	5.00	0.1	222.6	110	90	
78	Se	72	0.336	84	9.94	0.1	1399.8	110	90	
88	Sr	115	0.548	2455	2.52	2.7	102.1	110	90	Good
95	Mo	115	0.153	626	21.59	0.7	110.5	110	90	
107	Ag	115	0.009	164	25.34	0.0	250.0	110	90	
111	Cd	115	0.003	16	32.73	0.0	143.0	110	90	
118	Sn	115	0.074	696	6.98	0.2	169.5	110	90	
121	Sb	115	0.045	399	25.38	0.1	235.1	110	90	
137	Ba	115	0.117	239	11.62	0.7	90.2	110	90	Good
205	Tl	209	0.005	176	19.02	0.0	164.6	110	90	
208	Pb	209	0.027	1372	7.85	0.1	113.9	110	90	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	870854	0.91	900744	96.68	70	120	
72	Ge	671393	0.27	691836	97.05	70	120	
115	In	6391281	1.83	6634288	96.34	70	120	
209	Bi	15830888	0.33	16365010	96.74	70	120	

Sample Report

Date Acquired	5/20/16 1:44 PM	Sample Name	1605074-33A
Data Batch	160520.b	Comment	SAMPICPMS_TWDOD
Data File Name	081_WS.d	Dilution	1

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	0.126	19	31.58	2000	
9	Be	45	-0.010	3	88.19	2000	
11	B	45	54.140	1208	7.34	2000	>RL
23	Na	45	146.979	144608	1.19	25000	>RL
24	Mg	45	19.461	8006	2.02	25000	
27	Al	45	141.770	18872	1.35	10000	>RL
39	K	45	29.887	55544	1.46	25000	
44	Ca	45	326.038	6802	4.44	25000	>RL
47	Ti	45	0.363	52	9.75	2000	
51	V	45	0.171	3479	2.88	2000	
52	Cr	45	1.029	6737	1.00	2000	
55	Mn	45	1.270	3933	2.44	2000	
56	Fe	45	42.785	211689	1.37	10000	
59	Co	72	0.027	360	6.07	2000	
60	Ni	72	1.054	3086	3.77	2000	
63	Cu	72	0.380	4952	1.14	2000	
66	Zn	72	5.694	6863	0.91	2000	>RL
75	As	72	0.043	174	10.13	2000	
78	Se	72	0.211	79	7.51	2000	
88	Sr	115	2.540	10817	2.01	2000	
95	Mo	115	1.023	4079	4.49	2000	
107	Ag	115	0.006	123	12.39	500	
111	Cd	115	0.003	16	65.47	2000	
118	Sn	115	0.073	708	5.96	2000	
121	Sb	115	0.024	281	12.79	500	
137	Ba	115	0.589	1138	7.36	2000	
205	Tl	209	0.001	64	16.63	2000	
208	Pb	209	0.096	3986	0.39	2000	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	886841	1.17	900744	98.46	70	120	
72	Ge	687388	0.88	691836	99.36	70	120	
115	In	6523304	2.47	6634288	98.33	70	120	
209	Bi	16233508	1.26	16365010	99.20	70	120	

Sample Report

Date Acquired	5/20/16 1:46 PM	Sample Name	1605074-34A
Data Batch	160520.b	Comment	SAMPICPMS_TWDOD
Data File Name	082_WS.d	Dilution	1

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	0.098	18	23.57	2000	
9	Be	45	-0.038	1	43.30	2000	
11	B	45	48.003	1076	4.09	2000	>RL
23	Na	45	132.559	133812	0.05	25000	>RL
24	Mg	45	12.462	5443	2.33	25000	
27	Al	45	78.087	10517	0.28	10000	>RL
39	K	45	29.359	55241	1.02	25000	
44	Ca	45	201.175	4271	2.78	25000	>RL
47	Ti	45	0.203	30	50.91	2000	
51	V	45	0.169	3463	1.70	2000	
52	Cr	45	1.679	10389	1.05	2000	
55	Mn	45	0.871	2724	3.70	2000	
56	Fe	45	41.610	205583	1.06	10000	
59	Co	72	0.029	377	7.02	2000	
60	Ni	72	1.353	3794	2.15	2000	
63	Cu	72	0.214	3740	4.69	2000	
66	Zn	72	4.740	5679	2.22	2000	J
75	As	72	0.008	138	5.54	2000	
78	Se	72	0.193	77	8.86	2000	
88	Sr	115	1.407	6011	2.76	2000	
95	Mo	115	1.084	4262	2.04	2000	
107	Ag	115	0.006	131	26.70	500	
111	Cd	115	0.001	11	34.61	2000	
118	Sn	115	0.102	808	15.44	2000	
121	Sb	115	0.013	216	11.71	500	
137	Ba	115	0.666	1269	3.13	2000	
205	Tl	209	0.002	84	15.95	2000	
208	Pb	209	0.063	2713	3.50	2000	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	884800	0.55	900744	98.23	70	120	
72	Ge	678110	0.47	691836	98.02	70	120	
115	In	6438436	0.63	6634288	97.05	70	120	
209	Bi	16079535	1.86	16365010	98.26	70	120	

Sample Report

Date Acquired	5/20/16 1:48 PM	Sample Name	1605074-35A
Data Batch	160520.b	Comment	SAMPICPMS_TWDOD
Data File Name	083_WS.d	Dilution	1

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	0.000	13	13.32	2000	
9	Be	45	-0.021	2	49.49	2000	
11	B	45	60.009	1320	3.56	2000	>RL
23	Na	45	215.966	192909	0.87	25000	>RL
24	Mg	45	17.468	7209	1.87	25000	
27	Al	45	100.541	13350	1.33	10000	>RL
39	K	45	53.286	63216	0.72	25000	
44	Ca	45	298.891	6193	2.33	25000	>RL
47	Ti	45	0.196	29	24.03	2000	
51	V	45	0.168	3432	1.42	2000	
52	Cr	45	1.334	8379	3.05	2000	
55	Mn	45	1.055	3253	2.62	2000	
56	Fe	45	62.464	303036	0.09	10000	J
59	Co	72	0.025	339	9.14	2000	
60	Ni	72	1.458	4056	3.29	2000	
63	Cu	72	0.301	4342	5.23	2000	
66	Zn	72	7.581	8930	1.51	2000	>RL
75	As	72	0.041	170	6.56	2000	
78	Se	72	0.080	71	6.92	2000	
88	Sr	115	1.780	7569	2.08	2000	
95	Mo	115	2.500	9813	2.91	2000	J
107	Ag	115	0.009	162	13.37	500	
111	Cd	115	-0.001	8	99.04	2000	
118	Sn	115	0.077	713	6.49	2000	
121	Sb	115	0.015	223	23.46	500	
137	Ba	115	0.685	1308	2.50	2000	
205	Tl	209	0.001	77	13.04	2000	
208	Pb	209	0.091	3729	0.60	2000	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	878277	0.71	900744	97.51	70	120	
72	Ge	678192	0.92	691836	98.03	70	120	
115	In	6453845	1.17	6634288	97.28	70	120	
209	Bi	15969326	1.64	16365010	97.58	70	120	

Post Digestion Spike Sample (PDS) Report

Date Acquired	5/20/2016 13:52	Sample Name	1605097-27A PDS
Data Batch	160520.b	Comment	PDS ICPMS_TWDOD
Data File Name	085_PDS.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
7	Li	45	208.981	9280	1.02	0.2	200	104.4	75	125	
9	Be	45	205.509	11711	0.53	0.1	200	102.7	75	125	
11	B	45	285.809	5820	2.43	77.9	200	104.0	75	125	
23	Na	45	5404.541	3770772	0.71	172.1	5000	104.6	75	125	
24	Mg	45	5227.887	1811012	0.25	19.3	5000	104.2	75	125	
27	Al	45	5186.356	645154	1.11	166.6	5000	100.4	75	125	
39	K	45	5131.767	1767946	0.81	33.2	5000	102.0	75	125	
44	Ca	45	5036.090	96794	0.63	360.4	5000	93.5	75	125	
47	Ti	45	204.672	26818	0.31	0.3	200	102.2	75	125	
51	V	45	205.614	925765	1.11	0.2	200	102.7	75	125	
52	Cr	45	209.415	1126215	0.10	1.1	200	104.2	75	125	
55	Mn	45	201.270	575717	0.99	0.8	200	100.2	75	125	
56	Fe	45	5141.790	23416040	2.86	26.2	5000	102.3	75	125	
59	Co	72	212.432	1865010	0.28	0.0	200	106.2	75	125	
60	Ni	72	206.554	498845	0.40	1.7	200	102.4	75	125	
63	Cu	72	205.509	1367501	0.81	0.3	200	102.6	75	125	
66	Zn	72	206.091	227552	0.83	4.1	200	101.0	75	125	
75	As	72	197.771	184566	0.70	0.1	200	98.9	75	125	
78	Se	72	202.393	10635	0.90	0.1	200	101.1	75	125	
88	Sr	115	206.704	815896	0.34	2.7	200	102.0	75	125	
95	Mo	115	198.384	741330	0.42	0.7	200	98.8	75	125	
107	Ag	115	184.548	2207022	0.22	0.0	200	92.3	75	125	
111	Cd	115	195.191	341931	0.27	0.0	200	97.6	75	125	
118	Sn	115	202.579	748007	0.46	0.2	200	101.2	75	125	
121	Sb	115	188.867	1069835	1.39	0.1	200	94.4	75	125	
137	Ba	115	199.288	357867	0.43	0.7	200	99.3	75	125	
205	Tl	209	199.302	5296717	0.74	0.0	200	99.6	75	125	
208	Pb	209	199.936	7134456	0.42	0.1	200	99.9	75	125	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	842584	0.33	900744	93.54	70	120	
72	Ge	653370	0.47	691836	94.44	70	120	
115	In	6164044	0.75	6634288	92.91	70	120	
209	Bi	15329899	0.74	16365010	93.67	70	120	

Matrix Spike Sample (MS) Report

Date Acquired	5/20/2016 13:54	Sample Name	1605097-27A MS
Data Batch	160520.b	Comment	MS ICPMS_TWDOD
Data File Name	086_MSW.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
7	Li	45	170.064	7584	1.95	0.2	200	84.9	80	120	
9	Be	45	170.036	9730	0.33	0.1	200	85.0	80	120	
11	B	45	211.300	4335	2.63	77.9	200	66.7	80	120	Fail
23	Na	45	5276.203	3697081	0.68	172.1	5000	102.1	80	120	
24	Mg	45	5130.074	1784373	1.29	19.3	5000	102.2	80	120	
27	Al	45	4817.494	601724	1.24	166.6	5000	93.0	80	120	
39	K	45	5034.751	1742366	0.92	33.2	5000	100.0	80	120	
44	Ca	45	4749.301	91663	0.93	360.4	5000	87.8	80	120	
47	Ti	45	161.792	21287	1.94	0.3	200	80.7	80	120	
51	V	45	167.529	757849	1.08	0.2	200	83.7	80	120	
52	Cr	45	169.182	913736	0.52	1.1	200	84.1	80	120	
55	Mn	45	167.173	480133	1.01	0.8	200	83.2	80	120	
56	Fe	45	4989.600	22816465	1.30	26.2	5000	99.3	80	120	
59	Co	72	170.716	1510248	1.41	0.0	200	85.3	80	120	
60	Ni	72	170.393	414746	0.92	1.7	200	84.3	80	120	
63	Cu	72	170.672	1144804	0.98	0.3	200	85.2	80	120	
66	Zn	72	171.664	191038	0.75	4.1	200	83.8	80	120	
75	As	72	164.901	155123	1.29	0.1	200	82.4	80	120	
78	Se	72	162.927	8642	1.69	0.1	200	81.4	80	120	
88	Sr	115	166.659	660795	1.05	2.7	200	82.0	80	120	
95	Mo	115	163.856	615005	0.41	0.7	200	81.6	80	120	
107	Ag	115	198.800	2387903	0.89	0.0	200	99.4	80	120	
111	Cd	115	165.115	290524	0.61	0.0	200	82.6	80	120	
118	Sn	115	163.476	606381	0.54	0.2	200	81.6	80	120	
121	Sb	115	201.813	1148120	0.30	0.1	200	100.9	80	120	
137	Ba	115	165.330	298187	0.64	0.7	200	82.3	80	120	
205	Tl	209	163.516	4397378	0.75	0.0	200	81.8	80	120	
208	Pb	209	161.721	5839522	0.48	0.1	200	80.8	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	846025	0.40	900744	93.93	70	120	
72	Ge	658505	1.30	691836	95.18	70	120	
115	In	6191469	0.95	6634288	93.33	70	120	
209	Bi	15511736	0.59	16365010	94.79	70	120	

Matrix Spike Sample (MS) Report

Date Acquired	5/20/2016 13:56	Sample Name	1605097-27A MSD
Data Batch	160520.b	Comment	MSD ICPMS_TWDOD
Data File Name	087_MSW.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
7	Li	45	205.597	9304	1.62	0.2	200	102.7	80	120	
9	Be	45	203.064	11793	1.41	0.1	200	101.5	80	120	
11	B	45	242.909	5050	4.50	77.9	200	82.5	80	120	
23	Na	45	5177.237	3682905	1.10	172.1	5000	100.1	80	120	
24	Mg	45	4993.908	1763105	0.25	19.3	5000	99.5	80	120	
27	Al	45	4936.520	625831	0.74	166.6	5000	95.4	80	120	
39	K	45	4965.228	1744703	1.20	33.2	5000	98.6	80	120	
44	Ca	45	4753.640	93125	1.29	360.4	5000	87.9	80	120	
47	Ti	45	195.210	26068	0.98	0.3	200	97.4	80	120	
51	V	45	200.675	920875	0.73	0.2	200	100.2	80	120	
52	Cr	45	203.955	1117867	0.41	1.1	200	101.4	80	120	
55	Mn	45	202.473	590229	0.83	0.8	200	100.8	80	120	
56	Fe	45	5112.057	23726119	2.33	26.2	5000	101.7	80	120	
59	Co	72	206.133	1846156	0.73	0.0	200	103.0	80	120	
60	Ni	72	206.533	508832	0.56	1.7	200	102.4	80	120	
63	Cu	72	206.199	1399718	0.23	0.3	200	103.0	80	120	
66	Zn	72	204.471	230307	1.38	4.1	200	100.2	80	120	
75	As	72	198.160	188652	0.84	0.1	200	99.0	80	120	
78	Se	72	201.130	10782	0.12	0.1	200	100.5	80	120	
88	Sr	115	201.026	801163	0.72	2.7	200	99.2	80	120	
95	Mo	115	199.764	753727	1.09	0.7	200	99.5	80	120	
107	Ag	115	197.459	2384307	0.18	0.0	200	98.7	80	120	
111	Cd	115	200.097	353929	0.48	0.0	200	100.0	80	120	
118	Sn	115	197.870	737731	0.96	0.2	200	98.8	80	120	
121	Sb	115	201.125	1150215	0.35	0.1	200	100.5	80	120	
137	Ba	115	199.346	361437	0.39	0.7	200	99.3	80	120	
205	Tl	209	195.932	5357915	0.27	0.0	200	98.0	80	120	
208	Pb	209	195.812	7189529	0.20	0.1	200	97.8	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	858705	0.07	900744	95.33	70	120	
72	Ge	666512	0.03	691836	96.34	70	120	
115	In	6223826	0.86	6634288	93.81	70	120	
209	Bi	15779807	2.46	16365010	96.42	70	120	

Continuing Calibration Verification (CCV) Report

Date Acquired	5/20/2016 13:58	Sample Name	CCV3-160520
Data Batch	160520.b	Comment	CCV ICPMS_TW
Data File Name	088_CCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	203.180	9274	0.83	200	101.6	90	110	
9	Be	45	203.486	11920	1.02	200	101.7	90	110	
11	B	45	210.276	4416	1.73	200	105.1	90	110	
23	Na	45	5132.134	3682741	0.63	5000	102.6	90	110	
24	Mg	45	5086.454	1811320	0.58	5000	101.7	90	110	
27	Al	45	4980.080	636833	0.78	5000	99.6	90	110	
39	K	45	5081.672	1800039	0.46	5000	101.6	90	110	
44	Ca	45	4836.944	95568	0.34	5000	96.7	90	110	
47	Ti	45	200.071	26952	1.98	200	100.0	90	110	
51	V	45	203.154	940224	0.55	200	101.6	90	110	
52	Cr	45	202.100	1117262	0.18	200	101.1	90	110	
55	Mn	45	202.982	596833	0.52	200	101.5	90	110	
56	Fe	45	5019.103	23493427	1.22	5000	100.4	90	110	
59	Co	72	208.419	1864213	1.18	200	104.2	90	110	
60	Ni	72	205.434	505495	0.52	200	102.7	90	110	
63	Cu	72	209.149	1417980	1.14	200	104.6	90	110	
66	Zn	72	205.831	231556	1.37	200	102.9	90	110	
75	As	72	201.676	191753	0.22	200	100.8	90	110	
78	Se	72	204.247	10934	1.41	200	102.1	90	110	
88	Sr	115	201.502	818714	0.86	200	100.8	90	110	
95	Mo	115	199.699	768114	0.40	200	99.8	90	110	
107	Ag	115	202.247	2489708	0.73	200	101.1	90	110	
111	Cd	115	199.234	359250	0.46	200	99.6	90	110	
118	Sn	115	196.022	745053	0.39	200	98.0	90	110	
121	Sb	115	199.544	1163397	0.25	200	99.8	90	110	
137	Ba	115	198.512	366908	1.08	200	99.3	90	110	
205	Tl	209	199.782	5446376	0.37	200	99.9	90	110	
208	Pb	209	197.855	7242369	0.64	200	98.9	90	110	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	866202	1.29	900744	96.17	70	120	
72	Ge	665686	0.56	691836	96.22	70	120	
115	In	6344920	0.75	6634288	95.64	70	120	
209	Bi	15726160	1.52	16365010	96.10	70	120	

Low Level Calibration Verification (LLCV) Report

Date Acquired	5/20/2016 14:04	Sample Name	LCVL3-160520
Data Batch	160520.b	Comment	LCVLICPMS_TW
Data File Name	090LCCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	11.230	527	10.42	10	112.3	70	130	
9	Be	45	1.010	63	17.89	1	101.0	70	130	
11	B	45	24.634	571	4.38	20	123.2	70	130	
23	Na	45	98.195	107074	0.50	100	98.2	70	130	
24	Mg	45	101.451	37176	1.95	100	101.5	70	130	
27	Al	45	99.147	13048	0.90	100	99.1	70	130	
39	K	45	103.570	80094	1.64	100	103.6	70	130	
44	Ca	45	100.317	2202	2.99	100	100.3	70	130	
47	Ti	45	5.093	691	7.81	5	101.9	70	130	
51	V	45	1.066	7563	1.15	1	106.6	70	130	
52	Cr	45	5.146	29458	1.00	5	102.9	70	130	
55	Mn	45	5.131	15261	1.50	5	102.6	70	130	
56	Fe	45	100.203	477688	0.08	100	100.2	70	130	
59	Co	72	5.197	47885	1.12	5	103.9	70	130	
60	Ni	72	5.154	13429	0.94	5	103.1	70	130	
63	Cu	72	5.013	37155	1.61	5	100.3	70	130	
66	Zn	72	5.311	6389	4.69	5	106.2	70	130	
75	As	72	4.952	4966	1.28	5	99.0	70	130	
78	Se	72	5.555	371	4.76	5	111.1	70	130	
88	Sr	115	5.152	21317	0.76	5	103.0	70	130	
95	Mo	115	4.876	18942	2.94	5	97.5	70	130	
107	Ag	115	1.956	24332	2.20	2	97.8	70	130	
111	Cd	115	0.961	1757	3.66	1	96.1	70	130	
118	Sn	115	5.019	19639	1.08	5	100.4	70	130	
121	Sb	115	2.013	11969	1.61	2	100.7	70	130	
137	Ba	115	4.958	9262	1.20	5	99.2	70	130	
205	Tl	209	0.992	27281	1.62	1	99.2	70	130	
208	Pb	209	0.977	36361	0.51	1	97.7	70	130	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	870167	0.41	900744	96.61	70	120	
72	Ge	684121	0.81	691836	98.88	70	120	
115	In	6398204	0.37	6634288	96.44	70	120	
209	Bi	15843229	2.06	16365010	96.81	70	120	

Continuing Calibration Blank (CCB) Report

Date Acquired	5/20/2016 14:06	Sample Name	CCB3-160520
Data Batch	160520.b	Comment	CCB ICPMS_TW
Data File Name	091_CCB.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	MDL S	MDL Aq	QC Flag
7	Li	45	-0.018	12	28.9	2	5	
9	Be	45	0.007	4	75.0	0.4	0.3	
11	B	45	5.180	166	19.3	10	10	
23	Na	45	-4.493	33660	2.0	50	100	
24	Mg	45	-1.062	516	7.2	50	100	
27	Al	45	-0.474	254	16.5	50	10	
39	K	45	5.967	46044	0.9	50	100	
44	Ca	45	0.316	221	16.5	50	100	
47	Ti	45	0.034	7	86.6	4	3	
51	V	45	0.086	3011	4.6	4	3	
52	Cr	45	0.000	899	4.6	2	2	
55	Mn	45	-0.001	103	29.6	2	3	
56	Fe	45	0.192	7426	0.8	50	50	
59	Co	72	0.009	199	23.8	2	3	
60	Ni	72	-0.070	230	15.3	2	3	
63	Cu	72	-0.120	1441	7.2	2	2	
66	Zn	72	-0.026	223	3.9	4	2	
75	As	72	0.026	155	2.8	2	2	
78	Se	72	0.144	75	6.5	1	2	
88	Sr	115	-0.007	181	12.5	4	3	
95	Mo	115	0.003	42	22.8	2	2	
107	Ag	115	0.009	161	2.4	0.4	1	
111	Cd	115	0.000	10	33.3	0.4	0.3	
118	Sn	115	0.131	907	6.1	4	3	
121	Sb	115	0.092	671	12.4	2	0.8	
137	Ba	115	0.013	44	11.5	2	3	
205	Tl	209	0.004	156	14.3	2	0.5	
208	Pb	209	0.003	463	8.5	0.4	0.3	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	867169	1.51	900744	96.27	70	120	
72	Ge	678651	0.28	691836	98.09	70	120	
115	In	6326752	0.94	6634288	95.36	70	120	
209	Bi	15694418	1.64	16365010	95.90	70	120	

Continuing Calibration Verification (CCV) Report

Date Acquired	5/20/2016 14:24	Sample Name	CCV4-160520
Data Batch	160520.b	Comment	CCV ICPMS_TW
Data File Name	100_CCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	209.123	9388	0.80	200	104.6	90	110	
9	Be	45	208.207	11994	0.48	200	104.1	90	110	
11	B	45	203.797	4212	3.86	200	101.9	90	110	
23	Na	45	5148.990	3633551	0.68	5000	103.0	90	110	
24	Mg	45	5123.233	1794203	0.40	5000	102.5	90	110	
27	Al	45	4980.045	626267	0.50	5000	99.6	90	110	
39	K	45	5038.185	1755471	0.35	5000	100.8	90	110	
44	Ca	45	4785.666	92998	0.86	5000	95.7	90	110	
47	Ti	45	199.374	26410	2.03	200	99.7	90	110	
51	V	45	202.096	919918	0.37	200	101.0	90	110	
52	Cr	45	202.131	1098976	0.19	200	101.1	90	110	
55	Mn	45	202.769	586339	1.07	200	101.4	90	110	
56	Fe	45	5041.066	23208886	2.16	5000	100.8	90	110	
59	Co	72	207.997	1837266	0.54	200	104.0	90	110	
60	Ni	72	206.739	502343	0.77	200	103.4	90	110	
63	Cu	72	206.988	1385843	0.86	200	103.5	90	110	
66	Zn	72	203.079	225616	1.76	200	101.5	90	110	
75	As	72	199.013	186865	0.89	200	99.5	90	110	
78	Se	72	200.798	10616	0.97	200	100.4	90	110	
88	Sr	115	201.110	805597	1.18	200	100.6	90	110	
95	Mo	115	199.684	757215	0.24	200	99.8	90	110	
107	Ag	115	203.488	2469488	0.16	200	101.7	90	110	
111	Cd	115	199.985	355504	0.18	200	100.0	90	110	
118	Sn	115	197.462	739911	0.69	200	98.7	90	110	
121	Sb	115	198.318	1139914	0.61	200	99.2	90	110	
137	Ba	115	198.384	361502	0.28	200	99.2	90	110	
205	Tl	209	198.777	5414678	1.21	200	99.4	90	110	
208	Pb	209	196.887	7201152	0.36	200	98.4	90	110	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	851803	0.12	900744	94.57	70	120	
72	Ge	657385	0.52	691836	95.02	70	120	
115	In	6255271	0.87	6634288	94.29	70	120	
209	Bi	15713189	1.11	16365010	96.02	70	120	

Low Level Calibration Verification (LLCV) Report

Date Acquired	5/20/2016 14:41	Sample Name	LCVL4-160520
Data Batch	160520.b	Comment	LCVLICPMS_TW
Data File Name	102LCCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	10.685	502	3.49	10	106.9	70	130	
9	Be	45	1.096	68	6.41	1	109.6	70	130	
11	B	45	23.853	554	7.94	20	119.3	70	130	
23	Na	45	93.918	103987	0.70	100	93.9	70	130	
24	Mg	45	99.544	36480	0.51	100	99.5	70	130	
27	Al	45	99.184	13048	0.80	100	99.2	70	130	
39	K	45	105.038	80572	0.51	100	105.0	70	130	
44	Ca	45	92.119	2039	1.77	100	92.1	70	130	
47	Ti	45	5.333	723	9.71	5	106.7	70	130	
51	V	45	1.049	7481	3.19	1	104.9	70	130	
52	Cr	45	5.152	29482	1.43	5	103.0	70	130	
55	Mn	45	4.912	14610	1.67	5	98.2	70	130	
56	Fe	45	99.465	474042	0.99	100	99.5	70	130	
59	Co	72	5.203	47305	0.83	5	104.1	70	130	
60	Ni	72	5.133	13200	2.09	5	102.7	70	130	
63	Cu	72	5.024	36741	1.23	5	100.5	70	130	
66	Zn	72	5.226	6207	1.40	5	104.5	70	130	
75	As	72	5.050	4995	1.79	5	101.0	70	130	
78	Se	72	5.706	375	1.39	5	114.1	70	130	
88	Sr	115	4.972	21117	3.12	5	99.4	70	130	
95	Mo	115	4.710	18774	0.76	5	94.2	70	130	
107	Ag	115	1.888	24096	1.18	2	94.4	70	130	
111	Cd	115	0.955	1792	2.86	1	95.5	70	130	
118	Sn	115	4.754	19110	1.41	5	95.1	70	130	
121	Sb	115	1.846	11275	1.66	2	92.3	70	130	
137	Ba	115	4.953	9493	1.16	5	99.1	70	130	
205	Tl	209	0.994	26913	0.64	1	99.4	70	130	
208	Pb	209	0.974	35718	1.32	1	97.4	70	130	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	869866	0.59	900744	96.57	70	120	
72	Ge	675027	0.39	691836	97.57	70	120	
115	In	6564471	0.91	6634288	98.95	70	120	
209	Bi	15594017	0.83	16365010	95.29	70	120	

Continuing Calibration Blank (CCB) Report

Date Acquired	5/20/2016 14:48	Sample Name	CCB4-160520
Data Batch	160520.b	Comment	CCB ICPMS_TW
Data File Name	103_CCB.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	MDL S	MDL Aq	QC Flag
7	Li	45	-0.025	11	58.7	2	5	
9	Be	45	-0.019	2	24.7	0.4	0.3	
11	B	45	0.364	63	39.7	10	10	
23	Na	45	-7.059	30783	0.7	50	100	
24	Mg	45	-1.361	396	1.0	50	100	
27	Al	45	-0.498	243	17.8	50	10	
39	K	45	4.451	44003	0.3	50	100	
44	Ca	45	1.218	230	6.8	50	100	
47	Ti	45	0.044	8	65.5	4	3	
51	V	45	0.114	3035	8.6	4	3	
52	Cr	45	-0.015	788	5.7	2	2	
55	Mn	45	-0.019	49	10.4	2	3	
56	Fe	45	0.164	7056	6.1	50	50	
59	Co	72	-0.003	86	9.8	2	3	
60	Ni	72	-0.033	309	9.1	2	3	
63	Cu	72	-0.124	1360	4.9	2	2	
66	Zn	72	-0.033	207	14.0	4	2	
75	As	72	-0.001	124	10.6	2	2	
78	Se	72	0.097	70	21.7	1	2	
88	Sr	115	0.011	251	13.3	4	3	
95	Mo	115	-0.004	14	35.3	2	2	
107	Ag	115	0.002	71	57.9	0.4	1	
111	Cd	115	-0.004	2	86.6	0.4	0.3	
118	Sn	115	0.031	519	5.5	4	3	
121	Sb	115	0.006	166	31.5	2	0.8	
137	Ba	115	0.015	47	18.9	2	3	
205	Tl	209	0.000	26	61.6	2	0.5	
208	Pb	209	-0.002	280	20.0	0.4	0.3	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	838258	0.89	900744	93.06	70	120	
72	Ge	652989	0.94	691836	94.38	70	120	
115	In	6222740	1.27	6634288	93.80	70	120	
209	Bi	15341203	0.92	16365010	93.74	70	120	

ICP-MS4_160523F
For

DHL Work Order
1605074

Lab Data Review Check List
EPA Method 6020 / 6020A / 200.8 - Trace Metals by ICP-MS

PROJECT AND BATCH NUMBERS ARE LISTED ON THE RUN LOG	Run ID: ICP-MS4_160523F SOP: MET-ICPMS-01			
Review Item	**Yes**	**No**	**N/A**	**2nd Level Review**
Data Folder Contents 1. Is the Prep Batch Report included? ***Check the Prep Start/End Dates, Sample Amounts, Bottle #s***	X			X
2. Are the reagents and spikes listed on the Prep Batch Report current with a valid expiration date? ***All standard/QC sample preparations shall be documented in LIMS***	X			
3. Is the Run Log and instrument sequence included? ***Check the Test Code, Sample Type, Batch ID, and Analysis Date/Time***	X			

Daily Demonstration of Performance

QC items that do not meet method/SOP/project requirements will be described on the run log. All variances that impact data quality will be described in the Variance/Comment Section on page 2.

Review Item	Frequency	Limits	Pass	Fail (List Batch/Sample) **See Run Log**		2nd Level Review
Tune	Before ICAL	RSD ≤ 5% / Peak Width@10% <0.9amu	X			X
P/A Factor	Before ICAL	Increasing trend	X			
Initial Calibration Curve (ICAL) (Blank + 4 Standards)	Prior to samples and when ICV fails	R ≥ 0.995 (DoD) R ≥ 0.998 (6020A)	X			
Review Item	**Frequency**	**Limits**	**Pass**	**Fail**	**N/A**	**Review**
ICSA (N/A for Method 200.8+U)	After calibration & every 12 hours	< RL (except Mn & Zn)	X			X
ICSAB (N/A for Method 200.8+U)	After calibration & every 12 hours	80-120% (correct for ICSA result)	X			
Note: LCVLs and ICSA/ICSAB are N/A for Method 200.8 or project-specific exceptions						
ICV (Second Source Verification)	After ICAL	90-110%	X			X
ICB	After calibration	< MDL	X			
CCV	Every 10 samples	90-110%	X			
CCB	Every 10 samples	< MDL (ALL + DoD)	X			
Internal Standards	Every sample and QC sample	> 70% (6020A) 60-125% (200.8) 30-120% (DoD)	X			
LCVL (6020A test code)	After ICAL, every 10 samples and end of run	70-130%			X	
LCVL (All metals test codes except 200.8/6020A)	After ICAL and end of run	70-130%	X			
Method Blank (MB)	Every Batch	< MDL / <½ RL (DoD) or <1/10 the sample/reg limit	X			
Filter/TCLP/SPLP Blank	Filter-Dissolved only TCLP / SPLP	< MDL / <½ RL (DoD) or <1/10 the sample/reg limit	X			
Lab Control Sample (LCS)	Every Batch	80-120%	X			
Lab Control Sample Dup (LCSD)	Every Batch	80-120%	X			
LCSD - RPD	Every LCS/LCSD	15 (H2O) / 20 (Soil)	X			
Matrix Spike/ Matrix Spike Duplicate (MS/MSD)	Every Batch	80-120%		X		
MSD - RPD	Every MS/MSD	15 (H2O) / 20 (Soil)		X		
Dilution Test (SD) - RPD	Every Batch	10	X			
Post Digestion Spike (PDS)	Every Batch	75-125 / 80-120 (6020A)	X			

Lab Data Review Check List
EPA Method 6020 / 6020A / 200.8 - Trace Metals by ICP-MS

Review Item	Criteria	Yes	No	N/A	2nd Level Review
Sample Analysis 1. Are all sample hold times met?	6 months	X			X
2. Are all samples with concentrations > the highest standard used for calibration diluted and reanalyzed?	All results > high point of ICAL must be diluted	X			
3. Are ALL reported analytes and reported results > MDL highlighted by the analyst?		X	**Confirm with analyst if LIMS result does not match Labcore**		

VARIANCE REPORT

QC items that do not meet method/SOP/project requirements will be described on the run log. All variances that impact data quality will be described in this section.

NON-CONFORMANCES / VARIANCE	Criteria	Yes	No	N/A	2nd Level
1. Are all non-conformances and corrective actions included and noted?	All deviations from the method and SOP that affect data quality	X			X
2. Does the variance require approval by the Technical Director/General Manager/QA Manager?		X			

TECHNICAL DIRECTOR / QA MANAGER APPROVAL
SIGNATURE AND DATE STAMP:

Description and Corrective Actions of QC items that do not meet method/SOP/project requirements:

****INCLUDE VARIANCE ITEM / REASON / CORRECTIVE ACTION / IMPACT ON DATA****

VARIANCE ITEM	REASON	CORRECTIVE ACTION
__ CCV out of control (± 10%)	__ Carryover from previous run	__ Reanalyze QC to confirm
__ CCB out of control (> MDL / >½ RL)	__ Cross contamination	__ Recalibrate
__ MB out of control (> RL / >½ RL)	__ Lab Artifact	__ Reprep/Reanalyze sample
__ LCS __ LCSD out of control (± 20%)	__ Prep Spike error (describe)	__ Reprep/Reanalyze Batch
__ MS __ MSD out of control (± 20%)	__ Matrix Effect	__ Reanalyze Batch/Sample/QC
__ RPD out of control for MS/MSD (15/25)	__ High Levels of Target Metals	__ Verify reagents are clean
__ Internal Standard(s) out of control (see Method)	__ Insufficient sample for QC	__ Reanalyze sample to confirm
__ No MS/MSD prepared - LCS/LCSD used instead	__ Digestion/Prep Error	__ Sample results ND w/ dilution
__ Missing QC (other than MS/MSD)	__ Analytical Error	__ Client notified and approved
__ QC sample(s) was mis-spiked	__ Client Request	__ Flag Data/ Case Narative
__ ICSA/ICSAB missing or out of control (± 20%)		__ Accept data
__ LCVL out of control (± 30%)		__ Cal Std high and sample ND
__ Other (describe below)	__ Other (describe below)	__ Other (describe below)

General Comments and Impact on Data: See Run Log

Analyst: _____ Date of Completion: 05/24/2016

Second-Level Review: _____ Date Stamp: 05/24/2016

REVIEWED/APPROVED
By Sherri Herschmann at 11:37:09 AM, 5/24/2016

DHL Analytical, Inc.

Run ID: ICP-MS4_160523F **Run No.:** 85956

Analytical Run Date: 5/23/2016 **InstrumentID:** ICP-MS4

Analyst: Ryan Oliver

SampID	DF	TestCode	SampType	Batch ID	Analysis Date/Time	Q	Comments
BLANK STD 1	1	ICPMS_TWDOD	CAL	R85956	5/23/2016 10:41:00 AM		
L2-160523	1	ICPMS_TWDOD	CAL	R85956	5/23/2016 10:43:00 AM		
L-160523	1	ICPMS_TWDOD	CAL	R85956	5/23/2016 10:45:00 AM		
10X-160523	1	ICPMS_TWDOD	CAL	R85956	5/23/2016 10:47:00 AM		
5X-160523	1	ICPMS_TWDOD	CAL	R85956	5/23/2016 10:49:00 AM		
2X-160523	1	ICPMS_TWDOD	CAL	R85956	5/23/2016 10:51:00 AM		
H-160523	1	ICPMS_TWDOD	CAL	R85956	5/23/2016 10:53:00 AM		
H2-160523	1	ICPMS_TWDOD	CAL	R85956	5/23/2016 10:55:00 AM		
ICSA-160523	1	ICPMS_TWDOD	ICSA	R85956	5/23/2016 11:03:00 AM		
ICSAB-160523	1	ICPMS_TWDOD	ICSB	R85956	5/23/2016 11:05:00 AM		
ICV-160523	1	ICPMS_TWDOD	ICV	R85956	5/23/2016 11:13:00 AM		
LCVL-160523	1	ICPMS_TWDOD	LCVL	R85956	5/23/2016 11:22:00 AM		
ICB-160523	1	ICPMS_TWDOD	ICB	R85956	5/23/2016 11:30:00 AM		
CCV4-160523	1	ICPMS_TWDOD	CCV	R85956	5/23/2016 3:32:00 PM		
LCVL4-160523	1	ICPMS_TWDOD	LCVL	R85956	5/23/2016 3:42:00 PM		
CCB4-160523	1	ICPMS_TWDOD	CCB	R85956	5/23/2016 3:45:00 PM		
MB-75166	5	ICPMS_TSDOD1	MBLK	75166	5/23/2016 3:47:00 PM		
LCS-75166	5	ICPMS_TSDOD1	LCS	75166	5/23/2016 3:49:00 PM		
LCSD-75166	5	ICPMS_TSDOD1	LCSD	75166	5/23/2016 3:51:00 PM		
1605096-14A	5	ICPMS_TSDOD1	SAMP	75166	5/23/2016 3:55:00 PM		
1605096-14A SD	25	ICPMS_TSDOD1	SD	75166	5/23/2016 3:57:00 PM		
1605074-40A	5	ICPMS_TSDOD1	SAMP	75166	5/23/2016 3:59:00 PM		
1605074-41A	5	ICPMS_TSDOD1	SAMP	75166	5/23/2016 4:01:00 PM		
1605096-01A	5	ICPMS_TSDOD1	SAMP	75166	5/23/2016 4:03:00 PM		
1605096-02A	5	ICPMS_TSDOD1	SAMP	75166	5/23/2016 4:05:00 PM		
1605096-03A	5	ICPMS_TSDOD1	SAMP	75166	5/23/2016 4:07:00 PM		
1605096-04A	5	ICPMS_TSDOD1	SAMP	75166	5/23/2016 4:09:00 PM		
1605096-05A	5	ICPMS_TSDOD1	SAMP	75166	5/23/2016 4:11:00 PM		
1605096-06A	5	ICPMS_TSDOD1	SAMP	75166	5/23/2016 4:13:00 PM		
1605096-07A	5	ICPMS_TSDOD1	SAMP	75166	5/23/2016 4:15:00 PM		

Std ID	Std Name	Type	Exp. Date
MET-CCV-160511	ICPMS CCV 200/5000 PPB		08/10/2016
MET-H2CAL-1605	ICPMS High Cal2 2000ppb std 8		08/10/2016
MET-HCAL-16051	ICPMS High Cal 500ppb/10ppm s		08/10/2016
MET-ICV-160511	ICPMS ICV 100 ppb		08/10/2016
MET-IS-160511	INTERNAL STANDARD 1 PPM		11/09/2016
MET-L2CAL-16051	ICPMS Low Cal2 1/20ppb std 2		08/10/2016
MET-LCAL-160511	ICPMS Low Cal 10/200ppb std 3		08/10/2016
MET-LCAL10X-16	ICPMS Low Cal 10/200ppb std 4		08/10/2016
MET-LCAL5X-160	ICPMS Low Cal 10/200ppb std 5		08/09/2016
MET-LCVLSPIKE-	LCVL METALS SPIKE (100/500		11/07/2016
MET-MCAL-16051	ICPMS Mid Cal 250/5000ppb std		08/10/2016
MET-PA-160421	ICPMS PA FACTOR SOLUTION		10/20/2016
MET-PDS-160520-	10 PPM Ag+Sb PDS		11/18/2016
MET-PDS-160520-	10 PPM CUSTOM PDS SOLUTI		11/18/2016
MET-PDS-160520-	250 PPM Naturals+Al+Fe PDS		11/18/2016

REVIEWED/APPROVED

By Sherri Herschmann at 11:37:25 AM, 5/24/2016

Run ID: ICP-MS4_160523F **Run No.:** 85956

1605096-14A PDS	5	ICPMS_TSDOD1	PDS	75166	5/23/2016 4:17:00 PM		
1605096-14A MS	5	ICPMS_TSDOD1	MS	75166	5/23/2016 4:19:00 PM		
1605096-14A MSD	5	ICPMS_TSDOD1	MSD	75166	5/23/2016 4:21:00 PM		
CCV5-160523	1	ICPMS_TWDOD	CCV	R85956	5/23/2016 4:23:00 PM		
LCVL5-160523	1	ICPMS_TWDOD	LCVL	R85956	5/23/2016 4:27:00 PM		
CCB5-160523	1	ICPMS_TWDOD	CCB	R85956	5/23/2016 4:29:00 PM		
1605096-08A	5	ICPMS_TSDOD1	SAMP	75166	5/23/2016 4:31:00 PM		
1605096-09A	5	ICPMS_TSDOD1	SAMP	75166	5/23/2016 4:33:00 PM		
1605096-10A	5	ICPMS_TSDOD1	SAMP	75166	5/23/2016 4:35:00 PM		
1605096-11A	5	ICPMS_TSDOD1	SAMP	75166	5/23/2016 4:37:00 PM		
1605096-12A	5	ICPMS_TSDOD1	SAMP	75166	5/23/2016 4:39:00 PM		
1605096-13A	5	ICPMS_TSDOD1	SAMP	75166	5/23/2016 4:41:00 PM		
1605096-15A	5	ICPMS_TSDOD1	SAMP	75166	5/23/2016 4:43:00 PM		
1605096-16A	5	ICPMS_TSDOD1	SAMP	75166	5/23/2016 4:45:00 PM		
1605096-17A	5	ICPMS_TSDOD1	SAMP	75166	5/23/2016 4:47:00 PM		
1605096-18A	5	ICPMS_TSDOD1	SAMP	75166	5/23/2016 4:49:00 PM		
CCV6-160523	1	ICPMS_TWDOD	CCV	R85956	5/23/2016 4:51:00 PM		
LCVL6-160523	1	ICPMS_TWDOD	LCVL	R85956	5/23/2016 4:55:00 PM		
CCB6-160523	1	ICPMS_TWDOD	CCB	R85956	5/23/2016 4:57:00 PM		
MB-75237	5	ICPMS_TSDOD1	MBLK	75237	5/23/2016 5:00:00 PM		
LCS-75237	5	ICPMS_TSDOD1	LCS	75237	5/23/2016 5:02:00 PM		
LCSD-75237	5	ICPMS_TSDOD1	LCSD	75237	5/23/2016 5:04:00 PM		
1605121-01A	5	ICPMS_TSDOD1	SAMP	75237	5/23/2016 5:08:00 PM		
1605121-01A SD	25	ICPMS_TSDOD1	SD	75237	5/23/2016 5:10:00 PM		
1605098-30A	5	ICPMS_TSDOD1	SAMP	75237	5/23/2016 5:12:00 PM		
1605098-35A	5	ICPMS_TSDOD1	SAMP	75237	5/23/2016 5:14:00 PM		
1605098-38A	5	ICPMS_TSDOD1	SAMP	75237	5/23/2016 5:16:00 PM		
1605121-02A	5	ICPMS_TSDOD1	SAMP	75237	5/23/2016 5:18:00 PM		
1605121-03A	5	ICPMS_TSDOD1	SAMP	75237	5/23/2016 5:20:00 PM		
1605121-04A	5	ICPMS_TSDOD1	SAMP	75237	5/23/2016 5:22:00 PM		
1605121-05A	5	ICPMS_TSDOD1	SAMP	75237	5/23/2016 5:24:00 PM		
1605121-06A	5	ICPMS_TSDOD1	SAMP	75237	5/23/2016 5:26:00 PM		
1605121-07A	5	ICPMS_TSDOD1	SAMP	75237	5/23/2016 5:28:00 PM		
1605121-01A PDS	5	ICPMS_TSDOD1	PDS	75237	5/23/2016 5:30:00 PM		
1605121-01A MS	5	ICPMS_TSDOD1	MS	75237	5/23/2016 5:32:00 PM		S-flag Pb- Low

Std ID	Std Name	Type	Exp. Date
MET-CCV-160511	ICPMS CCV 200/5000 PPB		08/10/2016
MET-H2CAL-1605	ICPMS High Cal2 2000ppb std 8		08/10/2016
MET-HCAL-16051	ICPMS High Cal 500ppb/10ppm s		08/10/2016
MET-ICV-160511	ICPMS ICV 100 ppb		08/10/2016
MET-IS-160511	INTERNAL STANDARD 1 PPM		11/09/2016
MET-L2CAL-16051	ICPMS Low Cal2 1/20ppb std 2		08/10/2016
MET-LCAL-160511	ICPMS Low Cal 10/200ppb std 3		08/10/2016
MET-LCAL10X-16	ICPMS Low Cal 10/200ppb std 4		08/10/2016
MET-LCAL5X-160	ICPMS Low Cal 10/200ppb std 5		08/09/2016
MET-LCVLSPIKE-	LCVL METALS SPIKE (100/500		11/07/2016
MET-MCAL-16051	ICPMS Mid Cal 250/5000ppb std		08/10/2016
MET-PA-160421	ICPMS PA FACTOR SOLUTION		10/20/2016
MET-PDS-160520-	10 PPM Ag+Sb PDS		11/18/2016
MET-PDS-160520-	10 PPM CUSTOM PDS SOLUTI		11/18/2016
MET-PDS-160520-	250 PPM Naturals+Al+Fe PDS		11/18/2016

Run ID: ICP-MS4_160523F **Run No.:** 85956

1605121-01A MSD	5	ICPMS_TSDOD1	MSD	75237	5/23/2016 5:34:00 PM		S-flag Pb- High; R-flag Pb; Rerunning to verify per JD; Data accepted
CCV7-160523	1	ICPMS_TWDOD	CCV	R85956	5/23/2016 5:36:00 PM		
LCVL7-160523	1	ICPMS_TWDOD	LCVL	R85956	5/23/2016 5:40:00 PM		
CCB7-160523	1	ICPMS_TWDOD	CCB	R85956	5/23/2016 5:42:00 PM		
1605121-08A	5	ICPMS_TSDOD1	SAMP	75237	5/23/2016 5:44:00 PM		
1605121-09A	5	ICPMS_TSDOD1	SAMP	75237	5/23/2016 5:46:00 PM		
1605121-10A	5	ICPMS_TSDOD1	SAMP	75237	5/23/2016 5:48:00 PM		
1605121-11A	5	ICPMS_TSDOD1	SAMP	75237	5/23/2016 5:50:00 PM		
1605121-12A	5	ICPMS_TSDOD1	SAMP	75237	5/23/2016 5:52:00 PM		
1605121-13A	5	ICPMS_TSDOD1	SAMP	75237	5/23/2016 5:54:00 PM		
1605121-14A	5	ICPMS_TSDOD1	SAMP	75237	5/23/2016 5:56:00 PM		
1605121-15A	5	ICPMS_TSDOD1	SAMP	75237	5/23/2016 5:58:00 PM		
1605121-16A	5	ICPMS_TSDOD1	SAMP	75237	5/23/2016 6:00:00 PM		
1605121-17A	5	ICPMS_TSDOD1	SAMP	75237	5/23/2016 6:02:00 PM		
CCV8-160523	1	ICPMS_TWDOD	CCV	R85956	5/23/2016 6:04:00 PM		
LCVL8-160523	1	ICPMS_TWDOD	LCVL	R85956	5/23/2016 6:08:00 PM		
CCB8-160523	1	ICPMS_TWDOD	CCB	R85956	5/23/2016 6:10:00 PM		
MB-75236	5	ICPMS_TSDOD1	MBLK	75236	5/23/2016 6:12:00 PM		
LCS-75236	5	ICPMS_TSDOD1	LCS	75236	5/23/2016 6:14:00 PM		
LCSD-75236	5	ICPMS_TSDOD1	LCSD	75236	5/23/2016 6:16:00 PM		
1605098-17A	5	ICPMS_TSDOD1	SAMP	75236	5/23/2016 6:20:00 PM		
1605098-17A SD	25	ICPMS_TSDOD1	SD	75236	5/23/2016 6:22:00 PM		
1605071-32A	5	ICPMS_TSDOD1	SAMP	75236	5/23/2016 6:24:00 PM		
1605071-38A	5	ICPMS_TSDOD1	SAMP	75236	5/23/2016 6:26:00 PM		
1605098-12A	5	ICPMS_TSDOD1	SAMP	75236	5/23/2016 6:28:00 PM		
1605098-13A	5	ICPMS_TSDOD1	SAMP	75236	5/23/2016 6:30:00 PM		
1605098-14A	5	ICPMS_TSDOD1	SAMP	75236	5/23/2016 6:32:00 PM		
1605098-15A	5	ICPMS_TSDOD1	SAMP	75236	5/23/2016 6:34:00 PM		
1605098-16A	5	ICPMS_TSDOD1	SAMP	75236	5/23/2016 6:36:00 PM		
1605098-18A	5	ICPMS_TSDOD1	SAMP	75236	5/23/2016 6:38:00 PM		
1605098-19A	5	ICPMS_TSDOD1	SAMP	75236	5/23/2016 6:40:00 PM		
1605098-17A PDS	5	ICPMS_TSDOD1	PDS	75236	5/23/2016 6:42:00 PM		
1605098-17A MS	5	ICPMS_TSDOD1	MS	75236	5/23/2016 6:44:00 PM		
1605098-17A MSD	5	ICPMS_TSDOD1	MSD	75236	5/23/2016 6:46:00 PM		
CCV9-160523	1	ICPMS_TWDOD	CCV	R85956	5/23/2016 6:48:00 PM		

Std ID	Std Name	Type	Exp. Date
MET-CCV-160511	ICPMS CCV 200/5000 PPB		08/10/2016
MET-H2CAL-1605	ICPMS High Cal2 2000ppb std 8		08/10/2016
MET-HCAL-16051	ICPMS High Cal 500ppb/10ppm s		08/10/2016
MET-ICV-160511	ICPMS ICV 100 ppb		08/10/2016
MET-IS-160511	INTERNAL STANDARD 1 PPM		11/09/2016
MET-L2CAL-16051	ICPMS Low Cal2 1/20ppb std 2		08/10/2016
MET-LCAL-160511	ICPMS Low Cal 10/200ppb std 3		08/10/2016
MET-LCAL10X-16	ICPMS Low Cal 10/200ppb std 4		08/10/2016
MET-LCAL5X-160	ICPMS Low Cal 10/200ppb std 5		08/09/2016
MET-LCVLSPIKE-	LCVL METALS SPIKE (100/500		11/07/2016
MET-MCAL-16051	ICPMS Mid Cal 250/5000ppb std		08/10/2016
MET-PA-160421	ICPMS PA FACTOR SOLUTION		10/20/2016
MET-PDS-160520-	10 PPM Ag+Sb PDS		11/18/2016
MET-PDS-160520-	10 PPM CUSTOM PDS SOLUTI		11/18/2016
MET-PDS-160520-	250 PPM Naturals+Al+Fe PDS		11/18/2016

DHL Analytical, Inc.

Run ID: ICP-MS4_160523F **Run No.:** 85956

LCVL9-160523	1	ICPMS_TWDOD	LCVL	R85956	5/23/2016 6:52:00 PM		
CCB9-160523	1	ICPMS_TWDOD	CCB	R85956	5/23/2016 6:54:00 PM		
1605098-20A	5	ICPMS_TSDOD1	SAMP	75236	5/23/2016 6:56:00 PM		
1605098-21A	5	ICPMS_TSDOD1	SAMP	75236	5/23/2016 6:58:00 PM		
1605098-22A	5	ICPMS_TSDOD1	SAMP	75236	5/23/2016 7:00:00 PM		
1605098-23A	5	ICPMS_TSDOD1	SAMP	75236	5/23/2016 7:02:00 PM		
1605098-24A	5	ICPMS_TSDOD1	SAMP	75236	5/23/2016 7:04:00 PM		
1605098-25A	5	ICPMS_TSDOD1	SAMP	75236	5/23/2016 7:06:00 PM		
1605098-26A	5	ICPMS_TSDOD1	SAMP	75236	5/23/2016 7:08:00 PM		
1605098-27A	5	ICPMS_TSDOD1	SAMP	75236	5/23/2016 7:10:00 PM		
1605098-28A	5	ICPMS_TSDOD1	SAMP	75236	5/23/2016 7:12:00 PM		
1605098-29A	5	ICPMS_TSDOD1	SAMP	75236	5/23/2016 7:14:00 PM		
CCV10-160523	1	ICPMS_TWDOD	CCV	R85956	5/23/2016 7:16:00 PM		
LCVL10-160523	1	ICPMS_TWDOD	LCVL	R85956	5/23/2016 7:20:00 PM		
CCB10-160523	1	ICPMS_TWDOD	CCB	R85956	5/23/2016 7:22:00 PM		

REVIEWED/APPROVED

By Sherri Herschmann at 11:46:09 AM, 5/24/2016

Std ID	Std Name	Type	Exp. Date
MET-CCV-160511	ICPMS CCV 200/5000 PPB		08/10/2016
MET-H2CAL-1605	ICPMS High Cal2 2000ppb std 8		08/10/2016
MET-HCAL-16051	ICPMS High Cal 500ppb/10ppm s		08/10/2016
MET-ICV-160511	ICPMS ICV 100 ppb		08/10/2016
MET-IS-160511	INTERNAL STANDARD 1 PPM		11/09/2016
MET-L2CAL-16051	ICPMS Low Cal2 1/20ppb std 2		08/10/2016
MET-LCAL-160511	ICPMS Low Cal 10/200ppb std 3		08/10/2016
MET-LCAL10X-16	ICPMS Low Cal 10/200ppb std 4		08/10/2016
MET-LCAL5X-160	ICPMS Low Cal 10/200ppb std 5		08/09/2016
MET-LCVLSPIKE-	LCVL METALS SPIKE (100/500		11/07/2016
MET-MCAL-16051	ICPMS Mid Cal 250/5000ppb std		08/10/2016
MET-PA-160421	ICPMS PA FACTOR SOLUTION		10/20/2016
MET-PDS-160520-	10 PPM Ag+Sb PDS		11/18/2016
MET-PDS-160520-	10 PPM CUSTOM PDS SOLUTI		11/18/2016
MET-PDS-160520-	250 PPM Naturals+Al+Fe PDS		11/18/2016

Sample List

Batch Folder C:\Agilent\ICPMH\1\DATA\160523.b

Acquisition Order

#	Sequence Flow
1	Calibration Standards
2	Unknown Samples
3	Blank Samples

Calibration Standards:

#	Sample Type	Sample Name	Comment	Vial#	File Name
1	CCB		CAL ICPMS_TW	1101	
2	CCB		CAL ICPMS_TW	1101	
3	CCB		CAL ICPMS_TW	1101	
4	CCB		CAL ICPMS_TW	1102	
5	CCB		CAL ICPMS_TW	1102	
6	CCB		CAL ICPMS_TW	1102	
7	CCB		CAL ICPMS_TW	1102	
8	CCB		CAL ICPMS_TW	1103	
9	CCB		CAL ICPMS_TW	1103	
10	CCB		CAL ICPMS_TW	1103	
11	CCB		CAL ICPMS_TW	1103	
12	CalBlk	BLANK STD 1	CAL ICPMS_TW	2101	
13	CalStd	L2-160523	CAL ICPMS_TW	2102	
14	CalStd	L-160523	CAL ICPMS_TW	2103	
15	CalStd	10X-160523	CAL ICPMS_TW	2104	
16	CalStd	5X-160523	CAL ICPMS_TW	2105	
17	CalStd	2X-160523	CAL ICPMS_TW	2106	
18	CalStd	H-160523	CAL ICPMS_TW	2107	
19	CalStd	H2-160523	CAL ICPMS_TW	2108	
20	ICB	BLANK	CCB ICPMS_TW	1101	

#	Level	Dilution	Skip
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12	1		
13	2		
14	3		
15	4		
16	5		
17	6		
18	7		
19	8		

Sample List

#	Sample Type	Sample Name	Comment	Vial#	File Name
20					
21	ICB	BLANK	CCB ICPMS_TW	1102	
22	ICB	BLANK	CCB ICPMS_TW	1103	
23	ICSA	ICSA-160523	ICSAICPMS_TW	2109	
24	ICSB	ICSAB-160523	ICSBICPMS_TW	2110	
25	ICB	BLANK	CCB ICPMS_TW	1101	
26	ICB	BLANK	CCB ICPMS_TW	1102	
27	ICB	BLANK	CCB ICPMS_TW	1103	
28	ICV	ICV-160523	ICV ICPMS_TW	2111	
29	ICB	BLANK	CCB ICPMS_TW	1102	
30	ICB	BLANK	CCB ICPMS_TW	1103	
31	LLICV	LCVL-160523	LCVLICPMS_TW	2112	
32	ICB	ICB-160523	ICB ICPMS_TW	1102	
33	ICB	ICB-160523	ICB ICPMS_TW	1103	
34	PB_W	MB-75178	MBLKICPMS_TW	2201	
35	LCS_W	LCS-75178	LCS ICPMS_TW	2202	
36	LCS_W	LCSD-75178	LCSDICPMS_TW	2203	
37	CCB	RINSE	CCB ICPMS_TW	1101	
38	AllRef	1605153-03A	SAMPICPMS_TW	2204	
39	SD	1605153-03A SD	SD ICPMS_TW	2205	
40	SAMP_W	1605152-01C	SAMPICPMS_TW	2206	

#	Level	Dilution	Skip
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			
32			
33			
34		1	
35		1	
36		1	
37			
38		100	
39		500	
40		10	

#	Sample Type	Sample Name	Comment	Vial#	File Name
41	SAMP_W	1605162-01A	SAMP200.8	2210	
42	SAMP_W	1605149-04A	SAMPICPMS_TW	2211	
43	SAMP_W	1605149-08A	SAMPICPMS_TW	2212	
44	PDS	1605153-03A PDS	PDS ICPMS_TW	2207	
45	MS_W	1605153-03A MS	MS ICPMS_TW	2208	

Sample List

46	MS_W	1605153-03A MSD	MSD ICPMS_TW	2209
47	CCB	RINSE	CCB ICPMS_TW	1101
48	CCB	RINSE	CCB ICPMS_TW	1102
49	CCB	RINSE	CCB ICPMS_TW	1103
50	SAMP_W	1605149-04A	SAMPICPMS_TW	2211
51	CCV	CCV1-160523	CCV ICPMS_TW	1207
52	CCB	CCB1-160523	CCB ICPMS_TW	1102
53	LLCCV	LCVL1-160523	LCVLICPMS_TW	2112
54	CCB	CCB1-160523	CCB ICPMS_TW	1103
55	SAMP_W	1605149-04A	SAMPICPMS_TW	2504
56	PB	MB-75261	MBLK6020A_S	2301
57	LCS_S	LCS-75261	LCS 6020A_S	2302
58	LCS_S	LCSD-75261	LCSD6020A_S	2303
59	CCB	RINSE	CCB ICPMS_TW	1101
60	AllRef	1605185-01A	SAMP6020A_S	2304

#	Level	Dilution	Skip
41		10	
42		1	
43		1	
44		100	
45		100	
46		100	
47			
48			
49			
50		1	
51			
52			
53			
54			
55		1	
56		5	Skip
57		5	Skip
58		5	Skip
59			Skip
60		5	Skip

#	Sample Type	Sample Name	Comment	Vial#	File Name
61	SD	1605185-01A SD	SD 6020A_S	2305	
62	Sample	1605191-01D	SAMP6020A_S	2306	
63	Sample	1605191-02D	SAMP6020A_S	2307	
64	Sample	1605191-03D	SAMP6020A_S	2308	
65	Sample	1605191-04D	SAMP6020A_S	2309	
66	Sample	1605191-05D	SAMP6020A_S	2310	
67	Sample	1605191-06D	SAMP6020A_S	2311	
68	Sample	1605185-02A	SAMP6020A_S	2312	
69	Sample	1605185-03A	SAMP6020A_S	2401	
70	Sample	1605185-04A	SAMP6020A_S	2402	
71	PDS	1605185-01A PDS	PDS 6020A_S	2403	
72	MS_S	1605185-01A MS	MS 6020A_S	2404	
73	MS_S	1605185-01A MSD	MSD 6020A_S	2405	

Sample List

74	CCV	CCV2-160523	CCV ICPMS_TW	1207
75	CCB	CCB2-160523	CCB ICPMS_TW	1102
76	LLCCV	LCVL2-160523	LCVLICPMS_TW	2112
77	CCB	CCB2-160523	CCB ICPMS_TW	1103
78	Sample	1605187-01A	SAMPICPMS_TS	2406
79	Sample	1605187-02A	SAMPICPMS_TS	2407
80	Sample	1605187-03A	SAMPICPMS_TS	2408

#	Level	Dilution	Skip
61		25	Skip
62		5	Skip
63		5	Skip
64		5	Skip
65		5	Skip
66		5	Skip
67		5	Skip
68		5	Skip
69		5	Skip
70		5	Skip
71		5	Skip
72		5	Skip
73		5	Skip
74			Skip
75			Skip
76			Skip
77			Skip
78		5	Skip
79		5	Skip
80		5	Skip

#	Sample Type	Sample Name	Comment	Vial#	File Name
81	Sample	1605187-04A	SAMPICPMS_TS	2409	
82	Sample	1605187-05A	SAMPICPMS_TS	2410	
83	Sample	1605187-06A	SAMPICPMS_TS	2411	
84	Sample	1605187-07A	SAMPICPMS_TS	2412	
85	Sample	1605187-08A	SAMPICPMS_TS	2501	
86	Sample	1605187-09A	SAMPICPMS_TS	2502	
87	Sample	1605187-10A	SAMPICPMS_TS	2503	
88	CCV	CCV3-160523	CCV ICPMS_TW	1207	
89	CCB	CCB3-160523	CCB ICPMS_TW	1102	
90	LLCCV	LCVL3-160523	LCVLICPMS_TW	2512	
91	CCB	CCB3-160523	CCB ICPMS_TW	1103	
92	PB	MB-75256	MBLKICPMS_TS	3101	
93	LCS_S	LCS-75256	LCS ICPMS_TS	3102	
94	LCS_S	LCSD-75256	LCSDICPMS_TS	3103	
95	CCB	RINSE	CCB ICPMS_TW	1101	
96	AllRef	1605186-02A	SAMPICPMS_TS	3104	
97	SD	1605186-02A SD	SD ICPMS_TS	3105	
98	Sample	1605186-01A	SAMPICPMS_TS	3106	
99	PDS	1605186-02A PDS	PDS ICPMS_TS	3107	
100	MS_S	1605186-02A MS	MS ICPMS_TS	3108	

Sample List

#	Level	Dilution	Skip
81		5	Skip
82		5	Skip
83		5	Skip
84		5	Skip
85		5	Skip
86		5	Skip
87		5	Skip
88			Skip
89			Skip
90			Skip
91			Skip
92		5	Skip
93		5	Skip
94		5	Skip
95			Skip
96		5	Skip
97		25	Skip
98		5	Skip
99		5	Skip
100		5	Skip

#	Sample Type	Sample Name	Comment	Vial#	File Name
101	MS_S	1605186-02A MSD	MSD ICPMS_TS	3109	
102	CCV	CCV4-160523	CCV ICPMS_TW	1207	
103	CCB	CCB4-160523	CCB ICPMS_TW	1102	
104	LLCCV	LCVL4-160523	LCVLICPMS_TW	2512	
105	CCB	CCB4-160523	CCB ICPMS_TW	1103	
106	PB	MB-62609	MBLKICPMS_TSDOD	3401	
107	Sample	PAINT CHIPS AW-13	SAMPICPMS_TSDOD	3402	
108	LCS_S	LCS-62609	LCS ICPMS_TSDOD	3403	
109	LCS_S	LCSD-62609	LCSDICPMS_TSDOD	3404	
110	CCB	RINSE	CCB ICPMS_TW	1101	
111	AllRef	1403264-10A	SAMPICPMS_TSDOD	3405	
112	SD	1403264-10A SD	SD ICPMS_TSDOD	3406	
113	Sample	1403263-08A	SAMPICPMS_TSDOD	3407	
114	Sample	1403263-09A	SAMPICPMS_TSDOD	3408	
115	Sample	1403264-01A	SAMPICPMS_TSDOD	3409	
116	Sample	1403264-02A	SAMPICPMS_TSDOD	3410	
117	Sample	1403264-03A	SAMPICPMS_TSDOD	3411	
118	Sample	1403264-04A	SAMPICPMS_TSDOD	3412	
119	Sample	1403264-05A	SAMPICPMS_TSDOD	3501	
120	Sample	1403264-06A	SAMPICPMS_TSDOD	3502	

#	Level	Dilution	Skip
101		5	Skip
102			Skip
103			Skip
104			Skip
105			Skip
106		5	Skip
107		50	Skip

Sample List

108	5	Skip
109	5	Skip
110		Skip
111	5	Skip
112	25	Skip
113	5	Skip
114	5	Skip
115	5	Skip
116	5	Skip
117	5	Skip
118	5	Skip
119	5	Skip
120	5	Skip

#	Sample Type	Sample Name	Comment	Vial#	File Name
121	Sample	1403264-07A	SAMPICPMS_TSDOD	3503	
122	PDS	1403264-10A PDS	PDS ICPMS_TSDOD	3504	
123	MS_S	1403264-10A MS	MS ICPMS_TSDOD	3505	
124	MS_S	1403264-10A MSD	MSD ICPMS_TSDOD	3506	
125	CCV	CCV5-140402	CCV ICPMS_TW	1207	
126	CCB	CCB5-140402	CCB ICPMS_TW	1102	
127	LLCCV	LCVL5-140402	LCVLICPMS_TW	2511	
128	CCB	CCB5-140402	CCB ICPMS_TW	1103	
129	Sample	1403264-08A	SAMPICPMS_TSDOD	3507	
130	Sample	1403264-09A	SAMPICPMS_TSDOD	3508	
131	Sample	1403264-11A	SAMPICPMS_TSDOD	3509	
132	Sample	1403264-12A	SAMPICPMS_TSDOD	3510	
133	Sample	1403264-13A	SAMPICPMS_TSDOD	3511	
134	Sample	1403264-14A	SAMPICPMS_TSDOD	3512	
135	Sample	1403264-15A	SAMPICPMS_TSDOD	3310	
136	Sample	1403264-16A	SAMPICPMS_TSDOD	3311	
137	Sample	1403264-17A	SAMPICPMS_TSDOD	3312	
138	Sample	1403264-12A	SAMPICPMS_TSDOD	3510	
139	CCV	CCV6-140402	CCV ICPMS_TW	1207	
140	CCB	CCB6-140402	CCB ICPMS_TW	1102	

#	Level	Dilution	Skip
121		5	Skip
122		5	Skip
123		5	Skip
124		5	Skip
125			Skip
126			Skip
127			Skip
128			Skip
129		5	Skip
130		5	Skip
131		5	Skip
132		5	Skip
133		5	Skip
134		5	Skip
135		5	Skip

Sample List

136	5	Skip	
137	5	Skip	
138	5	Skip	
139		Skip	
140		Skip	

#	Sample Type	Sample Name	Comment	Vial#	File Name
141	LLCCV	LCVL6-140402	LCVLICPMS_TW	2511	
142	CCB	CCB6-140402	CCB ICPMS_TW	1103	
143	CCB	CCB6-140402	CCB ICPMS_TW	1102	
144	CCB	CCB6-140402	CCB ICPMS_TW	1102	

#	Level	Dilution	Skip
141			Skip
142			Skip
143			Skip
144			Skip

Unknown Samples:

Blank Samples:

Periodic Block

#	Block Name	Period	Unit	Reset By

Sublist

Sample List

Batch Folder C:\Agilent\ICPMH\1\DATA\160523.b

Acquisition Order

#	Sequence Flow
1	Calibration Standards
2	Unknown Samples
3	Blank Samples

Calibration Standards:

#	Sample Type	Sample Name	Comment	Vial#	File Name
1	CCB		CAL ICPMS_TW	1101	
2	CCB		CAL ICPMS_TW	1101	
3	CCB		CAL ICPMS_TW	1101	
4	CCB		CAL ICPMS_TW	1102	
5	CCB		CAL ICPMS_TW	1102	
6	CCB		CAL ICPMS_TW	1102	
7	CCB		CAL ICPMS_TW	1102	
8	CCB		CAL ICPMS_TW	1103	
9	CCB		CAL ICPMS_TW	1103	
10	CCB		CAL ICPMS_TW	1103	
11	CCB		CAL ICPMS_TW	1103	
12	CalBlk	BLANK STD 1	CAL ICPMS_TW	2101	
13	CalStd	L2-160523	CAL ICPMS_TW	2102	
14	CalStd	L-160523	CAL ICPMS_TW	2103	
15	CalStd	10X-160523	CAL ICPMS_TW	2104	
16	CalStd	5X-160523	CAL ICPMS_TW	2105	
17	CalStd	2X-160523	CAL ICPMS_TW	2106	
18	CalStd	H-160523	CAL ICPMS_TW	2107	
19	CalStd	H2-160523	CAL ICPMS_TW	2108	
20	ICB	BLANK	CCB ICPMS_TW	1101	

#	Level	Dilution	Skip
1			Skip
2			Skip
3			Skip
4			Skip
5			Skip
6			Skip
7			Skip
8			Skip
9			Skip
10			Skip
11			Skip
12	1		Skip
13	2		Skip
14	3		Skip
15	4		Skip
16	5		Skip
17	6		Skip
18	7		Skip
19	8		Skip

Sample List

20			Skip		

#	Sample Type	Sample Name	Comment	Vial#	File Name
21	ICB	BLANK	CCB ICPMS_TW	1102	
22	ICB	BLANK	CCB ICPMS_TW	1103	
23	ICSA	ICSA-160523	ICSAICPMS_TW	2109	
24	ICSB	ICSAB-160523	ICSBICPMS_TW	2110	
25	ICB	BLANK	CCB ICPMS_TW	1101	
26	ICB	BLANK	CCB ICPMS_TW	1102	
27	ICB	BLANK	CCB ICPMS_TW	1103	
28	ICV	ICV-160523	ICV ICPMS_TW	2111	
29	ICB	BLANK	CCB ICPMS_TW	1102	
30	ICB	BLANK	CCB ICPMS_TW	1103	
31	LLICV	LCVL-160523	LCVLICPMS_TW	2112	
32	ICB	ICB-160523	ICB ICPMS_TW	1102	
33	ICB	ICB-160523	ICB ICPMS_TW	1103	
34	PB_W	MB-75178	MBLKICPMS_TW	2201	
35	LCS_W	LCS-75178	LCS ICPMS_TW	2202	
36	LCS_W	LCSD-75178	LCSDICPMS_TW	2203	
37	CCB	RINSE	CCB ICPMS_TW	1101	
38	AllRef	1605153-03A	SAMPICPMS_TW	2204	
39	SD	1605153-03A SD	SD ICPMS_TW	2205	
40	SAMP_W	1605152-01C	SAMPICPMS_TW	2206	

#	Level	Dilution	Skip
21			Skip
22			Skip
23			Skip
24			Skip
25			Skip
26			Skip
27			Skip
28			Skip
29			Skip
30			Skip
31			Skip
32			Skip
33			Skip
34		1	Skip
35		1	Skip
36		1	Skip
37			Skip
38		100	Skip
39		500	Skip
40		10	Skip

#	Sample Type	Sample Name	Comment	Vial#	File Name
41	SAMP_W	1605162-01A	SAMP200.8	2210	
42	SAMP_W	1605149-04A	SAMPICPMS_TW	2211	
43	SAMP_W	1605149-08A	SAMPICPMS_TW	2212	
44	PDS	1605153-03A PDS	PDS ICPMS_TW	2207	
45	MS_W	1605153-03A MS	MS ICPMS_TW	2208	

Sample List

46	MS_W	1605153-03A MSD	MSD ICPMS_TW	2209
47	CCB	RINSE	CCB ICPMS_TW	1101
48	CCB	RINSE	CCB ICPMS_TW	1102
49	CCB	RINSE	CCB ICPMS_TW	1103
50	SAMP_W	1605149-04A	SAMPICPMS_TW	2211
51	CCV	CCV1-160523	CCV ICPMS_TW	1207
52	CCB	CCB1-160523	CCB ICPMS_TW	1102
53	LLCCV	LCVL1-160523	LCVLICPMS_TW	2112
54	CCB	CCB1-160523	CCB ICPMS_TW	1103
55	SAMP_W	1605149-04A	SAMPICPMS_TW	2504
56	PB	MB-75261	MBLK6020A_S	2301
57	LCS_S	LCS-75261	LCS 6020A_S	2302
58	LCS_S	LCSD-75261	LCSD6020A_S	2303
59	CCB	RINSE	CCB ICPMS_TW	1101
60	AllRef	1605185-01A	SAMP6020A_S	2304

#	Level	Dilution	Skip
41		10	Skip
42		1	Skip
43		1	Skip
44		100	Skip
45		100	Skip
46		100	Skip
47			Skip
48			Skip
49			Skip
50		1	Skip
51			Skip
52			Skip
53			Skip
54			Skip
55		1	Skip
56		5	
57		5	
58		5	
59			
60		5	

#	Sample Type	Sample Name	Comment	Vial#	File Name
61	SD	1605185-01A SD	SD 6020A_S	2305	
62	Sample	1605191-01D	SAMP6020A_S	2306	
63	Sample	1605191-02D	SAMP6020A_S	2307	
64	Sample	1605191-03D	SAMP6020A_S	2308	
65	Sample	1605191-04D	SAMP6020A_S	2309	
66	Sample	1605191-05D	SAMP6020A_S	2310	
67	Sample	1605191-06D	SAMP6020A_S	2311	
68	Sample	1605185-02A	SAMP6020A_S	2312	
69	Sample	1605185-03A	SAMP6020A_S	2401	
70	Sample	1605185-04A	SAMP6020A_S	2402	
71	PDS	1605185-01A PDS	PDS 6020A_S	2403	
72	MS_S	1605185-01A MS	MS 6020A_S	2404	
73	MS_S	1605185-01A MSD	MSD 6020A_S	2405	

Sample List

74	CCV	CCV2-160523	CCV ICPMS_TW	1207
75	CCB	CCB2-160523	CCB ICPMS_TW	1102
76	CCB	CCB2-160523	CCB ICPMS_TW	1103
77	LLCCV	LCVL2-160523	LCVLICPMS_TW	2112
78	CCB	CCB2-160523	CCB ICPMS_TW	1103
79	Sample	1605187-01A	SAMPICPMS_TS	2406
80	Sample	1605187-02A	SAMPICPMS_TS	2407

#	Level	Dilution	Skip
61		25	
62		5	
63		5	
64		5	
65		5	
66		5	
67		5	
68		5	
69		5	
70		5	
71		5	
72		5	
73		5	
74			
75			
76			
77			
78			
79		5	
80		5	

#	Sample Type	Sample Name	Comment	Vial#	File Name
81	Sample	1605187-03A	SAMPICPMS_TS	2408	
82	Sample	1605187-04A	SAMPICPMS_TS	2409	
83	Sample	1605187-05A	SAMPICPMS_TS	2410	
84	Sample	1605187-06A	SAMPICPMS_TS	2411	
85	Sample	1605187-07A	SAMPICPMS_TS	2412	
86	Sample	1605187-08A	SAMPICPMS_TS	2501	
87	Sample	1605187-09A	SAMPICPMS_TS	2502	
88	Sample	1605187-10A	SAMPICPMS_TS	2503	
89	CCV	CCV3-160523	CCV ICPMS_TW	1207	
90	CCB	CCB3-160523	CCB ICPMS_TW	1102	
91	CCB	CCB3-160523	CCB ICPMS_TW	1102	
92	CCB	CCB3-160523	CCB ICPMS_TW	1103	
93	CCB	CCB3-160523	CCB ICPMS_TW	1103	
94	CCB	CCB3-160523	CCB ICPMS_TW	1103	
95	LLCCV	LCVL3-160523	LCVLICPMS_TW	2512	
96	CCB	CCB3-160523	CCB ICPMS_TW	1103	
97	PB	MB-75256	MBLKICPMS_TS	3101	
98	LCS_S	LCS-75256	LCS ICPMS_TS	3102	
99	LCS_S	LCSD-75256	LCSDICPMS_TS	3103	
100	CCB	RINSE	CCB ICPMS_TW	1101	

Sample List

#	Level	Dilution	Skip
81		5	
82		5	
83		5	
84		5	
85		5	
86		5	
87		5	
88		5	
89			
90			
91			
92			
93			
94			
95			
96			
97		5	
98		5	
99		5	
100			

#	Sample Type	Sample Name	Comment	Vial#	File Name
101	PB	MB-75256	MBLKICPMS_TS	3101	
102	LCS_S	LCS-75256	LCS ICPMS_TS	3102	
103	LCS_S	LCSD-75256	LCSDICPMS_TS	3103	
104	CCB	RINSE	CCB ICPMS_TW	1101	
105	AllRef	1605186-02A	SAMPICPMS_TS	3104	
106	SD	1605186-02A SD	SD ICPMS_TS	3105	
107	Sample	1605186-01A	SAMPICPMS_TS	3106	
108	PDS	1605186-02A PDS	PDS ICPMS_TS	3107	
109	MS_S	1605186-02A MS	MS ICPMS_TS	3108	
110	MS_S	1605186-02A MSD	MSD ICPMS_TS	3109	
111	CCB	CCB4-160523	CCB ICPMS_TW	1102	
112	AllRef	1605186-02A	SAMPICPMS_TS	3501	
113	SD	1605186-02A SD	SD ICPMS_TS	3502	
114	Sample	1605186-01A	SAMPICPMS_TS	3503	
115	PDS	1605186-02A PDS	PDS ICPMS_TS	3504	
116	MS_S	1605186-02A MS	MS ICPMS_TS	3505	
117	MS_S	1605186-02A MSD	MSD ICPMS_TS	3506	
118	SAMP_W	1605152-01C	SAMPICPMS_TW	3507	
119	SAMP_W	1605152-01C	SAMPICPMS_TW	3508	
120	CCB	CCB4-160523	CCB ICPMS_TW	1102	

#	Level	Dilution	Skip
101		5	
102		5	
103		5	
104			
105		5000	
106		25000	
107		5000	

Sample List

108		5000
109		5000
110		5000
111		
112		50
113		250
114		50
115		50
116		50
117		50
118		10
119		1
120		

#	Sample Type	Sample Name	Comment	Vial#	File Name
121	CCB	CCB4-160523	CCB ICPMS_TW	1103	
122	PB_W	MB-75255	MBLKTCLP_MET	4101	
123	PB_W	MB-75242-TCLP	MBLKTCLP_MET	4102	
124	LCS_W	LCS-75255	LCS TCLP_MET	4103	
125	LCS_W	LCSD-75255	LCSDTCLP_MET	4104	
126	CCB	RINSE	CCB ICPMS_TW	1101	
127	AllRef	1605186-01A	SAMPTCLP_MET	4105	
128	SD	1605186-01A SD	SD TCLP_MET	4106	
129	SAMP_W	1605186-02A	SAMPTCLP_MET	4107	
130	PDS	1605186-01A PDS	PDS TCLP_MET	4108	
131	MS_W	1605186-01A MS	MS TCLP_MET	4109	
132	MS_W	1605186-01A MSD	MSD TCLP_MET	4110	
133	CCB	CCB4-160523	CCB ICPMS_TW	1102	
134	CCB	CCB4-160523	CCB ICPMS_TW	1103	
135	CCB	CCB4-160523	CCB ICPMS_TW	1103	
136	CCV	CCV4-160523	CCV ICPMS_TW	1207	
137	CCB	CCB4-160523	CCB ICPMS_TW	1102	
138	CCB	CCB4-160523	CCB ICPMS_TW	1103	
139	LLCCV	LCVL4-160523	LCVLICPMS_TW	2512	
140	CCB	CCB4-160523	CCB ICPMS_TW	1103	

#	Level	Dilution	Skip
121			
122		1	
123		1	
124		1	
125		1	
126			
127		5	
128		25	
129		5	
130		5	
131		5	
132		5	
133			
134			
135			

Sample List

#	Sample Type	Sample Name	Comment	Vial#	File Name
141	PB	MB-75166	MBLKICPMS_TSDOD1	3201	
142	LCS_S	LCS-75166	LCS ICPMS_TSDOD1	3202	
143	LCS_S	LCSD-75166	LCSDICPMS_TSDOD1	3203	
144	CCB	RINSE	CCB ICPMS_TW	1101	
145	AllRef	1605096-14A	SAMPICPMS_TSDOD1	3204	
146	SD	1605096-14A SD	SD ICPMS_TSDOD1	3205	
147	Sample	1605074-40A	SAMPICPMS_TSDOD1	3206	
148	Sample	1605074-41A	SAMPICPMS_TSDOD1	3207	
149	Sample	1605096-01A	SAMPICPMS_TSDOD1	3208	
150	Sample	1605096-02A	SAMPICPMS_TSDOD1	3209	
151	Sample	1605096-03A	SAMPICPMS_TSDOD1	3210	
152	Sample	1605096-04A	SAMPICPMS_TSDOD1	3211	
153	Sample	1605096-05A	SAMPICPMS_TSDOD1	3212	
154	Sample	1605096-06A	SAMPICPMS_TSDOD1	3301	
155	Sample	1605096-07A	SAMPICPMS_TSDOD1	3302	
156	PDS	1605096-14A PDS	PDS ICPMS_TSDOD1	3303	
157	MS_S	1605096-14A MS	MS ICPMS_TSDOD1	3304	
158	MS_S	1605096-14A MSD	MSD ICPMS_TSDOD1	3305	
159	CCV	CCV5-160523	CCV ICPMS_TW	1207	
160	CCB	CCB5-160523	CCB ICPMS_TW	1102	

#	Level	Dilution	Skip
141		5	
142		5	
143		5	
144			
145		5	
146		25	
147		5	
148		5	
149		5	
150		5	
151		5	
152		5	
153		5	
154		5	
155		5	
156		5	
157		5	
158		5	
159			
160			

#	Sample Type	Sample Name	Comment	Vial#	File Name
161	LLCCV	LCVL5-160523	LCVLICPMS_TW	2511	

Sample List

162	CCB	CCB5-160523	CCB ICPMS_TW	1103
163	Sample	1605096-08A	SAMPICPMS_TSDOD1	3306
164	Sample	1605096-09A	SAMPICPMS_TSDOD1	3307
165	Sample	1605096-10A	SAMPICPMS_TSDOD1	3308
166	Sample	1605096-11A	SAMPICPMS_TSDOD1	3309
167	Sample	1605096-12A	SAMPICPMS_TSDOD1	3310
168	Sample	1605096-13A	SAMPICPMS_TSDOD1	3311
169	Sample	1605096-15A	SAMPICPMS_TSDOD1	3312
170	Sample	1605096-16A	SAMPICPMS_TSDOD1	3401
171	Sample	1605096-17A	SAMPICPMS_TSDOD1	3402
172	Sample	1605096-18A	SAMPICPMS_TSDOD1	3403
173	CCV	CCV6-160523	CCV ICPMS_TW	1207
174	CCB	CCB6-160523	CCB ICPMS_TW	1102
175	LLCCV	LCVL6-160523	LCVLICPMS_TW	2511
176	CCB	CCB6-160523	CCB ICPMS_TW	1103
177	PB	MB-75237	MBLKICPMS_TSDOD1	4101
178	LCS_S	LCS-75237	LCS ICPMS_TSDOD1	4102
179	LCS_S	LCSD-75237	LCSDICPMS_TSDOD1	4103
180	CCB	RINSE	CCB ICPMS_TW	1101

#	Level	Dilution	Skip
161			
162			
163		5	
164		5	
165		5	
166		5	
167		5	
168		5	
169		5	
170		5	
171		5	
172		5	
173			
174			
175			
176			
177		5	
178		5	
179		5	
180			

#	Sample Type	Sample Name	Comment	Vial#	File Name
181	AllRef	1605121-01A	SAMPICPMS_TSDOD1	4104	
182	SD	1605121-01A SD	SD ICPMS_TSDOD1	4105	
183	Sample	1605098-30A	SAMPICPMS_TSDOD1	4106	
184	Sample	1605098-35A	SAMPICPMS_TSDOD1	4107	
185	Sample	1605098-38A	SAMPICPMS_TSDOD1	4108	
186	Sample	1605121-02A	SAMPICPMS_TSDOD1	4109	
187	Sample	1605121-03A	SAMPICPMS_TSDOD1	4110	
188	Sample	1605121-04A	SAMPICPMS_TSDOD1	4111	
189	Sample	1605121-05A	SAMPICPMS_TSDOD1	4112	

Sample List

190	Sample	1605121-06A	SAMPICPMS_TSDOD1	4201
191	Sample	1605121-07A	SAMPICPMS_TSDOD1	4202
192	PDS	1605121-01A PDS	PDS ICPMS_TSDOD1	4203
193	MS_S	1605121-01A MS	MS ICPMS_TSDOD1	4204
194	MS_S	1605121-01A MSD	MSD ICPMS_TSDOD1	4205
195	CCV	CCV7-160523	CCV ICPMS_TW	1207
196	CCB	CCB7-160523	CCB ICPMS_TW	1102
197	LLCCV	LCVL7-160523	LCVLICPMS_TW	2511
198	CCB	CCB7-160523	CCB ICPMS_TW	1103
199	Sample	1605121-08A	SAMPICPMS_TSDOD1	4206
200	Sample	1605121-09A	SAMPICPMS_TSDOD1	4207

#	Level	Dilution	Skip
181		5	
182		25	
183		5	
184		5	
185		5	
186		5	
187		5	
188		5	
189		5	
190		5	
191		5	
192		5	
193		5	
194		5	
195			
196			
197			
198			
199		5	
200		5	

#	Sample Type	Sample Name	Comment	Vial#	File Name
201	Sample	1605121-10A	SAMPICPMS_TSDOD1	4208	
202	Sample	1605121-11A	SAMPICPMS_TSDOD1	4209	
203	Sample	1605121-12A	SAMPICPMS_TSDOD1	4210	
204	Sample	1605121-13A	SAMPICPMS_TSDOD1	4211	
205	Sample	1605121-14A	SAMPICPMS_TSDOD1	4212	
206	Sample	1605121-15A	SAMPICPMS_TSDOD1	4301	
207	Sample	1605121-16A	SAMPICPMS_TSDOD1	4302	
208	Sample	1605121-17A	SAMPICPMS_TSDOD1	4303	
209	CCV	CCV8-160523	CCV ICPMS_TW	1207	
210	CCB	CCB8-160523	CCB ICPMS_TW	1102	
211	LLCCV	LCVL8-160523	LCVLICPMS_TW	2510	
212	CCB	CCB8-160523	CCB ICPMS_TW	1103	
213	PB	MB-75236	MBLKICPMS_TSDOD1	4310	
214	LCS_S	LCS-75236	LCS ICPMS_TSDOD1	4311	
215	LCS_S	LCSD-75236	LCSDICPMS_TSDOD1	4312	
216	CCB	RINSE	CCB ICPMS_TW	1101	
217	AllRef	1605098-17A	SAMPICPMS_TSDOD1	4401	

Sample List

218	SD	1605098-17A SD	SD ICPMS_TSDOD1	4402
219	Sample	1605071-32A	SAMPICPMS_TSDOD1	4403
220	Sample	1605071-38A	SAMPICPMS_TSDOD1	4404

#	Level	Dilution	Skip
201		5	
202		5	
203		5	
204		5	
205		5	
206		5	
207		5	
208		5	
209			
210			
211			
212			
213		5	
214		5	
215		5	
216			
217		5	
218		25	
219		5	
220		5	

#	Sample Type	Sample Name	Comment	Vial#	File Name
221	Sample	1605098-12A	SAMPICPMS_TSDOD1	4405	
222	Sample	1605098-13A	SAMPICPMS_TSDOD1	4406	
223	Sample	1605098-14A	SAMPICPMS_TSDOD1	4407	
224	Sample	1605098-15A	SAMPICPMS_TSDOD1	4408	
225	Sample	1605098-16A	SAMPICPMS_TSDOD1	4409	
226	Sample	1605098-18A	SAMPICPMS_TSDOD1	4410	
227	Sample	1605098-19A	SAMPICPMS_TSDOD1	4411	
228	PDS	1605098-17A PDS	PDS ICPMS_TSDOD1	4412	
229	MS_S	1605098-17A MS	MS ICPMS_TSDOD1	4501	
230	MS_S	1605098-17A MSD	MSD ICPMS_TSDOD1	4502	
231	CCV	CCV9-160523	CCV ICPMS_TW	1207	
232	CCB	CCB9-160523	CCB ICPMS_TW	1102	
233	LLCCV	LCVL9-160523	LCVLICPMS_TW	2510	
234	CCB	CCB9-160523	CCB ICPMS_TW	1103	
235	Sample	1605098-20A	SAMPICPMS_TSDOD1	4503	
236	Sample	1605098-21A	SAMPICPMS_TSDOD1	4504	
237	Sample	1605098-22A	SAMPICPMS_TSDOD1	4505	
238	Sample	1605098-23A	SAMPICPMS_TSDOD1	4506	
239	Sample	1605098-24A	SAMPICPMS_TSDOD1	4507	
240	Sample	1605098-25A	SAMPICPMS_TSDOD1	4508	

#	Level	Dilution	Skip
221		5	
222		5	
223		5	

Sample List

224		5
225		5
226		5
227		5
228		5
229		5
230		5
231		
232		
233		
234		
235		5
236		5
237		5
238		5
239		5
240		5

#	Sample Type	Sample Name	Comment	Vial#	File Name
241	Sample	1605098-26A	SAMPICPMS_TSDOD1	4509	
242	Sample	1605098-27A	SAMPICPMS_TSDOD1	4510	
243	Sample	1605098-28A	SAMPICPMS_TSDOD1	4511	
244	Sample	1605098-29A	SAMPICPMS_TSDOD1	4512	
245	CCV	CCV10-160523	CCV ICPMS_TW	1207	
246	CCB	CCB10-160523	CCB ICPMS_TW	1102	
247	LLCCV	LCVL10-160523	LCVLICPMS_TW	2509	
248	CCB	CCB10-160523	CCB ICPMS_TW	1102	
249	AllRef	1605186-01A	SAMPTCLP_MET	3404	
250	SD	1605186-01A SD	SD TCLP_MET	3405	
251	SAMP_W	1605186-02A	SAMPTCLP_MET	3406	
252	PDS	1605186-01A PDS	PDS TCLP_MET	3407	
253	MS_W	1605186-01A MS	MS TCLP_MET	3408	
254	MS_W	1605186-01A MSD	MSD TCLP_MET	3409	
255	CCV	CCV11-160523	CCV ICPMS_TW	1207	
256	CCB	CCB11-160523	CCB ICPMS_TW	1102	
257	LLCCV	LCVL11-160523	LCVLICPMS_TW	2509	
258	CCB	CCB11-160523	CCB ICPMS_TW	1102	
259	CCB	CCB11-160523	CCB ICPMS_TW	1102	
260	CCB	CCB11-160523	CCB ICPMS_TW	1102	

#	Level	Dilution	Skip
241		5	
242		5	
243		5	
244		5	
245			
246			
247			
248			
249		1	
250		5	
251		1	

Sample List

252	1
253	1
254	1
255	
256	
257	
258	
259	
260	

#	Sample Type	Sample Name	Comment	Vial#	File Name
261	CCB	CCB11-160523	CCB ICPMS_TW	1103	
262	CCB	CCB11-160523	CCB ICPMS_TW	1103	
263	CCB	CCB11-160523	CCB ICPMS_TW	1103	

#	Level	Dilution	Skip
261			
262			
263			

Unknown Samples:

Blank Samples:

Periodic Block

#	Block Name	Period	Unit	Reset By

Sublist

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/17/2016 8:30:00 AM**
Digestion:
Prep End Date:

Prep Batch **75166** Prep Code: **3050_IDOD** Technician: **Cassie Van Dyke**

Prep Factor Units: **mL/g**

Equipment List
Hot Block #3
Thermometer #71
Balance #20
Pipette #P-01
Pipette#-P-09

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605074-40A	Soil		1.05	50	50.000	1 of 1	
1605074-41A	Soil		1.08	50	50.000	1 of 1	
1605096-01A	Soil		1.10	50	50.000	1 of 1	
1605096-02A	Soil		1.07	50	50.000	1 of 1	
1605096-03A	Soil		1.05	50	50.000	1 of 1	
1605096-04A	Soil		1.08	50	50.000	1 of 1	
1605096-05A	Soil		1.04	50	50.000	1 of 1	
1605096-06A	Soil		1.10	50	50.000	1 of 1	
1605096-07A	Soil		1.07	50	50.000	1 of 1	
1605096-08A	Soil		1.08	50	50.000	1 of 1	
1605096-09A	Soil		1.04	50	50.000	1 of 1	
1605096-10A	Soil		1.05	50	50.000	1 of 1	
1605096-11A	Soil		1.07	50	50.000	1 of 1	
1605096-12A	Soil		1.10	50	50.000	1 of 1	
1605096-13A	Soil		1.05	50	50.000	1 of 1	
1605096-14A	Soil		1.13	50	50.000	of 3	
1605096-14A MS	Soil		1.10	50	50.000	of	
1605096-14A MSD	Soil		1.09	50	50.000	of	
1605096-15A	Soil		1.15	50	50.000	1 of 1	
1605096-16A	Soil		1.16	50	50.000	1 of 1	
1605096-17A	Soil		1.05	50	50.000	1 of 1	
1605096-18A	Soil		1.17	50	50.000	1 of 1	
LCS-75166	Soil		1	50	50.000	of	
LCSD-75166	Soil		1	50	50.000	of	
MB-75166	Soil		1	50	50.000	of	

Number	Reagent Name	Amt	Units	Exp. Da
10056	Digestion Vessels	1	vessel	02/10/2026
10136	Nitric Acid (Trace Metal Grade)	10	ml	01/10/2026
10137	Hydrochloric Acid (trace metal grade)	5	ml	01/10/2026
10318	Hydrogen Peroxide, 30%	3	ml	10/29/2016

Spk ID	Spike Name	SampType	Amt (mL or g)	Exp. Date
MET-150914-10	AL PRIMARY STD 1000 PPM	LCS/MS/MSD	0.25	10/01/2016
MET-150914-9	FE PRIMARY STD 1000 PPM	LCS/MS/MSD	0.25	10/01/2016
MET-SPIKE-160406-1	2500 PPM NATURALS CAL	LCS/MS/MSD	0.5	07/05/2016
MET-SPIKE-160511-1	50 PPM Custom+Sn,Ti,B,Mo,Sr CAL	LCS/MS/MSD	1	08/09/2016
MET-SPIKE-160511-2	50 PPM Sb+Ag CAL	LCS/MS/MSD	1	08/09/2016

9:15-9:25
9:45-11:45
12:25-14:25
15:14-15:29

REVIEWED/APPROVED
By Sherri Herschmann at 11:48:57 AM, 5/24/2016

5/17/16

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/9/2016 9:45:00 AM**
Digestion: **Start: 5/9/2016 11:00:00 AM / Stop: 5/10/2016 10:00:00 AM**
Prep End Date: **5/10/2016 7:00:00 PM**

Prep Batch **75016** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker**

Prep Factor Units: mL/

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #			Cleanup
1605074-01A	Soil		0	0	#Num!	1	of	1	
1605074-02A	Soil		0	0	#Num!	1	of	1	
1605074-03A	Soil		0	0	#Num!	1	of	1	
	Sieved only no subdampling - hard clay								
1605074-04A	Soil		0	0	#Num!	1	of	1	
	Sieved only no subdampling - hard clay								
1605074-05A	Soil		0	0	#Num!	1	of	1	
1605074-06A	Soil		0	0	#Num!	1	of	1	
	Sieved only no subsampling - hard clay								
1605074-07A	Soil		0	0	#Num!	1	of	1	
	Sieved only no subsampling - hard clay								
1605074-08A	Soil		0	0	#Num!	1	of	1	
	Sieved only no subsampling - hard clay								
1605074-09A	Soil		0	0	#Num!	1	of	1	
1605074-10A	Soil		0	0	#Num!	1	of	1	
1605074-11A	Soil		0	0	#Num!	1	of	1	
	Sieved only no sub sampling - hard clay								
1605074-12A	Soil		0	0	#Num!	1	of	1	
	Sieved only no sub sampling - hard clay								
1605074-13A	Soil		0	0	#Num!		of	3	
	Extra subsampled for MS/MSD								
1605074-14A	Soil		0	0	#Num!	1	of	1	
1605074-15A	Soil		0	0	#Num!	1	of	1	
1605074-16A	Soil		0	0	#Num!	1	of	1	
1605074-17A	Soil		0	0	#Num!	1	of	1	
1605074-18A	Soil		0	0	#Num!	1	of	1	
1605074-19A	Soil		0	0	#Num!	1	of	1	

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/9/2016 9:45:00 AM**
Digestion: **Start: 5/9/2016 11:00:00 AM / Stop: 5/10/2016 10:00:00 AM**
Prep End Date: **5/10/2016 7:00:00 PM**

Prep Batch **75016** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker**

Prep Factor Units: **mL/**

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #			Cleanup
1605074-20A	Soil		0	0	#Num!	1	of	1	
1605074-21A	Soil		0	0	#Num!	1	of	1	
1605074-22A	Soil		0	0	#Num!	1	of	1	
1605074-23A	Soil		0	0	#Num!	1	of	1	
1605074-24A	Soil		0	0	#Num!	1	of	1	
1605074-25A	Soil		0	0	#Num!	1	of	1	
1605074-26A	Soil		0	0	#Num!		of	3	
	Extra subsampled for MS/MSD								
1605074-27A	Soil		0	0	#Num!	1	of	1	
1605074-36A	Soil		0	0	#Num!	1	of	1	
1605074-37A	Soil		0	0	#Num!	1	of	1	
	Sieved only no subsampling - hard clay								
1605074-38A	Soil		0	0	#Num!	1	of	1	
	Sieved only no subsampling - hard clay								
1605074-39A	Soil		0	0	#Num!	1	of	1	
1605074-40A	Soil		0	0	#Num!	1	of	1	
1605074-41A	Soil		0	0	#Num!	1	of	1	
	Sieved only no subsampling - hard clay								
1605074-42A	Soil		0	0	#Num!	1	of	1	
	Sieved only no subsampling - hard clay								
1605074-43A	Soil		0	0	#Num!	1	of	1	
	Sieved only no subsampling - hard clay								
1605074-44A	Soil		0	0	#Num!		of	3	
	Extra subsampled for MS/MSD								
1605074-45A	Soil		0	0	#Num!	1	of	1	
	Sieved only no subsampling - hard clay								

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/9/2016 9:45:00 AM**
Digestion: **Start: 5/9/2016 11:00:00 AM / Stop: 5/10/2016 10:00:00 AM**
Prep End Date: **5/10/2016 7:00:00 PM**

Prep Batch **75016** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker**

Prep Factor Units: **mL/**

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605074-46A	Soil		0	0	#Num!	1 of 1	
	Sieved only no subsampling - hard clay						
1605074-47A	Soil		0	0	#Num!	1 of 1	

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/10/2016 7:00:00 PM**
Digestion: **Start: 5/10/2016 8:30:00 PM / Stop: 5/12/2016 9:00:00 AM**
Prep End Date: **5/12/2016 5:30:00 PM**

Prep Batch **75084** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker**

Prep Factor Units: **mL/**

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605096-16A	Soil		0	0	#Num!	1 of 1	
1605096-17A	Soil		0	0	#Num!	1 of 1	
1605096-18A	Soil		0	0	#Num!	1 of 1	
1605096-19A	Soil		0	0	#Num!	1 of 1	
	Sieved only - no subsampling hard clay						
1605096-20A	Soil		0	0	#Num!	1 of 1	
1605096-21A	Soil		0	0	#Num!	1 of 1	
1605096-22A	Soil		0	0	#Num!	1 of 1	
1605096-23A	Soil		0	0	#Num!	1 of 1	
1605096-24A	Soil		0	0	#Num!	1 of 1	
1605096-25A	Soil		0	0	#Num!	1 of 1	
1605096-26A	Soil		0	0	#Num!	1 of 1	
1605096-27A	Soil		0	0	#Num!	1 of 1	
1605096-28A	Soil		0	0	#Num!	1 of 1	
1605096-29A	Soil		0	0	#Num!	1 of 1	
1605096-30A	Soil		0	0	#Num!	1 of 1	
1605096-45A	Soil		0	0	#Num!	1 of 1	
1605096-46A	Soil		0	0	#Num!	1 of 1	
1605096-47A	Soil		0	0	#Num!	1 of 1	
1605096-48A	Soil		0	0	#Num!	1 of 1	
1605096-49A	Soil		0	0	#Num!	1 of 1	
1605096-50A	Soil		0	0	#Num!	1 of 1	
1605096-51A	Soil		0	0	#Num!	1 of 1	
1605096-52A	Soil		0	0	#Num!	of 3	
1605096-53A	Soil		0	0	#Num!	1 of 1	
1605096-54A	Soil		0	0	#Num!	1 of 1	
1605096-55A	Soil		0	0	#Num!	1 of 1	

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/10/2016 7:00:00 PM**
Digestion: **Start: 5/10/2016 8:30:00 PM / Stop: 5/12/2016 9:00:00 AM**
Prep End Date: **5/12/2016 5:30:00 PM**

Prep Batch **75084** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker**

Prep Factor Units: **mL/**

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #			Cleanup
1605096-56A	Soil		0	0	#Num!	1	of	1	
1605096-57A	Soil		0	0	#Num!	1	of	1	
1605096-58A	Soil		0	0	#Num!	1	of	1	
1605096-59A	Soil		0	0	#Num!	1	of	1	
1605096-60A	Soil		0	0	#Num!	1	of	1	
1605096-61A	Soil		0	0	#Num!	1	of	1	
1605096-62A	Soil		0	0	#Num!	1	of	1	
1605096-63A	Soil		0	0	#Num!	1	of	1	
1605096-64A	Soil		0	0	#Num!	1	of	1	
1605096-65A	Soil		0	0	#Num!	1	of	1	
1605096-66A	Soil		0	0	#Num!	1	of	1	
1605096-67A	Soil		0	0	#Num!	1	of	1	
1605096-68A	Soil		0	0	#Num!	1	of	1	
1605096-69A	Soil		0	0	#Num!	1	of	1	
1605096-70A	Soil		0	0	#Num!	1	of	1	
1605096-71A	Soil		0	0	#Num!	1	of	1	
1605096-72A	Soil		0	0	#Num!	1	of	1	
1605096-73A	Soil		0	0	#Num!	1	of	1	
1605096-74A	Soil		0	0	#Num!	1	of	1	

MECHANICAL VOLUMETRIC PIPETTE VOLUME DAILY CHECK - DOD QSM 5.0

ANALYST:	CVD	**BALANCE #:**	26	
TEST DATE:	05/17/2016	**Water is at Room Temperatue (70-73°F) / (21-23°C)**		
PIPETTER LAB ID:	P-01, P-09	**WATER TEMP (°C):**	**21-23°C**	
TEST VOLUME:	See Below	**WATER DENSITY:**	**0.998**	**(0.9980-0.9976)**

REFERENCE:	DoD QSM 5.0
# of REPLICATES:	3
LABWARE TYPE:	MECHANICAL VOLUMETRIC PIPETTE
FREQUENCY:	DAILY BEFORE USE
MEAN CRITERIA:	± 2% OF NOMINAL VOLUME (VOLUME OF USE/TEST VOLUME)
RSD CRITERIA:	< 1% OF NOMINAL VOLUME (BASED ON MINIMUM OF 3 REPLICATE MEASUREMENTS)

1) RECORD ROOM AND WATER TEMPERATURE
2) TARE VESSEL ON BALANCE. ADD TEST VOLUME.
3) WEIGH 3 REPLICATES AT THE TEST VOLUME.
4) DETERMINE TOTAL WT.
5) CALCULATE VOLUME OF H2O AT °C (in mL)

% TEST VOL = Volume of H2O at °C/Test Volume * 100

%RSD = STDEV (Mean Volume)/AVERAGE (Mean Volume) *100

VOLUME OF H2O AT °C = TOTAL WT * WATER DENSITY

					BIAS	PRECISION
PIPETTE ID: P-01	**TEST VOLUME (mL)**	**TOTAL WT (g)**	**Volume of H_2O at °C**	**% TEST VOL (98-102%)**	**MEAN CRITERIA (± 2%)**	**% RSD Calculated**
1	5.00	5.0002	4.9902	99.80	PASS	RSD MUST BE ≤ 1% OF TEST VOLUME VALUE
2		5.0123	5.0023	100.05		
3		5.0058	4.9958	99.92		
AVERAGE (MEAN)		**5.006**	**4.996**	**99.92**		**0.121**
						PASS

PIPETTE ID: P-09	**TEST VOLUME (mL)**	**TOTAL WT (g)**	**Volume of H_2O at °C**	**% TEST VOL (98-102%)**	**MEAN CRITERIA (± 2%)**	**% RSD Calculated**
1	0.20	0.2001	0.1997	99.85	PASS	RSD MUST BE ≤ 1% OF TEST VOLUME VALUE
2		0.2012	0.2008	100.40		
3		0.2012	0.2008	100.40		
AVERAGE (MEAN)		**0.201**	**0.200**	**100.22**		**0.316**
						PASS

PIPETTE ID:	**TEST VOLUME (mL)**	**TOTAL WT (g)**	**Volume of H_2O at °C**	**% TEST VOL (98-102%)**	**MEAN CRITERIA (± 2%)**	**% RSD Calculated**
1						RSD MUST BE ≤ 1% OF TEST VOLUME VALUE
2						
3						
AVERAGE (MEAN)						

[signature] 5/17/16
Analyst / Date

[signature] 05/24/2016
Review and Approved / Date

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/17/2016 8:30:00 AM**
Digestion: **Start: 5/17/2016 9:15:00 AM / Stop: 5/17/2016 3:29:00 PM**
Prep End Date: **5/17/2016 3:50:58 PM**

Prep Batch **75166** Prep Code: **3050_IDOD** Technician: **Cassie Van Dyke**

Prep Factor Units: **mL/g**

Equipment List

- Hot Block #3
- Thermometer #71
- Balance #20
- Pipette #P-01
- Pipette#-P-09

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605074-40A	Soil		1.05	50	47.619	1 of 1	
	Weighed out on 5/16/16.						
1605074-41A	Soil		1.08	50	46.296	1 of 1	
1605096-01A	Soil		1.1	50	45.455	1 of 1	
1605096-02A	Soil		1.07	50	46.729	1 of 1	
1605096-03A	Soil		1.05	50	47.619	1 of 1	
1605096-04A	Soil		1.08	50	46.296	1 of 1	
1605096-05A	Soil		1.04	50	48.077	1 of 1	
1605096-06A	Soil		1.1	50	45.455	1 of 1	
1605096-07A	Soil		1.07	50	46.729	1 of 1	
1605096-08A	Soil		1.08	50	46.296	1 of 1	
1605096-09A	Soil		1.04	50	48.077	1 of 1	
1605096-10A	Soil		1.05	50	47.619	1 of 1	
1605096-11A	Soil		1.07	50	46.729	1 of 1	
1605096-12A	Soil		1.1	50	45.455	1 of 1	
1605096-13A	Soil		1.05	50	47.619	1 of 1	
1605096-14A	Soil		1.13	50	44.248	of 3	
1605096-14A MS	Soil		1.1	50	45.455	of	
1605096-14A MSD	Soil		1.09	50	45.872	of	
1605096-14A PDS	Soil		1.13	50	44.248	of	
1605096-14A SD	Soil		1.13	50	44.248	of	
1605096-15A	Soil		1.15	50	43.478	1 of 1	
1605096-16A	Soil		1.16 ~~0.16~~	50	312.500	1 of 1	
1605096-17A	Soil		1.05	50	47.619	1 of 1	
1605096-18A	Soil		1.17	50	42.735	1 of 1	
LCS-75166	Soil		1	50	50.000	of	
LCSD-75166	Soil		1	50	50.000	of	

Number	Reagent Name	Amt	Units	Exp. Da
10056	Digestion Vessels	1	vessel	02/10/2026
10136	Nitric Acid (Trace Metal Grade)	10	ml	01/10/2026
10137	Hydrochloric Acid (trace metal grade)	5	ml	01/10/2026
10318	Hydrogen Peroxide, 30%	3	ml	10/29/2016

Spk ID	Spike Name	SampType	Amt (mL or g)	Exp. Date
MET-150914-10	AL PRIMARY STD 1000 PPM	LCS/MS/MSD	0.25	10/01/2016
MET-150914-9	FE PRIMARY STD 1000 PPM	LCS/MS/MSD	0.25	10/01/2016
MET-SPIKE-160406-1	2500 PPM NATURALS CAL	LCS/MS/MSD	0.5	07/05/2016
MET-SPIKE-160511-1	50 PPM Custom+Sn,Ti,B,Mo,Sr CAL	LCS/MS/MSD	1	08/09/2016
MET-SPIKE-160511-2	50 PPM Sb+Ag CAL	LCS/MS/MSD	1	08/09/2016

REVIEWED/APPROVED

By Sherri Herschmann at 11:47:52 AM, 5/24/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/17/2016 8:30:00 AM**
Digestion: **Start: 5/17/2016 9:15:00 AM / Stop: 5/17/2016 3:29:00 PM**
Prep End Date: **5/17/2016 3:50:58 PM**

Prep Batch **75166** Prep Code: **3050_IDOD** Technician: **Cassie Van Dyke**

Prep Factor Units: **mL/g**

Equipment List

Hot Block #3
Thermometer #71
Balance #20
Pipette #P-01
Pipette#-P-09

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
MB-75166	Soil		1	50	50.000	of	

Number	Reagent Name	Amt	Units	Exp. Da
10056	Digestion Vessels	1	vessel	02/10/2026
10136	Nitric Acid (Trace Metal Grade)	10	ml	01/10/2026
10137	Hydrochloric Acid (trace metal grade)	5	ml	01/10/2026
10318	Hydrogen Peroxide, 30%	3	ml	10/29/2016

Spk ID	Spike Name	SampType	Amt (mL or g)	Exp. Date
MET-150914-10	AL PRIMARY STD 1000 PPM	LCS/MS/MSD	0.25	10/01/2016
MET-150914-9	FE PRIMARY STD 1000 PPM	LCS/MS/MSD	0.25	10/01/2016
MET-SPIKE-160406-1	2500 PPM NATURALS CAL	LCS/MS/MSD	0.5	07/05/2016
MET-SPIKE-160511-1	50 PPM Custom+Sn,Ti,B,Mo,Sr CAL	LCS/MS/MSD	1	08/09/2016
MET-SPIKE-160511-2	50 PPM Sb+Ag CAL	LCS/MS/MSD	1	08/09/2016

Calibration Summary Report

Date Acquired 5/23/2016 10:41
Data Batch 160523.b

Level	Calibration File Name
1	012CALB.d
2	013CALS.d
3	014CALS.d
4	015CALS.d
5	016CALS.d
6	017CALS.d
7	018CALS.d
8	019CALS.d

Calibration Table

Ele	Corr Coef	Curve Equation
As	1.0000	y = 0.0014 * x + 2.8167E-004
Be	1.0000	y = 5.9114E-005 * x + 2.9353E-006
B	1.0000	y = 2.1736E-005 * x + 1.9548E-004
Na	0.9999	y = 8.0916E-004 * x + 0.0378
Mg	1.0000	y = 4.0716E-004 * x + 0.0022
Al	1.0000	y = 1.5051E-004 * x + 0.0025
K	0.9999	y = 4.1449E-004 * x + 0.0614
Ca	1.0000	y = 2.2383E-005 * x + 0.0011
Ti	1.0000	y = 1.5574E-004 * x + 2.4626E-006
V	1.0000	y = 0.0050 * x + 0.0047
Cr	1.0000	y = 0.0060 * x + 0.0013
Mn	1.0000	y = 0.0034 * x + 2.3576E-004
Fe	1.0000	y = 0.0051 * x + 0.0128
Co	1.0000	y = 0.0130 * x + 1.6569E-004
Ni	1.0000	y = 0.0034 * x + 0.0012
Cu	1.0000	y = 0.0094 * x + 0.0023
Zn	1.0000	y = 0.0016 * x + 5.3931E-004
Se	1.0000	y = 8.2217E-005 * x + 1.3839E-004
Sr	0.9999	y = 6.9275E-004 * x + 1.7507E-004
Mo	1.0000	y = 5.7772E-004 * x + 5.8427E-006
Ag	0.9999	y = 0.0018 * x + 5.0866E-006
Cd	1.0000	y = 2.7114E-004 * x + 5.3819E-007
Sn	1.0000	y = 5.7939E-004 * x + 8.1217E-005
Sb	1.0000	y = 9.0284E-004 * x + 2.1461E-005
Tl	1.0000	y = 0.0017 * x + 3.0027E-006
Ba	1.0000	y = 2.8780E-004 * x + 1.4284E-005
Pb	1.0000	y = 0.0023 * x + 4.2707E-005
Li	1.0000	y = 4.4727E-005 * x + 1.5412E-005

REVIEWED BY
By Janice Whitt at 1:09:12 PM, 5/23/2016

Calibration Summary Report

Level 7 Cal

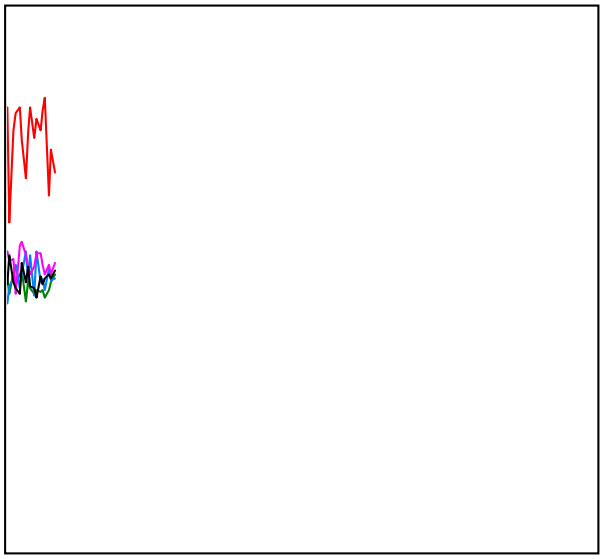
Ele	Conc	Calc	%Rec
As	500	501.58	100
Be	500	509.04	102
B	500	503.43	101
Na	10000	10289.89	103
Mg	10000	10177.23	102
Al	10000	9993.09	100
K	10000	10214.27	102
Ca	10000	9855.94	99
Ti	500	493.20	99
V	500	509.55	102
Cr	500	505.18	101
Mn	500	501.60	100
Fe	10000	9960.71	100
Co	500	504.63	101
Ni	500	509.37	102
Cu	500	516.68	103
Zn	500	510.66	102
Se	500	504.06	101
Sr	500	480.45	96
Mo	500	489.49	98
Ag	500	497.86	100
Cd	500	490.04	98
Sn	500	493.35	99
Sb	500	498.86	100
Tl	500	499.66	100
Ba	500	492.56	99
Pb	500	491.91	98

Level 8 Cal

Ele	Conc	Calc	%Rec
As	2000	1999.84	100
Be	2000	1997.32	100
B	2000	1999.79	100
Na	25000	24864.22	101
Mg	25000	24911.90	100
K	25000	24898.11	100
Ca	25000	25076.46	100
Ti	2000	2002.16	100
V	2000	1997.60	100
Cr	2000	1998.52	100
Mn	2000	1999.70	100
Co	2000	1998.85	100
Ni	2000	1997.15	100
Cu	2000	1994.95	100
Zn	2000	1996.85	100
Se	2000	1998.41	100
Sr	2000	2005.86	100
Mo	2000	2002.88	100
Cd	2000	2002.48	100
Sn	2000	2001.85	100
Tl	2000	2000.08	100
Ba	2000	2002.16	100
Pb	2000	2002.50	100
Li	2000	1996.24	100

REVIEWED BY
By Janice Whitt at 1:09:17 PM, 5/23/2016

Current Signal



Mass	Range	Count	Avg. Count	RSD [%]
51	200	139	151.8	8.48
59	2000	1016	977.5	3.51
89	2000	1005	1008.6	5.33
140	5000	2643	2653.6	4.28
205	5000	2588	2500.5	3.98
156/140	1	0.416 %	0.361 %	49.12
75	20	8	6.0	47.51
78	20	9	8.9	46.87
56	5000	3619	3697.9	2.82
31	500	218	204.4	11.07

Integration Time [sec] 0.10

Plasma Parameters

RF Power	1550	Carrier Gas	0.53
RF Matching	1.90	Option Gas	0.0
Smpl Depth	8.0	Nebulizer Pump	0.10
S/C Temp	2		

Lenses Parameters

Extract 1	0.0	Omega Lens	6.5
Extract 2	-200.0	Cell Entrance	-40
Omega Bias	-90	Cell Exit	-60
Deflect	1.8		

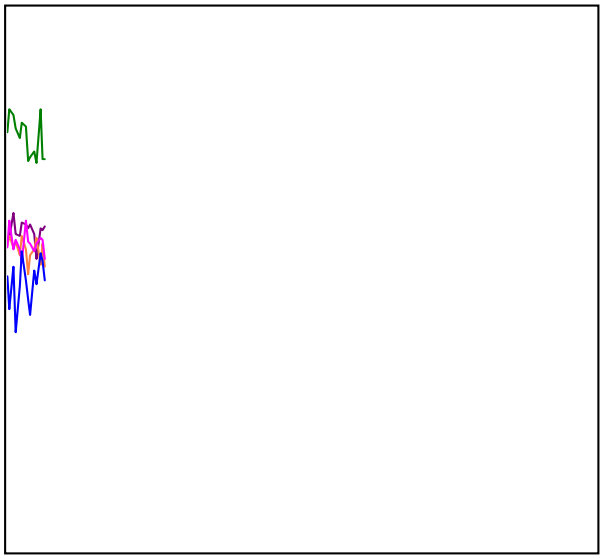
Cell Parameters

Use Gas	true	3rd Gas Flow	0
He Flow	4.7	OctP Bias	-18.0
H2 Flow	0.0	OctP RF	200
Energy Discrimination	3.0		

Meters

IF/BK Press	2.23E+2	Pa	Carrier Gas(BP)	2.57E+2	kPa
Analyzer Press	2.02E-4	Pa	Reflected Power	1	W
Forward Power	1550	W			

Current Signal



Mass	Range	Count	Avg. Count	RSD [%]
7	2000	1195	1175.5	3.25
59	2000	1443	1519.8	4.94
89	5000	2607	2765.2	3.91
140	5000	2677	2830.2	3.92
205	5000	1806	1915.5	4.14
156/140	2	1.233 %	1.130 %	16.46
78	5000	2299	2307.8	2.34
63	500	249	246.4	8.79
75	10000	6159	6248.2	1.25
Integration Time [sec]		0.10		

Plasma Parameters

RF Power	1550	Carrier Gas	0.53
RF Matching	1.90	Option Gas	0.0
Smpl Depth	8.0	Nebulizer Pump	0.10
S/C Temp	2		

Lenses Parameters

Extract 1	0.0	Omega Lens	6.5
Extract 2	-200.0	Cell Entrance	-40
Omega Bias	-90	Cell Exit	-60
Deflect	7.0		

Cell Parameters

Use Gas	false	3rd Gas Flow	0
He Flow	4.2	OctP Bias	-18.0
H2 Flow	0.0	OctP RF	200
Energy Discrimination	3.0		

Meters

IF/BK Press	2.22E+2	Pa	Carrier Gas(BP)	2.56E+2	kPa
Analyzer Press	1.15E-4	Pa	Reflected Power	1	W
Forward Power	1550	W			

US EPA Tune Check Sample Report

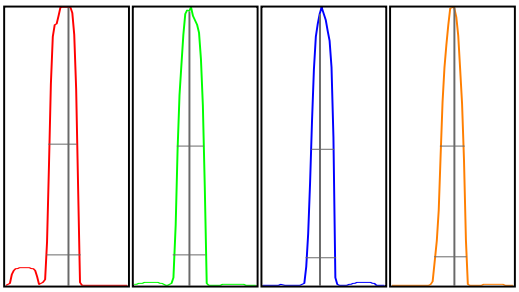
Batch Folder C:\Agilent\ICPMH\1\DATA\DHL TEMPLATE Li.b
Report Comment
Instrument Name ICPMS4 JP12361998

[No gas]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
7	679972	0.31	5.00	
59	866598	0.70	5.00	
115	1209526	0.83	5.00	
205	1027821	1.04	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
7	678094	677691	680079	681628	682370
59	868590	856230	870874	866547	870748
115	1195979	1206736	1215765	1222350	1206798
205	1040280	1013800	1027603	1021630	1035791

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	Width-X% (Flag)
7	103908	7.05	6.9 - 7.1		0.803	0.850	
59	144998	58.90	58.9 - 59.1		0.763	0.850	
115	234368	114.95	114.9 - 115.1		0.680	0.850	
205	201934	205.05	204.9 - 205.1		0.762	0.850	

X% = 10 **Int Time [sec] =** 0.1 **Acq Time [sec] =** 135.05 **Y Axis =** Linear

Tune Parameters

Plasma Paramters

ParameterName	Value	Unit	ParameterName	Value	Unit
RF Power	1550	W	Nebulizer Pump	0.10	rps
RF Matching	1.90	V	S/C Temp	2	℃
Smpl Depth	8.0	mm	Gas Switch	Dilution Gas	
Carrier Gas	0.53	L/min	Makeup/Dilution Gas	0.52	L/min
Option Gas	0.0	%			

Lenses Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	0.0	V	Cell Entrance	-40	V
Extract 2	-200.0	V	Cell Exit	-60	V
Omega Bias	-90	V	Deflect	7.0	V
Omega Lens	6.5	V	Plate Bias	-60	V

Cell Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit
Use Gas	false		OctP Bias	-18.0	V
He Flow	0.0	mL/min	OctP RF	200	V
H2 Flow	0.0	mL/min	Energy Discrimination	3.0	V
3rd Gas Flow	0	%			

REVIEWED BY
By Janice Whitt at 1:09:24 PM, 5/23/2016

P/A Factor Tuning Report

Current Sample

Sample Name: CCB1-160523
Data File: 052_CCB.d
Acquired: 05/23/2016 12:15:32

Detector Parameters and P/A Factors

Discriminator: 4.5 mV
AnalogHV: 1761 V
PulseHV: 1217 V

Acquired: 05/23/2016 10:07:12

Mass[u]	Element	P/A Factor
6	Li	0.097837
9	Be	0.111012
23	Na	0.119192
24	Mg	0.123724
27	Al	0.128077
39	K	0.129771
45	Sc	0.130862
48		0.132135
51	V	0.130933
52	Cr	0.136231
55	Mn	0.137648
59	Co	0.141543
60	Ni	0.142563
63	Cu	0.144932
66	Zn	0.144574
72		0.143658
74	Ge	0.143964
75	As	0.142622
88	Sr	0.143956
89		0.143507
95		0.143591
97	Mo	0.143375
98	Mo	0.143813
99	[Mo]	0.145738
101		0.146466
105		0.148942
111	Cd	0.150174
114	Cd	0.149276
115	In	0.149915
118	Sn	0.149082
121		0.149568
123	Sb	0.149873
135	Ba	0.152643
138		0.150322
175		0.154881
193		0.155592
205	Tl	0.157007
206	[Pb]	0.157788
207	[Pb]	0.157904
208	Pb	0.157038
209	Bi	0.156907
232		0.157055
238	U	0.157339
44	Ca	Signal too low
78	Se	Signal too low
107	Ag	Signal too low
172		Signal too low

REVIEWED BY
By Janice Whitt at 1:09:27 PM, 5/23/2016

Calibration Blank Report

Date Acquired	5/23/2016 10:41	Sample Name	BLANK STD 1
Data Batch	160523.b	Comment	CAL ICPMS_TW
Data File Name	012CALB.d	Dilution	1

Mass	Name	IS	CPS	%RSD
7	Li	45	14	55.79
9	Be	45	3	57.28
11	B	45	177	6.54
23	Na	45	34139	1.60
24	Mg	45	1980	4.08
27	Al	45	2288	3.85
39	K	45	55476	1.42
44	Ca	45	961	7.56
47	Ti	45	2	86.60
51	V	45	4266	2.62
52	Cr	45	1141	7.79
55	Mn	45	213	11.80
56	Fe	45	11561	2.68
59	Co	72	112	20.22
60	Ni	72	821	7.77
63	Cu	72	1579	1.41
66	Zn	72	366	16.95
75	As	72	191	9.42
78	Se	72	94	12.11
88	Sr	115	1100	1.05
95	Mo	115	37	45.45
107	Ag	115	32	56.98
111	Cd	115	3	100.05
118	Sn	115	510	3.92
121	Sb	115	134	16.51
137	Ba	115	90	18.52
205	Tl	209	42	27.72
208	Pb	209	600	8.94

QC ISTD Table

Mass	Name	CPS	%RSD
45	Sc	904202	1.28
72	Ge	677615	0.38
115	In	6287303	2.85
209	Bi	14081817	3.17

Calibration Standard Report

Date Acquired	5/23/2016 10:43	Sample Name	L2-160523
Data Batch	160523.b	Comment	CAL ICPMS_TW
Data File Name	013CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
7	Li	45	54	30.93
9	Be	45	59	24.19
11	B	45	218	11.69
23	Na	45	49106	0.27
24	Mg	45	9386	3.13
27	Al	45	4806	2.74
39	K	45	62560	0.51
44	Ca	45	1323	4.63
47	Ti	45	147	13.82
51	V	45	8479	3.30
52	Cr	45	6574	2.86
55	Mn	45	3288	2.00
56	Fe	45	102248	1.34
59	Co	72	8973	2.16
60	Ni	72	3143	6.28
63	Cu	72	8237	2.17
66	Zn	72	1521	7.87
75	As	72	1135	3.69
78	Se	72	145	17.13
88	Sr	115	5162	3.36
95	Mo	115	3446	4.72
107	Ag	115	11258	2.34
111	Cd	115	1519	7.20
118	Sn	115	3828	0.96
121	Sb	115	5552	2.01
137	Ba	115	1890	3.23
205	Tl	209	22877	0.82
208	Pb	209	31445	1.13

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	900571	0.45	904202	99.60	70	120	
72	Ge	670627	1.48	677615	98.97	70	120	
115	In	6190956	0.22	6287303	98.47	70	120	
209	Bi	13796768	1.16	14081817	97.98	70	120	

Calibration Standard Report

Date Acquired	5/23/2016 10:45	Sample Name	L-160523
Data Batch	160523.b	Comment	CAL ICPMS_TW
Data File Name	014CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
7	Li	45	422	6.67
9	Be	45	513	4.28
11	B	45	314	7.81
23	Na	45	179567	0.71
24	Mg	45	75498	0.67
27	Al	45	28659	1.69
39	K	45	129305	0.51
44	Ca	45	4762	0.26
47	Ti	45	1509	5.75
51	V	45	48612	0.96
52	Cr	45	54862	0.14
55	Mn	45	30512	2.78
56	Fe	45	906138	0.11
59	Co	72	86261	0.31
60	Ni	72	24301	0.57
63	Cu	72	65859	0.98
66	Zn	72	11289	1.37
75	As	72	9325	1.65
78	Se	72	634	3.42
88	Sr	115	41872	0.51
95	Mo	115	34142	1.36
107	Ag	115	110269	0.50
111	Cd	115	16671	1.71
118	Sn	115	35109	1.10
121	Sb	115	54278	1.52
137	Ba	115	17059	2.93
205	Tl	209	230034	0.72
208	Pb	209	309141	0.69

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	904779	0.88	904202	100.06	70	120	
72	Ge	670882	0.39	677615	99.01	70	120	
115	In	6230915	0.35	6287303	99.10	70	120	
209	Bi	13793986	0.79	14081817	97.96	70	120	

Calibration Standard Report

Date Acquired	5/23/2016 10:47	Sample Name	10X-160523
Data Batch	160523.b	Comment	CAL ICPMS_TW
Data File Name	015CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
7	Li	45	1995	3.01
9	Be	45	2601	0.94
11	B	45	1111	3.78
23	Na	45	767294	0.52
24	Mg	45	369675	1.08
27	Al	45	137134	0.22
39	K	45	428254	0.61
44	Ca	45	20275	2.18
47	Ti	45	6760	3.23
51	V	45	227873	1.94
52	Cr	45	268227	0.39
55	Mn	45	151812	0.06
56	Fe	45	4554936	0.43
59	Co	72	437181	0.92
60	Ni	72	119086	0.70
63	Cu	72	322274	0.51
66	Zn	72	55804	0.51
75	As	72	46279	0.92
78	Se	72	2853	2.51
88	Sr	115	205994	0.17
95	Mo	115	174091	0.88
107	Ag	115	553943	0.92
111	Cd	115	82554	0.32
118	Sn	115	174025	0.99
121	Sb	115	274641	0.79
137	Ba	115	85763	0.27
205	Tl	209	1162224	0.27
208	Pb	209	1552470	0.96

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	888520	1.86	904202	98.27	70	120	
72	Ge	663382	1.33	677615	97.90	70	120	
115	In	6119290	1.44	6287303	97.33	70	120	
209	Bi	13721704	3.04	14081817	97.44	70	120	

Calibration Standard Report

Date Acquired	5/23/2016 10:49	Sample Name	5X-160523
Data Batch	160523.b	Comment	CAL ICPMS_TW
Data File Name	016CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
7	Li	45	4022	2.28
9	Be	45	5208	1.03
11	B	45	2090	6.59
23	Na	45	1482695	0.22
24	Mg	45	731448	0.66
27	Al	45	268102	0.93
39	K	45	800264	0.09
44	Ca	45	39793	0.32
47	Ti	45	13629	2.19
51	V	45	450460	0.19
52	Cr	45	529709	0.67
55	Mn	45	301095	0.26
56	Fe	45	9087517	1.57
59	Co	72	867230	0.62
60	Ni	72	232640	0.43
63	Cu	72	637526	0.42
66	Zn	72	111543	1.58
75	As	72	91397	0.61
78	Se	72	5646	0.25
88	Sr	115	405534	0.98
95	Mo	115	344042	1.66
107	Ag	115	1104806	0.81
111	Cd	115	163760	1.13
118	Sn	115	348511	0.44
121	Sb	115	546794	0.64
137	Ba	115	171815	0.48
205	Tl	209	2336598	0.56
208	Pb	209	3097207	0.33

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	879951	0.58	904202	97.32	70	120	
72	Ge	661139	0.69	677615	97.57	70	120	
115	In	6149856	1.42	6287303	97.81	70	120	
209	Bi	13593824	2.28	14081817	96.53	70	120	

Calibration Standard Report

Date Acquired	5/23/2016 10:51	Sample Name	2X-160523
Data Batch	160523.b	Comment	CAL ICPMS_TW
Data File Name	017CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
7	Li	45	10158	2.48
9	Be	45	13366	1.11
11	B	45	4926	3.90
23	Na	45	3700424	0.50
24	Mg	45	1842485	0.20
27	Al	45	674718	1.07
39	K	45	1925190	0.56
44	Ca	45	99227	1.57
47	Ti	45	34276	0.98
51	V	45	1126479	0.23
52	Cr	45	1337611	0.46
55	Mn	45	751245	0.54
56	Fe	45	22912045	0.43
59	Co	72	2147838	0.23
60	Ni	72	579579	1.00
63	Cu	72	1589846	0.57
66	Zn	72	273371	0.47
75	As	72	229135	0.29
78	Se	72	13921	2.74
88	Sr	115	1027359	0.51
95	Mo	115	872922	0.12
107	Ag	115	2766127	0.67
111	Cd	115	411961	0.87
118	Sn	115	876724	0.39
121	Sb	115	1383479	0.63
137	Ba	115	434262	0.39
205	Tl	209	5947641	0.36
208	Pb	209	7903967	0.16

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	891953	0.79	904202	98.65	70	120	
72	Ge	663268	0.23	677615	97.88	70	120	
115	In	6058043	1.31	6287303	96.35	70	120	
209	Bi	13829886	0.53	14081817	98.21	70	120	

Calibration Standard Report

Date Acquired	5/23/2016 10:53	Sample Name	H-160523
Data Batch	160523.b	Comment	CAL ICPMS_TW
Data File Name	018CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
7	Li	45	20339	0.70
9	Be	45	26681	0.80
11	B	45	9875	3.47
23	Na	45	7415179	1.62
24	Mg	45	3675807	0.05
27	Al	45	1335716	1.13
39	K	45	3808036	0.76
44	Ca	45	196537	0.82
47	Ti	45	68103	0.69
51	V	45	2279167	0.43
52	Cr	45	2673841	0.59
55	Mn	45	1505829	0.41
56	Fe	45	44791023	1.36
59	Co	72	4333632	0.07
60	Ni	72	1162385	0.75
63	Cu	72	3202470	0.85
66	Zn	72	551113	0.61
75	As	72	461164	0.32
78	Se	72	27499	1.50
88	Sr	115	2071588	0.38
95	Mo	115	1759082	0.34
107	Ag	115	5562354	1.28
111	Cd	115	826540	0.24
118	Sn	115	1778907	1.25
121	Sb	115	2802214	1.01
137	Ba	115	881929	0.21
205	Tl	209	11933830	1.10
208	Pb	209	15814357	0.88

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	886620	0.63	904202	98.06	70	120	
72	Ge	661371	0.53	677615	97.60	70	120	
115	In	6222293	2.02	6287303	98.97	70	120	
209	Bi	13894584	1.34	14081817	98.67	70	120	

Calibration Standard Report

Date Acquired	5/23/2016 10:55	Sample Name	H2-160523
Data Batch	160523.b	Comment	CAL ICPMS_TW
Data File Name	019CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
7	Li	45	79991	0.83
9	Be	45	105763	0.57
11	B	45	39112	1.45
23	Na	45	18057534	3.58
24	Mg	45	9088289	1.47
27	Al	45	1269	16.03
39	K	45	9298592	1.18
44	Ca	45	503718	0.10
47	Ti	45	279312	0.68
51	V	45	9015007	1.15
52	Cr	45	10684407	2.93
55	Mn	45	6064120	1.50
56	Fe	45	35308	20.24
59	Co	72	17361777	1.84
60	Ni	72	4607152	1.02
63	Cu	72	12501757	0.38
66	Zn	72	2178676	0.19
75	As	72	1859138	0.52
78	Se	72	110000	0.32
88	Sr	115	8401070	0.86
95	Mo	115	6994842	0.76
107	Ag	115	2126	23.63
111	Cd	115	3282273	1.18
118	Sn	115	7011933	0.68
121	Sb	115	4685	3.78
137	Ba	115	3483257	0.41
205	Tl	209	47207017	0.33
208	Pb	209	63612418	1.06

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	895774	0.77	904202	99.07	70	120	
72	Ge	668943	0.70	677615	98.72	70	120	
115	In	6045106	0.72	6287303	96.15	70	120	
209	Bi	13730344	1.07	14081817	97.50	70	120	

Interference Check Solution A (ICS-A) Report

Date Acquired	5/23/2016 11:03	Sample Name	ICSA-160523
Data Batch	160523.b	Comment	ICSAICPMS_TW
Data File Name	023ICSA.d	Dilution	1

Mass	Name	Conc	CPS	%RSD	MDL S	MDL Aq	QC Flag
9	Be	0.149	10	10.0	1.2	0.8	
11	B	11.290	376	17.9	30	30	
51	V	-0.180	3253	2.5	10	10	
52	Cr	0.410	3167	4.0	8	5	
55	Mn	1.407	4265	3.6	8	10	
59	Co	0.554	4687	1.5	8	10	
60	Ni	0.586	2057	3.0	8	10	
63	Cu	0.967	7251	2.3	8	10	
66	Zn	1.505	1906	6.7	10	5	
75	As	0.715	812	3.7	4	5	
78	Se	0.189	98	21.9	2	5	
88	Sr	1.411	6641	3.1	10	10	
107	Ag	0.156	1640	6.2	0.8	2	
111	Cd	0.568	891	4.2	1.2	1	
118	Sn	1.490	5444	3.5	10	10	
121	Sb	0.409	2254	3.4	4	2.5	
137	Ba	0.358	677	12.8	8	10	
205	Tl	0.053	1181	6.8	4	1.5	
208	Pb	0.115	3836	3.0	1.2	1	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	853276	1.55	904202	94.37	70	120	
72	Ge	636672	0.65	677615	93.96	70	120	
115	In	5764026	0.57	6287303	91.68	70	120	
209	Bi	12438504	1.71	14081817	88.33	70	120	

Interference Check Solution AB (ICS-AB) Report

Date Acquired	5/23/2016 11:05	Sample Name	ICSAB-160523
Data Batch	160523.b	Comment	ICSBICPMS_TW
Data File Name	024ICSB.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
51	V	45	40.430	177045	0.63	40	101.1	80	120	
52	Cr	45	21.277	108980	0.68	20	106.4	80	120	
55	Mn	45	19.721	56943	0.66	20	98.6	80	120	
59	Co	72	39.986	330797	0.91	40	100.0	80	120	
60	Ni	72	38.440	85195	0.48	40	96.1	80	120	
63	Cu	72	21.070	127190	0.48	20	105.3	80	120	
66	Zn	72	20.526	21663	1.72	20	102.6	80	120	
75	As	72	20.358	18198	0.82	20	101.8	80	120	
78	Se	72	19.723	1121	6.78	20	98.6	80	120	
107	Ag	115	19.288	197546	1.17	20	96.4	80	120	
111	Cd	115	10.185	15746	3.02	10	101.9	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	849875	0.06	904202	93.99	70	120	
72	Ge	636925	0.26	677615	94.00	70	120	
115	In	5701078	0.43	6287303	90.68	70	120	
209	Bi	12549877	1.59	14081817	89.12	70	120	

Initial Calibration Verification (ICV) Report

Date Acquired	5/23/2016 11:13	Sample Name	ICV-160523
Data Batch	160523.b	Comment	ICV ICPMS_TW
Data File Name	028_ICV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	100.423	4248	0.95	100	100.4	90	110	
9	Be	45	101.646	5667	0.58	100	101.6	90	110	
11	B	45	104.978	2336	4.70	100	105.0	90	110	
23	Na	45	2586.060	2008198	0.89	2500	103.4	90	110	
24	Mg	45	2562.125	985387	0.56	2500	102.5	90	110	
27	Al	45	2504.172	357686	0.60	2500	100.2	90	110	
39	K	45	2581.178	1066381	0.58	2500	103.2	90	110	
44	Ca	45	2372.478	51065	1.75	2500	94.9	90	110	
47	Ti	45	101.067	14843	3.44	100	101.1	90	110	
51	V	45	101.914	488235	1.04	100	101.9	90	110	
52	Cr	45	105.134	592568	0.63	100	105.1	90	110	
55	Mn	45	99.716	318433	0.67	100	99.7	90	110	
56	Fe	45	2559.322	12244428	2.69	2500	102.4	90	110	
59	Co	72	102.839	935257	0.89	100	102.8	90	110	
60	Ni	72	103.357	250435	1.06	100	103.4	90	110	
63	Cu	72	103.718	682030	0.10	100	103.7	90	110	
66	Zn	72	102.929	117929	0.21	100	102.9	90	110	
75	As	72	101.739	99208	0.58	100	101.7	90	110	
78	Se	72	102.180	5980	1.29	100	102.2	90	110	
88	Sr	115	97.362	445614	0.82	100	97.4	90	110	
95	Mo	115	96.288	366620	0.97	100	96.3	90	110	
107	Ag	115	97.154	1150101	0.40	100	97.2	90	110	
111	Cd	115	97.549	174298	0.87	100	97.5	90	110	
118	Sn	115	100.644	384806	0.52	100	100.6	90	110	
121	Sb	115	97.820	582167	0.42	100	97.8	90	110	
137	Ba	115	96.935	183943	0.07	100	96.9	90	110	
205	Tl	209	99.429	2451582	0.42	100	99.4	90	110	
208	Pb	209	99.012	3286154	0.32	100	99.0	90	110	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	942688	0.94	904202	104.26	70	120	
72	Ge	700315	0.23	677615	103.35	70	120	
115	In	6591165	1.48	6287303	104.83	70	120	
209	Bi	14342513	0.82	14081817	101.85	70	120	

Low Level Calibration Verification (LLCV) Report

Date Acquired	5/23/2016 11:22	Sample Name	LCVL-160523
Data Batch	160523.b	Comment	LCVLICPMS_TW
Data File Name	031LICV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	10.463	454	2.11	10	104.6	70	130	
9	Be	45	0.970	57	13.71	1	97.0	70	130	
11	B	45	22.559	644	2.99	20	112.8	70	130	
23	Na	45	102.326	113290	0.57	100	102.3	70	130	
24	Mg	45	98.504	39753	1.29	100	98.5	70	130	
27	Al	45	95.406	15875	0.76	100	95.4	70	130	
39	K	45	102.661	97657	1.50	100	102.7	70	130	
44	Ca	45	93.089	2957	5.50	100	93.1	70	130	
47	Ti	45	4.739	696	11.51	5	94.8	70	130	
51	V	45	0.861	8507	0.92	1	86.1	70	130	
52	Cr	45	5.065	29593	0.96	5	101.3	70	130	
55	Mn	45	4.839	15619	0.36	5	96.8	70	130	
56	Fe	45	98.224	480128	0.60	100	98.2	70	130	
59	Co	72	5.047	45754	0.45	5	100.9	70	130	
60	Ni	72	5.053	12977	1.53	5	101.1	70	130	
63	Cu	72	5.097	34877	1.64	5	101.9	70	130	
66	Zn	72	5.187	6266	2.89	5	103.7	70	130	
75	As	72	4.940	4977	0.92	5	98.8	70	130	
78	Se	72	4.978	381	7.35	5	99.6	70	130	
88	Sr	115	4.774	22733	1.35	5	95.5	70	130	
95	Mo	115	4.671	17652	0.52	5	93.4	70	130	
107	Ag	115	1.890	22183	1.34	2	94.5	70	130	
111	Cd	115	0.877	1557	3.32	1	87.7	70	130	
118	Sn	115	5.050	19637	2.67	5	101.0	70	130	
121	Sb	115	1.932	11526	1.31	2	96.6	70	130	
137	Ba	115	4.760	9034	1.40	5	95.2	70	130	
205	Tl	209	0.998	24095	0.66	1	99.8	70	130	
208	Pb	209	0.970	32076	1.46	1	97.0	70	130	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	939860	1.08	904202	103.94	70	120	
72	Ge	696437	0.55	677615	102.78	70	120	
115	In	6530312	2.75	6287303	103.87	70	120	
209	Bi	14025539	1.89	14081817	99.60	70	120	

Initial Calibration Blank (ICB) Report

Date Acquired	5/23/2016 11:30	Sample Name	ICB-160523
Data Batch	160523.b	Comment	ICB ICPMS_TW
Data File Name	033_ICB.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	MDL S	MDL Aq	QC Flag
7	Li	45	0.142	20	20.5	2	5	
9	Be	45	0.095	8	43.3	0.4	0.3	
11	B	45	0.156	186	12.0	10	10	
23	Na	45	0.367	35489	1.7	50	100	
24	Mg	45	-1.823	1350	1.5	50	100	
27	Al	45	-0.267	2324	8.1	50	10	
39	K	45	3.549	58593	0.4	50	100	
44	Ca	45	-3.802	913	6.2	50	100	
47	Ti	45	0.023	6	91.6	4	3	
51	V	45	-0.106	3902	3.8	4	3	
52	Cr	45	-0.025	1038	4.5	2	2	
55	Mn	45	-0.011	184	26.8	2	3	
56	Fe	45	0.172	12736	2.1	50	50	
59	Co	72	-0.001	102	8.2	2	3	
60	Ni	72	-0.036	758	17.0	2	3	
63	Cu	72	-0.039	1369	4.9	2	2	
66	Zn	72	0.053	437	8.8	4	2	
75	As	72	-0.011	186	9.0	2	2	
78	Se	72	0.056	100	17.9	1	2	
88	Sr	115	0.014	1203	1.7	4	3	
95	Mo	115	0.000	39	32.4	2	2	
107	Ag	115	0.001	40	30.0	0.4	1	
111	Cd	115	0.002	7	50.0	0.4	0.3	
118	Sn	115	0.241	1442	6.2	4	3	
121	Sb	115	0.018	247	80.5	2	0.8	
137	Ba	115	0.002	98	29.0	2	3	
205	Tl	209	0.000	46	34.6	2	0.5	
208	Pb	209	-0.003	510	8.0	0.4	0.3	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	932628	0.61	904202	103.14	70	120	
72	Ge	697475	0.81	677615	102.93	70	120	
115	In	6523390	0.30	6287303	103.75	70	120	
209	Bi	14176412	0.50	14081817	100.67	70	120	

Continuing Calibration Verification (CCV) Report

Date Acquired	5/23/2016 15:32	Sample Name	CCV4-160523
Data Batch	160523.b	Comment	CCV ICPMS_TW
Data File Name	136_CCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	206.211	8130	1.55	200	103.1	90	110	
9	Be	45	200.287	10422	0.37	200	100.1	90	110	
11	B	45	196.074	3923	2.72	200	98.0	90	110	
23	Na	45	5013.929	3603866	0.91	5000	100.3	90	110	
24	Mg	45	5002.788	1794591	0.40	5000	100.1	90	110	
27	Al	45	4901.565	651487	0.59	5000	98.0	90	110	
39	K	45	5065.739	1901852	0.79	5000	101.3	90	110	
44	Ca	45	4848.345	96442	0.79	5000	97.0	90	110	
47	Ti	45	196.475	26931	0.76	200	98.2	90	110	
51	V	45	198.856	885443	0.36	200	99.4	90	110	
52	Cr	45	200.779	1055489	0.93	200	100.4	90	110	
55	Mn	45	197.918	589894	0.90	200	99.0	90	110	
56	Fe	45	5117.742	22851373	1.10	5000	102.4	90	110	
59	Co	72	196.663	1703424	0.80	200	98.3	90	110	
60	Ni	72	200.192	461256	0.48	200	100.1	90	110	
63	Cu	72	203.120	1270703	0.47	200	101.6	90	110	
66	Zn	72	199.232	217081	0.84	200	99.6	90	110	
75	As	72	195.657	181548	0.49	200	97.8	90	110	
78	Se	72	197.084	10901	0.81	200	98.5	90	110	
88	Sr	115	187.973	805573	0.82	200	94.0	90	110	
95	Mo	115	192.436	686850	0.99	200	96.2	90	110	
107	Ag	115	195.128	2165531	1.08	200	97.6	90	110	
111	Cd	115	191.368	320585	0.37	200	95.7	90	110	
118	Sn	115	192.898	691035	0.67	200	96.4	90	110	
121	Sb	115	195.344	1089773	0.15	200	97.7	90	110	
137	Ba	115	191.701	340951	0.52	200	95.9	90	110	
205	Tl	209	191.912	4608887	0.89	200	96.0	90	110	
208	Pb	209	189.118	6113017	0.40	200	94.6	90	110	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	880099	0.87	904202	97.33	70	120	
72	Ge	667027	0.33	677615	98.44	70	120	
115	In	6178968	1.30	6287303	98.28	70	120	
209	Bi	13969084	0.67	14081817	99.20	70	120	

Low Level Calibration Verification (LLCV) Report

Date Acquired	5/23/2016 15:42	Sample Name	LCVL4-160523
Data Batch	160523.b	Comment	LCVLICPMS_TW
Data File Name	139LCCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	10.081	407	5.32	10	100.8	70	130	
9	Be	45	1.017	55	6.56	1	101.7	70	130	
11	B	45	18.482	521	11.27	20	92.4	70	130	
23	Na	45	96.215	100875	0.71	100	96.2	70	130	
24	Mg	45	98.412	36876	0.76	100	98.4	70	130	
27	Al	45	95.429	14741	0.66	100	95.4	70	130	
39	K	45	101.075	90095	0.45	100	101.1	70	130	
44	Ca	45	89.228	2670	3.27	100	89.2	70	130	
47	Ti	45	5.274	719	10.34	5	105.5	70	130	
51	V	45	0.821	7723	2.12	1	82.1	70	130	
52	Cr	45	5.156	27952	1.38	5	103.1	70	130	
55	Mn	45	5.008	14997	4.30	5	100.2	70	130	
56	Fe	45	99.341	450729	0.52	100	99.3	70	130	
59	Co	72	5.047	42731	0.74	5	100.9	70	130	
60	Ni	72	4.920	11821	3.13	5	98.4	70	130	
63	Cu	72	5.290	33746	1.14	5	105.8	70	130	
66	Zn	72	5.041	5698	1.12	5	100.8	70	130	
75	As	72	4.963	4669	0.07	5	99.3	70	130	
78	Se	72	5.356	376	9.07	5	107.1	70	130	
88	Sr	115	4.783	21404	0.48	5	95.7	70	130	
95	Mo	115	4.742	16839	2.39	5	94.8	70	130	
107	Ag	115	1.942	21434	0.19	2	97.1	70	130	
111	Cd	115	0.967	1611	5.38	1	96.7	70	130	
118	Sn	115	4.807	17588	1.20	5	96.1	70	130	
121	Sb	115	1.894	10625	1.82	2	94.7	70	130	
137	Ba	115	4.815	8589	0.84	5	96.3	70	130	
205	Tl	209	0.956	22620	1.28	1	95.6	70	130	
208	Pb	209	0.958	31050	0.67	1	95.8	70	130	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	872631	0.93	904202	96.51	70	120	
72	Ge	650398	0.32	677615	95.98	70	120	
115	In	6135820	1.32	6287303	97.59	70	120	
209	Bi	13738911	1.98	14081817	97.56	70	120	

Continuing Calibration Blank (CCB) Report

Date Acquired	5/23/2016 15:45	Sample Name	CCB4-160523
Data Batch	160523.b	Comment	CCB ICPMS_TW
Data File Name	140_CCB.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	MDL S	MDL Aq	QC Flag
7	Li	45	0.093	17	15.6	2	5	
9	Be	45	0.041	5	24.7	0.4	0.3	
11	B	45	-0.574	159	21.2	10	10	
23	Na	45	-3.383	30413	0.3	50	100	
24	Mg	45	-3.103	804	3.9	50	100	
27	Al	45	-0.333	2155	5.0	50	10	
39	K	45	0.059	53309	0.4	50	100	
44	Ca	45	-4.778	831	3.2	50	100	
47	Ti	45	0.017	4	43.4	4	3	
51	V	45	-0.249	3008	3.2	4	3	
52	Cr	45	-0.041	884	6.8	2	2	
55	Mn	45	-0.021	142	5.4	2	3	
56	Fe	45	0.149	11761	2.1	50	50	
59	Co	72	0.000	106	26.9	2	3	
60	Ni	72	-0.232	269	21.1	2	3	
63	Cu	72	0.265	3137	18.4	2	2	
66	Zn	72	-0.056	292	22.3	4	2	
75	As	72	-0.023	163	10.1	2	2	
78	Se	72	-0.030	89	10.5	1	2	
88	Sr	115	0.014	1123	3.7	4	3	
95	Mo	115	-0.003	23	42.9	2	2	
107	Ag	115	0.020	254	21.3	0.4	1	
111	Cd	115	0.001	6	91.6	0.4	0.3	
118	Sn	115	-0.043	342	14.8	4	3	
121	Sb	115	0.034	313	38.1	2	0.8	
137	Ba	115	0.007	99	19.8	2	3	
205	Tl	209	0.001	71	40.4	2	0.5	
208	Pb	209	0.001	597	13.4	0.4	0.3	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	868509	0.24	904202	96.05	70	120	
72	Ge	651469	0.14	677615	96.14	70	120	
115	In	6087959	1.77	6287303	96.83	70	120	
209	Bi	13477598	2.29	14081817	95.71	70	120	

Method Blank Report

Date Acquired	5/23/16 3:47 PM	Sample Name	MB-75166
Data Batch	160523.b	Comment	MBLKICPMS_TSDOD1
Data File Name	141_PB.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	0.163	20	43.30		
9	Be	45	0.002	3	114.56		
11	B	45	10.893	380	15.52		J
23	Na	45	6.950	38126	0.61		
24	Mg	45	4.890	3674	3.45		
27	Al	45	52.014	9106	1.88		FAIL
39	K	45	7.740	56752	1.89		
44	Ca	45	125.767	3411	9.49		FAIL
47	Ti	45	0.276	40	16.68		
51	V	45	-0.336	2657	6.82		
52	Cr	45	0.309	2730	1.76		
55	Mn	45	0.123	572	8.16		
56	Fe	45	6.677	40994	1.06		
59	Co	72	0.004	143	12.09		
60	Ni	72	0.335	1542	8.73		
63	Cu	72	0.357	3697	1.58		
66	Zn	72	4.293	4913	3.39		J
75	As	72	-0.032	155	2.19		
78	Se	72	0.050	93	27.02		
88	Sr	115	0.897	4933	2.73		
95	Mo	115	0.010	71	21.14		
107	Ag	115	0.019	248	6.77		
111	Cd	115	0.001	4	86.60		
118	Sn	115	3.945	14654	1.79		
121	Sb	115	0.030	299	11.00		
137	Ba	115	0.204	451	2.13		
205	Tl	209	0.003	104	45.29		
208	Pb	209	0.157	5751	0.81		

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	878965	1.21	904202	97.21	70	120	
72	Ge	651509	0.79	677615	96.15	70	120	
115	In	6191927	1.98	6287303	98.48	70	120	
209	Bi	14143847	1.85	14081817	100.44	70	120	

Laboratory Control Sample (LCS) Report

Date Acquired	5/23/2016 15:49	Sample Name	LCS-75166
Data Batch	160523.b	Comment	LCS ICPMS_TSDOD1
Data File Name	142_LS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	207.948	8170	1.78	200	104.0	80	120	
9	Be	45	198.684	10304	1.79	200	99.3	80	120	
11	B	45	192.876	3848	0.55	200	96.4	80	120	
23	Na	45	5155.569	3691614	0.92	1000	515.6	80	120	Fail
24	Mg	45	5111.433	1827066	1.09	1000	511.1	80	120	Fail
27	Al	45	1002.572	134560	0.61	1000	100.3	80	120	
39	K	45	5183.099	1938014	0.56	1000	518.3	80	120	Fail
44	Ca	45	4943.867	97982	0.77	1000	494.4	80	120	Fail
47	Ti	45	201.209	27486	0.97	200	100.6	80	120	
51	V	45	203.634	903493	0.35	200	101.8	80	120	
52	Cr	45	204.347	1070602	0.72	200	102.2	80	120	
55	Mn	45	200.666	596028	0.29	200	100.3	80	120	
56	Fe	45	1017.427	4536062	0.11	1000	101.7	80	120	
59	Co	72	200.799	1720585	0.37	200	100.4	80	120	
60	Ni	72	203.573	464011	0.93	200	101.8	80	120	
63	Cu	72	205.503	1271804	0.59	200	102.8	80	120	
66	Zn	72	203.344	219177	0.62	200	101.7	80	120	
75	As	72	199.647	183258	0.67	200	99.8	80	120	
78	Se	72	200.329	10960	1.59	200	100.2	80	120	
88	Sr	115	192.278	820227	0.71	200	96.1	80	120	
95	Mo	115	196.170	696988	1.00	200	98.1	80	120	
107	Ag	115	197.789	2184878	1.25	200	98.9	80	120	
111	Cd	115	193.418	322517	0.44	200	96.7	80	120	
118	Sn	115	201.701	719190	0.37	200	100.9	80	120	
121	Sb	115	196.893	1093344	0.51	200	98.4	80	120	
137	Ba	115	192.616	340991	0.96	200	96.3	80	120	
205	Tl	209	197.060	4607380	0.67	200	98.5	80	120	
208	Pb	209	196.878	6195669	0.49	200	98.4	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	877087	0.97	904202	97.00	70	120	
72	Ge	659875	0.44	677615	97.38	70	120	
115	In	6149834	0.40	6287303	97.81	70	120	
209	Bi	13601586	1.61	14081817	96.59	70	120	

Laboratory Control Sample (LCS) Report

Date Acquired	5/23/2016 15:51	Sample Name	LCSD-75166
Data Batch	160523.b	Comment	LCSDICPMS_TSDOD1
Data File Name	143_LS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	204.335	8193	3.06	200	102.2	80	120	
9	Be	45	201.593	10668	0.65	200	100.8	80	120	
11	B	45	200.198	4069	1.23	200	100.1	80	120	
23	Na	45	5193.381	3794606	0.65	1000	519.3	80	120	Fail
24	Mg	45	5133.228	1872503	0.74	1000	513.3	80	120	Fail
27	Al	45	1016.812	139232	0.29	1000	101.7	80	120	
39	K	45	5227.181	1993943	0.15	1000	522.7	80	120	Fail
44	Ca	45	5003.936	101191	1.10	1000	500.4	80	120	Fail
47	Ti	45	199.178	27765	2.51	200	99.6	80	120	
51	V	45	204.723	926895	0.70	200	102.4	80	120	
52	Cr	45	203.940	1090293	0.08	200	102.0	80	120	
55	Mn	45	201.479	610672	0.45	200	100.7	80	120	
56	Fe	45	1025.796	4666666	0.59	1000	102.6	80	120	
59	Co	72	204.728	1764922	0.88	200	102.4	80	120	
60	Ni	72	206.091	472589	0.66	200	103.0	80	120	
63	Cu	72	208.065	1295444	0.24	200	104.0	80	120	
66	Zn	72	206.512	223936	0.26	200	103.3	80	120	
75	As	72	203.805	188205	0.37	200	101.9	80	120	
78	Se	72	205.283	11296	0.93	200	102.6	80	120	
88	Sr	115	193.396	838582	0.88	200	96.7	80	120	
95	Mo	115	198.635	717296	0.58	200	99.3	80	120	
107	Ag	115	200.953	2256282	0.67	200	100.5	80	120	
111	Cd	115	197.139	334083	0.18	200	98.6	80	120	
118	Sn	115	203.710	738324	1.32	200	101.9	80	120	
121	Sb	115	199.567	1126349	0.51	200	99.8	80	120	
137	Ba	115	194.023	349162	1.37	200	97.0	80	120	
205	Tl	209	198.989	4742396	1.01	200	99.5	80	120	
208	Pb	209	196.007	6287483	0.16	200	98.0	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	894965	0.48	904202	98.98	70	120	
72	Ge	663891	0.76	677615	97.97	70	120	
115	In	6254886	3.51	6287303	99.48	70	120	
209	Bi	13864773	1.57	14081817	98.46	70	120	

Dilution Sample (Dil) Report

Date Acquired	5/23/2016 15:57	Sample Name	1605096-14A SD
Data Batch	160523.b	Comment	SD ICPMS_TSDOD1
Data File Name	146_SD.d	Dilution	25

Mass	Name	IS	Conc	CPS	%RSD	Ref Value	%Rec	Low	High	Flag
7	Li	45	11.528	497	7.25	52.7	109.3	110	90	Good
9	Be	45	0.577	35	11.66	2.2	130.5	110	90	
11	B	45	15.750	503	8.27	73.7	106.9	110	90	Good
23	Na	45	139.494	140955	1.18	704.0	99.1	110	90	Good
24	Mg	45	2654.984	1013647	1.57	12987.5	102.2	110	90	Good
27	Al	45	9896.037	1396139	0.73	48433.4	102.2	110	90	Good
39	K	45	3111.293	1264171	0.67	15746.6	98.8	110	90	Good
44	Ca	45	23643.837	496219	1.18	115495.2	102.4	110	90	Good
47	Ti	45	171.703	25024	2.55	834.8	102.8	110	90	Good
51	V	45	21.477	105621	0.86	108.8	98.7	110	90	Good
52	Cr	45	12.931	73387	1.23	62.4	103.7	110	90	Good
55	Mn	45	161.802	512817	1.09	789.6	102.5	110	90	Good
56	Fe	45	11960.609	56765791	1.52	58641.4	102.0	110	90	Good
59	Co	72	3.839	34227	1.98	18.4	104.5	110	90	Good
60	Ni	72	7.443	18396	1.62	35.6	104.5	110	90	Good
63	Cu	72	17.759	115451	0.98	82.5	107.6	110	90	Good
66	Zn	72	90.880	101806	0.96	434.2	104.7	110	90	Good
75	As	72	3.391	3418	1.59	16.7	101.5	110	90	Good
78	Se	72	1.081	156	5.99	4.2	127.6	110	90	
88	Sr	115	88.168	396213	1.23	436.1	101.1	110	90	Good
95	Mo	115	0.428	1637	0.20	2.2	98.5	110	90	Good
107	Ag	115	0.079	956	5.36	0.3	140.0	110	90	
111	Cd	115	0.242	428	10.92	1.2	103.2	110	90	Good
118	Sn	115	2.655	10474	2.37	8.4	158.6	110	90	
121	Sb	115	0.501	3066	1.38	2.2	112.3	110	90	
137	Ba	115	124.660	232139	1.22	617.0	101.0	110	90	Good
205	Tl	209	0.097	2505	4.58	0.5	100.2	110	90	Good
208	Pb	209	25.863	886272	0.47	132.5	97.6	110	90	Good

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	935754	0.55	904202	103.49	70	120	
72	Ge	684430	0.15	677615	101.01	70	120	
115	In	6468753	1.66	6287303	102.89	70	120	
209	Bi	14800704	1.23	14081817	105.11	70	120	

Sample Report

Date Acquired	5/23/16 3:59 PM	Sample Name	1605074-40A
Data Batch	160523.b	Comment	SAMPICPMS_TSDOD1
Data File Name	147SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	75.671	3131	3.85	2000	>RL
9	Be	45	2.650	147	2.36	2000	>RL
11	B	45	95.857	2099	7.42	2000	>RL
23	Na	45	1155.760	896099	0.80	25000	>RL
24	Mg	45	14971.837	5616827	2.54	25000	>RL
27	Al	45	80856.380	11210548	0.54	10000	OUTCAL
39	K	45	19115.624	7353821	1.13	25000	>RL
44	Ca	45	56015.122	1155701	0.79	25000	OUTCAL
47	Ti	45	384.886	55207	0.39	2000	>RL
51	V	45	114.703	536307	0.43	2000	>RL
52	Cr	45	70.143	386661	0.55	2000	>RL
55	Mn	45	585.629	1826104	0.90	2000	>RL
56	Fe	45	70392.804	328760911	1.21	10000	OUTCAL
59	Co	72	26.543	231467	0.36	2000	>RL
60	Ni	72	45.000	104976	1.59	2000	>RL
63	Cu	72	35.673	225878	1.10	2000	>RL
66	Zn	72	249.720	273739	1.09	2000	>RL
75	As	72	24.364	22917	0.20	2000	>RL
78	Se	72	4.741	355	7.45	2000	>RL
88	Sr	115	332.120	1458467	0.76	2000	>RL
95	Mo	115	1.297	4783	4.87	2000	
107	Ag	115	0.166	1917	2.80	500	
111	Cd	115	0.499	859	5.35	2000	>RL
118	Sn	115	5.821	21870	2.89	2000	>RL
121	Sb	115	2.540	14663	1.87	500	>RL
137	Ba	115	602.232	1097807	0.66	2000	>RL
205	Tl	209	0.614	14663	1.12	2000	
208	Pb	209	108.818	3489182	0.82	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	921013	0.85	904202	101.86	70	120	
72	Ge	671298	0.62	677615	99.07	70	120	
115	In	6337043	2.88	6287303	100.79	70	120	
209	Bi	13857753	1.27	14081817	98.41	70	120	

Sample Report

Date Acquired	5/23/16 4:01 PM	Sample Name	1605074-41A
Data Batch	160523.b	Comment	SAMPICPMS_TSDOD1
Data File Name	148SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	77.541	3233	3.12	2000	>RL
9	Be	45	3.033	169	19.62	2000	>RL
11	B	45	118.475	2571	4.57	2000	>RL
23	Na	45	7217.602	5455756	0.78	25000	>RL
24	Mg	45	16777.214	6342868	1.68	25000	>RL
27	Al	45	89155.521	12457809	1.35	10000	OUTCAL
39	K	45	18763.146	7275377	1.33	25000	>RL
44	Ca	45	65633.581	1364589	0.72	25000	OUTCAL
47	Ti	45	437.178	63203	1.04	2000	>RL
51	V	45	125.396	590503	0.73	2000	>RL
52	Cr	45	74.251	412470	0.75	2000	>RL
55	Mn	45	589.936	1854081	0.03	2000	>RL
56	Fe	45	76053.053	357971079	1.27	10000	OUTCAL
59	Co	72	26.248	225412	0.79	2000	>RL
60	Ni	72	45.939	105510	1.09	2000	>RL
63	Cu	72	28.042	175173	0.96	2000	>RL
66	Zn	72	234.603	253249	0.32	2000	>RL
75	As	72	22.766	21099	0.83	2000	>RL
78	Se	72	4.367	329	3.46	2000	>RL
88	Sr	115	357.625	1535312	0.52	2000	>RL
95	Mo	115	1.513	5450	3.41	2000	
107	Ag	115	0.137	1557	4.14	500	
111	Cd	115	0.449	757	2.75	2000	>RL
118	Sn	115	5.950	21852	1.60	2000	>RL
121	Sb	115	0.831	4779	4.54	500	
137	Ba	115	489.706	872866	0.34	2000	>RL
205	Tl	209	0.638	15328	1.24	2000	
208	Pb	209	47.006	1516468	0.66	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	928247	0.80	904202	102.66	70	120	
72	Ge	661076	1.14	677615	97.56	70	120	
115	In	6192787	0.54	6287303	98.50	70	120	
209	Bi	13940715	1.85	14081817	99.00	70	120	

Post Digestion Spike Sample (PDS) Report

Date Acquired	5/23/2016 16:17	Sample Name	1605096-14A PDS
Data Batch	160523.b	Comment	PDS ICPMS_TSDOD1
Data File Name	156_PDS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
7	Li	45	245.404	10228	1.48	52.7	200	96.3	75	125	
9	Be	45	199.517	10977	1.06	2.2	200	98.7	75	125	
11	B	45	270.341	5650	3.22	73.7	200	98.3	75	125	
23	Na	45	5623.265	4269100	0.70	704.0	5000	98.4	75	125	
24	Mg	45	18216.224	6903524	1.37	12987.5	5000	104.6	75	125	
27	Al	45	54404.618	7621995	1.60	48433.4	5000	119.4	75	125	
39	K	45	21486.144	8344396	2.58	15746.6	5000	114.8	75	125	
44	Ca	45	########	2541806	0.68	115495.2	5000	129.9	75	125	Fail
47	Ti	45	1045.654	151532	0.78	834.8	200	105.4	75	125	
51	V	45	309.960	1456838	0.43	108.8	200	100.6	75	125	
52	Cr	45	262.672	1459758	0.81	62.4	200	100.2	75	125	
55	Mn	45	978.589	3083076	0.85	789.6	200	94.5	75	125	
56	Fe	45	63561.735	299932584	0.73	58641.4	5000	98.4	75	125	
59	Co	72	218.049	1899596	0.24	18.4	200	99.8	75	125	
60	Ni	72	234.483	543250	0.41	35.6	200	99.4	75	125	
63	Cu	72	282.575	1777389	0.08	82.5	200	100.0	75	125	
66	Zn	72	642.086	702855	0.91	434.2	200	103.9	75	125	
75	As	72	218.691	204068	0.53	16.7	200	101.0	75	125	
78	Se	72	205.521	11428	1.15	4.2	200	100.6	75	125	
88	Sr	115	637.197	2782051	0.38	436.1	200	100.5	75	125	
95	Mo	115	194.420	707660	0.65	2.2	200	96.1	75	125	
107	Ag	115	188.010	2127744	0.55	0.3	200	93.9	75	125	
111	Cd	115	189.397	323541	0.81	1.2	200	94.1	75	125	
118	Sn	115	209.409	764897	0.42	8.4	200	100.5	75	125	
121	Sb	115	190.568	1084058	1.01	2.2	200	94.2	75	125	
137	Ba	115	823.706	1493582	0.90	617.0	200	103.4	75	125	
205	Tl	209	195.125	4635970	0.82	0.5	200	97.3	75	125	
208	Pb	209	329.933	10550697	0.69	132.5	200	98.7	75	125	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	930513	0.23	904202	102.91	70	120	
72	Ge	670917	0.79	677615	99.01	70	120	
115	In	6300237	0.53	6287303	100.21	70	120	
209	Bi	13822083	1.80	14081817	98.16	70	120	

Matrix Spike Sample (MS) Report

Date Acquired	5/23/2016 16:19	Sample Name	1605096-14A MS
Data Batch	160523.b	Comment	MS ICPMS_TSDOD1
Data File Name	157_MSS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
7	Li	45	244.612	10207	0.86	52.7	200	95.9	80	120	
9	Be	45	197.225	10864	1.35	2.2	200	97.5	80	120	
11	B	45	277.450	5800	3.19	73.7	200	101.9	80	120	
23	Na	45	5627.974	4277525	0.16	704.0	1000	492.4	80	120	Fail
24	Mg	45	17714.552	6721221	0.55	12987.5	1000	472.7	80	120	Fail
27	Al	45	52185.867	7319600	1.58	48433.4	1000	375.2	80	120	Fail
39	K	45	20690.666	8046586	1.10	15746.6	1000	494.4	80	120	Fail
44	Ca	45	########	2457009	0.39	115495.2	1000	229.2	80	120	Fail
47	Ti	45	1035.933	150296	0.85	834.8	200	100.6	80	120	
51	V	45	304.698	1433825	0.62	108.8	200	98.0	80	120	
52	Cr	45	255.262	1420215	0.67	62.4	200	96.4	80	120	
55	Mn	45	955.520	3013815	0.32	789.6	200	83.0	80	120	
56	Fe	45	57857.319	273328300	0.76	58641.4	1000	-78.4	80	120	Fail
59	Co	72	217.759	1898829	0.36	18.4	200	99.7	80	120	
60	Ni	72	236.854	549273	0.69	35.6	200	100.6	80	120	
63	Cu	72	298.545	1879542	0.14	82.5	200	108.0	80	120	
66	Zn	72	624.296	684050	0.42	434.2	200	95.1	80	120	
75	As	72	215.625	201404	0.78	16.7	200	99.5	80	120	
78	Se	72	203.708	11339	1.92	4.2	200	99.7	80	120	
88	Sr	115	628.822	2738648	1.11	436.1	200	96.4	80	120	
95	Mo	115	185.280	672701	0.52	2.2	200	91.6	80	120	
107	Ag	115	194.941	2200533	0.80	0.3	200	97.3	80	120	
111	Cd	115	190.934	325338	0.84	1.2	200	94.9	80	120	
118	Sn	115	199.686	727562	0.32	8.4	200	95.7	80	120	
121	Sb	115	59.202	336028	0.36	2.2	200	28.5	80	120	Fail
137	Ba	115	827.551	1496760	0.31	617.0	200	105.3	80	120	
205	Tl	209	194.350	4658196	0.94	0.5	200	96.9	80	120	
208	Pb	209	315.725	10185025	0.58	132.5	200	91.6	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	931578	0.19	904202	103.03	70	120	
72	Ge	671538	0.51	677615	99.10	70	120	
115	In	6284207	0.40	6287303	99.95	70	120	
209	Bi	13942023	0.58	14081817	99.01	70	120	

Matrix Spike Sample (MS) Report

Date Acquired	5/23/2016 16:21	Sample Name	1605096-14A MSD
Data Batch	160523.b	Comment	MSD ICPMS_TSDOD1
Data File Name	158_MSS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
7	Li	45	247.671	10039	2.56	52.7	200	97.5	80	120	
9	Be	45	197.835	10584	0.75	2.2	200	97.8	80	120	
11	B	45	269.082	5470	3.61	73.7	200	97.7	80	120	
23	Na	45	5697.707	4206117	1.20	704.0	1000	499.4	80	120	Fail
24	Mg	45	17828.561	6570853	1.39	12987.5	1000	484.1	80	120	Fail
27	Al	45	50819.117	6924180	1.86	48433.4	1000	238.6	80	120	Fail
39	K	45	20641.082	7798606	2.79	15746.6	1000	489.5	80	120	Fail
44	Ca	45	########	2361699	1.24	115495.2	1000	106.4	80	120	
47	Ti	45	1020.817	143851	0.32	834.8	200	93.0	80	120	
51	V	45	305.069	1394447	1.80	108.8	200	98.1	80	120	
52	Cr	45	256.723	1387337	0.67	62.4	200	97.2	80	120	
55	Mn	45	972.117	2978112	0.54	789.6	200	91.3	80	120	
56	Fe	45	57321.948	263008416	1.36	58641.4	1000	-131.9	80	120	Fail
59	Co	72	217.109	1862926	0.73	18.4	200	99.4	80	120	
60	Ni	72	232.439	530427	0.97	35.6	200	98.4	80	120	
63	Cu	72	304.967	1889278	0.52	82.5	200	111.2	80	120	
66	Zn	72	619.451	667900	0.54	434.2	200	92.6	80	120	
75	As	72	214.784	197415	0.42	16.7	200	99.0	80	120	
78	Se	72	200.099	10963	0.85	4.2	200	97.9	80	120	
88	Sr	115	609.818	2617789	0.79	436.1	200	86.8	80	120	
95	Mo	115	185.250	663008	1.33	2.2	200	91.5	80	120	
107	Ag	115	192.448	2141521	0.75	0.3	200	96.1	80	120	
111	Cd	115	190.245	319542	0.46	1.2	200	94.5	80	120	
118	Sn	115	199.877	717829	0.96	8.4	200	95.8	80	120	
121	Sb	115	60.891	340674	0.60	2.2	200	29.3	80	120	Fail
137	Ba	115	790.186	1408730	0.92	617.0	200	86.6	80	120	
205	Tl	209	193.716	4542508	0.26	0.5	200	96.6	80	120	
208	Pb	209	317.450	10019560	0.71	132.5	200	92.5	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	904917	1.27	904202	100.08	70	120	
72	Ge	660807	0.35	677615	97.52	70	120	
115	In	6195299	1.47	6287303	98.54	70	120	
209	Bi	13642424	1.60	14081817	96.88	70	120	

Continuing Calibration Verification (CCV) Report

Date Acquired	5/23/2016 16:23	Sample Name	CCV5-160523
Data Batch	160523.b	Comment	CCV ICPMS_TW
Data File Name	159_CCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	201.797	8150	2.37	200	100.9	90	110	
9	Be	45	196.877	10493	1.23	200	98.4	90	110	
11	B	45	198.177	4059	5.38	200	99.1	90	110	
23	Na	45	4976.757	3663521	0.74	5000	99.5	90	110	
24	Mg	45	4937.444	1813963	0.47	5000	98.7	90	110	
27	Al	45	4819.253	656082	0.90	5000	96.4	90	110	
39	K	45	5027.576	1933611	0.61	5000	100.6	90	110	
44	Ca	45	4805.025	97895	0.37	5000	96.1	90	110	
47	Ti	45	196.909	27644	1.72	200	98.5	90	110	
51	V	45	198.178	903790	1.09	200	99.1	90	110	
52	Cr	45	197.990	1066066	0.68	200	99.0	90	110	
55	Mn	45	195.106	595560	0.64	200	97.6	90	110	
56	Fe	45	5049.359	23088207	1.53	5000	101.0	90	110	
59	Co	72	200.915	1732093	0.53	200	100.5	90	110	
60	Ni	72	203.541	466763	0.17	200	101.8	90	110	
63	Cu	72	207.256	1290479	0.16	200	103.6	90	110	
66	Zn	72	202.683	219802	0.29	200	101.3	90	110	
75	As	72	200.409	185082	0.40	200	100.2	90	110	
78	Se	72	201.384	11084	1.35	200	100.7	90	110	
88	Sr	115	187.014	817186	0.60	200	93.5	90	110	
95	Mo	115	191.483	696865	0.86	200	95.7	90	110	
107	Ag	115	194.689	2202905	1.01	200	97.3	90	110	
111	Cd	115	190.082	324655	0.55	200	95.0	90	110	
118	Sn	115	190.638	696264	1.24	200	95.3	90	110	
121	Sb	115	191.417	1088725	1.11	200	95.7	90	110	
137	Ba	115	188.682	342151	0.42	200	94.3	90	110	
205	Tl	209	193.509	4585568	0.55	200	96.8	90	110	
208	Pb	209	190.469	6075123	0.18	200	95.2	90	110	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	901346	0.71	904202	99.68	70	120	
72	Ge	663913	0.54	677615	97.98	70	120	
115	In	6299760	0.93	6287303	100.20	70	120	
209	Bi	13784027	0.52	14081817	97.89	70	120	

Low Level Calibration Verification (LLCV) Report

Date Acquired	5/23/2016 16:27	Sample Name	LCVL5-160523
Data Batch	160523.b	Comment	LCVLICPMS_TW
Data File Name	161LCCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	10.724	440	9.97	10	107.2	70	130	
9	Be	45	1.100	60	6.90	1	110.0	70	130	
11	B	45	24.629	649	6.42	20	123.1	70	130	
23	Na	45	102.503	107134	1.32	100	102.5	70	130	
24	Mg	45	97.436	37159	0.90	100	97.4	70	130	
27	Al	45	101.392	15793	1.13	100	101.4	70	130	
39	K	45	109.100	94597	1.57	100	109.1	70	130	
44	Ca	45	92.280	2778	0.81	100	92.3	70	130	
47	Ti	45	5.547	769	1.75	5	110.9	70	130	
51	V	45	0.660	7137	5.42	1	66.0	70	130	Fail
52	Cr	45	5.126	28276	2.20	5	102.5	70	130	
55	Mn	45	4.994	15216	0.46	5	99.9	70	130	
56	Fe	45	101.150	466646	0.69	100	101.1	70	130	
59	Co	72	4.978	43366	1.63	5	99.6	70	130	
60	Ni	72	4.836	11971	1.40	5	96.7	70	130	
63	Cu	72	5.568	36469	2.25	5	111.4	70	130	
66	Zn	72	5.085	5910	3.83	5	101.7	70	130	
75	As	72	4.947	4790	1.29	5	98.9	70	130	
78	Se	72	5.269	383	8.23	5	105.4	70	130	
88	Sr	115	4.825	21939	1.76	5	96.5	70	130	
95	Mo	115	4.719	17039	2.04	5	94.4	70	130	
107	Ag	115	1.962	22013	0.89	2	98.1	70	130	
111	Cd	115	0.947	1605	2.58	1	94.7	70	130	
118	Sn	115	4.865	18086	2.42	5	97.3	70	130	
121	Sb	115	1.992	11353	3.07	2	99.6	70	130	
137	Ba	115	4.821	8743	3.51	5	96.4	70	130	
205	Tl	209	0.988	23107	1.02	1	98.8	70	130	
208	Pb	209	1.036	33130	0.67	1	103.6	70	130	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	887680	0.82	904202	98.17	70	120	
72	Ge	669269	0.79	677615	98.77	70	120	
115	In	6237111	0.26	6287303	99.20	70	120	
209	Bi	13580613	0.47	14081817	96.44	70	120	

Continuing Calibration Blank (CCB) Report

Date Acquired	5/23/2016 16:29	Sample Name	CCB5-160523
Data Batch	160523.b	Comment	CCB ICPMS_TW
Data File Name	162_CCB.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	MDL S	MDL Aq	QC Flag
7	Li	45	0.296	25	16.4	2	5	
9	Be	45	0.071	6	24.1	0.4	0.3	
11	B	45	2.737	226	12.3	10	10	
23	Na	45	-3.403	30948	1.8	50	100	
24	Mg	45	-2.653	981	5.1	50	100	
27	Al	45	-0.539	2165	9.0	50	10	
39	K	45	4.480	55885	0.7	50	100	
44	Ca	45	-4.459	852	6.1	50	100	
47	Ti	45	0.074	12	110.2	4	3	
51	V	45	-0.363	2555	2.8	4	3	
52	Cr	45	-0.049	857	8.8	2	2	
55	Mn	45	0.013	248	21.0	2	3	
56	Fe	45	1.109	16272	2.2	50	50	
59	Co	72	0.002	128	18.5	2	3	
60	Ni	72	-0.220	302	6.7	2	3	
63	Cu	72	0.415	4162	12.5	2	2	
66	Zn	72	0.024	388	22.3	4	2	
75	As	72	-0.015	175	18.1	2	2	
78	Se	72	0.223	105	14.7	1	2	
88	Sr	115	0.006	1129	8.5	4	3	
95	Mo	115	0.004	51	21.0	2	2	
107	Ag	115	0.050	603	0.6	0.4	1	
111	Cd	115	0.006	14	74.2	0.4	0.3	
118	Sn	115	0.009	544	12.3	4	3	
121	Sb	115	0.082	598	35.5	2	0.8	
137	Ba	115	0.016	120	7.3	2	3	
205	Tl	209	0.005	151	26.5	2	0.5	
208	Pb	209	0.039	1793	9.4	0.4	0.3	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	884168	0.99	904202	97.78	70	120	
72	Ge	669545	0.78	677615	98.81	70	120	
115	In	6304397	2.33	6287303	100.27	70	120	
209	Bi	13603427	0.19	14081817	96.60	70	120	

Continuing Calibration Verification (CCV) Report

Date Acquired	5/23/2016 16:51	Sample Name	CCV6-160523
Data Batch	160523.b	Comment	CCV ICPMS_TW
Data File Name	173_CCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	199.618	7993	0.77	200	99.8	90	110	
9	Be	45	197.514	10436	1.39	200	98.8	90	110	
11	B	45	193.491	3933	2.55	200	96.7	90	110	
23	Na	45	4985.344	3638590	0.29	5000	99.7	90	110	
24	Mg	45	4958.895	1806231	0.81	5000	99.2	90	110	
27	Al	45	4848.782	654436	0.18	5000	97.0	90	110	
39	K	45	5104.316	1945464	0.88	5000	102.1	90	110	
44	Ca	45	4864.857	98262	2.29	5000	97.3	90	110	
47	Ti	45	194.137	27021	0.38	200	97.1	90	110	
51	V	45	197.730	894015	1.00	200	98.9	90	110	
52	Cr	45	198.413	1059176	1.06	200	99.2	90	110	
55	Mn	45	195.173	590712	1.07	200	97.6	90	110	
56	Fe	45	5073.823	23004020	0.79	5000	101.5	90	110	
59	Co	72	198.650	1726060	0.37	200	99.3	90	110	
60	Ni	72	200.741	463981	0.69	200	100.4	90	110	
63	Cu	72	202.712	1272163	0.62	200	101.4	90	110	
66	Zn	72	199.720	218310	1.11	200	99.9	90	110	
75	As	72	199.230	185449	0.76	200	99.6	90	110	
78	Se	72	196.458	10901	1.67	200	98.2	90	110	
88	Sr	115	184.255	808441	0.40	200	92.1	90	110	
95	Mo	115	187.875	686533	0.29	200	93.9	90	110	
107	Ag	115	189.563	2153672	0.11	200	94.8	90	110	
111	Cd	115	186.691	320170	0.58	200	93.3	90	110	
118	Sn	115	188.825	692457	0.30	200	94.4	90	110	
121	Sb	115	189.705	1083421	0.25	200	94.9	90	110	
137	Ba	115	186.481	339530	0.28	200	93.2	90	110	
205	Tl	209	191.435	4485355	0.03	200	95.7	90	110	
208	Pb	209	189.668	5981566	0.61	200	94.8	90	110	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	893658	0.59	904202	98.83	70	120	
72	Ge	669154	0.61	677615	98.75	70	120	
115	In	6325246	1.02	6287303	100.60	70	120	
209	Bi	13630363	1.35	14081817	96.79	70	120	

Low Level Calibration Verification (LLCV) Report

Date Acquired	5/23/2016 16:55	Sample Name	LCVL6-160523
Data Batch	160523.b	Comment	LCVLICPMS_TW
Data File Name	175LCCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	10.353	443	2.69	10	103.5	70	130	
9	Be	45	1.125	64	3.24	1	112.5	70	130	
11	B	45	22.576	636	3.97	20	112.9	70	130	
23	Na	45	98.461	108796	1.06	100	98.5	70	130	
24	Mg	45	96.118	38295	1.83	100	96.1	70	130	
27	Al	45	101.637	16516	1.57	100	101.6	70	130	
39	K	45	112.886	100213	1.19	100	112.9	70	130	
44	Ca	45	95.738	2970	4.49	100	95.7	70	130	
47	Ti	45	4.885	708	15.22	5	97.7	70	130	
51	V	45	0.622	7275	0.42	1	62.2	70	130	Fail
52	Cr	45	5.015	28896	1.97	5	100.3	70	130	
55	Mn	45	4.916	15640	0.90	5	98.3	70	130	
56	Fe	45	100.410	483601	0.30	100	100.4	70	130	
59	Co	72	5.001	45120	0.51	5	100.0	70	130	
60	Ni	72	4.910	12574	1.48	5	98.2	70	130	
63	Cu	72	5.625	38133	1.70	5	112.5	70	130	
66	Zn	72	5.045	6075	5.41	5	100.9	70	130	
75	As	72	4.934	4947	2.73	5	98.7	70	130	
78	Se	72	5.423	405	1.05	5	108.5	70	130	
88	Sr	115	4.820	22620	0.65	5	96.4	70	130	
95	Mo	115	4.763	17748	1.11	5	95.3	70	130	
107	Ag	115	1.957	22651	0.55	2	97.8	70	130	
111	Cd	115	0.960	1678	5.45	1	96.0	70	130	
118	Sn	115	4.829	18535	1.95	5	96.6	70	130	
121	Sb	115	1.950	11471	2.14	2	97.5	70	130	
137	Ba	115	4.887	9143	1.50	5	97.7	70	130	
205	Tl	209	0.944	23160	4.14	1	94.4	70	130	
208	Pb	209	0.979	32848	1.58	1	97.9	70	130	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	926678	1.52	904202	102.49	70	120	
72	Ge	693134	1.02	677615	102.29	70	120	
115	In	6437034	1.57	6287303	102.38	70	120	
209	Bi	14239865	0.96	14081817	101.12	70	120	

Continuing Calibration Blank (CCB) Report

Date Acquired	5/23/2016 16:57	Sample Name	CCB6-160523
Data Batch	160523.b	Comment	CCB ICPMS_TW
Data File Name	176_CCB.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	MDL S	MDL Aq	QC Flag
7	Li	45	0.114	19	11.9	2	5	
9	Be	45	0.040	5	40.0	0.4	0.3	
11	B	45	2.945	244	13.5	10	10	
23	Na	45	-4.919	31823	1.2	50	100	
24	Mg	45	-2.947	932	11.6	50	100	
27	Al	45	-0.446	2321	5.3	50	10	
39	K	45	6.363	60295	1.3	50	100	
44	Ca	45	-8.640	820	3.1	50	100	
47	Ti	45	0.052	10	100.0	4	3	
51	V	45	-0.367	2705	0.6	4	3	
52	Cr	45	-0.052	899	12.1	2	2	
55	Mn	45	-0.003	213	14.1	2	3	
56	Fe	45	1.484	19135	1.3	50	50	
59	Co	72	-0.001	107	25.6	2	3	
60	Ni	72	-0.247	251	32.0	2	3	
63	Cu	72	0.460	4655	4.3	2	2	
66	Zn	72	-0.021	354	9.7	4	2	
75	As	72	-0.038	160	11.9	2	2	
78	Se	72	-0.002	97	19.7	1	2	
88	Sr	115	0.028	1266	4.1	4	3	
95	Mo	115	0.005	57	21.2	2	2	
107	Ag	115	0.032	407	10.7	0.4	1	
111	Cd	115	0.006	13	86.6	0.4	0.3	
118	Sn	115	-0.010	490	11.8	4	3	
121	Sb	115	0.051	441	21.6	2	0.8	
137	Ba	115	0.008	108	38.7	2	3	
205	Tl	209	0.004	136	24.8	2	0.5	
208	Pb	209	0.020	1290	8.2	0.4	0.3	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	942195	0.40	904202	104.20	70	120	
72	Ge	701694	0.97	677615	103.55	70	120	
115	In	6516517	0.53	6287303	103.65	70	120	
209	Bi	14506116	2.14	14081817	103.01	70	120	

Method Blank Report

Date Acquired	5/23/16 5:00 PM	Sample Name	MB-75237
Data Batch	160523.b	Comment	MBLKICPMS_TSDOD1
Data File Name	177_PB.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	0.070	18	27.92		
9	Be	45	0.021	4	25.00		
11	B	45	2.060	229	13.84		
23	Na	45	0.292	36162	0.92		
24	Mg	45	-0.644	1835	3.95		
27	Al	45	-5.658	1599	5.30		
39	K	45	11.858	63080	0.22		
44	Ca	45	1.972	1055	9.35		
47	Ti	45	0.194	31	43.29		
51	V	45	-0.372	2708	2.10		
52	Cr	45	0.148	2040	4.27		
55	Mn	45	0.112	587	10.97		
56	Fe	45	4.785	35266	0.82		
59	Co	72	-0.001	107	17.40		
60	Ni	72	-0.093	624	6.14		
63	Cu	72	0.461	4662	4.09		
66	Zn	72	2.353	3067	1.07		
75	As	72	-0.038	161	5.82		
78	Se	72	0.274	113	13.16		
88	Sr	115	-0.091	762	7.34		
95	Mo	115	0.015	98	41.24		
107	Ag	115	0.029	390	8.15		
111	Cd	115	0.005	13	25.01		
118	Sn	115	3.668	14964	1.84		
121	Sb	115	0.033	349	3.86		
137	Ba	115	0.046	187	7.79		
205	Tl	209	0.001	81	23.37		
208	Pb	209	0.037	1908	3.04		

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	951924	0.92	904202	105.28	70	120	
72	Ge	700783	0.55	677615	103.42	70	120	
115	In	6783979	1.00	6287303	107.90	70	120	
209	Bi	14743945	2.17	14081817	104.70	70	120	

Laboratory Control Sample (LCS) Report

Date Acquired	5/23/2016 17:02	Sample Name	LCS-75237
Data Batch	160523.b	Comment	LCS ICPMS_TSDOD1
Data File Name	178_LS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	197.684	8380	0.28	200	98.8	80	120	
9	Be	45	195.117	10915	1.23	200	97.6	80	120	
11	B	45	189.083	4074	2.13	200	94.5	80	120	
23	Na	45	4898.684	3786115	0.77	1000	489.9	80	120	Fail
24	Mg	45	4838.884	1866165	0.57	1000	483.9	80	120	Fail
27	Al	45	994.213	143975	1.02	1000	99.4	80	120	
39	K	45	4995.467	2017164	0.77	1000	499.5	80	120	Fail
44	Ca	45	4728.056	101137	1.34	1000	472.8	80	120	Fail
47	Ti	45	193.443	28508	1.42	200	96.7	80	120	
51	V	45	197.900	947354	0.57	200	98.9	80	120	
52	Cr	45	198.575	1122300	1.18	200	99.3	80	120	
55	Mn	45	195.132	625267	0.12	200	97.6	80	120	
56	Fe	45	980.027	4713976	0.43	1000	98.0	80	120	
59	Co	72	199.184	1797980	0.41	200	99.6	80	120	
60	Ni	72	201.772	484496	0.55	200	100.9	80	120	
63	Cu	72	203.903	1329384	0.21	200	102.0	80	120	
66	Zn	72	200.566	227744	0.87	200	100.3	80	120	
75	As	72	200.551	193929	0.50	200	100.3	80	120	
78	Se	72	197.561	11387	0.80	200	98.8	80	120	
88	Sr	115	186.175	849592	0.14	200	93.1	80	120	
95	Mo	115	189.371	719742	0.33	200	94.7	80	120	
107	Ag	115	189.068	2234183	1.18	200	94.5	80	120	
111	Cd	115	188.859	336866	0.34	200	94.4	80	120	
118	Sn	115	194.139	740501	0.90	200	97.1	80	120	
121	Sb	115	187.458	1113518	0.62	200	93.7	80	120	
137	Ba	115	188.577	357118	0.68	200	94.3	80	120	
205	Tl	209	192.347	4693739	0.92	200	96.2	80	120	
208	Pb	209	190.658	6262261	0.98	200	95.3	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	946195	0.89	904202	104.64	70	120	
72	Ge	695166	0.52	677615	102.59	70	120	
115	In	6578455	0.11	6287303	104.63	70	120	
209	Bi	14195010	1.46	14081817	100.80	70	120	

Laboratory Control Sample (LCS) Report

Date Acquired	5/23/2016 17:04	Sample Name	LCSD-75237
Data Batch	160523.b	Comment	LCSDICPMS_TSDOD1
Data File Name	179_LS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	205.014	8412	1.22	200	102.5	80	120	
9	Be	45	202.502	10965	1.43	200	101.3	80	120	
11	B	45	198.287	4126	1.36	200	99.1	80	120	
23	Na	45	5058.340	3783184	1.14	1000	505.8	80	120	Fail
24	Mg	45	4983.481	1860322	0.69	1000	498.3	80	120	Fail
27	Al	45	981.514	137618	1.34	1000	98.2	80	120	
39	K	45	5116.770	1998598	1.02	1000	511.7	80	120	Fail
44	Ca	45	4882.345	101055	0.84	1000	488.2	80	120	Fail
47	Ti	45	198.487	28310	2.31	200	99.2	80	120	
51	V	45	204.500	947497	1.34	200	102.3	80	120	
52	Cr	45	205.194	1122588	0.66	200	102.6	80	120	
55	Mn	45	200.904	623135	0.49	200	100.5	80	120	
56	Fe	45	1011.560	4709606	1.08	1000	101.2	80	120	
59	Co	72	203.289	1810452	1.32	200	101.6	80	120	
60	Ni	72	206.823	489940	1.05	200	103.4	80	120	
63	Cu	72	206.229	1326514	0.27	200	103.1	80	120	
66	Zn	72	203.247	227697	1.08	200	101.6	80	120	
75	As	72	202.174	192880	0.96	200	101.1	80	120	
78	Se	72	198.954	11314	2.14	200	99.5	80	120	
88	Sr	115	191.734	847928	0.12	200	95.9	80	120	
95	Mo	115	194.941	718074	0.81	200	97.5	80	120	
107	Ag	115	194.527	2227737	0.22	200	97.3	80	120	
111	Cd	115	193.868	335118	0.49	200	96.9	80	120	
118	Sn	115	198.437	733478	1.37	200	99.2	80	120	
121	Sb	115	190.688	1097713	0.55	200	95.3	80	120	
137	Ba	115	194.250	356496	0.51	200	97.1	80	120	
205	Tl	209	195.393	4734724	0.06	200	97.7	80	120	
208	Pb	209	193.075	6297376	0.62	200	96.5	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	915836	0.53	904202	101.29	70	120	
72	Ge	685841	0.26	677615	101.21	70	120	
115	In	6375805	0.96	6287303	101.41	70	120	
209	Bi	14095896	1.05	14081817	100.10	70	120	

Dilution Sample (Dil) Report

Date Acquired	5/23/2016 17:10	Sample Name	1605121-01A SD
Data Batch	160523.b	Comment	SD ICPMS_TSDOD1
Data File Name	182_SD.d	Dilution	25

Mass	Name	IS	Conc	CPS	%RSD	Ref Value	%Rec	Low	High	Flag
7	Li	45	14.407	593	1.70	64.9	111.0	110	90	
9	Be	45	0.583	34	29.30	2.9	100.4	110	90	Good
11	B	45	18.065	529	6.12	82.7	109.2	110	90	Good
23	Na	45	349.949	288598	0.54	1676.6	104.4	110	90	Good
24	Mg	45	3177.964	1165601	0.87	15300.2	103.9	110	90	Good
27	Al	45	14912.538	2020705	0.69	73421.4	101.6	110	90	Good
39	K	45	3592.306	1394193	0.37	17631.4	101.9	110	90	Good
44	Ca	45	13015.089	262931	0.26	62353.6	104.4	110	90	Good
47	Ti	45	45.969	6440	6.54	222.2	103.4	110	90	Good
51	V	45	22.554	106380	0.97	110.2	102.3	110	90	Good
52	Cr	45	15.761	85718	0.51	74.6	105.7	110	90	Good
55	Mn	45	128.072	390134	0.24	611.1	104.8	110	90	Good
56	Fe	45	15053.979	68657837	1.52	71064.7	105.9	110	90	Good
59	Co	72	5.027	43357	1.40	24.3	103.4	110	90	Good
60	Ni	72	8.470	20154	2.17	41.0	103.2	110	90	Good
63	Cu	72	6.325	40803	1.58	29.5	107.2	110	90	Good
66	Zn	72	56.072	60949	1.27	269.0	104.2	110	90	Good
75	As	72	5.713	5447	1.50	28.5	100.3	110	90	Good
78	Se	72	0.879	140	13.04	5.4	81.6	110	90	
88	Sr	115	72.980	322123	0.21	363.0	100.5	110	90	Good
95	Mo	115	0.340	1285	4.64	1.7	101.0	110	90	Good
107	Ag	115	0.067	793	1.11	0.2	151.6	110	90	
111	Cd	115	0.157	273	25.70	0.7	105.2	110	90	Good
118	Sn	115	1.324	5387	3.10	6.9	95.9	110	90	Good
121	Sb	115	1.182	6912	1.39	5.7	104.4	110	90	Good
137	Ba	115	89.683	163972	1.31	443.2	101.2	110	90	Good
205	Tl	209	0.148	3567	2.40	0.7	102.8	110	90	Good
208	Pb	209	112.661	3621068	0.40	574.4	98.1	110	90	Good

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	899286	0.33	904202	99.46	70	120	
72	Ge	662611	0.64	677615	97.79	70	120	
115	In	6350181	1.13	6287303	101.00	70	120	
209	Bi	13892011	1.72	14081817	98.65	70	120	

Post Digestion Spike Sample (PDS) Report

Date Acquired	5/23/2016 17:30	Sample Name	1605121-01A PDS
Data Batch	160523.b	Comment	PDS ICPMS_TSDOD1
Data File Name	192_PDS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
7	Li	45	250.371	10252	1.14	64.9	200	92.7	75	125	
9	Be	45	190.876	10319	1.31	2.9	200	94.0	75	125	
11	B	45	263.434	5414	5.34	82.7	200	90.4	75	125	
23	Na	45	6690.865	4984575	0.85	1676.6	5000	100.3	75	125	
24	Mg	45	20301.429	7559486	0.73	15300.2	5000	100.0	75	125	
27	Al	45	78467.483	10801189	2.81	73421.4	5000	100.9	75	125	
39	K	45	22897.094	8733587	2.07	17631.4	5000	105.3	75	125	
44	Ca	45	67589.368	1384181	0.83	62353.6	5000	104.7	75	125	
47	Ti	45	419.378	59717	0.27	222.2	200	98.6	75	125	
51	V	45	307.883	1421904	0.64	110.2	200	98.8	75	125	
52	Cr	45	272.853	1489870	0.96	74.6	200	99.1	75	125	
55	Mn	45	812.264	2514543	0.95	611.1	200	100.6	75	125	
56	Fe	45	77555.459	359588519	0.66	71064.7	5000	129.8	75	125	Fail
59	Co	72	223.719	1915694	0.30	24.3	200	99.7	75	125	
60	Ni	72	238.617	543382	0.45	41.0	200	98.8	75	125	
63	Cu	72	226.603	1401309	0.65	29.5	200	98.5	75	125	
66	Zn	72	464.259	499622	0.43	269.0	200	97.6	75	125	
75	As	72	229.520	210517	0.79	28.5	200	100.5	75	125	
78	Se	72	203.733	11139	2.79	5.4	200	99.2	75	125	
88	Sr	115	572.141	2422056	1.08	363.0	200	104.6	75	125	
95	Mo	115	193.122	681497	0.32	1.7	200	95.7	75	125	
107	Ag	115	187.544	2057554	0.81	0.2	200	93.7	75	125	
111	Cd	115	187.427	310402	0.26	0.7	200	93.3	75	125	
118	Sn	115	205.702	728493	0.85	6.9	200	99.4	75	125	
121	Sb	115	198.740	1096030	0.33	5.7	200	96.5	75	125	
137	Ba	115	647.894	1138984	0.69	443.2	200	102.3	75	125	
205	Tl	209	191.531	4425936	0.17	0.7	200	95.4	75	125	
208	Pb	209	775.727	24126992	0.44	574.4	200	100.7	75	125	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	914310	0.55	904202	101.12	70	120	
72	Ge	659473	1.00	677615	97.32	70	120	
115	In	6108533	1.35	6287303	97.16	70	120	
209	Bi	13443224	1.36	14081817	95.47	70	120	

Matrix Spike Sample (MS) Report

Date Acquired	5/23/2016 17:32	Sample Name	1605121-01A MS
Data Batch	160523.b	Comment	MS ICPMS_TSDOD1
Data File Name	193_MSS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
7	Li	45	245.530	9988	1.31	64.9	200	90.3	80	120	
9	Be	45	185.181	9945	1.37	2.9	200	91.1	80	120	
11	B	45	257.388	5259	1.39	82.7	200	87.4	80	120	
23	Na	45	6482.759	4798482	0.43	1676.6	1000	480.6	80	120	Fail
24	Mg	45	19023.362	7036639	0.27	15300.2	1000	372.3	80	120	Fail
27	Al	45	79055.187	10807806	1.86	73421.4	1000	563.4	80	120	Fail
39	K	45	22680.578	8593487	0.93	17631.4	1000	504.9	80	120	Fail
44	Ca	45	62134.861	1264065	0.14	62353.6	1000	-21.9	80	120	Fail
47	Ti	45	378.230	53499	1.80	222.2	200	78.0	80	120	Fail
51	V	45	301.620	1383750	0.79	110.2	200	95.7	80	120	
52	Cr	45	258.709	1403268	0.32	74.6	200	92.1	80	120	
55	Mn	45	774.372	2381227	0.11	611.1	200	81.7	80	120	
56	Fe	45	70964.356	326817898	1.08	71064.7	1000	-10.0	80	120	Fail
59	Co	72	212.809	1797239	0.16	24.3	200	94.3	80	120	
60	Ni	72	231.594	520173	1.00	41.0	200	95.3	80	120	
63	Cu	72	221.182	1349016	0.16	29.5	200	95.8	80	120	
66	Zn	72	447.674	475165	0.23	269.0	200	89.3	80	120	
75	As	72	217.761	196994	0.73	28.5	200	94.6	80	120	
78	Se	72	196.151	10578	0.71	5.4	200	95.4	80	120	
88	Sr	115	466.713	1983091	0.19	363.0	200	51.9	80	120	Fail
95	Mo	115	168.270	595976	0.56	1.7	200	83.3	80	120	
107	Ag	115	179.220	1973573	0.36	0.2	200	89.5	80	120	
111	Cd	115	182.277	302970	0.89	0.7	200	90.8	80	120	
118	Sn	115	185.000	657588	0.41	6.9	200	89.0	80	120	
121	Sb	115	58.004	321165	0.45	5.7	200	26.2	80	120	Fail
137	Ba	115	663.711	1171062	0.16	443.2	200	110.2	80	120	
205	Tl	209	187.566	4228379	1.37	0.7	200	93.4	80	120	
208	Pb	209	714.657	21681898	1.44	574.4	200	70.1	80	120	Fail

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	908248	0.82	904202	100.45	70	120	
72	Ge	650378	0.29	677615	95.98	70	120	
115	In	6130376	0.44	6287303	97.50	70	120	
209	Bi	13114022	1.89	14081817	93.13	70	120	

Matrix Spike Sample (MS) Report

Date Acquired	5/23/2016 17:34	Sample Name	1605121-01A MSD
Data Batch	160523.b	Comment	MSD ICPMS_TSDOD1
Data File Name	194_MSS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
7	Li	45	248.965	10187	1.60	64.9	200	92.0	80	120	
9	Be	45	192.275	10386	0.20	2.9	200	94.7	80	120	
11	B	45	263.398	5409	0.32	82.7	200	90.4	80	120	
23	Na	45	6335.594	4717629	0.72	1676.6	1000	465.9	80	120	Fail
24	Mg	45	18991.621	7065638	1.89	15300.2	1000	369.1	80	120	Fail
27	Al	45	78375.432	10778392	1.29	73421.4	1000	495.4	80	120	Fail
39	K	45	22694.129	8648579	2.69	17631.4	1000	506.3	80	120	Fail
44	Ca	45	54906.410	1123640	0.80	62353.6	1000	-744.7	80	120	Fail
47	Ti	45	391.795	55742	1.41	222.2	200	84.8	80	120	
51	V	45	314.599	1451600	0.34	110.2	200	102.2	80	120	
52	Cr	45	267.344	1458572	0.26	74.6	200	96.4	80	120	
55	Mn	45	756.133	2338810	0.43	611.1	200	72.5	80	120	Fail
56	Fe	45	76832.812	355941781	0.61	71064.7	1000	576.8	80	120	Fail
59	Co	72	216.293	1878326	0.88	24.3	200	96.0	80	120	
60	Ni	72	236.085	545229	0.64	41.0	200	97.5	80	120	
63	Cu	72	222.469	1395224	0.69	29.5	200	96.5	80	120	
66	Zn	72	457.646	499490	0.93	269.0	200	94.3	80	120	
75	As	72	224.464	208795	0.70	28.5	200	98.0	80	120	
78	Se	72	200.319	11107	1.16	5.4	200	97.5	80	120	
88	Sr	115	468.931	2002292	1.03	363.0	200	53.0	80	120	Fail
95	Mo	115	174.044	619481	0.97	1.7	200	86.2	80	120	
107	Ag	115	182.406	2018592	0.92	0.2	200	91.1	80	120	
111	Cd	115	184.628	308393	0.26	0.7	200	91.9	80	120	
118	Sn	115	193.811	692284	0.47	6.9	200	93.5	80	120	
121	Sb	115	60.606	337219	0.51	5.7	200	27.5	80	120	Fail
137	Ba	115	626.528	1110816	0.90	443.2	200	91.7	80	120	
205	Tl	209	186.907	4318880	0.76	0.7	200	93.1	80	120	
208	Pb	209	825.870	25686421	0.90	574.4	200	125.7	80	120	Fail

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	913547	0.49	904202	101.03	70	120	
72	Ge	668777	0.36	677615	98.70	70	120	
115	In	6160793	1.09	6287303	97.99	70	120	
209	Bi	13442388	1.27	14081817	95.46	70	120	

Continuing Calibration Verification (CCV) Report

Date Acquired	5/23/2016 17:36	Sample Name	CCV7-160523
Data Batch	160523.b	Comment	CCV ICPMS_TW
Data File Name	195_CCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	200.533	8135	1.35	200	100.3	90	110	
9	Be	45	199.108	10659	1.12	200	99.6	90	110	
11	B	45	192.351	3963	3.77	200	96.2	90	110	
23	Na	45	4958.754	3666930	0.50	5000	99.2	90	110	
24	Mg	45	4934.561	1820986	0.59	5000	98.7	90	110	
27	Al	45	4863.340	665013	0.33	5000	97.3	90	110	
39	K	45	5142.346	1985331	0.49	5000	102.8	90	110	
44	Ca	45	4913.583	100530	0.82	5000	98.3	90	110	
47	Ti	45	195.543	27573	0.57	200	97.8	90	110	
51	V	45	199.689	914689	0.68	200	99.8	90	110	
52	Cr	45	200.365	1083632	0.63	200	100.2	90	110	
55	Mn	45	198.858	609734	0.38	200	99.4	90	110	
56	Fe	45	5118.348	23508307	1.35	5000	102.4	90	110	
59	Co	72	202.096	1755454	0.70	200	101.0	90	110	
60	Ni	72	204.444	472386	0.94	200	102.2	90	110	
63	Cu	72	205.299	1287968	0.19	200	102.6	90	110	
66	Zn	72	202.160	220888	0.44	200	101.1	90	110	
75	As	72	203.496	189349	0.18	200	101.7	90	110	
78	Se	72	200.924	11143	1.52	200	100.5	90	110	
88	Sr	115	189.873	824480	0.82	200	94.9	90	110	
95	Mo	115	191.571	692828	0.63	200	95.8	90	110	
107	Ag	115	195.139	2194474	1.17	200	97.6	90	110	
111	Cd	115	191.169	324505	0.75	200	95.6	90	110	
118	Sn	115	192.695	699498	1.20	200	96.3	90	110	
121	Sb	115	193.824	1095679	0.81	200	96.9	90	110	
137	Ba	115	190.723	343738	1.29	200	95.4	90	110	
205	Tl	209	192.429	4475739	0.68	200	96.2	90	110	
208	Pb	209	191.233	5986998	0.57	200	95.6	90	110	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	905381	0.68	904202	100.13	70	120	
72	Ge	668932	0.50	677615	98.72	70	120	
115	In	6260889	1.44	6287303	99.58	70	120	
209	Bi	13530454	1.12	14081817	96.08	70	120	

Low Level Calibration Verification (LLCV) Report

Date Acquired	5/23/2016 17:40	Sample Name	LCVL7-160523
Data Batch	160523.b	Comment	LCVLICPMS_TW
Data File Name	197LCCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	9.525	411	5.20	10	95.2	70	130	
9	Be	45	1.010	58	13.09	1	101.0	70	130	
11	B	45	27.411	737	8.16	20	137.1	70	130	Fail
23	Na	45	99.279	109948	0.33	100	99.3	70	130	
24	Mg	45	96.405	38586	1.21	100	96.4	70	130	
27	Al	45	100.886	16494	2.98	100	100.9	70	130	
39	K	45	105.178	97717	0.48	100	105.2	70	130	
44	Ca	45	95.785	2987	2.87	100	95.8	70	130	
47	Ti	45	5.210	758	14.74	5	104.2	70	130	
51	V	45	0.651	7444	1.74	1	65.1	70	130	Fail
52	Cr	45	5.049	29231	1.28	5	101.0	70	130	
55	Mn	45	4.912	15702	2.04	5	98.2	70	130	
56	Fe	45	101.021	488863	0.45	100	101.0	70	130	
59	Co	72	5.041	45273	1.81	5	100.8	70	130	
60	Ni	72	4.925	12553	1.42	5	98.5	70	130	
63	Cu	72	5.413	36589	1.06	5	108.3	70	130	
66	Zn	72	5.143	6159	0.88	5	102.9	70	130	
75	As	72	5.110	5093	0.83	5	102.2	70	130	
78	Se	72	5.069	383	4.84	5	101.4	70	130	
88	Sr	115	4.846	22738	1.54	5	96.9	70	130	
95	Mo	115	4.746	17687	1.19	5	94.9	70	130	
107	Ag	115	1.945	22524	1.18	2	97.3	70	130	
111	Cd	115	1.013	1771	6.23	1	101.3	70	130	
118	Sn	115	4.858	18643	1.67	5	97.2	70	130	
121	Sb	115	1.971	11596	2.29	2	98.5	70	130	
137	Ba	115	4.770	8927	1.02	5	95.4	70	130	
205	Tl	209	0.953	22996	1.20	1	95.3	70	130	
208	Pb	209	1.044	34436	1.03	1	104.4	70	130	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	931071	0.15	904202	102.97	70	120	
72	Ge	689966	0.89	677615	101.82	70	120	
115	In	6438717	1.94	6287303	102.41	70	120	
209	Bi	14003625	0.05	14081817	99.44	70	120	

Continuing Calibration Blank (CCB) Report

Date Acquired	5/23/2016 17:42	Sample Name	CCB7-160523
Data Batch	160523.b	Comment	CCB ICPMS_TW
Data File Name	198_CCB.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	MDL S	MDL Aq	QC Flag
7	Li	45	0.257	25	16.0	2	5	
9	Be	45	0.041	5	72.1	0.4	0.3	
11	B	45	7.204	331	13.4	10	10	
23	Na	45	-5.112	31610	0.3	50	100	
24	Mg	45	-2.846	969	6.7	50	100	
27	Al	45	-0.042	2374	2.0	50	10	
39	K	45	0.039	57708	0.8	50	100	
44	Ca	45	-6.991	853	9.3	50	100	
47	Ti	45	0.060	11	96.4	4	3	
51	V	45	-0.359	2737	2.5	4	3	
52	Cr	45	-0.056	871	6.7	2	2	
55	Mn	45	0.008	247	16.6	2	3	
56	Fe	45	1.690	20079	1.3	50	50	
59	Co	72	0.002	130	11.8	2	3	
60	Ni	72	-0.225	303	23.8	2	3	
63	Cu	72	0.258	3305	6.6	2	2	
66	Zn	72	-0.015	358	10.3	4	2	
75	As	72	-0.043	154	2.0	2	2	
78	Se	72	0.246	110	9.8	1	2	
88	Sr	115	-0.006	1116	8.7	4	3	
95	Mo	115	0.003	48	14.5	2	2	
107	Ag	115	0.036	457	11.5	0.4	1	
111	Cd	115	0.005	12	56.8	0.4	0.3	
118	Sn	115	-0.003	520	20.3	4	3	
121	Sb	115	0.045	403	15.8	2	0.8	
137	Ba	115	0.019	129	27.2	2	3	
205	Tl	209	0.006	187	6.2	2	0.5	
208	Pb	209	0.048	2167	7.2	0.4	0.3	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	940303	0.90	904202	103.99	70	120	
72	Ge	696256	0.65	677615	102.75	70	120	
115	In	6527895	0.17	6287303	103.83	70	120	
209	Bi	14114328	1.27	14081817	100.23	70	120	

Continuing Calibration Verification (CCV) Report

Date Acquired	5/23/2016 18:04	Sample Name	CCV8-160523
Data Batch	160523.b	Comment	CCV ICPMS_TW
Data File Name	209_CCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	196.619	8200	0.94	200	98.3	90	110	
9	Be	45	193.954	10675	1.64	200	97.0	90	110	
11	B	45	196.426	4156	3.40	200	98.2	90	110	
23	Na	45	4985.373	3790081	0.53	5000	99.7	90	110	
24	Mg	45	4916.215	1865289	0.93	5000	98.3	90	110	
27	Al	45	4827.593	678709	0.77	5000	96.6	90	110	
39	K	45	5069.741	2013087	0.89	5000	101.4	90	110	
44	Ca	45	4846.466	101968	1.34	5000	96.9	90	110	
47	Ti	45	199.300	28891	2.25	200	99.6	90	110	
51	V	45	199.575	939912	1.16	200	99.8	90	110	
52	Cr	45	199.990	1112036	0.30	200	100.0	90	110	
55	Mn	45	195.659	616808	0.64	200	97.8	90	110	
56	Fe	45	5053.496	23866316	1.64	5000	101.1	90	110	
59	Co	72	197.553	1785638	0.40	200	98.8	90	110	
60	Ni	72	200.086	481096	0.56	200	100.0	90	110	
63	Cu	72	202.910	1324622	0.68	200	101.5	90	110	
66	Zn	72	200.717	228207	1.16	200	100.4	90	110	
75	As	72	199.459	193135	0.53	200	99.7	90	110	
78	Se	72	198.996	11484	0.95	200	99.5	90	110	
88	Sr	115	186.014	850451	0.83	200	93.0	90	110	
95	Mo	115	187.659	714575	0.94	200	93.8	90	110	
107	Ag	115	189.198	2239947	0.41	200	94.6	90	110	
111	Cd	115	185.175	330921	1.15	200	92.6	90	110	
118	Sn	115	186.781	713795	0.70	200	93.4	90	110	
121	Sb	115	188.452	1121524	0.30	200	94.2	90	110	
137	Ba	115	185.372	351712	1.15	200	92.7	90	110	
205	Tl	209	191.939	4622311	0.91	200	96.0	90	110	
208	Pb	209	188.598	6113177	0.71	200	94.3	90	110	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	930836	0.72	904202	102.95	70	120	
72	Ge	696094	0.72	677615	102.73	70	120	
115	In	6590841	0.27	6287303	104.83	70	120	
209	Bi	14009158	1.50	14081817	99.48	70	120	

Low Level Calibration Verification (LLCV) Report

Date Acquired	5/23/2016 18:08	Sample Name	LCVL8-160523
Data Batch	160523.b	Comment	LCVLICPMS_TW
Data File Name	211LCCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	9.583	408	7.15	10	95.8	70	130	
9	Be	45	0.921	53	17.02	1	92.1	70	130	
11	B	45	21.415	607	3.96	20	107.1	70	130	
23	Na	45	98.054	107458	1.32	100	98.1	70	130	
24	Mg	45	94.890	37461	0.56	100	94.9	70	130	
27	Al	45	98.169	15882	1.72	100	98.2	70	130	
39	K	45	100.572	94560	1.49	100	100.6	70	130	
44	Ca	45	91.518	2857	5.47	100	91.5	70	130	
47	Ti	45	4.973	713	6.92	5	99.5	70	130	
51	V	45	0.656	7362	4.25	1	65.6	70	130	Fail
52	Cr	45	5.129	29239	1.91	5	102.6	70	130	
55	Mn	45	4.870	15344	0.41	5	97.4	70	130	
56	Fe	45	100.305	478474	1.18	100	100.3	70	130	
59	Co	72	5.048	44915	1.46	5	101.0	70	130	
60	Ni	72	4.891	12358	1.78	5	97.8	70	130	
63	Cu	72	5.328	35708	2.45	5	106.6	70	130	
66	Zn	72	5.094	6049	2.68	5	101.9	70	130	
75	As	72	5.087	5024	0.98	5	101.7	70	130	
78	Se	72	5.264	390	8.34	5	105.3	70	130	
88	Sr	115	4.902	22558	1.91	5	98.0	70	130	
95	Mo	115	4.704	17201	2.52	5	94.1	70	130	
107	Ag	115	1.882	21392	0.85	2	94.1	70	130	
111	Cd	115	0.973	1670	5.55	1	97.3	70	130	
118	Sn	115	4.799	18079	1.92	5	96.0	70	130	
121	Sb	115	1.887	10895	1.81	2	94.3	70	130	
137	Ba	115	4.856	8917	1.18	5	97.1	70	130	
205	Tl	209	0.969	22819	0.66	1	96.9	70	130	
208	Pb	209	0.997	32122	2.52	1	99.7	70	130	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	917677	1.29	904202	101.49	70	120	
72	Ge	683624	1.30	677615	100.89	70	120	
115	In	6317245	0.69	6287303	100.48	70	120	
209	Bi	13676535	2.17	14081817	97.12	70	120	

Continuing Calibration Blank (CCB) Report

Date Acquired	5/23/2016 18:10	Sample Name	CCB8-160523
Data Batch	160523.b	Comment	CCB ICPMS_TW
Data File Name	212_CCB.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	MDL S	MDL Aq	QC Flag
7	Li	45	0.180	21	14.3	2	5	
9	Be	45	0.024	4	109.0	0.4	0.3	
11	B	45	0.402	186	6.8	10	10	
23	Na	45	-4.289	31138	1.8	50	100	
24	Mg	45	-2.680	998	2.8	50	100	
27	Al	45	0.297	2339	2.5	50	10	
39	K	45	-3.035	54589	1.2	50	100	
44	Ca	45	-8.889	785	12.5	50	100	
47	Ti	45	0.047	9	78.1	4	3	
51	V	45	-0.339	2737	1.7	4	3	
52	Cr	45	-0.046	897	2.8	2	2	
55	Mn	45	0.000	216	7.9	2	3	
56	Fe	45	1.769	19760	1.7	50	50	
59	Co	72	-0.002	94	23.5	2	3	
60	Ni	72	-0.248	238	8.2	2	3	
63	Cu	72	0.121	2314	4.0	2	2	
66	Zn	72	-0.044	312	8.2	4	2	
75	As	72	-0.055	138	7.7	2	2	
78	Se	72	0.343	111	10.9	1	2	
88	Sr	115	0.023	1171	6.7	4	3	
95	Mo	115	0.006	56	6.9	2	2	
107	Ag	115	0.029	348	16.3	0.4	1	
111	Cd	115	0.005	12	83.3	0.4	0.3	
118	Sn	115	-0.030	393	8.9	4	3	
121	Sb	115	0.021	247	9.7	2	0.8	
137	Ba	115	0.004	94	32.8	2	3	
205	Tl	209	0.003	110	12.1	2	0.5	
208	Pb	209	0.031	1541	1.4	0.4	0.3	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	908326	0.83	904202	100.46	70	120	
72	Ge	668682	0.52	677615	98.68	70	120	
115	In	6133652	1.89	6287303	97.56	70	120	
209	Bi	13536040	1.75	14081817	96.12	70	120	

Method Blank Report

Date Acquired	5/23/16 6:12 PM	Sample Name	MB-75236
Data Batch	160523.b	Comment	MBLKICPMS_TSDOD1
Data File Name	213_PB.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	0.214	23	35.39		
9	Be	45	0.081	7	14.29		
11	B	45	-0.539	167	21.07		
23	Na	45	3.805	37004	0.31		
24	Mg	45	-0.910	1648	7.95		
27	Al	45	-6.729	1376	7.79		
39	K	45	6.463	58027	0.59		
44	Ca	45	0.214	968	5.97		
47	Ti	45	0.118	19	44.42		
51	V	45	-0.343	2711	2.17		
52	Cr	45	0.288	2701	2.25		
55	Mn	45	0.133	622	1.64		
56	Fe	45	8.538	50818	0.86		
59	Co	72	0.000	111	16.52		
60	Ni	72	0.030	880	11.41		
63	Cu	72	0.184	2708	2.32		
66	Zn	72	2.382	2959	5.40		
75	As	72	-0.055	138	2.29		
78	Se	72	0.165	102	14.96		
88	Sr	115	-0.089	726	8.35		
95	Mo	115	0.011	79	20.84		
107	Ag	115	0.022	283	1.18		
111	Cd	115	0.003	8	24.71		
118	Sn	115	3.706	14241	0.56		
121	Sb	115	0.011	203	8.67		
137	Ba	115	0.049	181	28.59		
205	Tl	209	0.002	89	24.40		
208	Pb	209	0.040	1916	3.13		

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	906237	0.83	904202	100.23	70	120	
72	Ge	668810	0.36	677615	98.70	70	120	
115	In	6391144	1.20	6287303	101.65	70	120	
209	Bi	14064996	1.01	14081817	99.88	70	120	

Laboratory Control Sample (LCS) Report

Date Acquired	5/23/2016 18:14	Sample Name	LCS-75236
Data Batch	160523.b	Comment	LCS ICPMS_TSDOD1
Data File Name	214_LS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	199.993	8046	1.41	200	100.0	80	120	
9	Be	45	196.590	10439	0.39	200	98.3	80	120	
11	B	45	187.313	3832	0.40	200	93.7	80	120	
23	Na	45	4997.556	3665264	1.02	1000	499.8	80	120	Fail
24	Mg	45	4923.568	1802185	1.18	1000	492.4	80	120	Fail
27	Al	45	961.895	132289	0.84	1000	96.2	80	120	
39	K	45	5123.700	1962355	1.14	1000	512.4	80	120	Fail
44	Ca	45	4884.870	99152	1.66	1000	488.5	80	120	Fail
47	Ti	45	201.060	28119	1.21	200	100.5	80	120	
51	V	45	203.952	926469	1.46	200	102.0	80	120	
52	Cr	45	204.635	1097736	0.23	200	102.3	80	120	
55	Mn	45	201.638	613254	0.53	200	100.8	80	120	
56	Fe	45	994.986	4542240	0.68	1000	99.5	80	120	
59	Co	72	201.209	1760874	0.68	200	100.6	80	120	
60	Ni	72	203.383	473436	0.86	200	101.7	80	120	
63	Cu	72	204.951	1295364	1.42	200	102.5	80	120	
66	Zn	72	199.207	219310	0.30	200	99.6	80	120	
75	As	72	203.193	190494	0.90	200	101.6	80	120	
78	Se	72	200.945	11228	0.61	200	100.5	80	120	
88	Sr	115	195.216	837690	1.22	200	97.6	80	120	
95	Mo	115	195.703	699397	0.44	200	97.9	80	120	
107	Ag	115	193.531	2150362	0.33	200	96.8	80	120	
111	Cd	115	191.689	321493	1.12	200	95.8	80	120	
118	Sn	115	197.753	709228	1.22	200	98.9	80	120	
121	Sb	115	190.110	1061881	0.96	200	95.1	80	120	
137	Ba	115	191.294	340654	0.88	200	95.6	80	120	
205	Tl	209	193.455	4413244	0.65	200	96.7	80	120	
208	Pb	209	192.995	5925849	0.65	200	96.5	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	898078	1.21	904202	99.32	70	120	
72	Ge	673988	0.96	677615	99.46	70	120	
115	In	6187091	2.05	6287303	98.41	70	120	
209	Bi	13270135	0.83	14081817	94.24	70	120	

Laboratory Control Sample (LCS) Report

Date Acquired	5/23/2016 18:16	Sample Name	LCSD-75236
Data Batch	160523.b	Comment	LCSDICPMS_TSDOD1
Data File Name	215_LS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	197.198	8044	0.39	200	98.6	80	120	
9	Be	45	198.610	10691	1.23	200	99.3	80	120	
11	B	45	194.183	4021	0.79	200	97.1	80	120	
23	Na	45	4955.449	3684851	0.75	1000	495.5	80	120	Fail
24	Mg	45	4900.564	1818479	0.16	1000	490.1	80	120	Fail
27	Al	45	970.236	135244	0.78	1000	97.0	80	120	
39	K	45	5110.019	1984051	0.50	1000	511.0	80	120	Fail
44	Ca	45	4811.949	99017	0.94	1000	481.2	80	120	Fail
47	Ti	45	194.872	27631	0.49	200	97.4	80	120	
51	V	45	201.599	928548	0.48	200	100.8	80	120	
52	Cr	45	201.602	1096423	0.83	200	100.8	80	120	
55	Mn	45	197.532	609048	0.71	200	98.8	80	120	
56	Fe	45	989.604	4580126	0.68	1000	99.0	80	120	
59	Co	72	200.717	1763001	0.71	200	100.4	80	120	
60	Ni	72	201.506	470806	0.47	200	100.8	80	120	
63	Cu	72	203.012	1287911	0.57	200	101.5	80	120	
66	Zn	72	199.012	219898	1.01	200	99.5	80	120	
75	As	72	201.107	189220	0.15	200	100.6	80	120	
78	Se	72	196.361	11013	1.64	200	98.2	80	120	
88	Sr	115	188.578	821737	0.33	200	94.3	80	120	
95	Mo	115	192.374	698205	0.60	200	96.2	80	120	
107	Ag	115	190.324	2147665	0.27	200	95.2	80	120	
111	Cd	115	188.779	321560	1.03	200	94.4	80	120	
118	Sn	115	196.604	716125	1.30	200	98.3	80	120	
121	Sb	115	188.725	1070530	0.54	200	94.4	80	120	
137	Ba	115	189.469	342636	0.39	200	94.7	80	120	
205	Tl	209	188.696	4460744	0.82	200	94.3	80	120	
208	Pb	209	188.369	5993965	0.46	200	94.2	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	910406	0.73	904202	100.69	70	120	
72	Ge	676429	0.84	677615	99.82	70	120	
115	In	6282139	0.82	6287303	99.92	70	120	
209	Bi	13753054	1.39	14081817	97.67	70	120	

Dilution Sample (Dil) Report

Date Acquired	5/23/2016 18:22	Sample Name	1605098-17A SD
Data Batch	160523.b	Comment	SD ICPMS_TSDOD1
Data File Name	218_SD.d	Dilution	25

Mass	Name	IS	Conc	CPS	%RSD	Ref Value	%Rec	Low	High	Flag
7	Li	45	13.799	587	3.96	63.5	108.6	110	90	Good
9	Be	45	0.534	32	29.81	2.6	102.9	110	90	Good
11	B	45	17.888	542	11.21	80.3	111.4	110	90	
23	Na	45	468.486	386785	0.86	2293.2	102.1	110	90	Good
24	Mg	45	3509.127	1327791	0.66	17067.5	102.8	110	90	Good
27	Al	45	13601.105	1901870	0.47	67547.0	100.7	110	90	Good
39	K	45	2367.075	967294	0.96	11553.0	102.4	110	90	Good
44	Ca	45	100598.663	2090276	0.65	492896.9	102.0	110	90	Good
47	Ti	45	47.319	6840	1.35	226.8	104.3	110	90	Good
51	V	45	25.459	123341	0.22	123.4	103.1	110	90	Good
52	Cr	45	12.326	69426	1.86	58.7	105.1	110	90	Good
55	Mn	45	166.060	521886	0.49	796.8	104.2	110	90	Good
56	Fe	45	12048.287	56703320	0.98	57824.0	104.2	110	90	Good
59	Co	72	5.339	46836	2.00	25.8	103.5	110	90	Good
60	Ni	72	8.908	21519	0.90	43.6	102.1	110	90	Good
63	Cu	72	4.077	27313	0.59	18.7	108.8	110	90	Good
66	Zn	72	33.164	36813	1.07	156.8	105.7	110	90	Good
75	As	72	4.222	4144	1.22	20.6	102.5	110	90	Good
78	Se	72	1.014	149	12.57	4.7	107.0	110	90	Good
88	Sr	115	194.750	860285	0.99	967.8	100.6	110	90	Good
95	Mo	115	0.528	1980	4.37	2.7	99.3	110	90	Good
107	Ag	115	0.050	608	12.87	0.1	222.8	110	90	
111	Cd	115	0.118	208	14.91	0.6	103.9	110	90	Good
118	Sn	115	0.925	3932	4.75	4.8	96.8	110	90	Good
121	Sb	115	0.095	680	3.43	0.4	121.3	110	90	
137	Ba	115	631.673	1157856	0.50	3233.6	97.7	110	90	Good
205	Tl	209	0.114	2763	4.53	0.6	95.5	110	90	Good
208	Pb	209	6.331	204413	0.51	31.9	99.2	110	90	Good

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	927907	0.49	904202	102.62	70	120	
72	Ge	673997	0.80	677615	99.47	70	120	
115	In	6370468	1.89	6287303	101.32	70	120	
209	Bi	13917043	2.07	14081817	98.83	70	120	

Post Digestion Spike Sample (PDS) Report

Date Acquired	5/23/2016 18:42	Sample Name	1605098-17A PDS
Data Batch	160523.b	Comment	PDS ICPMS_TSDOD1
Data File Name	228_PDS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
7	Li	45	250.441	10268	2.04	63.5	200	93.4	75	125	
9	Be	45	182.610	9884	0.53	2.6	200	90.0	75	125	
11	B	45	268.982	5531	0.99	80.3	200	94.3	75	125	
23	Na	45	7166.016	5342618	1.09	2293.2	5000	97.5	75	125	
24	Mg	45	22857.111	8521128	0.48	17067.5	5000	115.8	75	125	
27	Al	45	76528.603	10546018	1.02	67547.0	5000	179.6	75	125	Fail
39	K	45	17337.150	6634412	1.52	11553.0	5000	115.7	75	125	
44	Ca	45	########	11043170	1.00	492896.9	5000	921.0	75	125	Fail
47	Ti	45	437.511	62375	0.76	226.8	200	105.3	75	125	
51	V	45	321.051	1484296	1.28	123.4	200	98.8	75	125	
52	Cr	45	250.408	1369018	0.62	58.7	200	95.9	75	125	
55	Mn	45	1032.391	3199760	0.91	796.8	200	117.8	75	125	
56	Fe	45	67599.882	313814459	1.71	57824.0	5000	195.5	75	125	Fail
59	Co	72	214.622	1809809	0.37	25.8	200	94.4	75	125	
60	Ni	72	229.424	514534	0.32	43.6	200	92.9	75	125	
63	Cu	72	200.341	1220203	1.20	18.7	200	90.8	75	125	
66	Zn	72	349.434	370427	0.88	156.8	200	96.3	75	125	
75	As	72	213.534	192884	0.46	20.6	200	96.5	75	125	
78	Se	72	194.954	10499	0.61	4.7	200	95.1	75	125	
88	Sr	115	1217.099	5151980	0.24	967.8	200	124.7	75	125	
95	Mo	115	184.056	649627	0.30	2.7	200	90.7	75	125	
107	Ag	115	182.338	2000952	0.08	0.1	200	91.1	75	125	
111	Cd	115	172.319	285436	0.56	0.6	200	85.9	75	125	
118	Sn	115	190.959	676485	1.12	4.8	200	93.1	75	125	
121	Sb	115	182.331	1005730	0.76	0.4	200	91.0	75	125	
137	Ba	115	3716.544	6533778	1.63	3233.6	200	241.5	75	125	Fail
205	Tl	209	183.543	4071754	0.36	0.6	200	91.5	75	125	
208	Pb	209	216.432	6462462	0.34	31.9	200	92.3	75	125	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	915406	0.48	904202	101.24	70	120	
72	Ge	649421	0.69	677615	95.84	70	120	
115	In	6109967	1.43	6287303	97.18	70	120	
209	Bi	12903975	0.27	14081817	91.64	70	120	

Matrix Spike Sample (MS) Report

Date Acquired	5/23/2016 18:44	Sample Name	1605098-17A MS
Data Batch	160523.b	Comment	MS ICPMS_TSDOD1
Data File Name	229_MSS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
7	Li	45	245.407	9912	1.20	63.5	200	90.9	80	120	
9	Be	45	183.756	9797	1.20	2.6	200	90.6	80	120	
11	B	45	264.437	5359	0.41	80.3	200	92.1	80	120	
23	Na	45	7174.420	5268271	1.31	2293.2	1000	488.1	80	120	Fail
24	Mg	45	21578.602	7924281	0.41	17067.5	1000	451.1	80	120	Fail
27	Al	45	73449.687	9971022	1.76	67547.0	1000	590.3	80	120	Fail
39	K	45	17030.683	6420161	0.54	11553.0	1000	547.8	80	120	Fail
44	Ca	45	########	10435537	0.94	492896.9	1000	2415.9	80	120	Fail
47	Ti	45	431.662	60619	0.40	226.8	200	102.4	80	120	
51	V	45	315.470	1436698	0.39	123.4	200	96.0	80	120	
52	Cr	45	240.485	1295166	0.59	58.7	200	90.9	80	120	
55	Mn	45	1028.607	3140090	0.53	796.8	200	115.9	80	120	
56	Fe	45	60916.868	278499953	2.48	57824.0	1000	309.3	80	120	Fail
59	Co	72	211.904	1752673	1.13	25.8	200	93.1	80	120	
60	Ni	72	231.766	509802	0.68	43.6	200	94.1	80	120	
63	Cu	72	202.245	1208133	0.14	18.7	200	91.8	80	120	
66	Zn	72	341.537	355100	0.31	156.8	200	92.3	80	120	
75	As	72	209.593	185692	0.35	20.6	200	94.5	80	120	
78	Se	72	190.555	10068	1.19	4.7	200	92.9	80	120	
88	Sr	115	1235.954	5090343	1.00	967.8	200	134.1	80	120	Fail
95	Mo	115	173.963	597384	0.32	2.7	200	85.7	80	120	
107	Ag	115	177.364	1893683	0.21	0.1	200	88.6	80	120	
111	Cd	115	177.668	286370	1.66	0.6	200	88.5	80	120	
118	Sn	115	182.219	628035	0.57	4.8	200	88.7	80	120	
121	Sb	115	52.580	282292	0.62	0.4	200	26.1	80	120	Fail
137	Ba	115	3769.018	6447260	0.13	3233.6	200	267.7	80	120	Fail
205	Tl	209	185.688	4124882	0.68	0.6	200	92.5	80	120	
208	Pb	209	213.139	6373391	1.01	31.9	200	90.6	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	901730	0.98	904202	99.73	70	120	
72	Ge	637011	1.51	677615	94.01	70	120	
115	In	5944419	1.29	6287303	94.55	70	120	
209	Bi	12923306	1.48	14081817	91.77	70	120	

Matrix Spike Sample (MS) Report

Date Acquired	5/23/2016 18:46	Sample Name	1605098-17A MSD
Data Batch	160523.b	Comment	MSD ICPMS_TSDOD1
Data File Name	230_MSS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
7	Li	45	235.748	9426	2.47	63.5	200	86.1	80	120	
9	Be	45	174.162	9192	1.49	2.6	200	85.8	80	120	
11	B	45	244.769	4923	5.95	80.3	200	82.2	80	120	
23	Na	45	6707.970	4878545	0.76	2293.2	1000	441.5	80	120	Fail
24	Mg	45	20630.659	7499758	0.80	17067.5	1000	356.3	80	120	Fail
27	Al	45	70563.328	9482179	1.71	67547.0	1000	301.6	80	120	Fail
39	K	45	15891.240	5933911	1.58	11553.0	1000	433.8	80	120	Fail
44	Ca	45	########	9887554	2.83	492896.9	1000	193.9	80	120	Fail
47	Ti	45	398.373	55379	0.41	226.8	200	85.8	80	120	
51	V	45	296.494	1336933	0.95	123.4	200	86.5	80	120	
52	Cr	45	230.456	1228633	0.32	58.7	200	85.9	80	120	
55	Mn	45	1019.155	3079935	0.39	796.8	200	111.2	80	120	
56	Fe	45	56798.007	257094141	1.24	57824.0	1000	-102.6	80	120	Fail
59	Co	72	198.711	1634483	0.29	25.8	200	86.5	80	120	
60	Ni	72	216.566	473791	0.81	43.6	200	86.5	80	120	
63	Cu	72	190.934	1134410	0.57	18.7	200	86.1	80	120	
66	Zn	72	334.563	345946	1.04	156.8	200	88.9	80	120	
75	As	72	197.923	174402	0.44	20.6	200	88.7	80	120	
78	Se	72	183.109	9624	2.82	4.7	200	89.2	80	120	
88	Sr	115	1105.940	4568420	1.02	967.8	200	69.1	80	120	Fail
95	Mo	115	163.600	563463	0.92	2.7	200	80.5	80	120	
107	Ag	115	170.266	1823298	0.48	0.1	200	85.1	80	120	
111	Cd	115	169.122	273383	0.46	0.6	200	84.3	80	120	
118	Sn	115	170.607	589774	0.27	4.8	200	82.9	80	120	
121	Sb	115	49.246	265188	0.24	0.4	200	24.4	80	120	Fail
137	Ba	115	3957.514	6790299	1.34	3233.6	200	361.9	80	120	Fail
205	Tl	209	178.932	3967516	0.57	0.6	200	89.2	80	120	
208	Pb	209	204.691	6108886	0.78	31.9	200	86.4	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	892585	0.27	904202	98.72	70	120	
72	Ge	633444	0.22	677615	93.48	70	120	
115	In	5962190	1.18	6287303	94.83	70	120	
209	Bi	12897887	0.43	14081817	91.59	70	120	

Continuing Calibration Verification (CCV) Report

Date Acquired	5/23/2016 18:48	Sample Name	CCV9-160523
Data Batch	160523.b	Comment	CCV ICPMS_TW
Data File Name	231_CCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	206.272	8358	0.43	200	103.1	90	110	
9	Be	45	198.307	10605	0.16	200	99.2	90	110	
11	B	45	192.878	3968	5.51	200	96.4	90	110	
23	Na	45	4984.259	3681924	0.64	5000	99.7	90	110	
24	Mg	45	4908.017	1809435	0.34	5000	98.2	90	110	
27	Al	45	4806.497	656618	0.89	5000	96.1	90	110	
39	K	45	5015.976	1935975	0.61	5000	100.3	90	110	
44	Ca	45	4895.834	100076	1.60	5000	97.9	90	110	
47	Ti	45	195.276	27509	1.87	200	97.6	90	110	
51	V	45	199.314	912072	1.39	200	99.7	90	110	
52	Cr	45	199.264	1076615	1.29	200	99.6	90	110	
55	Mn	45	195.545	598977	0.93	200	97.8	90	110	
56	Fe	45	5118.266	23485994	0.67	5000	102.4	90	110	
59	Co	72	199.345	1724754	0.73	200	99.7	90	110	
60	Ni	72	203.818	469075	0.41	200	101.9	90	110	
63	Cu	72	206.283	1289041	0.26	200	103.1	90	110	
66	Zn	72	200.744	218483	0.18	200	100.4	90	110	
75	As	72	198.593	184066	0.43	200	99.3	90	110	
78	Se	72	197.927	10935	0.41	200	99.0	90	110	
88	Sr	115	186.819	808325	0.82	200	93.4	90	110	
95	Mo	115	192.036	691990	0.79	200	96.0	90	110	
107	Ag	115	196.012	2195933	0.93	200	98.0	90	110	
111	Cd	115	189.344	320198	0.48	200	94.7	90	110	
118	Sn	115	189.573	685580	0.37	200	94.8	90	110	
121	Sb	115	190.345	1071956	0.41	200	95.2	90	110	
137	Ba	115	188.102	337728	0.62	200	94.1	90	110	
205	Tl	209	189.098	4483132	0.40	200	94.5	90	110	
208	Pb	209	188.063	6001421	0.85	200	94.0	90	110	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	904470	0.34	904202	100.03	70	120	
72	Ge	666291	0.31	677615	98.33	70	120	
115	In	6237747	1.35	6287303	99.21	70	120	
209	Bi	13791172	1.22	14081817	97.94	70	120	

Low Level Calibration Verification (LLCV) Report

Date Acquired	5/23/2016 18:52	Sample Name	LCVL9-160523
Data Batch	160523.b	Comment	LCVLICPMS_TW
Data File Name	233LCCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	10.970	442	7.31	10	109.7	70	130	
9	Be	45	1.227	66	5.46	1	122.7	70	130	
11	B	45	22.186	592	12.10	20	110.9	70	130	
23	Na	45	101.676	104966	0.52	100	101.7	70	130	
24	Mg	45	98.160	36865	1.45	100	98.2	70	130	
27	Al	45	98.791	15216	0.97	100	98.8	70	130	
39	K	45	115.035	95354	0.17	100	115.0	70	130	
44	Ca	45	105.226	2991	6.87	100	105.2	70	130	
47	Ti	45	5.132	701	1.80	5	102.6	70	130	
51	V	45	0.595	6748	3.21	1	59.5	70	130	Fail
52	Cr	45	5.155	28004	0.71	5	103.1	70	130	
55	Mn	45	5.017	15062	3.22	5	100.3	70	130	
56	Fe	45	101.292	460378	0.57	100	101.3	70	130	
59	Co	72	5.098	43360	1.41	5	102.0	70	130	
60	Ni	72	4.862	11744	2.90	5	97.2	70	130	
63	Cu	72	5.449	34873	0.92	5	109.0	70	130	
66	Zn	72	5.049	5732	4.30	5	101.0	70	130	
75	As	72	4.979	4705	1.87	5	99.6	70	130	
78	Se	72	5.709	397	7.31	5	114.2	70	130	
88	Sr	115	4.657	21123	1.41	5	93.1	70	130	
95	Mo	115	4.645	16700	2.77	5	92.9	70	130	
107	Ag	115	1.917	21417	2.53	2	95.8	70	130	
111	Cd	115	0.940	1586	5.05	1	94.0	70	130	
118	Sn	115	4.713	17461	1.58	5	94.3	70	130	
121	Sb	115	1.983	11253	3.46	2	99.2	70	130	
137	Ba	115	4.915	8873	2.07	5	98.3	70	130	
205	Tl	209	0.954	22334	0.61	1	95.4	70	130	
208	Pb	209	0.969	31072	1.47	1	96.9	70	130	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	874574	0.97	904202	96.72	70	120	
72	Ge	653380	0.25	677615	96.42	70	120	
115	In	6210096	0.60	6287303	98.77	70	120	
209	Bi	13595194	1.09	14081817	96.54	70	120	

Continuing Calibration Blank (CCB) Report

Date Acquired	5/23/2016 18:54	Sample Name	CCB9-160523
Data Batch	160523.b	Comment	CCB ICPMS_TW
Data File Name	234_CCB.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	MDL S	MDL Aq	QC Flag
7	Li	45	0.398	29	24.1	2	5	
9	Be	45	0.137	10	74.8	0.4	0.3	
11	B	45	3.282	233	7.1	10	10	
23	Na	45	-1.675	31821	0.9	50	100	
24	Mg	45	-2.805	916	9.0	50	100	
27	Al	45	-0.549	2140	1.8	50	10	
39	K	45	12.717	58243	0.6	50	100	
44	Ca	45	-0.597	918	1.6	50	100	
47	Ti	45	0.050	9	57.3	4	3	
51	V	45	-0.444	2171	7.1	4	3	
52	Cr	45	-0.035	922	12.6	2	2	
55	Mn	45	0.004	219	26.1	2	3	
56	Fe	45	1.857	19415	5.5	50	50	
59	Co	72	0.011	202	20.5	2	3	
60	Ni	72	-0.243	242	5.6	2	3	
63	Cu	72	0.191	2674	8.2	2	2	
66	Zn	72	-0.005	344	6.8	4	2	
75	As	72	-0.051	137	5.6	2	2	
78	Se	72	0.467	115	9.6	1	2	
88	Sr	115	0.032	1209	4.9	4	3	
95	Mo	115	0.005	52	44.8	2	2	
107	Ag	115	0.034	408	5.7	0.4	1	
111	Cd	115	0.012	23	37.8	0.4	0.3	
118	Sn	115	0.008	527	2.9	4	3	
121	Sb	115	0.032	311	25.3	2	0.8	
137	Ba	115	0.057	188	6.7	2	3	
205	Tl	209	0.006	178	10.7	2	0.5	
208	Pb	209	0.024	1327	8.8	0.4	0.3	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	874232	0.82	904202	96.69	70	120	
72	Ge	649042	0.16	677615	95.78	70	120	
115	In	6131473	0.40	6287303	97.52	70	120	
209	Bi	13488906	1.01	14081817	95.79	70	120	

Continuing Calibration Verification (CCV) Report

Date Acquired	5/23/2016 19:16	Sample Name	CCV10-160523
Data Batch	160523.b	Comment	CCV ICPMS_TW
Data File Name	245_CCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	199.337	7747	1.28	200	99.7	90	110	
9	Be	45	199.238	10219	0.46	200	99.6	90	110	
11	B	45	195.461	3855	0.92	200	97.7	90	110	
23	Na	45	4945.789	3504126	1.27	5000	98.9	90	110	
24	Mg	45	4916.061	1738188	0.86	5000	98.3	90	110	
27	Al	45	4788.192	627355	0.77	5000	95.8	90	110	
39	K	45	5057.076	1871568	0.46	5000	101.1	90	110	
44	Ca	45	4840.284	94900	0.93	5000	96.8	90	110	
47	Ti	45	195.231	26376	0.70	200	97.6	90	110	
51	V	45	199.312	874761	0.26	200	99.7	90	110	
52	Cr	45	199.590	1034256	0.93	200	99.8	90	110	
55	Mn	45	194.933	572673	0.89	200	97.5	90	110	
56	Fe	45	5120.463	22534128	1.01	5000	102.4	90	110	
59	Co	72	197.828	1657028	1.10	200	98.9	90	110	
60	Ni	72	203.309	453007	1.31	200	101.7	90	110	
63	Cu	72	204.165	1235230	0.28	200	102.1	90	110	
66	Zn	72	198.348	209015	0.47	200	99.2	90	110	
75	As	72	199.585	179099	0.27	200	99.8	90	110	
78	Se	72	195.020	10433	1.72	200	97.5	90	110	
88	Sr	115	188.208	785343	0.72	200	94.1	90	110	
95	Mo	115	190.716	662813	0.37	200	95.4	90	110	
107	Ag	115	193.487	2090714	0.12	200	96.7	90	110	
111	Cd	115	187.318	305519	0.54	200	93.7	90	110	
118	Sn	115	189.434	660717	0.41	200	94.7	90	110	
121	Sb	115	190.865	1036709	0.49	200	95.4	90	110	
137	Ba	115	187.444	324589	0.57	200	93.7	90	110	
205	Tl	209	189.891	4291810	0.41	200	94.9	90	110	
208	Pb	209	188.368	5730060	0.63	200	94.2	90	110	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	867483	0.62	904202	95.94	70	120	
72	Ge	645124	1.02	677615	95.21	70	120	
115	In	6015369	0.06	6287303	95.67	70	120	
209	Bi	13148061	1.32	14081817	93.37	70	120	

Low Level Calibration Verification (LLCV) Report

Date Acquired	5/23/2016 19:20	Sample Name	LCVL10-160523
Data Batch	160523.b	Comment	LCVLICPMS_TW
Data File Name	247LCCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	10.304	403	6.35	10	103.0	70	130	
9	Be	45	1.091	57	10.67	1	109.1	70	130	
11	B	45	21.776	566	10.38	20	108.9	70	130	
23	Na	45	99.894	100221	0.40	100	99.9	70	130	
24	Mg	45	96.772	35149	0.56	100	96.8	70	130	
27	Al	45	99.559	14801	2.40	100	99.6	70	130	
39	K	45	115.922	92466	0.74	100	115.9	70	130	
44	Ca	45	94.122	2681	8.72	100	94.1	70	130	
47	Ti	45	5.082	671	5.07	5	101.6	70	130	
51	V	45	0.539	6280	1.43	1	53.9	70	130	Fail
52	Cr	45	5.025	26408	1.46	5	100.5	70	130	
55	Mn	45	4.868	14130	0.86	5	97.4	70	130	
56	Fe	45	101.373	445253	0.46	100	101.4	70	130	
59	Co	72	5.045	41452	1.85	5	100.9	70	130	
60	Ni	72	5.567	12880	1.45	5	111.3	70	130	
63	Cu	72	5.331	32983	1.93	5	106.6	70	130	
66	Zn	72	5.200	5693	4.43	5	104.0	70	130	
75	As	72	4.980	4544	2.14	5	99.6	70	130	
78	Se	72	5.749	386	1.03	5	115.0	70	130	
88	Sr	115	4.851	20522	1.18	5	97.0	70	130	
95	Mo	115	4.845	16281	0.27	5	96.9	70	130	
107	Ag	115	1.931	20161	0.62	2	96.5	70	130	
111	Cd	115	0.957	1509	3.13	1	95.7	70	130	
118	Sn	115	4.915	17004	1.32	5	98.3	70	130	
121	Sb	115	1.962	10410	3.32	2	98.1	70	130	
137	Ba	115	4.951	8355	0.46	5	99.0	70	130	
205	Tl	209	0.951	21277	2.46	1	95.1	70	130	
208	Pb	209	0.960	29397	2.03	1	96.0	70	130	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	845188	0.99	904202	93.47	70	120	
72	Ge	631145	0.98	677615	93.14	70	120	
115	In	5807235	2.47	6287303	92.36	70	120	
209	Bi	12987126	1.24	14081817	92.23	70	120	

Continuing Calibration Blank (CCB) Report

Date Acquired	5/23/2016 19:22	Sample Name	CCB10-160523
Data Batch	160523.b	Comment	CCB ICPMS_TW
Data File Name	248_CCB.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	MDL S	MDL Aq	QC Flag
7	Li	45	0.289	24	52.0	2	5	
9	Be	45	0.043	5	65.5	0.4	0.3	
11	B	45	2.949	220	12.4	10	10	
23	Na	45	-2.949	29962	1.5	50	100	
24	Mg	45	-3.049	803	2.2	50	100	
27	Al	45	0.085	2155	3.9	50	10	
39	K	45	13.099	56581	1.1	50	100	
44	Ca	45	-3.492	835	8.4	50	100	
47	Ti	45	0.043	8	24.7	4	3	
51	V	45	-0.465	2015	6.5	4	3	
52	Cr	45	-0.061	761	4.6	2	2	
55	Mn	45	0.010	228	10.0	2	3	
56	Fe	45	1.816	18633	2.7	50	50	
59	Co	72	0.002	122	22.9	2	3	
60	Ni	72	-0.239	247	16.2	2	3	
63	Cu	72	0.067	1881	4.9	2	2	
66	Zn	72	-0.046	296	4.7	4	2	
75	As	72	-0.065	122	4.6	2	2	
78	Se	72	0.153	96	8.9	1	2	
88	Sr	115	0.049	1191	2.7	4	3	
95	Mo	115	0.004	48	42.6	2	2	
107	Ag	115	0.032	352	11.8	0.4	1	
111	Cd	115	0.004	10	120.2	0.4	0.3	
118	Sn	115	-0.024	384	12.9	4	3	
121	Sb	115	0.026	254	16.6	2	0.8	
137	Ba	115	0.040	147	11.8	2	3	
205	Tl	209	0.004	123	23.1	2	0.5	
208	Pb	209	0.013	950	10.9	0.4	0.3	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	847188	0.63	904202	93.69	70	120	
72	Ge	636476	0.11	677615	93.93	70	120	
115	In	5694698	2.98	6287303	90.57	70	120	
209	Bi	13081229	0.74	14081817	92.89	70	120	

Pmoist
For

DHL Work Order
1605074

PMOIST_160510B
For

DHL Work Order
1605074

DHL Analytical, Inc.

Run ID: **PMOIST_160510B** **Run No.:** 85746

Analytical Run Date: 5/10/2016 **InstrumentID:** Pmoist

Analyst: Will Boston

SampID	DF	TestCode	SampType	Batch ID	Analysis Date/Time	Q	Comments
1605071-19A	1	PMOIST	SAMP	75081	5/11/2016 9:30:00 AM		
1605071-20A	1	PMOIST	SAMP	75081	5/11/2016 9:30:00 AM		
1605071-21A	1	PMOIST	SAMP	75081	5/11/2016 9:30:00 AM		
1605071-22A	1	PMOIST	SAMP	75081	5/11/2016 9:30:00 AM		
1605071-23A	1	PMOIST	SAMP	75081	5/11/2016 9:30:00 AM		
1605071-24A	1	PMOIST	SAMP	75081	5/11/2016 9:30:00 AM		
1605071-25A	1	PMOIST	SAMP	75081	5/11/2016 9:30:00 AM		
1605071-26A	1	PMOIST	SAMP	75081	5/11/2016 9:30:00 AM		
1605071-27A	1	PMOIST	SAMP	75081	5/11/2016 9:30:00 AM		
1605071-30A	1	PMOIST	SAMP	75081	5/11/2016 9:30:00 AM		
1605074-28A	1	PMOIST	SAMP	75081	5/11/2016 9:30:00 AM		
1605074-29A	1	PMOIST	SAMP	75081	5/11/2016 9:30:00 AM		
1605074-30A	1	PMOIST	SAMP	75081	5/11/2016 9:30:00 AM		
1605074-31A	1	PMOIST	SAMP	75081	5/11/2016 9:30:00 AM		
1605074-32A	1	PMOIST	SAMP	75081	5/11/2016 9:30:00 AM		
1605090-01C	1	PMOIST	SAMP	75081	5/11/2016 9:30:00 AM		
1605090-02C	1	PMOIST	SAMP	75081	5/11/2016 9:30:00 AM		
1605090-03C	1	PMOIST	SAMP	75081	5/11/2016 9:30:00 AM		
1605090-04C	1	PMOIST	SAMP	75081	5/11/2016 9:30:00 AM		
1605090-05C	1	PMOIST	SAMP	75081	5/11/2016 9:30:00 AM		
1605090-05C-DUP	1	PMOIST	DUP	75081	5/11/2016 9:30:00 AM		



DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/10/2016 3:13:31 PM**
Digestion: **Start: 5/10/2016 4:45:00 PM / Stop: 5/11/2016 9:30:00 AM**
Prep End Date: **5/11/2016 1:41:13 PM**

Prep Batch **75081** Prep Code: **PMOIST_PREP** Technician: **Will Boston**

Prep Factor Units: **mL/g**

Equipment List

Oven #2
Balance #20
Thermometer # 81

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605071-19A	Soil		10	10	1.000	1 of 1	
1605071-20A	Soil		10	10	1.000	1 of 1	
1605071-21A	Soil		10	10	1.000	1 of 1	
1605071-22A	Soil		10	10	1.000	1 of 1	
1605071-23A	Soil		10	10	1.000	1 of 1	
1605071-24A	Soil		10	10	1.000	1 of 1	
1605071-25A	Soil		10	10	1.000	1 of 1	
1605071-26A	Soil		10	10	1.000	1 of 1	
1605071-27A	Soil		10	10	1.000	1 of 1	
1605071-30A	Soil		10	10	1.000	1 of 1	
proceed w/testing. V. high moisture see JD							
1605074-28A	Soil		10	10	1.000	1 of 1	
1605074-29A	Soil		10	10	1.000	1 of 1	
1605074-30A	Soil		10	10	1.000	1 of 1	
1605074-31A	Soil		10	10	1.000	1 of 1	
1605074-32A	Soil		10	10	1.000	1 of 1	
1605090-01C	Soil		10	10	1.000	1 of 1	
1605090-02C	Soil		10	10	1.000	1 of 1	
1605090-03C	Soil		10	10	1.000	1 of 1	
1605090-04C	Soil		10	10	1.000	1 of 1	
1605090-05C	Soil		10	10	1.000	1 of 1	
1605090-05C-DUP	Soil		10	10	1.000	of	

REVIEWED/APPROVED

By Sherri Herschmann at 2:36:07 PM, 5/11/2016

Percent Moisture - Bench Sheet

Enter ALL weights into the DHL LIMS - Single Analyte Worksheet

Method Requirements: Samples dried to constant weight (12-16 hours) at oven temperature of 110 ± 5°C

Constant Weight is achieved if 2nd weight is <0.1% of 1st weight

[(Final Weight - 2nd Weight) / (Final Weight)] x 100%

RUN ID:	160510 PMOIST B				
Date Started:	05/10/16	Date Ended:	05/11/16	Date Ended:	
Time Started:	16:45	Time Ended:	09:30	Time Ended:	
Analyst Start:	WB	Analyst End:	WB	Analyst End:	
Balance #	20	Balance #	20	Balance #	
Oven #	FISHER-2	Thermometer #	81	2nd Weighing - if 1st dry is <12 hrs	
		Correction Factor	0.0		
Initial Temperature	106.9	Final Temperature	107.9		

Sample ID	Tare Wt (g)	Tare + Sample (g)	Final Wt (g)	2nd Weight	<0.1% (Y/N)
SampID					
1605071-19A	0.99	13.12	10.51		
1605071-20A	1.01	13.38	10.99		
1605071-21A	1.02	12.73	10.46		
1605071-22A	1.01	13.08	10.16		
1605071-23A	1.01	13.79	11.29		
1605071-24A	1.00	12.67	11.03		
1605071-25A	1.01	12.94	11.39		
1605071-26A	1.02	13.55	11.68		
1605071-27A	1.02	12.46	11.18		
1605071-30A	1.02	13.19	9.36		
1605074-28A	1.01	12.77	9.91		
1605074-29A	1.01	12.12	9.68		
1605074-30A	1.01	12.96	9.56		
1605074-31A	1.02	12.29	9.33		
1605074-32A	1.02	12.85	10.79		
1605090-01C	1.00	13.53	12.50		
1605090-02C	1.00	12.35	10.97		
1605090-03C	1.00	12.38	10.91		
1605090-04C	1.01	13.26	11.88		
1605090-05C	1.02	13.02	12.14		
1605090-05C DUP	1.02	13.02	12.06		

Data Folder Contents	Review items	Check	2nd Level Review
Hard Copies MUST match LIMS data			
1. Is the Prep Batch Report included?	Prep Start/End Dates SampAmt=10, FinVol=10 20 field samples/batch, 1 DUP/batch	X	X
2. Is the Run Log included?	Test Code, Sample Type Batch ID, and Analysis Date/Time	X	
3. Is PMOIST bench sheet included?	Bench sheet vs. LIMS - Single Analyte Worksheet	X	
4. Is the RPD for the sample DUP ≤30%?	If RPD fails criteria, then state reason below:	X	

Analyst: WB Date: 5/11/16

Second-Level Review: Sherri Herschmann Date: 05/11/2016

REVIEWED/APPROVED

By Sherri Herschmann at 2:36:16 PM, 5/11/2016

F:\IC\Pmoist\PMOIST 2016\160510 PMOIST B

□ □□MM□□□□

□

□□□□d□□□□

□□□ □□□□□□□□	□□□□□□□	M□□r□x□	□□□ □□□□□ □□□□□□□□□□□□□□□□	□□r□□□□ □□□ □□□□□	□□□□□□□□□□□□			
					□□□□	□□□□□	M□□□	M□□□□
□□□□□□□010□0□□8□10□□□□	160□0□6□□0□	□□□□□	0□/0□/2016□	□	□	□□	□□	□
□□□□□□□1□2□□□□□□1□	160□0□6□□1□	□□□□□	0□/0□/2016□	□	□	□□	□□	□
□□□□□□□1□2□□□□□□2□	160□0□6□□2□	□□□□□	0□/0□/2016□	□	□	□□	□□	□
□□□□□□□1□2□□□□□□□□	160□0□6□□□□	□□□□□	0□/0□/2016□	□	□	□□	□□	□
□□□□□□□1□2□□□□□□□□	160□0□6□□□□	□□□□□	0□/0□/2016□	□	□	□□	□□	□
□□□0□□20160□0□□□□	160□0□6□□□□	□□□□□	0□/0□/2016□	□□□□□□1□2□□□□□1□	□	□□	□□	□
□□0□□20160□0□□□□	160□0□6□□6□	□ □□□r□	0□/0□/2016□	□	□	□□	□□	□
□□10□20160□0□□□□	160□0□6□□□□	□ □□□r□	0□/0□/2016□	□	□	□□	□□	□
□□□□□□□010□0□□□□	160□0□6□□8□	□□□□□	0□/0□/2016□	□	□	□□	□□	□
□□□□□□□010□0□□□□	160□0□6□□□□	□□□□□	0□/0□/2016□	□	□	□□	□□	□
□□□□□□□010□0□□□□	160□0□6□□0□	□□□□□	0□/0□/2016□	□	□	□□	□□	□
□□□□□□□010□0□□□□	160□0□6□□1□	□□□□□	0□/0□/2016□	□	□	□□	□□	□
□□□□□□□010□0□□□□	160□0□6□□2□	□□□□□	0□/0□/2016□	□	□	□□	□□	□
□□□□□□□010□0□□□□	160□0□6□□□□	□□□□□	0□/0□/2016□	□	□	□□	□□	□
□□1□□20160□08□□	160□0□6□□□□	□ □□□r□	0□/08/2016□	□	□	□□	□□	□
□□□□□□□010□0□□0□2□□□	160□0□6□□□□	□□□□□	0□/0□/2016□	□	□	□□	□□	□
□□□□□□□010□0□2□□□□□□	160□0□6□□6□	□□□□□	0□/0□/2016□	□	□	□□	□□	□
□□□□□□□010□0□□□6□□□	160□0□6□□□□	□□□□□	0□/0□/2016□	□	□	□□	□□	□
□□□□□□□010□0□□6□8□□□	160□0□6□□8□	□□□□□	0□/0□/2016□	□	□	□□	□□	□
□□□□□□□010□0□□8□10□□□	160□0□6□□□□	□□□□□	0□/0□/2016□	□	□	□□	□□	□
□□□□□□□010□0□□0□2□□□	160□0□6□□0□	□□□□□	0□/0□/2016□	□	□	□□	□□	□
□□□□□□□010□0□2□□□□□□	160□0□6□□1□	□□□□□	0□/0□/2016□	□	□	□□	□□	□
□□□□□□□010□0□□□6□□□	160□0□6□□2□	□□□□□	0□/0□/2016□	□	□	□□	□□	□
□□□□□□□010□0□□6□8□□□	160□0□6□□□□	□□□□□	0□/0□/2016□	□	□	□□	□□	□
□□□□□□□010□0□□8□10□□□	160□0□6□□□□	□□□□□	0□/0□/2016□	□	□	□□	□□	□
□□□□□□□010□0□□0□2□□□	160□0□6□□□□	□□□□□	0□/0□/2016□	□	□	□□	□□	□
□□□□□□□010□0□2□□□□□□	160□0□6□□6□	□□□□□	0□/0□/2016□	□	□	□□	□□	□
□□□□□□□010□0□□□6□□□	160□0□6□□□□	□□□□□	0□/0□/2016□	□	□	□□	□□	□
□□□□□□□010□0□□6□8□□□	160□0□6□□8□	□□□□□	0□/0□/2016□	□	□	□□	□□	□
□□□□□□□010□0□□8□10□□□	160□0□6□□□□	□□□□□	0□/0□/2016□	□	□	□□	□□	□
□□□□□□□010□06□0□2□□□	160□0□6□60□	□□□□□	0□/0□/2016□	□	□	□□	□□	□
□□□□□□□010□06□2□□□□□	160□0□6□61□	□□□□□	0□/0□/2016□	□	□	□□	□□	□
□□□□□□□010□06□□□6□□□	160□0□6□62□	□□□□□	0□/0□/2016□	□	□	□□	□□	□
□□□□□□□010□06□6□8□□□	160□0□6□6□□	□□□□□	0□/0□/2016□	□	□	□□	□□	□
□□□□□□□010□06□8□10□□□	160□0□6□6□□	□□□□□	0□/0□/2016□	□	□	□□	□□	□

□□r□□d□□□□□□□□□□□□□□□

□□□ □□□□□□□□	□□□□□□□	M□□r□x□	□□□ □□□□□ □□□□□□□□□□□□□□□□ □□□□□	□□r□□□□ □□□ □□□□	□□□□□□□□□□			
					□□ □□	□□□ □□	M□□□	M□□□□
□□□□□□010□06□02□□□□	160□0□6□6□□	□□□□□	0□/0□/2016□	□	□	□□	□□	□
□□□□□□010□06□2□□□□□	160□0□6□66□	□□□□□	0□/0□/2016□	□	□	□□	□□	□
□□□□□□010□06□□6□□□	160□0□6□6□□	□□□□□	0□/0□/2016□	□	□	□□	□□	□
□□□□□□010□06□6□8□□□	160□0□6□68□	□□□□□	0□/0□/2016□	□	□	□□	□□	□
□□□□□□010□06□8□10□□□	160□0□6□6□□	□□□□□	0□/0□/2016□	□	□	□□	□□	□
□□□□□□010□06□02□□□□	160□0□6□□0□	□□□□□	0□/0□/2016□	□	□	□□	□□	□
□□□□□□010□06□2□□□□□	160□0□6□□1□	□□□□□	0□/0□/2016□	□	□	□□	□□	□
□□□□□□010□06□□6□□□	160□0□6□□2□	□□□□□	0□/0□/2016□	□	□	□□	□□	□
□□□□□□010□06□6□8□□□	160□0□6□□□□	□□□□□	0□/0□/2016□	□	□	□□	□□	□
□□□□□□010□06□8□10□□□	160□0□6□□□□	□□□□□	0□/0□/2016□	□	□	□□	□□	□

□

□□□□□□□

1□M□□□□□□□□□□□□□□□

□□□□

□□□

□ □□**M**□□□ □□□□□□□□ □□ □□□□□□□ □□□□ □**M**□□ □□□□ □□□□□□□□□□□□□□

□

□

1□□□ □□□**d**□□□□□□□□ □□□□

□

□□□□□□□□□□□□□d□□□□d□□□□□□□□ □□□□□r□□□□□□□□□□□□ □□□□□□□ □□□□d□□□r□□□r□□□□□□□d□□□□□□□□□□□□□

□□□ □□□□□□□□□□□□□□□□	□□□ □□□□d□	M□□ □□□□□□r□□	M□□□□ □□□□□□r□□
□□ □□□ □010□0□□□6□□□	□□□r□□□□□□	□□□□□□□□□□10□ □	□□□

□□□ □□□□□□□□□□□□

□

□□□□r□□r□□□□d□□□□□□□□□□□□□□□□□□□□M□/M□□r□□□□□r□□□r□□□r□□□□□d□□□□□□□□□□□□□□□□□□□

□□□

□□□

□ □□□□

M□□□□□□□□□□□□□□□

□

□

1□□□ □□□d□□□□□□□□ □□□□

□

□□□□□□□□□□□□d□□□□d□□□□□□□ □□□□□r□□□□□□□□□□□ □□□□□□ □□□□d□□□r□□□□r□□□□□□□d□□□□□□□□□□□□□□□

□

□□□□□r□□□r□□□□□□□d□□□□□□□□□□□□□□□□□M□/M□□□r□□□□□□r□□□□□r□□□r□□□□□□□d□□□□□□□□□□□□□□□□□

□□□

M 2 818

MM

r		d	r	
160 0 6	010 06			
	010 06			
	010 06			
	00 1			
	00 2			
	00			
	00			
	00			
	00 1			
	00 2			
	00			
	00			
	010 01			
	010 01			
	010 01			
	010 0 0 2			
	010 0 2			
	010 0 6			
	010 0 6 8			
	010 0 8 10			
	010 0 0 2			
	010 0 2			
	010 0 6			
	010 0 6 8			
	010 0 8 10			
	010 0 0 2			
	010 0 2			
	010 0 6			
	010 0 6 8			
	010 0 8 10			
	1 2 1			
	1 2 2			
	1 2			
	1 2			
	0 20160 0			
	0 20160 0			
	10 20160 0			
	010 0			
	010 0			
	010 0			
	010 0			
	010 0			
	010 0			
	1 20160 08			
	010 0 0 2			
	010 0 2			
	010 0 6			
	010 0 6 8			
	010 0 8 10			
	010 0 0 2			
	010 0 2			
	010 0 6	r		M /M /
	010 0 6 8			
	010 0 8 10			
	010 0 0 2			
	010 0 2			
	010 0 6			
	010 0 6 8			
	010 0 8 10			
	010 06 0 2			
	010 06 2			

□□□ □□□□ □□□□r□□ □r□□□□□□	□□□ □□□□□	□□□ □□□□d	□ □□□□□r	□□□□□□
	□□ □ □□ □010□06□□6□□	□□□□	□□	□□
	□□ □ □□ □010□06□6□8□□	□□□□	□□	□□
	□□ □ □□ □010□06□8□10□□	□□□□	□□	□□
	□□ □ □□ □010□06□0□2□□	□□□□	□□	□□
	□□ □ □□ □010□06□2□□□□	□□□□	□□	□□
	□□ □ □□ □010□06□□6□□	□□□□	□□	□□
	□□ □ □□ □010□06□6□8□□	□□□□	□□	□□
	□□ □ □□ □010□06□8□10□□	□□□□	□□	□□
	□□ □ □□ □010□06□0□2□□	□□□□	□□	□□
	□□ □ □□ □010□06□2□□□□	□□□□	□□	□□
	□□ □ □□ □010□06□□6□□	□□□□	□□	□□
	□□ □ □□ □010□06□6□8□□	□□□□	□□	□□
	□□ □ □□ □010□06□8□10□□	□□□□	□□	□□
M□□□□□□				
160□0□6	□□ □ □□ □010□06□□	□□□□	□□	□□
	□□ □ □□ □010□06□□	□□□□	□□	□□
	□□ □ □□ □010□06□□	□□□□	□□	□□
	□□ □ □□ □00□□□□□□□1	□□□□	□□	□□
	□□ □ □□ □00□□□□□□□2	□□□□	□□	□□
	□□ □ □□ □00□□□□□□□□	□□□□	□□	□□
	□□ □ □□ □00□□□□□□□□	□□□□	□□	□□
	□□ □ □□ □00□□□□□□□□	□□□□	□□	□□
	□□ □ □□ □00□□□□□□□1	□□□□	□□	□□
	□□ □ □□ □00□□□□□□□2	□□□□	□□	□□
	□□ □ □□ □00□□□□□□□□	□□□□	□□	□□
	□□ □ □□ □00□□□□□□□□	□□□□	□□	□□
	□□ □ □□ □010□01□□	□□□□	□□	□□
	□□ □ □□ □010□01□□	□□□□	□□	□□
	□□ □ □□ □010□01□□	□□□□	□□	□□
	□□ □ □□ □010□0□□0□2□□	□□□□	□□	□□
	□□ □ □□ □010□0□□2□□□□	□□□□	□□	□□
	□□ □ □□ □010□0□□□□6□□	□□□□	□□	□□
	□□ □ □□ □010□0□□6□8□□	□□□□	□□	□□
	□□ □ □□ □010□0□□8□10□□	□□□□	□□	□□
	□□ □ □□ □010□0□□0□2□□	□□□□	□□	□□
	□□ □ □□ □010□0□□2□□□□	□□□□	□□	□□
	□□ □ □□ □010□0□□□□6□□	□□□□	□□	□□
	□□ □ □□ □010□0□□6□8□□	□□□□	□□	□□
	□□ □ □□ □010□0□□8□10□□	□□□□	□□	□□
	□□ □ □□ □010□0□□0□2□□	□□□□	□□	□□
	□□ □ □□ □010□0□□2□□□□	□□□□	□□	□□
	□□ □ □□ □010□0□□□□6□□	□□□□	□□	□□
	□□ □ □□ □010□0□□6□8□□	□□□□	□□	□□
	□□ □ □□ □010□0□□8□10□□	□□□□	□□	□□
	□□ □ □□ □1□2□□□□□□1	□□□□	□□	□□
	□□ □ □□ □1□2□□□□□□2	□□□□	□□	□□
	□□ □ □□ □1□2□□□□□□□	□□□□	□□	□□
	□□ □ □□ □1□2□□□□□□□	□□□□	□□	□□
	□□□□0□□20160□0□□	□□□□	□□	□□
	□□0□□20160□0□□	□□□□	□□	□□
	□□10□20160□0□□	□□□□	□□	□□
	□□ □ □□ □010□0□□□	□□□□	□□	□□
	□□ □ □□ □010□0□□□	□□□□	□□	□□
	□□ □ □□ □010□0□□□	□□□□	□□	□□
	□□ □ □□ □010□0□□□	□□□□	□□	□□
	□□ □ □□ □010□0□□□	□□□□	□□	□□
	□□ □ □□ □010□0□□□	□□□□	□□	□□
	□□1□□20160□08□	□□□□	□□	□□
	□□ □ □□ □010□0□□0□2□□	□□□□	□□	□□
	□□ □ □□ □010□0□□2□□□□	□□□□	□□	□□
	□□ □ □□ □010□0□□□□6□□	□□□□	□□	□□
	□□ □ □□ □010□0□□6□8□□	□□□□	□□	□□
	□□ □ □□ □010□0□□8□10□□	□□□□	□□	□□

□□□ □□□□ □□□□□□□r□□□ □r□□□□□□□□□	□□□ □□□□□□□□	□□□ □□□□□d	□ □□□□□□□r	□□□□□□□
	□□□□□□□010□0□□0□2□□□	□□□□	□□	□□
	□□□□□□□010□0□□2□□□□□	□□□□	□□	□□
	□□□□□□□010□0□□□6□□□	□□□□	□□	□□
	□□□□□□□010□0□□6□8□□□	□□□□	□□	□□
	□□□□□□□010□0□□8□10□□□	□□□□	□□	□□
	□□□□□□□010□0□□0□2□□□	□□□□	□□	□□
	□□□□□□□010□0□□2□□□□□	□□□□	□□	□□
	□□□□□□□010□0□□□6□□□	□□□□	□□	□□
	□□□□□□□010□0□□6□8□□□	□□□□	□□	□□
	□□□□□□□010□0□□8□10□□□	□□□□	□□	□□
	□□□□□□□010□06□0□2□□□	□□□□d	□□	M□□□□□ □
	□□□□□□□010□06□2□□□□□	□□□□d	□□	M□□□□□ □
	□□□□□□□010□06□□□6□□□	□□□□d	□□	M□□□□□ □
	□□□□□□□010□06□6□8□□□	□□□□d	□□	M□□□□□ □
	□□□□□□□010□06□8□10□□□	□□□□d	□□	M□□□□□ □
	□□□□□□□010□06□0□2□□□	□□□□d	□□	M□□□□□ □
	□□□□□□□010□06□2□□□□□	□□□□d	□□	M□□□□□ □
	□□□□□□□010□06□□□6□□□	□□□□d	□□	M□□□□□ □
	□□□□□□□010□06□6□8□□□	□□□□d	□□	M□□□□□ □
	□□□□□□□010□06□8□10□□□	□□□□d	□□	M□□□□□ □
	□□□□□□□010□06□0□2□□□	□□□□d	□□	M□□□□□ □
	□□□□□□□010□06□2□□□□□	□□□□d	□□	M□□□□□ □
	□□□□□□□010□06□□□6□□□	□□□□d	□□	M□□□□□ □
	□□□□□□□010□06□6□8□□□	□□□□d	□□	M□□□□□ □
	□□□□□□□010□06□8□10□□□	□□□□d	□□	M□□□□□ □

DHL ANALYTICAL
2300 Double Creek Dr. ■ Round Rock, TX 78664
Phone (512) 388-8222 ■ FAX (512) 388-8229
Web: www.dhlanalytical.com
E-Mail: login@dhlanalytical.com

№ 70079

CHAIN-OF-CUSTODY

CLIENT: Aeradis
ADDRESS: 8725 Rosehill, Suite 350 Lenexa, KS 66215
PHONE: 913 645 3203 FAX/E-MAIL: alex.walter@aeradis.com
DATA REPORTED TO: Alex Walter
ADDITIONAL REPORT COPIES TO: Erika.Ahlenberger@aeradis.com

DATE: MAY 7, 2016 PAGE 1 OF 5
PO #: 042850B1.0000.0044 DHL WORK ORDER #: 1600509LQ
PROJECT LOCATION OR NAME: Laredo SGR
CLENT PROJECT #: 042850B1.0000.0044 COLLECTOR: G. Ferguson

Authorize 5% surcharge for TRRP Report? ☐ Yes ☐ No

S=SOIL W=WATER A=AIR L=LIQUID SE=SEDIMENT P=PAINT SL=SLUDGE O=OTHER SO=SOLID

PRESERVATION: HCl, HNO_3, H_2SO_4 ☐ NaOH ☐, ICE, UNPRESERVED

ANALYSES: BTEX ☐ MTBE ☐ [METHOD 8021] TPH 1005 ☐ TPH 1006 ☐ HOLD 1006 ☐ GRO [METHOD 8015] ☐ DRO [METHOD 8105] ☐ VOC 8260 ☐ VOC 624 ☐ VOC 8260/5035 ☐ SVOC 8270 ☐ PAH 8270 ☐ HOLD PAH ☐ SVOC 625 ☐ 8270 PEST ☐ 625 PEST/PCB ☐ 608 PCB ☐ 8270 PCB ☐ 8270 O-P PEST ☐ 8082 PCB ☐ 8270 PCB ☐ 8321 HERB ☐ T PHOS, AMMONIA ☐ METALS 6020 ☐ METALS 200.8 ☐ DISS. METALS ☐ RCRA ☐ TX11 ☐ Lead PH ☐ HEX CHROM ☐ ALKALINITY ☐ COD ☐ CHLORIDE ☐ ANIONS ☐ TCLP-SVOC ☐ VOC ☐ PEST ☐ HERB ☐ TCLP-METALS ☐ RCRA 8 ☐ TX-11 ☐ Pb ☐ RCI ☐ FLASHPOINT ☐ DGAS ☐ TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐

Field Sample I.D.	DHL Lab #	Date	Time	Matrix	Container Type	# of Containers	HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESERVED	FIELD NOTES
SGR-DU010-06-A	01	5-7-16	0840	S	Bag	1				X		
SGR-DU010-06-B	02	5-7-16	0905	S	Bag	1				X		
SGR-DU010-06-C	03	5-7-16	0935	S	Bag	1				X		
SGR-DU009-STRAT 1	04	5-7-16	1000	S	4oz Jar	1				X		
SGR-DU009-STRAT 2	05	5-7-16	1005	S	4oz Jar	1				X		
SGR-DU009-STRAT 3	06	5-7-16	1040	S	4oz Jar	1				X		
SGR-DU009-STRAT 4	07	5-7-16	1015	S	4oz Jar	1				X		
SGR-DU009-STRAT 5	08	5-7-16	1020	S	4oz Jar	1				X		
SGR-DU003-STRAT 1	09	5-7-16	0915	S	4oz Jar	1				X		
SGR-DU003-STRAT 2	10	5-7-16	0920	S	4oz Jar	1				X		
SGR-DU003-STRAT 3	11	5-7-16	0925	S	4oz Jar	1				X		
SGR-DU003-STRAT 4	12	5-7-16	0930	S	4oz Jar	1				X		
SGR-DU010-01-A	13	5-7-16	1030	S	Bag	1				X		
SGR-DU010-01-B	14	5-7-16	1050	S	Bag	1				X		
SGR-DU010-01-C	15	5-7-16	1110	S	Bag	1				X		

RELINQUISHED BY: (Signature) DATE/TIME 5-9-16/1800 RECEIVED BY: (Signature) FedEx
RELINQUISHED BY: (Signature) FedEx DATE/TIME 5/10/16 10:00 RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature) DATE/TIME RECEIVED BY: (Signature)

☐ DHL DISPOSAL @ $5.00 each ☐ Return

3

TURN AROUND TIME
RUSH ☐ CALL FIRST
1 DAY ☐ CALL FIRST
2 DAY ☐
NORMAL ☒
OTHER ☐ _____

LABORATORY USE ONLY:
RECEIVING TEMP: 1.4 THERM #: 78
CUSTODY SEALS: ☐ BROKEN ☒ INTACT ☐ NOT USED
CARRIER: ☐ LONE STAR ☒ FEDEX ☐ UPS ☐ OTHER
☐ COURIER DELIVERY
☐ HAND DELIVERED
0.9°C/0.7°C/2.5°C/0.6°C/1.6°C
2.3°C/1.1°C/1.3°C/1.8°C/1.5°C
2.2°C/3.0°C/1.6°C/1.0°C/3.5°C/4.0°C/0.5°

DHL ANALYTICAL
2300 Double Creek Dr. ■ Round Rock, TX 78664
Phone (512) 388-8222 ■ FAX (512) 388-8229
Web: www.dhlanalytical.com
E-Mail: login@dhlanalytical.com

№ 71114

CHAIN-OF-CUSTODY

CLIENT: Arcadis
ADDRESS: 8725 Rosehill, Suite 350 Lenexa, KS 66215
PHONE: 913 645 3203 FAX/E-MAIL: Alex.Walter@arcadis.com
DATA REPORTED TO: a/k/a Walter
ADDITIONAL REPORT COPIES TO: Erika.Donkerger@arcadis.com

DATE: May 7, 2016 PAGE 1 OF 5
PO #: 04295081.0000.00044 DHL WORK ORDER #: 1605016
PROJECT LOCATION OR NAME: Laredo SGR
CLENT PROJECT #: 04295081.0000.00044 COLLECTOR: G. Ferguson

Authorize 5% surcharge for TRRP Report? ☐ Yes ☐ No

S=SOIL P=PAINT
W=WATER SL=SLUDGE
A=AIR O=OTHER
L=LIQUID SO=SOLID
SE=SEDIMENT

PRESERVATION: HCl | HNO_3 | H_2SO_4 ☐ NaOH ☐ | ICE | UNPRESERVED

ANALYSES: BTEX ☐ MTBE ☐ (METHOD 8021) | TPH 1005 ☐ TPH 1006 ☐ HOLD 1006 ☐ | GRO (METHOD 8015) ☐ DRO (METHOD 8105) ☐ | VOC 8260 ☐ VOC 624 ☐ VOC 8260/5035 ☐ | SVOC 8270 ☐ PAH 8270 ☐ HOLD PAH ☐ SVOC 625 ☐ | 8270 PEST ☐ 625 PEST/PCB ☐ 608 PCB ☐ | 8270 O-P PEST ☐ 8082 PCB ☐ 8270 PCB ☐ | 8321 HERB ☐ T PHOS, AMMONIA ☐ | METALS 6020 ☐ METALS 200.8 ☐ DISS. METALS ☐ | RCRA ☐ TX11 ☐ LEAD | PH ☐ HEX CHROM ☐ ALKALINITY ☐ COD ☐ | CHLORIDE ☐ ANIONS ☐ | TCLP-SVOC ☐ VOC ☐ PEST ☐ HERB ☐ | TCLP-METALS ☐ RCRA 8 ☐ TX-11 ☐ Pb ☐ | RCI ☐ FLASHPOINT ☐ DGAS ☐ | TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐

Field Sample I.D.	DHL Lab #	Date	Time	Matrix	Container Type	# of Containers	HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESERVED	ANALYSES	FIELD NOTES
SGR-DU010-03(0-2)-A	16	5-7-16	1034	S	Bag	1				X		X X	
SGR-DU010-03(2-4)-A	17	5-7-16	1036	S	Bag	1				X		X X	
SGR-DU010-03(4-6)-A	18	5-7-16	1039	S	Bag	1				X		X X	
SGR-DU010-03(6-8)-A	19	5-7-16	1042	S	Bag	1				X		X X	
SGR-DU010-03(8-10)-A	20	5-7-16	1044	S	Bag	1				X		X X	
SGR-DU010-03(0-2)-B	21	5-7-16	1046	S	Bag	1				X		X X	
SGR-DU010-03(2-4)-B	22	5-7-16	1049	S	Bag	1				X		X X	
SGR-DU010-03(4-6)-B	23	5-7-16	1052	S	Bag	1				X		X X	
SGR-DU010-03(6-8)-B	24	5-7-16	1055	S	Bag	1				X		X X	
SGR-DU010-03(8-10)-B	25	5-7-16	1057	S	Bag	1				X		X X	
SGR-DU010-03(0-2)-C	26	5-7-16	1100	S	Bag	1				X		X X	
SGR-DU010-03(2-4)-C	27	5-7-16	1102	S	Bag	1				X		X X	
SGR-DU010-03(4-6)-C	28	5-7-16	1105	S	Bag	1				X		X X	
SGR-DU010-03(6-8)-C	29	5-7-16	1109	S	Bag	1				X		X X	
SGR-DU010-03(8-10)-C	30	5-7-16	1110	S	Bag	1				X		X X	

RELINQUISHED BY: (Signature) DATE/TIME 5-5-16 1820 RECEIVED BY: (Signature) FedEx
RELINQUISHED BY: (Signature) DATE/TIME 5/10/16 10:00 RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature) DATE/TIME RECEIVED BY: (Signature)

☐ DHL DISPOSAL @ $5.00 each ☐ Return

TURN AROUND TIME
RUSH ☐ CALL FIRST
1 DAY ☐ CALL FIRST
2 DAY ☐
NORMAL ☒
OTHER ☐ _____

LABORATORY USE ONLY:
RECEIVING TEMP: 1.4 THERM #: 78
CUSTODY SEALS: ☐ BROKEN ☒ INTACT ☐ NOT USED
CARRIER: ☐ LONE STAR ☒ FEDEX ☐ UPS ☐ OTHER
☐ COURIER DELIVERY
☐ HAND DELIVERED

DHL ANALYTICAL
2300 Double Creek Dr. ■ Round Rock, TX 78664
Phone (512) 388-8222 ■ FAX (512) 388-8229
Web: www.dhlanalytical.com
E-Mail: login@dhlanalytical.com

№ 70021

CHAIN-OF-CUSTODY

CLIENT: Arcadis
ADDRESS: 8725 Rosehill, Suite 350, Lenexa, KS 66215
PHONE: 913 645 3203 FAX/E-MAIL: alex.walter@arcadis.com
DATA REPORTED TO: Alex Walter
ADDITIONAL REPORT COPIES TO: Erika.Denkenberger@arcadis.com

DATE: MAY 7, 2016 PAGE 3 OF 5
PO #: 04295081.0000.0044 DHL WORK ORDER #: 1600596
PROJECT LOCATION OR NAME: Laredo SGR
CLENT PROJECT #: 04295081.0000.0044 COLLECTOR: G. Ferguson

Authorize 5% surcharge for TRRP Report? ☐ Yes ☐ No

S=SOIL W=WATER A=AIR L=LIQUID SE=SEDIMENT P=PAINT SL=SLUDGE O=OTHER SO=SOLID

PRESERVATION: HCl | HNO_3 | H_2SO_4 ☐ NaOH ☐ | ICE | UNPRESERVED

ANALYSES: BTEX ☐ MTBE ☐ [METHOD 8021] | TPH 1005 ☐ TPH 1006 ☐ HOLD 1006 ☐ | GRO [METHOD 8015] ☐ DRO [METHOD 8105] ☐ | VOC 8260 ☐ VOC 624 ☐ VOC 8260/5035 ☐ | SVOC 8270 ☐ PAH 8270 ☐ HOLD PAH ☐ SVOC 625 ☐ | 8270 PEST ☐ 625 PEST/PCB ☐ 608 PCB ☐ 8270 PCB ☐ | 8270 O-P PEST ☐ 8082 PCB ☐ 8270 PCB ☐ | 8321 HERB ☐ T PHOS, AMMONIA ☐ | METALS 6020 ☐ METALS 200.8 ☐ DISS. METALS ☐ | RCRA ☐ TX11 ☐ LEAD | PH ☐ HEX CHROM ☐ ALKALINITY ☐ COD ☐ | CHLORIDE ☐ ANIONS ☐ | TCLP-SVOC ☐ VOC ☐ PEST ☐ HERB ☐ | TCLP-METALS ☐ RCRA 8 ☐ TX-11 ☐ Pb ☐ | RCI ☐ FLASHPOINT ☐ DGAS ☐ | TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐

Field Sample I.D.	DHL Lab #	Date	Time	Matrix	Container Type	# of Containers	HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESERVED	ANALYSES	FIELD NOTES
SGR-DU132-SMAT 1	31	5-7-16	1300	S	4oz Jar	1				X		BTEX, 8270 PAH, METALS 6020, LEAD	
SGR-DU132-SMAT 2	32	5-7-16	1305	S	4oz Jar	1				X		BTEX, 8270 PAH, METALS 6020, LEAD	
SGR-DU132-SMAT 3	33	5-7-16	1310	S	4oz Jar	1				X		BTEX, 8270 PAH, METALS 6020, LEAD	
SGR-DU132-SMAT 4	34	5-7-16	1315	S	4oz Jar	1				X		BTEX, 8270 PAH, METALS 6020, LEAD	
DUP 03 (20160507)	35	5-7-16	1330	S	4oz Jar	1				X		BTEX, 8270 PAH, METALS 6020, LEAD	
EB09 (20160507)	36	5-7-16	1130	W	Glass/Poly	2		X		X		BTEX, 8270 PAH, METALS 6020, LEAD	
EB10 (20160507)	37	5-7-16	1440	W	Glass/Poly	2		X		X		BTEX, 8270 PAH, METALS 6020, LEAD	
SGR-DU010-04-A	38	5-7-16	1535	S	Glass/Poly Bag	1		X		X		BTEX, 8270 PAH, METALS 6020, LEAD	
SGR-DU010-04-B	39	5-7-16	1550	S	Bag	1				X		BTEX, 8270 PAH, METALS 6020, LEAD	
SGR-DU010-04-C	40	5-7-16	1610	S	Bag	1				X		BTEX, 8270 PAH, METALS 6020, LEAD	
SGR-DU010-03-A	41	5-7-16	1315	S	Bag	1				X		BTEX, 8270 PAH, METALS 6020, LEAD	
SGR-DU010-03-B	42	5-7-16	1345	S	Bag	1				X		BTEX, 8270 PAH, METALS 6020, LEAD	
SGR-DU010-03-C	43	5-7-16	1405	S	Bag	1				X		BTEX, 8270 PAH, METALS 6020, LEAD	
EB11 (20160508)	44	5-8-16	1500	W	Glass/Poly	2	X			X		BTEX, 8270 PAH, METALS 6020, LEAD	

RELINQUISHED BY: (Signature) DATE/TIME 5-9-16/1900 RECEIVED BY: (Signature) FedEx
RELINQUISHED BY: (Signature) DATE/TIME 5/10/16 10:00 RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature) DATE/TIME RECEIVED BY: (Signature)

☐ DHL DISPOSAL @ $5.00 each ☐ Return

TURN AROUND TIME
RUSH ☐ CALL FIRST
1 DAY ☐ CALL FIRST
2 DAY ☐
NORMAL ☒
OTHER ☐ _____

LABORATORY USE ONLY:
RECEIVING TEMP: 1.4 THERM #: 78
CUSTODY SEALS: ☐ BROKEN ☒ INTACT ☐ NOT USED
CARRIER: ☐ LONE STAR ☒ FEDEX ☐ UPS ☐ OTHER
☐ COURIER DELIVERY
☐ HAND DELIVERED

DHL ANALYTICAL
2300 Double Creek Dr. ■ Round Rock, TX 78664
Phone (512) 388-8222 ■ FAX (512) 388-8229
Web: www.dhlanalytical.com
E-Mail: login@dhlanalytical.com

№ 71115

CHAIN-OF-CUSTODY

CLIENT: Arcadis
ADDRESS: 8725 Rosehill, Suite 350, Lenexa, KS 66215
PHONE: 913 645 3203 FAX/E-MAIL: Alex.Walter@arcadis.com
DATA REPORTED TO: Alex Walter
ADDITIONAL REPORT COPIES TO: Erika.Denkenberger@arcadis.com

DATE: May 7, 2016 PAGE 4 OF 5
PO #: 04285081.0000.00044 DHL WORK ORDER #: 1160596
PROJECT LOCATION OR NAME: Laredo SGR
CLENT PROJECT #: 04285081.0000.00044 COLLECTOR: G. Ferguson

Authorize 5% surcharge for TRRP Report? ☐ Yes ☐ No

S=SOIL P=PAINT
W=WATER SL=SLUDGE
A=AIR O=OTHER
L=LIQUID SO=SOLID
SE=SEDIMENT

Field Sample I.D.	DHL Lab #	Date	Time	Matrix	Container Type	# of Containers	PRESERVATION: HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESERVED	ANALYSES: BTEX ☐ MTBE ☐ (METHOD 8021)	TPH 1005 ☐ TPH 1006 ☐ HOLD 1006 ☐	GRO (METHOD 8015) ☐ DRO (METHOD 8105) ☐	VOC 8260 ☐ VOC 624 ☐ VOC 8260/5035 ☐	SVOC 8270 ☐ PAH 8270 ☐ HOLD PAH ☐ SVOC 625 ☐	8270 PEST ☐ 625 PEST/PCB ☐ 608 PCB ☐ 8270 PCB ☐	8270 O-P PEST ☐ 8082 PCB ☐ 8270 PCB ☐	8321 HERB ☐ T PHOS, AMMONIA ☐	METALS 6020 ☐ METALS 200.8 ☐ DISS. METALS ☐	RCRA ☐ TX11 ☐ LEAD	PH ☐ HEX CHROM ☐ ALKALINITY ☐ COD ☐	CHLORIDE ☐ ANIONS	TCLP-SVOC ☐ VOC ☐ PEST ☐ HERB ☐	TCLP-METALS ☐ RCRA 8 ☐ TX-11 ☐ Pb ☐	RCI ☐ FLASHPOINT ☐ DGAS ☐	TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐	FIELD NOTES
SGR-DU010-04(0-2)-A	45	5-7-16	1348	S	Bag	1				X					X						X							
SGR-DU010-04(2-4)-A	46	5-7-16	1350	S	Bag	1				X					X						X							
SGR-DU010-04(4-6)-A	47	5-7-16	1353	S	Bag	1				X					X						X							
SGR-DU010-04(6-8)-A	48	5-7-16	~~1358~~ 1355	S	Bag	1				X					X						X							Time = 1355
SGR-DU010-04(8-10)-A	49	5-7-16	~~1400~~ 1358	S	Bag	1				X					X						X							Time = 1358
SGR-DU010-04(0-2)-B	50	5-7-16	1402	S	Bag	1				X					X						X							
SGR-DU010-04(2-4)-B	51	5-7-16	1402	S	Bag	1				X					X						X							
SGR-DU010-04(4-6)-B	52	5-7-16	~~1414~~ 1406	S	Bag	1				X					X						X							
SGR-DU010-04(6-8)-B	53	5-7-16	1416	S	Bag	1				X					X						X							
SGR-DU010-04(8-10)-B	54	5-7-16	1418	S	Bag	1				X					X						X							
SGR-DU010-04(0-2)-C	55	5-7-16	1425	S	Bag	1				X					X						X							
SGR-DU010-04(2-4)-C	56	5-7-16	1428	S	Bag	1				X					X						X							
SGR-DU010-04(4-6)-C	57	5-7-16	1433	S	Bag	1				X					X						X							
SGR-DU010-04(6-8)-C	58	5-7-16	1435	S	Bag	1				X					X						X							
SGR-DU010-04(8-10)-C	59	5-7-16	1438	S	Bag	1				X					X						X							

RELINQUISHED BY: (Signature) DATE/TIME 5-9-16/1800 RECEIVED BY: (Signature) Fedex
RELINQUISHED BY: (Signature) DATE/TIME RECEIVED BY: (Signature)
Fedex 5-10-16 10:00 Stovall
RELINQUISHED BY: (Signature) DATE/TIME RECEIVED BY: (Signature)

☐ DHL DISPOSAL @ $5.00 each ☐ Return

TURN AROUND TIME
RUSH ☐ CALL FIRST
1 DAY ☐ CALL FIRST
2 DAY ☐
NORMAL ☒
OTHER ☐

LABORATORY USE ONLY:
RECEIVING TEMP: 1.4 THERM #: 78
CUSTODY SEALS: ☐ BROKEN ☒ INTACT ☐ NOT USED
CARRIER: ☐ LONE STAR ☒ FEDEX ☐ UPS ☐ OTHER
☐ COURIER DELIVERY
☐ HAND DELIVERED

DHL ANALYTICAL
2300 Double Creek Dr. ■ Round Rock, TX 78664
Phone (512) 388-8222 ■ FAX (512) 388-8229
Web: www.dhlanalytical.com
E-Mail: login@dhlanalytical.com

№ 71116

CHAIN-OF-CUSTODY

CLIENT: Arcadis
ADDRESS: 8725 Rosehill, Suite 350 Lenexa, KS 66215
PHONE: 913-645-3203 FAX/E-MAIL: alex.walter@arcadis.com
DATA REPORTED TO: Alex Walter
ADDITIONAL REPORT COPIES TO: Erika.Denkenberger@arcadis.com

DATE: May 7, 2016 PAGE 5 OF 5
PO #: 04285091.0000.00004 DHL WORK ORDER #: 1600596
PROJECT LOCATION OR NAME: Laredo SGR
CLENT PROJECT #: 04285091.0000.00004 COLLECTOR: B. Ferguson

Authorize 5% surcharge for TRRP Report? ☐ Yes ☐ No

S=SOIL P=PAINT
W=WATER SL=SLUDGE
A=AIR O=OTHER
L=LIQUID SO=SOLID
SE=SEDIMENT

Field Sample I.D.	DHL Lab #	Date	Time	Matrix	Container Type	# of Containers	PRESERVATION: HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESERVED	ANALYSES: BTEX ☐ MTBE ☐ [METHOD 8021]	TPH 1005 ☐ TPH 1006 ☐ HOLD 1006 ☐	GRO [METHOD 8015] ☐ DRO [METHOD 8105] ☐	VOC 8260 ☐ VOC 624 ☐ VOC 8260/5035 ☐	SVOC 8270 ☐ PAH 8270 ☐ HOLD PAH ☐ SVOC 625 ☐	8270 PEST ☐ 625 PEST/PCB ☐ 608 PCB ☐ 8270 PCB ☐	8270 O-P PEST ☐ 8082 PCB ☐ T PHOS, AMMONIA ☐	8321 HERB ☐ T PHOS, AMMONIA ☐ DISS. METALS ☐	METALS 6020 ☐ METALS 200.8 ☐ DISS. METALS ☐	RCRA ☐ TX11 ☐ Lead	PH ☐ HEX CHROM ☐ ALKALINITY ☐ COD ☐	CHLORIDE ☐ ANIONS	TCLP-SVOC ☐ VOC ☐ PEST ☐ HERB ☐	TCLP-METALS ☐ RCRA 8 ☐ TX-11 ☐ Pb ☐	RCI ☐ FLASHPOINT ☐ DGAS ☐	TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐	FIELD NOTES
SGR-DU010-06(0-2)-A	100	5-7-16	1603	S	Bag	1				X					X				X									
SGR-DU010-06(2-4)-A	101	5-7-16	1605	S	Bag	1				X					X				X									
SGR-DU010-06(4-6)-A	102	5-7-16	1607	S	Bag	1				X					X				X									
SGR-DU010-06(6-8)-A	103	5-7-16	1608	S	Bag	1				X					X				X									
SGR-DU010-06(8-10)-A	104	5-7-16	1609	S	Bag	1				X					X				X									
SGR-DU010-06(0-2)-B	105	5-7-16	1611	S	Bag	1				X					X				X									
SGR-DU010-06(2-4)-B	106	5-7-16	1613	S	Bag	1				X					X				X									
SGR-DU010-06(4-6)-B	107	5-7-16	1615	S	Bag	1				X					X				X									
SGR-DU010-06(6-8)-B	108	5-7-16	1617	S	Bag	1				X					X				X									
SGR-DU010-06(8-10)-B	109	5-7-16	1618	S	Bag	1				X					X				X									
SGR-DU010-06(0-2)-C	70	5-7-16	1620	S	Bag	1				X					X				X									
SGR-DU010-06(2-4)-C	71	5-7-16	1621	S	Bag	1				X					X				X									
SGR-DU010-06(4-6)-C	72	5-7-16	1622	S	Bag	1				X					X				X									
SGR-DU010-06(6-8)-C	73	5-7-16	1623	S	Bag	1				X					X				X									
SGR-DU010-06(8-10)-C	74	5-7-16	1624	S	Bag	1				X					X				X									

RELINQUISHED BY: (Signature) DATE/TIME RECEIVED BY: (Signature)
5-9-16 1800

RELINQUISHED BY: (Signature) DATE/TIME RECEIVED BY: (Signature)
FedEx 5/10/16 10:00

RELINQUISHED BY: (Signature) DATE/TIME RECEIVED BY: (Signature)

☐ DHL DISPOSAL @ $5.00 each ☐ Return

7

TURN AROUND TIME
RUSH ☐ CALL FIRST
1 DAY ☐ CALL FIRST
2 DAY ☐
NORMAL ☒
OTHER ☐ _____

LABORATORY USE ONLY:
RECEIVING TEMP: 1.4 THERM #: 708
CUSTODY SEALS: ☐ BROKEN ☒ INTACT ☐ NOT USED
CARRIER: ☐ LONE STAR ☒ FEDEX ☐ UPS ☐ OTHER
☐ COURIER DELIVERY
☐ HAND DELIVERED

DHL Analytical, Inc.

Sample Receipt Checklist

Client Name **Arcadis** Date Received: **5/10/2016**

Work Order Number **1605096** Received by **JT**

Checklist completed by:  5/10/2016 (Signature / Date) Reviewed by DL 5/10/2016 (Initials / Date)

Carrier name FedEx 1day

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shippping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	1.4 °C
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH<2 acceptable upon receipt?	Yes ☑	No ☐	NA ☐ LOT # 8086
	Adjusted? NO		Checked by JT
Water - ph>9 (S) or ph>12 (CN) acceptable upon receipt?	Yes ☐	No ☐	NA ☑ LOT #
	Adjusted?		Checked by

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06-A
Project:	Laredo SGR	**Lab ID:**	1605096-01
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 08:40 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	52.8	0.0909	0.273	0.136		mg/Kg-dry	5	05/23/16 04:03 PM
IS: Bismuth	95.8	0	30-120	0		%REC	5	05/23/16 04:03 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.178	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 06:39 PM
Acenaphthylene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/16/16 06:39 PM
Anthracene	0.382	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 06:39 PM
Benzo[a]anthracene	3.81	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 06:39 PM
Benzo[a]pyrene	5.34	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 06:39 PM
Benzo[b]fluoranthene	4.92	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 06:39 PM
Benzo[e]pyrene	3.77	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 06:39 PM
Benzo[g,h,i]perylene	4.45	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 06:39 PM
Benzo[j]fluoranthene	2.68	0.0498	0.0995	0.0746	N	mg/Kg-dry	10	05/16/16 06:39 PM
Benzo[k]fluoranthene	2.86	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 06:39 PM
Chrysene	4.77	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 06:39 PM
Dibenz[a,h]anthracene	1.06	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 06:39 PM
Fluoranthene	5.26	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 06:39 PM
Fluorene	0.0785	0.0498	0.0995	0.0746	J	mg/Kg-dry	10	05/16/16 06:39 PM
Indeno[1,2,3-cd]pyrene	3.80	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 06:39 PM
Phenanthrene	2.04	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 06:39 PM
Pyrene	4.66	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 06:39 PM
IS: Acenaphthene-d10	123	0	50-200	0		%REC	10	05/16/16 06:39 PM
IS: Chrysene-d12	92.1	0	50-200	0		%REC	10	05/16/16 06:39 PM
IS: Naphthalene-d8	116	0	50-200	0		%REC	10	05/16/16 06:39 PM
IS: Perylene-d12	97.0	0	50-200	0		%REC	10	05/16/16 06:39 PM
IS: Phenanthrene-d10	97.7	0	50-200	0		%REC	10	05/16/16 06:39 PM
Surr: 2-Fluorobiphenyl	91.1	0	46-115	0		%REC	10	05/16/16 06:39 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06-A
Project:	Laredo SGR	**Lab ID:**	1605096-01
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 08:40 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	90.0	0	58-133	0		%REC	10	05/16/16 06:39 PM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06-B
Project:	Laredo SGR	**Lab ID:**	1605096-02
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 09:05 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	53.6	0.0935	0.280	0.140		mg/Kg-dry	5	05/23/16 04:05 PM
IS: Bismuth	97.4	0	30-120	0		%REC	5	05/23/16 04:05 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.143	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 07:15 PM
Acenaphthylene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/16/16 07:15 PM
Anthracene	0.348	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 07:15 PM
Benzo[a]anthracene	3.20	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 07:15 PM
Benzo[a]pyrene	4.41	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 07:15 PM
Benzo[b]fluoranthene	4.15	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 07:15 PM
Benzo[e]pyrene	3.19	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 07:15 PM
Benzo[g,h,i]perylene	3.75	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 07:15 PM
Benzo[j]fluoranthene	2.23	0.0498	0.0995	0.0746	N	mg/Kg-dry	10	05/16/16 07:15 PM
Benzo[k]fluoranthene	2.36	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 07:15 PM
Chrysene	4.01	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 07:15 PM
Dibenz[a,h]anthracene	0.897	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 07:15 PM
Fluoranthene	4.49	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 07:15 PM
Fluorene	0.0623	0.0498	0.0995	0.0746	J	mg/Kg-dry	10	05/16/16 07:15 PM
Indeno[1,2,3-cd]pyrene	3.21	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 07:15 PM
Phenanthrene	1.90	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 07:15 PM
Pyrene	3.96	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 07:15 PM
IS: Acenaphthene-d10	121	0	50-200	0		%REC	10	05/16/16 07:15 PM
IS: Chrysene-d12	88.1	0	50-200	0		%REC	10	05/16/16 07:15 PM
IS: Naphthalene-d8	112	0	50-200	0		%REC	10	05/16/16 07:15 PM
IS: Perylene-d12	93.4	0	50-200	0		%REC	10	05/16/16 07:15 PM
IS: Phenanthrene-d10	96.1	0	50-200	0		%REC	10	05/16/16 07:15 PM
Surr: 2-Fluorobiphenyl	90.7	0	46-115	0		%REC	10	05/16/16 07:15 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06-B
Project:	Laredo SGR	**Lab ID:**	1605096-02
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 09:05 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	87.8	0	58-133	0		%REC	10	05/16/16 07:15 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06-C
Project:	Laredo SGR	**Lab ID:**	1605096-03
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 09:35 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	63.1	0.0952	0.286	0.143		mg/Kg-dry	5	05/23/16 04:07 PM
IS: Bismuth	96.7	0	30-120	0		%REC	5	05/23/16 04:07 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.172	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/16/16 07:52 PM
Acenaphthylene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/16/16 07:52 PM
Anthracene	0.379	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/16/16 07:52 PM
Benzo[a]anthracene	4.21	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/16/16 07:52 PM
Benzo[a]pyrene	6.04	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/16/16 07:52 PM
Benzo[b]fluoranthene	5.73	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/16/16 07:52 PM
Benzo[e]pyrene	4.40	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/16/16 07:52 PM
Benzo[g,h,i]perylene	5.23	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/16/16 07:52 PM
Benzo[j]fluoranthene	3.08	0.0498	0.0996	0.0747	N	mg/Kg-dry	10	05/16/16 07:52 PM
Benzo[k]fluoranthene	3.26	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/16/16 07:52 PM
Chrysene	5.35	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/16/16 07:52 PM
Dibenz[a,h]anthracene	1.23	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/16/16 07:52 PM
Fluoranthene	5.58	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/16/16 07:52 PM
Fluorene	0.0589	0.0498	0.0996	0.0747	J	mg/Kg-dry	10	05/16/16 07:52 PM
Indeno[1,2,3-cd]pyrene	4.47	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/16/16 07:52 PM
Phenanthrene	2.22	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/16/16 07:52 PM
Pyrene	4.95	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/16/16 07:52 PM
IS: Acenaphthene-d10	117	0	50-200	0		%REC	10	05/16/16 07:52 PM
IS: Chrysene-d12	84.9	0	50-200	0		%REC	10	05/16/16 07:52 PM
IS: Naphthalene-d8	107	0	50-200	0		%REC	10	05/16/16 07:52 PM
IS: Perylene-d12	88.5	0	50-200	0		%REC	10	05/16/16 07:52 PM
IS: Phenanthrene-d10	94.2	0	50-200	0		%REC	10	05/16/16 07:52 PM
Surr: 2-Fluorobiphenyl	92.2	0	46-115	0		%REC	10	05/16/16 07:52 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06-C
Project:	Laredo SGR	**Lab ID:**	1605096-03
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 09:35 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	90.1	0	58-133	0		%REC	10	05/16/16 07:52 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU009-STRAT1
Project:	Laredo SGR	**Lab ID:**	1605096-04
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:00 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	12.3	0.114	0.341	0.171		mg/Kg-dry	5	05/23/16 04:09 PM
IS: Bismuth	96.4	0	30-120	0		%REC	5	05/23/16 04:09 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0913	0.0609	0.122	0.0913	U	mg/Kg-dry	10	05/16/16 04:52 PM
Acenaphthylene	0.0913	0.0609	0.122	0.0913	U	mg/Kg-dry	10	05/16/16 04:52 PM
Anthracene	0.0913	0.0609	0.122	0.0913	U	mg/Kg-dry	10	05/16/16 04:52 PM
Benzo[a]anthracene	0.140	0.0609	0.122	0.0913		mg/Kg-dry	10	05/16/16 04:52 PM
Benzo[a]pyrene	0.185	0.0609	0.122	0.0913		mg/Kg-dry	10	05/16/16 04:52 PM
Benzo[b]fluoranthene	0.177	0.0609	0.122	0.0913		mg/Kg-dry	10	05/16/16 04:52 PM
Benzo[e]pyrene	0.144	0.0609	0.122	0.0913		mg/Kg-dry	10	05/16/16 04:52 PM
Benzo[g,h,i]perylene	0.146	0.0609	0.122	0.0913		mg/Kg-dry	10	05/16/16 04:52 PM
Benzo[j]fluoranthene	0.0902	0.0609	0.122	0.0913	JN	mg/Kg-dry	10	05/16/16 04:52 PM
Benzo[k]fluoranthene	0.0924	0.0609	0.122	0.0913	J	mg/Kg-dry	10	05/16/16 04:52 PM
Chrysene	0.176	0.0609	0.122	0.0913		mg/Kg-dry	10	05/16/16 04:52 PM
Dibenz[a,h]anthracene	0.0913	0.0609	0.122	0.0913	U	mg/Kg-dry	10	05/16/16 04:52 PM
Fluoranthene	0.222	0.0609	0.122	0.0913		mg/Kg-dry	10	05/16/16 04:52 PM
Fluorene	0.0913	0.0609	0.122	0.0913	U	mg/Kg-dry	10	05/16/16 04:52 PM
Indeno[1,2,3-cd]pyrene	0.118	0.0609	0.122	0.0913	J	mg/Kg-dry	10	05/16/16 04:52 PM
Phenanthrene	0.0809	0.0609	0.122	0.0913	J	mg/Kg-dry	10	05/16/16 04:52 PM
Pyrene	0.198	0.0609	0.122	0.0913		mg/Kg-dry	10	05/16/16 04:52 PM
IS: Acenaphthene-d10	72.2	0	50-200	0		%REC	10	05/16/16 04:52 PM
IS: Chrysene-d12	70.2	0	50-200	0		%REC	10	05/16/16 04:52 PM
IS: Naphthalene-d8	111	0	50-200	0		%REC	10	05/16/16 04:52 PM
IS: Perylene-d12	72.2	0	50-200	0		%REC	10	05/16/16 04:52 PM
IS: Phenanthrene-d10	74.0	0	50-200	0		%REC	10	05/16/16 04:52 PM
Surr: 2-Fluorobiphenyl	74.8	0	46-115	0		%REC	10	05/16/16 04:52 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU009-STRAT1
Project:	Laredo SGR	**Lab ID:**	1605096-04
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:00 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	63.7	0	58-133	0		%REC	10	05/16/16 04:52 PM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	18.6	0	0	0		WT%	1	05/12/16 09:55 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU009-STRAT2
Project:	Laredo SGR	**Lab ID:**	1605096-05
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:05 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	20.0	0.127	0.380	0.190		mg/Kg-dry	5	05/23/16 04:11 PM
IS: Bismuth	97.5	0	30-120	0		%REC	5	05/23/16 04:11 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0978	0.0652	0.130	0.0978	U	mg/Kg-dry	10	05/16/16 05:31 PM
Acenaphthylene	0.0978	0.0652	0.130	0.0978	U	mg/Kg-dry	10	05/16/16 05:31 PM
Anthracene	0.153	0.0652	0.130	0.0978		mg/Kg-dry	10	05/16/16 05:31 PM
Benzo[a]anthracene	1.00	0.0652	0.130	0.0978		mg/Kg-dry	10	05/16/16 05:31 PM
Benzo[a]pyrene	1.09	0.0652	0.130	0.0978		mg/Kg-dry	10	05/16/16 05:31 PM
Benzo[b]fluoranthene	1.05	0.0652	0.130	0.0978		mg/Kg-dry	10	05/16/16 05:31 PM
Benzo[e]pyrene	0.846	0.0652	0.130	0.0978		mg/Kg-dry	10	05/16/16 05:31 PM
Benzo[g,h,i]perylene	0.781	0.0652	0.130	0.0978		mg/Kg-dry	10	05/16/16 05:31 PM
Benzo[j]fluoranthene	0.580	0.0652	0.130	0.0978	N	mg/Kg-dry	10	05/16/16 05:31 PM
Benzo[k]fluoranthene	0.541	0.0652	0.130	0.0978		mg/Kg-dry	10	05/16/16 05:31 PM
Chrysene	1.20	0.0652	0.130	0.0978		mg/Kg-dry	10	05/16/16 05:31 PM
Dibenz[a,h]anthracene	0.178	0.0652	0.130	0.0978		mg/Kg-dry	10	05/16/16 05:31 PM
Fluoranthene	1.85	0.0652	0.130	0.0978		mg/Kg-dry	10	05/16/16 05:31 PM
Fluorene	0.0978	0.0652	0.130	0.0978	U	mg/Kg-dry	10	05/16/16 05:31 PM
Indeno[1,2,3-cd]pyrene	0.641	0.0652	0.130	0.0978		mg/Kg-dry	10	05/16/16 05:31 PM
Phenanthrene	0.773	0.0652	0.130	0.0978		mg/Kg-dry	10	05/16/16 05:31 PM
Pyrene	1.54	0.0652	0.130	0.0978		mg/Kg-dry	10	05/16/16 05:31 PM
IS: Acenaphthene-d10	71.0	0	50-200	0		%REC	10	05/16/16 05:31 PM
IS: Chrysene-d12	70.8	0	50-200	0		%REC	10	05/16/16 05:31 PM
IS: Naphthalene-d8	110	0	50-200	0		%REC	10	05/16/16 05:31 PM
IS: Perylene-d12	74.0	0	50-200	0		%REC	10	05/16/16 05:31 PM
IS: Phenanthrene-d10	74.9	0	50-200	0		%REC	10	05/16/16 05:31 PM
Surr: 2-Fluorobiphenyl	78.1	0	46-115	0		%REC	10	05/16/16 05:31 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU009-STRAT2
Project:	Laredo SGR	**Lab ID:**	1605096-05
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:05 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	68.5	0	58-133	0		%REC	10	05/16/16 05:31 PM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	24.0	0	0	0		WT%	1	05/12/16 09:55 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU009-STRAT3
Project:	Laredo SGR	**Lab ID:**	1605096-06
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:10 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	20.2	0.103	0.310	0.155		mg/Kg-dry	5	05/23/16 04:13 PM
IS: Bismuth	100	0	30-120	0		%REC	5	05/23/16 04:13 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0850	0.0566	0.113	0.0850	U	mg/Kg-dry	10	05/16/16 10:06 PM
Acenaphthylene	0.0850	0.0566	0.113	0.0850	U	mg/Kg-dry	10	05/16/16 10:06 PM
Anthracene	0.0681	0.0566	0.113	0.0850	J	mg/Kg-dry	10	05/16/16 10:06 PM
Benzo[a]anthracene	0.624	0.0566	0.113	0.0850		mg/Kg-dry	10	05/16/16 10:06 PM
Benzo[a]pyrene	0.801	0.0566	0.113	0.0850		mg/Kg-dry	10	05/16/16 10:06 PM
Benzo[b]fluoranthene	0.772	0.0566	0.113	0.0850		mg/Kg-dry	10	05/16/16 10:06 PM
Benzo[e]pyrene	0.638	0.0566	0.113	0.0850		mg/Kg-dry	10	05/16/16 10:06 PM
Benzo[g,h,i]perylene	0.623	0.0566	0.113	0.0850		mg/Kg-dry	10	05/16/16 10:06 PM
Benzo[j]fluoranthene	0.412	0.0566	0.113	0.0850	N	mg/Kg-dry	10	05/16/16 10:06 PM
Benzo[k]fluoranthene	0.397	0.0566	0.113	0.0850		mg/Kg-dry	10	05/16/16 10:06 PM
Chrysene	0.789	0.0566	0.113	0.0850		mg/Kg-dry	10	05/16/16 10:06 PM
Dibenz[a,h]anthracene	0.143	0.0566	0.113	0.0850		mg/Kg-dry	10	05/16/16 10:06 PM
Fluoranthene	1.04	0.0566	0.113	0.0850		mg/Kg-dry	10	05/16/16 10:06 PM
Fluorene	0.0850	0.0566	0.113	0.0850	U	mg/Kg-dry	10	05/16/16 10:06 PM
Indeno[1,2,3-cd]pyrene	0.506	0.0566	0.113	0.0850		mg/Kg-dry	10	05/16/16 10:06 PM
Phenanthrene	0.358	0.0566	0.113	0.0850		mg/Kg-dry	10	05/16/16 10:06 PM
Pyrene	0.912	0.0566	0.113	0.0850		mg/Kg-dry	10	05/16/16 10:06 PM
IS: Acenaphthene-d10	73.2	0	50-200	0		%REC	10	05/16/16 10:06 PM
IS: Chrysene-d12	72.1	0	50-200	0		%REC	10	05/16/16 10:06 PM
IS: Naphthalene-d8	112	0	50-200	0		%REC	10	05/16/16 10:06 PM
IS: Perylene-d12	74.8	0	50-200	0		%REC	10	05/16/16 10:06 PM
IS: Phenanthrene-d10	75.2	0	50-200	0		%REC	10	05/16/16 10:06 PM
Surr: 2-Fluorobiphenyl	80.9	0	46-115	0		%REC	10	05/16/16 10:06 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU009-STRAT3
Project:	Laredo SGR	**Lab ID:**	1605096-06
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:10 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	70.4	0	58-133	0		%REC	10	05/16/16 10:06 PM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	11.9	0	0	0		WT%	1	05/12/16 09:55 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU009-STRAT4
Project:	Laredo SGR	**Lab ID:**	1605096-07
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:15 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	41.2	0.122	0.365	0.183		mg/Kg-dry	5	05/23/16 04:15 PM
IS: Bismuth	101	0	30-120	0		%REC	5	05/23/16 04:15 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.378	0.0607	0.121	0.0910		mg/Kg-dry	10	05/16/16 10:46 PM
Acenaphthylene	0.0910	0.0607	0.121	0.0910	U	mg/Kg-dry	10	05/16/16 10:46 PM
Anthracene	0.886	0.0607	0.121	0.0910		mg/Kg-dry	10	05/16/16 10:46 PM
Benzo[a]anthracene	10.9	0.0607	0.121	0.0910		mg/Kg-dry	10	05/16/16 10:46 PM
Benzo[a]pyrene	13.2	0.0607	0.121	0.0910		mg/Kg-dry	10	05/16/16 10:46 PM
Benzo[b]fluoranthene	12.8	0.0607	0.121	0.0910		mg/Kg-dry	10	05/16/16 10:46 PM
Benzo[e]pyrene	10.3	0.0607	0.121	0.0910		mg/Kg-dry	10	05/16/16 10:46 PM
Benzo[g,h,i]perylene	9.17	0.0607	0.121	0.0910		mg/Kg-dry	10	05/16/16 10:46 PM
Benzo[j]fluoranthene	6.83	0.0607	0.121	0.0910	N	mg/Kg-dry	10	05/16/16 10:46 PM
Benzo[k]fluoranthene	6.60	0.0607	0.121	0.0910		mg/Kg-dry	10	05/16/16 10:46 PM
Chrysene	13.6	0.0607	0.121	0.0910		mg/Kg-dry	10	05/16/16 10:46 PM
Dibenz[a,h]anthracene	2.13	0.0607	0.121	0.0910		mg/Kg-dry	10	05/16/16 10:46 PM
Fluoranthene	16.1	0.0607	0.121	0.0910		mg/Kg-dry	10	05/16/16 10:46 PM
Fluorene	0.137	0.0607	0.121	0.0910		mg/Kg-dry	10	05/16/16 10:46 PM
Indeno[1,2,3-cd]pyrene	7.70	0.0607	0.121	0.0910		mg/Kg-dry	10	05/16/16 10:46 PM
Phenanthrene	5.02	0.0607	0.121	0.0910		mg/Kg-dry	10	05/16/16 10:46 PM
Pyrene	14.2	0.0607	0.121	0.0910		mg/Kg-dry	10	05/16/16 10:46 PM
IS: Acenaphthene-d10	64.4	0	50-200	0		%REC	10	05/16/16 10:46 PM
IS: Chrysene-d12	65.5	0	50-200	0		%REC	10	05/16/16 10:46 PM
IS: Naphthalene-d8	108	0	50-200	0		%REC	10	05/16/16 10:46 PM
IS: Perylene-d12	67.3	0	50-200	0		%REC	10	05/16/16 10:46 PM
IS: Phenanthrene-d10	68.4	0	50-200	0		%REC	10	05/16/16 10:46 PM
Surr: 2-Fluorobiphenyl	82.0	0	46-115	0		%REC	10	05/16/16 10:46 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU009-STRAT4
Project:	Laredo SGR	**Lab ID:**	1605096-07
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:15 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	69.1	0	58-133	0		%REC	10	05/16/16 10:46 PM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	23.3	0	0	0		WT%	1	05/12/16 09:55 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU009-STRAT5
Project:	Laredo SGR	**Lab ID:**	1605096-08
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:20 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	135	0.0985	0.295	0.148		mg/Kg-dry	5	05/23/16 04:31 PM
IS: Bismuth	97.0	0	30-120	0		%REC	5	05/23/16 04:31 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.683	0.0515	0.103	0.0773		mg/Kg-dry	10	05/16/16 11:26 PM
Acenaphthylene	0.0773	0.0515	0.103	0.0773	U	mg/Kg-dry	10	05/16/16 11:26 PM
Anthracene	1.85	0.0515	0.103	0.0773		mg/Kg-dry	10	05/16/16 11:26 PM
Benzo[a]anthracene	18.5	0.0515	0.103	0.0773		mg/Kg-dry	10	05/16/16 11:26 PM
Benzo[a]pyrene	23.2	0.0515	0.103	0.0773		mg/Kg-dry	10	05/16/16 11:26 PM
Benzo[b]fluoranthene	22.4	0.0515	0.103	0.0773		mg/Kg-dry	10	05/16/16 11:26 PM
Benzo[e]pyrene	17.6	0.0515	0.103	0.0773		mg/Kg-dry	10	05/16/16 11:26 PM
Benzo[g,h,i]perylene	16.8	0.0515	0.103	0.0773		mg/Kg-dry	10	05/16/16 11:26 PM
Benzo[j]fluoranthene	11.9	0.0515	0.103	0.0773	N	mg/Kg-dry	10	05/16/16 11:26 PM
Benzo[k]fluoranthene	11.4	0.0515	0.103	0.0773		mg/Kg-dry	10	05/16/16 11:26 PM
Chrysene	23.0	0.0515	0.103	0.0773		mg/Kg-dry	10	05/16/16 11:26 PM
Dibenz[a,h]anthracene	4.04	0.0515	0.103	0.0773		mg/Kg-dry	10	05/16/16 11:26 PM
Fluoranthene	27.0	0.0515	0.103	0.0773		mg/Kg-dry	10	05/16/16 11:26 PM
Fluorene	0.229	0.0515	0.103	0.0773		mg/Kg-dry	10	05/16/16 11:26 PM
Indeno[1,2,3-cd]pyrene	14.1	0.0515	0.103	0.0773		mg/Kg-dry	10	05/16/16 11:26 PM
Phenanthrene	9.79	0.0515	0.103	0.0773		mg/Kg-dry	10	05/16/16 11:26 PM
Pyrene	23.3	0.0515	0.103	0.0773		mg/Kg-dry	10	05/16/16 11:26 PM
IS: Acenaphthene-d10	68.2	0	50-200	0		%REC	10	05/16/16 11:26 PM
IS: Chrysene-d12	71.2	0	50-200	0		%REC	10	05/16/16 11:26 PM
IS: Naphthalene-d8	111	0	50-200	0		%REC	10	05/16/16 11:26 PM
IS: Perylene-d12	73.9	0	50-200	0		%REC	10	05/16/16 11:26 PM
IS: Phenanthrene-d10	75.8	0	50-200	0		%REC	10	05/16/16 11:26 PM
Surr: 2-Fluorobiphenyl	79.4	0	46-115	0		%REC	10	05/16/16 11:26 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU009-STRAT5
Project:	Laredo SGR	**Lab ID:**	1605096-08
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:20 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	68.7	0	58-133	0		%REC	10	05/16/16 11:26 PM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	5.96	0	0	0		WT%	1	05/12/16 09:55 AM

Qualifiers:					
	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU003-STRAT1
Project:	Laredo SGR	**Lab ID:**	1605096-09
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 09:15 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	13.9	0.108	0.323	0.161		mg/Kg-dry	5	05/23/16 04:33 PM
IS: Bismuth	101	0	30-120	0		%REC	5	05/23/16 04:33 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0838	0.0559	0.112	0.0838	U	mg/Kg-dry	10	05/17/16 12:05 AM
Acenaphthylene	0.0838	0.0559	0.112	0.0838	U	mg/Kg-dry	10	05/17/16 12:05 AM
Anthracene	0.0838	0.0559	0.112	0.0838	U	mg/Kg-dry	10	05/17/16 12:05 AM
Benzo[a]anthracene	0.112	0.0559	0.112	0.0838		mg/Kg-dry	10	05/17/16 12:05 AM
Benzo[a]pyrene	0.151	0.0559	0.112	0.0838		mg/Kg-dry	10	05/17/16 12:05 AM
Benzo[b]fluoranthene	0.146	0.0559	0.112	0.0838		mg/Kg-dry	10	05/17/16 12:05 AM
Benzo[e]pyrene	0.123	0.0559	0.112	0.0838		mg/Kg-dry	10	05/17/16 12:05 AM
Benzo[g,h,i]perylene	0.124	0.0559	0.112	0.0838		mg/Kg-dry	10	05/17/16 12:05 AM
Benzo[j]fluoranthene	0.0777	0.0559	0.112	0.0838	JN	mg/Kg-dry	10	05/17/16 12:05 AM
Benzo[k]fluoranthene	0.0771	0.0559	0.112	0.0838	J	mg/Kg-dry	10	05/17/16 12:05 AM
Chrysene	0.143	0.0559	0.112	0.0838		mg/Kg-dry	10	05/17/16 12:05 AM
Dibenz[a,h]anthracene	0.0838	0.0559	0.112	0.0838	U	mg/Kg-dry	10	05/17/16 12:05 AM
Fluoranthene	0.179	0.0559	0.112	0.0838		mg/Kg-dry	10	05/17/16 12:05 AM
Fluorene	0.0838	0.0559	0.112	0.0838	U	mg/Kg-dry	10	05/17/16 12:05 AM
Indeno[1,2,3-cd]pyrene	0.103	0.0559	0.112	0.0838	J	mg/Kg-dry	10	05/17/16 12:05 AM
Phenanthrene	0.0646	0.0559	0.112	0.0838	J	mg/Kg-dry	10	05/17/16 12:05 AM
Pyrene	0.163	0.0559	0.112	0.0838		mg/Kg-dry	10	05/17/16 12:05 AM
IS: Acenaphthene-d10	71.4	0	50-200	0		%REC	10	05/17/16 12:05 AM
IS: Chrysene-d12	69.6	0	50-200	0		%REC	10	05/17/16 12:05 AM
IS: Naphthalene-d8	107	0	50-200	0		%REC	10	05/17/16 12:05 AM
IS: Perylene-d12	72.1	0	50-200	0		%REC	10	05/17/16 12:05 AM
IS: Phenanthrene-d10	73.3	0	50-200	0		%REC	10	05/17/16 12:05 AM
Surr: 2-Fluorobiphenyl	79.2	0	46-115	0		%REC	10	05/17/16 12:05 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level
B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative
DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern
J	Analyte detected between MDL and RL
MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit
RL	Reporting Limit
S	Spike Recovery outside control limits
N	Parameter not NELAC certified

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU003-STRAT1
Project:	Laredo SGR	**Lab ID:**	1605096-09
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 09:15 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	68.3	0	58-133	0		%REC	10	05/17/16 12:05 AM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	10.6	0	0	0		WT%	1	05/12/16 09:55 AM

Qualifiers:					
	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU003-STRAT2
Project:	Laredo SGR	**Lab ID:**	1605096-10
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 09:20 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	15.1	0.101	0.302	0.151		mg/Kg-dry	5	05/23/16 04:35 PM
IS: Bismuth	97.9	0	30-120	0		%REC	5	05/23/16 04:35 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0786	0.0524	0.105	0.0786	U	mg/Kg-dry	10	05/17/16 12:45 AM
Acenaphthylene	0.0786	0.0524	0.105	0.0786	U	mg/Kg-dry	10	05/17/16 12:45 AM
Anthracene	0.0786	0.0524	0.105	0.0786	U	mg/Kg-dry	10	05/17/16 12:45 AM
Benzo[a]anthracene	0.538	0.0524	0.105	0.0786		mg/Kg-dry	10	05/17/16 12:45 AM
Benzo[a]pyrene	0.848	0.0524	0.105	0.0786		mg/Kg-dry	10	05/17/16 12:45 AM
Benzo[b]fluoranthene	0.802	0.0524	0.105	0.0786		mg/Kg-dry	10	05/17/16 12:45 AM
Benzo[e]pyrene	0.629	0.0524	0.105	0.0786		mg/Kg-dry	10	05/17/16 12:45 AM
Benzo[g,h,i]perylene	0.555	0.0524	0.105	0.0786		mg/Kg-dry	10	05/17/16 12:45 AM
Benzo[j]fluoranthene	0.404	0.0524	0.105	0.0786	N	mg/Kg-dry	10	05/17/16 12:45 AM
Benzo[k]fluoranthene	0.403	0.0524	0.105	0.0786		mg/Kg-dry	10	05/17/16 12:45 AM
Chrysene	0.748	0.0524	0.105	0.0786		mg/Kg-dry	10	05/17/16 12:45 AM
Dibenz[a,h]anthracene	0.134	0.0524	0.105	0.0786		mg/Kg-dry	10	05/17/16 12:45 AM
Fluoranthene	0.559	0.0524	0.105	0.0786		mg/Kg-dry	10	05/17/16 12:45 AM
Fluorene	0.0786	0.0524	0.105	0.0786	U	mg/Kg-dry	10	05/17/16 12:45 AM
Indeno[1,2,3-cd]pyrene	0.482	0.0524	0.105	0.0786		mg/Kg-dry	10	05/17/16 12:45 AM
Phenanthrene	0.120	0.0524	0.105	0.0786		mg/Kg-dry	10	05/17/16 12:45 AM
Pyrene	0.585	0.0524	0.105	0.0786		mg/Kg-dry	10	05/17/16 12:45 AM
IS: Acenaphthene-d10	65.4	0	50-200	0		%REC	10	05/17/16 12:45 AM
IS: Chrysene-d12	65.9	0	50-200	0		%REC	10	05/17/16 12:45 AM
IS: Naphthalene-d8	109	0	50-200	0		%REC	10	05/17/16 12:45 AM
IS: Perylene-d12	66.6	0	50-200	0		%REC	10	05/17/16 12:45 AM
IS: Phenanthrene-d10	66.7	0	50-200	0		%REC	10	05/17/16 12:45 AM
Surr: 2-Fluorobiphenyl	83.7	0	46-115	0		%REC	10	05/17/16 12:45 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU003-STRAT2
Project:	Laredo SGR	**Lab ID:**	1605096-10
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 09:20 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	72.6	0	58-133	0		%REC	10	05/17/16 12:45 AM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	5.35	0	0	0		WT%	1	05/12/16 09:55 AM

Qualifiers:					
	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU003-STRAT3
Project:	Laredo SGR	**Lab ID:**	1605096-11
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 09:25 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	28.6	0.105	0.314	0.157		mg/Kg-dry	5	05/23/16 04:37 PM
IS: Bismuth	100	0	30-120	0		%REC	5	05/23/16 04:37 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0836	0.0557	0.111	0.0836	U	mg/Kg-dry	10	05/17/16 01:25 AM
Acenaphthylene	0.0836	0.0557	0.111	0.0836	U	mg/Kg-dry	10	05/17/16 01:25 AM
Anthracene	0.0589	0.0557	0.111	0.0836	J	mg/Kg-dry	10	05/17/16 01:25 AM
Benzo[a]anthracene	0.529	0.0557	0.111	0.0836		mg/Kg-dry	10	05/17/16 01:25 AM
Benzo[a]pyrene	0.692	0.0557	0.111	0.0836		mg/Kg-dry	10	05/17/16 01:25 AM
Benzo[b]fluoranthene	0.676	0.0557	0.111	0.0836		mg/Kg-dry	10	05/17/16 01:25 AM
Benzo[e]pyrene	0.554	0.0557	0.111	0.0836		mg/Kg-dry	10	05/17/16 01:25 AM
Benzo[g,h,i]perylene	0.533	0.0557	0.111	0.0836		mg/Kg-dry	10	05/17/16 01:25 AM
Benzo[j]fluoranthene	0.347	0.0557	0.111	0.0836	N	mg/Kg-dry	10	05/17/16 01:25 AM
Benzo[k]fluoranthene	0.345	0.0557	0.111	0.0836		mg/Kg-dry	10	05/17/16 01:25 AM
Chrysene	0.660	0.0557	0.111	0.0836		mg/Kg-dry	10	05/17/16 01:25 AM
Dibenz[a,h]anthracene	0.116	0.0557	0.111	0.0836		mg/Kg-dry	10	05/17/16 01:25 AM
Fluoranthene	0.892	0.0557	0.111	0.0836		mg/Kg-dry	10	05/17/16 01:25 AM
Fluorene	0.0836	0.0557	0.111	0.0836	U	mg/Kg-dry	10	05/17/16 01:25 AM
Indeno[1,2,3-cd]pyrene	0.415	0.0557	0.111	0.0836		mg/Kg-dry	10	05/17/16 01:25 AM
Phenanthrene	0.308	0.0557	0.111	0.0836		mg/Kg-dry	10	05/17/16 01:25 AM
Pyrene	0.791	0.0557	0.111	0.0836		mg/Kg-dry	10	05/17/16 01:25 AM
IS: Acenaphthene-d10	68.5	0	50-200	0		%REC	10	05/17/16 01:25 AM
IS: Chrysene-d12	69.4	0	50-200	0		%REC	10	05/17/16 01:25 AM
IS: Naphthalene-d8	112	0	50-200	0		%REC	10	05/17/16 01:25 AM
IS: Perylene-d12	69.7	0	50-200	0		%REC	10	05/17/16 01:25 AM
IS: Phenanthrene-d10	69.5	0	50-200	0		%REC	10	05/17/16 01:25 AM
Surr: 2-Fluorobiphenyl	76.2	0	46-115	0		%REC	10	05/17/16 01:25 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU003-STRAT3
Project:	Laredo SGR	**Lab ID:**	1605096-11
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 09:25 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	67.4	0	58-133	0		%REC	10	05/17/16 01:25 AM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	10.7	0	0	0		WT%	1	05/12/16 09:55 AM

Qualifiers:					
	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU003-STRAT4
Project:	Laredo SGR	**Lab ID:**	1605096-12
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 09:30 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	26.5	0.104	0.313	0.157		mg/Kg-dry	5	05/23/16 04:39 PM
IS: Bismuth	98.4	0	30-120	0		%REC	5	05/23/16 04:39 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0840	0.0560	0.112	0.0840	U	mg/Kg-dry	10	05/17/16 02:06 AM
Acenaphthylene	0.0840	0.0560	0.112	0.0840	U	mg/Kg-dry	10	05/17/16 02:06 AM
Anthracene	0.120	0.0560	0.112	0.0840		mg/Kg-dry	10	05/17/16 02:06 AM
Benzo[a]anthracene	0.798	0.0560	0.112	0.0840		mg/Kg-dry	10	05/17/16 02:06 AM
Benzo[a]pyrene	0.928	0.0560	0.112	0.0840		mg/Kg-dry	10	05/17/16 02:06 AM
Benzo[b]fluoranthene	0.907	0.0560	0.112	0.0840		mg/Kg-dry	10	05/17/16 02:06 AM
Benzo[e]pyrene	0.727	0.0560	0.112	0.0840		mg/Kg-dry	10	05/17/16 02:06 AM
Benzo[g,h,i]perylene	0.677	0.0560	0.112	0.0840		mg/Kg-dry	10	05/17/16 02:06 AM
Benzo[j]fluoranthene	0.492	0.0560	0.112	0.0840	N	mg/Kg-dry	10	05/17/16 02:06 AM
Benzo[k]fluoranthene	0.466	0.0560	0.112	0.0840		mg/Kg-dry	10	05/17/16 02:06 AM
Chrysene	0.964	0.0560	0.112	0.0840		mg/Kg-dry	10	05/17/16 02:06 AM
Dibenz[a,h]anthracene	0.154	0.0560	0.112	0.0840		mg/Kg-dry	10	05/17/16 02:06 AM
Fluoranthene	1.46	0.0560	0.112	0.0840		mg/Kg-dry	10	05/17/16 02:06 AM
Fluorene	0.0840	0.0560	0.112	0.0840	U	mg/Kg-dry	10	05/17/16 02:06 AM
Indeno[1,2,3-cd]pyrene	0.545	0.0560	0.112	0.0840		mg/Kg-dry	10	05/17/16 02:06 AM
Phenanthrene	0.617	0.0560	0.112	0.0840		mg/Kg-dry	10	05/17/16 02:06 AM
Pyrene	1.22	0.0560	0.112	0.0840		mg/Kg-dry	10	05/17/16 02:06 AM
IS: Acenaphthene-d10	74.4	0	50-200	0		%REC	10	05/17/16 02:06 AM
IS: Chrysene-d12	71.6	0	50-200	0		%REC	10	05/17/16 02:06 AM
IS: Naphthalene-d8	116	0	50-200	0		%REC	10	05/17/16 02:06 AM
IS: Perylene-d12	73.3	0	50-200	0		%REC	10	05/17/16 02:06 AM
IS: Phenanthrene-d10	75.9	0	50-200	0		%REC	10	05/17/16 02:06 AM
Surr: 2-Fluorobiphenyl	78.0	0	46-115	0		%REC	10	05/17/16 02:06 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU003-STRAT4
Project:	Laredo SGR	**Lab ID:**	1605096-12
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 09:30 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	69.5	0	58-133	0		%REC	10	05/17/16 02:06 AM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	12.9	0	0	0		WT%	1	05/12/16 09:55 AM

Qualifiers:					
	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-01-A
Project:	Laredo SGR	**Lab ID:**	1605096-13
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:30 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	25.3	0.0952	0.286	0.143		mg/Kg-dry	5	05/23/16 04:41 PM
IS: Bismuth	97.0	0	30-120	0		%REC	5	05/23/16 04:41 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/16/16 08:29 PM
Acenaphthylene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/16/16 08:29 PM
Anthracene	0.0593	0.0488	0.0977	0.0732	J	mg/Kg-dry	10	05/16/16 08:29 PM
Benzo[a]anthracene	0.378	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/16/16 08:29 PM
Benzo[a]pyrene	0.513	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/16/16 08:29 PM
Benzo[b]fluoranthene	0.498	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/16/16 08:29 PM
Benzo[e]pyrene	0.365	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/16/16 08:29 PM
Benzo[g,h,i]perylene	0.479	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/16/16 08:29 PM
Benzo[j]fluoranthene	0.251	0.0488	0.0977	0.0732	N	mg/Kg-dry	10	05/16/16 08:29 PM
Benzo[k]fluoranthene	0.303	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/16/16 08:29 PM
Chrysene	0.491	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/16/16 08:29 PM
Dibenz[a,h]anthracene	0.155	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/16/16 08:29 PM
Fluoranthene	0.571	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/16/16 08:29 PM
Fluorene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/16/16 08:29 PM
Indeno[1,2,3-cd]pyrene	0.400	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/16/16 08:29 PM
Phenanthrene	0.247	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/16/16 08:29 PM
Pyrene	0.494	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/16/16 08:29 PM
IS: Acenaphthene-d10	123	0	50-200	0		%REC	10	05/16/16 08:29 PM
IS: Chrysene-d12	88.4	0	50-200	0		%REC	10	05/16/16 08:29 PM
IS: Naphthalene-d8	112	0	50-200	0		%REC	10	05/16/16 08:29 PM
IS: Perylene-d12	93.7	0	50-200	0		%REC	10	05/16/16 08:29 PM
IS: Phenanthrene-d10	95.0	0	50-200	0		%REC	10	05/16/16 08:29 PM
Surr: 2-Fluorobiphenyl	93.7	0	46-115	0		%REC	10	05/16/16 08:29 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-01-A
Project:	Laredo SGR	**Lab ID:**	1605096-13
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:30 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	89.5	0	58-133	0		%REC	10	05/16/16 08:29 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-01-B
Project:	Laredo SGR	**Lab ID:**	1605096-14
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:50 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	29.3	0.0885	0.265	0.133		mg/Kg-dry	5	05/23/16 03:55 PM
IS: Bismuth	98.6	0	30-120	0		%REC	5	05/23/16 03:55 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/14/16 09:57 AM
Acenaphthylene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/14/16 09:57 AM
Anthracene	0.0643	0.0497	0.0993	0.0745	J	mg/Kg-dry	10	05/14/16 09:57 AM
Benzo[a]anthracene	0.460	0.0497	0.0993	0.0745		mg/Kg-dry	10	05/14/16 09:57 AM
Benzo[a]pyrene	0.622	0.0497	0.0993	0.0745		mg/Kg-dry	10	05/14/16 09:57 AM
Benzo[b]fluoranthene	0.593	0.0497	0.0993	0.0745		mg/Kg-dry	10	05/14/16 09:57 AM
Benzo[e]pyrene	0.457	0.0497	0.0993	0.0745		mg/Kg-dry	10	05/14/16 09:57 AM
Benzo[g,h,i]perylene	0.569	0.0497	0.0993	0.0745		mg/Kg-dry	10	05/14/16 09:57 AM
Benzo[j]fluoranthene	0.303	0.0497	0.0993	0.0745	N	mg/Kg-dry	10	05/14/16 09:57 AM
Benzo[k]fluoranthene	0.344	0.0497	0.0993	0.0745		mg/Kg-dry	10	05/14/16 09:57 AM
Chrysene	0.596	0.0497	0.0993	0.0745		mg/Kg-dry	10	05/14/16 09:57 AM
Dibenz[a,h]anthracene	0.157	0.0497	0.0993	0.0745		mg/Kg-dry	10	05/14/16 09:57 AM
Fluoranthene	0.663	0.0497	0.0993	0.0745		mg/Kg-dry	10	05/14/16 09:57 AM
Fluorene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/14/16 09:57 AM
Indeno[1,2,3-cd]pyrene	0.475	0.0497	0.0993	0.0745		mg/Kg-dry	10	05/14/16 09:57 AM
Phenanthrene	0.282	0.0497	0.0993	0.0745		mg/Kg-dry	10	05/14/16 09:57 AM
Pyrene	0.573	0.0497	0.0993	0.0745		mg/Kg-dry	10	05/14/16 09:57 AM
IS: Acenaphthene-d10	111	0	50-200	0		%REC	10	05/14/16 09:57 AM
IS: Chrysene-d12	80.5	0	50-200	0		%REC	10	05/14/16 09:57 AM
IS: Naphthalene-d8	96.4	0	50-200	0		%REC	10	05/14/16 09:57 AM
IS: Perylene-d12	84.9	0	50-200	0		%REC	10	05/14/16 09:57 AM
IS: Phenanthrene-d10	96.5	0	50-200	0		%REC	10	05/14/16 09:57 AM
Surr: 2-Fluorobiphenyl	87.4	0	46-115	0		%REC	10	05/14/16 09:57 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-01-B
Project:	Laredo SGR	**Lab ID:**	1605096-14
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:50 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	93.8	0	58-133	0		%REC	10	05/14/16 09:57 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-01-C
Project:	Laredo SGR	**Lab ID:**	1605096-15
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 11:10 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	30.7	0.0870	0.261	0.130		mg/Kg-dry	5	05/23/16 04:43 PM
IS: Bismuth	98.2	0	30-120	0		%REC	5	05/23/16 04:43 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/16/16 09:42 PM
Acenaphthylene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/16/16 09:42 PM
Anthracene	0.0561	0.0500	0.100	0.0750	J	mg/Kg-dry	10	05/16/16 09:42 PM
Benzo[a]anthracene	0.398	0.0500	0.100	0.0750		mg/Kg-dry	10	05/16/16 09:42 PM
Benzo[a]pyrene	0.540	0.0500	0.100	0.0750		mg/Kg-dry	10	05/16/16 09:42 PM
Benzo[b]fluoranthene	0.516	0.0500	0.100	0.0750		mg/Kg-dry	10	05/16/16 09:42 PM
Benzo[e]pyrene	0.391	0.0500	0.100	0.0750		mg/Kg-dry	10	05/16/16 09:42 PM
Benzo[g,h,i]perylene	0.471	0.0500	0.100	0.0750		mg/Kg-dry	10	05/16/16 09:42 PM
Benzo[j]fluoranthene	0.270	0.0500	0.100	0.0750	N	mg/Kg-dry	10	05/16/16 09:42 PM
Benzo[k]fluoranthene	0.308	0.0500	0.100	0.0750		mg/Kg-dry	10	05/16/16 09:42 PM
Chrysene	0.518	0.0500	0.100	0.0750		mg/Kg-dry	10	05/16/16 09:42 PM
Dibenz[a,h]anthracene	0.145	0.0500	0.100	0.0750		mg/Kg-dry	10	05/16/16 09:42 PM
Fluoranthene	0.590	0.0500	0.100	0.0750		mg/Kg-dry	10	05/16/16 09:42 PM
Fluorene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/16/16 09:42 PM
Indeno[1,2,3-cd]pyrene	0.408	0.0500	0.100	0.0750		mg/Kg-dry	10	05/16/16 09:42 PM
Phenanthrene	0.254	0.0500	0.100	0.0750		mg/Kg-dry	10	05/16/16 09:42 PM
Pyrene	0.516	0.0500	0.100	0.0750		mg/Kg-dry	10	05/16/16 09:42 PM
IS: Acenaphthene-d10	126	0	50-200	0		%REC	10	05/16/16 09:42 PM
IS: Chrysene-d12	88.0	0	50-200	0		%REC	10	05/16/16 09:42 PM
IS: Naphthalene-d8	114	0	50-200	0		%REC	10	05/16/16 09:42 PM
IS: Perylene-d12	93.9	0	50-200	0		%REC	10	05/16/16 09:42 PM
IS: Phenanthrene-d10	96.4	0	50-200	0		%REC	10	05/16/16 09:42 PM
Surr: 2-Fluorobiphenyl	94.3	0	46-115	0		%REC	10	05/16/16 09:42 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-01-C
Project:	Laredo SGR	**Lab ID:**	1605096-15
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 11:10 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	89.7	0	58-133	0		%REC	10	05/16/16 09:42 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(0-2)-A
Project:	Laredo SGR	**Lab ID:**	1605096-16
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:34 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	55.6	0.0862	0.259	0.129		mg/Kg-dry	5	05/23/16 04:45 PM
IS: Bismuth	96.0	0	30-120	0		%REC	5	05/23/16 04:45 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.559	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 10:19 PM
Acenaphthylene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/16/16 10:19 PM
Anthracene	1.52	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 10:19 PM
Benzo[a]anthracene	12.2	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 10:19 PM
Benzo[a]pyrene	15.0	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 10:19 PM
Benzo[b]fluoranthene	14.6	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 10:19 PM
Benzo[e]pyrene	10.9	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 10:19 PM
Benzo[g,h,i]perylene	11.7	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 10:19 PM
Benzo[j]fluoranthene	7.93	0.0499	0.0998	0.0749	N	mg/Kg-dry	10	05/16/16 10:19 PM
Benzo[k]fluoranthene	8.21	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 10:19 PM
Chrysene	15.3	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 10:19 PM
Dibenz[a,h]anthracene	2.84	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 10:19 PM
Fluoranthene	17.9	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 10:19 PM
Fluorene	0.217	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 10:19 PM
Indeno[1,2,3-cd]pyrene	10.3	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 10:19 PM
Phenanthrene	8.97	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 10:19 PM
Pyrene	15.4	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 10:19 PM
IS: Acenaphthene-d10	107	0	50-200	0		%REC	10	05/16/16 10:19 PM
IS: Chrysene-d12	80.3	0	50-200	0		%REC	10	05/16/16 10:19 PM
IS: Naphthalene-d8	104	0	50-200	0		%REC	10	05/16/16 10:19 PM
IS: Perylene-d12	85.5	0	50-200	0		%REC	10	05/16/16 10:19 PM
IS: Phenanthrene-d10	87.1	0	50-200	0		%REC	10	05/16/16 10:19 PM
Surr: 2-Fluorobiphenyl	85.8	0	46-115	0		%REC	10	05/16/16 10:19 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level
B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative
DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern
J	Analyte detected between MDL and RL
MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit
RL	Reporting Limit
S	Spike Recovery outside control limits
N	Parameter not NELAC certified

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(0-2)-A
Project:	Laredo SGR	**Lab ID:**	1605096-16
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:34 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	87.4	0	58-133	0		%REC	10	05/16/16 10:19 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(2-4)-A
Project:	Laredo SGR	**Lab ID:**	1605096-17
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:36 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	31.6	0.0952	0.286	0.143		mg/Kg-dry	5	05/23/16 04:47 PM
IS: Bismuth	95.8	0	30-120	0		%REC	5	05/23/16 04:47 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0950	0.0496	0.0991	0.0743	J	mg/Kg-dry	10	05/16/16 10:56 PM
Acenaphthylene	0.0743	0.0496	0.0991	0.0743	U	mg/Kg-dry	10	05/16/16 10:56 PM
Anthracene	0.272	0.0496	0.0991	0.0743		mg/Kg-dry	10	05/16/16 10:56 PM
Benzo[a]anthracene	1.94	0.0496	0.0991	0.0743		mg/Kg-dry	10	05/16/16 10:56 PM
Benzo[a]pyrene	2.31	0.0496	0.0991	0.0743		mg/Kg-dry	10	05/16/16 10:56 PM
Benzo[b]fluoranthene	2.28	0.0496	0.0991	0.0743		mg/Kg-dry	10	05/16/16 10:56 PM
Benzo[e]pyrene	1.72	0.0496	0.0991	0.0743		mg/Kg-dry	10	05/16/16 10:56 PM
Benzo[g,h,i]perylene	1.86	0.0496	0.0991	0.0743		mg/Kg-dry	10	05/16/16 10:56 PM
Benzo[j]fluoranthene	1.22	0.0496	0.0991	0.0743	N	mg/Kg-dry	10	05/16/16 10:56 PM
Benzo[k]fluoranthene	1.31	0.0496	0.0991	0.0743		mg/Kg-dry	10	05/16/16 10:56 PM
Chrysene	2.46	0.0496	0.0991	0.0743		mg/Kg-dry	10	05/16/16 10:56 PM
Dibenz[a,h]anthracene	0.461	0.0496	0.0991	0.0743		mg/Kg-dry	10	05/16/16 10:56 PM
Fluoranthene	3.13	0.0496	0.0991	0.0743		mg/Kg-dry	10	05/16/16 10:56 PM
Fluorene	0.0743	0.0496	0.0991	0.0743	U	mg/Kg-dry	10	05/16/16 10:56 PM
Indeno[1,2,3-cd]pyrene	1.57	0.0496	0.0991	0.0743		mg/Kg-dry	10	05/16/16 10:56 PM
Phenanthrene	1.77	0.0496	0.0991	0.0743		mg/Kg-dry	10	05/16/16 10:56 PM
Pyrene	2.59	0.0496	0.0991	0.0743		mg/Kg-dry	10	05/16/16 10:56 PM
IS: Acenaphthene-d10	125	0	50-200	0		%REC	10	05/16/16 10:56 PM
IS: Chrysene-d12	83.5	0	50-200	0		%REC	10	05/16/16 10:56 PM
IS: Naphthalene-d8	111	0	50-200	0		%REC	10	05/16/16 10:56 PM
IS: Perylene-d12	88.8	0	50-200	0		%REC	10	05/16/16 10:56 PM
IS: Phenanthrene-d10	94.4	0	50-200	0		%REC	10	05/16/16 10:56 PM
Surr: 2-Fluorobiphenyl	94.4	0	46-115	0		%REC	10	05/16/16 10:56 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(2-4)-A
Project:	Laredo SGR	**Lab ID:**	1605096-17
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:36 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	92.0	0	58-133	0		%REC	10	05/16/16 10:56 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(4-6)-A
Project:	Laredo SGR	**Lab ID:**	1605096-18
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:39 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	7.63	0.0855	0.256	0.128		mg/Kg-dry	5	05/23/16 04:49 PM
IS: Bismuth	95.7	0	30-120	0		%REC	5	05/23/16 04:49 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 04:12 PM
Acenaphthylene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 04:12 PM
Anthracene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 04:12 PM
Benzo[a]anthracene	0.136	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 04:12 PM
Benzo[a]pyrene	0.174	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 04:12 PM
Benzo[b]fluoranthene	0.174	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 04:12 PM
Benzo[e]pyrene	0.121	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 04:12 PM
Benzo[g,h,i]perylene	0.153	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 04:12 PM
Benzo[j]fluoranthene	0.0833	0.0495	0.0989	0.0742	JN	mg/Kg-dry	10	05/16/16 04:12 PM
Benzo[k]fluoranthene	0.100	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 04:12 PM
Chrysene	0.180	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 04:12 PM
Dibenz[a,h]anthracene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 04:12 PM
Fluoranthene	0.207	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 04:12 PM
Fluorene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 04:12 PM
Indeno[1,2,3-cd]pyrene	0.130	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 04:12 PM
Phenanthrene	0.0866	0.0495	0.0989	0.0742	J	mg/Kg-dry	10	05/16/16 04:12 PM
Pyrene	0.183	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 04:12 PM
IS: Acenaphthene-d10	106	0	50-200	0		%REC	10	05/16/16 04:12 PM
IS: Chrysene-d12	84.3	0	50-200	0		%REC	10	05/16/16 04:12 PM
IS: Naphthalene-d8	104	0	50-200	0		%REC	10	05/16/16 04:12 PM
IS: Perylene-d12	85.9	0	50-200	0		%REC	10	05/16/16 04:12 PM
IS: Phenanthrene-d10	91.8	0	50-200	0		%REC	10	05/16/16 04:12 PM
Surr: 2-Fluorobiphenyl	88.1	0	46-115	0		%REC	10	05/16/16 04:12 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(4-6)-A
Project:	Laredo SGR	**Lab ID:**	1605096-18
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:39 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	92.1	0	58-133	0		%REC	10	05/16/16 04:12 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(6-8)-A
Project:	Laredo SGR	**Lab ID:**	1605096-19
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:42 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	6.17	0.0667	0.200	0.100		mg/Kg-dry	5	05/25/16 01:49 PM
IS: Bismuth	79.0	0	30-120	0		%REC	5	05/25/16 01:49 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 04:48 PM
Acenaphthylene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 04:48 PM
Anthracene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 04:48 PM
Benzo[a]anthracene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 04:48 PM
Benzo[a]pyrene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 04:48 PM
Benzo[b]fluoranthene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 04:48 PM
Benzo[e]pyrene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 04:48 PM
Benzo[g,h,i]perylene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 04:48 PM
Benzo[j]fluoranthene	0.0742	0.0495	0.0989	0.0742	NU	mg/Kg-dry	10	05/16/16 04:48 PM
Benzo[k]fluoranthene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 04:48 PM
Chrysene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 04:48 PM
Dibenz[a,h]anthracene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 04:48 PM
Fluoranthene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 04:48 PM
Fluorene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 04:48 PM
Indeno[1,2,3-cd]pyrene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 04:48 PM
Phenanthrene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 04:48 PM
Pyrene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 04:48 PM
IS: Acenaphthene-d10	117	0	50-200	0		%REC	10	05/16/16 04:48 PM
IS: Chrysene-d12	87.6	0	50-200	0		%REC	10	05/16/16 04:48 PM
IS: Naphthalene-d8	108	0	50-200	0		%REC	10	05/16/16 04:48 PM
IS: Perylene-d12	91.1	0	50-200	0		%REC	10	05/16/16 04:48 PM
IS: Phenanthrene-d10	95.0	0	50-200	0		%REC	10	05/16/16 04:48 PM
Surr: 2-Fluorobiphenyl	91.1	0	46-115	0		%REC	10	05/16/16 04:48 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(6-8)-A
Project:	Laredo SGR	**Lab ID:**	1605096-19
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:42 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	88.7	0	58-133	0		%REC	10	05/16/16 04:48 PM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(8-10)-A
Project:	Laredo SGR	**Lab ID:**	1605096-20
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:44 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	12.1	0.0877	0.263	0.132		mg/Kg-dry	5	05/25/16 01:55 PM
IS: Bismuth	83.2	0	30-120	0		%REC	5	05/25/16 01:55 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0735	0.0490	0.0980	0.0735	U	mg/Kg-dry	10	05/16/16 05:25 PM
Acenaphthylene	0.0735	0.0490	0.0980	0.0735	U	mg/Kg-dry	10	05/16/16 05:25 PM
Anthracene	0.0735	0.0490	0.0980	0.0735	U	mg/Kg-dry	10	05/16/16 05:25 PM
Benzo[a]anthracene	0.0735	0.0490	0.0980	0.0735	U	mg/Kg-dry	10	05/16/16 05:25 PM
Benzo[a]pyrene	0.0735	0.0490	0.0980	0.0735	U	mg/Kg-dry	10	05/16/16 05:25 PM
Benzo[b]fluoranthene	0.0735	0.0490	0.0980	0.0735	U	mg/Kg-dry	10	05/16/16 05:25 PM
Benzo[e]pyrene	0.0735	0.0490	0.0980	0.0735	U	mg/Kg-dry	10	05/16/16 05:25 PM
Benzo[g,h,i]perylene	0.0735	0.0490	0.0980	0.0735	U	mg/Kg-dry	10	05/16/16 05:25 PM
Benzo[j]fluoranthene	0.0735	0.0490	0.0980	0.0735	NU	mg/Kg-dry	10	05/16/16 05:25 PM
Benzo[k]fluoranthene	0.0735	0.0490	0.0980	0.0735	U	mg/Kg-dry	10	05/16/16 05:25 PM
Chrysene	0.0735	0.0490	0.0980	0.0735	U	mg/Kg-dry	10	05/16/16 05:25 PM
Dibenz[a,h]anthracene	0.0735	0.0490	0.0980	0.0735	U	mg/Kg-dry	10	05/16/16 05:25 PM
Fluoranthene	0.0735	0.0490	0.0980	0.0735	U	mg/Kg-dry	10	05/16/16 05:25 PM
Fluorene	0.0735	0.0490	0.0980	0.0735	U	mg/Kg-dry	10	05/16/16 05:25 PM
Indeno[1,2,3-cd]pyrene	0.0735	0.0490	0.0980	0.0735	U	mg/Kg-dry	10	05/16/16 05:25 PM
Phenanthrene	0.0735	0.0490	0.0980	0.0735	U	mg/Kg-dry	10	05/16/16 05:25 PM
Pyrene	0.0735	0.0490	0.0980	0.0735	U	mg/Kg-dry	10	05/16/16 05:25 PM
IS: Acenaphthene-d10	122	0	50-200	0		%REC	10	05/16/16 05:25 PM
IS: Chrysene-d12	89.3	0	50-200	0		%REC	10	05/16/16 05:25 PM
IS: Naphthalene-d8	111	0	50-200	0		%REC	10	05/16/16 05:25 PM
IS: Perylene-d12	91.4	0	50-200	0		%REC	10	05/16/16 05:25 PM
IS: Phenanthrene-d10	97.5	0	50-200	0		%REC	10	05/16/16 05:25 PM
Surr: 2-Fluorobiphenyl	92.2	0	46-115	0		%REC	10	05/16/16 05:25 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(8-10)-A
Project:	Laredo SGR	**Lab ID:**	1605096-20
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:44 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	89.6	0	58-133	0		%REC	10	05/16/16 05:25 PM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(0-2)-B
Project:	Laredo SGR	**Lab ID:**	1605096-21
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:46 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	50.6	0.100	0.300	0.150		mg/Kg-dry	5	05/25/16 02:01 PM
IS: Bismuth	83.4	0	30-120	0		%REC	5	05/25/16 02:01 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.294	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 06:02 PM
Acenaphthylene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 06:02 PM
Anthracene	0.924	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 06:02 PM
Benzo[a]anthracene	8.48	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 06:02 PM
Benzo[a]pyrene	11.2	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 06:02 PM
Benzo[b]fluoranthene	10.4	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 06:02 PM
Benzo[e]pyrene	8.18	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 06:02 PM
Benzo[g,h,i]perylene	8.76	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 06:02 PM
Benzo[j]fluoranthene	5.75	0.0495	0.0989	0.0742	N	mg/Kg-dry	10	05/16/16 06:02 PM
Benzo[k]fluoranthene	6.14	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 06:02 PM
Chrysene	10.9	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 06:02 PM
Dibenz[a,h]anthracene	2.06	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 06:02 PM
Fluoranthene	11.9	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 06:02 PM
Fluorene	0.105	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 06:02 PM
Indeno[1,2,3-cd]pyrene	7.61	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 06:02 PM
Phenanthrene	5.53	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 06:02 PM
Pyrene	10.4	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 06:02 PM
IS: Acenaphthene-d10	125	0	50-200	0		%REC	10	05/16/16 06:02 PM
IS: Chrysene-d12	92.2	0	50-200	0		%REC	10	05/16/16 06:02 PM
IS: Naphthalene-d8	116	0	50-200	0		%REC	10	05/16/16 06:02 PM
IS: Perylene-d12	97.6	0	50-200	0		%REC	10	05/16/16 06:02 PM
IS: Phenanthrene-d10	100	0	50-200	0		%REC	10	05/16/16 06:02 PM
Surr: 2-Fluorobiphenyl	89.2	0	46-115	0		%REC	10	05/16/16 06:02 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(0-2)-B
Project:	Laredo SGR	**Lab ID:**	1605096-21
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:46 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	91.5	0	58-133	0		%REC	10	05/16/16 06:02 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT: Arcadis
Project: Laredo SGR
Project No: 04285081.0000.00044
Lab Order: 1605096

Client Sample ID: SGR-DU010-03(2-4)-B
Lab ID: 1605096-22
Collection Date: 05/07/16 10:49 AM
Matrix: SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	22.4	0.0952	0.286	0.143		mg/Kg-dry	5	05/25/16 02:07 PM
IS: Bismuth	85.1	0	30-120	0		%REC	5	05/25/16 02:07 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0560	0.0472	0.0944	0.0708	J	mg/Kg-dry	10	05/16/16 09:05 PM
Acenaphthylene	0.0708	0.0472	0.0944	0.0708	U	mg/Kg-dry	10	05/16/16 09:05 PM
Anthracene	0.228	0.0472	0.0944	0.0708		mg/Kg-dry	10	05/16/16 09:05 PM
Benzo[a]anthracene	1.49	0.0472	0.0944	0.0708		mg/Kg-dry	10	05/16/16 09:05 PM
Benzo[a]pyrene	1.74	0.0472	0.0944	0.0708		mg/Kg-dry	10	05/16/16 09:05 PM
Benzo[b]fluoranthene	1.68	0.0472	0.0944	0.0708		mg/Kg-dry	10	05/16/16 09:05 PM
Benzo[e]pyrene	1.30	0.0472	0.0944	0.0708		mg/Kg-dry	10	05/16/16 09:05 PM
Benzo[g,h,i]perylene	1.38	0.0472	0.0944	0.0708		mg/Kg-dry	10	05/16/16 09:05 PM
Benzo[j]fluoranthene	0.908	0.0472	0.0944	0.0708	N	mg/Kg-dry	10	05/16/16 09:05 PM
Benzo[k]fluoranthene	0.973	0.0472	0.0944	0.0708		mg/Kg-dry	10	05/16/16 09:05 PM
Chrysene	1.86	0.0472	0.0944	0.0708		mg/Kg-dry	10	05/16/16 09:05 PM
Dibenz[a,h]anthracene	0.341	0.0472	0.0944	0.0708		mg/Kg-dry	10	05/16/16 09:05 PM
Fluoranthene	2.50	0.0472	0.0944	0.0708		mg/Kg-dry	10	05/16/16 09:05 PM
Fluorene	0.0708	0.0472	0.0944	0.0708	U	mg/Kg-dry	10	05/16/16 09:05 PM
Indeno[1,2,3-cd]pyrene	1.18	0.0472	0.0944	0.0708		mg/Kg-dry	10	05/16/16 09:05 PM
Phenanthrene	1.33	0.0472	0.0944	0.0708		mg/Kg-dry	10	05/16/16 09:05 PM
Pyrene	2.08	0.0472	0.0944	0.0708		mg/Kg-dry	10	05/16/16 09:05 PM
IS: Acenaphthene-d10	125	0	50-200	0		%REC	10	05/16/16 09:05 PM
IS: Chrysene-d12	84.7	0	50-200	0		%REC	10	05/16/16 09:05 PM
IS: Naphthalene-d8	110	0	50-200	0		%REC	10	05/16/16 09:05 PM
IS: Perylene-d12	89.6	0	50-200	0		%REC	10	05/16/16 09:05 PM
IS: Phenanthrene-d10	95.3	0	50-200	0		%REC	10	05/16/16 09:05 PM
Surr: 2-Fluorobiphenyl	103	0	46-115	0		%REC	10	05/16/16 09:05 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level
B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative
DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern
J	Analyte detected between MDL and RL
MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit
RL	Reporting Limit
S	Spike Recovery outside control limits
N	Parameter not NELAC certified

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(2-4)-B
Project:	Laredo SGR	**Lab ID:**	1605096-22
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:49 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	95.9	0	58-133	0		%REC	10	05/16/16 09:05 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(4-6)-B
Project:	Laredo SGR	**Lab ID:**	1605096-23
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:52 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	6.00	0.0893	0.268	0.134		mg/Kg-dry	5	05/25/16 02:12 PM
IS: Bismuth	81.0	0	30-120	0		%REC	5	05/25/16 02:12 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/14/16 08:43 AM
Acenaphthylene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/14/16 08:43 AM
Anthracene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/14/16 08:43 AM
Benzo[a]anthracene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/14/16 08:43 AM
Benzo[a]pyrene	0.0500	0.0497	0.0994	0.0746	J	mg/Kg-dry	10	05/14/16 08:43 AM
Benzo[b]fluoranthene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/14/16 08:43 AM
Benzo[e]pyrene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/14/16 08:43 AM
Benzo[g,h,i]perylene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/14/16 08:43 AM
Benzo[j]fluoranthene	0.0746	0.0497	0.0994	0.0746	NU	mg/Kg-dry	10	05/14/16 08:43 AM
Benzo[k]fluoranthene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/14/16 08:43 AM
Chrysene	0.0503	0.0497	0.0994	0.0746	J	mg/Kg-dry	10	05/14/16 08:43 AM
Dibenz[a,h]anthracene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/14/16 08:43 AM
Fluoranthene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/14/16 08:43 AM
Fluorene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/14/16 08:43 AM
Indeno[1,2,3-cd]pyrene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/14/16 08:43 AM
Phenanthrene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/14/16 08:43 AM
Pyrene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/14/16 08:43 AM
IS: Acenaphthene-d10	112	0	50-200	0		%REC	10	05/14/16 08:43 AM
IS: Chrysene-d12	83.1	0	50-200	0		%REC	10	05/14/16 08:43 AM
IS: Naphthalene-d8	98.2	0	50-200	0		%REC	10	05/14/16 08:43 AM
IS: Perylene-d12	86.0	0	50-200	0		%REC	10	05/14/16 08:43 AM
IS: Phenanthrene-d10	96.6	0	50-200	0		%REC	10	05/14/16 08:43 AM
Surr: 2-Fluorobiphenyl	87.4	0	46-115	0		%REC	10	05/14/16 08:43 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(4-6)-B
Project:	Laredo SGR	**Lab ID:**	1605096-23
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:52 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	91.2	0	58-133	0		%REC	10	05/14/16 08:43 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(6-8)-B
Project:	Laredo SGR	**Lab ID:**	1605096-24
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:55 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	9.08	0.0971	0.291	0.146		mg/Kg-dry	5	05/25/16 02:18 PM
IS: Bismuth	86.2	0	30-120	0		%REC	5	05/25/16 02:18 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0739	0.0493	0.0985	0.0739	U	mg/Kg-dry	10	05/14/16 09:20 AM
Acenaphthylene	0.0739	0.0493	0.0985	0.0739	U	mg/Kg-dry	10	05/14/16 09:20 AM
Anthracene	0.0739	0.0493	0.0985	0.0739	U	mg/Kg-dry	10	05/14/16 09:20 AM
Benzo[a]anthracene	0.0739	0.0493	0.0985	0.0739	U	mg/Kg-dry	10	05/14/16 09:20 AM
Benzo[a]pyrene	0.0739	0.0493	0.0985	0.0739	U	mg/Kg-dry	10	05/14/16 09:20 AM
Benzo[b]fluoranthene	0.0739	0.0493	0.0985	0.0739	U	mg/Kg-dry	10	05/14/16 09:20 AM
Benzo[e]pyrene	0.0739	0.0493	0.0985	0.0739	U	mg/Kg-dry	10	05/14/16 09:20 AM
Benzo[g,h,i]perylene	0.0739	0.0493	0.0985	0.0739	U	mg/Kg-dry	10	05/14/16 09:20 AM
Benzo[j]fluoranthene	0.0739	0.0493	0.0985	0.0739	NU	mg/Kg-dry	10	05/14/16 09:20 AM
Benzo[k]fluoranthene	0.0739	0.0493	0.0985	0.0739	U	mg/Kg-dry	10	05/14/16 09:20 AM
Chrysene	0.0739	0.0493	0.0985	0.0739	U	mg/Kg-dry	10	05/14/16 09:20 AM
Dibenz[a,h]anthracene	0.0739	0.0493	0.0985	0.0739	U	mg/Kg-dry	10	05/14/16 09:20 AM
Fluoranthene	0.0739	0.0493	0.0985	0.0739	U	mg/Kg-dry	10	05/14/16 09:20 AM
Fluorene	0.0739	0.0493	0.0985	0.0739	U	mg/Kg-dry	10	05/14/16 09:20 AM
Indeno[1,2,3-cd]pyrene	0.0739	0.0493	0.0985	0.0739	U	mg/Kg-dry	10	05/14/16 09:20 AM
Phenanthrene	0.0739	0.0493	0.0985	0.0739	U	mg/Kg-dry	10	05/14/16 09:20 AM
Pyrene	0.0739	0.0493	0.0985	0.0739	U	mg/Kg-dry	10	05/14/16 09:20 AM
IS: Acenaphthene-d10	108	0	50-200	0		%REC	10	05/14/16 09:20 AM
IS: Chrysene-d12	78.0	0	50-200	0		%REC	10	05/14/16 09:20 AM
IS: Naphthalene-d8	92.9	0	50-200	0		%REC	10	05/14/16 09:20 AM
IS: Perylene-d12	82.2	0	50-200	0		%REC	10	05/14/16 09:20 AM
IS: Phenanthrene-d10	94.9	0	50-200	0		%REC	10	05/14/16 09:20 AM
Surr: 2-Fluorobiphenyl	91.9	0	46-115	0		%REC	10	05/14/16 09:20 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(6-8)-B
Project:	Laredo SGR	**Lab ID:**	1605096-24
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:55 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	96.9	0	58-133	0		%REC	10	05/14/16 09:20 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(8-10)-B
Project:	Laredo SGR	**Lab ID:**	1605096-25
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:57 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	11.1	0.0877	0.263	0.132		mg/Kg-dry	5	05/25/16 01:37 PM
IS: Bismuth	84.6	0	30-120	0		%REC	5	05/25/16 01:37 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/17/16 02:27 PM
Acenaphthylene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/17/16 02:27 PM
Anthracene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/17/16 02:27 PM
Benzo[a]anthracene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/17/16 02:27 PM
Benzo[a]pyrene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/17/16 02:27 PM
Benzo[b]fluoranthene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/17/16 02:27 PM
Benzo[e]pyrene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/17/16 02:27 PM
Benzo[g,h,i]perylene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/17/16 02:27 PM
Benzo[j]fluoranthene	0.0725	0.0484	0.0967	0.0725	NU	mg/Kg-dry	10	05/17/16 02:27 PM
Benzo[k]fluoranthene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/17/16 02:27 PM
Chrysene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/17/16 02:27 PM
Dibenz[a,h]anthracene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/17/16 02:27 PM
Fluoranthene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/17/16 02:27 PM
Fluorene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/17/16 02:27 PM
Indeno[1,2,3-cd]pyrene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/17/16 02:27 PM
Phenanthrene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/17/16 02:27 PM
Pyrene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/17/16 02:27 PM
IS: Acenaphthene-d10	68.6	0	50-200	0		%REC	10	05/17/16 02:27 PM
IS: Chrysene-d12	66.0	0	50-200	0		%REC	10	05/17/16 02:27 PM
IS: Naphthalene-d8	109	0	50-200	0		%REC	10	05/17/16 02:27 PM
IS: Perylene-d12	67.8	0	50-200	0		%REC	10	05/17/16 02:27 PM
IS: Phenanthrene-d10	68.0	0	50-200	0		%REC	10	05/17/16 02:27 PM
Surr: 2-Fluorobiphenyl	80.8	0	46-115	0		%REC	10	05/17/16 02:27 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level
B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative
DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern
J	Analyte detected between MDL and RL
MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit
RL	Reporting Limit
S	Spike Recovery outside control limits
N	Parameter not NELAC certified

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(8-10)-B
Project:	Laredo SGR	**Lab ID:**	1605096-25
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:57 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	69.8	0	58-133	0		%REC	10	05/17/16 02:27 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT: Arcadis
Project: Laredo SGR
Project No: 04285081.0000.00044
Lab Order: 1605096

Client Sample ID: SGR-DU010-03(0-2)-C
Lab ID: 1605096-26
Collection Date: 05/07/16 11:00 AM
Matrix: SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	55.0	0.0901	0.270	0.135		mg/Kg-dry	5	05/25/16 02:24 PM
IS: Bismuth	84.2	0	30-120	0		%REC	5	05/25/16 02:24 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.246	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/17/16 03:07 PM
Acenaphthylene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/17/16 03:07 PM
Anthracene	0.711	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/17/16 03:07 PM
Benzo[a]anthracene	6.76	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/17/16 03:07 PM
Benzo[a]pyrene	8.45	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/17/16 03:07 PM
Benzo[b]fluoranthene	7.93	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/17/16 03:07 PM
Benzo[e]pyrene	6.51	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/17/16 03:07 PM
Benzo[g,h,i]perylene	6.27	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/17/16 03:07 PM
Benzo[j]fluoranthene	4.26	0.0488	0.0977	0.0732	N	mg/Kg-dry	10	05/17/16 03:07 PM
Benzo[k]fluoranthene	4.08	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/17/16 03:07 PM
Chrysene	8.37	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/17/16 03:07 PM
Dibenz[a,h]anthracene	1.39	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/17/16 03:07 PM
Fluoranthene	10.6	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/17/16 03:07 PM
Fluorene	0.0823	0.0488	0.0977	0.0732	J	mg/Kg-dry	10	05/17/16 03:07 PM
Indeno[1,2,3-cd]pyrene	5.07	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/17/16 03:07 PM
Phenanthrene	3.91	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/17/16 03:07 PM
Pyrene	9.22	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/17/16 03:07 PM
IS: Acenaphthene-d10	69.5	0	50-200	0		%REC	10	05/17/16 03:07 PM
IS: Chrysene-d12	67.8	0	50-200	0		%REC	10	05/17/16 03:07 PM
IS: Naphthalene-d8	108	0	50-200	0		%REC	10	05/17/16 03:07 PM
IS: Perylene-d12	70.4	0	50-200	0		%REC	10	05/17/16 03:07 PM
IS: Phenanthrene-d10	71.7	0	50-200	0		%REC	10	05/17/16 03:07 PM
Surr: 2-Fluorobiphenyl	78.6	0	46-115	0		%REC	10	05/17/16 03:07 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level
B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative
DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern
J	Analyte detected between MDL and RL
MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit
RL	Reporting Limit
S	Spike Recovery outside control limits
N	Parameter not NELAC certified

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(0-2)-C
Project:	Laredo SGR	**Lab ID:**	1605096-26
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 11:00 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	66.2	0	58-133	0		%REC	10	05/17/16 03:07 PM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(2-4)-C
Project:	Laredo SGR	**Lab ID:**	1605096-27
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 11:02 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	29.1	0.0893	0.268	0.134		mg/Kg-dry	5	05/25/16 02:30 PM
IS: Bismuth	89.4	0	30-120	0		%REC	5	05/25/16 02:30 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.118	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/17/16 03:47 PM
Acenaphthylene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/17/16 03:47 PM
Anthracene	0.517	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/17/16 03:47 PM
Benzo[a]anthracene	3.00	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/17/16 03:47 PM
Benzo[a]pyrene	3.62	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/17/16 03:47 PM
Benzo[b]fluoranthene	3.35	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/17/16 03:47 PM
Benzo[e]pyrene	2.72	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/17/16 03:47 PM
Benzo[g,h,i]perylene	2.56	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/17/16 03:47 PM
Benzo[j]fluoranthene	1.82	0.0496	0.0992	0.0744	N	mg/Kg-dry	10	05/17/16 03:47 PM
Benzo[k]fluoranthene	1.73	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/17/16 03:47 PM
Chrysene	3.56	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/17/16 03:47 PM
Dibenz[a,h]anthracene	0.587	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/17/16 03:47 PM
Fluoranthene	5.46	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/17/16 03:47 PM
Fluorene	0.0746	0.0496	0.0992	0.0744	J	mg/Kg-dry	10	05/17/16 03:47 PM
Indeno[1,2,3-cd]pyrene	2.13	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/17/16 03:47 PM
Phenanthrene	2.51	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/17/16 03:47 PM
Pyrene	4.52	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/17/16 03:47 PM
IS: Acenaphthene-d10	71.0	0	50-200	0		%REC	10	05/17/16 03:47 PM
IS: Chrysene-d12	69.7	0	50-200	0		%REC	10	05/17/16 03:47 PM
IS: Naphthalene-d8	107	0	50-200	0		%REC	10	05/17/16 03:47 PM
IS: Perylene-d12	72.9	0	50-200	0		%REC	10	05/17/16 03:47 PM
IS: Phenanthrene-d10	71.9	0	50-200	0		%REC	10	05/17/16 03:47 PM
Surr: 2-Fluorobiphenyl	81.4	0	46-115	0		%REC	10	05/17/16 03:47 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(2-4)-C
Project:	Laredo SGR	**Lab ID:**	1605096-27
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 11:02 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	68.3	0	58-133	0		%REC	10	05/17/16 03:47 PM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(4-6)-C
Project:	Laredo SGR	**Lab ID:**	1605096-28
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 11:05 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	5.08	0.0840	0.252	0.126		mg/Kg-dry	5	05/25/16 02:36 PM
IS: Bismuth	89.4	0	30-120	0		%REC	5	05/25/16 02:36 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0737	0.0492	0.0983	0.0737	U	mg/Kg-dry	10	05/17/16 04:26 PM
Acenaphthylene	0.0737	0.0492	0.0983	0.0737	U	mg/Kg-dry	10	05/17/16 04:26 PM
Anthracene	0.0737	0.0492	0.0983	0.0737	U	mg/Kg-dry	10	05/17/16 04:26 PM
Benzo[a]anthracene	0.0737	0.0492	0.0983	0.0737	U	mg/Kg-dry	10	05/17/16 04:26 PM
Benzo[a]pyrene	0.0516	0.0492	0.0983	0.0737	J	mg/Kg-dry	10	05/17/16 04:26 PM
Benzo[b]fluoranthene	0.0737	0.0492	0.0983	0.0737	U	mg/Kg-dry	10	05/17/16 04:26 PM
Benzo[e]pyrene	0.0737	0.0492	0.0983	0.0737	U	mg/Kg-dry	10	05/17/16 04:26 PM
Benzo[g,h,i]perylene	0.0737	0.0492	0.0983	0.0737	U	mg/Kg-dry	10	05/17/16 04:26 PM
Benzo[j]fluoranthene	0.0737	0.0492	0.0983	0.0737	NU	mg/Kg-dry	10	05/17/16 04:26 PM
Benzo[k]fluoranthene	0.0737	0.0492	0.0983	0.0737	U	mg/Kg-dry	10	05/17/16 04:26 PM
Chrysene	0.0737	0.0492	0.0983	0.0737	U	mg/Kg-dry	10	05/17/16 04:26 PM
Dibenz[a,h]anthracene	0.0737	0.0492	0.0983	0.0737	U	mg/Kg-dry	10	05/17/16 04:26 PM
Fluoranthene	0.0737	0.0492	0.0983	0.0737	U	mg/Kg-dry	10	05/17/16 04:26 PM
Fluorene	0.0737	0.0492	0.0983	0.0737	U	mg/Kg-dry	10	05/17/16 04:26 PM
Indeno[1,2,3-cd]pyrene	0.0737	0.0492	0.0983	0.0737	U	mg/Kg-dry	10	05/17/16 04:26 PM
Phenanthrene	0.0737	0.0492	0.0983	0.0737	U	mg/Kg-dry	10	05/17/16 04:26 PM
Pyrene	0.0737	0.0492	0.0983	0.0737	U	mg/Kg-dry	10	05/17/16 04:26 PM
IS: Acenaphthene-d10	77.2	0	50-200	0		%REC	10	05/17/16 04:26 PM
IS: Chrysene-d12	72.1	0	50-200	0		%REC	10	05/17/16 04:26 PM
IS: Naphthalene-d8	110	0	50-200	0		%REC	10	05/17/16 04:26 PM
IS: Perylene-d12	74.0	0	50-200	0		%REC	10	05/17/16 04:26 PM
IS: Phenanthrene-d10	75.6	0	50-200	0		%REC	10	05/17/16 04:26 PM
Surr: 2-Fluorobiphenyl	75.0	0	46-115	0		%REC	10	05/17/16 04:26 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(4-6)-C
Project:	Laredo SGR	**Lab ID:**	1605096-28
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 11:05 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	65.9	0	58-133	0		%REC	10	05/17/16 04:26 PM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(6-8)-C
Project:	Laredo SGR	**Lab ID:**	1605096-29
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 11:08 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	6.96	0.0980	0.294	0.147		mg/Kg-dry	5	05/25/16 03:18 PM
IS: Bismuth	91.8	0	30-120	0		%REC	5	05/25/16 03:18 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/17/16 05:06 PM
Acenaphthylene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/17/16 05:06 PM
Anthracene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/17/16 05:06 PM
Benzo[a]anthracene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/17/16 05:06 PM
Benzo[a]pyrene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/17/16 05:06 PM
Benzo[b]fluoranthene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/17/16 05:06 PM
Benzo[e]pyrene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/17/16 05:06 PM
Benzo[g,h,i]perylene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/17/16 05:06 PM
Benzo[j]fluoranthene	0.0740	0.0493	0.0986	0.0740	NU	mg/Kg-dry	10	05/17/16 05:06 PM
Benzo[k]fluoranthene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/17/16 05:06 PM
Chrysene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/17/16 05:06 PM
Dibenz[a,h]anthracene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/17/16 05:06 PM
Fluoranthene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/17/16 05:06 PM
Fluorene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/17/16 05:06 PM
Indeno[1,2,3-cd]pyrene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/17/16 05:06 PM
Phenanthrene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/17/16 05:06 PM
Pyrene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/17/16 05:06 PM
IS: Acenaphthene-d10	74.4	0	50-200	0		%REC	10	05/17/16 05:06 PM
IS: Chrysene-d12	70.3	0	50-200	0		%REC	10	05/17/16 05:06 PM
IS: Naphthalene-d8	108	0	50-200	0		%REC	10	05/17/16 05:06 PM
IS: Perylene-d12	72.0	0	50-200	0		%REC	10	05/17/16 05:06 PM
IS: Phenanthrene-d10	73.4	0	50-200	0		%REC	10	05/17/16 05:06 PM
Surr: 2-Fluorobiphenyl	80.1	0	46-115	0		%REC	10	05/17/16 05:06 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(6-8)-C
Project:	Laredo SGR	**Lab ID:**	1605096-29
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 11:08 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	67.4	0	58-133	0		%REC	10	05/17/16 05:06 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(8-10)-C
Project:	Laredo SGR	**Lab ID:**	1605096-30
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 11:10 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	10.3	0.0926	0.278	0.139		mg/Kg-dry	5	05/25/16 03:24 PM
IS: Bismuth	91.1	0	30-120	0		%REC	5	05/25/16 03:24 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/17/16 05:46 PM
Acenaphthylene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/17/16 05:46 PM
Anthracene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/17/16 05:46 PM
Benzo[a]anthracene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/17/16 05:46 PM
Benzo[a]pyrene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/17/16 05:46 PM
Benzo[b]fluoranthene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/17/16 05:46 PM
Benzo[e]pyrene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/17/16 05:46 PM
Benzo[g,h,i]perylene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/17/16 05:46 PM
Benzo[j]fluoranthene	0.0737	0.0491	0.0982	0.0737	NU	mg/Kg-dry	10	05/17/16 05:46 PM
Benzo[k]fluoranthene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/17/16 05:46 PM
Chrysene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/17/16 05:46 PM
Dibenz[a,h]anthracene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/17/16 05:46 PM
Fluoranthene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/17/16 05:46 PM
Fluorene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/17/16 05:46 PM
Indeno[1,2,3-cd]pyrene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/17/16 05:46 PM
Phenanthrene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/17/16 05:46 PM
Pyrene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/17/16 05:46 PM
IS: Acenaphthene-d10	68.7	0	50-200	0		%REC	10	05/17/16 05:46 PM
IS: Chrysene-d12	66.3	0	50-200	0		%REC	10	05/17/16 05:46 PM
IS: Naphthalene-d8	106	0	50-200	0		%REC	10	05/17/16 05:46 PM
IS: Perylene-d12	69.5	0	50-200	0		%REC	10	05/17/16 05:46 PM
IS: Phenanthrene-d10	67.5	0	50-200	0		%REC	10	05/17/16 05:46 PM
Surr: 2-Fluorobiphenyl	80.8	0	46-115	0		%REC	10	05/17/16 05:46 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(8-10)-C
Project:	Laredo SGR	**Lab ID:**	1605096-30
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 11:10 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	66.9	0	58-133	0		%REC	10	05/17/16 05:46 PM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU132-STRAT1
Project:	Laredo SGR	**Lab ID:**	1605096-31
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:00 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	22.1	0.129	0.387	0.193		mg/Kg-dry	5	05/25/16 03:30 PM
IS: Bismuth	91.4	0	30-120	0		%REC	5	05/25/16 03:30 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0979	0.0653	0.131	0.0979	U	mg/Kg-dry	10	05/17/16 06:26 PM
Acenaphthylene	0.0979	0.0653	0.131	0.0979	U	mg/Kg-dry	10	05/17/16 06:26 PM
Anthracene	0.321	0.0653	0.131	0.0979		mg/Kg-dry	10	05/17/16 06:26 PM
Benzo[a]anthracene	1.01	0.0653	0.131	0.0979		mg/Kg-dry	10	05/17/16 06:26 PM
Benzo[a]pyrene	0.856	0.0653	0.131	0.0979		mg/Kg-dry	10	05/17/16 06:26 PM
Benzo[b]fluoranthene	0.836	0.0653	0.131	0.0979		mg/Kg-dry	10	05/17/16 06:26 PM
Benzo[e]pyrene	0.629	0.0653	0.131	0.0979		mg/Kg-dry	10	05/17/16 06:26 PM
Benzo[g,h,i]perylene	0.507	0.0653	0.131	0.0979		mg/Kg-dry	10	05/17/16 06:26 PM
Benzo[j]fluoranthene	0.462	0.0653	0.131	0.0979	N	mg/Kg-dry	10	05/17/16 06:26 PM
Benzo[k]fluoranthene	0.442	0.0653	0.131	0.0979		mg/Kg-dry	10	05/17/16 06:26 PM
Chrysene	1.09	0.0653	0.131	0.0979		mg/Kg-dry	10	05/17/16 06:26 PM
Dibenz[a,h]anthracene	0.143	0.0653	0.131	0.0979		mg/Kg-dry	10	05/17/16 06:26 PM
Fluoranthene	2.11	0.0653	0.131	0.0979		mg/Kg-dry	10	05/17/16 06:26 PM
Fluorene	0.0979	0.0653	0.131	0.0979	U	mg/Kg-dry	10	05/17/16 06:26 PM
Indeno[1,2,3-cd]pyrene	0.447	0.0653	0.131	0.0979		mg/Kg-dry	10	05/17/16 06:26 PM
Phenanthrene	1.38	0.0653	0.131	0.0979		mg/Kg-dry	10	05/17/16 06:26 PM
Pyrene	1.59	0.0653	0.131	0.0979		mg/Kg-dry	10	05/17/16 06:26 PM
IS: Acenaphthene-d10	71.7	0	50-200	0		%REC	10	05/17/16 06:26 PM
IS: Chrysene-d12	68.4	0	50-200	0		%REC	10	05/17/16 06:26 PM
IS: Naphthalene-d8	108	0	50-200	0		%REC	10	05/17/16 06:26 PM
IS: Perylene-d12	71.7	0	50-200	0		%REC	10	05/17/16 06:26 PM
IS: Phenanthrene-d10	70.0	0	50-200	0		%REC	10	05/17/16 06:26 PM
Surr: 2-Fluorobiphenyl	77.8	0	46-115	0		%REC	10	05/17/16 06:26 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU132-STRAT1
Project:	Laredo SGR	**Lab ID:**	1605096-31
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:00 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	67.0	0	58-133	0		%REC	10	05/17/16 06:26 PM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	25.4	0	0	0		WT%	1	05/12/16 09:55 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU132-STRAT2
Project:	Laredo SGR	**Lab ID:**	1605096-32
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:05 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	411	0.123	0.369	0.184		mg/Kg-dry	5	05/25/16 03:36 PM
IS: Bismuth	95.1	0	30-120	0		%REC	5	05/25/16 03:36 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0918	0.0612	0.122	0.0918	U	mg/Kg-dry	10	05/17/16 07:05 PM
Acenaphthylene	0.0918	0.0612	0.122	0.0918	U	mg/Kg-dry	10	05/17/16 07:05 PM
Anthracene	0.0647	0.0612	0.122	0.0918	J	mg/Kg-dry	10	05/17/16 07:05 PM
Benzo[a]anthracene	0.530	0.0612	0.122	0.0918		mg/Kg-dry	10	05/17/16 07:05 PM
Benzo[a]pyrene	0.707	0.0612	0.122	0.0918		mg/Kg-dry	10	05/17/16 07:05 PM
Benzo[b]fluoranthene	0.644	0.0612	0.122	0.0918		mg/Kg-dry	10	05/17/16 07:05 PM
Benzo[e]pyrene	0.543	0.0612	0.122	0.0918		mg/Kg-dry	10	05/17/16 07:05 PM
Benzo[g,h,i]perylene	0.520	0.0612	0.122	0.0918		mg/Kg-dry	10	05/17/16 07:05 PM
Benzo[j]fluoranthene	0.356	0.0612	0.122	0.0918	N	mg/Kg-dry	10	05/17/16 07:05 PM
Benzo[k]fluoranthene	0.342	0.0612	0.122	0.0918		mg/Kg-dry	10	05/17/16 07:05 PM
Chrysene	0.668	0.0612	0.122	0.0918		mg/Kg-dry	10	05/17/16 07:05 PM
Dibenz[a,h]anthracene	0.119	0.0612	0.122	0.0918	J	mg/Kg-dry	10	05/17/16 07:05 PM
Fluoranthene	0.810	0.0612	0.122	0.0918		mg/Kg-dry	10	05/17/16 07:05 PM
Fluorene	0.0918	0.0612	0.122	0.0918	U	mg/Kg-dry	10	05/17/16 07:05 PM
Indeno[1,2,3-cd]pyrene	0.423	0.0612	0.122	0.0918		mg/Kg-dry	10	05/17/16 07:05 PM
Phenanthrene	0.308	0.0612	0.122	0.0918		mg/Kg-dry	10	05/17/16 07:05 PM
Pyrene	0.744	0.0612	0.122	0.0918		mg/Kg-dry	10	05/17/16 07:05 PM
IS: Acenaphthene-d10	72.6	0	50-200	0		%REC	10	05/17/16 07:05 PM
IS: Chrysene-d12	71.1	0	50-200	0		%REC	10	05/17/16 07:05 PM
IS: Naphthalene-d8	111	0	50-200	0		%REC	10	05/17/16 07:05 PM
IS: Perylene-d12	72.2	0	50-200	0		%REC	10	05/17/16 07:05 PM
IS: Phenanthrene-d10	73.0	0	50-200	0		%REC	10	05/17/16 07:05 PM
Surr: 2-Fluorobiphenyl	76.5	0	46-115	0		%REC	10	05/17/16 07:05 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU132-STRAT2
Project:	Laredo SGR	**Lab ID:**	1605096-32
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:05 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	64.8	0	58-133	0		%REC	10	05/17/16 07:05 PM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	20.2	0	0	0		WT%	1	05/12/16 09:55 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU132-STRAT3
Project:	Laredo SGR	**Lab ID:**	1605096-33
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:10 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	48.3	0.114	0.341	0.171		mg/Kg-dry	5	05/25/16 03:42 PM
IS: Bismuth	98.0	0	30-120	0		%REC	5	05/25/16 03:42 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0847	0.0565	0.113	0.0847	U	mg/Kg-dry	10	05/17/16 07:45 PM
Acenaphthylene	0.0847	0.0565	0.113	0.0847	U	mg/Kg-dry	10	05/17/16 07:45 PM
Anthracene	0.0729	0.0565	0.113	0.0847	J	mg/Kg-dry	10	05/17/16 07:45 PM
Benzo[a]anthracene	0.448	0.0565	0.113	0.0847		mg/Kg-dry	10	05/17/16 07:45 PM
Benzo[a]pyrene	0.484	0.0565	0.113	0.0847		mg/Kg-dry	10	05/17/16 07:45 PM
Benzo[b]fluoranthene	0.470	0.0565	0.113	0.0847		mg/Kg-dry	10	05/17/16 07:45 PM
Benzo[e]pyrene	0.371	0.0565	0.113	0.0847		mg/Kg-dry	10	05/17/16 07:45 PM
Benzo[g,h,i]perylene	0.330	0.0565	0.113	0.0847		mg/Kg-dry	10	05/17/16 07:45 PM
Benzo[j]fluoranthene	0.260	0.0565	0.113	0.0847	N	mg/Kg-dry	10	05/17/16 07:45 PM
Benzo[k]fluoranthene	0.246	0.0565	0.113	0.0847		mg/Kg-dry	10	05/17/16 07:45 PM
Chrysene	0.540	0.0565	0.113	0.0847		mg/Kg-dry	10	05/17/16 07:45 PM
Dibenz[a,h]anthracene	0.0836	0.0565	0.113	0.0847	J	mg/Kg-dry	10	05/17/16 07:45 PM
Fluoranthene	0.822	0.0565	0.113	0.0847		mg/Kg-dry	10	05/17/16 07:45 PM
Fluorene	0.0847	0.0565	0.113	0.0847	U	mg/Kg-dry	10	05/17/16 07:45 PM
Indeno[1,2,3-cd]pyrene	0.274	0.0565	0.113	0.0847		mg/Kg-dry	10	05/17/16 07:45 PM
Phenanthrene	0.379	0.0565	0.113	0.0847		mg/Kg-dry	10	05/17/16 07:45 PM
Pyrene	0.694	0.0565	0.113	0.0847		mg/Kg-dry	10	05/17/16 07:45 PM
IS: Acenaphthene-d10	74.2	0	50-200	0		%REC	10	05/17/16 07:45 PM
IS: Chrysene-d12	69.8	0	50-200	0		%REC	10	05/17/16 07:45 PM
IS: Naphthalene-d8	110	0	50-200	0		%REC	10	05/17/16 07:45 PM
IS: Perylene-d12	72.3	0	50-200	0		%REC	10	05/17/16 07:45 PM
IS: Phenanthrene-d10	73.2	0	50-200	0		%REC	10	05/17/16 07:45 PM
Surr: 2-Fluorobiphenyl	76.6	0	46-115	0		%REC	10	05/17/16 07:45 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level
B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative
DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern
J	Analyte detected between MDL and RL
MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit
RL	Reporting Limit
S	Spike Recovery outside control limits
N	Parameter not NELAC certified

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU132-STRAT3
Project:	Laredo SGR	**Lab ID:**	1605096-33
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:10 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	65.1	0	58-133	0		%REC	10	05/17/16 07:45 PM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	17.9	0	0	0		WT%	1	05/12/16 09:55 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU132-STRAT4
Project:	Laredo SGR	**Lab ID:**	1605096-34
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:15 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	27.7	0.105	0.316	0.158		mg/Kg-dry	5	05/25/16 03:48 PM
IS: Bismuth	95.0	0	30-120	0		%REC	5	05/25/16 03:48 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0804	0.0536	0.107	0.0804	U	mg/Kg-dry	10	05/17/16 08:25 PM
Acenaphthylene	0.0804	0.0536	0.107	0.0804	U	mg/Kg-dry	10	05/17/16 08:25 PM
Anthracene	0.136	0.0536	0.107	0.0804		mg/Kg-dry	10	05/17/16 08:25 PM
Benzo[a]anthracene	1.06	0.0536	0.107	0.0804		mg/Kg-dry	10	05/17/16 08:25 PM
Benzo[a]pyrene	1.28	0.0536	0.107	0.0804		mg/Kg-dry	10	05/17/16 08:25 PM
Benzo[b]fluoranthene	1.25	0.0536	0.107	0.0804		mg/Kg-dry	10	05/17/16 08:25 PM
Benzo[e]pyrene	1.02	0.0536	0.107	0.0804		mg/Kg-dry	10	05/17/16 08:25 PM
Benzo[g,h,i]perylene	0.971	0.0536	0.107	0.0804		mg/Kg-dry	10	05/17/16 08:25 PM
Benzo[j]fluoranthene	0.656	0.0536	0.107	0.0804	N	mg/Kg-dry	10	05/17/16 08:25 PM
Benzo[k]fluoranthene	0.621	0.0536	0.107	0.0804		mg/Kg-dry	10	05/17/16 08:25 PM
Chrysene	1.28	0.0536	0.107	0.0804		mg/Kg-dry	10	05/17/16 08:25 PM
Dibenz[a,h]anthracene	0.213	0.0536	0.107	0.0804		mg/Kg-dry	10	05/17/16 08:25 PM
Fluoranthene	1.82	0.0536	0.107	0.0804		mg/Kg-dry	10	05/17/16 08:25 PM
Fluorene	0.0804	0.0536	0.107	0.0804	U	mg/Kg-dry	10	05/17/16 08:25 PM
Indeno[1,2,3-cd]pyrene	0.776	0.0536	0.107	0.0804		mg/Kg-dry	10	05/17/16 08:25 PM
Phenanthrene	0.720	0.0536	0.107	0.0804		mg/Kg-dry	10	05/17/16 08:25 PM
Pyrene	1.55	0.0536	0.107	0.0804		mg/Kg-dry	10	05/17/16 08:25 PM
IS: Acenaphthene-d10	73.7	0	50-200	0		%REC	10	05/17/16 08:25 PM
IS: Chrysene-d12	68.9	0	50-200	0		%REC	10	05/17/16 08:25 PM
IS: Naphthalene-d8	108	0	50-200	0		%REC	10	05/17/16 08:25 PM
IS: Perylene-d12	71.8	0	50-200	0		%REC	10	05/17/16 08:25 PM
IS: Phenanthrene-d10	72.8	0	50-200	0		%REC	10	05/17/16 08:25 PM
Surr: 2-Fluorobiphenyl	85.5	0	46-115	0		%REC	10	05/17/16 08:25 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU132-STRAT4
Project:	Laredo SGR	**Lab ID:**	1605096-34
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:15 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	74.5	0	58-133	0		%REC	10	05/17/16 08:25 PM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	11.3	0	0	0		WT%	1	05/12/16 09:55 AM

Qualifiers:					
	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	DUP03(20160507)
Project:	Laredo SGR	**Lab ID:**	1605096-35
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:30 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	20.3	0.111	0.334	0.167		mg/Kg-dry	5	05/25/16 03:54 PM
IS: Bismuth	91.2	0	30-120	0		%REC	5	05/25/16 03:54 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0991	0.0661	0.132	0.0991	U	mg/Kg-dry	10	05/17/16 09:04 PM
Acenaphthylene	0.0991	0.0661	0.132	0.0991	U	mg/Kg-dry	10	05/17/16 09:04 PM
Anthracene	0.179	0.0661	0.132	0.0991		mg/Kg-dry	10	05/17/16 09:04 PM
Benzo[a]anthracene	1.23	0.0661	0.132	0.0991		mg/Kg-dry	10	05/17/16 09:04 PM
Benzo[a]pyrene	1.31	0.0661	0.132	0.0991		mg/Kg-dry	10	05/17/16 09:04 PM
Benzo[b]fluoranthene	1.28	0.0661	0.132	0.0991		mg/Kg-dry	10	05/17/16 09:04 PM
Benzo[e]pyrene	1.01	0.0661	0.132	0.0991		mg/Kg-dry	10	05/17/16 09:04 PM
Benzo[g,h,i]perylene	0.884	0.0661	0.132	0.0991		mg/Kg-dry	10	05/17/16 09:04 PM
Benzo[j]fluoranthene	0.664	0.0661	0.132	0.0991	N	mg/Kg-dry	10	05/17/16 09:04 PM
Benzo[k]fluoranthene	0.664	0.0661	0.132	0.0991		mg/Kg-dry	10	05/17/16 09:04 PM
Chrysene	1.46	0.0661	0.132	0.0991		mg/Kg-dry	10	05/17/16 09:04 PM
Dibenz[a,h]anthracene	0.204	0.0661	0.132	0.0991		mg/Kg-dry	10	05/17/16 09:04 PM
Fluoranthene	2.26	0.0661	0.132	0.0991		mg/Kg-dry	10	05/17/16 09:04 PM
Fluorene	0.0991	0.0661	0.132	0.0991	U	mg/Kg-dry	10	05/17/16 09:04 PM
Indeno[1,2,3-cd]pyrene	0.720	0.0661	0.132	0.0991		mg/Kg-dry	10	05/17/16 09:04 PM
Phenanthrene	0.937	0.0661	0.132	0.0991		mg/Kg-dry	10	05/17/16 09:04 PM
Pyrene	1.89	0.0661	0.132	0.0991		mg/Kg-dry	10	05/17/16 09:04 PM
IS: Acenaphthene-d10	74.6	0	50-200	0		%REC	10	05/17/16 09:04 PM
IS: Chrysene-d12	70.4	0	50-200	0		%REC	10	05/17/16 09:04 PM
IS: Naphthalene-d8	109	0	50-200	0		%REC	10	05/17/16 09:04 PM
IS: Perylene-d12	72.9	0	50-200	0		%REC	10	05/17/16 09:04 PM
IS: Phenanthrene-d10	73.7	0	50-200	0		%REC	10	05/17/16 09:04 PM
Surr: 2-Fluorobiphenyl	76.4	0	46-115	0		%REC	10	05/17/16 09:04 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	DUP03(20160507)
Project:	Laredo SGR	**Lab ID:**	1605096-35
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:30 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	65.3	0	58-133	0		%REC	10	05/17/16 09:04 PM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	25.2	0	0	0		WT%	1	05/12/16 09:55 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	EB09(20160507)
Project:	Laredo SGR	**Lab ID:**	1605096-36
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 11:30 AM
Lab Order:	1605096	**Matrix:**	EQUIP BLANK

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER			**SW6020A**					Analyst: **RO**
Lead	0.000900	0.000300	0.00100	0.000900	U	mg/L	1	05/20/16 01:50 PM
IS: Bismuth	95.8	0	30-120	0		%REC	1	05/20/16 01:50 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0000606	0.0000379	0.0000758	0.0000606	U	mg/L	1	05/18/16 05:07 PM
Acenaphthylene	0.0000606	0.0000379	0.0000758	0.0000606	U	mg/L	1	05/18/16 05:07 PM
Anthracene	0.0000606	0.0000379	0.0000758	0.0000606	U	mg/L	1	05/18/16 05:07 PM
Benzo[a]anthracene	0.0000606	0.0000379	0.0000758	0.0000606	U	mg/L	1	05/18/16 05:07 PM
Benzo[a]pyrene	0.0000606	0.0000379	0.0000758	0.0000606	U	mg/L	1	05/18/16 05:07 PM
Benzo[b]fluoranthene	0.0000606	0.0000379	0.0000758	0.0000606	U	mg/L	1	05/18/16 05:07 PM
Benzo[e]pyrene	0.0000606	0.0000379	0.0000758	0.0000606	U	mg/L	1	05/18/16 05:07 PM
Benzo[g,h,i]perylene	0.0000606	0.0000379	0.0000758	0.0000606	U	mg/L	1	05/18/16 05:07 PM
Benzo[j]fluoranthene	0.0000606	0.0000379	0.0000758	0.0000606	NU	mg/L	1	05/18/16 05:07 PM
Benzo[k]fluoranthene	0.0000606	0.0000379	0.0000758	0.0000606	U	mg/L	1	05/18/16 05:07 PM
Chrysene	0.0000606	0.0000379	0.0000758	0.0000606	U	mg/L	1	05/18/16 05:07 PM
Dibenz[a,h]anthracene	0.0000606	0.0000379	0.0000758	0.0000606	U	mg/L	1	05/18/16 05:07 PM
Fluoranthene	0.0000606	0.0000379	0.0000758	0.0000606	U	mg/L	1	05/18/16 05:07 PM
Fluorene	0.0000606	0.0000379	0.0000758	0.0000606	U	mg/L	1	05/18/16 05:07 PM
Indeno[1,2,3-cd]pyrene	0.0000606	0.0000379	0.0000758	0.0000606	U	mg/L	1	05/18/16 05:07 PM
Phenanthrene	0.0000606	0.0000379	0.0000758	0.0000606	U	mg/L	1	05/18/16 05:07 PM
Pyrene	0.0000606	0.0000379	0.0000758	0.0000606	U	mg/L	1	05/18/16 05:07 PM
IS: Acenaphthene-d10	84.0	0	50-200	0		%REC	1	05/18/16 05:07 PM
IS: Chrysene-d12	89.1	0	50-200	0		%REC	1	05/18/16 05:07 PM
IS: Naphthalene-d8	88.0	0	50-200	0		%REC	1	05/18/16 05:07 PM
IS: Perylene-d12	87.8	0	50-200	0		%REC	1	05/18/16 05:07 PM
IS: Phenanthrene-d10	86.7	0	50-200	0		%REC	1	05/18/16 05:07 PM
Surr: 2-Fluorobiphenyl	63.3	0	53-106	0		%REC	1	05/18/16 05:07 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	EB09(20160507)
Project:	Laredo SGR	**Lab ID:**	1605096-36
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 11:30 AM
Lab Order:	1605096	**Matrix:**	EQUIP BLANK

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	69.8	0	58-132	0		%REC	1	05/18/16 05:07 PM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	EB10(20160507)
Project:	Laredo SGR	**Lab ID:**	1605096-37
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:40 PM
Lab Order:	1605096	**Matrix:**	EQUIP BLANK

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER			**SW6020A**					Analyst: **RO**
Lead	0.000900	0.000300	0.00100	0.000900	U	mg/L	1	05/20/16 02:08 PM
IS: Bismuth	96.6	0	30-120	0		%REC	1	05/20/16 02:08 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0000628	0.0000393	0.0000785	0.0000628	U	mg/L	1	05/18/16 05:44 PM
Acenaphthylene	0.0000628	0.0000393	0.0000785	0.0000628	U	mg/L	1	05/18/16 05:44 PM
Anthracene	0.0000628	0.0000393	0.0000785	0.0000628	U	mg/L	1	05/18/16 05:44 PM
Benzo[a]anthracene	0.0000628	0.0000393	0.0000785	0.0000628	U	mg/L	1	05/18/16 05:44 PM
Benzo[a]pyrene	0.0000628	0.0000393	0.0000785	0.0000628	U	mg/L	1	05/18/16 05:44 PM
Benzo[b]fluoranthene	0.0000628	0.0000393	0.0000785	0.0000628	U	mg/L	1	05/18/16 05:44 PM
Benzo[e]pyrene	0.0000628	0.0000393	0.0000785	0.0000628	U	mg/L	1	05/18/16 05:44 PM
Benzo[g,h,i]perylene	0.0000628	0.0000393	0.0000785	0.0000628	U	mg/L	1	05/18/16 05:44 PM
Benzo[j]fluoranthene	0.0000628	0.0000393	0.0000785	0.0000628	NU	mg/L	1	05/18/16 05:44 PM
Benzo[k]fluoranthene	0.0000628	0.0000393	0.0000785	0.0000628	U	mg/L	1	05/18/16 05:44 PM
Chrysene	0.0000628	0.0000393	0.0000785	0.0000628	U	mg/L	1	05/18/16 05:44 PM
Dibenz[a,h]anthracene	0.0000628	0.0000393	0.0000785	0.0000628	U	mg/L	1	05/18/16 05:44 PM
Fluoranthene	0.0000628	0.0000393	0.0000785	0.0000628	U	mg/L	1	05/18/16 05:44 PM
Fluorene	0.0000628	0.0000393	0.0000785	0.0000628	U	mg/L	1	05/18/16 05:44 PM
Indeno[1,2,3-cd]pyrene	0.0000628	0.0000393	0.0000785	0.0000628	U	mg/L	1	05/18/16 05:44 PM
Phenanthrene	0.0000628	0.0000393	0.0000785	0.0000628	U	mg/L	1	05/18/16 05:44 PM
Pyrene	0.0000628	0.0000393	0.0000785	0.0000628	U	mg/L	1	05/18/16 05:44 PM
IS: Acenaphthene-d10	91.5	0	50-200	0		%REC	1	05/18/16 05:44 PM
IS: Chrysene-d12	89.9	0	50-200	0		%REC	1	05/18/16 05:44 PM
IS: Naphthalene-d8	91.2	0	50-200	0		%REC	1	05/18/16 05:44 PM
IS: Perylene-d12	89.3	0	50-200	0		%REC	1	05/18/16 05:44 PM
IS: Phenanthrene-d10	87.5	0	50-200	0		%REC	1	05/18/16 05:44 PM
Surr: 2-Fluorobiphenyl	64.2	0	53-106	0		%REC	1	05/18/16 05:44 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	EB10(20160507)
Project:	Laredo SGR	**Lab ID:**	1605096-37
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:40 PM
Lab Order:	1605096	**Matrix:**	EQUIP BLANK

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	62.3	0	58-132	0		%REC	1	05/18/16 05:44 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04-A
Project:	Laredo SGR	**Lab ID:**	1605096-38
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 03:35 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	59.1	0.0980	0.294	0.147		mg/Kg-dry	5	05/25/16 04:00 PM
IS: Bismuth	96.9	0	30-120	0		%REC	5	05/25/16 04:00 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.118	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/18/16 12:20 AM
Acenaphthylene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/18/16 12:20 AM
Anthracene	0.285	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/18/16 12:20 AM
Benzo[a]anthracene	2.93	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/18/16 12:20 AM
Benzo[a]pyrene	4.01	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/18/16 12:20 AM
Benzo[b]fluoranthene	3.65	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/18/16 12:20 AM
Benzo[e]pyrene	3.06	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/18/16 12:20 AM
Benzo[g,h,i]perylene	3.15	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/18/16 12:20 AM
Benzo[j]fluoranthene	2.00	0.0498	0.0996	0.0747	N	mg/Kg-dry	10	05/18/16 12:20 AM
Benzo[k]fluoranthene	1.92	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/18/16 12:20 AM
Chrysene	3.61	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/18/16 12:20 AM
Dibenz[a,h]anthracene	0.679	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/18/16 12:20 AM
Fluoranthene	4.50	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/18/16 12:20 AM
Fluorene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/18/16 12:20 AM
Indeno[1,2,3-cd]pyrene	2.53	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/18/16 12:20 AM
Phenanthrene	1.52	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/18/16 12:20 AM
Pyrene	3.98	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/18/16 12:20 AM
IS: Acenaphthene-d10	70.4	0	50-200	0		%REC	10	05/18/16 12:20 AM
IS: Chrysene-d12	68.4	0	50-200	0		%REC	10	05/18/16 12:20 AM
IS: Naphthalene-d8	111	0	50-200	0		%REC	10	05/18/16 12:20 AM
IS: Perylene-d12	70.9	0	50-200	0		%REC	10	05/18/16 12:20 AM
IS: Phenanthrene-d10	71.0	0	50-200	0		%REC	10	05/18/16 12:20 AM
Surr: 2-Fluorobiphenyl	83.5	0	46-115	0		%REC	10	05/18/16 12:20 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04-A
Project:	Laredo SGR	**Lab ID:**	1605096-38
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 03:35 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	71.5	0	58-133	0		%REC	10	05/18/16 12:20 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04-B
Project:	Laredo SGR	**Lab ID:**	1605096-39
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 03:50 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	61.3	0.0935	0.280	0.140		mg/Kg-dry	5	05/25/16 04:06 PM
IS: Bismuth	95.7	0	30-120	0		%REC	5	05/25/16 04:06 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.125	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/18/16 01:00 AM
Acenaphthylene	0.0736	0.0491	0.0981	0.0736	U	mg/Kg-dry	10	05/18/16 01:00 AM
Anthracene	0.359	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/18/16 01:00 AM
Benzo[a]anthracene	3.39	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/18/16 01:00 AM
Benzo[a]pyrene	4.57	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/18/16 01:00 AM
Benzo[b]fluoranthene	4.23	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/18/16 01:00 AM
Benzo[e]pyrene	3.53	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/18/16 01:00 AM
Benzo[g,h,i]perylene	3.62	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/18/16 01:00 AM
Benzo[j]fluoranthene	2.30	0.0491	0.0981	0.0736	N	mg/Kg-dry	10	05/18/16 01:00 AM
Benzo[k]fluoranthene	2.22	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/18/16 01:00 AM
Chrysene	4.08	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/18/16 01:00 AM
Dibenz[a,h]anthracene	0.792	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/18/16 01:00 AM
Fluoranthene	5.41	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/18/16 01:00 AM
Fluorene	0.0736	0.0491	0.0981	0.0736	U	mg/Kg-dry	10	05/18/16 01:00 AM
Indeno[1,2,3-cd]pyrene	2.93	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/18/16 01:00 AM
Phenanthrene	1.93	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/18/16 01:00 AM
Pyrene	4.66	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/18/16 01:00 AM
IS: Acenaphthene-d10	70.9	0	50-200	0		%REC	10	05/18/16 01:00 AM
IS: Chrysene-d12	67.8	0	50-200	0		%REC	10	05/18/16 01:00 AM
IS: Naphthalene-d8	108	0	50-200	0		%REC	10	05/18/16 01:00 AM
IS: Perylene-d12	69.3	0	50-200	0		%REC	10	05/18/16 01:00 AM
IS: Phenanthrene-d10	70.8	0	50-200	0		%REC	10	05/18/16 01:00 AM
Surr: 2-Fluorobiphenyl	82.8	0	46-115	0		%REC	10	05/18/16 01:00 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level
B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative
DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern
J	Analyte detected between MDL and RL
MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit
RL	Reporting Limit
S	Spike Recovery outside control limits
N	Parameter not NELAC certified

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04-B
Project:	Laredo SGR	**Lab ID:**	1605096-39
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 03:50 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	72.7	0	58-133	0		%REC	10	05/18/16 01:00 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04-C
Project:	Laredo SGR	**Lab ID:**	1605096-40
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:10 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	62.6	0.0893	0.268	0.134		mg/Kg-dry	5	05/25/16 04:12 PM
IS: Bismuth	97.0	0	30-120	0		%REC	5	05/25/16 04:12 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.113	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/18/16 01:40 AM
Acenaphthylene	0.0748	0.0499	0.0997	0.0748	U	mg/Kg-dry	10	05/18/16 01:40 AM
Anthracene	0.360	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/18/16 01:40 AM
Benzo[a]anthracene	3.08	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/18/16 01:40 AM
Benzo[a]pyrene	4.14	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/18/16 01:40 AM
Benzo[b]fluoranthene	3.87	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/18/16 01:40 AM
Benzo[e]pyrene	3.20	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/18/16 01:40 AM
Benzo[g,h,i]perylene	3.23	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/18/16 01:40 AM
Benzo[j]fluoranthene	2.09	0.0499	0.0997	0.0748	N	mg/Kg-dry	10	05/18/16 01:40 AM
Benzo[k]fluoranthene	1.98	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/18/16 01:40 AM
Chrysene	3.71	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/18/16 01:40 AM
Dibenz[a,h]anthracene	0.714	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/18/16 01:40 AM
Fluoranthene	4.80	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/18/16 01:40 AM
Fluorene	0.0512	0.0499	0.0997	0.0748	J	mg/Kg-dry	10	05/18/16 01:40 AM
Indeno[1,2,3-cd]pyrene	2.62	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/18/16 01:40 AM
Phenanthrene	1.79	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/18/16 01:40 AM
Pyrene	4.16	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/18/16 01:40 AM
IS: Acenaphthene-d10	70.7	0	50-200	0		%REC	10	05/18/16 01:40 AM
IS: Chrysene-d12	68.1	0	50-200	0		%REC	10	05/18/16 01:40 AM
IS: Naphthalene-d8	107	0	50-200	0		%REC	10	05/18/16 01:40 AM
IS: Perylene-d12	69.3	0	50-200	0		%REC	10	05/18/16 01:40 AM
IS: Phenanthrene-d10	71.9	0	50-200	0		%REC	10	05/18/16 01:40 AM
Surr: 2-Fluorobiphenyl	79.6	0	46-115	0		%REC	10	05/18/16 01:40 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04-C
Project:	Laredo SGR	**Lab ID:**	1605096-40
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:10 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	69.6	0	58-133	0		%REC	10	05/18/16 01:40 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03-A
Project:	Laredo SGR	**Lab ID:**	1605096-41
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:15 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	32.5	0.0901	0.270	0.135		mg/Kg-dry	5	05/19/16 09:10 PM
IS: Bismuth	79.1	0	30-120	0		%REC	5	05/19/16 09:10 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0774	0.0495	0.0990	0.0743	J	mg/Kg-dry	10	05/18/16 02:20 AM
Acenaphthylene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/18/16 02:20 AM
Anthracene	0.206	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/18/16 02:20 AM
Benzo[a]anthracene	2.19	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/18/16 02:20 AM
Benzo[a]pyrene	3.04	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/18/16 02:20 AM
Benzo[b]fluoranthene	2.85	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/18/16 02:20 AM
Benzo[e]pyrene	2.38	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/18/16 02:20 AM
Benzo[g,h,i]perylene	2.45	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/18/16 02:20 AM
Benzo[j]fluoranthene	1.54	0.0495	0.0990	0.0743	N	mg/Kg-dry	10	05/18/16 02:20 AM
Benzo[k]fluoranthene	1.51	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/18/16 02:20 AM
Chrysene	2.69	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/18/16 02:20 AM
Dibenz[a,h]anthracene	0.524	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/18/16 02:20 AM
Fluoranthene	3.40	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/18/16 02:20 AM
Fluorene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/18/16 02:20 AM
Indeno[1,2,3-cd]pyrene	1.95	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/18/16 02:20 AM
Phenanthrene	1.13	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/18/16 02:20 AM
Pyrene	2.97	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/18/16 02:20 AM
IS: Acenaphthene-d10	70.7	0	50-200	0		%REC	10	05/18/16 02:20 AM
IS: Chrysene-d12	66.7	0	50-200	0		%REC	10	05/18/16 02:20 AM
IS: Naphthalene-d8	104	0	50-200	0		%REC	10	05/18/16 02:20 AM
IS: Perylene-d12	67.4	0	50-200	0		%REC	10	05/18/16 02:20 AM
IS: Phenanthrene-d10	70.8	0	50-200	0		%REC	10	05/18/16 02:20 AM
Surr: 2-Fluorobiphenyl	81.4	0	46-115	0		%REC	10	05/18/16 02:20 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03-A
Project:	Laredo SGR	**Lab ID:**	1605096-41
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:15 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	72.2	0	58-133	0		%REC	10	05/18/16 02:20 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03-B
Project:	Laredo SGR	**Lab ID:**	1605096-42
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:45 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	26.5	0.0862	0.259	0.129		mg/Kg-dry	5	05/19/16 08:58 PM
IS: Bismuth	78.8	0	30-120	0		%REC	5	05/19/16 08:58 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0537	0.0481	0.0962	0.0721	J	mg/Kg-dry	10	05/18/16 02:59 AM
Acenaphthylene	0.0721	0.0481	0.0962	0.0721	U	mg/Kg-dry	10	05/18/16 02:59 AM
Anthracene	0.145	0.0481	0.0962	0.0721		mg/Kg-dry	10	05/18/16 02:59 AM
Benzo[a]anthracene	1.52	0.0481	0.0962	0.0721		mg/Kg-dry	10	05/18/16 02:59 AM
Benzo[a]pyrene	2.09	0.0481	0.0962	0.0721		mg/Kg-dry	10	05/18/16 02:59 AM
Benzo[b]fluoranthene	1.98	0.0481	0.0962	0.0721		mg/Kg-dry	10	05/18/16 02:59 AM
Benzo[e]pyrene	1.64	0.0481	0.0962	0.0721		mg/Kg-dry	10	05/18/16 02:59 AM
Benzo[g,h,i]perylene	1.68	0.0481	0.0962	0.0721		mg/Kg-dry	10	05/18/16 02:59 AM
Benzo[j]fluoranthene	1.06	0.0481	0.0962	0.0721	N	mg/Kg-dry	10	05/18/16 02:59 AM
Benzo[k]fluoranthene	1.03	0.0481	0.0962	0.0721		mg/Kg-dry	10	05/18/16 02:59 AM
Chrysene	1.88	0.0481	0.0962	0.0721		mg/Kg-dry	10	05/18/16 02:59 AM
Dibenz[a,h]anthracene	0.367	0.0481	0.0962	0.0721		mg/Kg-dry	10	05/18/16 02:59 AM
Fluoranthene	2.34	0.0481	0.0962	0.0721		mg/Kg-dry	10	05/18/16 02:59 AM
Fluorene	0.0721	0.0481	0.0962	0.0721	U	mg/Kg-dry	10	05/18/16 02:59 AM
Indeno[1,2,3-cd]pyrene	1.35	0.0481	0.0962	0.0721		mg/Kg-dry	10	05/18/16 02:59 AM
Phenanthrene	0.788	0.0481	0.0962	0.0721		mg/Kg-dry	10	05/18/16 02:59 AM
Pyrene	2.06	0.0481	0.0962	0.0721		mg/Kg-dry	10	05/18/16 02:59 AM
IS: Acenaphthene-d10	74.3	0	50-200	0		%REC	10	05/18/16 02:59 AM
IS: Chrysene-d12	69.7	0	50-200	0		%REC	10	05/18/16 02:59 AM
IS: Naphthalene-d8	111	0	50-200	0		%REC	10	05/18/16 02:59 AM
IS: Perylene-d12	70.1	0	50-200	0		%REC	10	05/18/16 02:59 AM
IS: Phenanthrene-d10	74.5	0	50-200	0		%REC	10	05/18/16 02:59 AM
Surr: 2-Fluorobiphenyl	79.6	0	46-115	0		%REC	10	05/18/16 02:59 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03-B
Project:	Laredo SGR	**Lab ID:**	1605096-42
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:45 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	70.4	0	58-133	0		%REC	10	05/18/16 02:59 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03-C
Project:	Laredo SGR	**Lab ID:**	1605096-43
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:05 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	37.6	0.0990	0.297	0.149		mg/Kg-dry	5	05/19/16 09:16 PM
IS: Bismuth	80.0	0	30-120	0		%REC	5	05/19/16 09:16 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0675	0.0497	0.0994	0.0746	J	mg/Kg-dry	10	05/18/16 03:39 AM
Acenaphthylene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/18/16 03:39 AM
Anthracene	0.182	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/18/16 03:39 AM
Benzo[a]anthracene	1.98	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/18/16 03:39 AM
Benzo[a]pyrene	2.69	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/18/16 03:39 AM
Benzo[b]fluoranthene	2.58	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/18/16 03:39 AM
Benzo[e]pyrene	2.14	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/18/16 03:39 AM
Benzo[g,h,i]perylene	2.21	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/18/16 03:39 AM
Benzo[j]fluoranthene	1.38	0.0497	0.0994	0.0746	N	mg/Kg-dry	10	05/18/16 03:39 AM
Benzo[k]fluoranthene	1.35	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/18/16 03:39 AM
Chrysene	2.43	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/18/16 03:39 AM
Dibenz[a,h]anthracene	0.475	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/18/16 03:39 AM
Fluoranthene	3.08	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/18/16 03:39 AM
Fluorene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/18/16 03:39 AM
Indeno[1,2,3-cd]pyrene	1.75	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/18/16 03:39 AM
Phenanthrene	1.03	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/18/16 03:39 AM
Pyrene	2.72	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/18/16 03:39 AM
IS: Acenaphthene-d10	74.6	0	50-200	0		%REC	10	05/18/16 03:39 AM
IS: Chrysene-d12	70.5	0	50-200	0		%REC	10	05/18/16 03:39 AM
IS: Naphthalene-d8	112	0	50-200	0		%REC	10	05/18/16 03:39 AM
IS: Perylene-d12	71.4	0	50-200	0		%REC	10	05/18/16 03:39 AM
IS: Phenanthrene-d10	74.8	0	50-200	0		%REC	10	05/18/16 03:39 AM
Surr: 2-Fluorobiphenyl	80.1	0	46-115	0		%REC	10	05/18/16 03:39 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03-C
Project:	Laredo SGR	**Lab ID:**	1605096-43
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:05 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	71.3	0	58-133	0		%REC	10	05/18/16 03:39 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	EB14(20160508)
Project:	Laredo SGR	**Lab ID:**	1605096-44
Project No:	04285081.0000.00044	**Collection Date:**	05/08/16 03:00 PM
Lab Order:	1605096	**Matrix:**	EQUIP BLANK

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER			**SW6020A**					Analyst: **RO**
Lead	0.000900	0.000300	0.00100	0.000900	U	mg/L	1	05/20/16 02:10 PM
IS: Bismuth	98.4	0	30-120	0		%REC	1	05/20/16 02:10 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0000627	0.0000392	0.0000783	0.0000627	U	mg/L	1	05/18/16 06:21 PM
Acenaphthylene	0.0000627	0.0000392	0.0000783	0.0000627	U	mg/L	1	05/18/16 06:21 PM
Anthracene	0.0000627	0.0000392	0.0000783	0.0000627	U	mg/L	1	05/18/16 06:21 PM
Benzo[a]anthracene	0.0000662	0.0000392	0.0000783	0.0000627	J	mg/L	1	05/18/16 06:21 PM
Benzo[a]pyrene	0.0000880	0.0000392	0.0000783	0.0000627		mg/L	1	05/18/16 06:21 PM
Benzo[b]fluoranthene	0.0000973	0.0000392	0.0000783	0.0000627		mg/L	1	05/18/16 06:21 PM
Benzo[e]pyrene	0.0000713	0.0000392	0.0000783	0.0000627	J	mg/L	1	05/18/16 06:21 PM
Benzo[g,h,i]perylene	0.0000632	0.0000392	0.0000783	0.0000627	J	mg/L	1	05/18/16 06:21 PM
Benzo[j]fluoranthene	0.0000433	0.0000392	0.0000783	0.0000627	JN	mg/L	1	05/18/16 06:21 PM
Benzo[k]fluoranthene	0.0000495	0.0000392	0.0000783	0.0000627	J	mg/L	1	05/18/16 06:21 PM
Chrysene	0.0000896	0.0000392	0.0000783	0.0000627		mg/L	1	05/18/16 06:21 PM
Dibenz[a,h]anthracene	0.0000627	0.0000392	0.0000783	0.0000627	U	mg/L	1	05/18/16 06:21 PM
Fluoranthene	0.0000490	0.0000392	0.0000783	0.0000627	J	mg/L	1	05/18/16 06:21 PM
Fluorene	0.0000627	0.0000392	0.0000783	0.0000627	U	mg/L	1	05/18/16 06:21 PM
Indeno[1,2,3-cd]pyrene	0.0000558	0.0000392	0.0000783	0.0000627	J	mg/L	1	05/18/16 06:21 PM
Phenanthrene	0.0000627	0.0000392	0.0000783	0.0000627	U	mg/L	1	05/18/16 06:21 PM
Pyrene	0.0000479	0.0000392	0.0000783	0.0000627	J	mg/L	1	05/18/16 06:21 PM
IS: Acenaphthene-d10	91.0	0	50-200	0		%REC	1	05/18/16 06:21 PM
IS: Chrysene-d12	88.6	0	50-200	0		%REC	1	05/18/16 06:21 PM
IS: Naphthalene-d8	89.4	0	50-200	0		%REC	1	05/18/16 06:21 PM
IS: Perylene-d12	88.4	0	50-200	0		%REC	1	05/18/16 06:21 PM
IS: Phenanthrene-d10	86.8	0	50-200	0		%REC	1	05/18/16 06:21 PM
Surr: 2-Fluorobiphenyl	68.1	0	53-106	0		%REC	1	05/18/16 06:21 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	EB14(20160508)
Project:	Laredo SGR	**Lab ID:**	1605096-44
Project No:	04285081.0000.00044	**Collection Date:**	05/08/16 03:00 PM
Lab Order:	1605096	**Matrix:**	EQUIP BLANK

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	66.9	0	58-132	0		%REC	1	05/18/16 06:21 PM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(0-2)-A
Project:	Laredo SGR	**Lab ID:**	1605096-45
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:48 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	103	0.0971	0.291	0.146		mg/Kg-dry	5	05/19/16 09:22 PM
IS: Bismuth	78.9	0	30-120	0		%REC	5	05/19/16 09:22 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.862	0.244	0.489	0.367		mg/Kg-dry	50	05/18/16 04:18 AM
Acenaphthylene	0.367	0.244	0.489	0.367	U	mg/Kg-dry	50	05/18/16 04:18 AM
Anthracene	3.10	0.244	0.489	0.367		mg/Kg-dry	50	05/18/16 04:18 AM
Benzo[a]anthracene	26.9	0.244	0.489	0.367		mg/Kg-dry	50	05/18/16 04:18 AM
Benzo[a]pyrene	33.7	0.244	0.489	0.367		mg/Kg-dry	50	05/18/16 04:18 AM
Benzo[b]fluoranthene	32.0	0.244	0.489	0.367		mg/Kg-dry	50	05/18/16 04:18 AM
Benzo[e]pyrene	26.1	0.244	0.489	0.367		mg/Kg-dry	50	05/18/16 04:18 AM
Benzo[g,h,i]perylene	24.8	0.244	0.489	0.367		mg/Kg-dry	50	05/18/16 04:18 AM
Benzo[j]fluoranthene	16.8	0.244	0.489	0.367	N	mg/Kg-dry	50	05/18/16 04:18 AM
Benzo[k]fluoranthene	16.2	0.244	0.489	0.367		mg/Kg-dry	50	05/18/16 04:18 AM
Chrysene	32.0	0.244	0.489	0.367		mg/Kg-dry	50	05/18/16 04:18 AM
Dibenz[a,h]anthracene	5.41	0.244	0.489	0.367		mg/Kg-dry	50	05/18/16 04:18 AM
Fluoranthene	42.1	0.244	0.489	0.367		mg/Kg-dry	50	05/18/16 04:18 AM
Fluorene	0.357	0.244	0.489	0.367	J	mg/Kg-dry	50	05/18/16 04:18 AM
Indeno[1,2,3-cd]pyrene	19.9	0.244	0.489	0.367		mg/Kg-dry	50	05/18/16 04:18 AM
Phenanthrene	16.0	0.244	0.489	0.367		mg/Kg-dry	50	05/18/16 04:18 AM
Pyrene	36.4	0.244	0.489	0.367		mg/Kg-dry	50	05/18/16 04:18 AM
IS: Acenaphthene-d10	74.0	0	50-200	0		%REC	50	05/18/16 04:18 AM
IS: Chrysene-d12	69.8	0	50-200	0		%REC	50	05/18/16 04:18 AM
IS: Naphthalene-d8	113	0	50-200	0		%REC	50	05/18/16 04:18 AM
IS: Perylene-d12	71.7	0	50-200	0		%REC	50	05/18/16 04:18 AM
IS: Phenanthrene-d10	73.6	0	50-200	0		%REC	50	05/18/16 04:18 AM
Surr: 2-Fluorobiphenyl	78.1	0	46-115	0		%REC	50	05/18/16 04:18 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(0-2)-A
Project:	Laredo SGR	**Lab ID:**	1605096-45
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:48 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	68.1	0	58-133	0		%REC	50	05/18/16 04:18 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(2-4)-A
Project:	Laredo SGR	**Lab ID:**	1605096-46
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:50 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	97.6	0.0909	0.273	0.136		mg/Kg-dry	5	05/19/16 09:28 PM
IS: Bismuth	77.6	0	30-120	0		%REC	5	05/19/16 09:28 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	3.11	0.248	0.495	0.371		mg/Kg-dry	50	05/18/16 04:58 AM
Acenaphthylene	0.371	0.248	0.495	0.371	U	mg/Kg-dry	50	05/18/16 04:58 AM
Anthracene	9.75	0.248	0.495	0.371		mg/Kg-dry	50	05/18/16 04:58 AM
Benzo[a]anthracene	85.0	0.248	0.495	0.371		mg/Kg-dry	50	05/18/16 04:58 AM
Benzo[a]pyrene	105	0.248	0.495	0.371		mg/Kg-dry	50	05/18/16 04:58 AM
Benzo[b]fluoranthene	98.0	0.248	0.495	0.371		mg/Kg-dry	50	05/18/16 04:58 AM
Benzo[e]pyrene	78.9	0.248	0.495	0.371		mg/Kg-dry	50	05/18/16 04:58 AM
Benzo[g,h,i]perylene	76.1	0.248	0.495	0.371		mg/Kg-dry	50	05/18/16 04:58 AM
Benzo[j]fluoranthene	51.7	0.248	0.495	0.371	N	mg/Kg-dry	50	05/18/16 04:58 AM
Benzo[k]fluoranthene	51.3	0.248	0.495	0.371		mg/Kg-dry	50	05/18/16 04:58 AM
Chrysene	101	0.248	0.495	0.371		mg/Kg-dry	50	05/18/16 04:58 AM
Dibenz[a,h]anthracene	16.8	0.248	0.495	0.371		mg/Kg-dry	50	05/18/16 04:58 AM
Fluoranthene	133	0.248	0.495	0.371		mg/Kg-dry	50	05/18/16 04:58 AM
Fluorene	1.36	0.248	0.495	0.371		mg/Kg-dry	50	05/18/16 04:58 AM
Indeno[1,2,3-cd]pyrene	61.7	0.248	0.495	0.371		mg/Kg-dry	50	05/18/16 04:58 AM
Phenanthrene	48.5	0.248	0.495	0.371		mg/Kg-dry	50	05/18/16 04:58 AM
Pyrene	115	0.248	0.495	0.371		mg/Kg-dry	50	05/18/16 04:58 AM
IS: Acenaphthene-d10	68.1	0	50-200	0		%REC	50	05/18/16 04:58 AM
IS: Chrysene-d12	66.9	0	50-200	0		%REC	50	05/18/16 04:58 AM
IS: Naphthalene-d8	111	0	50-200	0		%REC	50	05/18/16 04:58 AM
IS: Perylene-d12	67.8	0	50-200	0		%REC	50	05/18/16 04:58 AM
IS: Phenanthrene-d10	69.2	0	50-200	0		%REC	50	05/18/16 04:58 AM
Surr: 2-Fluorobiphenyl	107	0	46-115	0		%REC	50	05/18/16 04:58 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(2-4)-A
Project:	Laredo SGR	**Lab ID:**	1605096-46
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:50 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	93.3	0	58-133	0		%REC	50	05/18/16 04:58 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(4-6)-A
Project:	Laredo SGR	**Lab ID:**	1605096-47
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:53 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	8.27	0.0962	0.288	0.144		mg/Kg-dry	5	05/19/16 09:34 PM
IS: Bismuth	78.4	0	30-120	0		%REC	5	05/19/16 09:34 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.266	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:37 AM
Acenaphthylene	0.0723	0.0482	0.0964	0.0723	U	mg/Kg-dry	10	05/18/16 05:37 AM
Anthracene	0.766	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:37 AM
Benzo[a]anthracene	5.62	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:37 AM
Benzo[a]pyrene	7.05	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:37 AM
Benzo[b]fluoranthene	6.39	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:37 AM
Benzo[e]pyrene	5.13	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:37 AM
Benzo[g,h,i]perylene	4.97	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:37 AM
Benzo[j]fluoranthene	3.40	0.0482	0.0964	0.0723	N	mg/Kg-dry	10	05/18/16 05:37 AM
Benzo[k]fluoranthene	3.23	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:37 AM
Chrysene	6.72	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:37 AM
Dibenz[a,h]anthracene	1.08	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:37 AM
Fluoranthene	9.10	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:37 AM
Fluorene	0.170	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:37 AM
Indeno[1,2,3-cd]pyrene	4.03	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:37 AM
Phenanthrene	3.43	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:37 AM
Pyrene	7.79	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:37 AM
IS: Acenaphthene-d10	73.7	0	50-200	0		%REC	10	05/18/16 05:37 AM
IS: Chrysene-d12	70.5	0	50-200	0		%REC	10	05/18/16 05:37 AM
IS: Naphthalene-d8	111	0	50-200	0		%REC	10	05/18/16 05:37 AM
IS: Perylene-d12	73.3	0	50-200	0		%REC	10	05/18/16 05:37 AM
IS: Phenanthrene-d10	72.7	0	50-200	0		%REC	10	05/18/16 05:37 AM
Surr: 2-Fluorobiphenyl	78.8	0	46-115	0		%REC	10	05/18/16 05:37 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(4-6)-A
Project:	Laredo SGR	**Lab ID:**	1605096-47
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:53 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	66.9	0	58-133	0		%REC	10	05/18/16 05:37 AM

Qualifiers:					
	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(6-8)-A
Project:	Laredo SGR	**Lab ID:**	1605096-48
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:55 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	6.99	0.0952	0.286	0.143		mg/Kg-dry	5	05/19/16 09:40 PM
IS: Bismuth	82.9	0	30-120	0		%REC	5	05/19/16 09:40 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0718	0.0478	0.0957	0.0718	U	mg/Kg-dry	10	05/18/16 11:11 AM
Acenaphthylene	0.0718	0.0478	0.0957	0.0718	U	mg/Kg-dry	10	05/18/16 11:11 AM
Anthracene	0.0718	0.0478	0.0957	0.0718	U	mg/Kg-dry	10	05/18/16 11:11 AM
Benzo[a]anthracene	0.296	0.0478	0.0957	0.0718		mg/Kg-dry	10	05/18/16 11:11 AM
Benzo[a]pyrene	0.392	0.0478	0.0957	0.0718		mg/Kg-dry	10	05/18/16 11:11 AM
Benzo[b]fluoranthene	0.355	0.0478	0.0957	0.0718		mg/Kg-dry	10	05/18/16 11:11 AM
Benzo[e]pyrene	0.300	0.0478	0.0957	0.0718		mg/Kg-dry	10	05/18/16 11:11 AM
Benzo[g,h,i]perylene	0.292	0.0478	0.0957	0.0718		mg/Kg-dry	10	05/18/16 11:11 AM
Benzo[j]fluoranthene	0.203	0.0478	0.0957	0.0718	N	mg/Kg-dry	10	05/18/16 11:11 AM
Benzo[k]fluoranthene	0.194	0.0478	0.0957	0.0718		mg/Kg-dry	10	05/18/16 11:11 AM
Chrysene	0.362	0.0478	0.0957	0.0718		mg/Kg-dry	10	05/18/16 11:11 AM
Dibenz[a,h]anthracene	0.0735	0.0478	0.0957	0.0718	J	mg/Kg-dry	10	05/18/16 11:11 AM
Fluoranthene	0.448	0.0478	0.0957	0.0718		mg/Kg-dry	10	05/18/16 11:11 AM
Fluorene	0.0718	0.0478	0.0957	0.0718	U	mg/Kg-dry	10	05/18/16 11:11 AM
Indeno[1,2,3-cd]pyrene	0.235	0.0478	0.0957	0.0718		mg/Kg-dry	10	05/18/16 11:11 AM
Phenanthrene	0.135	0.0478	0.0957	0.0718		mg/Kg-dry	10	05/18/16 11:11 AM
Pyrene	0.409	0.0478	0.0957	0.0718		mg/Kg-dry	10	05/18/16 11:11 AM
IS: Acenaphthene-d10	70.4	0	50-200	0		%REC	10	05/18/16 11:11 AM
IS: Chrysene-d12	69.5	0	50-200	0		%REC	10	05/18/16 11:11 AM
IS: Naphthalene-d8	108	0	50-200	0		%REC	10	05/18/16 11:11 AM
IS: Perylene-d12	72.8	0	50-200	0		%REC	10	05/18/16 11:11 AM
IS: Phenanthrene-d10	66.8	0	50-200	0		%REC	10	05/18/16 11:11 AM
Surr: 2-Fluorobiphenyl	85.3	0	46-115	0		%REC	10	05/18/16 11:11 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(6-8)-A
Project:	Laredo SGR	**Lab ID:**	1605096-48
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:55 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	70.8	0	58-133	0		%REC	10	05/18/16 11:11 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(8-10)-A
Project:	Laredo SGR	**Lab ID:**	1605096-49
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:58 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	10.2	0.0870	0.261	0.130		mg/Kg-dry	5	05/19/16 09:46 PM
IS: Bismuth	73.5	0	30-120	0		%REC	5	05/19/16 09:46 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0730	0.0486	0.0973	0.0730	U	mg/Kg-dry	10	05/18/16 11:50 AM
Acenaphthylene	0.0730	0.0486	0.0973	0.0730	U	mg/Kg-dry	10	05/18/16 11:50 AM
Anthracene	0.0730	0.0486	0.0973	0.0730	U	mg/Kg-dry	10	05/18/16 11:50 AM
Benzo[a]anthracene	0.254	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/18/16 11:50 AM
Benzo[a]pyrene	0.332	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/18/16 11:50 AM
Benzo[b]fluoranthene	0.301	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/18/16 11:50 AM
Benzo[e]pyrene	0.255	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/18/16 11:50 AM
Benzo[g,h,i]perylene	0.246	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/18/16 11:50 AM
Benzo[j]fluoranthene	0.171	0.0486	0.0973	0.0730	N	mg/Kg-dry	10	05/18/16 11:50 AM
Benzo[k]fluoranthene	0.162	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/18/16 11:50 AM
Chrysene	0.307	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/18/16 11:50 AM
Dibenz[a,h]anthracene	0.0636	0.0486	0.0973	0.0730	J	mg/Kg-dry	10	05/18/16 11:50 AM
Fluoranthene	0.387	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/18/16 11:50 AM
Fluorene	0.0730	0.0486	0.0973	0.0730	U	mg/Kg-dry	10	05/18/16 11:50 AM
Indeno[1,2,3-cd]pyrene	0.202	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/18/16 11:50 AM
Phenanthrene	0.121	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/18/16 11:50 AM
Pyrene	0.345	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/18/16 11:50 AM
IS: Acenaphthene-d10	73.1	0	50-200	0		%REC	10	05/18/16 11:50 AM
IS: Chrysene-d12	70.9	0	50-200	0		%REC	10	05/18/16 11:50 AM
IS: Naphthalene-d8	108	0	50-200	0		%REC	10	05/18/16 11:50 AM
IS: Perylene-d12	73.9	0	50-200	0		%REC	10	05/18/16 11:50 AM
IS: Phenanthrene-d10	70.1	0	50-200	0		%REC	10	05/18/16 11:50 AM
Surr: 2-Fluorobiphenyl	85.1	0	46-115	0		%REC	10	05/18/16 11:50 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(8-10)-A
Project:	Laredo SGR	**Lab ID:**	1605096-49
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:58 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	70.3	0	58-133	0		%REC	10	05/18/16 11:50 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(0-2)-B
Project:	Laredo SGR	**Lab ID:**	1605096-50
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:00 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	85.2	0.0877	0.263	0.132		mg/Kg-dry	5	05/19/16 09:52 PM
IS: Bismuth	77.1	0	30-120	0		%REC	5	05/19/16 09:52 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.632	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:07 PM
Acenaphthylene	0.0723	0.0482	0.0964	0.0723	U	mg/Kg-dry	10	05/18/16 05:07 PM
Anthracene	2.57	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:07 PM
Benzo[a]anthracene	16.4	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:07 PM
Benzo[a]pyrene	19.0	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:07 PM
Benzo[b]fluoranthene	17.9	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:07 PM
Benzo[e]pyrene	14.3	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:07 PM
Benzo[g,h,i]perylene	14.2	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:07 PM
Benzo[j]fluoranthene	9.65	0.0482	0.0964	0.0723	N	mg/Kg-dry	10	05/18/16 05:07 PM
Benzo[k]fluoranthene	9.11	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:07 PM
Chrysene	19.1	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:07 PM
Dibenz[a,h]anthracene	3.28	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:07 PM
Fluoranthene	28.7	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:07 PM
Fluorene	0.337	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:07 PM
Indeno[1,2,3-cd]pyrene	11.7	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:07 PM
Phenanthrene	13.1	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:07 PM
Pyrene	23.8	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:07 PM
IS: Acenaphthene-d10	69.1	0	50-200	0		%REC	10	05/18/16 05:07 PM
IS: Chrysene-d12	70.1	0	50-200	0		%REC	10	05/18/16 05:07 PM
IS: Naphthalene-d8	105	0	50-200	0		%REC	10	05/18/16 05:07 PM
IS: Perylene-d12	72.3	0	50-200	0		%REC	10	05/18/16 05:07 PM
IS: Phenanthrene-d10	72.6	0	50-200	0		%REC	10	05/18/16 05:07 PM
Surr: 2-Fluorobiphenyl	84.4	0	46-115	0		%REC	10	05/18/16 05:07 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(0-2)-B
Project:	Laredo SGR	**Lab ID:**	1605096-50
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:00 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	71.9	0	58-133	0		%REC	10	05/18/16 05:07 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(2-4)-B
Project:	Laredo SGR	**Lab ID:**	1605096-51
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:02 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	22.1	0.0917	0.275	0.138		mg/Kg-dry	5	05/19/16 09:58 PM
IS: Bismuth	79.8	0	30-120	0		%REC	5	05/19/16 09:58 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.268	0.0485	0.0970	0.0727		mg/Kg-dry	10	05/18/16 09:42 PM
Acenaphthylene	0.0727	0.0485	0.0970	0.0727	U	mg/Kg-dry	10	05/18/16 09:42 PM
Anthracene	1.52	0.0485	0.0970	0.0727		mg/Kg-dry	10	05/18/16 09:42 PM
Benzo[a]anthracene	7.07	0.0485	0.0970	0.0727		mg/Kg-dry	10	05/18/16 09:42 PM
Benzo[a]pyrene	7.81	0.0485	0.0970	0.0727		mg/Kg-dry	10	05/18/16 09:42 PM
Benzo[b]fluoranthene	7.26	0.0485	0.0970	0.0727		mg/Kg-dry	10	05/18/16 09:42 PM
Benzo[e]pyrene	5.80	0.0485	0.0970	0.0727		mg/Kg-dry	10	05/18/16 09:42 PM
Benzo[g,h,i]perylene	5.24	0.0485	0.0970	0.0727		mg/Kg-dry	10	05/18/16 09:42 PM
Benzo[j]fluoranthene	3.95	0.0485	0.0970	0.0727	N	mg/Kg-dry	10	05/18/16 09:42 PM
Benzo[k]fluoranthene	3.82	0.0485	0.0970	0.0727		mg/Kg-dry	10	05/18/16 09:42 PM
Chrysene	8.27	0.0485	0.0970	0.0727		mg/Kg-dry	10	05/18/16 09:42 PM
Dibenz[a,h]anthracene	1.23	0.0485	0.0970	0.0727		mg/Kg-dry	10	05/18/16 09:42 PM
Fluoranthene	13.8	0.0485	0.0970	0.0727		mg/Kg-dry	10	05/18/16 09:42 PM
Fluorene	0.238	0.0485	0.0970	0.0727		mg/Kg-dry	10	05/18/16 09:42 PM
Indeno[1,2,3-cd]pyrene	4.45	0.0485	0.0970	0.0727		mg/Kg-dry	10	05/18/16 09:42 PM
Phenanthrene	6.83	0.0485	0.0970	0.0727		mg/Kg-dry	10	05/18/16 09:42 PM
Pyrene	11.2	0.0485	0.0970	0.0727		mg/Kg-dry	10	05/18/16 09:42 PM
IS: Acenaphthene-d10	73.7	0	50-200	0		%REC	10	05/18/16 09:42 PM
IS: Chrysene-d12	70.8	0	50-200	0		%REC	10	05/18/16 09:42 PM
IS: Naphthalene-d8	112	0	50-200	0		%REC	10	05/18/16 09:42 PM
IS: Perylene-d12	73.4	0	50-200	0		%REC	10	05/18/16 09:42 PM
IS: Phenanthrene-d10	72.0	0	50-200	0		%REC	10	05/18/16 09:42 PM
Surr: 2-Fluorobiphenyl	81.9	0	46-115	0		%REC	10	05/18/16 09:42 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(2-4)-B
Project:	Laredo SGR	**Lab ID:**	1605096-51
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:02 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	70.3	0	58-133	0		%REC	10	05/18/16 09:42 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(4-6)-B
Project:	Laredo SGR	**Lab ID:**	1605096-52
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:14 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	34.5	0.0855	0.256	0.128		mg/Kg-dry	5	05/19/16 10:52 PM
IS: Bismuth	71.0	0	30-120	0		%REC	5	05/19/16 10:52 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.363	0.0489	0.0978	0.0733		mg/Kg-dry	10	05/18/16 05:46 PM
Acenaphthylene	0.0733	0.0489	0.0978	0.0733	U	mg/Kg-dry	10	05/18/16 05:46 PM
Anthracene	1.75	0.0489	0.0978	0.0733	JL	mg/Kg-dry	10	05/18/16 05:46 PM
Benzo[a]anthracene	10.8	0.0489	0.0978	0.0733		mg/Kg-dry	10	05/18/16 05:46 PM
Benzo[a]pyrene	12.4	0.0489	0.0978	0.0733		mg/Kg-dry	10	05/18/16 05:46 PM
Benzo[b]fluoranthene	11.9	0.0489	0.0978	0.0733		mg/Kg-dry	10	05/18/16 05:46 PM
Benzo[e]pyrene	9.62	0.0489	0.0978	0.0733		mg/Kg-dry	10	05/18/16 05:46 PM
Benzo[g,h,i]perylene	9.15	0.0489	0.0978	0.0733		mg/Kg-dry	10	05/18/16 05:46 PM
Benzo[j]fluoranthene	6.35	0.0489	0.0978	0.0733	N	mg/Kg-dry	10	05/18/16 05:46 PM
Benzo[k]fluoranthene	6.05	0.0489	0.0978	0.0733		mg/Kg-dry	10	05/18/16 05:46 PM
Chrysene	12.7	0.0489	0.0978	0.0733		mg/Kg-dry	10	05/18/16 05:46 PM
Dibenz[a,h]anthracene	2.10	0.0489	0.0978	0.0733		mg/Kg-dry	10	05/18/16 05:46 PM
Fluoranthene	18.4	0.0489	0.0978	0.0733		mg/Kg-dry	10	05/18/16 05:46 PM
Fluorene	0.244	0.0489	0.0978	0.0733		mg/Kg-dry	10	05/18/16 05:46 PM
Indeno[1,2,3-cd]pyrene	7.53	0.0489	0.0978	0.0733		mg/Kg-dry	10	05/18/16 05:46 PM
Phenanthrene	8.46	0.0489	0.0978	0.0733		mg/Kg-dry	10	05/18/16 05:46 PM
Pyrene	15.4	0.0489	0.0978	0.0733		mg/Kg-dry	10	05/18/16 05:46 PM
IS: Acenaphthene-d10	80.1	0	50-200	0		%REC	10	05/18/16 05:46 PM
IS: Chrysene-d12	78.8	0	50-200	0		%REC	10	05/18/16 05:46 PM
IS: Naphthalene-d8	122	0	50-200	0		%REC	10	05/18/16 05:46 PM
IS: Perylene-d12	81.8	0	50-200	0		%REC	10	05/18/16 05:46 PM
IS: Phenanthrene-d10	81.3	0	50-200	0		%REC	10	05/18/16 05:46 PM
Surr: 2-Fluorobiphenyl	80.9	0	46-115	0		%REC	10	05/18/16 05:46 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(4-6)-B
Project:	Laredo SGR	**Lab ID:**	1605096-52
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:14 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	69.6	0	58-133	0		%REC	10	05/18/16 05:46 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(6-8)-B
Project:	Laredo SGR	**Lab ID:**	1605096-53
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:16 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	5.47	0.0952	0.286	0.143		mg/Kg-dry	5	05/19/16 10:58 PM
IS: Bismuth	74.7	0	30-120	0		%REC	5	05/19/16 10:58 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0726	0.0484	0.0968	0.0726	U	mg/Kg-dry	10	05/18/16 12:30 PM
Acenaphthylene	0.0726	0.0484	0.0968	0.0726	U	mg/Kg-dry	10	05/18/16 12:30 PM
Anthracene	0.0726	0.0484	0.0968	0.0726	U	mg/Kg-dry	10	05/18/16 12:30 PM
Benzo[a]anthracene	0.0800	0.0484	0.0968	0.0726	J	mg/Kg-dry	10	05/18/16 12:30 PM
Benzo[a]pyrene	0.100	0.0484	0.0968	0.0726		mg/Kg-dry	10	05/18/16 12:30 PM
Benzo[b]fluoranthene	0.0910	0.0484	0.0968	0.0726	J	mg/Kg-dry	10	05/18/16 12:30 PM
Benzo[e]pyrene	0.0838	0.0484	0.0968	0.0726	J	mg/Kg-dry	10	05/18/16 12:30 PM
Benzo[g,h,i]perylene	0.0850	0.0484	0.0968	0.0726	J	mg/Kg-dry	10	05/18/16 12:30 PM
Benzo[j]fluoranthene	0.0560	0.0484	0.0968	0.0726	JN	mg/Kg-dry	10	05/18/16 12:30 PM
Benzo[k]fluoranthene	0.0574	0.0484	0.0968	0.0726	J	mg/Kg-dry	10	05/18/16 12:30 PM
Chrysene	0.0962	0.0484	0.0968	0.0726	J	mg/Kg-dry	10	05/18/16 12:30 PM
Dibenz[a,h]anthracene	0.0726	0.0484	0.0968	0.0726	U	mg/Kg-dry	10	05/18/16 12:30 PM
Fluoranthene	0.118	0.0484	0.0968	0.0726		mg/Kg-dry	10	05/18/16 12:30 PM
Fluorene	0.0726	0.0484	0.0968	0.0726	U	mg/Kg-dry	10	05/18/16 12:30 PM
Indeno[1,2,3-cd]pyrene	0.0682	0.0484	0.0968	0.0726	J	mg/Kg-dry	10	05/18/16 12:30 PM
Phenanthrene	0.0548	0.0484	0.0968	0.0726	J	mg/Kg-dry	10	05/18/16 12:30 PM
Pyrene	0.109	0.0484	0.0968	0.0726		mg/Kg-dry	10	05/18/16 12:30 PM
IS: Acenaphthene-d10	72.0	0	50-200	0		%REC	10	05/18/16 12:30 PM
IS: Chrysene-d12	68.7	0	50-200	0		%REC	10	05/18/16 12:30 PM
IS: Naphthalene-d8	108	0	50-200	0		%REC	10	05/18/16 12:30 PM
IS: Perylene-d12	72.4	0	50-200	0		%REC	10	05/18/16 12:30 PM
IS: Phenanthrene-d10	67.4	0	50-200	0		%REC	10	05/18/16 12:30 PM
Surr: 2-Fluorobiphenyl	83.0	0	46-115	0		%REC	10	05/18/16 12:30 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(6-8)-B
Project:	Laredo SGR	**Lab ID:**	1605096-53
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:16 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	70.3	0	58-133	0		%REC	10	05/18/16 12:30 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(8-10)-B
Project:	Laredo SGR	**Lab ID:**	1605096-54
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:18 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	9.17	0.0870	0.261	0.130		mg/Kg-dry	5	05/19/16 11:04 PM
IS: Bismuth	65.6	0	30-120	0		%REC	5	05/19/16 11:04 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0694	0.0463	0.0925	0.0694	U	mg/Kg-dry	10	05/18/16 01:10 PM
Acenaphthylene	0.0694	0.0463	0.0925	0.0694	U	mg/Kg-dry	10	05/18/16 01:10 PM
Anthracene	0.0694	0.0463	0.0925	0.0694	U	mg/Kg-dry	10	05/18/16 01:10 PM
Benzo[a]anthracene	0.107	0.0463	0.0925	0.0694		mg/Kg-dry	10	05/18/16 01:10 PM
Benzo[a]pyrene	0.160	0.0463	0.0925	0.0694		mg/Kg-dry	10	05/18/16 01:10 PM
Benzo[b]fluoranthene	0.147	0.0463	0.0925	0.0694		mg/Kg-dry	10	05/18/16 01:10 PM
Benzo[e]pyrene	0.128	0.0463	0.0925	0.0694		mg/Kg-dry	10	05/18/16 01:10 PM
Benzo[g,h,i]perylene	0.134	0.0463	0.0925	0.0694		mg/Kg-dry	10	05/18/16 01:10 PM
Benzo[j]fluoranthene	0.0802	0.0463	0.0925	0.0694	JN	mg/Kg-dry	10	05/18/16 01:10 PM
Benzo[k]fluoranthene	0.0815	0.0463	0.0925	0.0694	J	mg/Kg-dry	10	05/18/16 01:10 PM
Chrysene	0.142	0.0463	0.0925	0.0694		mg/Kg-dry	10	05/18/16 01:10 PM
Dibenz[a,h]anthracene	0.0694	0.0463	0.0925	0.0694	U	mg/Kg-dry	10	05/18/16 01:10 PM
Fluoranthene	0.147	0.0463	0.0925	0.0694		mg/Kg-dry	10	05/18/16 01:10 PM
Fluorene	0.0694	0.0463	0.0925	0.0694	U	mg/Kg-dry	10	05/18/16 01:10 PM
Indeno[1,2,3-cd]pyrene	0.108	0.0463	0.0925	0.0694		mg/Kg-dry	10	05/18/16 01:10 PM
Phenanthrene	0.0694	0.0463	0.0925	0.0694	U	mg/Kg-dry	10	05/18/16 01:10 PM
Pyrene	0.145	0.0463	0.0925	0.0694		mg/Kg-dry	10	05/18/16 01:10 PM
IS: Acenaphthene-d10	73.4	0	50-200	0		%REC	10	05/18/16 01:10 PM
IS: Chrysene-d12	71.1	0	50-200	0		%REC	10	05/18/16 01:10 PM
IS: Naphthalene-d8	111	0	50-200	0		%REC	10	05/18/16 01:10 PM
IS: Perylene-d12	75.1	0	50-200	0		%REC	10	05/18/16 01:10 PM
IS: Phenanthrene-d10	69.1	0	50-200	0		%REC	10	05/18/16 01:10 PM
Surr: 2-Fluorobiphenyl	80.2	0	46-115	0		%REC	10	05/18/16 01:10 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(8-10)-B
Project:	Laredo SGR	**Lab ID:**	1605096-54
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:18 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	67.8	0	58-133	0		%REC	10	05/18/16 01:10 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(0-2)-C
Project:	Laredo SGR	**Lab ID:**	1605096-55
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:25 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	187	0.0935	0.280	0.140		mg/Kg-dry	5	05/19/16 11:10 PM
IS: Bismuth	71.0	0	30-120	0		%REC	5	05/19/16 11:10 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.942	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 10:22 PM
Acenaphthylene	0.0737	0.0492	0.0983	0.0737	U	mg/Kg-dry	10	05/18/16 10:22 PM
Anthracene	3.47	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 10:22 PM
Benzo[a]anthracene	27.2	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 10:22 PM
Benzo[a]pyrene	33.0	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 10:22 PM
Benzo[b]fluoranthene	31.4	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 10:22 PM
Benzo[e]pyrene	25.3	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 10:22 PM
Benzo[g,h,i]perylene	25.7	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 10:22 PM
Benzo[j]fluoranthene	16.7	0.0492	0.0983	0.0737	N	mg/Kg-dry	10	05/18/16 10:22 PM
Benzo[k]fluoranthene	16.0	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 10:22 PM
Chrysene	32.9	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 10:22 PM
Dibenz[a,h]anthracene	5.73	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 10:22 PM
Fluoranthene	42.7	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 10:22 PM
Fluorene	0.467	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 10:22 PM
Indeno[1,2,3-cd]pyrene	20.6	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 10:22 PM
Phenanthrene	18.0	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 10:22 PM
Pyrene	36.8	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 10:22 PM
IS: Acenaphthene-d10	65.5	0	50-200	0		%REC	10	05/18/16 10:22 PM
IS: Chrysene-d12	64.6	0	50-200	0		%REC	10	05/18/16 10:22 PM
IS: Naphthalene-d8	105	0	50-200	0		%REC	10	05/18/16 10:22 PM
IS: Perylene-d12	66.8	0	50-200	0		%REC	10	05/18/16 10:22 PM
IS: Phenanthrene-d10	68.1	0	50-200	0		%REC	10	05/18/16 10:22 PM
Surr: 2-Fluorobiphenyl	83.0	0	46-115	0		%REC	10	05/18/16 10:22 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(0-2)-C
Project:	Laredo SGR	**Lab ID:**	1605096-55
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:25 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	69.2	0	58-133	0		%REC	10	05/18/16 10:22 PM

Qualifiers:					
	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(2-4)-C
Project:	Laredo SGR	**Lab ID:**	1605096-56
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:28 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	44.7	0.0935	0.280	0.140		mg/Kg-dry	5	05/19/16 11:16 PM
IS: Bismuth	69.8	0	30-120	0		%REC	5	05/19/16 11:16 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.447	0.0478	0.0956	0.0717		mg/Kg-dry	10	05/18/16 11:01 PM
Acenaphthylene	0.0717	0.0478	0.0956	0.0717	U	mg/Kg-dry	10	05/18/16 11:01 PM
Anthracene	1.41	0.0478	0.0956	0.0717		mg/Kg-dry	10	05/18/16 11:01 PM
Benzo[a]anthracene	10.7	0.0478	0.0956	0.0717		mg/Kg-dry	10	05/18/16 11:01 PM
Benzo[a]pyrene	14.2	0.0478	0.0956	0.0717		mg/Kg-dry	10	05/18/16 11:01 PM
Benzo[b]fluoranthene	13.3	0.0478	0.0956	0.0717		mg/Kg-dry	10	05/18/16 11:01 PM
Benzo[e]pyrene	10.7	0.0478	0.0956	0.0717		mg/Kg-dry	10	05/18/16 11:01 PM
Benzo[g,h,i]perylene	10.7	0.0478	0.0956	0.0717		mg/Kg-dry	10	05/18/16 11:01 PM
Benzo[j]fluoranthene	6.87	0.0478	0.0956	0.0717	N	mg/Kg-dry	10	05/18/16 11:01 PM
Benzo[k]fluoranthene	6.73	0.0478	0.0956	0.0717		mg/Kg-dry	10	05/18/16 11:01 PM
Chrysene	12.9	0.0478	0.0956	0.0717		mg/Kg-dry	10	05/18/16 11:01 PM
Dibenz[a,h]anthracene	2.36	0.0478	0.0956	0.0717		mg/Kg-dry	10	05/18/16 11:01 PM
Fluoranthene	16.5	0.0478	0.0956	0.0717		mg/Kg-dry	10	05/18/16 11:01 PM
Fluorene	0.311	0.0478	0.0956	0.0717		mg/Kg-dry	10	05/18/16 11:01 PM
Indeno[1,2,3-cd]pyrene	8.68	0.0478	0.0956	0.0717		mg/Kg-dry	10	05/18/16 11:01 PM
Phenanthrene	6.71	0.0478	0.0956	0.0717		mg/Kg-dry	10	05/18/16 11:01 PM
Pyrene	14.0	0.0478	0.0956	0.0717		mg/Kg-dry	10	05/18/16 11:01 PM
IS: Acenaphthene-d10	69.9	0	50-200	0		%REC	10	05/18/16 11:01 PM
IS: Chrysene-d12	68.2	0	50-200	0		%REC	10	05/18/16 11:01 PM
IS: Naphthalene-d8	110	0	50-200	0		%REC	10	05/18/16 11:01 PM
IS: Perylene-d12	70.1	0	50-200	0		%REC	10	05/18/16 11:01 PM
IS: Phenanthrene-d10	69.8	0	50-200	0		%REC	10	05/18/16 11:01 PM
Surr: 2-Fluorobiphenyl	85.4	0	46-115	0		%REC	10	05/18/16 11:01 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(2-4)-C
Project:	Laredo SGR	**Lab ID:**	1605096-56
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:28 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	71.6	0	58-133	0		%REC	10	05/18/16 11:01 PM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(4-6)-C
Project:	Laredo SGR	**Lab ID:**	1605096-57
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:33 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	7.27	0.0893	0.268	0.134		mg/Kg-dry	5	05/19/16 11:22 PM
IS: Bismuth	65.3	0	30-120	0		%REC	5	05/19/16 11:22 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0994	0.0498	0.0995	0.0746	J	mg/Kg-dry	10	05/18/16 01:50 PM
Acenaphthylene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/18/16 01:50 PM
Anthracene	0.472	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/18/16 01:50 PM
Benzo[a]anthracene	2.26	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/18/16 01:50 PM
Benzo[a]pyrene	2.97	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/18/16 01:50 PM
Benzo[b]fluoranthene	2.69	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/18/16 01:50 PM
Benzo[e]pyrene	2.18	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/18/16 01:50 PM
Benzo[g,h,i]perylene	2.07	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/18/16 01:50 PM
Benzo[j]fluoranthene	1.40	0.0498	0.0995	0.0746	N	mg/Kg-dry	10	05/18/16 01:50 PM
Benzo[k]fluoranthene	1.32	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/18/16 01:50 PM
Chrysene	2.73	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/18/16 01:50 PM
Dibenz[a,h]anthracene	0.469	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/18/16 01:50 PM
Fluoranthene	4.00	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/18/16 01:50 PM
Fluorene	0.0912	0.0498	0.0995	0.0746	J	mg/Kg-dry	10	05/18/16 01:50 PM
Indeno[1,2,3-cd]pyrene	1.74	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/18/16 01:50 PM
Phenanthrene	2.03	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/18/16 01:50 PM
Pyrene	3.32	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/18/16 01:50 PM
IS: Acenaphthene-d10	74.3	0	50-200	0		%REC	10	05/18/16 01:50 PM
IS: Chrysene-d12	70.8	0	50-200	0		%REC	10	05/18/16 01:50 PM
IS: Naphthalene-d8	113	0	50-200	0		%REC	10	05/18/16 01:50 PM
IS: Perylene-d12	74.7	0	50-200	0		%REC	10	05/18/16 01:50 PM
IS: Phenanthrene-d10	71.2	0	50-200	0		%REC	10	05/18/16 01:50 PM
Surr: 2-Fluorobiphenyl	81.2	0	46-115	0		%REC	10	05/18/16 01:50 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(4-6)-C
Project:	Laredo SGR	**Lab ID:**	1605096-57
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:33 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	67.7	0	58-133	0		%REC	10	05/18/16 01:50 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(6-8)-C
Project:	Laredo SGR	**Lab ID:**	1605096-58
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:35 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	6.27	0.0855	0.256	0.128		mg/Kg-dry	5	05/19/16 11:28 PM
IS: Bismuth	79.5	0	30-120	0		%REC	5	05/19/16 11:28 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0726	0.0484	0.0968	0.0726	U	mg/Kg-dry	10	05/18/16 02:29 PM
Acenaphthylene	0.0726	0.0484	0.0968	0.0726	U	mg/Kg-dry	10	05/18/16 02:29 PM
Anthracene	0.0502	0.0484	0.0968	0.0726	J	mg/Kg-dry	10	05/18/16 02:29 PM
Benzo[a]anthracene	0.209	0.0484	0.0968	0.0726		mg/Kg-dry	10	05/18/16 02:29 PM
Benzo[a]pyrene	0.255	0.0484	0.0968	0.0726		mg/Kg-dry	10	05/18/16 02:29 PM
Benzo[b]fluoranthene	0.239	0.0484	0.0968	0.0726		mg/Kg-dry	10	05/18/16 02:29 PM
Benzo[e]pyrene	0.202	0.0484	0.0968	0.0726		mg/Kg-dry	10	05/18/16 02:29 PM
Benzo[g,h,i]perylene	0.192	0.0484	0.0968	0.0726		mg/Kg-dry	10	05/18/16 02:29 PM
Benzo[j]fluoranthene	0.135	0.0484	0.0968	0.0726	N	mg/Kg-dry	10	05/18/16 02:29 PM
Benzo[k]fluoranthene	0.130	0.0484	0.0968	0.0726		mg/Kg-dry	10	05/18/16 02:29 PM
Chrysene	0.256	0.0484	0.0968	0.0726		mg/Kg-dry	10	05/18/16 02:29 PM
Dibenz[a,h]anthracene	0.0561	0.0484	0.0968	0.0726	J	mg/Kg-dry	10	05/18/16 02:29 PM
Fluoranthene	0.380	0.0484	0.0968	0.0726		mg/Kg-dry	10	05/18/16 02:29 PM
Fluorene	0.0726	0.0484	0.0968	0.0726	U	mg/Kg-dry	10	05/18/16 02:29 PM
Indeno[1,2,3-cd]pyrene	0.166	0.0484	0.0968	0.0726		mg/Kg-dry	10	05/18/16 02:29 PM
Phenanthrene	0.197	0.0484	0.0968	0.0726		mg/Kg-dry	10	05/18/16 02:29 PM
Pyrene	0.317	0.0484	0.0968	0.0726		mg/Kg-dry	10	05/18/16 02:29 PM
IS: Acenaphthene-d10	70.8	0	50-200	0		%REC	10	05/18/16 02:29 PM
IS: Chrysene-d12	68.1	0	50-200	0		%REC	10	05/18/16 02:29 PM
IS: Naphthalene-d8	110	0	50-200	0		%REC	10	05/18/16 02:29 PM
IS: Perylene-d12	71.9	0	50-200	0		%REC	10	05/18/16 02:29 PM
IS: Phenanthrene-d10	66.7	0	50-200	0		%REC	10	05/18/16 02:29 PM
Surr: 2-Fluorobiphenyl	80.0	0	46-115	0		%REC	10	05/18/16 02:29 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(6-8)-C
Project:	Laredo SGR	**Lab ID:**	1605096-58
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:35 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	67.3	0	58-133	0		%REC	10	05/18/16 02:29 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(8-10)-C
Project:	Laredo SGR	**Lab ID:**	1605096-59
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:38 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	15.9	0.0917	0.275	0.138		mg/Kg-dry	5	05/19/16 11:34 PM
IS: Bismuth	74.9	0	30-120	0		%REC	5	05/19/16 11:34 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.895	0.0490	0.0979	0.0735		mg/Kg-dry	10	05/18/16 11:40 PM
Acenaphthylene	0.0735	0.0490	0.0979	0.0735	U	mg/Kg-dry	10	05/18/16 11:40 PM
Anthracene	2.62	0.0490	0.0979	0.0735		mg/Kg-dry	10	05/18/16 11:40 PM
Benzo[a]anthracene	19.7	0.0490	0.0979	0.0735		mg/Kg-dry	10	05/18/16 11:40 PM
Benzo[a]pyrene	26.3	0.0490	0.0979	0.0735		mg/Kg-dry	10	05/18/16 11:40 PM
Benzo[b]fluoranthene	24.4	0.0490	0.0979	0.0735		mg/Kg-dry	10	05/18/16 11:40 PM
Benzo[e]pyrene	19.6	0.0490	0.0979	0.0735		mg/Kg-dry	10	05/18/16 11:40 PM
Benzo[g,h,i]perylene	20.1	0.0490	0.0979	0.0735		mg/Kg-dry	10	05/18/16 11:40 PM
Benzo[j]fluoranthene	12.6	0.0490	0.0979	0.0735	N	mg/Kg-dry	10	05/18/16 11:40 PM
Benzo[k]fluoranthene	12.4	0.0490	0.0979	0.0735		mg/Kg-dry	10	05/18/16 11:40 PM
Chrysene	23.9	0.0490	0.0979	0.0735		mg/Kg-dry	10	05/18/16 11:40 PM
Dibenz[a,h]anthracene	4.44	0.0490	0.0979	0.0735		mg/Kg-dry	10	05/18/16 11:40 PM
Fluoranthene	29.5	0.0490	0.0979	0.0735		mg/Kg-dry	10	05/18/16 11:40 PM
Fluorene	0.611	0.0490	0.0979	0.0735		mg/Kg-dry	10	05/18/16 11:40 PM
Indeno[1,2,3-cd]pyrene	16.0	0.0490	0.0979	0.0735		mg/Kg-dry	10	05/18/16 11:40 PM
Phenanthrene	12.1	0.0490	0.0979	0.0735		mg/Kg-dry	10	05/18/16 11:40 PM
Pyrene	25.0	0.0490	0.0979	0.0735		mg/Kg-dry	10	05/18/16 11:40 PM
IS: Acenaphthene-d10	71.2	0	50-200	0		%REC	10	05/18/16 11:40 PM
IS: Chrysene-d12	69.3	0	50-200	0		%REC	10	05/18/16 11:40 PM
IS: Naphthalene-d8	111	0	50-200	0		%REC	10	05/18/16 11:40 PM
IS: Perylene-d12	71.8	0	50-200	0		%REC	10	05/18/16 11:40 PM
IS: Phenanthrene-d10	72.5	0	50-200	0		%REC	10	05/18/16 11:40 PM
Surr: 2-Fluorobiphenyl	82.6	0	46-115	0		%REC	10	05/18/16 11:40 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(8-10)-C
Project:	Laredo SGR	**Lab ID:**	1605096-59
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:38 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	71.2	0	58-133	0		%REC	10	05/18/16 11:40 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(0-2)-A
Project:	Laredo SGR	**Lab ID:**	1605096-60
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:03 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	246	0.0943	0.283	0.142	JL	mg/Kg-dry	5	05/19/16 11:40 PM
IS: Bismuth	79.3	0	30-120	0		%REC	5	05/19/16 11:40 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.813	0.0483	0.0966	0.0725		mg/Kg-dry	10	05/19/16 12:20 AM
Acenaphthylene	0.0725	0.0483	0.0966	0.0725	U	mg/Kg-dry	10	05/19/16 12:20 AM
Anthracene	2.93	0.0483	0.0966	0.0725		mg/Kg-dry	10	05/19/16 12:20 AM
Benzo[a]anthracene	22.4	0.0483	0.0966	0.0725		mg/Kg-dry	10	05/19/16 12:20 AM
Benzo[a]pyrene	26.2	0.0483	0.0966	0.0725		mg/Kg-dry	10	05/19/16 12:20 AM
Benzo[b]fluoranthene	24.7	0.0483	0.0966	0.0725		mg/Kg-dry	10	05/19/16 12:20 AM
Benzo[e]pyrene	19.7	0.0483	0.0966	0.0725		mg/Kg-dry	10	05/19/16 12:20 AM
Benzo[g,h,i]perylene	19.5	0.0483	0.0966	0.0725		mg/Kg-dry	10	05/19/16 12:20 AM
Benzo[j]fluoranthene	13.3	0.0483	0.0966	0.0725	N	mg/Kg-dry	10	05/19/16 12:20 AM
Benzo[k]fluoranthene	13.1	0.0483	0.0966	0.0725		mg/Kg-dry	10	05/19/16 12:20 AM
Chrysene	26.5	0.0483	0.0966	0.0725		mg/Kg-dry	10	05/19/16 12:20 AM
Dibenz[a,h]anthracene	4.45	0.0483	0.0966	0.0725		mg/Kg-dry	10	05/19/16 12:20 AM
Fluoranthene	36.9	0.0483	0.0966	0.0725		mg/Kg-dry	10	05/19/16 12:20 AM
Fluorene	0.356	0.0483	0.0966	0.0725		mg/Kg-dry	10	05/19/16 12:20 AM
Indeno[1,2,3-cd]pyrene	15.7	0.0483	0.0966	0.0725		mg/Kg-dry	10	05/19/16 12:20 AM
Phenanthrene	14.8	0.0483	0.0966	0.0725		mg/Kg-dry	10	05/19/16 12:20 AM
Pyrene	31.6	0.0483	0.0966	0.0725		mg/Kg-dry	10	05/19/16 12:20 AM
IS: Acenaphthene-d10	66.2	0	50-200	0		%REC	10	05/19/16 12:20 AM
IS: Chrysene-d12	66.0	0	50-200	0		%REC	10	05/19/16 12:20 AM
IS: Naphthalene-d8	110	0	50-200	0		%REC	10	05/19/16 12:20 AM
IS: Perylene-d12	66.8	0	50-200	0		%REC	10	05/19/16 12:20 AM
IS: Phenanthrene-d10	67.2	0	50-200	0		%REC	10	05/19/16 12:20 AM
Surr: 2-Fluorobiphenyl	83.1	0	46-115	0		%REC	10	05/19/16 12:20 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(0-2)-A
Project:	Laredo SGR	**Lab ID:**	1605096-60
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:03 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	72.1	0	58-133	0		%REC	10	05/19/16 12:20 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(2-4)-A
Project:	Laredo SGR	**Lab ID:**	1605096-61
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:05 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	22.2	0.0926	0.278	0.139	JL	mg/Kg-dry	5	05/19/16 11:46 PM
IS: Bismuth	77.1	0	30-120	0		%REC	5	05/19/16 11:46 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.675	0.0474	0.0949	0.0712		mg/Kg-dry	10	05/19/16 01:01 AM
Acenaphthylene	0.0712	0.0474	0.0949	0.0712	U	mg/Kg-dry	10	05/19/16 01:01 AM
Anthracene	1.95	0.0474	0.0949	0.0712		mg/Kg-dry	10	05/19/16 01:01 AM
Benzo[a]anthracene	18.9	0.0474	0.0949	0.0712		mg/Kg-dry	10	05/19/16 01:01 AM
Benzo[a]pyrene	24.9	0.0474	0.0949	0.0712		mg/Kg-dry	10	05/19/16 01:01 AM
Benzo[b]fluoranthene	23.7	0.0474	0.0949	0.0712		mg/Kg-dry	10	05/19/16 01:01 AM
Benzo[e]pyrene	18.9	0.0474	0.0949	0.0712		mg/Kg-dry	10	05/19/16 01:01 AM
Benzo[g,h,i]perylene	19.5	0.0474	0.0949	0.0712		mg/Kg-dry	10	05/19/16 01:01 AM
Benzo[j]fluoranthene	12.2	0.0474	0.0949	0.0712	N	mg/Kg-dry	10	05/19/16 01:01 AM
Benzo[k]fluoranthene	11.6	0.0474	0.0949	0.0712		mg/Kg-dry	10	05/19/16 01:01 AM
Chrysene	22.7	0.0474	0.0949	0.0712		mg/Kg-dry	10	05/19/16 01:01 AM
Dibenz[a,h]anthracene	4.21	0.0474	0.0949	0.0712		mg/Kg-dry	10	05/19/16 01:01 AM
Fluoranthene	27.8	0.0474	0.0949	0.0712		mg/Kg-dry	10	05/19/16 01:01 AM
Fluorene	0.302	0.0474	0.0949	0.0712		mg/Kg-dry	10	05/19/16 01:01 AM
Indeno[1,2,3-cd]pyrene	15.5	0.0474	0.0949	0.0712		mg/Kg-dry	10	05/19/16 01:01 AM
Phenanthrene	9.48	0.0474	0.0949	0.0712		mg/Kg-dry	10	05/19/16 01:01 AM
Pyrene	24.5	0.0474	0.0949	0.0712		mg/Kg-dry	10	05/19/16 01:01 AM
IS: Acenaphthene-d10	70.3	0	50-200	0		%REC	10	05/19/16 01:01 AM
IS: Chrysene-d12	69.4	0	50-200	0		%REC	10	05/19/16 01:01 AM
IS: Naphthalene-d8	112	0	50-200	0		%REC	10	05/19/16 01:01 AM
IS: Perylene-d12	70.3	0	50-200	0		%REC	10	05/19/16 01:01 AM
IS: Phenanthrene-d10	71.1	0	50-200	0		%REC	10	05/19/16 01:01 AM
Surr: 2-Fluorobiphenyl	82.4	0	46-115	0		%REC	10	05/19/16 01:01 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(2-4)-A
Project:	Laredo SGR	**Lab ID:**	1605096-61
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:05 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	71.0	0	58-133	0		%REC	10	05/19/16 01:01 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(4-6)-A
Project:	Laredo SGR	**Lab ID:**	1605096-62
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:02 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	16.9	0.0909	0.273	0.136	JL	mg/Kg-dry	5	05/19/16 05:22 PM
IS: Bismuth	87.2	0	30-120	0		%REC	5	05/19/16 05:22 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.441	0.0471	0.0943	0.0707		mg/Kg-dry	10	05/19/16 01:41 AM
Acenaphthylene	0.0707	0.0471	0.0943	0.0707	U	mg/Kg-dry	10	05/19/16 01:41 AM
Anthracene	1.87	0.0471	0.0943	0.0707		mg/Kg-dry	10	05/19/16 01:41 AM
Benzo[a]anthracene	12.1	0.0471	0.0943	0.0707		mg/Kg-dry	10	05/19/16 01:41 AM
Benzo[a]pyrene	14.2	0.0471	0.0943	0.0707		mg/Kg-dry	10	05/19/16 01:41 AM
Benzo[b]fluoranthene	13.1	0.0471	0.0943	0.0707		mg/Kg-dry	10	05/19/16 01:41 AM
Benzo[e]pyrene	10.4	0.0471	0.0943	0.0707		mg/Kg-dry	10	05/19/16 01:41 AM
Benzo[g,h,i]perylene	10.0	0.0471	0.0943	0.0707		mg/Kg-dry	10	05/19/16 01:41 AM
Benzo[j]fluoranthene	7.01	0.0471	0.0943	0.0707	N	mg/Kg-dry	10	05/19/16 01:41 AM
Benzo[k]fluoranthene	6.76	0.0471	0.0943	0.0707		mg/Kg-dry	10	05/19/16 01:41 AM
Chrysene	14.0	0.0471	0.0943	0.0707		mg/Kg-dry	10	05/19/16 01:41 AM
Dibenz[a,h]anthracene	2.28	0.0471	0.0943	0.0707		mg/Kg-dry	10	05/19/16 01:41 AM
Fluoranthene	20.4	0.0471	0.0943	0.0707		mg/Kg-dry	10	05/19/16 01:41 AM
Fluorene	0.287	0.0471	0.0943	0.0707		mg/Kg-dry	10	05/19/16 01:41 AM
Indeno[1,2,3-cd]pyrene	8.25	0.0471	0.0943	0.0707		mg/Kg-dry	10	05/19/16 01:41 AM
Phenanthrene	8.69	0.0471	0.0943	0.0707		mg/Kg-dry	10	05/19/16 01:41 AM
Pyrene	17.2	0.0471	0.0943	0.0707		mg/Kg-dry	10	05/19/16 01:41 AM
IS: Acenaphthene-d10	72.1	0	50-200	0		%REC	10	05/19/16 01:41 AM
IS: Chrysene-d12	68.8	0	50-200	0		%REC	10	05/19/16 01:41 AM
IS: Naphthalene-d8	112	0	50-200	0		%REC	10	05/19/16 01:41 AM
IS: Perylene-d12	70.9	0	50-200	0		%REC	10	05/19/16 01:41 AM
IS: Phenanthrene-d10	70.9	0	50-200	0		%REC	10	05/19/16 01:41 AM
Surr: 2-Fluorobiphenyl	82.5	0	46-115	0		%REC	10	05/19/16 01:41 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(4-6)-A
Project:	Laredo SGR	**Lab ID:**	1605096-62
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:02 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	70.4	0	58-133	0		%REC	10	05/19/16 01:41 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(6-8)-A
Project:	Laredo SGR	**Lab ID:**	1605096-63
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:08 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	7.08	0.0901	0.270	0.135	JL	mg/Kg-dry	5	05/19/16 05:28 PM
IS: Bismuth	91.3	0	30-120	0		%REC	5	05/19/16 05:28 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0737	0.0492	0.0983	0.0737	U	mg/Kg-dry	10	05/18/16 03:09 PM
Acenaphthylene	0.0737	0.0492	0.0983	0.0737	U	mg/Kg-dry	10	05/18/16 03:09 PM
Anthracene	0.0860	0.0492	0.0983	0.0737	J	mg/Kg-dry	10	05/18/16 03:09 PM
Benzo[a]anthracene	0.428	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 03:09 PM
Benzo[a]pyrene	0.443	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 03:09 PM
Benzo[b]fluoranthene	0.410	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 03:09 PM
Benzo[e]pyrene	0.332	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 03:09 PM
Benzo[g,h,i]perylene	0.297	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 03:09 PM
Benzo[j]fluoranthene	0.238	0.0492	0.0983	0.0737	N	mg/Kg-dry	10	05/18/16 03:09 PM
Benzo[k]fluoranthene	0.229	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 03:09 PM
Chrysene	0.496	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 03:09 PM
Dibenz[a,h]anthracene	0.0856	0.0492	0.0983	0.0737	J	mg/Kg-dry	10	05/18/16 03:09 PM
Fluoranthene	0.795	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 03:09 PM
Fluorene	0.0737	0.0492	0.0983	0.0737	U	mg/Kg-dry	10	05/18/16 03:09 PM
Indeno[1,2,3-cd]pyrene	0.262	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 03:09 PM
Phenanthrene	0.388	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 03:09 PM
Pyrene	0.655	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 03:09 PM
IS: Acenaphthene-d10	73.5	0	50-200	0		%REC	10	05/18/16 03:09 PM
IS: Chrysene-d12	70.0	0	50-200	0		%REC	10	05/18/16 03:09 PM
IS: Naphthalene-d8	109	0	50-200	0		%REC	10	05/18/16 03:09 PM
IS: Perylene-d12	74.0	0	50-200	0		%REC	10	05/18/16 03:09 PM
IS: Phenanthrene-d10	69.1	0	50-200	0		%REC	10	05/18/16 03:09 PM
Surr: 2-Fluorobiphenyl	78.5	0	46-115	0		%REC	10	05/18/16 03:09 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(6-8)-A
Project:	Laredo SGR	**Lab ID:**	1605096-63
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:08 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	64.3	0	58-133	0		%REC	10	05/18/16 03:09 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(8-10)-A
Project:	Laredo SGR	**Lab ID:**	1605096-64
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:09 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	7.17	0.0971	0.291	0.146	JL	mg/Kg-dry	5	05/19/16 05:34 PM
IS: Bismuth	88.7	0	30-120	0		%REC	5	05/19/16 05:34 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0714	0.0476	0.0952	0.0714	U	mg/Kg-dry	10	05/18/16 03:48 PM
Acenaphthylene	0.0714	0.0476	0.0952	0.0714	U	mg/Kg-dry	10	05/18/16 03:48 PM
Anthracene	0.0714	0.0476	0.0952	0.0714	U	mg/Kg-dry	10	05/18/16 03:48 PM
Benzo[a]anthracene	0.0714	0.0476	0.0952	0.0714	U	mg/Kg-dry	10	05/18/16 03:48 PM
Benzo[a]pyrene	0.0714	0.0476	0.0952	0.0714	U	mg/Kg-dry	10	05/18/16 03:48 PM
Benzo[b]fluoranthene	0.0714	0.0476	0.0952	0.0714	U	mg/Kg-dry	10	05/18/16 03:48 PM
Benzo[e]pyrene	0.0714	0.0476	0.0952	0.0714	U	mg/Kg-dry	10	05/18/16 03:48 PM
Benzo[g,h,i]perylene	0.0714	0.0476	0.0952	0.0714	U	mg/Kg-dry	10	05/18/16 03:48 PM
Benzo[j]fluoranthene	0.0714	0.0476	0.0952	0.0714	NU	mg/Kg-dry	10	05/18/16 03:48 PM
Benzo[k]fluoranthene	0.0714	0.0476	0.0952	0.0714	U	mg/Kg-dry	10	05/18/16 03:48 PM
Chrysene	0.0714	0.0476	0.0952	0.0714	U	mg/Kg-dry	10	05/18/16 03:48 PM
Dibenz[a,h]anthracene	0.0714	0.0476	0.0952	0.0714	U	mg/Kg-dry	10	05/18/16 03:48 PM
Fluoranthene	0.0714	0.0476	0.0952	0.0714	U	mg/Kg-dry	10	05/18/16 03:48 PM
Fluorene	0.0714	0.0476	0.0952	0.0714	U	mg/Kg-dry	10	05/18/16 03:48 PM
Indeno[1,2,3-cd]pyrene	0.0714	0.0476	0.0952	0.0714	U	mg/Kg-dry	10	05/18/16 03:48 PM
Phenanthrene	0.0714	0.0476	0.0952	0.0714	U	mg/Kg-dry	10	05/18/16 03:48 PM
Pyrene	0.0714	0.0476	0.0952	0.0714	U	mg/Kg-dry	10	05/18/16 03:48 PM
IS: Acenaphthene-d10	72.7	0	50-200	0		%REC	10	05/18/16 03:48 PM
IS: Chrysene-d12	69.5	0	50-200	0		%REC	10	05/18/16 03:48 PM
IS: Naphthalene-d8	112	0	50-200	0		%REC	10	05/18/16 03:48 PM
IS: Perylene-d12	72.6	0	50-200	0		%REC	10	05/18/16 03:48 PM
IS: Phenanthrene-d10	69.2	0	50-200	0		%REC	10	05/18/16 03:48 PM
Surr: 2-Fluorobiphenyl	79.9	0	46-115	0		%REC	10	05/18/16 03:48 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(8-10)-A
Project:	Laredo SGR	**Lab ID:**	1605096-64
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:09 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	65.4	0	58-133	0		%REC	10	05/18/16 03:48 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(0-2)-B
Project:	Laredo SGR	**Lab ID:**	1605096-65
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:11 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	72.9	0.0952	0.286	0.143	JL	mg/Kg-dry	5	05/19/16 05:40 PM
IS: Bismuth	89.9	0	30-120	0		%REC	5	05/19/16 05:40 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.497	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/19/16 02:21 AM
Acenaphthylene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/19/16 02:21 AM
Anthracene	1.77	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/19/16 02:21 AM
Benzo[a]anthracene	12.2	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/19/16 02:21 AM
Benzo[a]pyrene	15.2	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/19/16 02:21 AM
Benzo[b]fluoranthene	13.9	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/19/16 02:21 AM
Benzo[e]pyrene	11.3	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/19/16 02:21 AM
Benzo[g,h,i]perylene	11.8	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/19/16 02:21 AM
Benzo[j]fluoranthene	7.60	0.0495	0.0989	0.0742	N	mg/Kg-dry	10	05/19/16 02:21 AM
Benzo[k]fluoranthene	7.30	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/19/16 02:21 AM
Chrysene	14.5	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/19/16 02:21 AM
Dibenz[a,h]anthracene	2.64	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/19/16 02:21 AM
Fluoranthene	19.1	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/19/16 02:21 AM
Fluorene	0.256	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/19/16 02:21 AM
Indeno[1,2,3-cd]pyrene	9.51	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/19/16 02:21 AM
Phenanthrene	8.49	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/19/16 02:21 AM
Pyrene	16.2	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/19/16 02:21 AM
IS: Acenaphthene-d10	66.2	0	50-200	0		%REC	10	05/19/16 02:21 AM
IS: Chrysene-d12	58.9	0	50-200	0		%REC	10	05/19/16 02:21 AM
IS: Naphthalene-d8	109	0	50-200	0		%REC	10	05/19/16 02:21 AM
IS: Perylene-d12	64.0	0	50-200	0		%REC	10	05/19/16 02:21 AM
IS: Phenanthrene-d10	65.6	0	50-200	0		%REC	10	05/19/16 02:21 AM
Surr: 2-Fluorobiphenyl	86.0	0	46-115	0		%REC	10	05/19/16 02:21 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(0-2)-B
Project:	Laredo SGR	**Lab ID:**	1605096-65
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:11 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	68.1	0	58-133	0		%REC	10	05/19/16 02:21 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(2-4)-B
Project:	Laredo SGR	**Lab ID:**	1605096-66
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:13 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	27.1	0.0855	0.256	0.128	JL	mg/Kg-dry	5	05/19/16 05:46 PM
IS: Bismuth	84.8	0	30-120	0		%REC	5	05/19/16 05:46 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	1.05	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/19/16 03:00 AM
Acenaphthylene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/19/16 03:00 AM
Anthracene	3.69	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/19/16 03:00 AM
Benzo[a]anthracene	28.3	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/19/16 03:00 AM
Benzo[a]pyrene	35.5	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/19/16 03:00 AM
Benzo[b]fluoranthene	33.9	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/19/16 03:00 AM
Benzo[e]pyrene	26.8	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/19/16 03:00 AM
Benzo[g,h,i]perylene	27.6	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/19/16 03:00 AM
Benzo[j]fluoranthene	17.5	0.0497	0.0994	0.0746	N	mg/Kg-dry	10	05/19/16 03:00 AM
Benzo[k]fluoranthene	16.8	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/19/16 03:00 AM
Chrysene	33.3	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/19/16 03:00 AM
Dibenz[a,h]anthracene	5.97	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/19/16 03:00 AM
Fluoranthene	44.6	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/19/16 03:00 AM
Fluorene	0.591	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/19/16 03:00 AM
Indeno[1,2,3-cd]pyrene	21.9	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/19/16 03:00 AM
Phenanthrene	17.8	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/19/16 03:00 AM
Pyrene	38.1	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/19/16 03:00 AM
IS: Acenaphthene-d10	68.2	0	50-200	0		%REC	10	05/19/16 03:00 AM
IS: Chrysene-d12	66.4	0	50-200	0		%REC	10	05/19/16 03:00 AM
IS: Naphthalene-d8	107	0	50-200	0		%REC	10	05/19/16 03:00 AM
IS: Perylene-d12	67.0	0	50-200	0		%REC	10	05/19/16 03:00 AM
IS: Phenanthrene-d10	70.9	0	50-200	0		%REC	10	05/19/16 03:00 AM
Surr: 2-Fluorobiphenyl	82.9	0	46-115	0		%REC	10	05/19/16 03:00 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(2-4)-B
Project:	Laredo SGR	**Lab ID:**	1605096-66
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:13 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	68.9	0	58-133	0		%REC	10	05/19/16 03:00 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(4-6)-B
Project:	Laredo SGR	**Lab ID:**	1605096-67
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:15 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	9.10	0.0893	0.268	0.134	JL	mg/Kg-dry	5	05/19/16 05:52 PM
IS: Bismuth	89.2	0	30-120	0		%REC	5	05/19/16 05:52 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.154	0.0490	0.0980	0.0735		mg/Kg-dry	10	05/18/16 04:28 PM
Acenaphthylene	0.0735	0.0490	0.0980	0.0735	U	mg/Kg-dry	10	05/18/16 04:28 PM
Anthracene	0.708	0.0490	0.0980	0.0735		mg/Kg-dry	10	05/18/16 04:28 PM
Benzo[a]anthracene	3.69	0.0490	0.0980	0.0735		mg/Kg-dry	10	05/18/16 04:28 PM
Benzo[a]pyrene	4.27	0.0490	0.0980	0.0735		mg/Kg-dry	10	05/18/16 04:28 PM
Benzo[b]fluoranthene	3.85	0.0490	0.0980	0.0735		mg/Kg-dry	10	05/18/16 04:28 PM
Benzo[e]pyrene	3.14	0.0490	0.0980	0.0735		mg/Kg-dry	10	05/18/16 04:28 PM
Benzo[g,h,i]perylene	2.99	0.0490	0.0980	0.0735		mg/Kg-dry	10	05/18/16 04:28 PM
Benzo[j]fluoranthene	2.05	0.0490	0.0980	0.0735	N	mg/Kg-dry	10	05/18/16 04:28 PM
Benzo[k]fluoranthene	1.97	0.0490	0.0980	0.0735		mg/Kg-dry	10	05/18/16 04:28 PM
Chrysene	4.26	0.0490	0.0980	0.0735		mg/Kg-dry	10	05/18/16 04:28 PM
Dibenz[a,h]anthracene	0.672	0.0490	0.0980	0.0735		mg/Kg-dry	10	05/18/16 04:28 PM
Fluoranthene	6.93	0.0490	0.0980	0.0735		mg/Kg-dry	10	05/18/16 04:28 PM
Fluorene	0.128	0.0490	0.0980	0.0735		mg/Kg-dry	10	05/18/16 04:28 PM
Indeno[1,2,3-cd]pyrene	2.50	0.0490	0.0980	0.0735		mg/Kg-dry	10	05/18/16 04:28 PM
Phenanthrene	3.20	0.0490	0.0980	0.0735		mg/Kg-dry	10	05/18/16 04:28 PM
Pyrene	5.74	0.0490	0.0980	0.0735		mg/Kg-dry	10	05/18/16 04:28 PM
IS: Acenaphthene-d10	75.5	0	50-200	0		%REC	10	05/18/16 04:28 PM
IS: Chrysene-d12	71.4	0	50-200	0		%REC	10	05/18/16 04:28 PM
IS: Naphthalene-d8	112	0	50-200	0		%REC	10	05/18/16 04:28 PM
IS: Perylene-d12	74.8	0	50-200	0		%REC	10	05/18/16 04:28 PM
IS: Phenanthrene-d10	73.1	0	50-200	0		%REC	10	05/18/16 04:28 PM
Surr: 2-Fluorobiphenyl	79.5	0	46-115	0		%REC	10	05/18/16 04:28 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(4-6)-B
Project:	Laredo SGR	**Lab ID:**	1605096-67
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:15 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	66.3	0	58-133	0		%REC	10	05/18/16 04:28 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(6-8)-B
Project:	Laredo SGR	**Lab ID:**	1605096-68
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:17 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	6.21	0.0971	0.291	0.146	JL	mg/Kg-dry	5	05/19/16 05:58 PM
IS: Bismuth	79.0	0	30-120	0		%REC	5	05/19/16 05:58 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/19/16 11:07 AM
Acenaphthylene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/19/16 11:07 AM
Anthracene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/19/16 11:07 AM
Benzo[a]anthracene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/19/16 11:07 AM
Benzo[a]pyrene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/19/16 11:07 AM
Benzo[b]fluoranthene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/19/16 11:07 AM
Benzo[e]pyrene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/19/16 11:07 AM
Benzo[g,h,i]perylene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/19/16 11:07 AM
Benzo[j]fluoranthene	0.0726	0.0494	0.0988	0.0741	JN	mg/Kg-dry	10	05/19/16 11:07 AM
Benzo[k]fluoranthene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/19/16 11:07 AM
Chrysene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/19/16 11:07 AM
Dibenz[a,h]anthracene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/19/16 11:07 AM
Fluoranthene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/19/16 11:07 AM
Fluorene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/19/16 11:07 AM
Indeno[1,2,3-cd]pyrene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/19/16 11:07 AM
Phenanthrene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/19/16 11:07 AM
Pyrene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/19/16 11:07 AM
IS: Acenaphthene-d10	67.6	0	50-200	0		%REC	10	05/19/16 11:07 AM
IS: Chrysene-d12	66.1	0	50-200	0		%REC	10	05/19/16 11:07 AM
IS: Naphthalene-d8	110	0	50-200	0		%REC	10	05/19/16 11:07 AM
IS: Perylene-d12	67.7	0	50-200	0		%REC	10	05/19/16 11:07 AM
IS: Phenanthrene-d10	63.4	0	50-200	0		%REC	10	05/19/16 11:07 AM
Surr: 2-Fluorobiphenyl	87.3	0	46-115	0		%REC	10	05/19/16 11:07 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(6-8)-B
Project:	Laredo SGR	**Lab ID:**	1605096-68
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:17 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	75.4	0	58-133	0		%REC	10	05/19/16 11:07 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(8-10)-B
Project:	Laredo SGR	**Lab ID:**	1605096-69
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:18 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	8.46	0.0917	0.275	0.138	JL	mg/Kg-dry	5	05/19/16 06:04 PM
IS: Bismuth	86.0	0	30-120	0		%REC	5	05/19/16 06:04 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0715	0.0477	0.0953	0.0715	U	mg/Kg-dry	10	05/19/16 11:47 AM
Acenaphthylene	0.0715	0.0477	0.0953	0.0715	U	mg/Kg-dry	10	05/19/16 11:47 AM
Anthracene	0.0715	0.0477	0.0953	0.0715	U	mg/Kg-dry	10	05/19/16 11:47 AM
Benzo[a]anthracene	0.0715	0.0477	0.0953	0.0715	U	mg/Kg-dry	10	05/19/16 11:47 AM
Benzo[a]pyrene	0.0715	0.0477	0.0953	0.0715	U	mg/Kg-dry	10	05/19/16 11:47 AM
Benzo[b]fluoranthene	0.0715	0.0477	0.0953	0.0715	U	mg/Kg-dry	10	05/19/16 11:47 AM
Benzo[e]pyrene	0.0715	0.0477	0.0953	0.0715	U	mg/Kg-dry	10	05/19/16 11:47 AM
Benzo[g,h,i]perylene	0.0715	0.0477	0.0953	0.0715	U	mg/Kg-dry	10	05/19/16 11:47 AM
Benzo[j]fluoranthene	0.0715	0.0477	0.0953	0.0715	NU	mg/Kg-dry	10	05/19/16 11:47 AM
Benzo[k]fluoranthene	0.0715	0.0477	0.0953	0.0715	U	mg/Kg-dry	10	05/19/16 11:47 AM
Chrysene	0.0715	0.0477	0.0953	0.0715	U	mg/Kg-dry	10	05/19/16 11:47 AM
Dibenz[a,h]anthracene	0.0715	0.0477	0.0953	0.0715	U	mg/Kg-dry	10	05/19/16 11:47 AM
Fluoranthene	0.0715	0.0477	0.0953	0.0715	U	mg/Kg-dry	10	05/19/16 11:47 AM
Fluorene	0.0715	0.0477	0.0953	0.0715	U	mg/Kg-dry	10	05/19/16 11:47 AM
Indeno[1,2,3-cd]pyrene	0.0715	0.0477	0.0953	0.0715	U	mg/Kg-dry	10	05/19/16 11:47 AM
Phenanthrene	0.0715	0.0477	0.0953	0.0715	U	mg/Kg-dry	10	05/19/16 11:47 AM
Pyrene	0.0715	0.0477	0.0953	0.0715	U	mg/Kg-dry	10	05/19/16 11:47 AM
IS: Acenaphthene-d10	66.5	0	50-200	0		%REC	10	05/19/16 11:47 AM
IS: Chrysene-d12	64.3	0	50-200	0		%REC	10	05/19/16 11:47 AM
IS: Naphthalene-d8	106	0	50-200	0		%REC	10	05/19/16 11:47 AM
IS: Perylene-d12	65.5	0	50-200	0		%REC	10	05/19/16 11:47 AM
IS: Phenanthrene-d10	62.6	0	50-200	0		%REC	10	05/19/16 11:47 AM
Surr: 2-Fluorobiphenyl	87.0	0	46-115	0		%REC	10	05/19/16 11:47 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(8-10)-B
Project:	Laredo SGR	**Lab ID:**	1605096-69
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:18 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	74.0	0	58-133	0		%REC	10	05/19/16 11:47 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(0-2)-C
Project:	Laredo SGR	**Lab ID:**	1605096-70
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:20 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	190	0.0926	0.278	0.139	JL	mg/Kg-dry	5	05/19/16 05:10 PM
IS: Bismuth	89.5	0	30-120	0		%REC	5	05/19/16 05:10 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.655	0.0469	0.0939	0.0704		mg/Kg-dry	10	05/19/16 12:26 PM
Acenaphthylene	0.0704	0.0469	0.0939	0.0704	U	mg/Kg-dry	10	05/19/16 12:26 PM
Anthracene	2.26	0.0469	0.0939	0.0704		mg/Kg-dry	10	05/19/16 12:26 PM
Benzo[a]anthracene	18.2	0.0469	0.0939	0.0704		mg/Kg-dry	10	05/19/16 12:26 PM
Benzo[a]pyrene	23.0	0.0469	0.0939	0.0704		mg/Kg-dry	10	05/19/16 12:26 PM
Benzo[b]fluoranthene	22.4	0.0469	0.0939	0.0704		mg/Kg-dry	10	05/19/16 12:26 PM
Benzo[e]pyrene	17.8	0.0469	0.0939	0.0704		mg/Kg-dry	10	05/19/16 12:26 PM
Benzo[g,h,i]perylene	17.6	0.0469	0.0939	0.0704		mg/Kg-dry	10	05/19/16 12:26 PM
Benzo[j]fluoranthene	11.6	0.0469	0.0939	0.0704	N	mg/Kg-dry	10	05/19/16 12:26 PM
Benzo[k]fluoranthene	11.2	0.0469	0.0939	0.0704		mg/Kg-dry	10	05/19/16 12:26 PM
Chrysene	22.0	0.0469	0.0939	0.0704		mg/Kg-dry	10	05/19/16 12:26 PM
Dibenz[a,h]anthracene	3.82	0.0469	0.0939	0.0704		mg/Kg-dry	10	05/19/16 12:26 PM
Fluoranthene	28.8	0.0469	0.0939	0.0704		mg/Kg-dry	10	05/19/16 12:26 PM
Fluorene	0.304	0.0469	0.0939	0.0704		mg/Kg-dry	10	05/19/16 12:26 PM
Indeno[1,2,3-cd]pyrene	14.0	0.0469	0.0939	0.0704		mg/Kg-dry	10	05/19/16 12:26 PM
Phenanthrene	11.3	0.0469	0.0939	0.0704		mg/Kg-dry	10	05/19/16 12:26 PM
Pyrene	24.9	0.0469	0.0939	0.0704		mg/Kg-dry	10	05/19/16 12:26 PM
IS: Acenaphthene-d10	66.8	0	50-200	0		%REC	10	05/19/16 12:26 PM
IS: Chrysene-d12	63.9	0	50-200	0		%REC	10	05/19/16 12:26 PM
IS: Naphthalene-d8	105	0	50-200	0		%REC	10	05/19/16 12:26 PM
IS: Perylene-d12	64.5	0	50-200	0		%REC	10	05/19/16 12:26 PM
IS: Phenanthrene-d10	66.6	0	50-200	0		%REC	10	05/19/16 12:26 PM
Surr: 2-Fluorobiphenyl	90.3	0	46-115	0		%REC	10	05/19/16 12:26 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(0-2)-C
Project:	Laredo SGR	**Lab ID:**	1605096-70
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:20 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	77.8	0	58-133	0		%REC	10	05/19/16 12:26 PM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(2-4)-C
Project:	Laredo SGR	**Lab ID:**	1605096-71
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:21 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	44.3	0.0962	0.288	0.144	JL	mg/Kg-dry	5	05/19/16 06:10 PM
IS: Bismuth	78.4	0	30-120	0		%REC	5	05/19/16 06:10 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.504	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/19/16 01:06 PM
Acenaphthylene	0.0730	0.0486	0.0973	0.0730	U	mg/Kg-dry	10	05/19/16 01:06 PM
Anthracene	1.78	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/19/16 01:06 PM
Benzo[a]anthracene	14.5	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/19/16 01:06 PM
Benzo[a]pyrene	18.3	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/19/16 01:06 PM
Benzo[b]fluoranthene	17.5	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/19/16 01:06 PM
Benzo[e]pyrene	13.8	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/19/16 01:06 PM
Benzo[g,h,i]perylene	13.4	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/19/16 01:06 PM
Benzo[j]fluoranthene	9.07	0.0486	0.0973	0.0730	N	mg/Kg-dry	10	05/19/16 01:06 PM
Benzo[k]fluoranthene	8.77	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/19/16 01:06 PM
Chrysene	17.3	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/19/16 01:06 PM
Dibenz[a,h]anthracene	2.93	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/19/16 01:06 PM
Fluoranthene	23.4	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/19/16 01:06 PM
Fluorene	0.221	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/19/16 01:06 PM
Indeno[1,2,3-cd]pyrene	10.8	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/19/16 01:06 PM
Phenanthrene	8.82	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/19/16 01:06 PM
Pyrene	20.1	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/19/16 01:06 PM
IS: Acenaphthene-d10	68.6	0	50-200	0		%REC	10	05/19/16 01:06 PM
IS: Chrysene-d12	65.8	0	50-200	0		%REC	10	05/19/16 01:06 PM
IS: Naphthalene-d8	107	0	50-200	0		%REC	10	05/19/16 01:06 PM
IS: Perylene-d12	66.2	0	50-200	0		%REC	10	05/19/16 01:06 PM
IS: Phenanthrene-d10	68.0	0	50-200	0		%REC	10	05/19/16 01:06 PM
Surr: 2-Fluorobiphenyl	84.7	0	46-115	0		%REC	10	05/19/16 01:06 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(2-4)-C
Project:	Laredo SGR	**Lab ID:**	1605096-71
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:21 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	74.5	0	58-133	0		%REC	10	05/19/16 01:06 PM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(4-6)-C
Project:	Laredo SGR	**Lab ID:**	1605096-72
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:22 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	9.60	0.0926	0.278	0.139	JL	mg/Kg-dry	5	05/19/16 07:10 PM
IS: Bismuth	84.0	0	30-120	0		%REC	5	05/19/16 07:10 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.279	0.0483	0.0965	0.0724		mg/Kg-dry	10	05/19/16 01:47 PM
Acenaphthylene	0.0724	0.0483	0.0965	0.0724	U	mg/Kg-dry	10	05/19/16 01:47 PM
Anthracene	1.24	0.0483	0.0965	0.0724		mg/Kg-dry	10	05/19/16 01:47 PM
Benzo[a]anthracene	7.48	0.0483	0.0965	0.0724		mg/Kg-dry	10	05/19/16 01:47 PM
Benzo[a]pyrene	8.39	0.0483	0.0965	0.0724		mg/Kg-dry	10	05/19/16 01:47 PM
Benzo[b]fluoranthene	7.71	0.0483	0.0965	0.0724		mg/Kg-dry	10	05/19/16 01:47 PM
Benzo[e]pyrene	6.11	0.0483	0.0965	0.0724		mg/Kg-dry	10	05/19/16 01:47 PM
Benzo[g,h,i]perylene	5.40	0.0483	0.0965	0.0724		mg/Kg-dry	10	05/19/16 01:47 PM
Benzo[j]fluoranthene	4.29	0.0483	0.0965	0.0724	N	mg/Kg-dry	10	05/19/16 01:47 PM
Benzo[k]fluoranthene	4.20	0.0483	0.0965	0.0724		mg/Kg-dry	10	05/19/16 01:47 PM
Chrysene	8.61	0.0483	0.0965	0.0724		mg/Kg-dry	10	05/19/16 01:47 PM
Dibenz[a,h]anthracene	1.29	0.0483	0.0965	0.0724		mg/Kg-dry	10	05/19/16 01:47 PM
Fluoranthene	13.5	0.0483	0.0965	0.0724		mg/Kg-dry	10	05/19/16 01:47 PM
Fluorene	0.165	0.0483	0.0965	0.0724		mg/Kg-dry	10	05/19/16 01:47 PM
Indeno[1,2,3-cd]pyrene	4.54	0.0483	0.0965	0.0724		mg/Kg-dry	10	05/19/16 01:47 PM
Phenanthrene	5.63	0.0483	0.0965	0.0724		mg/Kg-dry	10	05/19/16 01:47 PM
Pyrene	11.3	0.0483	0.0965	0.0724		mg/Kg-dry	10	05/19/16 01:47 PM
IS: Acenaphthene-d10	68.0	0	50-200	0		%REC	10	05/19/16 01:47 PM
IS: Chrysene-d12	66.4	0	50-200	0		%REC	10	05/19/16 01:47 PM
IS: Naphthalene-d8	108	0	50-200	0		%REC	10	05/19/16 01:47 PM
IS: Perylene-d12	66.9	0	50-200	0		%REC	10	05/19/16 01:47 PM
IS: Phenanthrene-d10	65.7	0	50-200	0		%REC	10	05/19/16 01:47 PM
Surr: 2-Fluorobiphenyl	81.9	0	46-115	0		%REC	10	05/19/16 01:47 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(4-6)-C
Project:	Laredo SGR	**Lab ID:**	1605096-72
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:22 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	73.7	0	58-133	0		%REC	10	05/19/16 01:47 PM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(6-8)-C
Project:	Laredo SGR	**Lab ID:**	1605096-73
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:23 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	9.59	0.0926	0.278	0.139	JL	mg/Kg-dry	5	05/19/16 07:16 PM
IS: Bismuth	86.1	0	30-120	0		%REC	5	05/19/16 07:16 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/19/16 02:27 PM
Acenaphthylene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/19/16 02:27 PM
Anthracene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/19/16 02:27 PM
Benzo[a]anthracene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/19/16 02:27 PM
Benzo[a]pyrene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/19/16 02:27 PM
Benzo[b]fluoranthene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/19/16 02:27 PM
Benzo[e]pyrene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/19/16 02:27 PM
Benzo[g,h,i]perylene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/19/16 02:27 PM
Benzo[j]fluoranthene	0.0730	0.0487	0.0974	0.0730	NU	mg/Kg-dry	10	05/19/16 02:27 PM
Benzo[k]fluoranthene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/19/16 02:27 PM
Chrysene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/19/16 02:27 PM
Dibenz[a,h]anthracene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/19/16 02:27 PM
Fluoranthene	0.0527	0.0487	0.0974	0.0730	J	mg/Kg-dry	10	05/19/16 02:27 PM
Fluorene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/19/16 02:27 PM
Indeno[1,2,3-cd]pyrene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/19/16 02:27 PM
Phenanthrene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/19/16 02:27 PM
Pyrene	0.0507	0.0487	0.0974	0.0730	J	mg/Kg-dry	10	05/19/16 02:27 PM
IS: Acenaphthene-d10	68.4	0	50-200	0		%REC	10	05/19/16 02:27 PM
IS: Chrysene-d12	68.1	0	50-200	0		%REC	10	05/19/16 02:27 PM
IS: Naphthalene-d8	111	0	50-200	0		%REC	10	05/19/16 02:27 PM
IS: Perylene-d12	68.8	0	50-200	0		%REC	10	05/19/16 02:27 PM
IS: Phenanthrene-d10	65.8	0	50-200	0		%REC	10	05/19/16 02:27 PM
Surr: 2-Fluorobiphenyl	79.0	0	46-115	0		%REC	10	05/19/16 02:27 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level
B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative
DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern
J	Analyte detected between MDL and RL
MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit
RL	Reporting Limit
S	Spike Recovery outside control limits
N	Parameter not NELAC certified

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(6-8)-C
Project:	Laredo SGR	**Lab ID:**	1605096-73
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:23 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	70.6	0	58-133	0		%REC	10	05/19/16 02:27 PM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(8-10)-C
Project:	Laredo SGR	**Lab ID:**	1605096-74
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:24 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	7.09	0.0943	0.283	0.142	JL	mg/Kg-dry	5	05/19/16 07:22 PM
IS: Bismuth	75.8	0	30-120	0		%REC	5	05/19/16 07:22 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0699	0.0466	0.0932	0.0699	U	mg/Kg-dry	10	05/19/16 03:08 PM
Acenaphthylene	0.0699	0.0466	0.0932	0.0699	U	mg/Kg-dry	10	05/19/16 03:08 PM
Anthracene	0.0699	0.0466	0.0932	0.0699	U	mg/Kg-dry	10	05/19/16 03:08 PM
Benzo[a]anthracene	0.141	0.0466	0.0932	0.0699		mg/Kg-dry	10	05/19/16 03:08 PM
Benzo[a]pyrene	0.154	0.0466	0.0932	0.0699		mg/Kg-dry	10	05/19/16 03:08 PM
Benzo[b]fluoranthene	0.136	0.0466	0.0932	0.0699		mg/Kg-dry	10	05/19/16 03:08 PM
Benzo[e]pyrene	0.113	0.0466	0.0932	0.0699		mg/Kg-dry	10	05/19/16 03:08 PM
Benzo[g,h,i]perylene	0.105	0.0466	0.0932	0.0699		mg/Kg-dry	10	05/19/16 03:08 PM
Benzo[j]fluoranthene	0.0818	0.0466	0.0932	0.0699	JN	mg/Kg-dry	10	05/19/16 03:08 PM
Benzo[k]fluoranthene	0.0812	0.0466	0.0932	0.0699	J	mg/Kg-dry	10	05/19/16 03:08 PM
Chrysene	0.157	0.0466	0.0932	0.0699		mg/Kg-dry	10	05/19/16 03:08 PM
Dibenz[a,h]anthracene	0.0699	0.0466	0.0932	0.0699	U	mg/Kg-dry	10	05/19/16 03:08 PM
Fluoranthene	0.296	0.0466	0.0932	0.0699		mg/Kg-dry	10	05/19/16 03:08 PM
Fluorene	0.0699	0.0466	0.0932	0.0699	U	mg/Kg-dry	10	05/19/16 03:08 PM
Indeno[1,2,3-cd]pyrene	0.0840	0.0466	0.0932	0.0699	J	mg/Kg-dry	10	05/19/16 03:08 PM
Phenanthrene	0.144	0.0466	0.0932	0.0699		mg/Kg-dry	10	05/19/16 03:08 PM
Pyrene	0.241	0.0466	0.0932	0.0699		mg/Kg-dry	10	05/19/16 03:08 PM
IS: Acenaphthene-d10	70.3	0	50-200	0		%REC	10	05/19/16 03:08 PM
IS: Chrysene-d12	68.9	0	50-200	0		%REC	10	05/19/16 03:08 PM
IS: Naphthalene-d8	113	0	50-200	0		%REC	10	05/19/16 03:08 PM
IS: Perylene-d12	70.3	0	50-200	0		%REC	10	05/19/16 03:08 PM
IS: Phenanthrene-d10	66.9	0	50-200	0		%REC	10	05/19/16 03:08 PM
Surr: 2-Fluorobiphenyl	80.4	0	46-115	0		%REC	10	05/19/16 03:08 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(8-10)-C
Project:	Laredo SGR	**Lab ID:**	1605096-74
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:24 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	71.2	0	58-133	0		%REC	10	05/19/16 03:08 PM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

May 31, 2016

Alex Walter
Arcadis
8725 Rosehill #350
Lenexa, Kansas 66215
TEL: (913) 492-0900
FAX (913) 492-0902

Order No.: 1605096

RE: Laredo SGR

Dear Alex Walter:

DHL Analytical, Inc. received 74 sample(s) on 5/10/2016 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of DoD QSM Ver 5 and NELAC except where noted in the Case Narrative. All non-NELAC methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. This report shall not be reproduced except in full without the written approval of DHL Analytical, Inc. Thank you for using DHL Analytical.

Sincerely,

John DuPont
General Manager

This report was performed under the accreditation of the State of Texas & DoD Laboratory Certification Number: T104704211-16-16 & DoD-ELAP #L15-426

Table of Contents

Miscellaneous Documents 3

CaseNarrative 1605096 20

WorkOrderSampleSummary 1605096 23

PrepDatesReport 1605096 25

TCLP Dates Report 1605096 31

AnalyticalDatesReport 1605096 34

Analytical Report 1605096 40

AnalyticalQCSummaryReport 1605096 188

MQLSummaryReport 1605096 250

GCMS6 Raw Data 251

GCMS8 Raw Data 809

ICP-MS3 Raw Data 1066

ICP-MS4 Raw Data 1285

Pmoist Raw Data 1454

DHL ANALYTICAL
2300 Double Creek Dr. ■ Round Rock, TX 78664
Phone (512) 388-8222 ■ FAX (512) 388-8229
Web: www.dhlanalytical.com
E-Mail: login@dhlanalytical.com

№ 70079 CHAIN-OF-CUSTODY

CLIENT: Arcadis
ADDRESS: 8725 Rosehill, Suite 350 Lenexa, KS 66215
PHONE: 913 645 3203 FAX/E-MAIL: alex.walter@arcadis.com
DATA REPORTED TO: Alex Walter
ADDITIONAL REPORT COPIES TO: Erika.Denkenberger@arcadis.com

DATE: MAY 7, 2016 PAGE 1 OF 5
PO #: 04285081.0000.00044 DHL WORK ORDER #: 1600509LQ
PROJECT LOCATION OR NAME: Laredo SGR
CLENT PROJECT #: 04285081.0000.00044 COLLECTOR: G. Ferguson

Authorize 5% surcharge for TRRP Report? ☐ Yes ☐ No

S=SOIL W=WATER A=AIR L=LIQUID SE=SEDIMENT P=PAINT SL=SLUDGE O=OTHER SO=SOLID

Field Sample I.D.	DHL Lab #	Date	Time	Matrix	Container Type	# of Containers	PRESERVATION: HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESERVED	ANALYSES: BTEX ☐ MTBE ☐ 1METHOD 8021	TPH 1005 ☐ TPH 1006 ☐ HOLD 1006 ☐	GRO (METHOD 8015) ☐ DRO (METHOD 8105) ☐	VOC 8260 ☐ VOC 624 ☐ VOC 8260/5035 ☐	SVOC 8270 ☐ PAH 8270 ☐ HOLD PAH ☐ SVOC 625 ☐	8270 PEST ☐ 625 PEST/PCB ☐ 608 PCB ☐	8270 O-P PEST ☐ 8082 PCB ☐ 8270 PCB ☐	8321 HERB ☐ T PHOS, AMMONIA ☐	METALS 6020 ☐ METALS 200.8 ☐ DISS. METALS ☐ Lead	RCRA ☐ TX11 ☐	PH ☐ HEX CHROM ☐ ALKALINITY ☐ COD ☐	CHLORIDE ☐ ANIONS	TCLP-SVOC ☐ VOC ☐ PEST ☐ HERB ☐	TCLP-METALS ☐ RCRA 8 ☐ TX-11 ☐ Pb ☐	RCI ☐ FLASHPOINT ☐ DGAS ☐	TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐	FIELD NOTES
SGR-DU010-06-A	01	5-7-16	0840	S	Bag	1				X					X							X							
SGR-DU010-06-B	02	5-7-16	0905	S	Bag	1				X					X							X							
SGR-DU010-06-C	03	5-7-16	0935	S	Bag	1				X					X							X							
SGR-DU009-STRAT 1	04	5-7-16	1000	S	4oz Jar	1				X					X							X							
SGR-DU009-STRAT 2	05	5-7-16	1005	S	4oz Jar	1				X					X							X							
SGR-DU009-STRAT 3	06	5-7-16	1040	S	4oz Jar	1				X					X							X							
SGR-DU009-STRAT 4	07	5-7-16	1015	S	4oz Jar	1				X					X							X							
SGR-DU009-STRAT 5	08	5-7-16	1020	S	4oz Jar	1				X					X							X							
SGR-DU003-STRAT 1	09	5-7-16	0915	S	4oz Jar	1				X					X							X							
SGR-DU003-STRAT 2	10	5-7-16	0920	S	4oz Jar	1				X					X							X							
SGR-DU003-STRAT 3	11	5-7-16	0925	S	4oz Jar	1				X					X							X							
SGR-DU003-STRAT 4	12	5-7-16	0930	S	4oz Jar	1				X					X							X							
SGR-DU010-01-A	13	5-7-16	1030	S	Bag	1				X					X							X							
SGR-DU010-01-B	14	5-7-16	1050	S	Bag	1				X					X							X							
SGR-DU010-01-C	15	5-7-16	1110	S	Bag	1				X					X							X							

RELINQUISHED BY: (Signature) DATE/TIME 5-9-16/1800 RECEIVED BY: (Signature) FedEx
RELINQUISHED BY: (Signature) FedEx DATE/TIME 5/10/16 10:00 RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature) DATE/TIME RECEIVED BY: (Signature)

☐ DHL DISPOSAL @ $5.00 each ☐ Return

TURN AROUND TIME
RUSH ☐ CALL FIRST
1 DAY ☐ CALL FIRST
2 DAY ☐
NORMAL ☒
OTHER ☐ _____

LABORATORY USE ONLY:
RECEIVING TEMP: 1.4 THERM #: 78
CUSTODY SEALS: ☐ BROKEN ☒ INTACT ☐ NOT USED
CARRIER: ☐ LONE STAR ☒ FEDEX ☐ UPS ☐ OTHER
☐ COURIER DELIVERY 0.9°C/0.7°C/2.5°C/0.6°C/1.6°C
☐ HAND DELIVERED 2.3°C/1.1°C/1.3°C/1.8°C/1.5°C/
2.2°C/3.0°C/1.4°C/1.0°C/3.5°C/4.0°C/0.5°

DHL ANALYTICAL
2300 Double Creek Dr. ■ Round Rock, TX 78664
Phone (512) 388-8222 ■ FAX (512) 388-8229
Web: www.dhlanalytical.com
E-Mail: login@dhlanalytical.com

№ 71114

CHAIN-OF-CUSTODY

CLIENT: ARCADIS
ADDRESS: 8725 Rosehill, Suite 350 Lenexa, KS 66215
PHONE: 913 645 3203 FAX/E-MAIL: Alex.Walter@arcadis.com
DATA REPORTED TO: a/e Walter
ADDITIONAL REPORT COPIES TO: Erika.DonKenberger@arcadis.com

DATE: May 7, 2016 PAGE 1 OF 5
PO #: 04295081.0000.00004 DHL WORK ORDER #: 1605016
PROJECT LOCATION OR NAME: Laredo SGR
CLENT PROJECT #: 04295081.0000.00004 COLLECTOR: G. Ferguson

Authorize 5% surcharge for TRRP Report? ☐ Yes ☐ No

S=SOIL W=WATER A=AIR L=LIQUID SE=SEDIMENT P=PAINT SL=SLUDGE O=OTHER SO=SOLID

Field Sample I.D.	DHL Lab #	Date	Time	Matrix	Container Type	# of Containers	PRESERVATION: HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESERVED	ANALYSES: BTEX ☐ MTBE ☐ (METHOD 8021)	TPH 1005 ☐ TPH 1006 ☐ HOLD 1006 ☐	GRO (METHOD 8015) ☐ DRO (METHOD 8105) ☐	VOC 8260 ☐ VOC 624 ☐ VOC 8260/5035 ☐	SVOC 8270 ☐ PAH 8270 ☐ HOLD PAH ☐ SVOC 625 ☐	8270 PEST ☐ 625 PEST/PCB ☐ 608 PCB ☐	8270 O-P PEST ☐ 8082 PCB ☐ 8270 PCB ☐	8321 HERB ☐ T PHOS, AMMONIA ☐	METALS 6020 ☐ METALS 200.8 ☐ DISS. METALS ☐	RCRA ☐ TX11 ☐ LEAD	PH ☐ HEX CHROM ☐ ALKALINITY ☐ COD ☐	CHLORIDE ☐ ANIONS ☐	TCLP-SVOC ☐ VOC ☐ PEST ☐ HERB ☐	TCLP-METALS ☐ RCRA 8 ☐ TX-11 ☐ Pb ☐	RCI ☐ FLASHPOINT ☐ DGAS ☐	TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐	FIELD NOTES
SGR-DU010-03(0-2)-A	16	5-7-16	1034	S	Bag	1				X					X						X							
SGR-DU010-03(2-4)-A	17	5-7-16	1036	S	Bag	1				X					X						X							
SGR-DU010-03(4-6)-A	18	5-7-16	1039	S	Bag	1				X					X						X							
SGR-DU010-03(6-8)-A	19	5-7-16	1042	S	Bag	1				X					X						X							
SGR-DU010-03(8-10)-A	20	5-7-16	1044	S	Bag	1				X					X						X							
SGR-DU010-03(0-2)-B	21	5-7-16	1046	S	Bag	1				X					X						X							
SGR-DU010-03(2-4)-B	22	5-7-16	1049	S	Bag	1				X					X						X							
SGR-DU010-03(4-6)-B	23	5-7-16	1052	S	Bag	1				X					X						X							
SGR-DU010-03(6-8)-B	24	5.7.16	1055	S	Bag	1				X					X						X							
SGR-DU010-03(8-10)-B	25	5-7-16	1057	S	Bag	1				X					X						X							
SGR-DU010-03(0-2)-C	26	5-7-16	1100	S	Bag	1				X					X						X							
SGR-DU010-03(2-4)-C	27	5-7-16	1102	S	Bag	1				X					X						X							
SGR-DU010-03(4-6)-C	28	5-7-16	1105	S	Bag	1				X					X						X							
SGR-DU010-03(6-8)-C	29	5-7-16	1109	S	Bag	1				X					X						X							
SGR-DU010-03(8-10)-C	30	5-7-16	1110	S	Bag	1				X					X						X							

RELINQUISHED BY: (Signature) DATE/TIME 5-5-16 1800 RECEIVED BY: (Signature) FedEx
RELINQUISHED BY: (Signature) FedEx DATE/TIME 5/10/16 10:00 RECEIVED BY: (Signature) Ofloran
RELINQUISHED BY: (Signature) DATE/TIME RECEIVED BY: (Signature)

☐ DHL DISPOSAL @ $5.00 each ☐ Return

TURN AROUND TIME
RUSH ☐ CALL FIRST
1 DAY ☐ CALL FIRST
2 DAY ☐
NORMAL ☒
OTHER ☐ _____

LABORATORY USE ONLY:
RECEIVING TEMP: 1.4 THERM #: 78
CUSTODY SEALS: ☐ BROKEN ☒ INTACT ☐ NOT USED
CARRIER: ☐ LONE STAR ☒ FEDEX ☐ UPS ☐ OTHER
☐ COURIER DELIVERY
☐ HAND DELIVERED

DHL ANALYTICAL
2300 Double Creek Dr. ■ Round Rock, TX 78664
Phone (512) 388-8222 ■ FAX (512) 388-8229
Web: www.dhlanalytical.com
E-Mail: login@dhlanalytical.com

№ 70021

CHAIN-OF-CUSTODY

CLIENT: Arcadis
ADDRESS: 8725 Rosehill ; Suite 350, Lenexa , KS 66215
PHONE: 913 645 3203 FAX/E-MAIL: alex.walter@arcadis.com
DATA REPORTED TO: Alex Walter
ADDITIONAL REPORT COPIES TO: Erika.Denkenberger@arcadis.com

DATE: MAY 7, 2016 PAGE 3 OF 5
PO #: 04295081.0000.0044 DHL WORK ORDER #: 1600590
PROJECT LOCATION OR NAME: Laredo SGR
CLENT PROJECT #: 04295081.0000.0044 COLLECTOR: G. Ferguson

Authorize 5% surcharge for TRRP Report? ☐ Yes ☐ No

S=SOIL W=WATER A=AIR L=LIQUID SE=SEDIMENT P=PAINT SL=SLUDGE O=OTHER SO=SOLID

PRESERVATION: HCl, HNO_3, H_2SO_4 ☐ NaOH ☐, ICE, UNPRESERVED

ANALYSES: BTEX ☐ MTBE ☐ [METHOD 8021] | TPH 1005 ☐ TPH 1006 ☐ HOLD 1006 ☐ | GRO [METHOD 8015] ☐ DRO [METHOD 8105] ☐ | VOC 8260 ☐ VOC 624 ☐ VOC 8260/5035 ☐ | SVOC 8270 ☐ PAH 8270 ☐ HOLD PAH ☐ SVOC 625 ☐ | 8270 PEST ☐ PAH 8270 ☐ 625 PEST/PCB ☐ 608 PCB ☐ 8270 PCB ☐ | 8270 O-P PEST ☐ 8082 PCB ☐ 8270 PCB ☐ | 8321 HERB ☐ T PHOS, AMMONIA ☐ | METALS 6020 ☐ METALS 200.8 ☐ DISS. METALS ☐ | RCRA ☐ TX11 ☐ LEAD | PH ☐ HEX CHROM ☐ ALKALINITY ☐ COD ☐ | CHLORIDE ☐ ANIONS ☐ | TCLP-SVOC ☐ VOC ☐ PEST ☐ HERB ☐ | TCLP-METALS ☐ RCRA 8 ☐ TX-11 ☐ Pb ☐ | RCI ☐ FLASHPOINT ☐ DGAS ☐ | TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐

Field Sample I.D.	DHL Lab #	Date	Time	Matrix	Container Type	# of Containers	HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESERVED	ANALYSES	FIELD NOTES
SGR-DU132-SMAT 1	31	5-7-16	1300	S	4oz Jar	1				X		BTEX, 8270 PEST, METALS 6020	
SGR-DU132-SMAT 2	32	5-7-16	1305	S	4oz Jar	1				X		BTEX, 8270 PEST, METALS 6020	
SGR-DU132-SMAT 3	33	5-7-16	1310	S	4oz Jar	1				X		BTEX, 8270 PEST, METALS 6020	
SGR-DU132-SMAT 4	34	5-7-16	1315	S	4oz Jar	1				X		BTEX, 8270 PEST, METALS 6020	
DUP 03 (20160507)	35	5-7-16	1330	S	4oz Jar	1				X		BTEX, 8270 PEST, METALS 6020	
EB09 (20160507)	36	5-7-16	1130	W	Glass/Poly	2		X		X		BTEX, 8270 PEST, METALS 6020	
EB10 (20160507)	37	5-7-16	1440	W	Glass/Poly	2		X		X		BTEX, 8270 PEST, METALS 6020	
SGR-DU010-04-A	38	5-7-16	1535	S	Glass/Poly Bag	1				X		BTEX, 8270 PEST, METALS 6020	
SGR-DU010-04-B	39	5-7-16	1550	S	Bag	1				X		BTEX, 8270 PEST, METALS 6020	
SGR-DU010-04-C	40	5-7-16	1610	S	Bag	1				X		BTEX, 8270 PEST, METALS 6020	
SGR-DU010-03-A	41	5-7-16	1315	S	Bag	1				X		BTEX, 8270 PEST, METALS 6020	
SGR-DU010-03-B	42	5-7-16	1345	S	Bag	1				X		BTEX, 8270 PEST, METALS 6020	
SGR-DU010-03-C	43	5-7-16	1405	S	Bag	1				X		BTEX, 8270 PEST, METALS 6020	
EB11 (20160508)	44	5-8-16	1500	W	Glass/Poly	2		X		X		BTEX, 8270 PEST, METALS 6020	

RELINQUISHED BY: (Signature) DATE/TIME 5-9-16/1900 RECEIVED BY: (Signature) FedEx
RELINQUISHED BY: (Signature) DATE/TIME 5/10/16 10:00 RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature) DATE/TIME RECEIVED BY: (Signature)

☐ DHL DISPOSAL @ $5.00 each ☐ Return

5

TURN AROUND TIME
RUSH ☐ CALL FIRST
1 DAY ☐ CALL FIRST
2 DAY ☐
NORMAL ☒
OTHER ☐ _____

LABORATORY USE ONLY:
RECEIVING TEMP: 1.4 THERM #: 78
CUSTODY SEALS: ☐ BROKEN ☒ INTACT ☐ NOT USED
CARRIER: ☐ LONE STAR ☒ FEDEX ☐ UPS ☐ OTHER
☐ COURIER DELIVERY
☐ HAND DELIVERED

DHL ANALYTICAL
2300 Double Creek Dr. ■ Round Rock, TX 78664
Phone (512) 388-8222 ■ FAX (512) 388-8229
Web: www.dhlanalytical.com
E-Mail: login@dhlanalytical.com

№ 71115

CHAIN-OF-CUSTODY

CLIENT: Arcadis
ADDRESS: 8725 Rosehill, Suite 350, Lenexa, KS 66215
PHONE: 913 645 3203 FAX/E-MAIL: Alex.Walter@arcadis.com
DATA REPORTED TO: Alex Walter
ADDITIONAL REPORT COPIES TO: Erika.Denkenberger@arcadis.com

DATE: May 7, 2016 PAGE 4 OF 5
PO #: 04285081.0000.00044 DHL WORK ORDER #: 1160596
PROJECT LOCATION OR NAME: Laredo SGR
CLENT PROJECT #: 04285081.0000.00044 COLLECTOR: G. Ferguson

Authorize 5% surcharge for TRRP Report? ☐ Yes ☐ No

S=SOIL W=WATER A=AIR L=LIQUID SE=SEDIMENT
P=PAINT SL=SLUDGE O=OTHER SO=SOLID

PRESERVATION: HCl | HNO_3 | H_2SO_4 ☐ NaOH ☐ | ICE | UNPRESERVED

ANALYSES: BTEX ☐ MTBE ☐ [METHOD 8021] | TPH 1005 ☐ TPH 1006 ☐ HOLD 1006 ☐ | GRO [METHOD 8015] ☐ DRO [METHOD 8015] ☐ | VOC 8260 ☐ VOC 624 ☐ VOC 8260/5035 ☐ | SVOC 8270 ☐ PAH 8270 ☐ HOLD PAH ☐ SVOC 625 ☐ | 8270 PEST ☐ 625 PEST/PCB ☐ 608 PCB ☐ | 8270 O-P PEST ☐ 8082 PCB ☐ 8270 PCB ☐ | 8321 HERB ☐ T PHOS, AMMONIA ☐ | METALS 6020 ☐ METALS 200.8 ☐ DISS. METALS ☐ | RCRA ☐ TX11 ☐ LEAD | PH ☐ HEX CHROM ☐ ALKALINITY ☐ COD ☐ | CHLORIDE ☐ ANIONS | TCLP-SVOC ☐ VOC ☐ PEST ☐ HERB ☐ | TCLP-METALS ☐ RCRA 8 ☐ TX-11 ☐ Pb ☐ | RCI ☐ FLASHPOINT ☐ DGAS ☐ | TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐

Field Sample I.D.	DHL Lab #	Date	Time	Matrix	Container Type	# of Containers	HCl	HNO_3	H_2SO_4 NaOH	ICE	UNPRESERVED	ANALYSES	FIELD NOTES
SGR-DU010-04(0-2)-A	45	5-7-16	1348	S	Bag	1				X		BTEX, VOC 8260, LEAD	
SGR-DU010-04 (2-4)-A	46	5-7-16	1350	S	Bag	1				X		BTEX, VOC 8260, LEAD	
SGR-DU010-04 (4-6)-A	47	5-7-16	1353	S	Bag	1				X		BTEX, VOC 8260, LEAD	
SGR-DU010-04 (6-8)-A	48	5-7-16	~~1358~~ 1355	S	Bag	1				X		BTEX, VOC 8260, LEAD	Time = 1355
SGR-DU010-04 (8-10)-A	49	5-7-16	~~1400~~ 1358	S	Bag	1				X		BTEX, VOC 8260, LEAD	Time = 1358
SGR-DU010-04(0-2)-B	50	5-7-16	1400	S	Bag	1				X		BTEX, VOC 8260, LEAD	
SGR-DU010-04(2-4)-B	51	5-7-16	1402	S	Bag	1				X		BTEX, VOC 8260, LEAD	
SGR-DU010-04(4-6)-B	52	5-7-16	~~1414~~ 1408	S	Bag	1				X		BTEX, VOC 8260, LEAD	
SGR-DU010-04(6-8)-B	53	5-7-16	1416	S	Bag	1				X		BTEX, VOC 8260, LEAD	
SGR-DU010-04(8-10)-B	54	5-7-16	1418	S	Bag	1				X		BTEX, VOC 8260, LEAD	
SGR-DU010-04(0-2)-C	55	5-7-16	1425	S	Bag	1				X		BTEX, VOC 8260, LEAD	
SGR-DU010-04(2-4)-C	56	5-7-16	1428	S	Bag	1				X		BTEX, VOC 8260, LEAD	
SGR-DU010-04(4-6)-C	57	5-7-16	1433	S	Bag	1				X		BTEX, VOC 8260, LEAD	
SGR-DU010-04(6-8)-C	58	5-7-16	1435	S	Bag	1				X		BTEX, VOC 8260, LEAD	
SGR-DU010-04(8-10)-C	59	5-7-16	1438	S	Bag	1				X		BTEX, VOC 8260, LEAD	

RELINQUISHED BY: (Signature) DATE/TIME 5-5-16/1800 RECEIVED BY: (Signature) FedEx
RELINQUISHED BY: (Signature) DATE/TIME FedEx 5-10-16 10:00 RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature) DATE/TIME RECEIVED BY: (Signature)

☐ DHL DISPOSAL @ $5.00 each ☐ Return

TURN AROUND TIME
RUSH ☐ CALL FIRST
1 DAY ☐ CALL FIRST
2 DAY ☐
NORMAL ☒
OTHER ☐ _____

LABORATORY USE ONLY:
RECEIVING TEMP: 1.4 THERM #: 78
CUSTODY SEALS: ☐ BROKEN ☒ INTACT ☐ NOT USED
CARRIER: ☐ LONE STAR ☒ FEDEX ☐ UPS ☐ OTHER
☐ COURIER DELIVERY
☐ HAND DELIVERED

DHL ANALYTICAL
2300 Double Creek Dr. ■ Round Rock, TX 78664
Phone (512) 388-8222 ■ FAX (512) 388-8229
Web: www.dhlanalytical.com
E-Mail: login@dhlanalytical.com

№ 71116

CHAIN-OF-CUSTODY

CLIENT: Arcadis
ADDRESS: 8725 Rosehill, Suite 350 Lenexa, KS 66215
PHONE: 913-645-3203 FAX/E-MAIL: alex.walter@arcadis.com
DATA REPORTED TO: Alex Walter
ADDITIONAL REPORT COPIES TO: Erika.Denkenberger@arcadis.com

DATE: May 7, 2016 PAGE 5 OF 5
PO #: 04285091.0000.00004 DHL WORK ORDER #: 1600596
PROJECT LOCATION OR NAME: Laredo SGR
CLENT PROJECT #: 04285091.0000.00004 COLLECTOR: C. Ferguson

Authorize 5% surcharge for TRRP Report? ☐ Yes ☐ No

S=SOIL W=WATER A=AIR L=LIQUID SE=SEDIMENT P=PAINT SL=SLUDGE O=OTHER SO=SOLID

Field Sample I.D.	DHL Lab #	Date	Time	Matrix	Container Type	# of Containers	PRESERVATION: HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESERVED	ANALYSES: BTEX ☐ MTBE ☐ [METHOD 8021]	TPH 1005 ☐ TPH 1006 ☐ HOLD 1006 ☐	GRO [METHOD 8015] ☐ DRO [METHOD 8015] ☐	VOC 8260 ☐ VOC 624 ☐ VOC 8260/5035 ☐	SVOC 8270 ☐ PAH 8270 ☐ HOLD PAH ☐ SVOC 625 ☐	8270 PEST ☐ 625 PEST/PCB ☐ 608 PCB ☐	8270 O-P PEST ☐ 8082 PCB ☐ 8270 PCB ☐	8321 HERB ☐ T PHOS; AMMONIA ☐	METALS 6020 ☐ METALS 200.8 ☐ DISS. METALS ☐	RCRA ☐ TX11 ☐ Lead	PH ☐ HEX CHROM ☐ ALKALINITY ☐ COD ☐	CHLORIDE ☐ ANIONS ☐	TCLP-SVOC ☐ VOC ☐ PEST ☐ HERB ☐	TCLP-METALS ☐ RCRA 8 ☐ TX-11 ☐ Pb ☐	RCI ☐ FLASHPOINT ☐ DGAS ☐	TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐	FIELD NOTES
SGR-DU010-06(0-2)-A	100	5-7-16	1603	S	Bag	1				X					X					X								
SGR-DU010-06(2-4)-A	101	5-7-16	1605	S	Bag	1				X					X					X								
SGR-DU010-06(4-6)-A	102	5-7-16	1607	S	Bag	1				X					X					X								
SGR-DU010-06(6-8)-A	103	5-7-16	1608	S	Bag	1				X					X					X								
SGR-DU010-06(8-10)-A	104	5-7-16	1609	S	Bag	1				X					X					X								
SGR-DU010-06(0-2)-B	105	5-7-16	1611	S	Bag	1				X					X					X								
SGR-DU010-06(2-4)-B	106	5-7-16	1613	S	Bag	1				X					X					X								
SGR-DU010-06(4-6)-B	107	5-7-16	1615	S	Bag	1				X					X					X								
SGR-DU010-06(6-8)-B	108	5-7-16	1617	S	Bag	1				X					X					X								
SGR-DU010-06(8-10)-B	109	5-7-16	1618	S	Bag	1				X					X					X								
SGR-DU010-06(0-2)-C	70	5-7-16	1620	S	Bag	1				X					X					X								
SGR-DU010-06(2-4)-C	71	5-7-16	1621	S	Bag	1				X					X					X								
SGR-DU010-06(4-6)-C	72	5-7-16	1622	S	Bag	1				X					X					X								
SGR-DU010-06(6-8)-C	73	5-7-16	1623	S	Bag	1				X					X					X								
SGR-DU010-06(8-10)-C	74	5-7-16	1624	S	Bag	1				X					X					X								

RELINQUISHED BY: (Signature) DATE/TIME 5-9-16 1800 RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature) DATE/TIME 5/10/16 10:00 RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature) DATE/TIME RECEIVED BY: (Signature)

☐ DHL DISPOSAL @ $5.00 each ☐ Return

TURN AROUND TIME
RUSH ☐ CALL FIRST
1 DAY ☐ CALL FIRST
2 DAY ☐
NORMAL ☒
OTHER ☐ _____

LABORATORY USE ONLY:
RECEIVING TEMP: 1.4 THERM #: 78
CUSTODY SEALS: ☐ BROKEN ☒ INTACT ☐ NOT USED
CARRIER: ☐ LONE STAR ☒ FEDEX ☐ UPS ☐ OTHER
☐ COURIER DELIVERY
☐ HAND DELIVERED

ORIGIN ID:LRDA (915) 433-1761
GARETT FERGUSON
ARCADIS US, INC.
7010 BOB BULLOCK LOOP

LAREDO, TX 78041
UNITED STATES US

SHIP DATE: 09MAY16
ACTWGT: 70.00 LB
CAD: 1660358/INET3730
DIMS: 24x13x15 IN

BILL SENDER

JENNIFER BARKER
DHL ANALYTICAL
2300 DOUBLE CREEK DR

ROUND ROCK TX 78664
(512) 388-8222 REF: 04285081.0000.00044
INV:
PO: 04285081.0000.00044 DEPT:

540J163231727F

FedEx Express

10 of 15

TUE - 10 MAY 10:30A
PRIORITY OVERNIGHT

MPS# 0263 7762 9046 7899
Mstr# 7762 9046 7395

0201

78664
TX-US AUS

44 BSMA

QEC
Quality Environmental Containers
800-255-[illegible]50 • 304-255-3900

CUSTODY SEAL
DATE 05/10/16
SIGNATURE

ORIGIN ID:LRDA (915) 433-1761
GARETT FERGUSON
ARCADIS US, INC.
7010 BOB BULLOCK LOOP

LAREDO, TX 78041
UNITED STATES US

SHIP DATE: 09MAY16
ACTWGT: 70.00 LB
CAD: 1660358/INET3730
DIMS: 24x13x15 IN

BILL SENDER

JENNIFER BARKER
DHL ANALYTICAL
2300 DOUBLE CREEK DR

ROUND ROCK TX 78664
(512) 388-8222 REF: 04285081.0000.00044
INV:
PO: 04285081.0000.00044 DEPT:

540J163231727F

FedEx Express

9 of 15

TUE - 10 MAY 10:30A
PRIORITY OVERNIGHT

MPS# 0263 7762 9046 7237
Mstr# 7762 9046 7395

0201

78664
TX-US AUS

44 BSMA

CUSTODY SEAL
DATE 05/10/16
SIGNATURE

ORIGIN ID:LRDA (915) 433-1761
GARETT FERGUSON
ARCADIS US, INC.
7010 BOB BULLOCK LOOP

LAREDO, TX 78041
UNITED STATES US

SHIP DATE: 09MAY16
ACTWGT: 70.00 LB
CAD: 1660358/INET3730
DIMS: 24x13x15 IN

BILL SENDER

JENNIFER BARKER
DHL ANALYTICAL
2300 DOUBLE CREEK DR

ROUND ROCK TX 78664
(512) 388-8222 REF: 04285081.0000.00044
INV:
PO: 04285081.0000.00044 DEPT:

540J163231727F

FedEx Express

15 of 15
MPS# 0263 7762 9046 7730
Mstr# 7762 9046 7395

TUE - 10 MAY 10:30A
PRIORITY OVERNIGHT

0201

78664
TX-US AUS

44 BSMA

QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

CUSTODY SEAL
DATE 05/09/16
SIGNATURE

ORIGIN ID:LRDA (915) 433-1761
GARETT FERGUSON
ARCADIS US, INC.
7010 BOB BULLOCK LOOP

LAREDO, TX 78041
UNITED STATES US

SHIP DATE: 09MAY16
ACTWGT: 70.00 LB
CAD: 1660358/INET3730
DIMS: 24x13x15 IN

BILL SENDER

JENNIFER BARKER
DHL ANALYTICAL
2300 DOUBLE CREEK DR

ROUND ROCK TX 78664
(512) 388-8222 REF: 04285081.0000.00044
INV:
PO: 04285081.0000.00044 DEPT:

540J163231727F

FedEx Express

12 of 15
MPS# 0263 7762 9046 7936
Mstr# 7762 9046 7395

TUE - 10 MAY 10:30A
PRIORITY OVERNIGHT

0201

78664
TX-US AUS

44 BSMA

CUSTODY SEAL
DATE 05/09/16
SIGNATURE

QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

ORIGIN ID:LRDA (915) 433-1761
GARETT FERGUSON
ARCADIS US, INC.
7010 BOB BULLOCK LOOP

LAREDO, TX 78041
UNITED STATES US

SHIP DATE: 09MAY16
ACTWGT: 70.00 LB
CAD: 1660358/INET3730
DIMS: 24x13x15 IN

BILL SENDER

JENNIFER BARKER
DHL ANALYTICAL
2300 DOUBLE CREEK DR

ROUND ROCK TX 78664
(512) 388-8222 REF: 04285081.0000.00044
INV:
PO: 04285081.0000.00044 DEPT:

540J163233/727F

FedEx Express

2 of 15
MPS# 7762 9046 7579
0263 0201
Mstr# 7762 9046 7395

TUE - 10 MAY 10:30A
PRIORITY OVERNIGHT

78664
TX-US AUS

44 BSMA

CUSTODY SEAL
DATE 5/9/16
SIGNATURE

ORIGIN ID:LRDA (915) 433-1761
GARETT FERGUSON
ARCADIS US, INC.
7010 BOB BULLOCK LOOP

LAREDO, TX 78041
UNITED STATES US

SHIP DATE: 09MAY16
ACTWGT: 70.00 LB
CAD: 1660358/INET3730
DIMS: 24x13x15 IN

BILL SENDER

JENNIFER BARKER
DHL ANALYTICAL
2300 DOUBLE CREEK DR

ROUND ROCK TX 78664
(512) 388-8222 REF: 04285081.0000.00044
INV:
PO: 04285081.0000.00044 DEPT:

540J163233/727F

FedEx Express

5 of 15
MPS# 7762 9046 7605
0263 0201
Mstr# 7762 9046 7395

TUE - 10 MAY 10:30A
PRIORITY OVERNIGHT

78664
TX-US AUS

44 BSMA

CUSTODY SEAL
DATE 05/09/16
SIGNATURE

QEC
Quality Environmental
800-255-3950 • 304-

ORIGIN ID:LRDA (915) 433-1761
GARETT FERGUSON
ARCADIS US, INC.
7010 BOB BULLOCK LOOP

LAREDO, TX 78041
UNITED STATES US

SHIP DATE: 09MAY16
ACTWGT: 70.00 LB
CAD: 1660358/INET3730
DIMS: 24x13x15 IN

BILL SENDER

JENNIFER BARKER
DHL ANALYTICAL
2300 DOUBLE CREEK DR

ROUND ROCK TX 78664
(512) 388-8222 REF: 04285081.0000.00044
INV:
PO: 04285081.0000.00044 DEPT:

540J16323/727F

FedEx Express

TUE - 10 MAY 10:30A
PRIORITY OVERNIGHT

13 of 15
MPS# 0263 7762 9046 7646

CUSTODY SEAL
DATE 05/09/16
SIGNATURE

ORIGIN ID:LRDA (915) 433-1761
GARETT FERGUSON
ARCADIS US, INC.
7010 BOB BULLOCK LOOP

LAREDO, TX 78041
UNITED STATES US

SHIP DATE: 09MAY16
ACTWGT: 70.00 LB
CAD: 1660358/INET3730
DIMS: 24x13x15 IN

BILL SENDER

JENNIFER BARKER
DHL ANALYTICAL
2300 DOUBLE CREEK DR

ROUND ROCK TX 78664
(512) 388-8222 REF: 04285081.0000.00044
INV:
PO: 04285081.0000.00044 DEPT:

540J16323/727F

FedEx Express

11 of 15
MPS# 0263 7762 9046 7443
Mstr# 7762 9046 7395 0201

TUE - 10 MAY 10:30A
PRIORITY OVERNIGHT

44 BSMA

78664
TX-US AUS

CUSTODY SEAL
DATE 05/09/16
SIGNATURE

ORIGIN ID:LRDA (915) 433-1761
GARETT FERGUSON
ARCADIS US, INC.
7010 BOB BULLOCK LOOP

LAREDO, TX 78041
UNITED STATES US

SHIP DATE: 09MAY16
ACTWGT: 70.00 LB
CAD: 1660358/INET3730
DIMS: 24x13x15 IN

BILL SENDER

TO JENNIFER BARKER
DHL ANALYTICAL
2300 DOUBLE CREEK DR

ROUND ROCK TX 78664
(512) 388-8222 REF: 04285081.0000.00044
INV:
PO: 04285081.0000.00044 DEPT:

540J163231727F

FedEx Express

1 of 15

TRK# 0201 7762 9046 7395

MASTER

TUE - 10 MAY 10:30A
PRIORITY OVERNIGHT

78664
TX-US AUS

44 BSMA

CUSTODY SEAL
DATE 5/
SIGNATURE

5/16

ORIGIN ID:LRDA (915) 433-1761
GARETT FERGUSON
ARCADIS US, INC.
7010 BOB BULLOCK LOOP

LAREDO, TX 78041
UNITED STATES US

SHIP DATE: 09MAY16
ACTWGT: 70.00 LB
CAD: 1660358/INET3730
DIMS: 24x13x15 IN

BILL SENDER

JENNIFER BARKER
DHL ANALYTICAL
2300 DOUBLE CREEK DR

ROUND ROCK TX 78664
(512) 388-8222 REF: 04285081.0000.00044
INV:
PO: 04285081.0000.00044 DEPT:

540J163231727F

FedEx Express

2 of 2

MPS# 0263 7762 9903 5308

Mstr# 7762 9903 5640

0201

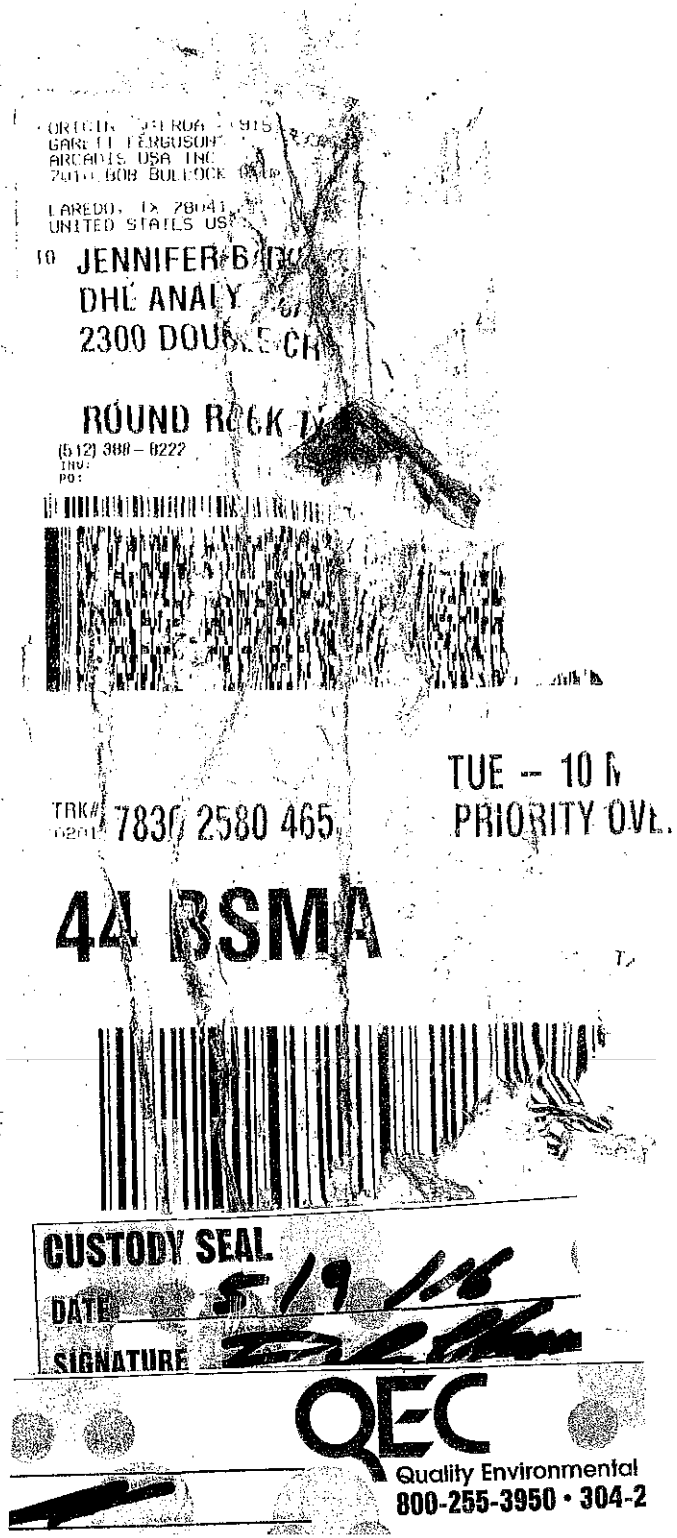
TUE - 10 MAY 10:30A
PRIORITY OVERNIGHT

78664
TX-US AUS

44 BSMA

QEC
Quality Environmental Containers
950 • 304-255-3900

CUSTODY SEAL
DATE 05/16/16
SIGNATURE


ORIGIN
GARETT FERGUSON
ARCADIS USA INC
LAREDO, TX 78041
UNITED STATES US
JENNIFER
DHL ANALY
2300 DOU
ROUND R
(512) 388 – 8222
INV:
PO:
TUE -- 10
PRIORITY OVL.
TRK#
7830 2580 465
44 BSMA
CUSTODY SEAL
DATE
SIGNATURE
QEC
Quality Environmental
800-255-3950 • 304-2


ORIGIN ID:LRDA (915) 433-1761
GARETT FERGUSON
ARCADIS US, INC.
7010 BOB BULLOCK LOOP
SHIP DATE: 09MAY16
ACTWGT: 70.00 LB
CAD: 1660358/INET3730
DIMS: 24x13x15 IN
CUSTODY SEAL
DATE
SIGNATURE
QEC
Quality Env
800-255-3
ROUND ROCK TX 78664
(512) 388-8222
REF: 04285081.0000.00044
INV:
PO: 04285081.0000.00044
DEPT:
FedEx
Express
TUE - 10 MAY 10:30A
PRIORITY OVERNIGHT
8 of 15
MPS#
0263
7762 9046 7693
Mstr# 7762 9046 7395
0201
78664
TX-US
AUS
44 BSMA
label:

ORIGIN ID:LRDA (915) 433-1761
GARETT FERGUSON
ARCADIS US, INC.
7010 BOB BULLOCK LOOP

LAREDO, TX 78041
UNITED STATES US

SHIP DATE: 09MAY16
ACTWGT: 70.00 LB
CAD: 1660358/INET3730
DIMS: 24x13x15 IN

BILL SENDER

JENNIFER BARKER
DHL ANALYTICAL
2300 DOUBLE CREEK DR

ROUND ROCK TX 78664
(512) 388-8222 REF: 04285081.0000.00044
INV:
PO: 04285081.0000.00044 DEPT:

540J16323/727F

FedEx Express

7 of 15
MPS# 0263 7762 9046 7888
Mstr# 7762 9046 7395

0201

TUE - 10 MAY 10:30A
PRIORITY OVERNIGHT

78664
TX-US AUS

44 BSMA

CUSTODY SEAL
DATE 05/09/16
SIGNATURE

QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

ORIGIN ID:LRDA (915) 433-1761
GARETT FERGUSON
ARCADIS US, INC.
7010 BOB BULLOCK LOOP

LAREDO, TX 78041
UNITED STATES US

SHIP DATE: 09MAY16
ACTWGT: 70.00 LB
CAD: 1660358/INET3730
DIMS: 24x13x15 IN

BILL SENDER

JENNIFER BARKER
DHL ANALYTICAL
2300 DOUBLE CREEK DR

ROUND ROCK TX 78664
(512) 388-8222 REF: 04285081.0000.00044
INV:
PO: 04285081.0000.00044 DEPT:

540J16323/727F

FedEx Express

6 of 15
MPS# 0263 7762 9046 7421
Mstr# 7762 9046 7395

0201

TUE - 10 MAY 10:30A
PRIORITY OVERNIGHT

78664
TX-US AUS

44 BSMA

QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

CUSTODY SEAL
DATE 05/09/16
SIGNATURE

ORIGIN ID:LRDA (915) 433-1761
GARETT FERGUSON
ARCADIS US, INC.
7010 BOB BULLOCK LOOP

LAREDO, TX 78041
UNITED STATES US

SHIP DATE: 09MAY16
ACTWGT: 70.00 LB
CAD: 1660358/INET3730
DIMS: 24x13x15 IN

BILL SENDER

JENNIFER BARKER
DHL ANALYTICAL
2300 DOUBLE CREEK DR

ROUND ROCK TX 78664
(512) 388-8222 REF: 04285081.0000.00044
INV:
PO: 04285081.0000.00044 DEPT:

540J163233/727F

FedEx Express

14 of 15

TUE - 10 MAY 10:30A
PRIORITY OVERNIGHT

MPS# 0263 7762 9046 7822
Mstr# 7762 9046 7395

0201

78664
TX-US AUS

44 BSMA

QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

CUSTODY SEAL
DATE 05/09/16
SIGNATURE

ORIGIN ID:LRDA (915) 433-1761
GARETT FERGUSON
ARCADIS US, INC.
7010 BOB BULLOCK LOOP

LAREDO, TX 78041
UNITED STATES US

SHIP DATE: 09MAY16
ACTWGT: 70.00 LB
CAD: 1660358/INET3730
DIMS: 24x13x15 IN

BILL SENDER

JENNIFER BARKER
DHL ANALYTICAL
2300 DOUBLE CREEK DR

ROUND ROCK TX 78664
(512) 388-8222 REF: 04285081.0000.00044
INV:
PO: 04285081.0000.00044 DEPT:

540J163233/727F

FedEx Express

4 of 15

TUE - 10 MAY 10:30A
PRIORITY OVERNIGHT

MPS# 0263 7762 9046 7590
Mstr# 7762 9046 7395

0201

78664
TX-US AUS

44 BSMA

CUSTODY SEAL
DATE 05/09/16
SIGNATURE

QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

DHL Analytical, Inc.

Sample Receipt Checklist

Client Name **Arcadis** Date Received: **5/10/2016**

Work Order Number **1605096** Received by **JT**

Checklist completed by: _____ 5/10/2016 Reviewed by _____ 5/10/2016
Signature Date Initials Date

Carrier name FedEx 1day

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shippping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	**1.4** °C
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH<2 acceptable upon receipt?	Yes ☑	No ☐	NA ☐ LOT # 8086
	Adjusted? NO		Checked by
Water - ph>9 (S) or ph>12 (CN) acceptable upon receipt?	Yes ☐	No ☐	NA ☑ LOT #
	Adjusted? _____		Checked by _____

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

_____

_____

Corrective Action _____

_____

_____

Page 1 of 1

DHL Analytical, Inc.
Laboratory Review Checklist: Reportable Data

Project Name: Laredo SGR	**Date:** 5/31/2016
Reviewer Name: Angie O'Donnell	**Laboratory Work Order:** 1605096
Prep Batch Number(s): See Prep Dates Report	**Run Batch:** See Analytical Dates Report

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
		Chain-of-Custody (C-O-C)					
R1	OI	**1)** Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	**X**				**R1-01**
		2) Were all departures from standard conditions described in an exception report?			**X**		
R2	OI	**Sample and Quality Control (QC) Identification**					
		1) Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	**X**				
		2) Are all laboratory ID numbers cross-referenced to the corresponding QC data?	**X**				
R3	OI	**Test Reports**					
		1) Were all samples prepared and analyzed within holding times?	**X**				
		2) Other than those results < MQL, were all other raw values bracketed by calibration standards?	**X**				
		3) Were calculations checked by a peer or supervisor?	**X**				
		4) Were all analyte identifications checked by a peer or supervisor?	**X**				
		5) Were sample detection limits reported for all analytes not detected?	**X**				
		6) Were all results for soil and sediment samples reported on a dry weight basis?	**X**				
		7) Were % moisture (or solids) reported for all soil and sediment samples?	**X**				
		8) Were bulk soils/solids samples for volatile analysis extracted with methanol per EPA Method 5035?			**X**		
		9) If required for the project, TICs reported?			**X**		
R4	O	**Surrogate Recovery Data**					
		1) Were surrogates added prior to extraction?	**X**				
		2) Were surrogate percent recoveries in all samples within the laboratory QC limits?	**X**				
R5	OI	**Test Reports/Summary Forms for Blank Samples**					
		1) Were appropriate type(s) of blanks analyzed?	**X**				
		2) Were blanks analyzed at the appropriate frequency?	**X**				
		3) Where method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	**X**				
		4) Were blank concentrations < MQL?	**X**				
R6	OI	**Laboratory Control Samples (LCS):**					
		1) Were all COCs included in the LCS?	**X**				
		2) Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	**X**				
		3) Were LCSs analyzed at the required frequency?	**X**				
		4) Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	**X**				
		5) Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	**X**				
		6) Was the LCSD RPD within QC limits (if applicable)?	**X**				
R7	OI	**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Data**					
		1) Were the project/method specified analytes included in the MS and MSD?	**X**				
		2) Were MS/MSD analyzed at the appropriate frequency?	**X**				
		3) Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		**X**			**R7-03**
		4) Were MS/MSD RPDs within laboratory QC limits?		**X**			**R7-04**
R8	OI	**Analytical Duplicate Data**					
		1) Were appropriate analytical duplicates analyzed for each matrix?	**X**				
		2) Were analytical duplicates analyzed at the appropriate frequency?	**X**				
		3) Were RPDs or relative standard deviations within the laboratory QC limits?	**X**				
R9	OI	**Method Quantitation Limits (MQLs):**					
		1) Are the MQLs for each method analyte included in the laboratory data package?	**X**				
		2) Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	**X**				
		3) Are unadjusted MQLs and DCSs included in the laboratory data package?	**X**				
R10	OI	**Other Problems/Anomalies**					
		1) Are all known problems/anomalies/special conditions noted in this LRC and ER?	**X**				**R10-01**
		2) Was applicable and available technology used to lower the SDL to minimize the matrix interference affects on the sample results?	**X**				
		3) Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	**X**				

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).
3 NA = Not applicable.
4 NR = Not Reviewed.
5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

DHL Analytical, Inc.
Laboratory Review Checklist (continued): Supporting Data

Project Name: Laredo SGR | **Date:** 5/31/2016

Reviewer Name: Angie O'Donnell | **Laboratory Work Order:** 1605096

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial Calibration (ICAL)**					
		1) Were response factors and/or relative response factors for each analyte within QC limits?	**X**				
		2) Were percent RSDs or correlation coefficient criteria met?	**X**				
		3) Was the number of standards recommended in the method used for all analytes?	**X**				
		4) Were all points generated between the lowest and highest standard used to calculate the curve?	**X**				
		5) Are ICAL data available for all instruments used?	**X**				
		6) Has the initial calibration curve been verified using an appropriate second source standard?	**X**				
S2	OI	**Initial and Continuing calibration Verification (ICCV and CCV) and Continuing Calibration blank (CCB):**					
		1) Was the CCV analyzed at the method-required frequency?	**X**				
		2) Were percent differences for each analyte within the method-required QC limits?	**X**				
		3) Was the ICAL curve verified for each analyte?	**X**				
		4) Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	**X**				
S3	O	**Mass Spectral Tuning:**					
		1) Was the appropriate compound for the method used for tuning?	**X**				
		2) Were ion abundance data within the method-required QC limits?	**X**				
S4	O	**Internal Standards (IS):**					
		1) Were IS area counts and retention times within the method-required QC limits?	**X**				
S5	OI	**Raw Data (NELAC Section 5.5.10)**					
		1) Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	**X**				
		2) Were data associated with manual integrations flagged on the raw data?	**X**				
S6	O	**Dual Column Confirmation**					
		1) Did dual column confirmation results meet the method-required QC?			**X**		
S7	O	**Tentatively Identified Compounds (TICs):**					
		1) If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			**X**		
S8	I	**Interference Check Sample (ICS) Results:**					
		1) Were percent recoveries within method QC limits?	**X**				
S9	I	**Serial Dilutions, Post Digestion Spikes, and Method of Standard Additions**					
		1) Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	**X**				
S10	OI	**Method Detection Limit (MDL) Studies**					
		1) Was a MDL study performed for each reported analyte?	**X**				
		2) Is the MDL either adjusted or supported by the analysis of DCSs?	**X**				
S11	OI	**Proficiency Test Reports:**					
		1) Was the lab's performance acceptable on the applicable proficiency tests or evaluation studies?	**X**				
S12	OI	**Standards Documentation**					
		1) Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	**X**				
S13	OI	**Compound/Analyte Identification Procedures**					
		1) Are the procedures for compound/analyte identification documented?	**X**				
S14	OI	**Demonstration of Analyst Competency (DOC)**					
		1) Was DOC conducted consistent with NELAC Chapter 5 – Appendix C?	**X**				
		2) Is documentation of the analyst's competency up-to-date and on file?	**X**				
S15	OI	**Verification/Validation Documentation for Methods** (NELAC Chapter 5)					
		1) Are all the methods used to generate the data documented, verified, and validated, where applicable?	**X**				
S16	OI	**Laboratory Standard Operating Procedures (SOPs):**					
		1) Are laboratory SOPs current and on file for each method performed?	**X**				

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).
3 NA = Not applicable.
4 NR = Not Reviewed.
5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Data Package Signature Page – RG-366/TRRP-13

This data package consists of:

This signature page, the laboratory review checklist, and the following reportable data:

R1 Field chain-of-custody documentation;
R2 Sample identification cross-reference;
R3 Test reports (analytical data sheets) for each environmental sample that includes:
  a) Items consistent with NELAC Chapter 5,
  b) dilution factors,
  c) preparation methods,
  d) cleanup methods, and
  e) if required for the project, tentatively identified compounds (TICs).
R4 Surrogate recovery data including:
  a) Calculated recovery (%R), and
  b) The laboratory's surrogate QC limits.
R5 Test reports/summary forms for blank samples;
R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  a) LCS spiking amounts,
  b) Calculated %R for each analyte, and
  c) The laboratory's LCS QC limits.
R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  a) Samples associated with the MS/MSD clearly identified,
  b) MS/MSD spiking amounts,
  c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
  d) Calculated %Rs and relative percent differences (RPDs), and
  e) The laboratory's MS/MSD QC limits
R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  a) The amount of analyte measured in the duplicate,
  b) The calculated RPD, and
  c) The laboratory's QC limits for analytical duplicates.
R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix;
R10 Other problems or anomalies.

The Exception Report for every "No" or "Not Reviewed (NR)" item in Laboratory Review checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge that all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information or data affecting the quality of the data has been knowingly withheld.

This laboratory was last inspected by TCEQ on June 1-5, 2015. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

John DuPont – General Manager

Scott Schroeder – Technical Director



Signature

05/31/16

Date

CASE NARRATIVE

This case narrative describes abnormalities and deviations that may affect the results and summarizes all known issues that need to be highlighted for the data user to assess the results. This case narrative and the report contents are compliant with DoD QSM Ver. 5.0 and NELAC.

The "U" flag indicates the results for that sample are nondetect.

Samples were analyzed using the methods outlined in the following references:

Method SW8270D-LL - PAH Analysis (The compound Benzo[j]fluoranthene is not NELAC or DOD Certified)
Method SW6020A- Metals Analysis

Exception Report R1-01

Samples were received on and log-in performed on 5/10/2016. A total of 74 samples were received and analyzed. The samples arrived in good condition and was properly packaged.

Exception Report R7-03 and R7-04

For Metals Analysis, for water Batch 75180, the recovery of Lead for the Matrix Spike (1605097-27 MS) was below the method control limits. This is flagged accordingly in the QC Summary Report. This analyte was within method control limits in the associated LCS. The client approved of the DHL Analytical action to note this in the case narrative and proceed with analysis. No further corrective action was taken.

For Metals Analysis, for soil Batch 75169, the recovery of Lead for the Matrix Spike Duplicate (1605096-70 MSD) was below the method control limits. This is flagged accordingly in the QC Summary Report. This analyte was within method control limits in the associated LCS. The client approved of the DHL Analytical action to note this in the case narrative and proceed with analysis. No further corrective action was taken.

For PAH Analysis, for soil batch 75127, the recoveries of up to six compounds for the Matrix Spike and Matrix Spike Duplicate (1605074-44 MS/MSD) were above the method control limits. These were flagged accordingly in the QC Summary Report. The recoveries of these compounds were within method control limits in the associated LCS. The client approved of the DHL Analytical action to note this in the case narrative and proceed with analysis. No further corrective action was taken.

For PAH Analysis, for soil batch 75160, the recoveries/RPDs of up to thirteen compounds for the Matrix Spike and Matrix Spike Duplicate (1605096-52 MS/MSD) were outside of the method control

limits. These were flagged accordingly in the QC Summary Report. The recoveries of these compounds were within method control limits in the associated LCS. The client approved of the DHL Analytical action to note this in the case narrative and proceed with analysis. No further corrective action was taken.

Exception Report R10-01

For PAH Analysis, the samples were diluted due to observed color of extract; dilution meets project specifications.

For PAH Analysis, Samples SGR-DU010-04(0-2)-A and SGR-DU010-04(2-4)-A were analyzed at higher dilution than usual, due to very dark color extract observed.

For all of the surface and subsurface samples in this workorder, DHL Analytical performed an Incremental Sampling Method (ISM) according to an internal SOP, as approved by the client and included in the project QAPP. This workorder consist of the following sample types: sub-surface Samples (DHL WO # 1605096-16 through -30, -45 through -74) processed to pass #10 sieve (2mm). Surface soil samples (DHL WO# 1605096-01 through -03, -14 through -15, -38 through -43) processed to pass a #60 sieve (250µ particle size) The remaining samples analyzed were discreet soil samples collected in 4 ounce soil containers and ISM process not used, as per project specs.

A summary of project communication follows:

The Subcontract Agreement No. D16-003 for Arcadis Project No. 04285081.0000.00043 was sent to DHL Analytical from client and signed on 1/6/2016, the contract for work signed and approved by both parties on 1/12/2016. A Modification No. 01-D16-003 was signed by both parties on 4/21/2016.

The bottlekit was requested from Ana Gutierrez of Arcadis sent via email to John DuPont on 4/21/2016.
The following DHL Bottle Orders:
#6941 sent on 4/28/2016 via Lonestar Overnight Ground to arrive by 5/2/2016
#6942 sent on 5/3/2016 via Lonestar Overnight Ground to arrive by 5/4/2016
#6943 sent on 5/6/2016 via Lonestar Overnight Ground to arrive by 5/9/2016
#6944 sent on 5/10/2016 via Lonestar Overnight Ground to arrive by 5/11/2016.

This sample delivery group arrives at DHL Analytical sent on 5/10/2016 and the Sample Summary was sent on 5/11/2016. Associated shipping documents are kept in the project folder and/or client folder as part of the Administrative records filed in the QA office.

DHL project manager/qa staff discussed with client the following issues:
email communications 5/9/2016 - from J. DuPont to the Arcadis Kansas Laredo email group regarding insufficient sample to perform subsampling. The client accepted the corrective action for the quality

exceedances.
email communications 5/13/2016 - from J. DuPont to the Arcadis Kansas Laredo email group regarding request to dilute based on color of extract.
email communications 5/20/2016 - from J. DuPont to L. Mott of Arcadis regarding recoveries of recoveries/RPD of MS/MSD(s) and LCVL for Lead. The client accepted the corrective action for the quality exceedances.
email communications 5/27/2016 - from J. DuPont to L. Mott of Arcadis regarding recovery of MS for Lead exceeded limits. The client accepted the corrective action for the quality exceedances on 5/31/2016.

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT: Arcadis
Project: Laredo SGR
Lab Order: 1605096

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
1605096-01	SGR-DU010-06-A		05/07/16 08:40 AM	5/10/2016
1605096-02	SGR-DU010-06-B		05/07/16 09:05 AM	5/10/2016
1605096-03	SGR-DU010-06-C		05/07/16 09:35 AM	5/10/2016
1605096-04	SGR-DU009-STRAT1		05/07/16 10:00 AM	5/10/2016
1605096-05	SGR-DU009-STRAT2		05/07/16 10:05 AM	5/10/2016
1605096-06	SGR-DU009-STRAT3		05/07/16 10:10 AM	5/10/2016
1605096-07	SGR-DU009-STRAT4		05/07/16 10:15 AM	5/10/2016
1605096-08	SGR-DU009-STRAT5		05/07/16 10:20 AM	5/10/2016
1605096-09	SGR-DU003-STRAT1		05/07/16 09:15 AM	5/10/2016
1605096-10	SGR-DU003-STRAT2		05/07/16 09:20 AM	5/10/2016
1605096-11	SGR-DU003-STRAT3		05/07/16 09:25 AM	5/10/2016
1605096-12	SGR-DU003-STRAT4		05/07/16 09:30 AM	5/10/2016
1605096-13	SGR-DU010-01-A		05/07/16 10:30 AM	5/10/2016
1605096-14	SGR-DU010-01-B		05/07/16 10:50 AM	5/10/2016
1605096-15	SGR-DU010-01-C		05/07/16 11:10 AM	5/10/2016
1605096-16	SGR-DU010-03(0-2)-A		05/07/16 10:34 AM	5/10/2016
1605096-17	SGR-DU010-03(2-4)-A		05/07/16 10:36 AM	5/10/2016
1605096-18	SGR-DU010-03(4-6)-A		05/07/16 10:39 AM	5/10/2016
1605096-19	SGR-DU010-03(6-8)-A		05/07/16 10:42 AM	5/10/2016
1605096-20	SGR-DU010-03(8-10)-A		05/07/16 10:44 AM	5/10/2016
1605096-21	SGR-DU010-03(0-2)-B		05/07/16 10:46 AM	5/10/2016
1605096-22	SGR-DU010-03(2-4)-B		05/07/16 10:49 AM	5/10/2016
1605096-23	SGR-DU010-03(4-6)-B		05/07/16 10:52 AM	5/10/2016
1605096-24	SGR-DU010-03(6-8)-B		05/07/16 10:55 AM	5/10/2016
1605096-25	SGR-DU010-03(8-10)-B		05/07/16 10:57 AM	5/10/2016
1605096-26	SGR-DU010-03(0-2)-C		05/07/16 11:00 AM	5/10/2016
1605096-27	SGR-DU010-03(2-4)-C		05/07/16 11:02 AM	5/10/2016
1605096-28	SGR-DU010-03(4-6)-C		05/07/16 11:05 AM	5/10/2016
1605096-29	SGR-DU010-03(6-8)-C		05/07/16 11:08 AM	5/10/2016
1605096-30	SGR-DU010-03(8-10)-C		05/07/16 11:10 AM	5/10/2016
1605096-31	SGR-DU132-STRAT1		05/07/16 01:00 PM	5/10/2016
1605096-32	SGR-DU132-STRAT2		05/07/16 01:05 PM	5/10/2016
1605096-33	SGR-DU132-STRAT3		05/07/16 01:10 PM	5/10/2016
1605096-34	SGR-DU132-STRAT4		05/07/16 01:15 PM	5/10/2016
1605096-35	DUP03(20160507)		05/07/16 01:30 PM	5/10/2016
1605096-36	EB09(20160507)		05/07/16 11:30 AM	5/10/2016
1605096-37	EB10(20160507)		05/07/16 02:40 PM	5/10/2016
1605096-38	SGR-DU010-04-A		05/07/16 03:35 PM	5/10/2016
1605096-39	SGR-DU010-04-B		05/07/16 03:50 PM	5/10/2016
1605096-40	SGR-DU010-04-C		05/07/16 04:10 PM	5/10/2016
1605096-41	SGR-DU010-03-A		05/07/16 01:15 PM	5/10/2016
1605096-42	SGR-DU010-03-B		05/07/16 01:45 PM	5/10/2016

CLIENT: Arcadis
Project: Laredo SGR
Lab Order: 1605096

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
1605096-43	SGR-DU010-03-C		05/07/16 02:05 PM	5/10/2016
1605096-44	EB14(20160508)		05/08/16 03:00 PM	5/10/2016
1605096-45	SGR-DU010-04(0-2)-A		05/07/16 01:48 PM	5/10/2016
1605096-46	SGR-DU010-04(2-4)-A		05/07/16 01:50 PM	5/10/2016
1605096-47	SGR-DU010-04(4-6)-A		05/07/16 01:53 PM	5/10/2016
1605096-48	SGR-DU010-04(6-8)-A		05/07/16 01:55 PM	5/10/2016
1605096-49	SGR-DU010-04(8-10)-A		05/07/16 01:58 PM	5/10/2016
1605096-50	SGR-DU010-04(0-2)-B		05/07/16 02:00 PM	5/10/2016
1605096-51	SGR-DU010-04(2-4)-B		05/07/16 02:02 PM	5/10/2016
1605096-52	SGR-DU010-04(4-6)-B		05/07/16 02:14 PM	5/10/2016
1605096-53	SGR-DU010-04(6-8)-B		05/07/16 02:16 PM	5/10/2016
1605096-54	SGR-DU010-04(8-10)-B		05/07/16 02:18 PM	5/10/2016
1605096-55	SGR-DU010-04(0-2)-C		05/07/16 02:25 PM	5/10/2016
1605096-56	SGR-DU010-04(2-4)-C		05/07/16 02:28 PM	5/10/2016
1605096-57	SGR-DU010-04(4-6)-C		05/07/16 02:33 PM	5/10/2016
1605096-58	SGR-DU010-04(6-8)-C		05/07/16 02:35 PM	5/10/2016
1605096-59	SGR-DU010-04(8-10)-C		05/07/16 02:38 PM	5/10/2016
1605096-60	SGR-DU010-06(0-2)-A		05/07/16 04:03 PM	5/10/2016
1605096-61	SGR-DU010-06(2-4)-A		05/07/16 04:05 PM	5/10/2016
1605096-62	SGR-DU010-06(4-6)-A		05/07/16 04:02 PM	5/10/2016
1605096-63	SGR-DU010-06(6-8)-A		05/07/16 04:08 PM	5/10/2016
1605096-64	SGR-DU010-06(8-10)-A		05/07/16 04:09 PM	5/10/2016
1605096-65	SGR-DU010-06(0-2)-B		05/07/16 04:11 PM	5/10/2016
1605096-66	SGR-DU010-06(2-4)-B		05/07/16 04:13 PM	5/10/2016
1605096-67	SGR-DU010-06(4-6)-B		05/07/16 04:15 PM	5/10/2016
1605096-68	SGR-DU010-06(6-8)-B		05/07/16 04:17 PM	5/10/2016
1605096-69	SGR-DU010-06(8-10)-B		05/07/16 04:18 PM	5/10/2016
1605096-70	SGR-DU010-06(0-2)-C		05/07/16 04:20 PM	5/10/2016
1605096-71	SGR-DU010-06(2-4)-C		05/07/16 04:21 PM	5/10/2016
1605096-72	SGR-DU010-06(4-6)-C		05/07/16 04:22 PM	5/10/2016
1605096-73	SGR-DU010-06(6-8)-C		05/07/16 04:23 PM	5/10/2016
1605096-74	SGR-DU010-06(8-10)-C		05/07/16 04:24 PM	5/10/2016

Lab Order: 1605096
Client: Arcadis
Project: Laredo SGR

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1605096-01A	SGR-DU010-06-A	05/07/16 08:40 AM	Soil	SW3550C	Soil Prep Sonication: PAH	05/13/16 10:10 AM	75151
	SGR-DU010-06-A	05/07/16 08:40 AM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/17/16 08:30 AM	75166
1605096-02A	SGR-DU010-06-B	05/07/16 09:05 AM	Soil	SW3550C	Soil Prep Sonication: PAH	05/13/16 10:10 AM	75151
	SGR-DU010-06-B	05/07/16 09:05 AM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/17/16 08:30 AM	75166
1605096-03A	SGR-DU010-06-C	05/07/16 09:35 AM	Soil	SW3550C	Soil Prep Sonication: PAH	05/13/16 10:10 AM	75151
	SGR-DU010-06-C	05/07/16 09:35 AM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/17/16 08:30 AM	75166
1605096-04A	SGR-DU009-STRAT1	05/07/16 10:00 AM	Soil	D2216	Moisture Preparation	05/11/16 10:02 AM	75103
	SGR-DU009-STRAT1	05/07/16 10:00 AM	Soil	SW3550C	Soil Prep Sonication: PAH	05/12/16 09:33 AM	75127
	SGR-DU009-STRAT1	05/07/16 10:00 AM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/17/16 08:30 AM	75166
1605096-05A	SGR-DU009-STRAT2	05/07/16 10:05 AM	Soil	D2216	Moisture Preparation	05/11/16 10:02 AM	75103
	SGR-DU009-STRAT2	05/07/16 10:05 AM	Soil	SW3550C	Soil Prep Sonication: PAH	05/12/16 09:33 AM	75127
	SGR-DU009-STRAT2	05/07/16 10:05 AM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/17/16 08:30 AM	75166
1605096-06A	SGR-DU009-STRAT3	05/07/16 10:10 AM	Soil	D2216	Moisture Preparation	05/11/16 10:02 AM	75103
	SGR-DU009-STRAT3	05/07/16 10:10 AM	Soil	SW3550C	Soil Prep Sonication: PAH	05/12/16 09:33 AM	75127
	SGR-DU009-STRAT3	05/07/16 10:10 AM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/17/16 08:30 AM	75166
1605096-07A	SGR-DU009-STRAT4	05/07/16 10:15 AM	Soil	D2216	Moisture Preparation	05/11/16 10:02 AM	75103
	SGR-DU009-STRAT4	05/07/16 10:15 AM	Soil	SW3550C	Soil Prep Sonication: PAH	05/12/16 09:33 AM	75127
	SGR-DU009-STRAT4	05/07/16 10:15 AM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/17/16 08:30 AM	75166
1605096-08A	SGR-DU009-STRAT5	05/07/16 10:20 AM	Soil	D2216	Moisture Preparation	05/11/16 10:02 AM	75103
	SGR-DU009-STRAT5	05/07/16 10:20 AM	Soil	SW3550C	Soil Prep Sonication: PAH	05/12/16 09:33 AM	75127
	SGR-DU009-STRAT5	05/07/16 10:20 AM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/17/16 08:30 AM	75166
1605096-09A	SGR-DU003-STRAT1	05/07/16 09:15 AM	Soil	D2216	Moisture Preparation	05/11/16 10:02 AM	75103
	SGR-DU003-STRAT1	05/07/16 09:15 AM	Soil	SW3550C	Soil Prep Sonication: PAH	05/12/16 09:33 AM	75127
	SGR-DU003-STRAT1	05/07/16 09:15 AM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/17/16 08:30 AM	75166
1605096-10A	SGR-DU003-STRAT2	05/07/16 09:20 AM	Soil	D2216	Moisture Preparation	05/11/16 10:02 AM	75103
	SGR-DU003-STRAT2	05/07/16 09:20 AM	Soil	SW3550C	Soil Prep Sonication: PAH	05/12/16 09:33 AM	75127
	SGR-DU003-STRAT2	05/07/16 09:20 AM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/17/16 08:30 AM	75166
1605096-11A	SGR-DU003-STRAT3	05/07/16 09:25 AM	Soil	D2216	Moisture Preparation	05/11/16 10:02 AM	75103

Lab Order: 1605096
Client: Arcadis
Project: Laredo SGR

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1605096-11A	SGR-DU003-STRAT3	05/07/16 09:25 AM	Soil	SW3550C	Soil Prep Sonication: PAH	05/12/16 09:33 AM	75127
	SGR-DU003-STRAT3	05/07/16 09:25 AM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/17/16 08:30 AM	75166
1605096-12A	SGR-DU003-STRAT4	05/07/16 09:30 AM	Soil	D2216	Moisture Preparation	05/11/16 10:02 AM	75103
	SGR-DU003-STRAT4	05/07/16 09:30 AM	Soil	SW3550C	Soil Prep Sonication: PAH	05/12/16 09:33 AM	75127
	SGR-DU003-STRAT4	05/07/16 09:30 AM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/17/16 08:30 AM	75166
1605096-13A	SGR-DU010-01-A	05/07/16 10:30 AM	Soil	SW3550C	Soil Prep Sonication: PAH	05/13/16 10:10 AM	75151
	SGR-DU010-01-A	05/07/16 10:30 AM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/17/16 08:30 AM	75166
1605096-14A	SGR-DU010-01-B	05/07/16 10:50 AM	Soil	SW3550C	Soil Prep Sonication: PAH	05/13/16 10:10 AM	75151
	SGR-DU010-01-B	05/07/16 10:50 AM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/17/16 08:30 AM	75166
1605096-15A	SGR-DU010-01-C	05/07/16 11:10 AM	Soil	SW3550C	Soil Prep Sonication: PAH	05/13/16 10:10 AM	75151
	SGR-DU010-01-C	05/07/16 11:10 AM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/17/16 08:30 AM	75166
1605096-16A	SGR-DU010-03(0-2)-A	05/07/16 10:34 AM	Soil	SW3550C	Soil Prep Sonication: PAH	05/13/16 10:10 AM	75151
	SGR-DU010-03(0-2)-A	05/07/16 10:34 AM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/17/16 08:30 AM	75166
1605096-17A	SGR-DU010-03(2-4)-A	05/07/16 10:36 AM	Soil	SW3550C	Soil Prep Sonication: PAH	05/13/16 10:10 AM	75151
	SGR-DU010-03(2-4)-A	05/07/16 10:36 AM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/17/16 08:30 AM	75166
1605096-18A	SGR-DU010-03(4-6)-A	05/07/16 10:39 AM	Soil	SW3550C	Soil Prep Sonication: PAH	05/13/16 10:10 AM	75151
	SGR-DU010-03(4-6)-A	05/07/16 10:39 AM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/17/16 08:30 AM	75166
1605096-19A	SGR-DU010-03(6-8)-A	05/07/16 10:42 AM	Soil	SW3550C	Soil Prep Sonication: PAH	05/13/16 10:10 AM	75151
	SGR-DU010-03(6-8)-A	05/07/16 10:42 AM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/17/16 08:30 AM	75167
1605096-20A	SGR-DU010-03(8-10)-A	05/07/16 10:44 AM	Soil	SW3550C	Soil Prep Sonication: PAH	05/13/16 10:10 AM	75151
	SGR-DU010-03(8-10)-A	05/07/16 10:44 AM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/17/16 08:30 AM	75167
1605096-21A	SGR-DU010-03(0-2)-B	05/07/16 10:46 AM	Soil	SW3550C	Soil Prep Sonication: PAH	05/13/16 10:10 AM	75151
	SGR-DU010-03(0-2)-B	05/07/16 10:46 AM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/17/16 08:30 AM	75167
1605096-22A	SGR-DU010-03(2-4)-B	05/07/16 10:49 AM	Soil	SW3550C	Soil Prep Sonication: PAH	05/13/16 10:10 AM	75151
	SGR-DU010-03(2-4)-B	05/07/16 10:49 AM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/17/16 08:30 AM	75167
1605096-23A	SGR-DU010-03(4-6)-B	05/07/16 10:52 AM	Soil	SW3550C	Soil Prep Sonication: PAH	05/13/16 10:10 AM	75151
	SGR-DU010-03(4-6)-B	05/07/16 10:52 AM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/17/16 08:30 AM	75167
1605096-24A	SGR-DU010-03(6-8)-B	05/07/16 10:55 AM	Soil	SW3550C	Soil Prep Sonication: PAH	05/13/16 10:10 AM	75151

Lab Order: 1605096
Client: Arcadis
Project: Laredo SGR

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1605096-24A	SGR-DU010-03(6-8)-B	05/07/16 10:55 AM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/17/16 08:30 AM	75167
1605096-25A	SGR-DU010-03(8-10)-B	05/07/16 10:57 AM	Soil	SW3550C	Soil Prep Sonication: PAH	05/13/16 02:32 PM	75158
	SGR-DU010-03(8-10)-B	05/07/16 10:57 AM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/17/16 08:30 AM	75167
1605096-26A	SGR-DU010-03(0-2)-C	05/07/16 11:00 AM	Soil	SW3550C	Soil Prep Sonication: PAH	05/13/16 02:32 PM	75158
	SGR-DU010-03(0-2)-C	05/07/16 11:00 AM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/17/16 08:30 AM	75167
1605096-27A	SGR-DU010-03(2-4)-C	05/07/16 11:02 AM	Soil	SW3550C	Soil Prep Sonication: PAH	05/13/16 02:32 PM	75158
	SGR-DU010-03(2-4)-C	05/07/16 11:02 AM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/17/16 08:30 AM	75167
1605096-28A	SGR-DU010-03(4-6)-C	05/07/16 11:05 AM	Soil	SW3550C	Soil Prep Sonication: PAH	05/13/16 02:32 PM	75158
	SGR-DU010-03(4-6)-C	05/07/16 11:05 AM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/17/16 08:30 AM	75167
1605096-29A	SGR-DU010-03(6-8)-C	05/07/16 11:08 AM	Soil	SW3550C	Soil Prep Sonication: PAH	05/13/16 02:32 PM	75158
	SGR-DU010-03(6-8)-C	05/07/16 11:08 AM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/17/16 08:30 AM	75167
1605096-30A	SGR-DU010-03(8-10)-C	05/07/16 11:10 AM	Soil	SW3550C	Soil Prep Sonication: PAH	05/13/16 02:32 PM	75158
	SGR-DU010-03(8-10)-C	05/07/16 11:10 AM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/17/16 08:30 AM	75167
1605096-31A	SGR-DU132-STRAT1	05/07/16 01:00 PM	Soil	D2216	Moisture Preparation	05/11/16 10:02 AM	75103
	SGR-DU132-STRAT1	05/07/16 01:00 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/13/16 02:32 PM	75158
	SGR-DU132-STRAT1	05/07/16 01:00 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/17/16 08:30 AM	75167
1605096-32A	SGR-DU132-STRAT2	05/07/16 01:05 PM	Soil	D2216	Moisture Preparation	05/11/16 10:02 AM	75103
	SGR-DU132-STRAT2	05/07/16 01:05 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/13/16 02:32 PM	75158
	SGR-DU132-STRAT2	05/07/16 01:05 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/17/16 08:30 AM	75167
1605096-33A	SGR-DU132-STRAT3	05/07/16 01:10 PM	Soil	D2216	Moisture Preparation	05/11/16 10:02 AM	75103
	SGR-DU132-STRAT3	05/07/16 01:10 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/13/16 02:32 PM	75158
	SGR-DU132-STRAT3	05/07/16 01:10 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/17/16 08:30 AM	75167
1605096-34A	SGR-DU132-STRAT4	05/07/16 01:15 PM	Soil	D2216	Moisture Preparation	05/11/16 10:02 AM	75103
	SGR-DU132-STRAT4	05/07/16 01:15 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/13/16 02:32 PM	75158
	SGR-DU132-STRAT4	05/07/16 01:15 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/17/16 08:30 AM	75167
1605096-35A	DUP03(20160507)	05/07/16 01:30 PM	Soil	D2216	Moisture Preparation	05/11/16 10:02 AM	75103
	DUP03(20160507)	05/07/16 01:30 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/13/16 02:32 PM	75158
	DUP03(20160507)	05/07/16 01:30 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/17/16 08:30 AM	75167

Lab Order: 1605096
Client: Arcadis
Project: Laredo SGR

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1605096-36A	EB09(20160507)	05/07/16 11:30 AM	Equip Blank	SW3005A	Aq Prep Metals : ICP-MS	05/19/16 08:30 AM	75180
1605096-36B	EB09(20160507)	05/07/16 11:30 AM	Equip Blank	SW3510C	Aq Prep Sep Funnel: PAH	05/13/16 08:48 AM	75146
1605096-37A	EB10(20160507)	05/07/16 02:40 PM	Equip Blank	SW3005A	Aq Prep Metals : ICP-MS	05/19/16 08:30 AM	75180
1605096-37B	EB10(20160507)	05/07/16 02:40 PM	Equip Blank	SW3510C	Aq Prep Sep Funnel: PAH	05/13/16 08:48 AM	75146
1605096-38A	SGR-DU010-04-A	05/07/16 03:35 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/13/16 02:32 PM	75158
	SGR-DU010-04-A	05/07/16 03:35 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/17/16 08:30 AM	75167
1605096-39A	SGR-DU010-04-B	05/07/16 03:50 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/13/16 02:32 PM	75158
	SGR-DU010-04-B	05/07/16 03:50 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/17/16 08:30 AM	75167
1605096-40A	SGR-DU010-04-C	05/07/16 04:10 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/13/16 02:32 PM	75158
	SGR-DU010-04-C	05/07/16 04:10 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/17/16 08:30 AM	75167
1605096-41A	SGR-DU010-03-A	05/07/16 01:15 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/13/16 02:32 PM	75158
	SGR-DU010-03-A	05/07/16 01:15 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/16/16 08:58 AM	75168
1605096-42A	SGR-DU010-03-B	05/07/16 01:45 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/13/16 02:32 PM	75158
	SGR-DU010-03-B	05/07/16 01:45 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/16/16 08:58 AM	75168
1605096-43A	SGR-DU010-03-C	05/07/16 02:05 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/13/16 02:32 PM	75158
	SGR-DU010-03-C	05/07/16 02:05 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/16/16 08:58 AM	75168
1605096-44A	EB14(20160508)	05/08/16 03:00 PM	Equip Blank	SW3005A	Aq Prep Metals : ICP-MS	05/19/16 08:30 AM	75180
1605096-44B	EB14(20160508)	05/08/16 03:00 PM	Equip Blank	SW3510C	Aq Prep Sep Funnel: PAH	05/13/16 08:48 AM	75146
1605096-45A	SGR-DU010-04(0-2)-A	05/07/16 01:48 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/13/16 02:32 PM	75158
	SGR-DU010-04(0-2)-A	05/07/16 01:48 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/16/16 08:58 AM	75168
1605096-46A	SGR-DU010-04(2-4)-A	05/07/16 01:50 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/13/16 02:32 PM	75158
	SGR-DU010-04(2-4)-A	05/07/16 01:50 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/16/16 08:58 AM	75168
1605096-47A	SGR-DU010-04(4-6)-A	05/07/16 01:53 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/13/16 02:32 PM	75158
	SGR-DU010-04(4-6)-A	05/07/16 01:53 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/16/16 08:58 AM	75168
1605096-48A	SGR-DU010-04(6-8)-A	05/07/16 01:55 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/15/16 11:30 AM	75160
	SGR-DU010-04(6-8)-A	05/07/16 01:55 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/16/16 08:58 AM	75168
1605096-49A	SGR-DU010-04(8-10)-A	05/07/16 01:58 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/15/16 11:30 AM	75160
	SGR-DU010-04(8-10)-A	05/07/16 01:58 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/16/16 08:58 AM	75168

Lab Order: 1605096
Client: Arcadis
Project: Laredo SGR

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1605096-50A	SGR-DU010-04(0-2)-B	05/07/16 02:00 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/15/16 11:30 AM	75160
	SGR-DU010-04(0-2)-B	05/07/16 02:00 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/16/16 08:58 AM	75168
1605096-51A	SGR-DU010-04(2-4)-B	05/07/16 02:02 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/15/16 11:30 AM	75160
	SGR-DU010-04(2-4)-B	05/07/16 02:02 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/16/16 08:58 AM	75168
1605096-52A	SGR-DU010-04(4-6)-B	05/07/16 02:14 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/15/16 11:30 AM	75160
	SGR-DU010-04(4-6)-B	05/07/16 02:14 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/16/16 08:58 AM	75168
1605096-53A	SGR-DU010-04(6-8)-B	05/07/16 02:16 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/15/16 11:30 AM	75160
	SGR-DU010-04(6-8)-B	05/07/16 02:16 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/16/16 08:58 AM	75168
1605096-54A	SGR-DU010-04(8-10)-B	05/07/16 02:18 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/15/16 11:30 AM	75160
	SGR-DU010-04(8-10)-B	05/07/16 02:18 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/16/16 08:58 AM	75168
1605096-55A	SGR-DU010-04(0-2)-C	05/07/16 02:25 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/15/16 11:30 AM	75160
	SGR-DU010-04(0-2)-C	05/07/16 02:25 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/16/16 08:58 AM	75168
1605096-56A	SGR-DU010-04(2-4)-C	05/07/16 02:28 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/15/16 11:30 AM	75160
	SGR-DU010-04(2-4)-C	05/07/16 02:28 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/16/16 08:58 AM	75168
1605096-57A	SGR-DU010-04(4-6)-C	05/07/16 02:33 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/15/16 11:30 AM	75160
	SGR-DU010-04(4-6)-C	05/07/16 02:33 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/16/16 08:58 AM	75168
1605096-58A	SGR-DU010-04(6-8)-C	05/07/16 02:35 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/15/16 11:30 AM	75160
	SGR-DU010-04(6-8)-C	05/07/16 02:35 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/16/16 08:58 AM	75168
1605096-59A	SGR-DU010-04(8-10)-C	05/07/16 02:38 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/15/16 11:30 AM	75160
	SGR-DU010-04(8-10)-C	05/07/16 02:38 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/16/16 08:58 AM	75168
1605096-60A	SGR-DU010-06(0-2)-A	05/07/16 04:03 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/15/16 11:30 AM	75160
	SGR-DU010-06(0-2)-A	05/07/16 04:03 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/16/16 08:58 AM	75168
1605096-61A	SGR-DU010-06(2-4)-A	05/07/16 04:05 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/15/16 11:30 AM	75160
	SGR-DU010-06(2-4)-A	05/07/16 04:05 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/16/16 08:58 AM	75168
1605096-62A	SGR-DU010-06(4-6)-A	05/07/16 04:02 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/15/16 11:30 AM	75160
	SGR-DU010-06(4-6)-A	05/07/16 04:02 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/16/16 09:01 AM	75169
1605096-63A	SGR-DU010-06(6-8)-A	05/07/16 04:08 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/15/16 11:30 AM	75160
	SGR-DU010-06(6-8)-A	05/07/16 04:08 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/16/16 09:01 AM	75169

Lab Order: 1605096
Client: Arcadis
Project: Laredo SGR

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1605096-64A	SGR-DU010-06(8-10)-A	05/07/16 04:09 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/15/16 11:30 AM	75160
	SGR-DU010-06(8-10)-A	05/07/16 04:09 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/16/16 09:01 AM	75169
1605096-65A	SGR-DU010-06(0-2)-B	05/07/16 04:11 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/15/16 11:30 AM	75160
	SGR-DU010-06(0-2)-B	05/07/16 04:11 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/16/16 09:01 AM	75169
1605096-66A	SGR-DU010-06(2-4)-B	05/07/16 04:13 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/15/16 11:30 AM	75160
	SGR-DU010-06(2-4)-B	05/07/16 04:13 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/16/16 09:01 AM	75169
1605096-67A	SGR-DU010-06(4-6)-B	05/07/16 04:15 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/15/16 11:30 AM	75160
	SGR-DU010-06(4-6)-B	05/07/16 04:15 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/16/16 09:01 AM	75169
1605096-68A	SGR-DU010-06(6-8)-B	05/07/16 04:17 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/15/16 11:31 AM	75161
	SGR-DU010-06(6-8)-B	05/07/16 04:17 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/16/16 09:01 AM	75169
1605096-69A	SGR-DU010-06(8-10)-B	05/07/16 04:18 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/15/16 11:31 AM	75161
	SGR-DU010-06(8-10)-B	05/07/16 04:18 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/16/16 09:01 AM	75169
1605096-70A	SGR-DU010-06(0-2)-C	05/07/16 04:20 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/15/16 11:31 AM	75161
	SGR-DU010-06(0-2)-C	05/07/16 04:20 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/16/16 09:01 AM	75169
1605096-71A	SGR-DU010-06(2-4)-C	05/07/16 04:21 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/15/16 11:31 AM	75161
	SGR-DU010-06(2-4)-C	05/07/16 04:21 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/16/16 09:01 AM	75169
1605096-72A	SGR-DU010-06(4-6)-C	05/07/16 04:22 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/15/16 11:31 AM	75161
	SGR-DU010-06(4-6)-C	05/07/16 04:22 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/16/16 09:01 AM	75169
1605096-73A	SGR-DU010-06(6-8)-C	05/07/16 04:23 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/15/16 11:31 AM	75161
	SGR-DU010-06(6-8)-C	05/07/16 04:23 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/16/16 09:01 AM	75169
1605096-74A	SGR-DU010-06(8-10)-C	05/07/16 04:24 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/15/16 11:31 AM	75161
	SGR-DU010-06(8-10)-C	05/07/16 04:24 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/16/16 09:01 AM	75169

Lab Order: 1605096
Client: Arcadis
Project: Laredo SGR

ISM PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1605096-01A	SGR-DU010-06-A	5/7/2016 8:40:00 AM	Soil	ISM-1	Incremental Sample Prep 250µ Sieve	5/10/2016 7:00:00 PM	75083
1605096-02A	SGR-DU010-06-B	5/7/2016 9:05:00 AM	Soil	ISM-1	Incremental Sample Prep 250µ Sieve	5/10/2016 7:00:00 PM	75083
1605096-03A	SGR-DU010-06-C	5/7/2016 9:35:00 AM	Soil	ISM-1	Incremental Sample Prep 250µ Sieve	5/10/2016 7:00:00 PM	75083
1605096-13A	SGR-DU010-01-A	5/7/2016 10:30:00 AM	Soil	ISM-1	Incremental Sample Prep 250µ Sieve	5/10/2016 7:00:00 PM	75083
1605096-14A	SGR-DU010-01-B	5/7/2016 10:50:00 AM	Soil	ISM-1	Incremental Sample Prep 250µ Sieve	5/10/2016 7:00:00 PM	75083
1605096-15A	SGR-DU010-01-C	5/7/2016 11:10:00 AM	Soil	ISM-1	Incremental Sample Prep 250µ Sieve	5/10/2016 7:00:00 PM	75083
1605096-16A	SGR-DU010-03(0-2)-A	5/7/2016 10:34:00 AM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/10/2016 7:00:00 PM	75084
1605096-17A	SGR-DU010-03(2-4)-A	5/7/2016 10:36:00 AM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/10/2016 7:00:00 PM	75084
1605096-18A	SGR-DU010-03(4-6)-A	5/7/2016 10:39:00 AM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/10/2016 7:00:00 PM	75084
1605096-19A	SGR-DU010-03(6-8)-A	5/7/2016 10:42:00 AM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/10/2016 7:00:00 PM	75084
1605096-20A	SGR-DU010-03(8-10)-A	5/7/2016 10:44:00 AM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/10/2016 7:00:00 PM	75084
1605096-21A	SGR-DU010-03(0-2)-B	5/7/2016 10:46:00 AM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/10/2016 7:00:00 PM	75084
1605096-22A	SGR-DU010-03(2-4)-B	5/7/2016 10:49:00 AM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/10/2016 7:00:00 PM	75084
1605096-23A	SGR-DU010-03(4-6)-B	5/7/2016 10:52:00 AM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/10/2016 7:00:00 PM	75084
1605096-24A	SGR-DU010-03(6-8)-B	5/7/2016 10:55:00 AM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/10/2016 7:00:00 PM	75084
1605096-25A	SGR-DU010-03(8-10)-B	5/7/2016 10:57:00 AM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/10/2016 7:00:00 PM	75084
1605096-26A	SGR-DU010-03(0-2)-C	5/7/2016 11:00:00 AM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/10/2016 7:00:00 PM	75084
1605096-27A	SGR-DU010-03(2-4)-C	5/7/2016 11:02:00 AM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/10/2016 7:00:00 PM	75084
1605096-28A	SGR-DU010-03(4-6)-C	5/7/2016 11:05:00 AM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/10/2016 7:00:00 PM	75084
1605096-29A	SGR-DU010-03(6-8)-C	5/7/2016 11:08:00 AM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/10/2016 7:00:00 PM	75084
1605096-30A	SGR-DU010-03(8-10)-C	5/7/2016 11:10:00 AM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/10/2016 7:00:00 PM	75084
1605096-38A	SGR-DU010-04-A	5/7/2016 3:35:00 PM	Soil	ISM-1	Incremental Sample Prep 250µ Sieve	5/10/2016 7:00:00 PM	75083
1605096-39A	SGR-DU010-04-B	5/7/2016 3:50:00 PM	Soil	ISM-1	Incremental Sample Prep 250µ Sieve	5/10/2016 7:00:00 PM	75083
1605096-40A	SGR-DU010-04-C	5/7/2016 4:10:00 PM	Soil	ISM-1	Incremental Sample Prep 250µ Sieve	5/10/2016 7:00:00 PM	75083
1605096-41A	SGR-DU010-03-A	5/7/2016 1:15:00 PM	Soil	ISM-1	Incremental Sample Prep 250µ Sieve	5/10/2016 7:00:00 PM	75083
1605096-42A	SGR-DU010-03-B	5/7/2016 1:45:00 PM	Soil	ISM-1	Incremental Sample Prep 250µ Sieve	5/10/2016 7:00:00 PM	75083
1605096-43A	SGR-DU010-03-C	5/7/2016 2:05:00 PM	Soil	ISM-1	Incremental Sample Prep 250µ Sieve	5/10/2016 7:00:00 PM	75083
1605096-45A	SGR-DU010-04(0-2)-A	5/7/2016 1:48:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/10/2016 7:00:00 PM	75084

Lab Order: 1605096
Client: Arcadis
Project: Laredo SGR

TCLP/SPLP PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1605096-46A	SGR-DU010-04(2-4)-A	5/7/2016 1:50:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/10/2016 7:00:00 PM	75084
1605096-47A	SGR-DU010-04(4-6)-A	5/7/2016 1:53:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/10/2016 7:00:00 PM	75084
1605096-48A	SGR-DU010-04(6-8)-A	5/7/2016 1:55:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/10/2016 7:00:00 PM	75084
1605096-49A	SGR-DU010-04(8-10)-A	5/7/2016 1:58:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/10/2016 7:00:00 PM	75084
1605096-50A	SGR-DU010-04(0-2)-B	5/7/2016 2:00:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/10/2016 7:00:00 PM	75084
1605096-51A	SGR-DU010-04(2-4)-B	5/7/2016 2:02:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/10/2016 7:00:00 PM	75084
1605096-52A	SGR-DU010-04(4-6)-B	5/7/2016 2:14:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/10/2016 7:00:00 PM	75084
1605096-53A	SGR-DU010-04(6-8)-B	5/7/2016 2:16:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/10/2016 7:00:00 PM	75084
1605096-54A	SGR-DU010-04(8-10)-B	5/7/2016 2:18:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/10/2016 7:00:00 PM	75084
1605096-55A	SGR-DU010-04(0-2)-C	5/7/2016 2:25:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/10/2016 7:00:00 PM	75084
1605096-56A	SGR-DU010-04(2-4)-C	5/7/2016 2:28:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/10/2016 7:00:00 PM	75084
1605096-57A	SGR-DU010-04(4-6)-C	5/7/2016 2:33:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/10/2016 7:00:00 PM	75084
1605096-58A	SGR-DU010-04(6-8)-C	5/7/2016 2:35:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/10/2016 7:00:00 PM	75084
1605096-59A	SGR-DU010-04(8-10)-C	5/7/2016 2:38:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/10/2016 7:00:00 PM	75084
1605096-60A	SGR-DU010-06(0-2)-A	5/7/2016 4:03:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/10/2016 7:00:00 PM	75084
1605096-61A	SGR-DU010-06(2-4)-A	5/7/2016 4:05:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/10/2016 7:00:00 PM	75084
1605096-62A	SGR-DU010-06(4-6)-A	5/7/2016 4:02:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/10/2016 7:00:00 PM	75084
1605096-63A	SGR-DU010-06(6-8)-A	5/7/2016 4:08:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/10/2016 7:00:00 PM	75084
1605096-64A	SGR-DU010-06(8-10)-A	5/7/2016 4:09:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/10/2016 7:00:00 PM	75084
1605096-65A	SGR-DU010-06(0-2)-B	5/7/2016 4:11:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/10/2016 7:00:00 PM	75084
1605096-66A	SGR-DU010-06(2-4)-B	5/7/2016 4:13:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/10/2016 7:00:00 PM	75084
1605096-67A	SGR-DU010-06(4-6)-B	5/7/2016 4:15:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/10/2016 7:00:00 PM	75084
1605096-68A	SGR-DU010-06(6-8)-B	5/7/2016 4:17:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/10/2016 7:00:00 PM	75084
1605096-69A	SGR-DU010-06(8-10)-B	5/7/2016 4:18:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/10/2016 7:00:00 PM	75084
1605096-70A	SGR-DU010-06(0-2)-C	5/7/2016 4:20:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/10/2016 7:00:00 PM	75084
1605096-71A	SGR-DU010-06(2-4)-C	5/7/2016 4:21:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/10/2016 7:00:00 PM	75084
1605096-72A	SGR-DU010-06(4-6)-C	5/7/2016 4:22:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/10/2016 7:00:00 PM	75084
1605096-73A	SGR-DU010-06(6-8)-C	5/7/2016 4:23:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/10/2016 7:00:00 PM	75084

Lab Order: 1605096
Client: Arcadis
Project: Laredo SGR

ISM PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1605096-74A	SGR-DU010-06(8-10)-C	5/7/2016 4:24:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/10/2016 7:00:00 PM	75084

Lab Order: 1605096
Client: Arcadis
Project: Laredo SGR

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1605096-01A	SGR-DU010-06-A	Soil	SW8270D-LL	PAHs: GC/MS	75151	10	05/16/16 06:39 PM	GCMS8_160516A
	SGR-DU010-06-A	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75166	5	05/23/16 04:03 PM	ICP-MS4_160523F
1605096-02A	SGR-DU010-06-B	Soil	SW8270D-LL	PAHs: GC/MS	75151	10	05/16/16 07:15 PM	GCMS8_160516A
	SGR-DU010-06-B	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75166	5	05/23/16 04:05 PM	ICP-MS4_160523F
1605096-03A	SGR-DU010-06-C	Soil	SW8270D-LL	PAHs: GC/MS	75151	10	05/16/16 07:52 PM	GCMS8_160516A
	SGR-DU010-06-C	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75166	5	05/23/16 04:07 PM	ICP-MS4_160523F
1605096-04A	SGR-DU009-STRAT1	Soil	SW8270D-LL	PAHs: GC/MS	75127	10	05/16/16 04:52 PM	GCMS6_160516A
	SGR-DU009-STRAT1	Soil	D2216	Percent Moisture	75103	1	05/12/16 09:55 AM	PMOIST_160511B
	SGR-DU009-STRAT1	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75166	5	05/23/16 04:09 PM	ICP-MS4_160523F
1605096-05A	SGR-DU009-STRAT2	Soil	SW8270D-LL	PAHs: GC/MS	75127	10	05/16/16 05:31 PM	GCMS6_160516A
	SGR-DU009-STRAT2	Soil	D2216	Percent Moisture	75103	1	05/12/16 09:55 AM	PMOIST_160511B
	SGR-DU009-STRAT2	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75166	5	05/23/16 04:11 PM	ICP-MS4_160523F
1605096-06A	SGR-DU009-STRAT3	Soil	SW8270D-LL	PAHs: GC/MS	75127	10	05/16/16 10:06 PM	GCMS6_160516A
	SGR-DU009-STRAT3	Soil	D2216	Percent Moisture	75103	1	05/12/16 09:55 AM	PMOIST_160511B
	SGR-DU009-STRAT3	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75166	5	05/23/16 04:13 PM	ICP-MS4_160523F
1605096-07A	SGR-DU009-STRAT4	Soil	SW8270D-LL	PAHs: GC/MS	75127	10	05/16/16 10:46 PM	GCMS6_160516A
	SGR-DU009-STRAT4	Soil	D2216	Percent Moisture	75103	1	05/12/16 09:55 AM	PMOIST_160511B
	SGR-DU009-STRAT4	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75166	5	05/23/16 04:15 PM	ICP-MS4_160523F
1605096-08A	SGR-DU009-STRAT5	Soil	SW8270D-LL	PAHs: GC/MS	75127	10	05/16/16 11:26 PM	GCMS6_160516A
	SGR-DU009-STRAT5	Soil	D2216	Percent Moisture	75103	1	05/12/16 09:55 AM	PMOIST_160511B
	SGR-DU009-STRAT5	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75166	5	05/23/16 04:31 PM	ICP-MS4_160523F
1605096-09A	SGR-DU003-STRAT1	Soil	SW8270D-LL	PAHs: GC/MS	75127	10	05/17/16 12:05 AM	GCMS6_160516A
	SGR-DU003-STRAT1	Soil	D2216	Percent Moisture	75103	1	05/12/16 09:55 AM	PMOIST_160511B
	SGR-DU003-STRAT1	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75166	5	05/23/16 04:33 PM	ICP-MS4_160523F
1605096-10A	SGR-DU003-STRAT2	Soil	SW8270D-LL	PAHs: GC/MS	75127	10	05/17/16 12:45 AM	GCMS6_160516A
	SGR-DU003-STRAT2	Soil	D2216	Percent Moisture	75103	1	05/12/16 09:55 AM	PMOIST_160511B
	SGR-DU003-STRAT2	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75166	5	05/23/16 04:35 PM	ICP-MS4_160523F
1605096-11A	SGR-DU003-STRAT3	Soil	SW8270D-LL	PAHs: GC/MS	75127	10	05/17/16 01:25 AM	GCMS6_160516A

Lab Order: 1605096
Client: Arcadis
Project: Laredo SGR

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1605096-11A	SGR-DU003-STRAT3	Soil	D2216	Percent Moisture	75103	1	05/12/16 09:55 AM	PMOIST_160511B
	SGR-DU003-STRAT3	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75166	5	05/23/16 04:37 PM	ICP-MS4_160523F
1605096-12A	SGR-DU003-STRAT4	Soil	SW8270D-LL	PAHs: GC/MS	75127	10	05/17/16 02:06 AM	GCMS6_160516A
	SGR-DU003-STRAT4	Soil	D2216	Percent Moisture	75103	1	05/12/16 09:55 AM	PMOIST_160511B
	SGR-DU003-STRAT4	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75166	5	05/23/16 04:39 PM	ICP-MS4_160523F
1605096-13A	SGR-DU010-01-A	Soil	SW8270D-LL	PAHs: GC/MS	75151	10	05/16/16 08:29 PM	GCMS8_160516A
	SGR-DU010-01-A	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75166	5	05/23/16 04:41 PM	ICP-MS4_160523F
1605096-14A	SGR-DU010-01-B	Soil	SW8270D-LL	PAHs: GC/MS	75151	10	05/14/16 09:57 AM	GCMS8_160513A
	SGR-DU010-01-B	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75166	5	05/23/16 03:55 PM	ICP-MS4_160523F
1605096-15A	SGR-DU010-01-C	Soil	SW8270D-LL	PAHs: GC/MS	75151	10	05/16/16 09:42 PM	GCMS8_160516A
	SGR-DU010-01-C	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75166	5	05/23/16 04:43 PM	ICP-MS4_160523F
1605096-16A	SGR-DU010-03(0-2)-A	Soil	SW8270D-LL	PAHs: GC/MS	75151	10	05/16/16 10:19 PM	GCMS8_160516A
	SGR-DU010-03(0-2)-A	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75166	5	05/23/16 04:45 PM	ICP-MS4_160523F
1605096-17A	SGR-DU010-03(2-4)-A	Soil	SW8270D-LL	PAHs: GC/MS	75151	10	05/16/16 10:56 PM	GCMS8_160516A
	SGR-DU010-03(2-4)-A	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75166	5	05/23/16 04:47 PM	ICP-MS4_160523F
1605096-18A	SGR-DU010-03(4-6)-A	Soil	SW8270D-LL	PAHs: GC/MS	75151	10	05/16/16 04:12 PM	GCMS8_160516A
	SGR-DU010-03(4-6)-A	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75166	5	05/23/16 04:49 PM	ICP-MS4_160523F
1605096-19A	SGR-DU010-03(6-8)-A	Soil	SW8270D-LL	PAHs: GC/MS	75151	10	05/16/16 04:48 PM	GCMS8_160516A
	SGR-DU010-03(6-8)-A	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75167	5	05/25/16 01:49 PM	ICP-MS3_160525A
1605096-20A	SGR-DU010-03(8-10)-A	Soil	SW8270D-LL	PAHs: GC/MS	75151	10	05/16/16 05:25 PM	GCMS8_160516A
	SGR-DU010-03(8-10)-A	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75167	5	05/25/16 01:55 PM	ICP-MS3_160525A
1605096-21A	SGR-DU010-03(0-2)-B	Soil	SW8270D-LL	PAHs: GC/MS	75151	10	05/16/16 06:02 PM	GCMS8_160516A
	SGR-DU010-03(0-2)-B	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75167	5	05/25/16 02:01 PM	ICP-MS3_160525A
1605096-22A	SGR-DU010-03(2-4)-B	Soil	SW8270D-LL	PAHs: GC/MS	75151	10	05/16/16 09:05 PM	GCMS8_160516A
	SGR-DU010-03(2-4)-B	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75167	5	05/25/16 02:07 PM	ICP-MS3_160525A
1605096-23A	SGR-DU010-03(4-6)-B	Soil	SW8270D-LL	PAHs: GC/MS	75151	10	05/14/16 08:43 AM	GCMS8_160513A
	SGR-DU010-03(4-6)-B	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75167	5	05/25/16 02:12 PM	ICP-MS3_160525A
1605096-24A	SGR-DU010-03(6-8)-B	Soil	SW8270D-LL	PAHs: GC/MS	75151	10	05/14/16 09:20 AM	GCMS8_160513A

Lab Order: 1605096
Client: Arcadis
Project: Laredo SGR

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1605096-24A	SGR-DU010-03(6-8)-B	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75167	5	05/25/16 02:18 PM	ICP-MS3_160525A
1605096-25A	SGR-DU010-03(8-10)-B	Soil	SW8270D-LL	PAHs: GC/MS	75158	10	05/17/16 02:27 PM	GCMS6_160517A
	SGR-DU010-03(8-10)-B	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75167	5	05/25/16 01:37 PM	ICP-MS3_160525A
1605096-26A	SGR-DU010-03(0-2)-C	Soil	SW8270D-LL	PAHs: GC/MS	75158	10	05/17/16 03:07 PM	GCMS6_160517A
	SGR-DU010-03(0-2)-C	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75167	5	05/25/16 02:24 PM	ICP-MS3_160525A
1605096-27A	SGR-DU010-03(2-4)-C	Soil	SW8270D-LL	PAHs: GC/MS	75158	10	05/17/16 03:47 PM	GCMS6_160517A
	SGR-DU010-03(2-4)-C	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75167	5	05/25/16 02:30 PM	ICP-MS3_160525A
1605096-28A	SGR-DU010-03(4-6)-C	Soil	SW8270D-LL	PAHs: GC/MS	75158	10	05/17/16 04:26 PM	GCMS6_160517A
	SGR-DU010-03(4-6)-C	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75167	5	05/25/16 02:36 PM	ICP-MS3_160525A
1605096-29A	SGR-DU010-03(6-8)-C	Soil	SW8270D-LL	PAHs: GC/MS	75158	10	05/17/16 05:06 PM	GCMS6_160517A
	SGR-DU010-03(6-8)-C	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75167	5	05/25/16 03:18 PM	ICP-MS3_160525A
1605096-30A	SGR-DU010-03(8-10)-C	Soil	SW8270D-LL	PAHs: GC/MS	75158	10	05/17/16 05:46 PM	GCMS6_160517A
	SGR-DU010-03(8-10)-C	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75167	5	05/25/16 03:24 PM	ICP-MS3_160525A
1605096-31A	SGR-DU132-STRAT1	Soil	SW8270D-LL	PAHs: GC/MS	75158	10	05/17/16 06:26 PM	GCMS6_160517A
	SGR-DU132-STRAT1	Soil	D2216	Percent Moisture	75103	1	05/12/16 09:55 AM	PMOIST_160511B
	SGR-DU132-STRAT1	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75167	5	05/25/16 03:30 PM	ICP-MS3_160525A
1605096-32A	SGR-DU132-STRAT2	Soil	SW8270D-LL	PAHs: GC/MS	75158	10	05/17/16 07:05 PM	GCMS6_160517A
	SGR-DU132-STRAT2	Soil	D2216	Percent Moisture	75103	1	05/12/16 09:55 AM	PMOIST_160511B
	SGR-DU132-STRAT2	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75167	5	05/25/16 03:36 PM	ICP-MS3_160525A
1605096-33A	SGR-DU132-STRAT3	Soil	SW8270D-LL	PAHs: GC/MS	75158	10	05/17/16 07:45 PM	GCMS6_160517A
	SGR-DU132-STRAT3	Soil	D2216	Percent Moisture	75103	1	05/12/16 09:55 AM	PMOIST_160511B
	SGR-DU132-STRAT3	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75167	5	05/25/16 03:42 PM	ICP-MS3_160525A
1605096-34A	SGR-DU132-STRAT4	Soil	SW8270D-LL	PAHs: GC/MS	75158	10	05/17/16 08:25 PM	GCMS6_160517A
	SGR-DU132-STRAT4	Soil	D2216	Percent Moisture	75103	1	05/12/16 09:55 AM	PMOIST_160511B
	SGR-DU132-STRAT4	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75167	5	05/25/16 03:48 PM	ICP-MS3_160525A
1605096-35A	DUP03(20160507)	Soil	SW8270D-LL	PAHs: GC/MS	75158	10	05/17/16 09:04 PM	GCMS6_160517A
	DUP03(20160507)	Soil	D2216	Percent Moisture	75103	1	05/12/16 09:55 AM	PMOIST_160511B
	DUP03(20160507)	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75167	5	05/25/16 03:54 PM	ICP-MS3_160525A

Lab Order: 1605096
Client: Arcadis
Project: Laredo SGR

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1605096-36A	EB09(20160507)	Equip Blank	SW6020A	Trace Metals: ICP-MS - Water	75180	1	05/20/16 01:50 PM	ICP-MS4_160520C
1605096-36B	EB09(20160507)	Equip Blank	SW8270D-LL	PAHs: GC/MS	75146	1	05/18/16 05:07 PM	GCMS8_160518B
1605096-37A	EB10(20160507)	Equip Blank	SW6020A	Trace Metals: ICP-MS - Water	75180	1	05/20/16 02:08 PM	ICP-MS4_160520C
1605096-37B	EB10(20160507)	Equip Blank	SW8270D-LL	PAHs: GC/MS	75146	1	05/18/16 05:44 PM	GCMS8_160518B
1605096-38A	SGR-DU010-04-A	Soil	SW8270D-LL	PAHs: GC/MS	75158	10	05/18/16 12:20 AM	GCMS6_160517A
	SGR-DU010-04-A	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75167	5	05/25/16 04:00 PM	ICP-MS3_160525A
1605096-39A	SGR-DU010-04-B	Soil	SW8270D-LL	PAHs: GC/MS	75158	10	05/18/16 01:00 AM	GCMS6_160517A
	SGR-DU010-04-B	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75167	5	05/25/16 04:06 PM	ICP-MS3_160525A
1605096-40A	SGR-DU010-04-C	Soil	SW8270D-LL	PAHs: GC/MS	75158	10	05/18/16 01:40 AM	GCMS6_160517A
	SGR-DU010-04-C	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75167	5	05/25/16 04:12 PM	ICP-MS3_160525A
1605096-41A	SGR-DU010-03-A	Soil	SW8270D-LL	PAHs: GC/MS	75158	10	05/18/16 02:20 AM	GCMS6_160517A
	SGR-DU010-03-A	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75168	5	05/19/16 09:10 PM	ICP-MS3_160519A
1605096-42A	SGR-DU010-03-B	Soil	SW8270D-LL	PAHs: GC/MS	75158	10	05/18/16 02:59 AM	GCMS6_160517A
	SGR-DU010-03-B	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75168	5	05/19/16 08:58 PM	ICP-MS3_160519A
1605096-43A	SGR-DU010-03-C	Soil	SW8270D-LL	PAHs: GC/MS	75158	10	05/18/16 03:39 AM	GCMS6_160517A
	SGR-DU010-03-C	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75168	5	05/19/16 09:16 PM	ICP-MS3_160519A
1605096-44A	EB14(20160508)	Equip Blank	SW6020A	Trace Metals: ICP-MS - Water	75180	1	05/20/16 02:10 PM	ICP-MS4_160520C
1605096-44B	EB14(20160508)	Equip Blank	SW8270D-LL	PAHs: GC/MS	75146	1	05/18/16 06:21 PM	GCMS8_160518B
1605096-45A	SGR-DU010-04(0-2)-A	Soil	SW8270D-LL	PAHs: GC/MS	75158	50	05/18/16 04:18 AM	GCMS6_160517A
	SGR-DU010-04(0-2)-A	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75168	5	05/19/16 09:22 PM	ICP-MS3_160519A
1605096-46A	SGR-DU010-04(2-4)-A	Soil	SW8270D-LL	PAHs: GC/MS	75158	50	05/18/16 04:58 AM	GCMS6_160517A
	SGR-DU010-04(2-4)-A	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75168	5	05/19/16 09:28 PM	ICP-MS3_160519A
1605096-47A	SGR-DU010-04(4-6)-A	Soil	SW8270D-LL	PAHs: GC/MS	75158	10	05/18/16 05:37 AM	GCMS6_160517A
	SGR-DU010-04(4-6)-A	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75168	5	05/19/16 09:34 PM	ICP-MS3_160519A
1605096-48A	SGR-DU010-04(6-8)-A	Soil	SW8270D-LL	PAHs: GC/MS	75160	10	05/18/16 11:11 AM	GCMS6_160518A
	SGR-DU010-04(6-8)-A	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75168	5	05/19/16 09:40 PM	ICP-MS3_160519A
1605096-49A	SGR-DU010-04(8-10)-A	Soil	SW8270D-LL	PAHs: GC/MS	75160	10	05/18/16 11:50 AM	GCMS6_160518A
	SGR-DU010-04(8-10)-A	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75168	5	05/19/16 09:46 PM	ICP-MS3_160519A

Lab Order: 1605096
Client: Arcadis
Project: Laredo SGR

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1605096-50A	SGR-DU010-04(0-2)-B	Soil	SW8270D-LL	PAHs: GC/MS	75160	10	05/18/16 05:07 PM	GCMS6_160518A
	SGR-DU010-04(0-2)-B	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75168	5	05/19/16 09:52 PM	ICP-MS3_160519A
1605096-51A	SGR-DU010-04(2-4)-B	Soil	SW8270D-LL	PAHs: GC/MS	75160	10	05/18/16 09:42 PM	GCMS6_160518A
	SGR-DU010-04(2-4)-B	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75168	5	05/19/16 09:58 PM	ICP-MS3_160519A
1605096-52A	SGR-DU010-04(4-6)-B	Soil	SW8270D-LL	PAHs: GC/MS	75160	10	05/18/16 05:46 PM	GCMS6_160518A
	SGR-DU010-04(4-6)-B	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75168	5	05/19/16 10:52 PM	ICP-MS3_160519A
1605096-53A	SGR-DU010-04(6-8)-B	Soil	SW8270D-LL	PAHs: GC/MS	75160	10	05/18/16 12:30 PM	GCMS6_160518A
	SGR-DU010-04(6-8)-B	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75168	5	05/19/16 10:58 PM	ICP-MS3_160519A
1605096-54A	SGR-DU010-04(8-10)-B	Soil	SW8270D-LL	PAHs: GC/MS	75160	10	05/18/16 01:10 PM	GCMS6_160518A
	SGR-DU010-04(8-10)-B	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75168	5	05/19/16 11:04 PM	ICP-MS3_160519A
1605096-55A	SGR-DU010-04(0-2)-C	Soil	SW8270D-LL	PAHs: GC/MS	75160	10	05/18/16 10:22 PM	GCMS6_160518A
	SGR-DU010-04(0-2)-C	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75168	5	05/19/16 11:10 PM	ICP-MS3_160519A
1605096-56A	SGR-DU010-04(2-4)-C	Soil	SW8270D-LL	PAHs: GC/MS	75160	10	05/18/16 11:01 PM	GCMS6_160518A
	SGR-DU010-04(2-4)-C	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75168	5	05/19/16 11:16 PM	ICP-MS3_160519A
1605096-57A	SGR-DU010-04(4-6)-C	Soil	SW8270D-LL	PAHs: GC/MS	75160	10	05/18/16 01:50 PM	GCMS6_160518A
	SGR-DU010-04(4-6)-C	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75168	5	05/19/16 11:22 PM	ICP-MS3_160519A
1605096-58A	SGR-DU010-04(6-8)-C	Soil	SW8270D-LL	PAHs: GC/MS	75160	10	05/18/16 02:29 PM	GCMS6_160518A
	SGR-DU010-04(6-8)-C	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75168	5	05/19/16 11:28 PM	ICP-MS3_160519A
1605096-59A	SGR-DU010-04(8-10)-C	Soil	SW8270D-LL	PAHs: GC/MS	75160	10	05/18/16 11:40 PM	GCMS6_160518A
	SGR-DU010-04(8-10)-C	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75168	5	05/19/16 11:34 PM	ICP-MS3_160519A
1605096-60A	SGR-DU010-06(0-2)-A	Soil	SW8270D-LL	PAHs: GC/MS	75160	10	05/19/16 12:20 AM	GCMS6_160518A
	SGR-DU010-06(0-2)-A	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75168	5	05/19/16 11:40 PM	ICP-MS3_160519A
1605096-61A	SGR-DU010-06(2-4)-A	Soil	SW8270D-LL	PAHs: GC/MS	75160	10	05/19/16 01:01 AM	GCMS6_160518A
	SGR-DU010-06(2-4)-A	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75168	5	05/19/16 11:46 PM	ICP-MS3_160519A
1605096-62A	SGR-DU010-06(4-6)-A	Soil	SW8270D-LL	PAHs: GC/MS	75160	10	05/19/16 01:41 AM	GCMS6_160518A
	SGR-DU010-06(4-6)-A	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75169	5	05/19/16 05:22 PM	ICP-MS3_160519A
1605096-63A	SGR-DU010-06(6-8)-A	Soil	SW8270D-LL	PAHs: GC/MS	75160	10	05/18/16 03:09 PM	GCMS6_160518A
	SGR-DU010-06(6-8)-A	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75169	5	05/19/16 05:28 PM	ICP-MS3_160519A

Lab Order: 1605096
Client: Arcadis
Project: Laredo SGR

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1605096-64A	SGR-DU010-06(8-10)-A	Soil	SW8270D-LL	PAHs: GC/MS	75160	10	05/18/16 03:48 PM	GCMS6_160518A
	SGR-DU010-06(8-10)-A	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75169	5	05/19/16 05:34 PM	ICP-MS3_160519A
1605096-65A	SGR-DU010-06(0-2)-B	Soil	SW8270D-LL	PAHs: GC/MS	75160	10	05/19/16 02:21 AM	GCMS6_160518A
	SGR-DU010-06(0-2)-B	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75169	5	05/19/16 05:40 PM	ICP-MS3_160519A
1605096-66A	SGR-DU010-06(2-4)-B	Soil	SW8270D-LL	PAHs: GC/MS	75160	10	05/19/16 03:00 AM	GCMS6_160518A
	SGR-DU010-06(2-4)-B	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75169	5	05/19/16 05:46 PM	ICP-MS3_160519A
1605096-67A	SGR-DU010-06(4-6)-B	Soil	SW8270D-LL	PAHs: GC/MS	75160	10	05/18/16 04:28 PM	GCMS6_160518A
	SGR-DU010-06(4-6)-B	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75169	5	05/19/16 05:52 PM	ICP-MS3_160519A
1605096-68A	SGR-DU010-06(6-8)-B	Soil	SW8270D-LL	PAHs: GC/MS	75161	10	05/19/16 11:07 AM	GCMS6_160519A
	SGR-DU010-06(6-8)-B	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75169	5	05/19/16 05:58 PM	ICP-MS3_160519A
1605096-69A	SGR-DU010-06(8-10)-B	Soil	SW8270D-LL	PAHs: GC/MS	75161	10	05/19/16 11:47 AM	GCMS6_160519A
	SGR-DU010-06(8-10)-B	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75169	5	05/19/16 06:04 PM	ICP-MS3_160519A
1605096-70A	SGR-DU010-06(0-2)-C	Soil	SW8270D-LL	PAHs: GC/MS	75161	10	05/19/16 12:26 PM	GCMS6_160519A
	SGR-DU010-06(0-2)-C	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75169	5	05/19/16 05:10 PM	ICP-MS3_160519A
1605096-71A	SGR-DU010-06(2-4)-C	Soil	SW8270D-LL	PAHs: GC/MS	75161	10	05/19/16 01:06 PM	GCMS6_160519A
	SGR-DU010-06(2-4)-C	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75169	5	05/19/16 06:10 PM	ICP-MS3_160519A
1605096-72A	SGR-DU010-06(4-6)-C	Soil	SW8270D-LL	PAHs: GC/MS	75161	10	05/19/16 01:47 PM	GCMS6_160519A
	SGR-DU010-06(4-6)-C	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75169	5	05/19/16 07:10 PM	ICP-MS3_160519A
1605096-73A	SGR-DU010-06(6-8)-C	Soil	SW8270D-LL	PAHs: GC/MS	75161	10	05/19/16 02:27 PM	GCMS6_160519A
	SGR-DU010-06(6-8)-C	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75169	5	05/19/16 07:16 PM	ICP-MS3_160519A
1605096-74A	SGR-DU010-06(8-10)-C	Soil	SW8270D-LL	PAHs: GC/MS	75161	10	05/19/16 03:08 PM	GCMS6_160519A
	SGR-DU010-06(8-10)-C	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75169	5	05/19/16 07:22 PM	ICP-MS3_160519A

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06-A
Project:	Laredo SGR	**Lab ID:**	1605096-01
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 08:40 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	52.8	0.0909	0.273	0.136		mg/Kg-dry	5	05/23/16 04:03 PM
IS: Bismuth	95.8	0	30-120	0		%REC	5	05/23/16 04:03 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.178	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 06:39 PM
Acenaphthylene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/16/16 06:39 PM
Anthracene	0.382	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 06:39 PM
Benzo[a]anthracene	3.81	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 06:39 PM
Benzo[a]pyrene	5.34	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 06:39 PM
Benzo[b]fluoranthene	4.92	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 06:39 PM
Benzo[e]pyrene	3.77	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 06:39 PM
Benzo[g,h,i]perylene	4.45	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 06:39 PM
Benzo[j]fluoranthene	2.68	0.0498	0.0995	0.0746	N	mg/Kg-dry	10	05/16/16 06:39 PM
Benzo[k]fluoranthene	2.86	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 06:39 PM
Chrysene	4.77	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 06:39 PM
Dibenz[a,h]anthracene	1.06	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 06:39 PM
Fluoranthene	5.26	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 06:39 PM
Fluorene	0.0785	0.0498	0.0995	0.0746	J	mg/Kg-dry	10	05/16/16 06:39 PM
Indeno[1,2,3-cd]pyrene	3.80	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 06:39 PM
Phenanthrene	2.04	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 06:39 PM
Pyrene	4.66	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 06:39 PM
IS: Acenaphthene-d10	123	0	50-200	0		%REC	10	05/16/16 06:39 PM
IS: Chrysene-d12	92.1	0	50-200	0		%REC	10	05/16/16 06:39 PM
IS: Naphthalene-d8	116	0	50-200	0		%REC	10	05/16/16 06:39 PM
IS: Perylene-d12	97.0	0	50-200	0		%REC	10	05/16/16 06:39 PM
IS: Phenanthrene-d10	97.7	0	50-200	0		%REC	10	05/16/16 06:39 PM
Surr: 2-Fluorobiphenyl	91.1	0	46-115	0		%REC	10	05/16/16 06:39 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06-A
Project:	Laredo SGR	**Lab ID:**	1605096-01
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 08:40 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	90.0	0	58-133	0		%REC	10	05/16/16 06:39 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06-B
Project:	Laredo SGR	**Lab ID:**	1605096-02
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 09:05 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	53.6	0.0935	0.280	0.140		mg/Kg-dry	5	05/23/16 04:05 PM
IS: Bismuth	97.4	0	30-120	0		%REC	5	05/23/16 04:05 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.143	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 07:15 PM
Acenaphthylene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/16/16 07:15 PM
Anthracene	0.348	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 07:15 PM
Benzo[a]anthracene	3.20	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 07:15 PM
Benzo[a]pyrene	4.41	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 07:15 PM
Benzo[b]fluoranthene	4.15	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 07:15 PM
Benzo[e]pyrene	3.19	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 07:15 PM
Benzo[g,h,i]perylene	3.75	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 07:15 PM
Benzo[j]fluoranthene	2.23	0.0498	0.0995	0.0746	N	mg/Kg-dry	10	05/16/16 07:15 PM
Benzo[k]fluoranthene	2.36	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 07:15 PM
Chrysene	4.01	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 07:15 PM
Dibenz[a,h]anthracene	0.897	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 07:15 PM
Fluoranthene	4.49	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 07:15 PM
Fluorene	0.0623	0.0498	0.0995	0.0746	J	mg/Kg-dry	10	05/16/16 07:15 PM
Indeno[1,2,3-cd]pyrene	3.21	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 07:15 PM
Phenanthrene	1.90	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 07:15 PM
Pyrene	3.96	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/16/16 07:15 PM
IS: Acenaphthene-d10	121	0	50-200	0		%REC	10	05/16/16 07:15 PM
IS: Chrysene-d12	88.1	0	50-200	0		%REC	10	05/16/16 07:15 PM
IS: Naphthalene-d8	112	0	50-200	0		%REC	10	05/16/16 07:15 PM
IS: Perylene-d12	93.4	0	50-200	0		%REC	10	05/16/16 07:15 PM
IS: Phenanthrene-d10	96.1	0	50-200	0		%REC	10	05/16/16 07:15 PM
Surr: 2-Fluorobiphenyl	90.7	0	46-115	0		%REC	10	05/16/16 07:15 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06-B
Project:	Laredo SGR	**Lab ID:**	1605096-02
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 09:05 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	87.8	0	58-133	0		%REC	10	05/16/16 07:15 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06-C
Project:	Laredo SGR	**Lab ID:**	1605096-03
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 09:35 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	63.1	0.0952	0.286	0.143		mg/Kg-dry	5	05/23/16 04:07 PM
IS: Bismuth	96.7	0	30-120	0		%REC	5	05/23/16 04:07 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.172	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/16/16 07:52 PM
Acenaphthylene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/16/16 07:52 PM
Anthracene	0.379	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/16/16 07:52 PM
Benzo[a]anthracene	4.21	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/16/16 07:52 PM
Benzo[a]pyrene	6.04	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/16/16 07:52 PM
Benzo[b]fluoranthene	5.73	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/16/16 07:52 PM
Benzo[e]pyrene	4.40	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/16/16 07:52 PM
Benzo[g,h,i]perylene	5.23	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/16/16 07:52 PM
Benzo[j]fluoranthene	3.08	0.0498	0.0996	0.0747	N	mg/Kg-dry	10	05/16/16 07:52 PM
Benzo[k]fluoranthene	3.26	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/16/16 07:52 PM
Chrysene	5.35	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/16/16 07:52 PM
Dibenz[a,h]anthracene	1.23	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/16/16 07:52 PM
Fluoranthene	5.58	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/16/16 07:52 PM
Fluorene	0.0589	0.0498	0.0996	0.0747	J	mg/Kg-dry	10	05/16/16 07:52 PM
Indeno[1,2,3-cd]pyrene	4.47	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/16/16 07:52 PM
Phenanthrene	2.22	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/16/16 07:52 PM
Pyrene	4.95	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/16/16 07:52 PM
IS: Acenaphthene-d10	117	0	50-200	0		%REC	10	05/16/16 07:52 PM
IS: Chrysene-d12	84.9	0	50-200	0		%REC	10	05/16/16 07:52 PM
IS: Naphthalene-d8	107	0	50-200	0		%REC	10	05/16/16 07:52 PM
IS: Perylene-d12	88.5	0	50-200	0		%REC	10	05/16/16 07:52 PM
IS: Phenanthrene-d10	94.2	0	50-200	0		%REC	10	05/16/16 07:52 PM
Surr: 2-Fluorobiphenyl	92.2	0	46-115	0		%REC	10	05/16/16 07:52 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06-C
Project:	Laredo SGR	**Lab ID:**	1605096-03
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 09:35 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	90.1	0	58-133	0		%REC	10	05/16/16 07:52 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU009-STRAT1
Project:	Laredo SGR	**Lab ID:**	1605096-04
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:00 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	12.3	0.114	0.341	0.171		mg/Kg-dry	5	05/23/16 04:09 PM
IS: Bismuth	96.4	0	30-120	0		%REC	5	05/23/16 04:09 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0913	0.0609	0.122	0.0913	U	mg/Kg-dry	10	05/16/16 04:52 PM
Acenaphthylene	0.0913	0.0609	0.122	0.0913	U	mg/Kg-dry	10	05/16/16 04:52 PM
Anthracene	0.0913	0.0609	0.122	0.0913	U	mg/Kg-dry	10	05/16/16 04:52 PM
Benzo[a]anthracene	0.140	0.0609	0.122	0.0913		mg/Kg-dry	10	05/16/16 04:52 PM
Benzo[a]pyrene	0.185	0.0609	0.122	0.0913		mg/Kg-dry	10	05/16/16 04:52 PM
Benzo[b]fluoranthene	0.177	0.0609	0.122	0.0913		mg/Kg-dry	10	05/16/16 04:52 PM
Benzo[e]pyrene	0.144	0.0609	0.122	0.0913		mg/Kg-dry	10	05/16/16 04:52 PM
Benzo[g,h,i]perylene	0.146	0.0609	0.122	0.0913		mg/Kg-dry	10	05/16/16 04:52 PM
Benzo[j]fluoranthene	0.0902	0.0609	0.122	0.0913	JN	mg/Kg-dry	10	05/16/16 04:52 PM
Benzo[k]fluoranthene	0.0924	0.0609	0.122	0.0913	J	mg/Kg-dry	10	05/16/16 04:52 PM
Chrysene	0.176	0.0609	0.122	0.0913		mg/Kg-dry	10	05/16/16 04:52 PM
Dibenz[a,h]anthracene	0.0913	0.0609	0.122	0.0913	U	mg/Kg-dry	10	05/16/16 04:52 PM
Fluoranthene	0.222	0.0609	0.122	0.0913		mg/Kg-dry	10	05/16/16 04:52 PM
Fluorene	0.0913	0.0609	0.122	0.0913	U	mg/Kg-dry	10	05/16/16 04:52 PM
Indeno[1,2,3-cd]pyrene	0.118	0.0609	0.122	0.0913	J	mg/Kg-dry	10	05/16/16 04:52 PM
Phenanthrene	0.0809	0.0609	0.122	0.0913	J	mg/Kg-dry	10	05/16/16 04:52 PM
Pyrene	0.198	0.0609	0.122	0.0913		mg/Kg-dry	10	05/16/16 04:52 PM
IS: Acenaphthene-d10	72.2	0	50-200	0		%REC	10	05/16/16 04:52 PM
IS: Chrysene-d12	70.2	0	50-200	0		%REC	10	05/16/16 04:52 PM
IS: Naphthalene-d8	111	0	50-200	0		%REC	10	05/16/16 04:52 PM
IS: Perylene-d12	72.2	0	50-200	0		%REC	10	05/16/16 04:52 PM
IS: Phenanthrene-d10	74.0	0	50-200	0		%REC	10	05/16/16 04:52 PM
Surr: 2-Fluorobiphenyl	74.8	0	46-115	0		%REC	10	05/16/16 04:52 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU009-STRAT1
Project:	Laredo SGR	**Lab ID:**	1605096-04
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:00 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	63.7	0	58-133	0		%REC	10	05/16/16 04:52 PM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	18.6	0	0	0		WT%	1	05/12/16 09:55 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU009-STRAT2
Project:	Laredo SGR	**Lab ID:**	1605096-05
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:05 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	20.0	0.127	0.380	0.190		mg/Kg-dry	5	05/23/16 04:11 PM
IS: Bismuth	97.5	0	30-120	0		%REC	5	05/23/16 04:11 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0978	0.0652	0.130	0.0978	U	mg/Kg-dry	10	05/16/16 05:31 PM
Acenaphthylene	0.0978	0.0652	0.130	0.0978	U	mg/Kg-dry	10	05/16/16 05:31 PM
Anthracene	0.153	0.0652	0.130	0.0978		mg/Kg-dry	10	05/16/16 05:31 PM
Benzo[a]anthracene	1.00	0.0652	0.130	0.0978		mg/Kg-dry	10	05/16/16 05:31 PM
Benzo[a]pyrene	1.09	0.0652	0.130	0.0978		mg/Kg-dry	10	05/16/16 05:31 PM
Benzo[b]fluoranthene	1.05	0.0652	0.130	0.0978		mg/Kg-dry	10	05/16/16 05:31 PM
Benzo[e]pyrene	0.846	0.0652	0.130	0.0978		mg/Kg-dry	10	05/16/16 05:31 PM
Benzo[g,h,i]perylene	0.781	0.0652	0.130	0.0978		mg/Kg-dry	10	05/16/16 05:31 PM
Benzo[j]fluoranthene	0.580	0.0652	0.130	0.0978	N	mg/Kg-dry	10	05/16/16 05:31 PM
Benzo[k]fluoranthene	0.541	0.0652	0.130	0.0978		mg/Kg-dry	10	05/16/16 05:31 PM
Chrysene	1.20	0.0652	0.130	0.0978		mg/Kg-dry	10	05/16/16 05:31 PM
Dibenz[a,h]anthracene	0.178	0.0652	0.130	0.0978		mg/Kg-dry	10	05/16/16 05:31 PM
Fluoranthene	1.85	0.0652	0.130	0.0978		mg/Kg-dry	10	05/16/16 05:31 PM
Fluorene	0.0978	0.0652	0.130	0.0978	U	mg/Kg-dry	10	05/16/16 05:31 PM
Indeno[1,2,3-cd]pyrene	0.641	0.0652	0.130	0.0978		mg/Kg-dry	10	05/16/16 05:31 PM
Phenanthrene	0.773	0.0652	0.130	0.0978		mg/Kg-dry	10	05/16/16 05:31 PM
Pyrene	1.54	0.0652	0.130	0.0978		mg/Kg-dry	10	05/16/16 05:31 PM
IS: Acenaphthene-d10	71.0	0	50-200	0		%REC	10	05/16/16 05:31 PM
IS: Chrysene-d12	70.8	0	50-200	0		%REC	10	05/16/16 05:31 PM
IS: Naphthalene-d8	110	0	50-200	0		%REC	10	05/16/16 05:31 PM
IS: Perylene-d12	74.0	0	50-200	0		%REC	10	05/16/16 05:31 PM
IS: Phenanthrene-d10	74.9	0	50-200	0		%REC	10	05/16/16 05:31 PM
Surr: 2-Fluorobiphenyl	78.1	0	46-115	0		%REC	10	05/16/16 05:31 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU009-STRAT2
Project:	Laredo SGR	**Lab ID:**	1605096-05
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:05 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	68.5	0	58-133	0		%REC	10	05/16/16 05:31 PM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	24.0	0	0	0		WT%	1	05/12/16 09:55 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU009-STRAT3
Project:	Laredo SGR	**Lab ID:**	1605096-06
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:10 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	20.2	0.103	0.310	0.155		mg/Kg-dry	5	05/23/16 04:13 PM
IS: Bismuth	100	0	30-120	0		%REC	5	05/23/16 04:13 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0850	0.0566	0.113	0.0850	U	mg/Kg-dry	10	05/16/16 10:06 PM
Acenaphthylene	0.0850	0.0566	0.113	0.0850	U	mg/Kg-dry	10	05/16/16 10:06 PM
Anthracene	0.0681	0.0566	0.113	0.0850	J	mg/Kg-dry	10	05/16/16 10:06 PM
Benzo[a]anthracene	0.624	0.0566	0.113	0.0850		mg/Kg-dry	10	05/16/16 10:06 PM
Benzo[a]pyrene	0.801	0.0566	0.113	0.0850		mg/Kg-dry	10	05/16/16 10:06 PM
Benzo[b]fluoranthene	0.772	0.0566	0.113	0.0850		mg/Kg-dry	10	05/16/16 10:06 PM
Benzo[e]pyrene	0.638	0.0566	0.113	0.0850		mg/Kg-dry	10	05/16/16 10:06 PM
Benzo[g,h,i]perylene	0.623	0.0566	0.113	0.0850		mg/Kg-dry	10	05/16/16 10:06 PM
Benzo[j]fluoranthene	0.412	0.0566	0.113	0.0850	N	mg/Kg-dry	10	05/16/16 10:06 PM
Benzo[k]fluoranthene	0.397	0.0566	0.113	0.0850		mg/Kg-dry	10	05/16/16 10:06 PM
Chrysene	0.789	0.0566	0.113	0.0850		mg/Kg-dry	10	05/16/16 10:06 PM
Dibenz[a,h]anthracene	0.143	0.0566	0.113	0.0850		mg/Kg-dry	10	05/16/16 10:06 PM
Fluoranthene	1.04	0.0566	0.113	0.0850		mg/Kg-dry	10	05/16/16 10:06 PM
Fluorene	0.0850	0.0566	0.113	0.0850	U	mg/Kg-dry	10	05/16/16 10:06 PM
Indeno[1,2,3-cd]pyrene	0.506	0.0566	0.113	0.0850		mg/Kg-dry	10	05/16/16 10:06 PM
Phenanthrene	0.358	0.0566	0.113	0.0850		mg/Kg-dry	10	05/16/16 10:06 PM
Pyrene	0.912	0.0566	0.113	0.0850		mg/Kg-dry	10	05/16/16 10:06 PM
IS: Acenaphthene-d10	73.2	0	50-200	0		%REC	10	05/16/16 10:06 PM
IS: Chrysene-d12	72.1	0	50-200	0		%REC	10	05/16/16 10:06 PM
IS: Naphthalene-d8	112	0	50-200	0		%REC	10	05/16/16 10:06 PM
IS: Perylene-d12	74.8	0	50-200	0		%REC	10	05/16/16 10:06 PM
IS: Phenanthrene-d10	75.2	0	50-200	0		%REC	10	05/16/16 10:06 PM
Surr: 2-Fluorobiphenyl	80.9	0	46-115	0		%REC	10	05/16/16 10:06 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU009-STRAT3
Project:	Laredo SGR	**Lab ID:**	1605096-06
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:10 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	70.4	0	58-133	0		%REC	10	05/16/16 10:06 PM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	11.9	0	0	0		WT%	1	05/12/16 09:55 AM

Qualifiers:				
	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU009-STRAT4
Project:	Laredo SGR	**Lab ID:**	1605096-07
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:15 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	41.2	0.122	0.365	0.183		mg/Kg-dry	5	05/23/16 04:15 PM
IS: Bismuth	101	0	30-120	0		%REC	5	05/23/16 04:15 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.378	0.0607	0.121	0.0910		mg/Kg-dry	10	05/16/16 10:46 PM
Acenaphthylene	0.0910	0.0607	0.121	0.0910	U	mg/Kg-dry	10	05/16/16 10:46 PM
Anthracene	0.886	0.0607	0.121	0.0910		mg/Kg-dry	10	05/16/16 10:46 PM
Benzo[a]anthracene	10.9	0.0607	0.121	0.0910		mg/Kg-dry	10	05/16/16 10:46 PM
Benzo[a]pyrene	13.2	0.0607	0.121	0.0910		mg/Kg-dry	10	05/16/16 10:46 PM
Benzo[b]fluoranthene	12.8	0.0607	0.121	0.0910		mg/Kg-dry	10	05/16/16 10:46 PM
Benzo[e]pyrene	10.3	0.0607	0.121	0.0910		mg/Kg-dry	10	05/16/16 10:46 PM
Benzo[g,h,i]perylene	9.17	0.0607	0.121	0.0910		mg/Kg-dry	10	05/16/16 10:46 PM
Benzo[j]fluoranthene	6.83	0.0607	0.121	0.0910	N	mg/Kg-dry	10	05/16/16 10:46 PM
Benzo[k]fluoranthene	6.60	0.0607	0.121	0.0910		mg/Kg-dry	10	05/16/16 10:46 PM
Chrysene	13.6	0.0607	0.121	0.0910		mg/Kg-dry	10	05/16/16 10:46 PM
Dibenz[a,h]anthracene	2.13	0.0607	0.121	0.0910		mg/Kg-dry	10	05/16/16 10:46 PM
Fluoranthene	16.1	0.0607	0.121	0.0910		mg/Kg-dry	10	05/16/16 10:46 PM
Fluorene	0.137	0.0607	0.121	0.0910		mg/Kg-dry	10	05/16/16 10:46 PM
Indeno[1,2,3-cd]pyrene	7.70	0.0607	0.121	0.0910		mg/Kg-dry	10	05/16/16 10:46 PM
Phenanthrene	5.02	0.0607	0.121	0.0910		mg/Kg-dry	10	05/16/16 10:46 PM
Pyrene	14.2	0.0607	0.121	0.0910		mg/Kg-dry	10	05/16/16 10:46 PM
IS: Acenaphthene-d10	64.4	0	50-200	0		%REC	10	05/16/16 10:46 PM
IS: Chrysene-d12	65.5	0	50-200	0		%REC	10	05/16/16 10:46 PM
IS: Naphthalene-d8	108	0	50-200	0		%REC	10	05/16/16 10:46 PM
IS: Perylene-d12	67.3	0	50-200	0		%REC	10	05/16/16 10:46 PM
IS: Phenanthrene-d10	68.4	0	50-200	0		%REC	10	05/16/16 10:46 PM
Surr: 2-Fluorobiphenyl	82.0	0	46-115	0		%REC	10	05/16/16 10:46 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU009-STRAT4
Project:	Laredo SGR	**Lab ID:**	1605096-07
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:15 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	69.1	0	58-133	0		%REC	10	05/16/16 10:46 PM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	23.3	0	0	0		WT%	1	05/12/16 09:55 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU009-STRAT5
Project:	Laredo SGR	**Lab ID:**	1605096-08
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:20 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	135	0.0985	0.295	0.148		mg/Kg-dry	5	05/23/16 04:31 PM
IS: Bismuth	97.0	0	30-120	0		%REC	5	05/23/16 04:31 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.683	0.0515	0.103	0.0773		mg/Kg-dry	10	05/16/16 11:26 PM
Acenaphthylene	0.0773	0.0515	0.103	0.0773	U	mg/Kg-dry	10	05/16/16 11:26 PM
Anthracene	1.85	0.0515	0.103	0.0773		mg/Kg-dry	10	05/16/16 11:26 PM
Benzo[a]anthracene	18.5	0.0515	0.103	0.0773		mg/Kg-dry	10	05/16/16 11:26 PM
Benzo[a]pyrene	23.2	0.0515	0.103	0.0773		mg/Kg-dry	10	05/16/16 11:26 PM
Benzo[b]fluoranthene	22.4	0.0515	0.103	0.0773		mg/Kg-dry	10	05/16/16 11:26 PM
Benzo[e]pyrene	17.6	0.0515	0.103	0.0773		mg/Kg-dry	10	05/16/16 11:26 PM
Benzo[g,h,i]perylene	16.8	0.0515	0.103	0.0773		mg/Kg-dry	10	05/16/16 11:26 PM
Benzo[j]fluoranthene	11.9	0.0515	0.103	0.0773	N	mg/Kg-dry	10	05/16/16 11:26 PM
Benzo[k]fluoranthene	11.4	0.0515	0.103	0.0773		mg/Kg-dry	10	05/16/16 11:26 PM
Chrysene	23.0	0.0515	0.103	0.0773		mg/Kg-dry	10	05/16/16 11:26 PM
Dibenz[a,h]anthracene	4.04	0.0515	0.103	0.0773		mg/Kg-dry	10	05/16/16 11:26 PM
Fluoranthene	27.0	0.0515	0.103	0.0773		mg/Kg-dry	10	05/16/16 11:26 PM
Fluorene	0.229	0.0515	0.103	0.0773		mg/Kg-dry	10	05/16/16 11:26 PM
Indeno[1,2,3-cd]pyrene	14.1	0.0515	0.103	0.0773		mg/Kg-dry	10	05/16/16 11:26 PM
Phenanthrene	9.79	0.0515	0.103	0.0773		mg/Kg-dry	10	05/16/16 11:26 PM
Pyrene	23.3	0.0515	0.103	0.0773		mg/Kg-dry	10	05/16/16 11:26 PM
IS: Acenaphthene-d10	68.2	0	50-200	0		%REC	10	05/16/16 11:26 PM
IS: Chrysene-d12	71.2	0	50-200	0		%REC	10	05/16/16 11:26 PM
IS: Naphthalene-d8	111	0	50-200	0		%REC	10	05/16/16 11:26 PM
IS: Perylene-d12	73.9	0	50-200	0		%REC	10	05/16/16 11:26 PM
IS: Phenanthrene-d10	75.8	0	50-200	0		%REC	10	05/16/16 11:26 PM
Surr: 2-Fluorobiphenyl	79.4	0	46-115	0		%REC	10	05/16/16 11:26 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU009-STRAT5
Project:	Laredo SGR	**Lab ID:**	1605096-08
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:20 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	68.7	0	58-133	0		%REC	10	05/16/16 11:26 PM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	5.96	0	0	0		WT%	1	05/12/16 09:55 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU003-STRAT1
Project:	Laredo SGR	**Lab ID:**	1605096-09
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 09:15 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	13.9	0.108	0.323	0.161		mg/Kg-dry	5	05/23/16 04:33 PM
IS: Bismuth	101	0	30-120	0		%REC	5	05/23/16 04:33 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0838	0.0559	0.112	0.0838	U	mg/Kg-dry	10	05/17/16 12:05 AM
Acenaphthylene	0.0838	0.0559	0.112	0.0838	U	mg/Kg-dry	10	05/17/16 12:05 AM
Anthracene	0.0838	0.0559	0.112	0.0838	U	mg/Kg-dry	10	05/17/16 12:05 AM
Benzo[a]anthracene	0.112	0.0559	0.112	0.0838		mg/Kg-dry	10	05/17/16 12:05 AM
Benzo[a]pyrene	0.151	0.0559	0.112	0.0838		mg/Kg-dry	10	05/17/16 12:05 AM
Benzo[b]fluoranthene	0.146	0.0559	0.112	0.0838		mg/Kg-dry	10	05/17/16 12:05 AM
Benzo[e]pyrene	0.123	0.0559	0.112	0.0838		mg/Kg-dry	10	05/17/16 12:05 AM
Benzo[g,h,i]perylene	0.124	0.0559	0.112	0.0838		mg/Kg-dry	10	05/17/16 12:05 AM
Benzo[j]fluoranthene	0.0777	0.0559	0.112	0.0838	JN	mg/Kg-dry	10	05/17/16 12:05 AM
Benzo[k]fluoranthene	0.0771	0.0559	0.112	0.0838	J	mg/Kg-dry	10	05/17/16 12:05 AM
Chrysene	0.143	0.0559	0.112	0.0838		mg/Kg-dry	10	05/17/16 12:05 AM
Dibenz[a,h]anthracene	0.0838	0.0559	0.112	0.0838	U	mg/Kg-dry	10	05/17/16 12:05 AM
Fluoranthene	0.179	0.0559	0.112	0.0838		mg/Kg-dry	10	05/17/16 12:05 AM
Fluorene	0.0838	0.0559	0.112	0.0838	U	mg/Kg-dry	10	05/17/16 12:05 AM
Indeno[1,2,3-cd]pyrene	0.103	0.0559	0.112	0.0838	J	mg/Kg-dry	10	05/17/16 12:05 AM
Phenanthrene	0.0646	0.0559	0.112	0.0838	J	mg/Kg-dry	10	05/17/16 12:05 AM
Pyrene	0.163	0.0559	0.112	0.0838		mg/Kg-dry	10	05/17/16 12:05 AM
IS: Acenaphthene-d10	71.4	0	50-200	0		%REC	10	05/17/16 12:05 AM
IS: Chrysene-d12	69.6	0	50-200	0		%REC	10	05/17/16 12:05 AM
IS: Naphthalene-d8	107	0	50-200	0		%REC	10	05/17/16 12:05 AM
IS: Perylene-d12	72.1	0	50-200	0		%REC	10	05/17/16 12:05 AM
IS: Phenanthrene-d10	73.3	0	50-200	0		%REC	10	05/17/16 12:05 AM
Surr: 2-Fluorobiphenyl	79.2	0	46-115	0		%REC	10	05/17/16 12:05 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU003-STRAT1
Project:	Laredo SGR	**Lab ID:**	1605096-09
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 09:15 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	68.3	0	58-133	0		%REC	10	05/17/16 12:05 AM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	10.6	0	0	0		WT%	1	05/12/16 09:55 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU003-STRAT2
Project:	Laredo SGR	**Lab ID:**	1605096-10
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 09:20 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	15.1	0.101	0.302	0.151		mg/Kg-dry	5	05/23/16 04:35 PM
IS: Bismuth	97.9	0	30-120	0		%REC	5	05/23/16 04:35 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0786	0.0524	0.105	0.0786	U	mg/Kg-dry	10	05/17/16 12:45 AM
Acenaphthylene	0.0786	0.0524	0.105	0.0786	U	mg/Kg-dry	10	05/17/16 12:45 AM
Anthracene	0.0786	0.0524	0.105	0.0786	U	mg/Kg-dry	10	05/17/16 12:45 AM
Benzo[a]anthracene	0.538	0.0524	0.105	0.0786		mg/Kg-dry	10	05/17/16 12:45 AM
Benzo[a]pyrene	0.848	0.0524	0.105	0.0786		mg/Kg-dry	10	05/17/16 12:45 AM
Benzo[b]fluoranthene	0.802	0.0524	0.105	0.0786		mg/Kg-dry	10	05/17/16 12:45 AM
Benzo[e]pyrene	0.629	0.0524	0.105	0.0786		mg/Kg-dry	10	05/17/16 12:45 AM
Benzo[g,h,i]perylene	0.555	0.0524	0.105	0.0786		mg/Kg-dry	10	05/17/16 12:45 AM
Benzo[j]fluoranthene	0.404	0.0524	0.105	0.0786	N	mg/Kg-dry	10	05/17/16 12:45 AM
Benzo[k]fluoranthene	0.403	0.0524	0.105	0.0786		mg/Kg-dry	10	05/17/16 12:45 AM
Chrysene	0.748	0.0524	0.105	0.0786		mg/Kg-dry	10	05/17/16 12:45 AM
Dibenz[a,h]anthracene	0.134	0.0524	0.105	0.0786		mg/Kg-dry	10	05/17/16 12:45 AM
Fluoranthene	0.559	0.0524	0.105	0.0786		mg/Kg-dry	10	05/17/16 12:45 AM
Fluorene	0.0786	0.0524	0.105	0.0786	U	mg/Kg-dry	10	05/17/16 12:45 AM
Indeno[1,2,3-cd]pyrene	0.482	0.0524	0.105	0.0786		mg/Kg-dry	10	05/17/16 12:45 AM
Phenanthrene	0.120	0.0524	0.105	0.0786		mg/Kg-dry	10	05/17/16 12:45 AM
Pyrene	0.585	0.0524	0.105	0.0786		mg/Kg-dry	10	05/17/16 12:45 AM
IS: Acenaphthene-d10	65.4	0	50-200	0		%REC	10	05/17/16 12:45 AM
IS: Chrysene-d12	65.9	0	50-200	0		%REC	10	05/17/16 12:45 AM
IS: Naphthalene-d8	109	0	50-200	0		%REC	10	05/17/16 12:45 AM
IS: Perylene-d12	66.6	0	50-200	0		%REC	10	05/17/16 12:45 AM
IS: Phenanthrene-d10	66.7	0	50-200	0		%REC	10	05/17/16 12:45 AM
Surr: 2-Fluorobiphenyl	83.7	0	46-115	0		%REC	10	05/17/16 12:45 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU003-STRAT2
Project:	Laredo SGR	**Lab ID:**	1605096-10
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 09:20 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	72.6	0	58-133	0		%REC	10	05/17/16 12:45 AM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	5.35	0	0	0		WT%	1	05/12/16 09:55 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU003-STRAT3
Project:	Laredo SGR	**Lab ID:**	1605096-11
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 09:25 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	28.6	0.105	0.314	0.157		mg/Kg-dry	5	05/23/16 04:37 PM
IS: Bismuth	100	0	30-120	0		%REC	5	05/23/16 04:37 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0836	0.0557	0.111	0.0836	U	mg/Kg-dry	10	05/17/16 01:25 AM
Acenaphthylene	0.0836	0.0557	0.111	0.0836	U	mg/Kg-dry	10	05/17/16 01:25 AM
Anthracene	0.0589	0.0557	0.111	0.0836	J	mg/Kg-dry	10	05/17/16 01:25 AM
Benzo[a]anthracene	0.529	0.0557	0.111	0.0836		mg/Kg-dry	10	05/17/16 01:25 AM
Benzo[a]pyrene	0.692	0.0557	0.111	0.0836		mg/Kg-dry	10	05/17/16 01:25 AM
Benzo[b]fluoranthene	0.676	0.0557	0.111	0.0836		mg/Kg-dry	10	05/17/16 01:25 AM
Benzo[e]pyrene	0.554	0.0557	0.111	0.0836		mg/Kg-dry	10	05/17/16 01:25 AM
Benzo[g,h,i]perylene	0.533	0.0557	0.111	0.0836		mg/Kg-dry	10	05/17/16 01:25 AM
Benzo[j]fluoranthene	0.347	0.0557	0.111	0.0836	N	mg/Kg-dry	10	05/17/16 01:25 AM
Benzo[k]fluoranthene	0.345	0.0557	0.111	0.0836		mg/Kg-dry	10	05/17/16 01:25 AM
Chrysene	0.660	0.0557	0.111	0.0836		mg/Kg-dry	10	05/17/16 01:25 AM
Dibenz[a,h]anthracene	0.116	0.0557	0.111	0.0836		mg/Kg-dry	10	05/17/16 01:25 AM
Fluoranthene	0.892	0.0557	0.111	0.0836		mg/Kg-dry	10	05/17/16 01:25 AM
Fluorene	0.0836	0.0557	0.111	0.0836	U	mg/Kg-dry	10	05/17/16 01:25 AM
Indeno[1,2,3-cd]pyrene	0.415	0.0557	0.111	0.0836		mg/Kg-dry	10	05/17/16 01:25 AM
Phenanthrene	0.308	0.0557	0.111	0.0836		mg/Kg-dry	10	05/17/16 01:25 AM
Pyrene	0.791	0.0557	0.111	0.0836		mg/Kg-dry	10	05/17/16 01:25 AM
IS: Acenaphthene-d10	68.5	0	50-200	0		%REC	10	05/17/16 01:25 AM
IS: Chrysene-d12	69.4	0	50-200	0		%REC	10	05/17/16 01:25 AM
IS: Naphthalene-d8	112	0	50-200	0		%REC	10	05/17/16 01:25 AM
IS: Perylene-d12	69.7	0	50-200	0		%REC	10	05/17/16 01:25 AM
IS: Phenanthrene-d10	69.5	0	50-200	0		%REC	10	05/17/16 01:25 AM
Surr: 2-Fluorobiphenyl	76.2	0	46-115	0		%REC	10	05/17/16 01:25 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU003-STRAT3
Project:	Laredo SGR	**Lab ID:**	1605096-11
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 09:25 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	67.4	0	58-133	0		%REC	10	05/17/16 01:25 AM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	10.7	0	0	0		WT%	1	05/12/16 09:55 AM

Qualifiers:				
	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU003-STRAT4
Project:	Laredo SGR	**Lab ID:**	1605096-12
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 09:30 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	26.5	0.104	0.313	0.157		mg/Kg-dry	5	05/23/16 04:39 PM
IS: Bismuth	98.4	0	30-120	0		%REC	5	05/23/16 04:39 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0840	0.0560	0.112	0.0840	U	mg/Kg-dry	10	05/17/16 02:06 AM
Acenaphthylene	0.0840	0.0560	0.112	0.0840	U	mg/Kg-dry	10	05/17/16 02:06 AM
Anthracene	0.120	0.0560	0.112	0.0840		mg/Kg-dry	10	05/17/16 02:06 AM
Benzo[a]anthracene	0.798	0.0560	0.112	0.0840		mg/Kg-dry	10	05/17/16 02:06 AM
Benzo[a]pyrene	0.928	0.0560	0.112	0.0840		mg/Kg-dry	10	05/17/16 02:06 AM
Benzo[b]fluoranthene	0.907	0.0560	0.112	0.0840		mg/Kg-dry	10	05/17/16 02:06 AM
Benzo[e]pyrene	0.727	0.0560	0.112	0.0840		mg/Kg-dry	10	05/17/16 02:06 AM
Benzo[g,h,i]perylene	0.677	0.0560	0.112	0.0840		mg/Kg-dry	10	05/17/16 02:06 AM
Benzo[j]fluoranthene	0.492	0.0560	0.112	0.0840	N	mg/Kg-dry	10	05/17/16 02:06 AM
Benzo[k]fluoranthene	0.466	0.0560	0.112	0.0840		mg/Kg-dry	10	05/17/16 02:06 AM
Chrysene	0.964	0.0560	0.112	0.0840		mg/Kg-dry	10	05/17/16 02:06 AM
Dibenz[a,h]anthracene	0.154	0.0560	0.112	0.0840		mg/Kg-dry	10	05/17/16 02:06 AM
Fluoranthene	1.46	0.0560	0.112	0.0840		mg/Kg-dry	10	05/17/16 02:06 AM
Fluorene	0.0840	0.0560	0.112	0.0840	U	mg/Kg-dry	10	05/17/16 02:06 AM
Indeno[1,2,3-cd]pyrene	0.545	0.0560	0.112	0.0840		mg/Kg-dry	10	05/17/16 02:06 AM
Phenanthrene	0.617	0.0560	0.112	0.0840		mg/Kg-dry	10	05/17/16 02:06 AM
Pyrene	1.22	0.0560	0.112	0.0840		mg/Kg-dry	10	05/17/16 02:06 AM
IS: Acenaphthene-d10	74.4	0	50-200	0		%REC	10	05/17/16 02:06 AM
IS: Chrysene-d12	71.6	0	50-200	0		%REC	10	05/17/16 02:06 AM
IS: Naphthalene-d8	116	0	50-200	0		%REC	10	05/17/16 02:06 AM
IS: Perylene-d12	73.3	0	50-200	0		%REC	10	05/17/16 02:06 AM
IS: Phenanthrene-d10	75.9	0	50-200	0		%REC	10	05/17/16 02:06 AM
Surr: 2-Fluorobiphenyl	78.0	0	46-115	0		%REC	10	05/17/16 02:06 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU003-STRAT4
Project:	Laredo SGR	**Lab ID:**	1605096-12
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 09:30 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	69.5	0	58-133	0		%REC	10	05/17/16 02:06 AM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	12.9	0	0	0		WT%	1	05/12/16 09:55 AM

Qualifiers:				
	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-01-A
Project:	Laredo SGR	**Lab ID:**	1605096-13
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:30 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	25.3	0.0952	0.286	0.143		mg/Kg-dry	5	05/23/16 04:41 PM
IS: Bismuth	97.0	0	30-120	0		%REC	5	05/23/16 04:41 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/16/16 08:29 PM
Acenaphthylene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/16/16 08:29 PM
Anthracene	0.0593	0.0488	0.0977	0.0732	J	mg/Kg-dry	10	05/16/16 08:29 PM
Benzo[a]anthracene	0.378	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/16/16 08:29 PM
Benzo[a]pyrene	0.513	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/16/16 08:29 PM
Benzo[b]fluoranthene	0.498	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/16/16 08:29 PM
Benzo[e]pyrene	0.365	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/16/16 08:29 PM
Benzo[g,h,i]perylene	0.479	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/16/16 08:29 PM
Benzo[j]fluoranthene	0.251	0.0488	0.0977	0.0732	N	mg/Kg-dry	10	05/16/16 08:29 PM
Benzo[k]fluoranthene	0.303	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/16/16 08:29 PM
Chrysene	0.491	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/16/16 08:29 PM
Dibenz[a,h]anthracene	0.155	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/16/16 08:29 PM
Fluoranthene	0.571	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/16/16 08:29 PM
Fluorene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/16/16 08:29 PM
Indeno[1,2,3-cd]pyrene	0.400	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/16/16 08:29 PM
Phenanthrene	0.247	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/16/16 08:29 PM
Pyrene	0.494	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/16/16 08:29 PM
IS: Acenaphthene-d10	123	0	50-200	0		%REC	10	05/16/16 08:29 PM
IS: Chrysene-d12	88.4	0	50-200	0		%REC	10	05/16/16 08:29 PM
IS: Naphthalene-d8	112	0	50-200	0		%REC	10	05/16/16 08:29 PM
IS: Perylene-d12	93.7	0	50-200	0		%REC	10	05/16/16 08:29 PM
IS: Phenanthrene-d10	95.0	0	50-200	0		%REC	10	05/16/16 08:29 PM
Surr: 2-Fluorobiphenyl	93.7	0	46-115	0		%REC	10	05/16/16 08:29 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-01-A
Project:	Laredo SGR	**Lab ID:**	1605096-13
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:30 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	89.5	0	58-133	0		%REC	10	05/16/16 08:29 PM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-01-B
Project:	Laredo SGR	**Lab ID:**	1605096-14
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:50 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	29.3	0.0885	0.265	0.133		mg/Kg-dry	5	05/23/16 03:55 PM
IS: Bismuth	98.6	0	30-120	0		%REC	5	05/23/16 03:55 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/14/16 09:57 AM
Acenaphthylene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/14/16 09:57 AM
Anthracene	0.0643	0.0497	0.0993	0.0745	J	mg/Kg-dry	10	05/14/16 09:57 AM
Benzo[a]anthracene	0.460	0.0497	0.0993	0.0745		mg/Kg-dry	10	05/14/16 09:57 AM
Benzo[a]pyrene	0.622	0.0497	0.0993	0.0745		mg/Kg-dry	10	05/14/16 09:57 AM
Benzo[b]fluoranthene	0.593	0.0497	0.0993	0.0745		mg/Kg-dry	10	05/14/16 09:57 AM
Benzo[e]pyrene	0.457	0.0497	0.0993	0.0745		mg/Kg-dry	10	05/14/16 09:57 AM
Benzo[g,h,i]perylene	0.569	0.0497	0.0993	0.0745		mg/Kg-dry	10	05/14/16 09:57 AM
Benzo[j]fluoranthene	0.303	0.0497	0.0993	0.0745	N	mg/Kg-dry	10	05/14/16 09:57 AM
Benzo[k]fluoranthene	0.344	0.0497	0.0993	0.0745		mg/Kg-dry	10	05/14/16 09:57 AM
Chrysene	0.596	0.0497	0.0993	0.0745		mg/Kg-dry	10	05/14/16 09:57 AM
Dibenz[a,h]anthracene	0.157	0.0497	0.0993	0.0745		mg/Kg-dry	10	05/14/16 09:57 AM
Fluoranthene	0.663	0.0497	0.0993	0.0745		mg/Kg-dry	10	05/14/16 09:57 AM
Fluorene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/14/16 09:57 AM
Indeno[1,2,3-cd]pyrene	0.475	0.0497	0.0993	0.0745		mg/Kg-dry	10	05/14/16 09:57 AM
Phenanthrene	0.282	0.0497	0.0993	0.0745		mg/Kg-dry	10	05/14/16 09:57 AM
Pyrene	0.573	0.0497	0.0993	0.0745		mg/Kg-dry	10	05/14/16 09:57 AM
IS: Acenaphthene-d10	111	0	50-200	0		%REC	10	05/14/16 09:57 AM
IS: Chrysene-d12	80.5	0	50-200	0		%REC	10	05/14/16 09:57 AM
IS: Naphthalene-d8	96.4	0	50-200	0		%REC	10	05/14/16 09:57 AM
IS: Perylene-d12	84.9	0	50-200	0		%REC	10	05/14/16 09:57 AM
IS: Phenanthrene-d10	96.5	0	50-200	0		%REC	10	05/14/16 09:57 AM
Surr: 2-Fluorobiphenyl	87.4	0	46-115	0		%REC	10	05/14/16 09:57 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-01-B
Project:	Laredo SGR	**Lab ID:**	1605096-14
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:50 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	93.8	0	58-133	0		%REC	10	05/14/16 09:57 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-01-C
Project:	Laredo SGR	**Lab ID:**	1605096-15
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 11:10 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	30.7	0.0870	0.261	0.130		mg/Kg-dry	5	05/23/16 04:43 PM
IS: Bismuth	98.2	0	30-120	0		%REC	5	05/23/16 04:43 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/16/16 09:42 PM
Acenaphthylene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/16/16 09:42 PM
Anthracene	0.0561	0.0500	0.100	0.0750	J	mg/Kg-dry	10	05/16/16 09:42 PM
Benzo[a]anthracene	0.398	0.0500	0.100	0.0750		mg/Kg-dry	10	05/16/16 09:42 PM
Benzo[a]pyrene	0.540	0.0500	0.100	0.0750		mg/Kg-dry	10	05/16/16 09:42 PM
Benzo[b]fluoranthene	0.516	0.0500	0.100	0.0750		mg/Kg-dry	10	05/16/16 09:42 PM
Benzo[e]pyrene	0.391	0.0500	0.100	0.0750		mg/Kg-dry	10	05/16/16 09:42 PM
Benzo[g,h,i]perylene	0.471	0.0500	0.100	0.0750		mg/Kg-dry	10	05/16/16 09:42 PM
Benzo[j]fluoranthene	0.270	0.0500	0.100	0.0750	N	mg/Kg-dry	10	05/16/16 09:42 PM
Benzo[k]fluoranthene	0.308	0.0500	0.100	0.0750		mg/Kg-dry	10	05/16/16 09:42 PM
Chrysene	0.518	0.0500	0.100	0.0750		mg/Kg-dry	10	05/16/16 09:42 PM
Dibenz[a,h]anthracene	0.145	0.0500	0.100	0.0750		mg/Kg-dry	10	05/16/16 09:42 PM
Fluoranthene	0.590	0.0500	0.100	0.0750		mg/Kg-dry	10	05/16/16 09:42 PM
Fluorene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/16/16 09:42 PM
Indeno[1,2,3-cd]pyrene	0.408	0.0500	0.100	0.0750		mg/Kg-dry	10	05/16/16 09:42 PM
Phenanthrene	0.254	0.0500	0.100	0.0750		mg/Kg-dry	10	05/16/16 09:42 PM
Pyrene	0.516	0.0500	0.100	0.0750		mg/Kg-dry	10	05/16/16 09:42 PM
IS: Acenaphthene-d10	126	0	50-200	0		%REC	10	05/16/16 09:42 PM
IS: Chrysene-d12	88.0	0	50-200	0		%REC	10	05/16/16 09:42 PM
IS: Naphthalene-d8	114	0	50-200	0		%REC	10	05/16/16 09:42 PM
IS: Perylene-d12	93.9	0	50-200	0		%REC	10	05/16/16 09:42 PM
IS: Phenanthrene-d10	96.4	0	50-200	0		%REC	10	05/16/16 09:42 PM
Surr: 2-Fluorobiphenyl	94.3	0	46-115	0		%REC	10	05/16/16 09:42 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-01-C
Project:	Laredo SGR	**Lab ID:**	1605096-15
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 11:10 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	89.7	0	58-133	0		%REC	10	05/16/16 09:42 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(0-2)-A
Project:	Laredo SGR	**Lab ID:**	1605096-16
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:34 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	55.6	0.0862	0.259	0.129		mg/Kg-dry	5	05/23/16 04:45 PM
IS: Bismuth	96.0	0	30-120	0		%REC	5	05/23/16 04:45 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.559	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 10:19 PM
Acenaphthylene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/16/16 10:19 PM
Anthracene	1.52	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 10:19 PM
Benzo[a]anthracene	12.2	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 10:19 PM
Benzo[a]pyrene	15.0	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 10:19 PM
Benzo[b]fluoranthene	14.6	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 10:19 PM
Benzo[e]pyrene	10.9	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 10:19 PM
Benzo[g,h,i]perylene	11.7	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 10:19 PM
Benzo[j]fluoranthene	7.93	0.0499	0.0998	0.0749	N	mg/Kg-dry	10	05/16/16 10:19 PM
Benzo[k]fluoranthene	8.21	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 10:19 PM
Chrysene	15.3	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 10:19 PM
Dibenz[a,h]anthracene	2.84	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 10:19 PM
Fluoranthene	17.9	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 10:19 PM
Fluorene	0.217	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 10:19 PM
Indeno[1,2,3-cd]pyrene	10.3	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 10:19 PM
Phenanthrene	8.97	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 10:19 PM
Pyrene	15.4	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/16/16 10:19 PM
IS: Acenaphthene-d10	107	0	50-200	0		%REC	10	05/16/16 10:19 PM
IS: Chrysene-d12	80.3	0	50-200	0		%REC	10	05/16/16 10:19 PM
IS: Naphthalene-d8	104	0	50-200	0		%REC	10	05/16/16 10:19 PM
IS: Perylene-d12	85.5	0	50-200	0		%REC	10	05/16/16 10:19 PM
IS: Phenanthrene-d10	87.1	0	50-200	0		%REC	10	05/16/16 10:19 PM
Surr: 2-Fluorobiphenyl	85.8	0	46-115	0		%REC	10	05/16/16 10:19 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(0-2)-A
Project:	Laredo SGR	**Lab ID:**	1605096-16
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:34 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	87.4	0	58-133	0		%REC	10	05/16/16 10:19 PM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(2-4)-A
Project:	Laredo SGR	**Lab ID:**	1605096-17
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:36 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	31.6	0.0952	0.286	0.143		mg/Kg-dry	5	05/23/16 04:47 PM
IS: Bismuth	95.8	0	30-120	0		%REC	5	05/23/16 04:47 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0950	0.0496	0.0991	0.0743	J	mg/Kg-dry	10	05/16/16 10:56 PM
Acenaphthylene	0.0743	0.0496	0.0991	0.0743	U	mg/Kg-dry	10	05/16/16 10:56 PM
Anthracene	0.272	0.0496	0.0991	0.0743		mg/Kg-dry	10	05/16/16 10:56 PM
Benzo[a]anthracene	1.94	0.0496	0.0991	0.0743		mg/Kg-dry	10	05/16/16 10:56 PM
Benzo[a]pyrene	2.31	0.0496	0.0991	0.0743		mg/Kg-dry	10	05/16/16 10:56 PM
Benzo[b]fluoranthene	2.28	0.0496	0.0991	0.0743		mg/Kg-dry	10	05/16/16 10:56 PM
Benzo[e]pyrene	1.72	0.0496	0.0991	0.0743		mg/Kg-dry	10	05/16/16 10:56 PM
Benzo[g,h,i]perylene	1.86	0.0496	0.0991	0.0743		mg/Kg-dry	10	05/16/16 10:56 PM
Benzo[j]fluoranthene	1.22	0.0496	0.0991	0.0743	N	mg/Kg-dry	10	05/16/16 10:56 PM
Benzo[k]fluoranthene	1.31	0.0496	0.0991	0.0743		mg/Kg-dry	10	05/16/16 10:56 PM
Chrysene	2.46	0.0496	0.0991	0.0743		mg/Kg-dry	10	05/16/16 10:56 PM
Dibenz[a,h]anthracene	0.461	0.0496	0.0991	0.0743		mg/Kg-dry	10	05/16/16 10:56 PM
Fluoranthene	3.13	0.0496	0.0991	0.0743		mg/Kg-dry	10	05/16/16 10:56 PM
Fluorene	0.0743	0.0496	0.0991	0.0743	U	mg/Kg-dry	10	05/16/16 10:56 PM
Indeno[1,2,3-cd]pyrene	1.57	0.0496	0.0991	0.0743		mg/Kg-dry	10	05/16/16 10:56 PM
Phenanthrene	1.77	0.0496	0.0991	0.0743		mg/Kg-dry	10	05/16/16 10:56 PM
Pyrene	2.59	0.0496	0.0991	0.0743		mg/Kg-dry	10	05/16/16 10:56 PM
IS: Acenaphthene-d10	125	0	50-200	0		%REC	10	05/16/16 10:56 PM
IS: Chrysene-d12	83.5	0	50-200	0		%REC	10	05/16/16 10:56 PM
IS: Naphthalene-d8	111	0	50-200	0		%REC	10	05/16/16 10:56 PM
IS: Perylene-d12	88.8	0	50-200	0		%REC	10	05/16/16 10:56 PM
IS: Phenanthrene-d10	94.4	0	50-200	0		%REC	10	05/16/16 10:56 PM
Surr: 2-Fluorobiphenyl	94.4	0	46-115	0		%REC	10	05/16/16 10:56 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(2-4)-A
Project:	Laredo SGR	**Lab ID:**	1605096-17
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:36 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	92.0	0	58-133	0		%REC	10	05/16/16 10:56 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(4-6)-A
Project:	Laredo SGR	**Lab ID:**	1605096-18
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:39 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	7.63	0.0855	0.256	0.128		mg/Kg-dry	5	05/23/16 04:49 PM
IS: Bismuth	95.7	0	30-120	0		%REC	5	05/23/16 04:49 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 04:12 PM
Acenaphthylene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 04:12 PM
Anthracene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 04:12 PM
Benzo[a]anthracene	0.136	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 04:12 PM
Benzo[a]pyrene	0.174	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 04:12 PM
Benzo[b]fluoranthene	0.174	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 04:12 PM
Benzo[e]pyrene	0.121	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 04:12 PM
Benzo[g,h,i]perylene	0.153	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 04:12 PM
Benzo[j]fluoranthene	0.0833	0.0495	0.0989	0.0742	JN	mg/Kg-dry	10	05/16/16 04:12 PM
Benzo[k]fluoranthene	0.100	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 04:12 PM
Chrysene	0.180	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 04:12 PM
Dibenz[a,h]anthracene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 04:12 PM
Fluoranthene	0.207	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 04:12 PM
Fluorene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 04:12 PM
Indeno[1,2,3-cd]pyrene	0.130	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 04:12 PM
Phenanthrene	0.0866	0.0495	0.0989	0.0742	J	mg/Kg-dry	10	05/16/16 04:12 PM
Pyrene	0.183	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 04:12 PM
IS: Acenaphthene-d10	106	0	50-200	0		%REC	10	05/16/16 04:12 PM
IS: Chrysene-d12	84.3	0	50-200	0		%REC	10	05/16/16 04:12 PM
IS: Naphthalene-d8	104	0	50-200	0		%REC	10	05/16/16 04:12 PM
IS: Perylene-d12	85.9	0	50-200	0		%REC	10	05/16/16 04:12 PM
IS: Phenanthrene-d10	91.8	0	50-200	0		%REC	10	05/16/16 04:12 PM
Surr: 2-Fluorobiphenyl	88.1	0	46-115	0		%REC	10	05/16/16 04:12 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(4-6)-A
Project:	Laredo SGR	**Lab ID:**	1605096-18
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:39 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	92.1	0	58-133	0		%REC	10	05/16/16 04:12 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(6-8)-A
Project:	Laredo SGR	**Lab ID:**	1605096-19
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:42 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	6.17	0.0667	0.200	0.100		mg/Kg-dry	5	05/25/16 01:49 PM
IS: Bismuth	79.0	0	30-120	0		%REC	5	05/25/16 01:49 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 04:48 PM
Acenaphthylene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 04:48 PM
Anthracene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 04:48 PM
Benzo[a]anthracene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 04:48 PM
Benzo[a]pyrene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 04:48 PM
Benzo[b]fluoranthene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 04:48 PM
Benzo[e]pyrene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 04:48 PM
Benzo[g,h,i]perylene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 04:48 PM
Benzo[j]fluoranthene	0.0742	0.0495	0.0989	0.0742	NU	mg/Kg-dry	10	05/16/16 04:48 PM
Benzo[k]fluoranthene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 04:48 PM
Chrysene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 04:48 PM
Dibenz[a,h]anthracene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 04:48 PM
Fluoranthene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 04:48 PM
Fluorene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 04:48 PM
Indeno[1,2,3-cd]pyrene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 04:48 PM
Phenanthrene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 04:48 PM
Pyrene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 04:48 PM
IS: Acenaphthene-d10	117	0	50-200	0		%REC	10	05/16/16 04:48 PM
IS: Chrysene-d12	87.6	0	50-200	0		%REC	10	05/16/16 04:48 PM
IS: Naphthalene-d8	108	0	50-200	0		%REC	10	05/16/16 04:48 PM
IS: Perylene-d12	91.1	0	50-200	0		%REC	10	05/16/16 04:48 PM
IS: Phenanthrene-d10	95.0	0	50-200	0		%REC	10	05/16/16 04:48 PM
Surr: 2-Fluorobiphenyl	91.1	0	46-115	0		%REC	10	05/16/16 04:48 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(6-8)-A
Project:	Laredo SGR	**Lab ID:**	1605096-19
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:42 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	88.7	0	58-133	0		%REC	10	05/16/16 04:48 PM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(8-10)-A
Project:	Laredo SGR	**Lab ID:**	1605096-20
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:44 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	12.1	0.0877	0.263	0.132		mg/Kg-dry	5	05/25/16 01:55 PM
IS: Bismuth	83.2	0	30-120	0		%REC	5	05/25/16 01:55 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0735	0.0490	0.0980	0.0735	U	mg/Kg-dry	10	05/16/16 05:25 PM
Acenaphthylene	0.0735	0.0490	0.0980	0.0735	U	mg/Kg-dry	10	05/16/16 05:25 PM
Anthracene	0.0735	0.0490	0.0980	0.0735	U	mg/Kg-dry	10	05/16/16 05:25 PM
Benzo[a]anthracene	0.0735	0.0490	0.0980	0.0735	U	mg/Kg-dry	10	05/16/16 05:25 PM
Benzo[a]pyrene	0.0735	0.0490	0.0980	0.0735	U	mg/Kg-dry	10	05/16/16 05:25 PM
Benzo[b]fluoranthene	0.0735	0.0490	0.0980	0.0735	U	mg/Kg-dry	10	05/16/16 05:25 PM
Benzo[e]pyrene	0.0735	0.0490	0.0980	0.0735	U	mg/Kg-dry	10	05/16/16 05:25 PM
Benzo[g,h,i]perylene	0.0735	0.0490	0.0980	0.0735	U	mg/Kg-dry	10	05/16/16 05:25 PM
Benzo[j]fluoranthene	0.0735	0.0490	0.0980	0.0735	NU	mg/Kg-dry	10	05/16/16 05:25 PM
Benzo[k]fluoranthene	0.0735	0.0490	0.0980	0.0735	U	mg/Kg-dry	10	05/16/16 05:25 PM
Chrysene	0.0735	0.0490	0.0980	0.0735	U	mg/Kg-dry	10	05/16/16 05:25 PM
Dibenz[a,h]anthracene	0.0735	0.0490	0.0980	0.0735	U	mg/Kg-dry	10	05/16/16 05:25 PM
Fluoranthene	0.0735	0.0490	0.0980	0.0735	U	mg/Kg-dry	10	05/16/16 05:25 PM
Fluorene	0.0735	0.0490	0.0980	0.0735	U	mg/Kg-dry	10	05/16/16 05:25 PM
Indeno[1,2,3-cd]pyrene	0.0735	0.0490	0.0980	0.0735	U	mg/Kg-dry	10	05/16/16 05:25 PM
Phenanthrene	0.0735	0.0490	0.0980	0.0735	U	mg/Kg-dry	10	05/16/16 05:25 PM
Pyrene	0.0735	0.0490	0.0980	0.0735	U	mg/Kg-dry	10	05/16/16 05:25 PM
IS: Acenaphthene-d10	122	0	50-200	0		%REC	10	05/16/16 05:25 PM
IS: Chrysene-d12	89.3	0	50-200	0		%REC	10	05/16/16 05:25 PM
IS: Naphthalene-d8	111	0	50-200	0		%REC	10	05/16/16 05:25 PM
IS: Perylene-d12	91.4	0	50-200	0		%REC	10	05/16/16 05:25 PM
IS: Phenanthrene-d10	97.5	0	50-200	0		%REC	10	05/16/16 05:25 PM
Surr: 2-Fluorobiphenyl	92.2	0	46-115	0		%REC	10	05/16/16 05:25 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(8-10)-A
Project:	Laredo SGR	**Lab ID:**	1605096-20
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:44 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	89.6	0	58-133	0		%REC	10	05/16/16 05:25 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(0-2)-B
Project:	Laredo SGR	**Lab ID:**	1605096-21
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:46 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	50.6	0.100	0.300	0.150		mg/Kg-dry	5	05/25/16 02:01 PM
IS: Bismuth	83.4	0	30-120	0		%REC	5	05/25/16 02:01 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.294	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 06:02 PM
Acenaphthylene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/16/16 06:02 PM
Anthracene	0.924	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 06:02 PM
Benzo[a]anthracene	8.48	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 06:02 PM
Benzo[a]pyrene	11.2	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 06:02 PM
Benzo[b]fluoranthene	10.4	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 06:02 PM
Benzo[e]pyrene	8.18	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 06:02 PM
Benzo[g,h,i]perylene	8.76	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 06:02 PM
Benzo[j]fluoranthene	5.75	0.0495	0.0989	0.0742	N	mg/Kg-dry	10	05/16/16 06:02 PM
Benzo[k]fluoranthene	6.14	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 06:02 PM
Chrysene	10.9	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 06:02 PM
Dibenz[a,h]anthracene	2.06	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 06:02 PM
Fluoranthene	11.9	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 06:02 PM
Fluorene	0.105	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 06:02 PM
Indeno[1,2,3-cd]pyrene	7.61	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 06:02 PM
Phenanthrene	5.53	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 06:02 PM
Pyrene	10.4	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/16/16 06:02 PM
IS: Acenaphthene-d10	125	0	50-200	0		%REC	10	05/16/16 06:02 PM
IS: Chrysene-d12	92.2	0	50-200	0		%REC	10	05/16/16 06:02 PM
IS: Naphthalene-d8	116	0	50-200	0		%REC	10	05/16/16 06:02 PM
IS: Perylene-d12	97.6	0	50-200	0		%REC	10	05/16/16 06:02 PM
IS: Phenanthrene-d10	100	0	50-200	0		%REC	10	05/16/16 06:02 PM
Surr: 2-Fluorobiphenyl	89.2	0	46-115	0		%REC	10	05/16/16 06:02 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(0-2)-B
Project:	Laredo SGR	**Lab ID:**	1605096-21
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:46 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	91.5	0	58-133	0		%REC	10	05/16/16 06:02 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(2-4)-B
Project:	Laredo SGR	**Lab ID:**	1605096-22
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:49 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	22.4	0.0952	0.286	0.143		mg/Kg-dry	5	05/25/16 02:07 PM
IS: Bismuth	85.1	0	30-120	0		%REC	5	05/25/16 02:07 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0560	0.0472	0.0944	0.0708	J	mg/Kg-dry	10	05/16/16 09:05 PM
Acenaphthylene	0.0708	0.0472	0.0944	0.0708	U	mg/Kg-dry	10	05/16/16 09:05 PM
Anthracene	0.228	0.0472	0.0944	0.0708		mg/Kg-dry	10	05/16/16 09:05 PM
Benzo[a]anthracene	1.49	0.0472	0.0944	0.0708		mg/Kg-dry	10	05/16/16 09:05 PM
Benzo[a]pyrene	1.74	0.0472	0.0944	0.0708		mg/Kg-dry	10	05/16/16 09:05 PM
Benzo[b]fluoranthene	1.68	0.0472	0.0944	0.0708		mg/Kg-dry	10	05/16/16 09:05 PM
Benzo[e]pyrene	1.30	0.0472	0.0944	0.0708		mg/Kg-dry	10	05/16/16 09:05 PM
Benzo[g,h,i]perylene	1.38	0.0472	0.0944	0.0708		mg/Kg-dry	10	05/16/16 09:05 PM
Benzo[j]fluoranthene	0.908	0.0472	0.0944	0.0708	N	mg/Kg-dry	10	05/16/16 09:05 PM
Benzo[k]fluoranthene	0.973	0.0472	0.0944	0.0708		mg/Kg-dry	10	05/16/16 09:05 PM
Chrysene	1.86	0.0472	0.0944	0.0708		mg/Kg-dry	10	05/16/16 09:05 PM
Dibenz[a,h]anthracene	0.341	0.0472	0.0944	0.0708		mg/Kg-dry	10	05/16/16 09:05 PM
Fluoranthene	2.50	0.0472	0.0944	0.0708		mg/Kg-dry	10	05/16/16 09:05 PM
Fluorene	0.0708	0.0472	0.0944	0.0708	U	mg/Kg-dry	10	05/16/16 09:05 PM
Indeno[1,2,3-cd]pyrene	1.18	0.0472	0.0944	0.0708		mg/Kg-dry	10	05/16/16 09:05 PM
Phenanthrene	1.33	0.0472	0.0944	0.0708		mg/Kg-dry	10	05/16/16 09:05 PM
Pyrene	2.08	0.0472	0.0944	0.0708		mg/Kg-dry	10	05/16/16 09:05 PM
IS: Acenaphthene-d10	125	0	50-200	0		%REC	10	05/16/16 09:05 PM
IS: Chrysene-d12	84.7	0	50-200	0		%REC	10	05/16/16 09:05 PM
IS: Naphthalene-d8	110	0	50-200	0		%REC	10	05/16/16 09:05 PM
IS: Perylene-d12	89.6	0	50-200	0		%REC	10	05/16/16 09:05 PM
IS: Phenanthrene-d10	95.3	0	50-200	0		%REC	10	05/16/16 09:05 PM
Surr: 2-Fluorobiphenyl	103	0	46-115	0		%REC	10	05/16/16 09:05 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(2-4)-B
Project:	Laredo SGR	**Lab ID:**	1605096-22
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:49 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	95.9	0	58-133	0		%REC	10	05/16/16 09:05 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(4-6)-B
Project:	Laredo SGR	**Lab ID:**	1605096-23
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:52 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	6.00	0.0893	0.268	0.134		mg/Kg-dry	5	05/25/16 02:12 PM
IS: Bismuth	81.0	0	30-120	0		%REC	5	05/25/16 02:12 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/14/16 08:43 AM
Acenaphthylene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/14/16 08:43 AM
Anthracene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/14/16 08:43 AM
Benzo[a]anthracene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/14/16 08:43 AM
Benzo[a]pyrene	0.0500	0.0497	0.0994	0.0746	J	mg/Kg-dry	10	05/14/16 08:43 AM
Benzo[b]fluoranthene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/14/16 08:43 AM
Benzo[e]pyrene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/14/16 08:43 AM
Benzo[g,h,i]perylene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/14/16 08:43 AM
Benzo[j]fluoranthene	0.0746	0.0497	0.0994	0.0746	NU	mg/Kg-dry	10	05/14/16 08:43 AM
Benzo[k]fluoranthene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/14/16 08:43 AM
Chrysene	0.0503	0.0497	0.0994	0.0746	J	mg/Kg-dry	10	05/14/16 08:43 AM
Dibenz[a,h]anthracene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/14/16 08:43 AM
Fluoranthene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/14/16 08:43 AM
Fluorene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/14/16 08:43 AM
Indeno[1,2,3-cd]pyrene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/14/16 08:43 AM
Phenanthrene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/14/16 08:43 AM
Pyrene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/14/16 08:43 AM
IS: Acenaphthene-d10	112	0	50-200	0		%REC	10	05/14/16 08:43 AM
IS: Chrysene-d12	83.1	0	50-200	0		%REC	10	05/14/16 08:43 AM
IS: Naphthalene-d8	98.2	0	50-200	0		%REC	10	05/14/16 08:43 AM
IS: Perylene-d12	86.0	0	50-200	0		%REC	10	05/14/16 08:43 AM
IS: Phenanthrene-d10	96.6	0	50-200	0		%REC	10	05/14/16 08:43 AM
Surr: 2-Fluorobiphenyl	87.4	0	46-115	0		%REC	10	05/14/16 08:43 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(4-6)-B
Project:	Laredo SGR	**Lab ID:**	1605096-23
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:52 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	91.2	0	58-133	0		%REC	10	05/14/16 08:43 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(6-8)-B
Project:	Laredo SGR	**Lab ID:**	1605096-24
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:55 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	9.08	0.0971	0.291	0.146		mg/Kg-dry	5	05/25/16 02:18 PM
IS: Bismuth	86.2	0	30-120	0		%REC	5	05/25/16 02:18 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0739	0.0493	0.0985	0.0739	U	mg/Kg-dry	10	05/14/16 09:20 AM
Acenaphthylene	0.0739	0.0493	0.0985	0.0739	U	mg/Kg-dry	10	05/14/16 09:20 AM
Anthracene	0.0739	0.0493	0.0985	0.0739	U	mg/Kg-dry	10	05/14/16 09:20 AM
Benzo[a]anthracene	0.0739	0.0493	0.0985	0.0739	U	mg/Kg-dry	10	05/14/16 09:20 AM
Benzo[a]pyrene	0.0739	0.0493	0.0985	0.0739	U	mg/Kg-dry	10	05/14/16 09:20 AM
Benzo[b]fluoranthene	0.0739	0.0493	0.0985	0.0739	U	mg/Kg-dry	10	05/14/16 09:20 AM
Benzo[e]pyrene	0.0739	0.0493	0.0985	0.0739	U	mg/Kg-dry	10	05/14/16 09:20 AM
Benzo[g,h,i]perylene	0.0739	0.0493	0.0985	0.0739	U	mg/Kg-dry	10	05/14/16 09:20 AM
Benzo[j]fluoranthene	0.0739	0.0493	0.0985	0.0739	NU	mg/Kg-dry	10	05/14/16 09:20 AM
Benzo[k]fluoranthene	0.0739	0.0493	0.0985	0.0739	U	mg/Kg-dry	10	05/14/16 09:20 AM
Chrysene	0.0739	0.0493	0.0985	0.0739	U	mg/Kg-dry	10	05/14/16 09:20 AM
Dibenz[a,h]anthracene	0.0739	0.0493	0.0985	0.0739	U	mg/Kg-dry	10	05/14/16 09:20 AM
Fluoranthene	0.0739	0.0493	0.0985	0.0739	U	mg/Kg-dry	10	05/14/16 09:20 AM
Fluorene	0.0739	0.0493	0.0985	0.0739	U	mg/Kg-dry	10	05/14/16 09:20 AM
Indeno[1,2,3-cd]pyrene	0.0739	0.0493	0.0985	0.0739	U	mg/Kg-dry	10	05/14/16 09:20 AM
Phenanthrene	0.0739	0.0493	0.0985	0.0739	U	mg/Kg-dry	10	05/14/16 09:20 AM
Pyrene	0.0739	0.0493	0.0985	0.0739	U	mg/Kg-dry	10	05/14/16 09:20 AM
IS: Acenaphthene-d10	108	0	50-200	0		%REC	10	05/14/16 09:20 AM
IS: Chrysene-d12	78.0	0	50-200	0		%REC	10	05/14/16 09:20 AM
IS: Naphthalene-d8	92.9	0	50-200	0		%REC	10	05/14/16 09:20 AM
IS: Perylene-d12	82.2	0	50-200	0		%REC	10	05/14/16 09:20 AM
IS: Phenanthrene-d10	94.9	0	50-200	0		%REC	10	05/14/16 09:20 AM
Surr: 2-Fluorobiphenyl	91.9	0	46-115	0		%REC	10	05/14/16 09:20 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(6-8)-B
Project:	Laredo SGR	**Lab ID:**	1605096-24
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:55 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	96.9	0	58-133	0		%REC	10	05/14/16 09:20 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(8-10)-B
Project:	Laredo SGR	**Lab ID:**	1605096-25
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:57 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	11.1	0.0877	0.263	0.132		mg/Kg-dry	5	05/25/16 01:37 PM
IS: Bismuth	84.6	0	30-120	0		%REC	5	05/25/16 01:37 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/17/16 02:27 PM
Acenaphthylene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/17/16 02:27 PM
Anthracene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/17/16 02:27 PM
Benzo[a]anthracene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/17/16 02:27 PM
Benzo[a]pyrene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/17/16 02:27 PM
Benzo[b]fluoranthene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/17/16 02:27 PM
Benzo[e]pyrene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/17/16 02:27 PM
Benzo[g,h,i]perylene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/17/16 02:27 PM
Benzo[j]fluoranthene	0.0725	0.0484	0.0967	0.0725	NU	mg/Kg-dry	10	05/17/16 02:27 PM
Benzo[k]fluoranthene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/17/16 02:27 PM
Chrysene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/17/16 02:27 PM
Dibenz[a,h]anthracene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/17/16 02:27 PM
Fluoranthene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/17/16 02:27 PM
Fluorene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/17/16 02:27 PM
Indeno[1,2,3-cd]pyrene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/17/16 02:27 PM
Phenanthrene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/17/16 02:27 PM
Pyrene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/17/16 02:27 PM
IS: Acenaphthene-d10	68.6	0	50-200	0		%REC	10	05/17/16 02:27 PM
IS: Chrysene-d12	66.0	0	50-200	0		%REC	10	05/17/16 02:27 PM
IS: Naphthalene-d8	109	0	50-200	0		%REC	10	05/17/16 02:27 PM
IS: Perylene-d12	67.8	0	50-200	0		%REC	10	05/17/16 02:27 PM
IS: Phenanthrene-d10	68.0	0	50-200	0		%REC	10	05/17/16 02:27 PM
Surr: 2-Fluorobiphenyl	80.8	0	46-115	0		%REC	10	05/17/16 02:27 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(8-10)-B
Project:	Laredo SGR	**Lab ID:**	1605096-25
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 10:57 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	69.8	0	58-133	0		%REC	10	05/17/16 02:27 PM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(0-2)-C
Project:	Laredo SGR	**Lab ID:**	1605096-26
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 11:00 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	55.0	0.0901	0.270	0.135		mg/Kg-dry	5	05/25/16 02:24 PM
IS: Bismuth	84.2	0	30-120	0		%REC	5	05/25/16 02:24 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.246	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/17/16 03:07 PM
Acenaphthylene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/17/16 03:07 PM
Anthracene	0.711	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/17/16 03:07 PM
Benzo[a]anthracene	6.76	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/17/16 03:07 PM
Benzo[a]pyrene	8.45	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/17/16 03:07 PM
Benzo[b]fluoranthene	7.93	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/17/16 03:07 PM
Benzo[e]pyrene	6.51	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/17/16 03:07 PM
Benzo[g,h,i]perylene	6.27	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/17/16 03:07 PM
Benzo[j]fluoranthene	4.26	0.0488	0.0977	0.0732	N	mg/Kg-dry	10	05/17/16 03:07 PM
Benzo[k]fluoranthene	4.08	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/17/16 03:07 PM
Chrysene	8.37	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/17/16 03:07 PM
Dibenz[a,h]anthracene	1.39	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/17/16 03:07 PM
Fluoranthene	10.6	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/17/16 03:07 PM
Fluorene	0.0823	0.0488	0.0977	0.0732	J	mg/Kg-dry	10	05/17/16 03:07 PM
Indeno[1,2,3-cd]pyrene	5.07	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/17/16 03:07 PM
Phenanthrene	3.91	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/17/16 03:07 PM
Pyrene	9.22	0.0488	0.0977	0.0732		mg/Kg-dry	10	05/17/16 03:07 PM
IS: Acenaphthene-d10	69.5	0	50-200	0		%REC	10	05/17/16 03:07 PM
IS: Chrysene-d12	67.8	0	50-200	0		%REC	10	05/17/16 03:07 PM
IS: Naphthalene-d8	108	0	50-200	0		%REC	10	05/17/16 03:07 PM
IS: Perylene-d12	70.4	0	50-200	0		%REC	10	05/17/16 03:07 PM
IS: Phenanthrene-d10	71.7	0	50-200	0		%REC	10	05/17/16 03:07 PM
Surr: 2-Fluorobiphenyl	78.6	0	46-115	0		%REC	10	05/17/16 03:07 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(0-2)-C
Project:	Laredo SGR	**Lab ID:**	1605096-26
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 11:00 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	66.2	0	58-133	0		%REC	10	05/17/16 03:07 PM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(2-4)-C
Project:	Laredo SGR	**Lab ID:**	1605096-27
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 11:02 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	29.1	0.0893	0.268	0.134		mg/Kg-dry	5	05/25/16 02:30 PM
IS: Bismuth	89.4	0	30-120	0		%REC	5	05/25/16 02:30 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.118	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/17/16 03:47 PM
Acenaphthylene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/17/16 03:47 PM
Anthracene	0.517	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/17/16 03:47 PM
Benzo[a]anthracene	3.00	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/17/16 03:47 PM
Benzo[a]pyrene	3.62	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/17/16 03:47 PM
Benzo[b]fluoranthene	3.35	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/17/16 03:47 PM
Benzo[e]pyrene	2.72	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/17/16 03:47 PM
Benzo[g,h,i]perylene	2.56	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/17/16 03:47 PM
Benzo[j]fluoranthene	1.82	0.0496	0.0992	0.0744	N	mg/Kg-dry	10	05/17/16 03:47 PM
Benzo[k]fluoranthene	1.73	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/17/16 03:47 PM
Chrysene	3.56	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/17/16 03:47 PM
Dibenz[a,h]anthracene	0.587	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/17/16 03:47 PM
Fluoranthene	5.46	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/17/16 03:47 PM
Fluorene	0.0746	0.0496	0.0992	0.0744	J	mg/Kg-dry	10	05/17/16 03:47 PM
Indeno[1,2,3-cd]pyrene	2.13	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/17/16 03:47 PM
Phenanthrene	2.51	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/17/16 03:47 PM
Pyrene	4.52	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/17/16 03:47 PM
IS: Acenaphthene-d10	71.0	0	50-200	0		%REC	10	05/17/16 03:47 PM
IS: Chrysene-d12	69.7	0	50-200	0		%REC	10	05/17/16 03:47 PM
IS: Naphthalene-d8	107	0	50-200	0		%REC	10	05/17/16 03:47 PM
IS: Perylene-d12	72.9	0	50-200	0		%REC	10	05/17/16 03:47 PM
IS: Phenanthrene-d10	71.9	0	50-200	0		%REC	10	05/17/16 03:47 PM
Surr: 2-Fluorobiphenyl	81.4	0	46-115	0		%REC	10	05/17/16 03:47 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(2-4)-C
Project:	Laredo SGR	**Lab ID:**	1605096-27
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 11:02 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	68.3	0	58-133	0		%REC	10	05/17/16 03:47 PM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(4-6)-C
Project:	Laredo SGR	**Lab ID:**	1605096-28
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 11:05 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	5.08	0.0840	0.252	0.126		mg/Kg-dry	5	05/25/16 02:36 PM
IS: Bismuth	89.4	0	30-120	0		%REC	5	05/25/16 02:36 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0737	0.0492	0.0983	0.0737	U	mg/Kg-dry	10	05/17/16 04:26 PM
Acenaphthylene	0.0737	0.0492	0.0983	0.0737	U	mg/Kg-dry	10	05/17/16 04:26 PM
Anthracene	0.0737	0.0492	0.0983	0.0737	U	mg/Kg-dry	10	05/17/16 04:26 PM
Benzo[a]anthracene	0.0737	0.0492	0.0983	0.0737	U	mg/Kg-dry	10	05/17/16 04:26 PM
Benzo[a]pyrene	0.0516	0.0492	0.0983	0.0737	J	mg/Kg-dry	10	05/17/16 04:26 PM
Benzo[b]fluoranthene	0.0737	0.0492	0.0983	0.0737	U	mg/Kg-dry	10	05/17/16 04:26 PM
Benzo[e]pyrene	0.0737	0.0492	0.0983	0.0737	U	mg/Kg-dry	10	05/17/16 04:26 PM
Benzo[g,h,i]perylene	0.0737	0.0492	0.0983	0.0737	U	mg/Kg-dry	10	05/17/16 04:26 PM
Benzo[j]fluoranthene	0.0737	0.0492	0.0983	0.0737	NU	mg/Kg-dry	10	05/17/16 04:26 PM
Benzo[k]fluoranthene	0.0737	0.0492	0.0983	0.0737	U	mg/Kg-dry	10	05/17/16 04:26 PM
Chrysene	0.0737	0.0492	0.0983	0.0737	U	mg/Kg-dry	10	05/17/16 04:26 PM
Dibenz[a,h]anthracene	0.0737	0.0492	0.0983	0.0737	U	mg/Kg-dry	10	05/17/16 04:26 PM
Fluoranthene	0.0737	0.0492	0.0983	0.0737	U	mg/Kg-dry	10	05/17/16 04:26 PM
Fluorene	0.0737	0.0492	0.0983	0.0737	U	mg/Kg-dry	10	05/17/16 04:26 PM
Indeno[1,2,3-cd]pyrene	0.0737	0.0492	0.0983	0.0737	U	mg/Kg-dry	10	05/17/16 04:26 PM
Phenanthrene	0.0737	0.0492	0.0983	0.0737	U	mg/Kg-dry	10	05/17/16 04:26 PM
Pyrene	0.0737	0.0492	0.0983	0.0737	U	mg/Kg-dry	10	05/17/16 04:26 PM
IS: Acenaphthene-d10	77.2	0	50-200	0		%REC	10	05/17/16 04:26 PM
IS: Chrysene-d12	72.1	0	50-200	0		%REC	10	05/17/16 04:26 PM
IS: Naphthalene-d8	110	0	50-200	0		%REC	10	05/17/16 04:26 PM
IS: Perylene-d12	74.0	0	50-200	0		%REC	10	05/17/16 04:26 PM
IS: Phenanthrene-d10	75.6	0	50-200	0		%REC	10	05/17/16 04:26 PM
Surr: 2-Fluorobiphenyl	75.0	0	46-115	0		%REC	10	05/17/16 04:26 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(4-6)-C
Project:	Laredo SGR	**Lab ID:**	1605096-28
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 11:05 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	65.9	0	58-133	0		%REC	10	05/17/16 04:26 PM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(6-8)-C
Project:	Laredo SGR	**Lab ID:**	1605096-29
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 11:08 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	6.96	0.0980	0.294	0.147		mg/Kg-dry	5	05/25/16 03:18 PM
IS: Bismuth	91.8	0	30-120	0		%REC	5	05/25/16 03:18 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/17/16 05:06 PM
Acenaphthylene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/17/16 05:06 PM
Anthracene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/17/16 05:06 PM
Benzo[a]anthracene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/17/16 05:06 PM
Benzo[a]pyrene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/17/16 05:06 PM
Benzo[b]fluoranthene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/17/16 05:06 PM
Benzo[e]pyrene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/17/16 05:06 PM
Benzo[g,h,i]perylene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/17/16 05:06 PM
Benzo[j]fluoranthene	0.0740	0.0493	0.0986	0.0740	NU	mg/Kg-dry	10	05/17/16 05:06 PM
Benzo[k]fluoranthene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/17/16 05:06 PM
Chrysene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/17/16 05:06 PM
Dibenz[a,h]anthracene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/17/16 05:06 PM
Fluoranthene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/17/16 05:06 PM
Fluorene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/17/16 05:06 PM
Indeno[1,2,3-cd]pyrene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/17/16 05:06 PM
Phenanthrene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/17/16 05:06 PM
Pyrene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/17/16 05:06 PM
IS: Acenaphthene-d10	74.4	0	50-200	0		%REC	10	05/17/16 05:06 PM
IS: Chrysene-d12	70.3	0	50-200	0		%REC	10	05/17/16 05:06 PM
IS: Naphthalene-d8	108	0	50-200	0		%REC	10	05/17/16 05:06 PM
IS: Perylene-d12	72.0	0	50-200	0		%REC	10	05/17/16 05:06 PM
IS: Phenanthrene-d10	73.4	0	50-200	0		%REC	10	05/17/16 05:06 PM
Surr: 2-Fluorobiphenyl	80.1	0	46-115	0		%REC	10	05/17/16 05:06 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(6-8)-C
Project:	Laredo SGR	**Lab ID:**	1605096-29
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 11:08 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	67.4	0	58-133	0		%REC	10	05/17/16 05:06 PM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(8-10)-C
Project:	Laredo SGR	**Lab ID:**	1605096-30
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 11:10 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	10.3	0.0926	0.278	0.139		mg/Kg-dry	5	05/25/16 03:24 PM
IS: Bismuth	91.1	0	30-120	0		%REC	5	05/25/16 03:24 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/17/16 05:46 PM
Acenaphthylene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/17/16 05:46 PM
Anthracene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/17/16 05:46 PM
Benzo[a]anthracene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/17/16 05:46 PM
Benzo[a]pyrene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/17/16 05:46 PM
Benzo[b]fluoranthene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/17/16 05:46 PM
Benzo[e]pyrene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/17/16 05:46 PM
Benzo[g,h,i]perylene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/17/16 05:46 PM
Benzo[j]fluoranthene	0.0737	0.0491	0.0982	0.0737	NU	mg/Kg-dry	10	05/17/16 05:46 PM
Benzo[k]fluoranthene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/17/16 05:46 PM
Chrysene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/17/16 05:46 PM
Dibenz[a,h]anthracene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/17/16 05:46 PM
Fluoranthene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/17/16 05:46 PM
Fluorene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/17/16 05:46 PM
Indeno[1,2,3-cd]pyrene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/17/16 05:46 PM
Phenanthrene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/17/16 05:46 PM
Pyrene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/17/16 05:46 PM
IS: Acenaphthene-d10	68.7	0	50-200	0		%REC	10	05/17/16 05:46 PM
IS: Chrysene-d12	66.3	0	50-200	0		%REC	10	05/17/16 05:46 PM
IS: Naphthalene-d8	106	0	50-200	0		%REC	10	05/17/16 05:46 PM
IS: Perylene-d12	69.5	0	50-200	0		%REC	10	05/17/16 05:46 PM
IS: Phenanthrene-d10	67.5	0	50-200	0		%REC	10	05/17/16 05:46 PM
Surr: 2-Fluorobiphenyl	80.8	0	46-115	0		%REC	10	05/17/16 05:46 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03(8-10)-C
Project:	Laredo SGR	**Lab ID:**	1605096-30
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 11:10 AM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	66.9	0	58-133	0		%REC	10	05/17/16 05:46 PM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU132-STRAT1
Project:	Laredo SGR	**Lab ID:**	1605096-31
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:00 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	22.1	0.129	0.387	0.193		mg/Kg-dry	5	05/25/16 03:30 PM
IS: Bismuth	91.4	0	30-120	0		%REC	5	05/25/16 03:30 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0979	0.0653	0.131	0.0979	U	mg/Kg-dry	10	05/17/16 06:26 PM
Acenaphthylene	0.0979	0.0653	0.131	0.0979	U	mg/Kg-dry	10	05/17/16 06:26 PM
Anthracene	0.321	0.0653	0.131	0.0979		mg/Kg-dry	10	05/17/16 06:26 PM
Benzo[a]anthracene	1.01	0.0653	0.131	0.0979		mg/Kg-dry	10	05/17/16 06:26 PM
Benzo[a]pyrene	0.856	0.0653	0.131	0.0979		mg/Kg-dry	10	05/17/16 06:26 PM
Benzo[b]fluoranthene	0.836	0.0653	0.131	0.0979		mg/Kg-dry	10	05/17/16 06:26 PM
Benzo[e]pyrene	0.629	0.0653	0.131	0.0979		mg/Kg-dry	10	05/17/16 06:26 PM
Benzo[g,h,i]perylene	0.507	0.0653	0.131	0.0979		mg/Kg-dry	10	05/17/16 06:26 PM
Benzo[j]fluoranthene	0.462	0.0653	0.131	0.0979	N	mg/Kg-dry	10	05/17/16 06:26 PM
Benzo[k]fluoranthene	0.442	0.0653	0.131	0.0979		mg/Kg-dry	10	05/17/16 06:26 PM
Chrysene	1.09	0.0653	0.131	0.0979		mg/Kg-dry	10	05/17/16 06:26 PM
Dibenz[a,h]anthracene	0.143	0.0653	0.131	0.0979		mg/Kg-dry	10	05/17/16 06:26 PM
Fluoranthene	2.11	0.0653	0.131	0.0979		mg/Kg-dry	10	05/17/16 06:26 PM
Fluorene	0.0979	0.0653	0.131	0.0979	U	mg/Kg-dry	10	05/17/16 06:26 PM
Indeno[1,2,3-cd]pyrene	0.447	0.0653	0.131	0.0979		mg/Kg-dry	10	05/17/16 06:26 PM
Phenanthrene	1.38	0.0653	0.131	0.0979		mg/Kg-dry	10	05/17/16 06:26 PM
Pyrene	1.59	0.0653	0.131	0.0979		mg/Kg-dry	10	05/17/16 06:26 PM
IS: Acenaphthene-d10	71.7	0	50-200	0		%REC	10	05/17/16 06:26 PM
IS: Chrysene-d12	68.4	0	50-200	0		%REC	10	05/17/16 06:26 PM
IS: Naphthalene-d8	108	0	50-200	0		%REC	10	05/17/16 06:26 PM
IS: Perylene-d12	71.7	0	50-200	0		%REC	10	05/17/16 06:26 PM
IS: Phenanthrene-d10	70.0	0	50-200	0		%REC	10	05/17/16 06:26 PM
Surr: 2-Fluorobiphenyl	77.8	0	46-115	0		%REC	10	05/17/16 06:26 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU132-STRAT1
Project:	Laredo SGR	**Lab ID:**	1605096-31
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:00 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	67.0	0	58-133	0		%REC	10	05/17/16 06:26 PM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	25.4	0	0	0		WT%	1	05/12/16 09:55 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU132-STRAT2
Project:	Laredo SGR	**Lab ID:**	1605096-32
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:05 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	411	0.123	0.369	0.184		mg/Kg-dry	5	05/25/16 03:36 PM
IS: Bismuth	95.1	0	30-120	0		%REC	5	05/25/16 03:36 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0918	0.0612	0.122	0.0918	U	mg/Kg-dry	10	05/17/16 07:05 PM
Acenaphthylene	0.0918	0.0612	0.122	0.0918	U	mg/Kg-dry	10	05/17/16 07:05 PM
Anthracene	0.0647	0.0612	0.122	0.0918	J	mg/Kg-dry	10	05/17/16 07:05 PM
Benzo[a]anthracene	0.530	0.0612	0.122	0.0918		mg/Kg-dry	10	05/17/16 07:05 PM
Benzo[a]pyrene	0.707	0.0612	0.122	0.0918		mg/Kg-dry	10	05/17/16 07:05 PM
Benzo[b]fluoranthene	0.644	0.0612	0.122	0.0918		mg/Kg-dry	10	05/17/16 07:05 PM
Benzo[e]pyrene	0.543	0.0612	0.122	0.0918		mg/Kg-dry	10	05/17/16 07:05 PM
Benzo[g,h,i]perylene	0.520	0.0612	0.122	0.0918		mg/Kg-dry	10	05/17/16 07:05 PM
Benzo[j]fluoranthene	0.356	0.0612	0.122	0.0918	N	mg/Kg-dry	10	05/17/16 07:05 PM
Benzo[k]fluoranthene	0.342	0.0612	0.122	0.0918		mg/Kg-dry	10	05/17/16 07:05 PM
Chrysene	0.668	0.0612	0.122	0.0918		mg/Kg-dry	10	05/17/16 07:05 PM
Dibenz[a,h]anthracene	0.119	0.0612	0.122	0.0918	J	mg/Kg-dry	10	05/17/16 07:05 PM
Fluoranthene	0.810	0.0612	0.122	0.0918		mg/Kg-dry	10	05/17/16 07:05 PM
Fluorene	0.0918	0.0612	0.122	0.0918	U	mg/Kg-dry	10	05/17/16 07:05 PM
Indeno[1,2,3-cd]pyrene	0.423	0.0612	0.122	0.0918		mg/Kg-dry	10	05/17/16 07:05 PM
Phenanthrene	0.308	0.0612	0.122	0.0918		mg/Kg-dry	10	05/17/16 07:05 PM
Pyrene	0.744	0.0612	0.122	0.0918		mg/Kg-dry	10	05/17/16 07:05 PM
IS: Acenaphthene-d10	72.6	0	50-200	0		%REC	10	05/17/16 07:05 PM
IS: Chrysene-d12	71.1	0	50-200	0		%REC	10	05/17/16 07:05 PM
IS: Naphthalene-d8	111	0	50-200	0		%REC	10	05/17/16 07:05 PM
IS: Perylene-d12	72.2	0	50-200	0		%REC	10	05/17/16 07:05 PM
IS: Phenanthrene-d10	73.0	0	50-200	0		%REC	10	05/17/16 07:05 PM
Surr: 2-Fluorobiphenyl	76.5	0	46-115	0		%REC	10	05/17/16 07:05 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU132-STRAT2
Project:	Laredo SGR	**Lab ID:**	1605096-32
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:05 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	64.8	0	58-133	0		%REC	10	05/17/16 07:05 PM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	20.2	0	0	0		WT%	1	05/12/16 09:55 AM

Qualifiers:				
	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU132-STRAT3
Project:	Laredo SGR	**Lab ID:**	1605096-33
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:10 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	48.3	0.114	0.341	0.171		mg/Kg-dry	5	05/25/16 03:42 PM
IS: Bismuth	98.0	0	30-120	0		%REC	5	05/25/16 03:42 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0847	0.0565	0.113	0.0847	U	mg/Kg-dry	10	05/17/16 07:45 PM
Acenaphthylene	0.0847	0.0565	0.113	0.0847	U	mg/Kg-dry	10	05/17/16 07:45 PM
Anthracene	0.0729	0.0565	0.113	0.0847	J	mg/Kg-dry	10	05/17/16 07:45 PM
Benzo[a]anthracene	0.448	0.0565	0.113	0.0847		mg/Kg-dry	10	05/17/16 07:45 PM
Benzo[a]pyrene	0.484	0.0565	0.113	0.0847		mg/Kg-dry	10	05/17/16 07:45 PM
Benzo[b]fluoranthene	0.470	0.0565	0.113	0.0847		mg/Kg-dry	10	05/17/16 07:45 PM
Benzo[e]pyrene	0.371	0.0565	0.113	0.0847		mg/Kg-dry	10	05/17/16 07:45 PM
Benzo[g,h,i]perylene	0.330	0.0565	0.113	0.0847		mg/Kg-dry	10	05/17/16 07:45 PM
Benzo[j]fluoranthene	0.260	0.0565	0.113	0.0847	N	mg/Kg-dry	10	05/17/16 07:45 PM
Benzo[k]fluoranthene	0.246	0.0565	0.113	0.0847		mg/Kg-dry	10	05/17/16 07:45 PM
Chrysene	0.540	0.0565	0.113	0.0847		mg/Kg-dry	10	05/17/16 07:45 PM
Dibenz[a,h]anthracene	0.0836	0.0565	0.113	0.0847	J	mg/Kg-dry	10	05/17/16 07:45 PM
Fluoranthene	0.822	0.0565	0.113	0.0847		mg/Kg-dry	10	05/17/16 07:45 PM
Fluorene	0.0847	0.0565	0.113	0.0847	U	mg/Kg-dry	10	05/17/16 07:45 PM
Indeno[1,2,3-cd]pyrene	0.274	0.0565	0.113	0.0847		mg/Kg-dry	10	05/17/16 07:45 PM
Phenanthrene	0.379	0.0565	0.113	0.0847		mg/Kg-dry	10	05/17/16 07:45 PM
Pyrene	0.694	0.0565	0.113	0.0847		mg/Kg-dry	10	05/17/16 07:45 PM
IS: Acenaphthene-d10	74.2	0	50-200	0		%REC	10	05/17/16 07:45 PM
IS: Chrysene-d12	69.8	0	50-200	0		%REC	10	05/17/16 07:45 PM
IS: Naphthalene-d8	110	0	50-200	0		%REC	10	05/17/16 07:45 PM
IS: Perylene-d12	72.3	0	50-200	0		%REC	10	05/17/16 07:45 PM
IS: Phenanthrene-d10	73.2	0	50-200	0		%REC	10	05/17/16 07:45 PM
Surr: 2-Fluorobiphenyl	76.6	0	46-115	0		%REC	10	05/17/16 07:45 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU132-STRAT3
Project:	Laredo SGR	**Lab ID:**	1605096-33
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:10 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	65.1	0	58-133	0		%REC	10	05/17/16 07:45 PM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	17.9	0	0	0		WT%	1	05/12/16 09:55 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU132-STRAT4
Project:	Laredo SGR	**Lab ID:**	1605096-34
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:15 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	27.7	0.105	0.316	0.158		mg/Kg-dry	5	05/25/16 03:48 PM
IS: Bismuth	95.0	0	30-120	0		%REC	5	05/25/16 03:48 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0804	0.0536	0.107	0.0804	U	mg/Kg-dry	10	05/17/16 08:25 PM
Acenaphthylene	0.0804	0.0536	0.107	0.0804	U	mg/Kg-dry	10	05/17/16 08:25 PM
Anthracene	0.136	0.0536	0.107	0.0804		mg/Kg-dry	10	05/17/16 08:25 PM
Benzo[a]anthracene	1.06	0.0536	0.107	0.0804		mg/Kg-dry	10	05/17/16 08:25 PM
Benzo[a]pyrene	1.28	0.0536	0.107	0.0804		mg/Kg-dry	10	05/17/16 08:25 PM
Benzo[b]fluoranthene	1.25	0.0536	0.107	0.0804		mg/Kg-dry	10	05/17/16 08:25 PM
Benzo[e]pyrene	1.02	0.0536	0.107	0.0804		mg/Kg-dry	10	05/17/16 08:25 PM
Benzo[g,h,i]perylene	0.971	0.0536	0.107	0.0804		mg/Kg-dry	10	05/17/16 08:25 PM
Benzo[j]fluoranthene	0.656	0.0536	0.107	0.0804	N	mg/Kg-dry	10	05/17/16 08:25 PM
Benzo[k]fluoranthene	0.621	0.0536	0.107	0.0804		mg/Kg-dry	10	05/17/16 08:25 PM
Chrysene	1.28	0.0536	0.107	0.0804		mg/Kg-dry	10	05/17/16 08:25 PM
Dibenz[a,h]anthracene	0.213	0.0536	0.107	0.0804		mg/Kg-dry	10	05/17/16 08:25 PM
Fluoranthene	1.82	0.0536	0.107	0.0804		mg/Kg-dry	10	05/17/16 08:25 PM
Fluorene	0.0804	0.0536	0.107	0.0804	U	mg/Kg-dry	10	05/17/16 08:25 PM
Indeno[1,2,3-cd]pyrene	0.776	0.0536	0.107	0.0804		mg/Kg-dry	10	05/17/16 08:25 PM
Phenanthrene	0.720	0.0536	0.107	0.0804		mg/Kg-dry	10	05/17/16 08:25 PM
Pyrene	1.55	0.0536	0.107	0.0804		mg/Kg-dry	10	05/17/16 08:25 PM
IS: Acenaphthene-d10	73.7	0	50-200	0		%REC	10	05/17/16 08:25 PM
IS: Chrysene-d12	68.9	0	50-200	0		%REC	10	05/17/16 08:25 PM
IS: Naphthalene-d8	108	0	50-200	0		%REC	10	05/17/16 08:25 PM
IS: Perylene-d12	71.8	0	50-200	0		%REC	10	05/17/16 08:25 PM
IS: Phenanthrene-d10	72.8	0	50-200	0		%REC	10	05/17/16 08:25 PM
Surr: 2-Fluorobiphenyl	85.5	0	46-115	0		%REC	10	05/17/16 08:25 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU132-STRAT4
Project:	Laredo SGR	**Lab ID:**	1605096-34
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:15 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	74.5	0	58-133	0		%REC	10	05/17/16 08:25 PM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	11.3	0	0	0		WT%	1	05/12/16 09:55 AM

Qualifiers:				
	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	DUP03(20160507)
Project:	Laredo SGR	**Lab ID:**	1605096-35
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:30 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	20.3	0.111	0.334	0.167		mg/Kg-dry	5	05/25/16 03:54 PM
IS: Bismuth	91.2	0	30-120	0		%REC	5	05/25/16 03:54 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0991	0.0661	0.132	0.0991	U	mg/Kg-dry	10	05/17/16 09:04 PM
Acenaphthylene	0.0991	0.0661	0.132	0.0991	U	mg/Kg-dry	10	05/17/16 09:04 PM
Anthracene	0.179	0.0661	0.132	0.0991		mg/Kg-dry	10	05/17/16 09:04 PM
Benzo[a]anthracene	1.23	0.0661	0.132	0.0991		mg/Kg-dry	10	05/17/16 09:04 PM
Benzo[a]pyrene	1.31	0.0661	0.132	0.0991		mg/Kg-dry	10	05/17/16 09:04 PM
Benzo[b]fluoranthene	1.28	0.0661	0.132	0.0991		mg/Kg-dry	10	05/17/16 09:04 PM
Benzo[e]pyrene	1.01	0.0661	0.132	0.0991		mg/Kg-dry	10	05/17/16 09:04 PM
Benzo[g,h,i]perylene	0.884	0.0661	0.132	0.0991		mg/Kg-dry	10	05/17/16 09:04 PM
Benzo[j]fluoranthene	0.664	0.0661	0.132	0.0991	N	mg/Kg-dry	10	05/17/16 09:04 PM
Benzo[k]fluoranthene	0.664	0.0661	0.132	0.0991		mg/Kg-dry	10	05/17/16 09:04 PM
Chrysene	1.46	0.0661	0.132	0.0991		mg/Kg-dry	10	05/17/16 09:04 PM
Dibenz[a,h]anthracene	0.204	0.0661	0.132	0.0991		mg/Kg-dry	10	05/17/16 09:04 PM
Fluoranthene	2.26	0.0661	0.132	0.0991		mg/Kg-dry	10	05/17/16 09:04 PM
Fluorene	0.0991	0.0661	0.132	0.0991	U	mg/Kg-dry	10	05/17/16 09:04 PM
Indeno[1,2,3-cd]pyrene	0.720	0.0661	0.132	0.0991		mg/Kg-dry	10	05/17/16 09:04 PM
Phenanthrene	0.937	0.0661	0.132	0.0991		mg/Kg-dry	10	05/17/16 09:04 PM
Pyrene	1.89	0.0661	0.132	0.0991		mg/Kg-dry	10	05/17/16 09:04 PM
IS: Acenaphthene-d10	74.6	0	50-200	0		%REC	10	05/17/16 09:04 PM
IS: Chrysene-d12	70.4	0	50-200	0		%REC	10	05/17/16 09:04 PM
IS: Naphthalene-d8	109	0	50-200	0		%REC	10	05/17/16 09:04 PM
IS: Perylene-d12	72.9	0	50-200	0		%REC	10	05/17/16 09:04 PM
IS: Phenanthrene-d10	73.7	0	50-200	0		%REC	10	05/17/16 09:04 PM
Surr: 2-Fluorobiphenyl	76.4	0	46-115	0		%REC	10	05/17/16 09:04 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	DUP03(20160507)
Project:	Laredo SGR	**Lab ID:**	1605096-35
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:30 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	65.3	0	58-133	0		%REC	10	05/17/16 09:04 PM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	25.2	0	0	0		WT%	1	05/12/16 09:55 AM

Qualifiers:				
	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	EB09(20160507)
Project:	Laredo SGR	**Lab ID:**	1605096-36
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 11:30 AM
Lab Order:	1605096	**Matrix:**	EQUIP BLANK

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER			**SW6020A**					Analyst: **RO**
Lead	0.000900	0.000300	0.00100	0.000900	U	mg/L	1	05/20/16 01:50 PM
IS: Bismuth	95.8	0	30-120	0		%REC	1	05/20/16 01:50 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0000606	0.0000379	0.0000758	0.0000606	U	mg/L	1	05/18/16 05:07 PM
Acenaphthylene	0.0000606	0.0000379	0.0000758	0.0000606	U	mg/L	1	05/18/16 05:07 PM
Anthracene	0.0000606	0.0000379	0.0000758	0.0000606	U	mg/L	1	05/18/16 05:07 PM
Benzo[a]anthracene	0.0000606	0.0000379	0.0000758	0.0000606	U	mg/L	1	05/18/16 05:07 PM
Benzo[a]pyrene	0.0000606	0.0000379	0.0000758	0.0000606	U	mg/L	1	05/18/16 05:07 PM
Benzo[b]fluoranthene	0.0000606	0.0000379	0.0000758	0.0000606	U	mg/L	1	05/18/16 05:07 PM
Benzo[e]pyrene	0.0000606	0.0000379	0.0000758	0.0000606	U	mg/L	1	05/18/16 05:07 PM
Benzo[g,h,i]perylene	0.0000606	0.0000379	0.0000758	0.0000606	U	mg/L	1	05/18/16 05:07 PM
Benzo[j]fluoranthene	0.0000606	0.0000379	0.0000758	0.0000606	NU	mg/L	1	05/18/16 05:07 PM
Benzo[k]fluoranthene	0.0000606	0.0000379	0.0000758	0.0000606	U	mg/L	1	05/18/16 05:07 PM
Chrysene	0.0000606	0.0000379	0.0000758	0.0000606	U	mg/L	1	05/18/16 05:07 PM
Dibenz[a,h]anthracene	0.0000606	0.0000379	0.0000758	0.0000606	U	mg/L	1	05/18/16 05:07 PM
Fluoranthene	0.0000606	0.0000379	0.0000758	0.0000606	U	mg/L	1	05/18/16 05:07 PM
Fluorene	0.0000606	0.0000379	0.0000758	0.0000606	U	mg/L	1	05/18/16 05:07 PM
Indeno[1,2,3-cd]pyrene	0.0000606	0.0000379	0.0000758	0.0000606	U	mg/L	1	05/18/16 05:07 PM
Phenanthrene	0.0000606	0.0000379	0.0000758	0.0000606	U	mg/L	1	05/18/16 05:07 PM
Pyrene	0.0000606	0.0000379	0.0000758	0.0000606	U	mg/L	1	05/18/16 05:07 PM
IS: Acenaphthene-d10	84.0	0	50-200	0		%REC	1	05/18/16 05:07 PM
IS: Chrysene-d12	89.1	0	50-200	0		%REC	1	05/18/16 05:07 PM
IS: Naphthalene-d8	88.0	0	50-200	0		%REC	1	05/18/16 05:07 PM
IS: Perylene-d12	87.8	0	50-200	0		%REC	1	05/18/16 05:07 PM
IS: Phenanthrene-d10	86.7	0	50-200	0		%REC	1	05/18/16 05:07 PM
Surr: 2-Fluorobiphenyl	63.3	0	53-106	0		%REC	1	05/18/16 05:07 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	EB09(20160507)
Project:	Laredo SGR	**Lab ID:**	1605096-36
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 11:30 AM
Lab Order:	1605096	**Matrix:**	EQUIP BLANK

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	69.8	0	58-132	0		%REC	1	05/18/16 05:07 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	EB10(20160507)
Project:	Laredo SGR	**Lab ID:**	1605096-37
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:40 PM
Lab Order:	1605096	**Matrix:**	EQUIP BLANK

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER			**SW6020A**					Analyst: **RO**
Lead	0.000900	0.000300	0.00100	0.000900	U	mg/L	1	05/20/16 02:08 PM
IS: Bismuth	96.6	0	30-120	0		%REC	1	05/20/16 02:08 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0000628	0.0000393	0.0000785	0.0000628	U	mg/L	1	05/18/16 05:44 PM
Acenaphthylene	0.0000628	0.0000393	0.0000785	0.0000628	U	mg/L	1	05/18/16 05:44 PM
Anthracene	0.0000628	0.0000393	0.0000785	0.0000628	U	mg/L	1	05/18/16 05:44 PM
Benzo[a]anthracene	0.0000628	0.0000393	0.0000785	0.0000628	U	mg/L	1	05/18/16 05:44 PM
Benzo[a]pyrene	0.0000628	0.0000393	0.0000785	0.0000628	U	mg/L	1	05/18/16 05:44 PM
Benzo[b]fluoranthene	0.0000628	0.0000393	0.0000785	0.0000628	U	mg/L	1	05/18/16 05:44 PM
Benzo[e]pyrene	0.0000628	0.0000393	0.0000785	0.0000628	U	mg/L	1	05/18/16 05:44 PM
Benzo[g,h,i]perylene	0.0000628	0.0000393	0.0000785	0.0000628	U	mg/L	1	05/18/16 05:44 PM
Benzo[j]fluoranthene	0.0000628	0.0000393	0.0000785	0.0000628	NU	mg/L	1	05/18/16 05:44 PM
Benzo[k]fluoranthene	0.0000628	0.0000393	0.0000785	0.0000628	U	mg/L	1	05/18/16 05:44 PM
Chrysene	0.0000628	0.0000393	0.0000785	0.0000628	U	mg/L	1	05/18/16 05:44 PM
Dibenz[a,h]anthracene	0.0000628	0.0000393	0.0000785	0.0000628	U	mg/L	1	05/18/16 05:44 PM
Fluoranthene	0.0000628	0.0000393	0.0000785	0.0000628	U	mg/L	1	05/18/16 05:44 PM
Fluorene	0.0000628	0.0000393	0.0000785	0.0000628	U	mg/L	1	05/18/16 05:44 PM
Indeno[1,2,3-cd]pyrene	0.0000628	0.0000393	0.0000785	0.0000628	U	mg/L	1	05/18/16 05:44 PM
Phenanthrene	0.0000628	0.0000393	0.0000785	0.0000628	U	mg/L	1	05/18/16 05:44 PM
Pyrene	0.0000628	0.0000393	0.0000785	0.0000628	U	mg/L	1	05/18/16 05:44 PM
IS: Acenaphthene-d10	91.5	0	50-200	0		%REC	1	05/18/16 05:44 PM
IS: Chrysene-d12	89.9	0	50-200	0		%REC	1	05/18/16 05:44 PM
IS: Naphthalene-d8	91.2	0	50-200	0		%REC	1	05/18/16 05:44 PM
IS: Perylene-d12	89.3	0	50-200	0		%REC	1	05/18/16 05:44 PM
IS: Phenanthrene-d10	87.5	0	50-200	0		%REC	1	05/18/16 05:44 PM
Surr: 2-Fluorobiphenyl	64.2	0	53-106	0		%REC	1	05/18/16 05:44 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	EB10(20160507)
Project:	Laredo SGR	**Lab ID:**	1605096-37
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:40 PM
Lab Order:	1605096	**Matrix:**	EQUIP BLANK

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	62.3	0	58-132	0		%REC	1	05/18/16 05:44 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04-A
Project:	Laredo SGR	**Lab ID:**	1605096-38
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 03:35 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	59.1	0.0980	0.294	0.147		mg/Kg-dry	5	05/25/16 04:00 PM
IS: Bismuth	96.9	0	30-120	0		%REC	5	05/25/16 04:00 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.118	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/18/16 12:20 AM
Acenaphthylene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/18/16 12:20 AM
Anthracene	0.285	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/18/16 12:20 AM
Benzo[a]anthracene	2.93	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/18/16 12:20 AM
Benzo[a]pyrene	4.01	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/18/16 12:20 AM
Benzo[b]fluoranthene	3.65	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/18/16 12:20 AM
Benzo[e]pyrene	3.06	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/18/16 12:20 AM
Benzo[g,h,i]perylene	3.15	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/18/16 12:20 AM
Benzo[j]fluoranthene	2.00	0.0498	0.0996	0.0747	N	mg/Kg-dry	10	05/18/16 12:20 AM
Benzo[k]fluoranthene	1.92	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/18/16 12:20 AM
Chrysene	3.61	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/18/16 12:20 AM
Dibenz[a,h]anthracene	0.679	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/18/16 12:20 AM
Fluoranthene	4.50	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/18/16 12:20 AM
Fluorene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/18/16 12:20 AM
Indeno[1,2,3-cd]pyrene	2.53	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/18/16 12:20 AM
Phenanthrene	1.52	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/18/16 12:20 AM
Pyrene	3.98	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/18/16 12:20 AM
IS: Acenaphthene-d10	70.4	0	50-200	0		%REC	10	05/18/16 12:20 AM
IS: Chrysene-d12	68.4	0	50-200	0		%REC	10	05/18/16 12:20 AM
IS: Naphthalene-d8	111	0	50-200	0		%REC	10	05/18/16 12:20 AM
IS: Perylene-d12	70.9	0	50-200	0		%REC	10	05/18/16 12:20 AM
IS: Phenanthrene-d10	71.0	0	50-200	0		%REC	10	05/18/16 12:20 AM
Surr: 2-Fluorobiphenyl	83.5	0	46-115	0		%REC	10	05/18/16 12:20 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04-A
Project:	Laredo SGR	**Lab ID:**	1605096-38
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 03:35 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	71.5	0	58-133	0		%REC	10	05/18/16 12:20 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04-B
Project:	Laredo SGR	**Lab ID:**	1605096-39
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 03:50 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	61.3	0.0935	0.280	0.140		mg/Kg-dry	5	05/25/16 04:06 PM
IS: Bismuth	95.7	0	30-120	0		%REC	5	05/25/16 04:06 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.125	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/18/16 01:00 AM
Acenaphthylene	0.0736	0.0491	0.0981	0.0736	U	mg/Kg-dry	10	05/18/16 01:00 AM
Anthracene	0.359	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/18/16 01:00 AM
Benzo[a]anthracene	3.39	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/18/16 01:00 AM
Benzo[a]pyrene	4.57	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/18/16 01:00 AM
Benzo[b]fluoranthene	4.23	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/18/16 01:00 AM
Benzo[e]pyrene	3.53	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/18/16 01:00 AM
Benzo[g,h,i]perylene	3.62	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/18/16 01:00 AM
Benzo[j]fluoranthene	2.30	0.0491	0.0981	0.0736	N	mg/Kg-dry	10	05/18/16 01:00 AM
Benzo[k]fluoranthene	2.22	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/18/16 01:00 AM
Chrysene	4.08	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/18/16 01:00 AM
Dibenz[a,h]anthracene	0.792	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/18/16 01:00 AM
Fluoranthene	5.41	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/18/16 01:00 AM
Fluorene	0.0736	0.0491	0.0981	0.0736	U	mg/Kg-dry	10	05/18/16 01:00 AM
Indeno[1,2,3-cd]pyrene	2.93	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/18/16 01:00 AM
Phenanthrene	1.93	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/18/16 01:00 AM
Pyrene	4.66	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/18/16 01:00 AM
IS: Acenaphthene-d10	70.9	0	50-200	0		%REC	10	05/18/16 01:00 AM
IS: Chrysene-d12	67.8	0	50-200	0		%REC	10	05/18/16 01:00 AM
IS: Naphthalene-d8	108	0	50-200	0		%REC	10	05/18/16 01:00 AM
IS: Perylene-d12	69.3	0	50-200	0		%REC	10	05/18/16 01:00 AM
IS: Phenanthrene-d10	70.8	0	50-200	0		%REC	10	05/18/16 01:00 AM
Surr: 2-Fluorobiphenyl	82.8	0	46-115	0		%REC	10	05/18/16 01:00 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04-B
Project:	Laredo SGR	**Lab ID:**	1605096-39
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 03:50 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	72.7	0	58-133	0		%REC	10	05/18/16 01:00 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04-C
Project:	Laredo SGR	**Lab ID:**	1605096-40
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:10 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	62.6	0.0893	0.268	0.134		mg/Kg-dry	5	05/25/16 04:12 PM
IS: Bismuth	97.0	0	30-120	0		%REC	5	05/25/16 04:12 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.113	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/18/16 01:40 AM
Acenaphthylene	0.0748	0.0499	0.0997	0.0748	U	mg/Kg-dry	10	05/18/16 01:40 AM
Anthracene	0.360	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/18/16 01:40 AM
Benzo[a]anthracene	3.08	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/18/16 01:40 AM
Benzo[a]pyrene	4.14	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/18/16 01:40 AM
Benzo[b]fluoranthene	3.87	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/18/16 01:40 AM
Benzo[e]pyrene	3.20	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/18/16 01:40 AM
Benzo[g,h,i]perylene	3.23	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/18/16 01:40 AM
Benzo[j]fluoranthene	2.09	0.0499	0.0997	0.0748	N	mg/Kg-dry	10	05/18/16 01:40 AM
Benzo[k]fluoranthene	1.98	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/18/16 01:40 AM
Chrysene	3.71	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/18/16 01:40 AM
Dibenz[a,h]anthracene	0.714	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/18/16 01:40 AM
Fluoranthene	4.80	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/18/16 01:40 AM
Fluorene	0.0512	0.0499	0.0997	0.0748	J	mg/Kg-dry	10	05/18/16 01:40 AM
Indeno[1,2,3-cd]pyrene	2.62	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/18/16 01:40 AM
Phenanthrene	1.79	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/18/16 01:40 AM
Pyrene	4.16	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/18/16 01:40 AM
IS: Acenaphthene-d10	70.7	0	50-200	0		%REC	10	05/18/16 01:40 AM
IS: Chrysene-d12	68.1	0	50-200	0		%REC	10	05/18/16 01:40 AM
IS: Naphthalene-d8	107	0	50-200	0		%REC	10	05/18/16 01:40 AM
IS: Perylene-d12	69.3	0	50-200	0		%REC	10	05/18/16 01:40 AM
IS: Phenanthrene-d10	71.9	0	50-200	0		%REC	10	05/18/16 01:40 AM
Surr: 2-Fluorobiphenyl	79.6	0	46-115	0		%REC	10	05/18/16 01:40 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04-C
Project:	Laredo SGR	**Lab ID:**	1605096-40
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:10 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	69.6	0	58-133	0		%REC	10	05/18/16 01:40 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03-A
Project:	Laredo SGR	**Lab ID:**	1605096-41
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:15 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	32.5	0.0901	0.270	0.135		mg/Kg-dry	5	05/19/16 09:10 PM
IS: Bismuth	79.1	0	30-120	0		%REC	5	05/19/16 09:10 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0774	0.0495	0.0990	0.0743	J	mg/Kg-dry	10	05/18/16 02:20 AM
Acenaphthylene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/18/16 02:20 AM
Anthracene	0.206	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/18/16 02:20 AM
Benzo[a]anthracene	2.19	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/18/16 02:20 AM
Benzo[a]pyrene	3.04	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/18/16 02:20 AM
Benzo[b]fluoranthene	2.85	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/18/16 02:20 AM
Benzo[e]pyrene	2.38	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/18/16 02:20 AM
Benzo[g,h,i]perylene	2.45	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/18/16 02:20 AM
Benzo[j]fluoranthene	1.54	0.0495	0.0990	0.0743	N	mg/Kg-dry	10	05/18/16 02:20 AM
Benzo[k]fluoranthene	1.51	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/18/16 02:20 AM
Chrysene	2.69	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/18/16 02:20 AM
Dibenz[a,h]anthracene	0.524	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/18/16 02:20 AM
Fluoranthene	3.40	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/18/16 02:20 AM
Fluorene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/18/16 02:20 AM
Indeno[1,2,3-cd]pyrene	1.95	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/18/16 02:20 AM
Phenanthrene	1.13	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/18/16 02:20 AM
Pyrene	2.97	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/18/16 02:20 AM
IS: Acenaphthene-d10	70.7	0	50-200	0		%REC	10	05/18/16 02:20 AM
IS: Chrysene-d12	66.7	0	50-200	0		%REC	10	05/18/16 02:20 AM
IS: Naphthalene-d8	104	0	50-200	0		%REC	10	05/18/16 02:20 AM
IS: Perylene-d12	67.4	0	50-200	0		%REC	10	05/18/16 02:20 AM
IS: Phenanthrene-d10	70.8	0	50-200	0		%REC	10	05/18/16 02:20 AM
Surr: 2-Fluorobiphenyl	81.4	0	46-115	0		%REC	10	05/18/16 02:20 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03-A
Project:	Laredo SGR	**Lab ID:**	1605096-41
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:15 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	72.2	0	58-133	0		%REC	10	05/18/16 02:20 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03-B
Project:	Laredo SGR	**Lab ID:**	1605096-42
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:45 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	26.5	0.0862	0.259	0.129		mg/Kg-dry	5	05/19/16 08:58 PM
IS: Bismuth	78.8	0	30-120	0		%REC	5	05/19/16 08:58 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0537	0.0481	0.0962	0.0721	J	mg/Kg-dry	10	05/18/16 02:59 AM
Acenaphthylene	0.0721	0.0481	0.0962	0.0721	U	mg/Kg-dry	10	05/18/16 02:59 AM
Anthracene	0.145	0.0481	0.0962	0.0721		mg/Kg-dry	10	05/18/16 02:59 AM
Benzo[a]anthracene	1.52	0.0481	0.0962	0.0721		mg/Kg-dry	10	05/18/16 02:59 AM
Benzo[a]pyrene	2.09	0.0481	0.0962	0.0721		mg/Kg-dry	10	05/18/16 02:59 AM
Benzo[b]fluoranthene	1.98	0.0481	0.0962	0.0721		mg/Kg-dry	10	05/18/16 02:59 AM
Benzo[e]pyrene	1.64	0.0481	0.0962	0.0721		mg/Kg-dry	10	05/18/16 02:59 AM
Benzo[g,h,i]perylene	1.68	0.0481	0.0962	0.0721		mg/Kg-dry	10	05/18/16 02:59 AM
Benzo[j]fluoranthene	1.06	0.0481	0.0962	0.0721	N	mg/Kg-dry	10	05/18/16 02:59 AM
Benzo[k]fluoranthene	1.03	0.0481	0.0962	0.0721		mg/Kg-dry	10	05/18/16 02:59 AM
Chrysene	1.88	0.0481	0.0962	0.0721		mg/Kg-dry	10	05/18/16 02:59 AM
Dibenz[a,h]anthracene	0.367	0.0481	0.0962	0.0721		mg/Kg-dry	10	05/18/16 02:59 AM
Fluoranthene	2.34	0.0481	0.0962	0.0721		mg/Kg-dry	10	05/18/16 02:59 AM
Fluorene	0.0721	0.0481	0.0962	0.0721	U	mg/Kg-dry	10	05/18/16 02:59 AM
Indeno[1,2,3-cd]pyrene	1.35	0.0481	0.0962	0.0721		mg/Kg-dry	10	05/18/16 02:59 AM
Phenanthrene	0.788	0.0481	0.0962	0.0721		mg/Kg-dry	10	05/18/16 02:59 AM
Pyrene	2.06	0.0481	0.0962	0.0721		mg/Kg-dry	10	05/18/16 02:59 AM
IS: Acenaphthene-d10	74.3	0	50-200	0		%REC	10	05/18/16 02:59 AM
IS: Chrysene-d12	69.7	0	50-200	0		%REC	10	05/18/16 02:59 AM
IS: Naphthalene-d8	111	0	50-200	0		%REC	10	05/18/16 02:59 AM
IS: Perylene-d12	70.1	0	50-200	0		%REC	10	05/18/16 02:59 AM
IS: Phenanthrene-d10	74.5	0	50-200	0		%REC	10	05/18/16 02:59 AM
Surr: 2-Fluorobiphenyl	79.6	0	46-115	0		%REC	10	05/18/16 02:59 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03-B
Project:	Laredo SGR	**Lab ID:**	1605096-42
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:45 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	70.4	0	58-133	0		%REC	10	05/18/16 02:59 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03-C
Project:	Laredo SGR	**Lab ID:**	1605096-43
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:05 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	37.6	0.0990	0.297	0.149		mg/Kg-dry	5	05/19/16 09:16 PM
IS: Bismuth	80.0	0	30-120	0		%REC	5	05/19/16 09:16 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0675	0.0497	0.0994	0.0746	J	mg/Kg-dry	10	05/18/16 03:39 AM
Acenaphthylene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/18/16 03:39 AM
Anthracene	0.182	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/18/16 03:39 AM
Benzo[a]anthracene	1.98	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/18/16 03:39 AM
Benzo[a]pyrene	2.69	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/18/16 03:39 AM
Benzo[b]fluoranthene	2.58	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/18/16 03:39 AM
Benzo[e]pyrene	2.14	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/18/16 03:39 AM
Benzo[g,h,i]perylene	2.21	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/18/16 03:39 AM
Benzo[j]fluoranthene	1.38	0.0497	0.0994	0.0746	N	mg/Kg-dry	10	05/18/16 03:39 AM
Benzo[k]fluoranthene	1.35	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/18/16 03:39 AM
Chrysene	2.43	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/18/16 03:39 AM
Dibenz[a,h]anthracene	0.475	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/18/16 03:39 AM
Fluoranthene	3.08	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/18/16 03:39 AM
Fluorene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/18/16 03:39 AM
Indeno[1,2,3-cd]pyrene	1.75	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/18/16 03:39 AM
Phenanthrene	1.03	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/18/16 03:39 AM
Pyrene	2.72	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/18/16 03:39 AM
IS: Acenaphthene-d10	74.6	0	50-200	0		%REC	10	05/18/16 03:39 AM
IS: Chrysene-d12	70.5	0	50-200	0		%REC	10	05/18/16 03:39 AM
IS: Naphthalene-d8	112	0	50-200	0		%REC	10	05/18/16 03:39 AM
IS: Perylene-d12	71.4	0	50-200	0		%REC	10	05/18/16 03:39 AM
IS: Phenanthrene-d10	74.8	0	50-200	0		%REC	10	05/18/16 03:39 AM
Surr: 2-Fluorobiphenyl	80.1	0	46-115	0		%REC	10	05/18/16 03:39 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-03-C
Project:	Laredo SGR	**Lab ID:**	1605096-43
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:05 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	71.3	0	58-133	0		%REC	10	05/18/16 03:39 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	EB14(20160508)
Project:	Laredo SGR	**Lab ID:**	1605096-44
Project No:	04285081.0000.00044	**Collection Date:**	05/08/16 03:00 PM
Lab Order:	1605096	**Matrix:**	EQUIP BLANK

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER			**SW6020A**					Analyst: **RO**
Lead	0.000900	0.000300	0.00100	0.000900	U	mg/L	1	05/20/16 02:10 PM
IS: Bismuth	98.4	0	30-120	0		%REC	1	05/20/16 02:10 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0000627	0.0000392	0.0000783	0.0000627	U	mg/L	1	05/18/16 06:21 PM
Acenaphthylene	0.0000627	0.0000392	0.0000783	0.0000627	U	mg/L	1	05/18/16 06:21 PM
Anthracene	0.0000627	0.0000392	0.0000783	0.0000627	U	mg/L	1	05/18/16 06:21 PM
Benzo[a]anthracene	0.0000662	0.0000392	0.0000783	0.0000627	J	mg/L	1	05/18/16 06:21 PM
Benzo[a]pyrene	0.0000880	0.0000392	0.0000783	0.0000627		mg/L	1	05/18/16 06:21 PM
Benzo[b]fluoranthene	0.0000973	0.0000392	0.0000783	0.0000627		mg/L	1	05/18/16 06:21 PM
Benzo[e]pyrene	0.0000713	0.0000392	0.0000783	0.0000627	J	mg/L	1	05/18/16 06:21 PM
Benzo[g,h,i]perylene	0.0000632	0.0000392	0.0000783	0.0000627	J	mg/L	1	05/18/16 06:21 PM
Benzo[j]fluoranthene	0.0000433	0.0000392	0.0000783	0.0000627	JN	mg/L	1	05/18/16 06:21 PM
Benzo[k]fluoranthene	0.0000495	0.0000392	0.0000783	0.0000627	J	mg/L	1	05/18/16 06:21 PM
Chrysene	0.0000896	0.0000392	0.0000783	0.0000627		mg/L	1	05/18/16 06:21 PM
Dibenz[a,h]anthracene	0.0000627	0.0000392	0.0000783	0.0000627	U	mg/L	1	05/18/16 06:21 PM
Fluoranthene	0.0000490	0.0000392	0.0000783	0.0000627	J	mg/L	1	05/18/16 06:21 PM
Fluorene	0.0000627	0.0000392	0.0000783	0.0000627	U	mg/L	1	05/18/16 06:21 PM
Indeno[1,2,3-cd]pyrene	0.0000558	0.0000392	0.0000783	0.0000627	J	mg/L	1	05/18/16 06:21 PM
Phenanthrene	0.0000627	0.0000392	0.0000783	0.0000627	U	mg/L	1	05/18/16 06:21 PM
Pyrene	0.0000479	0.0000392	0.0000783	0.0000627	J	mg/L	1	05/18/16 06:21 PM
IS: Acenaphthene-d10	91.0	0	50-200	0		%REC	1	05/18/16 06:21 PM
IS: Chrysene-d12	88.6	0	50-200	0		%REC	1	05/18/16 06:21 PM
IS: Naphthalene-d8	89.4	0	50-200	0		%REC	1	05/18/16 06:21 PM
IS: Perylene-d12	88.4	0	50-200	0		%REC	1	05/18/16 06:21 PM
IS: Phenanthrene-d10	86.8	0	50-200	0		%REC	1	05/18/16 06:21 PM
Surr: 2-Fluorobiphenyl	68.1	0	53-106	0		%REC	1	05/18/16 06:21 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	EB14(20160508)
Project:	Laredo SGR	**Lab ID:**	1605096-44
Project No:	04285081.0000.00044	**Collection Date:**	05/08/16 03:00 PM
Lab Order:	1605096	**Matrix:**	EQUIP BLANK

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	66.9	0	58-132	0		%REC	1	05/18/16 06:21 PM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(0-2)-A
Project:	Laredo SGR	**Lab ID:**	1605096-45
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:48 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	103	0.0971	0.291	0.146		mg/Kg-dry	5	05/19/16 09:22 PM
IS: Bismuth	78.9	0	30-120	0		%REC	5	05/19/16 09:22 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.862	0.244	0.489	0.367		mg/Kg-dry	50	05/18/16 04:18 AM
Acenaphthylene	0.367	0.244	0.489	0.367	U	mg/Kg-dry	50	05/18/16 04:18 AM
Anthracene	3.10	0.244	0.489	0.367		mg/Kg-dry	50	05/18/16 04:18 AM
Benzo[a]anthracene	26.9	0.244	0.489	0.367		mg/Kg-dry	50	05/18/16 04:18 AM
Benzo[a]pyrene	33.7	0.244	0.489	0.367		mg/Kg-dry	50	05/18/16 04:18 AM
Benzo[b]fluoranthene	32.0	0.244	0.489	0.367		mg/Kg-dry	50	05/18/16 04:18 AM
Benzo[e]pyrene	26.1	0.244	0.489	0.367		mg/Kg-dry	50	05/18/16 04:18 AM
Benzo[g,h,i]perylene	24.8	0.244	0.489	0.367		mg/Kg-dry	50	05/18/16 04:18 AM
Benzo[j]fluoranthene	16.8	0.244	0.489	0.367	N	mg/Kg-dry	50	05/18/16 04:18 AM
Benzo[k]fluoranthene	16.2	0.244	0.489	0.367		mg/Kg-dry	50	05/18/16 04:18 AM
Chrysene	32.0	0.244	0.489	0.367		mg/Kg-dry	50	05/18/16 04:18 AM
Dibenz[a,h]anthracene	5.41	0.244	0.489	0.367		mg/Kg-dry	50	05/18/16 04:18 AM
Fluoranthene	42.1	0.244	0.489	0.367		mg/Kg-dry	50	05/18/16 04:18 AM
Fluorene	0.357	0.244	0.489	0.367	J	mg/Kg-dry	50	05/18/16 04:18 AM
Indeno[1,2,3-cd]pyrene	19.9	0.244	0.489	0.367		mg/Kg-dry	50	05/18/16 04:18 AM
Phenanthrene	16.0	0.244	0.489	0.367		mg/Kg-dry	50	05/18/16 04:18 AM
Pyrene	36.4	0.244	0.489	0.367		mg/Kg-dry	50	05/18/16 04:18 AM
IS: Acenaphthene-d10	74.0	0	50-200	0		%REC	50	05/18/16 04:18 AM
IS: Chrysene-d12	69.8	0	50-200	0		%REC	50	05/18/16 04:18 AM
IS: Naphthalene-d8	113	0	50-200	0		%REC	50	05/18/16 04:18 AM
IS: Perylene-d12	71.7	0	50-200	0		%REC	50	05/18/16 04:18 AM
IS: Phenanthrene-d10	73.6	0	50-200	0		%REC	50	05/18/16 04:18 AM
Surr: 2-Fluorobiphenyl	78.1	0	46-115	0		%REC	50	05/18/16 04:18 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(0-2)-A
Project:	Laredo SGR	**Lab ID:**	1605096-45
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:48 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	68.1	0	58-133	0		%REC	50	05/18/16 04:18 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(2-4)-A
Project:	Laredo SGR	**Lab ID:**	1605096-46
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:50 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	97.6	0.0909	0.273	0.136		mg/Kg-dry	5	05/19/16 09:28 PM
IS: Bismuth	77.6	0	30-120	0		%REC	5	05/19/16 09:28 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	3.11	0.248	0.495	0.371		mg/Kg-dry	50	05/18/16 04:58 AM
Acenaphthylene	0.371	0.248	0.495	0.371	U	mg/Kg-dry	50	05/18/16 04:58 AM
Anthracene	9.75	0.248	0.495	0.371		mg/Kg-dry	50	05/18/16 04:58 AM
Benzo[a]anthracene	85.0	0.248	0.495	0.371		mg/Kg-dry	50	05/18/16 04:58 AM
Benzo[a]pyrene	105	0.248	0.495	0.371		mg/Kg-dry	50	05/18/16 04:58 AM
Benzo[b]fluoranthene	98.0	0.248	0.495	0.371		mg/Kg-dry	50	05/18/16 04:58 AM
Benzo[e]pyrene	78.9	0.248	0.495	0.371		mg/Kg-dry	50	05/18/16 04:58 AM
Benzo[g,h,i]perylene	76.1	0.248	0.495	0.371		mg/Kg-dry	50	05/18/16 04:58 AM
Benzo[j]fluoranthene	51.7	0.248	0.495	0.371	N	mg/Kg-dry	50	05/18/16 04:58 AM
Benzo[k]fluoranthene	51.3	0.248	0.495	0.371		mg/Kg-dry	50	05/18/16 04:58 AM
Chrysene	101	0.248	0.495	0.371		mg/Kg-dry	50	05/18/16 04:58 AM
Dibenz[a,h]anthracene	16.8	0.248	0.495	0.371		mg/Kg-dry	50	05/18/16 04:58 AM
Fluoranthene	133	0.248	0.495	0.371		mg/Kg-dry	50	05/18/16 04:58 AM
Fluorene	1.36	0.248	0.495	0.371		mg/Kg-dry	50	05/18/16 04:58 AM
Indeno[1,2,3-cd]pyrene	61.7	0.248	0.495	0.371		mg/Kg-dry	50	05/18/16 04:58 AM
Phenanthrene	48.5	0.248	0.495	0.371		mg/Kg-dry	50	05/18/16 04:58 AM
Pyrene	115	0.248	0.495	0.371		mg/Kg-dry	50	05/18/16 04:58 AM
IS: Acenaphthene-d10	68.1	0	50-200	0		%REC	50	05/18/16 04:58 AM
IS: Chrysene-d12	66.9	0	50-200	0		%REC	50	05/18/16 04:58 AM
IS: Naphthalene-d8	111	0	50-200	0		%REC	50	05/18/16 04:58 AM
IS: Perylene-d12	67.8	0	50-200	0		%REC	50	05/18/16 04:58 AM
IS: Phenanthrene-d10	69.2	0	50-200	0		%REC	50	05/18/16 04:58 AM
Surr: 2-Fluorobiphenyl	107	0	46-115	0		%REC	50	05/18/16 04:58 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(2-4)-A
Project:	Laredo SGR	**Lab ID:**	1605096-46
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:50 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	93.3	0	58-133	0		%REC	50	05/18/16 04:58 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(4-6)-A
Project:	Laredo SGR	**Lab ID:**	1605096-47
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:53 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	8.27	0.0962	0.288	0.144		mg/Kg-dry	5	05/19/16 09:34 PM
IS: Bismuth	78.4	0	30-120	0		%REC	5	05/19/16 09:34 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.266	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:37 AM
Acenaphthylene	0.0723	0.0482	0.0964	0.0723	U	mg/Kg-dry	10	05/18/16 05:37 AM
Anthracene	0.766	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:37 AM
Benzo[a]anthracene	5.62	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:37 AM
Benzo[a]pyrene	7.05	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:37 AM
Benzo[b]fluoranthene	6.39	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:37 AM
Benzo[e]pyrene	5.13	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:37 AM
Benzo[g,h,i]perylene	4.97	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:37 AM
Benzo[j]fluoranthene	3.40	0.0482	0.0964	0.0723	N	mg/Kg-dry	10	05/18/16 05:37 AM
Benzo[k]fluoranthene	3.23	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:37 AM
Chrysene	6.72	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:37 AM
Dibenz[a,h]anthracene	1.08	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:37 AM
Fluoranthene	9.10	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:37 AM
Fluorene	0.170	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:37 AM
Indeno[1,2,3-cd]pyrene	4.03	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:37 AM
Phenanthrene	3.43	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:37 AM
Pyrene	7.79	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:37 AM
IS: Acenaphthene-d10	73.7	0	50-200	0		%REC	10	05/18/16 05:37 AM
IS: Chrysene-d12	70.5	0	50-200	0		%REC	10	05/18/16 05:37 AM
IS: Naphthalene-d8	111	0	50-200	0		%REC	10	05/18/16 05:37 AM
IS: Perylene-d12	73.3	0	50-200	0		%REC	10	05/18/16 05:37 AM
IS: Phenanthrene-d10	72.7	0	50-200	0		%REC	10	05/18/16 05:37 AM
Surr: 2-Fluorobiphenyl	78.8	0	46-115	0		%REC	10	05/18/16 05:37 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(4-6)-A
Project:	Laredo SGR	**Lab ID:**	1605096-47
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:53 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	66.9	0	58-133	0		%REC	10	05/18/16 05:37 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(6-8)-A
Project:	Laredo SGR	**Lab ID:**	1605096-48
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:55 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	6.99	0.0952	0.286	0.143		mg/Kg-dry	5	05/19/16 09:40 PM
IS: Bismuth	82.9	0	30-120	0		%REC	5	05/19/16 09:40 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0718	0.0478	0.0957	0.0718	U	mg/Kg-dry	10	05/18/16 11:11 AM
Acenaphthylene	0.0718	0.0478	0.0957	0.0718	U	mg/Kg-dry	10	05/18/16 11:11 AM
Anthracene	0.0718	0.0478	0.0957	0.0718	U	mg/Kg-dry	10	05/18/16 11:11 AM
Benzo[a]anthracene	0.296	0.0478	0.0957	0.0718		mg/Kg-dry	10	05/18/16 11:11 AM
Benzo[a]pyrene	0.392	0.0478	0.0957	0.0718		mg/Kg-dry	10	05/18/16 11:11 AM
Benzo[b]fluoranthene	0.355	0.0478	0.0957	0.0718		mg/Kg-dry	10	05/18/16 11:11 AM
Benzo[e]pyrene	0.300	0.0478	0.0957	0.0718		mg/Kg-dry	10	05/18/16 11:11 AM
Benzo[g,h,i]perylene	0.292	0.0478	0.0957	0.0718		mg/Kg-dry	10	05/18/16 11:11 AM
Benzo[j]fluoranthene	0.203	0.0478	0.0957	0.0718	N	mg/Kg-dry	10	05/18/16 11:11 AM
Benzo[k]fluoranthene	0.194	0.0478	0.0957	0.0718		mg/Kg-dry	10	05/18/16 11:11 AM
Chrysene	0.362	0.0478	0.0957	0.0718		mg/Kg-dry	10	05/18/16 11:11 AM
Dibenz[a,h]anthracene	0.0735	0.0478	0.0957	0.0718	J	mg/Kg-dry	10	05/18/16 11:11 AM
Fluoranthene	0.448	0.0478	0.0957	0.0718		mg/Kg-dry	10	05/18/16 11:11 AM
Fluorene	0.0718	0.0478	0.0957	0.0718	U	mg/Kg-dry	10	05/18/16 11:11 AM
Indeno[1,2,3-cd]pyrene	0.235	0.0478	0.0957	0.0718		mg/Kg-dry	10	05/18/16 11:11 AM
Phenanthrene	0.135	0.0478	0.0957	0.0718		mg/Kg-dry	10	05/18/16 11:11 AM
Pyrene	0.409	0.0478	0.0957	0.0718		mg/Kg-dry	10	05/18/16 11:11 AM
IS: Acenaphthene-d10	70.4	0	50-200	0		%REC	10	05/18/16 11:11 AM
IS: Chrysene-d12	69.5	0	50-200	0		%REC	10	05/18/16 11:11 AM
IS: Naphthalene-d8	108	0	50-200	0		%REC	10	05/18/16 11:11 AM
IS: Perylene-d12	72.8	0	50-200	0		%REC	10	05/18/16 11:11 AM
IS: Phenanthrene-d10	66.8	0	50-200	0		%REC	10	05/18/16 11:11 AM
Surr: 2-Fluorobiphenyl	85.3	0	46-115	0		%REC	10	05/18/16 11:11 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(6-8)-A
Project:	Laredo SGR	**Lab ID:**	1605096-48
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:55 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	70.8	0	58-133	0		%REC	10	05/18/16 11:11 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(8-10)-A
Project:	Laredo SGR	**Lab ID:**	1605096-49
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:58 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	10.2	0.0870	0.261	0.130		mg/Kg-dry	5	05/19/16 09:46 PM
IS: Bismuth	73.5	0	30-120	0		%REC	5	05/19/16 09:46 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0730	0.0486	0.0973	0.0730	U	mg/Kg-dry	10	05/18/16 11:50 AM
Acenaphthylene	0.0730	0.0486	0.0973	0.0730	U	mg/Kg-dry	10	05/18/16 11:50 AM
Anthracene	0.0730	0.0486	0.0973	0.0730	U	mg/Kg-dry	10	05/18/16 11:50 AM
Benzo[a]anthracene	0.254	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/18/16 11:50 AM
Benzo[a]pyrene	0.332	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/18/16 11:50 AM
Benzo[b]fluoranthene	0.301	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/18/16 11:50 AM
Benzo[e]pyrene	0.255	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/18/16 11:50 AM
Benzo[g,h,i]perylene	0.246	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/18/16 11:50 AM
Benzo[j]fluoranthene	0.171	0.0486	0.0973	0.0730	N	mg/Kg-dry	10	05/18/16 11:50 AM
Benzo[k]fluoranthene	0.162	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/18/16 11:50 AM
Chrysene	0.307	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/18/16 11:50 AM
Dibenz[a,h]anthracene	0.0636	0.0486	0.0973	0.0730	J	mg/Kg-dry	10	05/18/16 11:50 AM
Fluoranthene	0.387	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/18/16 11:50 AM
Fluorene	0.0730	0.0486	0.0973	0.0730	U	mg/Kg-dry	10	05/18/16 11:50 AM
Indeno[1,2,3-cd]pyrene	0.202	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/18/16 11:50 AM
Phenanthrene	0.121	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/18/16 11:50 AM
Pyrene	0.345	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/18/16 11:50 AM
IS: Acenaphthene-d10	73.1	0	50-200	0		%REC	10	05/18/16 11:50 AM
IS: Chrysene-d12	70.9	0	50-200	0		%REC	10	05/18/16 11:50 AM
IS: Naphthalene-d8	108	0	50-200	0		%REC	10	05/18/16 11:50 AM
IS: Perylene-d12	73.9	0	50-200	0		%REC	10	05/18/16 11:50 AM
IS: Phenanthrene-d10	70.1	0	50-200	0		%REC	10	05/18/16 11:50 AM
Surr: 2-Fluorobiphenyl	85.1	0	46-115	0		%REC	10	05/18/16 11:50 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(8-10)-A
Project:	Laredo SGR	**Lab ID:**	1605096-49
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 01:58 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	70.3	0	58-133	0		%REC	10	05/18/16 11:50 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(0-2)-B
Project:	Laredo SGR	**Lab ID:**	1605096-50
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:00 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	85.2	0.0877	0.263	0.132		mg/Kg-dry	5	05/19/16 09:52 PM
IS: Bismuth	77.1	0	30-120	0		%REC	5	05/19/16 09:52 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.632	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:07 PM
Acenaphthylene	0.0723	0.0482	0.0964	0.0723	U	mg/Kg-dry	10	05/18/16 05:07 PM
Anthracene	2.57	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:07 PM
Benzo[a]anthracene	16.4	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:07 PM
Benzo[a]pyrene	19.0	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:07 PM
Benzo[b]fluoranthene	17.9	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:07 PM
Benzo[e]pyrene	14.3	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:07 PM
Benzo[g,h,i]perylene	14.2	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:07 PM
Benzo[j]fluoranthene	9.65	0.0482	0.0964	0.0723	N	mg/Kg-dry	10	05/18/16 05:07 PM
Benzo[k]fluoranthene	9.11	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:07 PM
Chrysene	19.1	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:07 PM
Dibenz[a,h]anthracene	3.28	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:07 PM
Fluoranthene	28.7	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:07 PM
Fluorene	0.337	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:07 PM
Indeno[1,2,3-cd]pyrene	11.7	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:07 PM
Phenanthrene	13.1	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:07 PM
Pyrene	23.8	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/18/16 05:07 PM
IS: Acenaphthene-d10	69.1	0	50-200	0		%REC	10	05/18/16 05:07 PM
IS: Chrysene-d12	70.1	0	50-200	0		%REC	10	05/18/16 05:07 PM
IS: Naphthalene-d8	105	0	50-200	0		%REC	10	05/18/16 05:07 PM
IS: Perylene-d12	72.3	0	50-200	0		%REC	10	05/18/16 05:07 PM
IS: Phenanthrene-d10	72.6	0	50-200	0		%REC	10	05/18/16 05:07 PM
Surr: 2-Fluorobiphenyl	84.4	0	46-115	0		%REC	10	05/18/16 05:07 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(0-2)-B
Project:	Laredo SGR	**Lab ID:**	1605096-50
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:00 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	71.9	0	58-133	0		%REC	10	05/18/16 05:07 PM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(2-4)-B
Project:	Laredo SGR	**Lab ID:**	1605096-51
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:02 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	22.1	0.0917	0.275	0.138		mg/Kg-dry	5	05/19/16 09:58 PM
IS: Bismuth	79.8	0	30-120	0		%REC	5	05/19/16 09:58 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.268	0.0485	0.0970	0.0727		mg/Kg-dry	10	05/18/16 09:42 PM
Acenaphthylene	0.0727	0.0485	0.0970	0.0727	U	mg/Kg-dry	10	05/18/16 09:42 PM
Anthracene	1.52	0.0485	0.0970	0.0727		mg/Kg-dry	10	05/18/16 09:42 PM
Benzo[a]anthracene	7.07	0.0485	0.0970	0.0727		mg/Kg-dry	10	05/18/16 09:42 PM
Benzo[a]pyrene	7.81	0.0485	0.0970	0.0727		mg/Kg-dry	10	05/18/16 09:42 PM
Benzo[b]fluoranthene	7.26	0.0485	0.0970	0.0727		mg/Kg-dry	10	05/18/16 09:42 PM
Benzo[e]pyrene	5.80	0.0485	0.0970	0.0727		mg/Kg-dry	10	05/18/16 09:42 PM
Benzo[g,h,i]perylene	5.24	0.0485	0.0970	0.0727		mg/Kg-dry	10	05/18/16 09:42 PM
Benzo[j]fluoranthene	3.95	0.0485	0.0970	0.0727	N	mg/Kg-dry	10	05/18/16 09:42 PM
Benzo[k]fluoranthene	3.82	0.0485	0.0970	0.0727		mg/Kg-dry	10	05/18/16 09:42 PM
Chrysene	8.27	0.0485	0.0970	0.0727		mg/Kg-dry	10	05/18/16 09:42 PM
Dibenz[a,h]anthracene	1.23	0.0485	0.0970	0.0727		mg/Kg-dry	10	05/18/16 09:42 PM
Fluoranthene	13.8	0.0485	0.0970	0.0727		mg/Kg-dry	10	05/18/16 09:42 PM
Fluorene	0.238	0.0485	0.0970	0.0727		mg/Kg-dry	10	05/18/16 09:42 PM
Indeno[1,2,3-cd]pyrene	4.45	0.0485	0.0970	0.0727		mg/Kg-dry	10	05/18/16 09:42 PM
Phenanthrene	6.83	0.0485	0.0970	0.0727		mg/Kg-dry	10	05/18/16 09:42 PM
Pyrene	11.2	0.0485	0.0970	0.0727		mg/Kg-dry	10	05/18/16 09:42 PM
IS: Acenaphthene-d10	73.7	0	50-200	0		%REC	10	05/18/16 09:42 PM
IS: Chrysene-d12	70.8	0	50-200	0		%REC	10	05/18/16 09:42 PM
IS: Naphthalene-d8	112	0	50-200	0		%REC	10	05/18/16 09:42 PM
IS: Perylene-d12	73.4	0	50-200	0		%REC	10	05/18/16 09:42 PM
IS: Phenanthrene-d10	72.0	0	50-200	0		%REC	10	05/18/16 09:42 PM
Surr: 2-Fluorobiphenyl	81.9	0	46-115	0		%REC	10	05/18/16 09:42 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(2-4)-B
Project:	Laredo SGR	**Lab ID:**	1605096-51
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:02 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	70.3	0	58-133	0		%REC	10	05/18/16 09:42 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(4-6)-B
Project:	Laredo SGR	**Lab ID:**	1605096-52
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:14 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	34.5	0.0855	0.256	0.128		mg/Kg-dry	5	05/19/16 10:52 PM
IS: Bismuth	71.0	0	30-120	0		%REC	5	05/19/16 10:52 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.363	0.0489	0.0978	0.0733		mg/Kg-dry	10	05/18/16 05:46 PM
Acenaphthylene	0.0733	0.0489	0.0978	0.0733	U	mg/Kg-dry	10	05/18/16 05:46 PM
Anthracene	1.75	0.0489	0.0978	0.0733		mg/Kg-dry	10	05/18/16 05:46 PM
Benzo[a]anthracene	10.8	0.0489	0.0978	0.0733		mg/Kg-dry	10	05/18/16 05:46 PM
Benzo[a]pyrene	12.4	0.0489	0.0978	0.0733		mg/Kg-dry	10	05/18/16 05:46 PM
Benzo[b]fluoranthene	11.9	0.0489	0.0978	0.0733		mg/Kg-dry	10	05/18/16 05:46 PM
Benzo[e]pyrene	9.62	0.0489	0.0978	0.0733		mg/Kg-dry	10	05/18/16 05:46 PM
Benzo[g,h,i]perylene	9.15	0.0489	0.0978	0.0733		mg/Kg-dry	10	05/18/16 05:46 PM
Benzo[j]fluoranthene	6.35	0.0489	0.0978	0.0733	N	mg/Kg-dry	10	05/18/16 05:46 PM
Benzo[k]fluoranthene	6.05	0.0489	0.0978	0.0733		mg/Kg-dry	10	05/18/16 05:46 PM
Chrysene	12.7	0.0489	0.0978	0.0733		mg/Kg-dry	10	05/18/16 05:46 PM
Dibenz[a,h]anthracene	2.10	0.0489	0.0978	0.0733		mg/Kg-dry	10	05/18/16 05:46 PM
Fluoranthene	18.4	0.0489	0.0978	0.0733		mg/Kg-dry	10	05/18/16 05:46 PM
Fluorene	0.244	0.0489	0.0978	0.0733		mg/Kg-dry	10	05/18/16 05:46 PM
Indeno[1,2,3-cd]pyrene	7.53	0.0489	0.0978	0.0733		mg/Kg-dry	10	05/18/16 05:46 PM
Phenanthrene	8.46	0.0489	0.0978	0.0733		mg/Kg-dry	10	05/18/16 05:46 PM
Pyrene	15.4	0.0489	0.0978	0.0733		mg/Kg-dry	10	05/18/16 05:46 PM
IS: Acenaphthene-d10	80.1	0	50-200	0		%REC	10	05/18/16 05:46 PM
IS: Chrysene-d12	78.8	0	50-200	0		%REC	10	05/18/16 05:46 PM
IS: Naphthalene-d8	122	0	50-200	0		%REC	10	05/18/16 05:46 PM
IS: Perylene-d12	81.8	0	50-200	0		%REC	10	05/18/16 05:46 PM
IS: Phenanthrene-d10	81.3	0	50-200	0		%REC	10	05/18/16 05:46 PM
Surr: 2-Fluorobiphenyl	80.9	0	46-115	0		%REC	10	05/18/16 05:46 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(4-6)-B
Project:	Laredo SGR	**Lab ID:**	1605096-52
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:14 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	69.6	0	58-133	0		%REC	10	05/18/16 05:46 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(6-8)-B
Project:	Laredo SGR	**Lab ID:**	1605096-53
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:16 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	5.47	0.0952	0.286	0.143		mg/Kg-dry	5	05/19/16 10:58 PM
IS: Bismuth	74.7	0	30-120	0		%REC	5	05/19/16 10:58 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0726	0.0484	0.0968	0.0726	U	mg/Kg-dry	10	05/18/16 12:30 PM
Acenaphthylene	0.0726	0.0484	0.0968	0.0726	U	mg/Kg-dry	10	05/18/16 12:30 PM
Anthracene	0.0726	0.0484	0.0968	0.0726	U	mg/Kg-dry	10	05/18/16 12:30 PM
Benzo[a]anthracene	0.0800	0.0484	0.0968	0.0726	J	mg/Kg-dry	10	05/18/16 12:30 PM
Benzo[a]pyrene	0.100	0.0484	0.0968	0.0726		mg/Kg-dry	10	05/18/16 12:30 PM
Benzo[b]fluoranthene	0.0910	0.0484	0.0968	0.0726	J	mg/Kg-dry	10	05/18/16 12:30 PM
Benzo[e]pyrene	0.0838	0.0484	0.0968	0.0726	J	mg/Kg-dry	10	05/18/16 12:30 PM
Benzo[g,h,i]perylene	0.0850	0.0484	0.0968	0.0726	J	mg/Kg-dry	10	05/18/16 12:30 PM
Benzo[j]fluoranthene	0.0560	0.0484	0.0968	0.0726	JN	mg/Kg-dry	10	05/18/16 12:30 PM
Benzo[k]fluoranthene	0.0574	0.0484	0.0968	0.0726	J	mg/Kg-dry	10	05/18/16 12:30 PM
Chrysene	0.0962	0.0484	0.0968	0.0726	J	mg/Kg-dry	10	05/18/16 12:30 PM
Dibenz[a,h]anthracene	0.0726	0.0484	0.0968	0.0726	U	mg/Kg-dry	10	05/18/16 12:30 PM
Fluoranthene	0.118	0.0484	0.0968	0.0726		mg/Kg-dry	10	05/18/16 12:30 PM
Fluorene	0.0726	0.0484	0.0968	0.0726	U	mg/Kg-dry	10	05/18/16 12:30 PM
Indeno[1,2,3-cd]pyrene	0.0682	0.0484	0.0968	0.0726	J	mg/Kg-dry	10	05/18/16 12:30 PM
Phenanthrene	0.0548	0.0484	0.0968	0.0726	J	mg/Kg-dry	10	05/18/16 12:30 PM
Pyrene	0.109	0.0484	0.0968	0.0726		mg/Kg-dry	10	05/18/16 12:30 PM
IS: Acenaphthene-d10	72.0	0	50-200	0		%REC	10	05/18/16 12:30 PM
IS: Chrysene-d12	68.7	0	50-200	0		%REC	10	05/18/16 12:30 PM
IS: Naphthalene-d8	108	0	50-200	0		%REC	10	05/18/16 12:30 PM
IS: Perylene-d12	72.4	0	50-200	0		%REC	10	05/18/16 12:30 PM
IS: Phenanthrene-d10	67.4	0	50-200	0		%REC	10	05/18/16 12:30 PM
Surr: 2-Fluorobiphenyl	83.0	0	46-115	0		%REC	10	05/18/16 12:30 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(6-8)-B
Project:	Laredo SGR	**Lab ID:**	1605096-53
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:16 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	70.3	0	58-133	0		%REC	10	05/18/16 12:30 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(8-10)-B
Project:	Laredo SGR	**Lab ID:**	1605096-54
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:18 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	9.17	0.0870	0.261	0.130		mg/Kg-dry	5	05/19/16 11:04 PM
IS: Bismuth	65.6	0	30-120	0		%REC	5	05/19/16 11:04 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0694	0.0463	0.0925	0.0694	U	mg/Kg-dry	10	05/18/16 01:10 PM
Acenaphthylene	0.0694	0.0463	0.0925	0.0694	U	mg/Kg-dry	10	05/18/16 01:10 PM
Anthracene	0.0694	0.0463	0.0925	0.0694	U	mg/Kg-dry	10	05/18/16 01:10 PM
Benzo[a]anthracene	0.107	0.0463	0.0925	0.0694		mg/Kg-dry	10	05/18/16 01:10 PM
Benzo[a]pyrene	0.160	0.0463	0.0925	0.0694		mg/Kg-dry	10	05/18/16 01:10 PM
Benzo[b]fluoranthene	0.147	0.0463	0.0925	0.0694		mg/Kg-dry	10	05/18/16 01:10 PM
Benzo[e]pyrene	0.128	0.0463	0.0925	0.0694		mg/Kg-dry	10	05/18/16 01:10 PM
Benzo[g,h,i]perylene	0.134	0.0463	0.0925	0.0694		mg/Kg-dry	10	05/18/16 01:10 PM
Benzo[j]fluoranthene	0.0802	0.0463	0.0925	0.0694	JN	mg/Kg-dry	10	05/18/16 01:10 PM
Benzo[k]fluoranthene	0.0815	0.0463	0.0925	0.0694	J	mg/Kg-dry	10	05/18/16 01:10 PM
Chrysene	0.142	0.0463	0.0925	0.0694		mg/Kg-dry	10	05/18/16 01:10 PM
Dibenz[a,h]anthracene	0.0694	0.0463	0.0925	0.0694	U	mg/Kg-dry	10	05/18/16 01:10 PM
Fluoranthene	0.147	0.0463	0.0925	0.0694		mg/Kg-dry	10	05/18/16 01:10 PM
Fluorene	0.0694	0.0463	0.0925	0.0694	U	mg/Kg-dry	10	05/18/16 01:10 PM
Indeno[1,2,3-cd]pyrene	0.108	0.0463	0.0925	0.0694		mg/Kg-dry	10	05/18/16 01:10 PM
Phenanthrene	0.0694	0.0463	0.0925	0.0694	U	mg/Kg-dry	10	05/18/16 01:10 PM
Pyrene	0.145	0.0463	0.0925	0.0694		mg/Kg-dry	10	05/18/16 01:10 PM
IS: Acenaphthene-d10	73.4	0	50-200	0		%REC	10	05/18/16 01:10 PM
IS: Chrysene-d12	71.1	0	50-200	0		%REC	10	05/18/16 01:10 PM
IS: Naphthalene-d8	111	0	50-200	0		%REC	10	05/18/16 01:10 PM
IS: Perylene-d12	75.1	0	50-200	0		%REC	10	05/18/16 01:10 PM
IS: Phenanthrene-d10	69.1	0	50-200	0		%REC	10	05/18/16 01:10 PM
Surr: 2-Fluorobiphenyl	80.2	0	46-115	0		%REC	10	05/18/16 01:10 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(8-10)-B
Project:	Laredo SGR	**Lab ID:**	1605096-54
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:18 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	67.8	0	58-133	0		%REC	10	05/18/16 01:10 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(0-2)-C
Project:	Laredo SGR	**Lab ID:**	1605096-55
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:25 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	187	0.0935	0.280	0.140		mg/Kg-dry	5	05/19/16 11:10 PM
IS: Bismuth	71.0	0	30-120	0		%REC	5	05/19/16 11:10 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.942	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 10:22 PM
Acenaphthylene	0.0737	0.0492	0.0983	0.0737	U	mg/Kg-dry	10	05/18/16 10:22 PM
Anthracene	3.47	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 10:22 PM
Benzo[a]anthracene	27.2	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 10:22 PM
Benzo[a]pyrene	33.0	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 10:22 PM
Benzo[b]fluoranthene	31.4	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 10:22 PM
Benzo[e]pyrene	25.3	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 10:22 PM
Benzo[g,h,i]perylene	25.7	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 10:22 PM
Benzo[j]fluoranthene	16.7	0.0492	0.0983	0.0737	N	mg/Kg-dry	10	05/18/16 10:22 PM
Benzo[k]fluoranthene	16.0	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 10:22 PM
Chrysene	32.9	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 10:22 PM
Dibenz[a,h]anthracene	5.73	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 10:22 PM
Fluoranthene	42.7	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 10:22 PM
Fluorene	0.467	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 10:22 PM
Indeno[1,2,3-cd]pyrene	20.6	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 10:22 PM
Phenanthrene	18.0	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 10:22 PM
Pyrene	36.8	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 10:22 PM
IS: Acenaphthene-d10	65.5	0	50-200	0		%REC	10	05/18/16 10:22 PM
IS: Chrysene-d12	64.6	0	50-200	0		%REC	10	05/18/16 10:22 PM
IS: Naphthalene-d8	105	0	50-200	0		%REC	10	05/18/16 10:22 PM
IS: Perylene-d12	66.8	0	50-200	0		%REC	10	05/18/16 10:22 PM
IS: Phenanthrene-d10	68.1	0	50-200	0		%REC	10	05/18/16 10:22 PM
Surr: 2-Fluorobiphenyl	83.0	0	46-115	0		%REC	10	05/18/16 10:22 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(0-2)-C
Project:	Laredo SGR	**Lab ID:**	1605096-55
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:25 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	69.2	0	58-133	0		%REC	10	05/18/16 10:22 PM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(2-4)-C
Project:	Laredo SGR	**Lab ID:**	1605096-56
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:28 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	44.7	0.0935	0.280	0.140		mg/Kg-dry	5	05/19/16 11:16 PM
IS: Bismuth	69.8	0	30-120	0		%REC	5	05/19/16 11:16 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.447	0.0478	0.0956	0.0717		mg/Kg-dry	10	05/18/16 11:01 PM
Acenaphthylene	0.0717	0.0478	0.0956	0.0717	U	mg/Kg-dry	10	05/18/16 11:01 PM
Anthracene	1.41	0.0478	0.0956	0.0717		mg/Kg-dry	10	05/18/16 11:01 PM
Benzo[a]anthracene	10.7	0.0478	0.0956	0.0717		mg/Kg-dry	10	05/18/16 11:01 PM
Benzo[a]pyrene	14.2	0.0478	0.0956	0.0717		mg/Kg-dry	10	05/18/16 11:01 PM
Benzo[b]fluoranthene	13.3	0.0478	0.0956	0.0717		mg/Kg-dry	10	05/18/16 11:01 PM
Benzo[e]pyrene	10.7	0.0478	0.0956	0.0717		mg/Kg-dry	10	05/18/16 11:01 PM
Benzo[g,h,i]perylene	10.7	0.0478	0.0956	0.0717		mg/Kg-dry	10	05/18/16 11:01 PM
Benzo[j]fluoranthene	6.87	0.0478	0.0956	0.0717	N	mg/Kg-dry	10	05/18/16 11:01 PM
Benzo[k]fluoranthene	6.73	0.0478	0.0956	0.0717		mg/Kg-dry	10	05/18/16 11:01 PM
Chrysene	12.9	0.0478	0.0956	0.0717		mg/Kg-dry	10	05/18/16 11:01 PM
Dibenz[a,h]anthracene	2.36	0.0478	0.0956	0.0717		mg/Kg-dry	10	05/18/16 11:01 PM
Fluoranthene	16.5	0.0478	0.0956	0.0717		mg/Kg-dry	10	05/18/16 11:01 PM
Fluorene	0.311	0.0478	0.0956	0.0717		mg/Kg-dry	10	05/18/16 11:01 PM
Indeno[1,2,3-cd]pyrene	8.68	0.0478	0.0956	0.0717		mg/Kg-dry	10	05/18/16 11:01 PM
Phenanthrene	6.71	0.0478	0.0956	0.0717		mg/Kg-dry	10	05/18/16 11:01 PM
Pyrene	14.0	0.0478	0.0956	0.0717		mg/Kg-dry	10	05/18/16 11:01 PM
IS: Acenaphthene-d10	69.9	0	50-200	0		%REC	10	05/18/16 11:01 PM
IS: Chrysene-d12	68.2	0	50-200	0		%REC	10	05/18/16 11:01 PM
IS: Naphthalene-d8	110	0	50-200	0		%REC	10	05/18/16 11:01 PM
IS: Perylene-d12	70.1	0	50-200	0		%REC	10	05/18/16 11:01 PM
IS: Phenanthrene-d10	69.8	0	50-200	0		%REC	10	05/18/16 11:01 PM
Surr: 2-Fluorobiphenyl	85.4	0	46-115	0		%REC	10	05/18/16 11:01 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(2-4)-C
Project:	Laredo SGR	**Lab ID:**	1605096-56
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:28 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	71.6	0	58-133	0		%REC	10	05/18/16 11:01 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(4-6)-C
Project:	Laredo SGR	**Lab ID:**	1605096-57
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:33 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	7.27	0.0893	0.268	0.134		mg/Kg-dry	5	05/19/16 11:22 PM
IS: Bismuth	65.3	0	30-120	0		%REC	5	05/19/16 11:22 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0994	0.0498	0.0995	0.0746	J	mg/Kg-dry	10	05/18/16 01:50 PM
Acenaphthylene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/18/16 01:50 PM
Anthracene	0.472	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/18/16 01:50 PM
Benzo[a]anthracene	2.26	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/18/16 01:50 PM
Benzo[a]pyrene	2.97	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/18/16 01:50 PM
Benzo[b]fluoranthene	2.69	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/18/16 01:50 PM
Benzo[e]pyrene	2.18	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/18/16 01:50 PM
Benzo[g,h,i]perylene	2.07	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/18/16 01:50 PM
Benzo[j]fluoranthene	1.40	0.0498	0.0995	0.0746	N	mg/Kg-dry	10	05/18/16 01:50 PM
Benzo[k]fluoranthene	1.32	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/18/16 01:50 PM
Chrysene	2.73	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/18/16 01:50 PM
Dibenz[a,h]anthracene	0.469	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/18/16 01:50 PM
Fluoranthene	4.00	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/18/16 01:50 PM
Fluorene	0.0912	0.0498	0.0995	0.0746	J	mg/Kg-dry	10	05/18/16 01:50 PM
Indeno[1,2,3-cd]pyrene	1.74	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/18/16 01:50 PM
Phenanthrene	2.03	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/18/16 01:50 PM
Pyrene	3.32	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/18/16 01:50 PM
IS: Acenaphthene-d10	74.3	0	50-200	0		%REC	10	05/18/16 01:50 PM
IS: Chrysene-d12	70.8	0	50-200	0		%REC	10	05/18/16 01:50 PM
IS: Naphthalene-d8	113	0	50-200	0		%REC	10	05/18/16 01:50 PM
IS: Perylene-d12	74.7	0	50-200	0		%REC	10	05/18/16 01:50 PM
IS: Phenanthrene-d10	71.2	0	50-200	0		%REC	10	05/18/16 01:50 PM
Surr: 2-Fluorobiphenyl	81.2	0	46-115	0		%REC	10	05/18/16 01:50 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(4-6)-C
Project:	Laredo SGR	**Lab ID:**	1605096-57
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:33 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	67.7	0	58-133	0		%REC	10	05/18/16 01:50 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(6-8)-C
Project:	Laredo SGR	**Lab ID:**	1605096-58
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:35 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	6.27	0.0855	0.256	0.128		mg/Kg-dry	5	05/19/16 11:28 PM
IS: Bismuth	79.5	0	30-120	0		%REC	5	05/19/16 11:28 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0726	0.0484	0.0968	0.0726	U	mg/Kg-dry	10	05/18/16 02:29 PM
Acenaphthylene	0.0726	0.0484	0.0968	0.0726	U	mg/Kg-dry	10	05/18/16 02:29 PM
Anthracene	0.0502	0.0484	0.0968	0.0726	J	mg/Kg-dry	10	05/18/16 02:29 PM
Benzo[a]anthracene	0.209	0.0484	0.0968	0.0726		mg/Kg-dry	10	05/18/16 02:29 PM
Benzo[a]pyrene	0.255	0.0484	0.0968	0.0726		mg/Kg-dry	10	05/18/16 02:29 PM
Benzo[b]fluoranthene	0.239	0.0484	0.0968	0.0726		mg/Kg-dry	10	05/18/16 02:29 PM
Benzo[e]pyrene	0.202	0.0484	0.0968	0.0726		mg/Kg-dry	10	05/18/16 02:29 PM
Benzo[g,h,i]perylene	0.192	0.0484	0.0968	0.0726		mg/Kg-dry	10	05/18/16 02:29 PM
Benzo[j]fluoranthene	0.135	0.0484	0.0968	0.0726	N	mg/Kg-dry	10	05/18/16 02:29 PM
Benzo[k]fluoranthene	0.130	0.0484	0.0968	0.0726		mg/Kg-dry	10	05/18/16 02:29 PM
Chrysene	0.256	0.0484	0.0968	0.0726		mg/Kg-dry	10	05/18/16 02:29 PM
Dibenz[a,h]anthracene	0.0561	0.0484	0.0968	0.0726	J	mg/Kg-dry	10	05/18/16 02:29 PM
Fluoranthene	0.380	0.0484	0.0968	0.0726		mg/Kg-dry	10	05/18/16 02:29 PM
Fluorene	0.0726	0.0484	0.0968	0.0726	U	mg/Kg-dry	10	05/18/16 02:29 PM
Indeno[1,2,3-cd]pyrene	0.166	0.0484	0.0968	0.0726		mg/Kg-dry	10	05/18/16 02:29 PM
Phenanthrene	0.197	0.0484	0.0968	0.0726		mg/Kg-dry	10	05/18/16 02:29 PM
Pyrene	0.317	0.0484	0.0968	0.0726		mg/Kg-dry	10	05/18/16 02:29 PM
IS: Acenaphthene-d10	70.8	0	50-200	0		%REC	10	05/18/16 02:29 PM
IS: Chrysene-d12	68.1	0	50-200	0		%REC	10	05/18/16 02:29 PM
IS: Naphthalene-d8	110	0	50-200	0		%REC	10	05/18/16 02:29 PM
IS: Perylene-d12	71.9	0	50-200	0		%REC	10	05/18/16 02:29 PM
IS: Phenanthrene-d10	66.7	0	50-200	0		%REC	10	05/18/16 02:29 PM
Surr: 2-Fluorobiphenyl	80.0	0	46-115	0		%REC	10	05/18/16 02:29 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(6-8)-C
Project:	Laredo SGR	**Lab ID:**	1605096-58
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:35 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	67.3	0	58-133	0		%REC	10	05/18/16 02:29 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(8-10)-C
Project:	Laredo SGR	**Lab ID:**	1605096-59
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:38 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	15.9	0.0917	0.275	0.138		mg/Kg-dry	5	05/19/16 11:34 PM
IS: Bismuth	74.9	0	30-120	0		%REC	5	05/19/16 11:34 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.895	0.0490	0.0979	0.0735		mg/Kg-dry	10	05/18/16 11:40 PM
Acenaphthylene	0.0735	0.0490	0.0979	0.0735	U	mg/Kg-dry	10	05/18/16 11:40 PM
Anthracene	2.62	0.0490	0.0979	0.0735		mg/Kg-dry	10	05/18/16 11:40 PM
Benzo[a]anthracene	19.7	0.0490	0.0979	0.0735		mg/Kg-dry	10	05/18/16 11:40 PM
Benzo[a]pyrene	26.3	0.0490	0.0979	0.0735		mg/Kg-dry	10	05/18/16 11:40 PM
Benzo[b]fluoranthene	24.4	0.0490	0.0979	0.0735		mg/Kg-dry	10	05/18/16 11:40 PM
Benzo[e]pyrene	19.6	0.0490	0.0979	0.0735		mg/Kg-dry	10	05/18/16 11:40 PM
Benzo[g,h,i]perylene	20.1	0.0490	0.0979	0.0735		mg/Kg-dry	10	05/18/16 11:40 PM
Benzo[j]fluoranthene	12.6	0.0490	0.0979	0.0735	N	mg/Kg-dry	10	05/18/16 11:40 PM
Benzo[k]fluoranthene	12.4	0.0490	0.0979	0.0735		mg/Kg-dry	10	05/18/16 11:40 PM
Chrysene	23.9	0.0490	0.0979	0.0735		mg/Kg-dry	10	05/18/16 11:40 PM
Dibenz[a,h]anthracene	4.44	0.0490	0.0979	0.0735		mg/Kg-dry	10	05/18/16 11:40 PM
Fluoranthene	29.5	0.0490	0.0979	0.0735		mg/Kg-dry	10	05/18/16 11:40 PM
Fluorene	0.611	0.0490	0.0979	0.0735		mg/Kg-dry	10	05/18/16 11:40 PM
Indeno[1,2,3-cd]pyrene	16.0	0.0490	0.0979	0.0735		mg/Kg-dry	10	05/18/16 11:40 PM
Phenanthrene	12.1	0.0490	0.0979	0.0735		mg/Kg-dry	10	05/18/16 11:40 PM
Pyrene	25.0	0.0490	0.0979	0.0735		mg/Kg-dry	10	05/18/16 11:40 PM
IS: Acenaphthene-d10	71.2	0	50-200	0		%REC	10	05/18/16 11:40 PM
IS: Chrysene-d12	69.3	0	50-200	0		%REC	10	05/18/16 11:40 PM
IS: Naphthalene-d8	111	0	50-200	0		%REC	10	05/18/16 11:40 PM
IS: Perylene-d12	71.8	0	50-200	0		%REC	10	05/18/16 11:40 PM
IS: Phenanthrene-d10	72.5	0	50-200	0		%REC	10	05/18/16 11:40 PM
Surr: 2-Fluorobiphenyl	82.6	0	46-115	0		%REC	10	05/18/16 11:40 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-04(8-10)-C
Project:	Laredo SGR	**Lab ID:**	1605096-59
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 02:38 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	71.2	0	58-133	0		%REC	10	05/18/16 11:40 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(0-2)-A
Project:	Laredo SGR	**Lab ID:**	1605096-60
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:03 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	246	0.0943	0.283	0.142		mg/Kg-dry	5	05/19/16 11:40 PM
IS: Bismuth	79.3	0	30-120	0		%REC	5	05/19/16 11:40 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.813	0.0483	0.0966	0.0725		mg/Kg-dry	10	05/19/16 12:20 AM
Acenaphthylene	0.0725	0.0483	0.0966	0.0725	U	mg/Kg-dry	10	05/19/16 12:20 AM
Anthracene	2.93	0.0483	0.0966	0.0725		mg/Kg-dry	10	05/19/16 12:20 AM
Benzo[a]anthracene	22.4	0.0483	0.0966	0.0725		mg/Kg-dry	10	05/19/16 12:20 AM
Benzo[a]pyrene	26.2	0.0483	0.0966	0.0725		mg/Kg-dry	10	05/19/16 12:20 AM
Benzo[b]fluoranthene	24.7	0.0483	0.0966	0.0725		mg/Kg-dry	10	05/19/16 12:20 AM
Benzo[e]pyrene	19.7	0.0483	0.0966	0.0725		mg/Kg-dry	10	05/19/16 12:20 AM
Benzo[g,h,i]perylene	19.5	0.0483	0.0966	0.0725		mg/Kg-dry	10	05/19/16 12:20 AM
Benzo[j]fluoranthene	13.3	0.0483	0.0966	0.0725	N	mg/Kg-dry	10	05/19/16 12:20 AM
Benzo[k]fluoranthene	13.1	0.0483	0.0966	0.0725		mg/Kg-dry	10	05/19/16 12:20 AM
Chrysene	26.5	0.0483	0.0966	0.0725		mg/Kg-dry	10	05/19/16 12:20 AM
Dibenz[a,h]anthracene	4.45	0.0483	0.0966	0.0725		mg/Kg-dry	10	05/19/16 12:20 AM
Fluoranthene	36.9	0.0483	0.0966	0.0725		mg/Kg-dry	10	05/19/16 12:20 AM
Fluorene	0.356	0.0483	0.0966	0.0725		mg/Kg-dry	10	05/19/16 12:20 AM
Indeno[1,2,3-cd]pyrene	15.7	0.0483	0.0966	0.0725		mg/Kg-dry	10	05/19/16 12:20 AM
Phenanthrene	14.8	0.0483	0.0966	0.0725		mg/Kg-dry	10	05/19/16 12:20 AM
Pyrene	31.6	0.0483	0.0966	0.0725		mg/Kg-dry	10	05/19/16 12:20 AM
IS: Acenaphthene-d10	66.2	0	50-200	0		%REC	10	05/19/16 12:20 AM
IS: Chrysene-d12	66.0	0	50-200	0		%REC	10	05/19/16 12:20 AM
IS: Naphthalene-d8	110	0	50-200	0		%REC	10	05/19/16 12:20 AM
IS: Perylene-d12	66.8	0	50-200	0		%REC	10	05/19/16 12:20 AM
IS: Phenanthrene-d10	67.2	0	50-200	0		%REC	10	05/19/16 12:20 AM
Surr: 2-Fluorobiphenyl	83.1	0	46-115	0		%REC	10	05/19/16 12:20 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(0-2)-A
Project:	Laredo SGR	**Lab ID:**	1605096-60
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:03 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	72.1	0	58-133	0		%REC	10	05/19/16 12:20 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(2-4)-A
Project:	Laredo SGR	**Lab ID:**	1605096-61
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:05 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	22.2	0.0926	0.278	0.139		mg/Kg-dry	5	05/19/16 11:46 PM
IS: Bismuth	77.1	0	30-120	0		%REC	5	05/19/16 11:46 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.675	0.0474	0.0949	0.0712		mg/Kg-dry	10	05/19/16 01:01 AM
Acenaphthylene	0.0712	0.0474	0.0949	0.0712	U	mg/Kg-dry	10	05/19/16 01:01 AM
Anthracene	1.95	0.0474	0.0949	0.0712		mg/Kg-dry	10	05/19/16 01:01 AM
Benzo[a]anthracene	18.9	0.0474	0.0949	0.0712		mg/Kg-dry	10	05/19/16 01:01 AM
Benzo[a]pyrene	24.9	0.0474	0.0949	0.0712		mg/Kg-dry	10	05/19/16 01:01 AM
Benzo[b]fluoranthene	23.7	0.0474	0.0949	0.0712		mg/Kg-dry	10	05/19/16 01:01 AM
Benzo[e]pyrene	18.9	0.0474	0.0949	0.0712		mg/Kg-dry	10	05/19/16 01:01 AM
Benzo[g,h,i]perylene	19.5	0.0474	0.0949	0.0712		mg/Kg-dry	10	05/19/16 01:01 AM
Benzo[j]fluoranthene	12.2	0.0474	0.0949	0.0712	N	mg/Kg-dry	10	05/19/16 01:01 AM
Benzo[k]fluoranthene	11.6	0.0474	0.0949	0.0712		mg/Kg-dry	10	05/19/16 01:01 AM
Chrysene	22.7	0.0474	0.0949	0.0712		mg/Kg-dry	10	05/19/16 01:01 AM
Dibenz[a,h]anthracene	4.21	0.0474	0.0949	0.0712		mg/Kg-dry	10	05/19/16 01:01 AM
Fluoranthene	27.8	0.0474	0.0949	0.0712		mg/Kg-dry	10	05/19/16 01:01 AM
Fluorene	0.302	0.0474	0.0949	0.0712		mg/Kg-dry	10	05/19/16 01:01 AM
Indeno[1,2,3-cd]pyrene	15.5	0.0474	0.0949	0.0712		mg/Kg-dry	10	05/19/16 01:01 AM
Phenanthrene	9.48	0.0474	0.0949	0.0712		mg/Kg-dry	10	05/19/16 01:01 AM
Pyrene	24.5	0.0474	0.0949	0.0712		mg/Kg-dry	10	05/19/16 01:01 AM
IS: Acenaphthene-d10	70.3	0	50-200	0		%REC	10	05/19/16 01:01 AM
IS: Chrysene-d12	69.4	0	50-200	0		%REC	10	05/19/16 01:01 AM
IS: Naphthalene-d8	112	0	50-200	0		%REC	10	05/19/16 01:01 AM
IS: Perylene-d12	70.3	0	50-200	0		%REC	10	05/19/16 01:01 AM
IS: Phenanthrene-d10	71.1	0	50-200	0		%REC	10	05/19/16 01:01 AM
Surr: 2-Fluorobiphenyl	82.4	0	46-115	0		%REC	10	05/19/16 01:01 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(2-4)-A
Project:	Laredo SGR	**Lab ID:**	1605096-61
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:05 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	71.0	0	58-133	0		%REC	10	05/19/16 01:01 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(4-6)-A
Project:	Laredo SGR	**Lab ID:**	1605096-62
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:02 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	16.9	0.0909	0.273	0.136		mg/Kg-dry	5	05/19/16 05:22 PM
IS: Bismuth	87.2	0	30-120	0		%REC	5	05/19/16 05:22 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.441	0.0471	0.0943	0.0707		mg/Kg-dry	10	05/19/16 01:41 AM
Acenaphthylene	0.0707	0.0471	0.0943	0.0707	U	mg/Kg-dry	10	05/19/16 01:41 AM
Anthracene	1.87	0.0471	0.0943	0.0707		mg/Kg-dry	10	05/19/16 01:41 AM
Benzo[a]anthracene	12.1	0.0471	0.0943	0.0707		mg/Kg-dry	10	05/19/16 01:41 AM
Benzo[a]pyrene	14.2	0.0471	0.0943	0.0707		mg/Kg-dry	10	05/19/16 01:41 AM
Benzo[b]fluoranthene	13.1	0.0471	0.0943	0.0707		mg/Kg-dry	10	05/19/16 01:41 AM
Benzo[e]pyrene	10.4	0.0471	0.0943	0.0707		mg/Kg-dry	10	05/19/16 01:41 AM
Benzo[g,h,i]perylene	10.0	0.0471	0.0943	0.0707		mg/Kg-dry	10	05/19/16 01:41 AM
Benzo[j]fluoranthene	7.01	0.0471	0.0943	0.0707	N	mg/Kg-dry	10	05/19/16 01:41 AM
Benzo[k]fluoranthene	6.76	0.0471	0.0943	0.0707		mg/Kg-dry	10	05/19/16 01:41 AM
Chrysene	14.0	0.0471	0.0943	0.0707		mg/Kg-dry	10	05/19/16 01:41 AM
Dibenz[a,h]anthracene	2.28	0.0471	0.0943	0.0707		mg/Kg-dry	10	05/19/16 01:41 AM
Fluoranthene	20.4	0.0471	0.0943	0.0707		mg/Kg-dry	10	05/19/16 01:41 AM
Fluorene	0.287	0.0471	0.0943	0.0707		mg/Kg-dry	10	05/19/16 01:41 AM
Indeno[1,2,3-cd]pyrene	8.25	0.0471	0.0943	0.0707		mg/Kg-dry	10	05/19/16 01:41 AM
Phenanthrene	8.69	0.0471	0.0943	0.0707		mg/Kg-dry	10	05/19/16 01:41 AM
Pyrene	17.2	0.0471	0.0943	0.0707		mg/Kg-dry	10	05/19/16 01:41 AM
IS: Acenaphthene-d10	72.1	0	50-200	0		%REC	10	05/19/16 01:41 AM
IS: Chrysene-d12	68.8	0	50-200	0		%REC	10	05/19/16 01:41 AM
IS: Naphthalene-d8	112	0	50-200	0		%REC	10	05/19/16 01:41 AM
IS: Perylene-d12	70.9	0	50-200	0		%REC	10	05/19/16 01:41 AM
IS: Phenanthrene-d10	70.9	0	50-200	0		%REC	10	05/19/16 01:41 AM
Surr: 2-Fluorobiphenyl	82.5	0	46-115	0		%REC	10	05/19/16 01:41 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(4-6)-A
Project:	Laredo SGR	**Lab ID:**	1605096-62
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:02 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	70.4	0	58-133	0		%REC	10	05/19/16 01:41 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(6-8)-A
Project:	Laredo SGR	**Lab ID:**	1605096-63
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:08 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	7.08	0.0901	0.270	0.135		mg/Kg-dry	5	05/19/16 05:28 PM
IS: Bismuth	91.3	0	30-120	0		%REC	5	05/19/16 05:28 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0737	0.0492	0.0983	0.0737	U	mg/Kg-dry	10	05/18/16 03:09 PM
Acenaphthylene	0.0737	0.0492	0.0983	0.0737	U	mg/Kg-dry	10	05/18/16 03:09 PM
Anthracene	0.0860	0.0492	0.0983	0.0737	J	mg/Kg-dry	10	05/18/16 03:09 PM
Benzo[a]anthracene	0.428	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 03:09 PM
Benzo[a]pyrene	0.443	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 03:09 PM
Benzo[b]fluoranthene	0.410	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 03:09 PM
Benzo[e]pyrene	0.332	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 03:09 PM
Benzo[g,h,i]perylene	0.297	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 03:09 PM
Benzo[j]fluoranthene	0.238	0.0492	0.0983	0.0737	N	mg/Kg-dry	10	05/18/16 03:09 PM
Benzo[k]fluoranthene	0.229	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 03:09 PM
Chrysene	0.496	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 03:09 PM
Dibenz[a,h]anthracene	0.0856	0.0492	0.0983	0.0737	J	mg/Kg-dry	10	05/18/16 03:09 PM
Fluoranthene	0.795	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 03:09 PM
Fluorene	0.0737	0.0492	0.0983	0.0737	U	mg/Kg-dry	10	05/18/16 03:09 PM
Indeno[1,2,3-cd]pyrene	0.262	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 03:09 PM
Phenanthrene	0.388	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 03:09 PM
Pyrene	0.655	0.0492	0.0983	0.0737		mg/Kg-dry	10	05/18/16 03:09 PM
IS: Acenaphthene-d10	73.5	0	50-200	0		%REC	10	05/18/16 03:09 PM
IS: Chrysene-d12	70.0	0	50-200	0		%REC	10	05/18/16 03:09 PM
IS: Naphthalene-d8	109	0	50-200	0		%REC	10	05/18/16 03:09 PM
IS: Perylene-d12	74.0	0	50-200	0		%REC	10	05/18/16 03:09 PM
IS: Phenanthrene-d10	69.1	0	50-200	0		%REC	10	05/18/16 03:09 PM
Surr: 2-Fluorobiphenyl	78.5	0	46-115	0		%REC	10	05/18/16 03:09 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(6-8)-A
Project:	Laredo SGR	**Lab ID:**	1605096-63
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:08 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	64.3	0	58-133	0		%REC	10	05/18/16 03:09 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(8-10)-A
Project:	Laredo SGR	**Lab ID:**	1605096-64
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:09 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	7.17	0.0971	0.291	0.146		mg/Kg-dry	5	05/19/16 05:34 PM
IS: Bismuth	88.7	0	30-120	0		%REC	5	05/19/16 05:34 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0714	0.0476	0.0952	0.0714	U	mg/Kg-dry	10	05/18/16 03:48 PM
Acenaphthylene	0.0714	0.0476	0.0952	0.0714	U	mg/Kg-dry	10	05/18/16 03:48 PM
Anthracene	0.0714	0.0476	0.0952	0.0714	U	mg/Kg-dry	10	05/18/16 03:48 PM
Benzo[a]anthracene	0.0714	0.0476	0.0952	0.0714	U	mg/Kg-dry	10	05/18/16 03:48 PM
Benzo[a]pyrene	0.0714	0.0476	0.0952	0.0714	U	mg/Kg-dry	10	05/18/16 03:48 PM
Benzo[b]fluoranthene	0.0714	0.0476	0.0952	0.0714	U	mg/Kg-dry	10	05/18/16 03:48 PM
Benzo[e]pyrene	0.0714	0.0476	0.0952	0.0714	U	mg/Kg-dry	10	05/18/16 03:48 PM
Benzo[g,h,i]perylene	0.0714	0.0476	0.0952	0.0714	U	mg/Kg-dry	10	05/18/16 03:48 PM
Benzo[j]fluoranthene	0.0714	0.0476	0.0952	0.0714	NU	mg/Kg-dry	10	05/18/16 03:48 PM
Benzo[k]fluoranthene	0.0714	0.0476	0.0952	0.0714	U	mg/Kg-dry	10	05/18/16 03:48 PM
Chrysene	0.0714	0.0476	0.0952	0.0714	U	mg/Kg-dry	10	05/18/16 03:48 PM
Dibenz[a,h]anthracene	0.0714	0.0476	0.0952	0.0714	U	mg/Kg-dry	10	05/18/16 03:48 PM
Fluoranthene	0.0714	0.0476	0.0952	0.0714	U	mg/Kg-dry	10	05/18/16 03:48 PM
Fluorene	0.0714	0.0476	0.0952	0.0714	U	mg/Kg-dry	10	05/18/16 03:48 PM
Indeno[1,2,3-cd]pyrene	0.0714	0.0476	0.0952	0.0714	U	mg/Kg-dry	10	05/18/16 03:48 PM
Phenanthrene	0.0714	0.0476	0.0952	0.0714	U	mg/Kg-dry	10	05/18/16 03:48 PM
Pyrene	0.0714	0.0476	0.0952	0.0714	U	mg/Kg-dry	10	05/18/16 03:48 PM
IS: Acenaphthene-d10	72.7	0	50-200	0		%REC	10	05/18/16 03:48 PM
IS: Chrysene-d12	69.5	0	50-200	0		%REC	10	05/18/16 03:48 PM
IS: Naphthalene-d8	112	0	50-200	0		%REC	10	05/18/16 03:48 PM
IS: Perylene-d12	72.6	0	50-200	0		%REC	10	05/18/16 03:48 PM
IS: Phenanthrene-d10	69.2	0	50-200	0		%REC	10	05/18/16 03:48 PM
Surr: 2-Fluorobiphenyl	79.9	0	46-115	0		%REC	10	05/18/16 03:48 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(8-10)-A
Project:	Laredo SGR	**Lab ID:**	1605096-64
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:09 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	65.4	0	58-133	0		%REC	10	05/18/16 03:48 PM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(0-2)-B
Project:	Laredo SGR	**Lab ID:**	1605096-65
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:11 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	72.9	0.0952	0.286	0.143		mg/Kg-dry	5	05/19/16 05:40 PM
IS: Bismuth	89.9	0	30-120	0		%REC	5	05/19/16 05:40 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.497	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/19/16 02:21 AM
Acenaphthylene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/19/16 02:21 AM
Anthracene	1.77	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/19/16 02:21 AM
Benzo[a]anthracene	12.2	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/19/16 02:21 AM
Benzo[a]pyrene	15.2	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/19/16 02:21 AM
Benzo[b]fluoranthene	13.9	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/19/16 02:21 AM
Benzo[e]pyrene	11.3	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/19/16 02:21 AM
Benzo[g,h,i]perylene	11.8	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/19/16 02:21 AM
Benzo[j]fluoranthene	7.60	0.0495	0.0989	0.0742	N	mg/Kg-dry	10	05/19/16 02:21 AM
Benzo[k]fluoranthene	7.30	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/19/16 02:21 AM
Chrysene	14.5	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/19/16 02:21 AM
Dibenz[a,h]anthracene	2.64	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/19/16 02:21 AM
Fluoranthene	19.1	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/19/16 02:21 AM
Fluorene	0.256	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/19/16 02:21 AM
Indeno[1,2,3-cd]pyrene	9.51	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/19/16 02:21 AM
Phenanthrene	8.49	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/19/16 02:21 AM
Pyrene	16.2	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/19/16 02:21 AM
IS: Acenaphthene-d10	66.2	0	50-200	0		%REC	10	05/19/16 02:21 AM
IS: Chrysene-d12	58.9	0	50-200	0		%REC	10	05/19/16 02:21 AM
IS: Naphthalene-d8	109	0	50-200	0		%REC	10	05/19/16 02:21 AM
IS: Perylene-d12	64.0	0	50-200	0		%REC	10	05/19/16 02:21 AM
IS: Phenanthrene-d10	65.6	0	50-200	0		%REC	10	05/19/16 02:21 AM
Surr: 2-Fluorobiphenyl	86.0	0	46-115	0		%REC	10	05/19/16 02:21 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(0-2)-B
Project:	Laredo SGR	**Lab ID:**	1605096-65
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:11 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	68.1	0	58-133	0		%REC	10	05/19/16 02:21 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(2-4)-B
Project:	Laredo SGR	**Lab ID:**	1605096-66
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:13 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	27.1	0.0855	0.256	0.128		mg/Kg-dry	5	05/19/16 05:46 PM
IS: Bismuth	84.8	0	30-120	0		%REC	5	05/19/16 05:46 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	1.05	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/19/16 03:00 AM
Acenaphthylene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/19/16 03:00 AM
Anthracene	3.69	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/19/16 03:00 AM
Benzo[a]anthracene	28.3	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/19/16 03:00 AM
Benzo[a]pyrene	35.5	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/19/16 03:00 AM
Benzo[b]fluoranthene	33.9	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/19/16 03:00 AM
Benzo[e]pyrene	26.8	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/19/16 03:00 AM
Benzo[g,h,i]perylene	27.6	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/19/16 03:00 AM
Benzo[j]fluoranthene	17.5	0.0497	0.0994	0.0746	N	mg/Kg-dry	10	05/19/16 03:00 AM
Benzo[k]fluoranthene	16.8	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/19/16 03:00 AM
Chrysene	33.3	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/19/16 03:00 AM
Dibenz[a,h]anthracene	5.97	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/19/16 03:00 AM
Fluoranthene	44.6	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/19/16 03:00 AM
Fluorene	0.591	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/19/16 03:00 AM
Indeno[1,2,3-cd]pyrene	21.9	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/19/16 03:00 AM
Phenanthrene	17.8	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/19/16 03:00 AM
Pyrene	38.1	0.0497	0.0994	0.0746		mg/Kg-dry	10	05/19/16 03:00 AM
IS: Acenaphthene-d10	68.2	0	50-200	0		%REC	10	05/19/16 03:00 AM
IS: Chrysene-d12	66.4	0	50-200	0		%REC	10	05/19/16 03:00 AM
IS: Naphthalene-d8	107	0	50-200	0		%REC	10	05/19/16 03:00 AM
IS: Perylene-d12	67.0	0	50-200	0		%REC	10	05/19/16 03:00 AM
IS: Phenanthrene-d10	70.9	0	50-200	0		%REC	10	05/19/16 03:00 AM
Surr: 2-Fluorobiphenyl	82.9	0	46-115	0		%REC	10	05/19/16 03:00 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(2-4)-B
Project:	Laredo SGR	**Lab ID:**	1605096-66
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:13 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	68.9	0	58-133	0		%REC	10	05/19/16 03:00 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(4-6)-B
Project:	Laredo SGR	**Lab ID:**	1605096-67
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:15 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	9.10	0.0893	0.268	0.134		mg/Kg-dry	5	05/19/16 05:52 PM
IS: Bismuth	89.2	0	30-120	0		%REC	5	05/19/16 05:52 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.154	0.0490	0.0980	0.0735		mg/Kg-dry	10	05/18/16 04:28 PM
Acenaphthylene	0.0735	0.0490	0.0980	0.0735	U	mg/Kg-dry	10	05/18/16 04:28 PM
Anthracene	0.708	0.0490	0.0980	0.0735		mg/Kg-dry	10	05/18/16 04:28 PM
Benzo[a]anthracene	3.69	0.0490	0.0980	0.0735		mg/Kg-dry	10	05/18/16 04:28 PM
Benzo[a]pyrene	4.27	0.0490	0.0980	0.0735		mg/Kg-dry	10	05/18/16 04:28 PM
Benzo[b]fluoranthene	3.85	0.0490	0.0980	0.0735		mg/Kg-dry	10	05/18/16 04:28 PM
Benzo[e]pyrene	3.14	0.0490	0.0980	0.0735		mg/Kg-dry	10	05/18/16 04:28 PM
Benzo[g,h,i]perylene	2.99	0.0490	0.0980	0.0735		mg/Kg-dry	10	05/18/16 04:28 PM
Benzo[j]fluoranthene	2.05	0.0490	0.0980	0.0735	N	mg/Kg-dry	10	05/18/16 04:28 PM
Benzo[k]fluoranthene	1.97	0.0490	0.0980	0.0735		mg/Kg-dry	10	05/18/16 04:28 PM
Chrysene	4.26	0.0490	0.0980	0.0735		mg/Kg-dry	10	05/18/16 04:28 PM
Dibenz[a,h]anthracene	0.672	0.0490	0.0980	0.0735		mg/Kg-dry	10	05/18/16 04:28 PM
Fluoranthene	6.93	0.0490	0.0980	0.0735		mg/Kg-dry	10	05/18/16 04:28 PM
Fluorene	0.128	0.0490	0.0980	0.0735		mg/Kg-dry	10	05/18/16 04:28 PM
Indeno[1,2,3-cd]pyrene	2.50	0.0490	0.0980	0.0735		mg/Kg-dry	10	05/18/16 04:28 PM
Phenanthrene	3.20	0.0490	0.0980	0.0735		mg/Kg-dry	10	05/18/16 04:28 PM
Pyrene	5.74	0.0490	0.0980	0.0735		mg/Kg-dry	10	05/18/16 04:28 PM
IS: Acenaphthene-d10	75.5	0	50-200	0		%REC	10	05/18/16 04:28 PM
IS: Chrysene-d12	71.4	0	50-200	0		%REC	10	05/18/16 04:28 PM
IS: Naphthalene-d8	112	0	50-200	0		%REC	10	05/18/16 04:28 PM
IS: Perylene-d12	74.8	0	50-200	0		%REC	10	05/18/16 04:28 PM
IS: Phenanthrene-d10	73.1	0	50-200	0		%REC	10	05/18/16 04:28 PM
Surr: 2-Fluorobiphenyl	79.5	0	46-115	0		%REC	10	05/18/16 04:28 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(4-6)-B
Project:	Laredo SGR	**Lab ID:**	1605096-67
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:15 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	66.3	0	58-133	0		%REC	10	05/18/16 04:28 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(6-8)-B
Project:	Laredo SGR	**Lab ID:**	1605096-68
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:17 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	6.21	0.0971	0.291	0.146		mg/Kg-dry	5	05/19/16 05:58 PM
IS: Bismuth	79.0	0	30-120	0		%REC	5	05/19/16 05:58 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/19/16 11:07 AM
Acenaphthylene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/19/16 11:07 AM
Anthracene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/19/16 11:07 AM
Benzo[a]anthracene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/19/16 11:07 AM
Benzo[a]pyrene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/19/16 11:07 AM
Benzo[b]fluoranthene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/19/16 11:07 AM
Benzo[e]pyrene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/19/16 11:07 AM
Benzo[g,h,i]perylene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/19/16 11:07 AM
Benzo[j]fluoranthene	0.0726	0.0494	0.0988	0.0741	JN	mg/Kg-dry	10	05/19/16 11:07 AM
Benzo[k]fluoranthene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/19/16 11:07 AM
Chrysene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/19/16 11:07 AM
Dibenz[a,h]anthracene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/19/16 11:07 AM
Fluoranthene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/19/16 11:07 AM
Fluorene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/19/16 11:07 AM
Indeno[1,2,3-cd]pyrene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/19/16 11:07 AM
Phenanthrene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/19/16 11:07 AM
Pyrene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/19/16 11:07 AM
IS: Acenaphthene-d10	67.6	0	50-200	0		%REC	10	05/19/16 11:07 AM
IS: Chrysene-d12	66.1	0	50-200	0		%REC	10	05/19/16 11:07 AM
IS: Naphthalene-d8	110	0	50-200	0		%REC	10	05/19/16 11:07 AM
IS: Perylene-d12	67.7	0	50-200	0		%REC	10	05/19/16 11:07 AM
IS: Phenanthrene-d10	63.4	0	50-200	0		%REC	10	05/19/16 11:07 AM
Surr: 2-Fluorobiphenyl	87.3	0	46-115	0		%REC	10	05/19/16 11:07 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(6-8)-B
Project:	Laredo SGR	**Lab ID:**	1605096-68
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:17 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	75.4	0	58-133	0		%REC	10	05/19/16 11:07 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(8-10)-B
Project:	Laredo SGR	**Lab ID:**	1605096-69
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:18 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	8.46	0.0917	0.275	0.138		mg/Kg-dry	5	05/19/16 06:04 PM
IS: Bismuth	86.0	0	30-120	0		%REC	5	05/19/16 06:04 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0715	0.0477	0.0953	0.0715	U	mg/Kg-dry	10	05/19/16 11:47 AM
Acenaphthylene	0.0715	0.0477	0.0953	0.0715	U	mg/Kg-dry	10	05/19/16 11:47 AM
Anthracene	0.0715	0.0477	0.0953	0.0715	U	mg/Kg-dry	10	05/19/16 11:47 AM
Benzo[a]anthracene	0.0715	0.0477	0.0953	0.0715	U	mg/Kg-dry	10	05/19/16 11:47 AM
Benzo[a]pyrene	0.0715	0.0477	0.0953	0.0715	U	mg/Kg-dry	10	05/19/16 11:47 AM
Benzo[b]fluoranthene	0.0715	0.0477	0.0953	0.0715	U	mg/Kg-dry	10	05/19/16 11:47 AM
Benzo[e]pyrene	0.0715	0.0477	0.0953	0.0715	U	mg/Kg-dry	10	05/19/16 11:47 AM
Benzo[g,h,i]perylene	0.0715	0.0477	0.0953	0.0715	U	mg/Kg-dry	10	05/19/16 11:47 AM
Benzo[j]fluoranthene	0.0715	0.0477	0.0953	0.0715	NU	mg/Kg-dry	10	05/19/16 11:47 AM
Benzo[k]fluoranthene	0.0715	0.0477	0.0953	0.0715	U	mg/Kg-dry	10	05/19/16 11:47 AM
Chrysene	0.0715	0.0477	0.0953	0.0715	U	mg/Kg-dry	10	05/19/16 11:47 AM
Dibenz[a,h]anthracene	0.0715	0.0477	0.0953	0.0715	U	mg/Kg-dry	10	05/19/16 11:47 AM
Fluoranthene	0.0715	0.0477	0.0953	0.0715	U	mg/Kg-dry	10	05/19/16 11:47 AM
Fluorene	0.0715	0.0477	0.0953	0.0715	U	mg/Kg-dry	10	05/19/16 11:47 AM
Indeno[1,2,3-cd]pyrene	0.0715	0.0477	0.0953	0.0715	U	mg/Kg-dry	10	05/19/16 11:47 AM
Phenanthrene	0.0715	0.0477	0.0953	0.0715	U	mg/Kg-dry	10	05/19/16 11:47 AM
Pyrene	0.0715	0.0477	0.0953	0.0715	U	mg/Kg-dry	10	05/19/16 11:47 AM
IS: Acenaphthene-d10	66.5	0	50-200	0		%REC	10	05/19/16 11:47 AM
IS: Chrysene-d12	64.3	0	50-200	0		%REC	10	05/19/16 11:47 AM
IS: Naphthalene-d8	106	0	50-200	0		%REC	10	05/19/16 11:47 AM
IS: Perylene-d12	65.5	0	50-200	0		%REC	10	05/19/16 11:47 AM
IS: Phenanthrene-d10	62.6	0	50-200	0		%REC	10	05/19/16 11:47 AM
Surr: 2-Fluorobiphenyl	87.0	0	46-115	0		%REC	10	05/19/16 11:47 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(8-10)-B
Project:	Laredo SGR	**Lab ID:**	1605096-69
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:18 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	74.0	0	58-133	0		%REC	10	05/19/16 11:47 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(0-2)-C
Project:	Laredo SGR	**Lab ID:**	1605096-70
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:20 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	190	0.0926	0.278	0.139		mg/Kg-dry	5	05/19/16 05:10 PM
IS: Bismuth	89.5	0	30-120	0		%REC	5	05/19/16 05:10 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.655	0.0469	0.0939	0.0704		mg/Kg-dry	10	05/19/16 12:26 PM
Acenaphthylene	0.0704	0.0469	0.0939	0.0704	U	mg/Kg-dry	10	05/19/16 12:26 PM
Anthracene	2.26	0.0469	0.0939	0.0704		mg/Kg-dry	10	05/19/16 12:26 PM
Benzo[a]anthracene	18.2	0.0469	0.0939	0.0704		mg/Kg-dry	10	05/19/16 12:26 PM
Benzo[a]pyrene	23.0	0.0469	0.0939	0.0704		mg/Kg-dry	10	05/19/16 12:26 PM
Benzo[b]fluoranthene	22.4	0.0469	0.0939	0.0704		mg/Kg-dry	10	05/19/16 12:26 PM
Benzo[e]pyrene	17.8	0.0469	0.0939	0.0704		mg/Kg-dry	10	05/19/16 12:26 PM
Benzo[g,h,i]perylene	17.6	0.0469	0.0939	0.0704		mg/Kg-dry	10	05/19/16 12:26 PM
Benzo[j]fluoranthene	11.6	0.0469	0.0939	0.0704	N	mg/Kg-dry	10	05/19/16 12:26 PM
Benzo[k]fluoranthene	11.2	0.0469	0.0939	0.0704		mg/Kg-dry	10	05/19/16 12:26 PM
Chrysene	22.0	0.0469	0.0939	0.0704		mg/Kg-dry	10	05/19/16 12:26 PM
Dibenz[a,h]anthracene	3.82	0.0469	0.0939	0.0704		mg/Kg-dry	10	05/19/16 12:26 PM
Fluoranthene	28.8	0.0469	0.0939	0.0704		mg/Kg-dry	10	05/19/16 12:26 PM
Fluorene	0.304	0.0469	0.0939	0.0704		mg/Kg-dry	10	05/19/16 12:26 PM
Indeno[1,2,3-cd]pyrene	14.0	0.0469	0.0939	0.0704		mg/Kg-dry	10	05/19/16 12:26 PM
Phenanthrene	11.3	0.0469	0.0939	0.0704		mg/Kg-dry	10	05/19/16 12:26 PM
Pyrene	24.9	0.0469	0.0939	0.0704		mg/Kg-dry	10	05/19/16 12:26 PM
IS: Acenaphthene-d10	66.8	0	50-200	0		%REC	10	05/19/16 12:26 PM
IS: Chrysene-d12	63.9	0	50-200	0		%REC	10	05/19/16 12:26 PM
IS: Naphthalene-d8	105	0	50-200	0		%REC	10	05/19/16 12:26 PM
IS: Perylene-d12	64.5	0	50-200	0		%REC	10	05/19/16 12:26 PM
IS: Phenanthrene-d10	66.6	0	50-200	0		%REC	10	05/19/16 12:26 PM
Surr: 2-Fluorobiphenyl	90.3	0	46-115	0		%REC	10	05/19/16 12:26 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(0-2)-C
Project:	Laredo SGR	**Lab ID:**	1605096-70
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:20 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	77.8	0	58-133	0		%REC	10	05/19/16 12:26 PM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(2-4)-C
Project:	Laredo SGR	**Lab ID:**	1605096-71
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:21 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	44.3	0.0962	0.288	0.144		mg/Kg-dry	5	05/19/16 06:10 PM
IS: Bismuth	78.4	0	30-120	0		%REC	5	05/19/16 06:10 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.504	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/19/16 01:06 PM
Acenaphthylene	0.0730	0.0486	0.0973	0.0730	U	mg/Kg-dry	10	05/19/16 01:06 PM
Anthracene	1.78	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/19/16 01:06 PM
Benzo[a]anthracene	14.5	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/19/16 01:06 PM
Benzo[a]pyrene	18.3	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/19/16 01:06 PM
Benzo[b]fluoranthene	17.5	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/19/16 01:06 PM
Benzo[e]pyrene	13.8	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/19/16 01:06 PM
Benzo[g,h,i]perylene	13.4	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/19/16 01:06 PM
Benzo[j]fluoranthene	9.07	0.0486	0.0973	0.0730	N	mg/Kg-dry	10	05/19/16 01:06 PM
Benzo[k]fluoranthene	8.77	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/19/16 01:06 PM
Chrysene	17.3	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/19/16 01:06 PM
Dibenz[a,h]anthracene	2.93	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/19/16 01:06 PM
Fluoranthene	23.4	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/19/16 01:06 PM
Fluorene	0.221	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/19/16 01:06 PM
Indeno[1,2,3-cd]pyrene	10.8	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/19/16 01:06 PM
Phenanthrene	8.82	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/19/16 01:06 PM
Pyrene	20.1	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/19/16 01:06 PM
IS: Acenaphthene-d10	68.6	0	50-200	0		%REC	10	05/19/16 01:06 PM
IS: Chrysene-d12	65.8	0	50-200	0		%REC	10	05/19/16 01:06 PM
IS: Naphthalene-d8	107	0	50-200	0		%REC	10	05/19/16 01:06 PM
IS: Perylene-d12	66.2	0	50-200	0		%REC	10	05/19/16 01:06 PM
IS: Phenanthrene-d10	68.0	0	50-200	0		%REC	10	05/19/16 01:06 PM
Surr: 2-Fluorobiphenyl	84.7	0	46-115	0		%REC	10	05/19/16 01:06 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(2-4)-C
Project:	Laredo SGR	**Lab ID:**	1605096-71
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:21 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	74.5	0	58-133	0		%REC	10	05/19/16 01:06 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(4-6)-C
Project:	Laredo SGR	**Lab ID:**	1605096-72
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:22 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	9.60	0.0926	0.278	0.139		mg/Kg-dry	5	05/19/16 07:10 PM
IS: Bismuth	84.0	0	30-120	0		%REC	5	05/19/16 07:10 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.279	0.0483	0.0965	0.0724		mg/Kg-dry	10	05/19/16 01:47 PM
Acenaphthylene	0.0724	0.0483	0.0965	0.0724	U	mg/Kg-dry	10	05/19/16 01:47 PM
Anthracene	1.24	0.0483	0.0965	0.0724		mg/Kg-dry	10	05/19/16 01:47 PM
Benzo[a]anthracene	7.48	0.0483	0.0965	0.0724		mg/Kg-dry	10	05/19/16 01:47 PM
Benzo[a]pyrene	8.39	0.0483	0.0965	0.0724		mg/Kg-dry	10	05/19/16 01:47 PM
Benzo[b]fluoranthene	7.71	0.0483	0.0965	0.0724		mg/Kg-dry	10	05/19/16 01:47 PM
Benzo[e]pyrene	6.11	0.0483	0.0965	0.0724		mg/Kg-dry	10	05/19/16 01:47 PM
Benzo[g,h,i]perylene	5.40	0.0483	0.0965	0.0724		mg/Kg-dry	10	05/19/16 01:47 PM
Benzo[j]fluoranthene	4.29	0.0483	0.0965	0.0724	N	mg/Kg-dry	10	05/19/16 01:47 PM
Benzo[k]fluoranthene	4.20	0.0483	0.0965	0.0724		mg/Kg-dry	10	05/19/16 01:47 PM
Chrysene	8.61	0.0483	0.0965	0.0724		mg/Kg-dry	10	05/19/16 01:47 PM
Dibenz[a,h]anthracene	1.29	0.0483	0.0965	0.0724		mg/Kg-dry	10	05/19/16 01:47 PM
Fluoranthene	13.5	0.0483	0.0965	0.0724		mg/Kg-dry	10	05/19/16 01:47 PM
Fluorene	0.165	0.0483	0.0965	0.0724		mg/Kg-dry	10	05/19/16 01:47 PM
Indeno[1,2,3-cd]pyrene	4.54	0.0483	0.0965	0.0724		mg/Kg-dry	10	05/19/16 01:47 PM
Phenanthrene	5.63	0.0483	0.0965	0.0724		mg/Kg-dry	10	05/19/16 01:47 PM
Pyrene	11.3	0.0483	0.0965	0.0724		mg/Kg-dry	10	05/19/16 01:47 PM
IS: Acenaphthene-d10	68.0	0	50-200	0		%REC	10	05/19/16 01:47 PM
IS: Chrysene-d12	66.4	0	50-200	0		%REC	10	05/19/16 01:47 PM
IS: Naphthalene-d8	108	0	50-200	0		%REC	10	05/19/16 01:47 PM
IS: Perylene-d12	66.9	0	50-200	0		%REC	10	05/19/16 01:47 PM
IS: Phenanthrene-d10	65.7	0	50-200	0		%REC	10	05/19/16 01:47 PM
Surr: 2-Fluorobiphenyl	81.9	0	46-115	0		%REC	10	05/19/16 01:47 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(4-6)-C
Project:	Laredo SGR	**Lab ID:**	1605096-72
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:22 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	73.7	0	58-133	0		%REC	10	05/19/16 01:47 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(6-8)-C
Project:	Laredo SGR	**Lab ID:**	1605096-73
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:23 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	9.59	0.0926	0.278	0.139		mg/Kg-dry	5	05/19/16 07:16 PM
IS: Bismuth	86.1	0	30-120	0		%REC	5	05/19/16 07:16 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/19/16 02:27 PM
Acenaphthylene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/19/16 02:27 PM
Anthracene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/19/16 02:27 PM
Benzo[a]anthracene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/19/16 02:27 PM
Benzo[a]pyrene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/19/16 02:27 PM
Benzo[b]fluoranthene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/19/16 02:27 PM
Benzo[e]pyrene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/19/16 02:27 PM
Benzo[g,h,i]perylene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/19/16 02:27 PM
Benzo[j]fluoranthene	0.0730	0.0487	0.0974	0.0730	NU	mg/Kg-dry	10	05/19/16 02:27 PM
Benzo[k]fluoranthene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/19/16 02:27 PM
Chrysene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/19/16 02:27 PM
Dibenz[a,h]anthracene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/19/16 02:27 PM
Fluoranthene	0.0527	0.0487	0.0974	0.0730	J	mg/Kg-dry	10	05/19/16 02:27 PM
Fluorene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/19/16 02:27 PM
Indeno[1,2,3-cd]pyrene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/19/16 02:27 PM
Phenanthrene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/19/16 02:27 PM
Pyrene	0.0507	0.0487	0.0974	0.0730	J	mg/Kg-dry	10	05/19/16 02:27 PM
IS: Acenaphthene-d10	68.4	0	50-200	0		%REC	10	05/19/16 02:27 PM
IS: Chrysene-d12	68.1	0	50-200	0		%REC	10	05/19/16 02:27 PM
IS: Naphthalene-d8	111	0	50-200	0		%REC	10	05/19/16 02:27 PM
IS: Perylene-d12	68.8	0	50-200	0		%REC	10	05/19/16 02:27 PM
IS: Phenanthrene-d10	65.8	0	50-200	0		%REC	10	05/19/16 02:27 PM
Surr: 2-Fluorobiphenyl	79.0	0	46-115	0		%REC	10	05/19/16 02:27 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(6-8)-C
Project:	Laredo SGR	**Lab ID:**	1605096-73
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:23 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	70.6	0	58-133	0		%REC	10	05/19/16 02:27 PM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(8-10)-C
Project:	Laredo SGR	**Lab ID:**	1605096-74
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:24 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **KL**
Lead	7.09	0.0943	0.283	0.142		mg/Kg-dry	5	05/19/16 07:22 PM
IS: Bismuth	75.8	0	30-120	0		%REC	5	05/19/16 07:22 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0699	0.0466	0.0932	0.0699	U	mg/Kg-dry	10	05/19/16 03:08 PM
Acenaphthylene	0.0699	0.0466	0.0932	0.0699	U	mg/Kg-dry	10	05/19/16 03:08 PM
Anthracene	0.0699	0.0466	0.0932	0.0699	U	mg/Kg-dry	10	05/19/16 03:08 PM
Benzo[a]anthracene	0.141	0.0466	0.0932	0.0699		mg/Kg-dry	10	05/19/16 03:08 PM
Benzo[a]pyrene	0.154	0.0466	0.0932	0.0699		mg/Kg-dry	10	05/19/16 03:08 PM
Benzo[b]fluoranthene	0.136	0.0466	0.0932	0.0699		mg/Kg-dry	10	05/19/16 03:08 PM
Benzo[e]pyrene	0.113	0.0466	0.0932	0.0699		mg/Kg-dry	10	05/19/16 03:08 PM
Benzo[g,h,i]perylene	0.105	0.0466	0.0932	0.0699		mg/Kg-dry	10	05/19/16 03:08 PM
Benzo[j]fluoranthene	0.0818	0.0466	0.0932	0.0699	JN	mg/Kg-dry	10	05/19/16 03:08 PM
Benzo[k]fluoranthene	0.0812	0.0466	0.0932	0.0699	J	mg/Kg-dry	10	05/19/16 03:08 PM
Chrysene	0.157	0.0466	0.0932	0.0699		mg/Kg-dry	10	05/19/16 03:08 PM
Dibenz[a,h]anthracene	0.0699	0.0466	0.0932	0.0699	U	mg/Kg-dry	10	05/19/16 03:08 PM
Fluoranthene	0.296	0.0466	0.0932	0.0699		mg/Kg-dry	10	05/19/16 03:08 PM
Fluorene	0.0699	0.0466	0.0932	0.0699	U	mg/Kg-dry	10	05/19/16 03:08 PM
Indeno[1,2,3-cd]pyrene	0.0840	0.0466	0.0932	0.0699	J	mg/Kg-dry	10	05/19/16 03:08 PM
Phenanthrene	0.144	0.0466	0.0932	0.0699		mg/Kg-dry	10	05/19/16 03:08 PM
Pyrene	0.241	0.0466	0.0932	0.0699		mg/Kg-dry	10	05/19/16 03:08 PM
IS: Acenaphthene-d10	70.3	0	50-200	0		%REC	10	05/19/16 03:08 PM
IS: Chrysene-d12	68.9	0	50-200	0		%REC	10	05/19/16 03:08 PM
IS: Naphthalene-d8	113	0	50-200	0		%REC	10	05/19/16 03:08 PM
IS: Perylene-d12	70.3	0	50-200	0		%REC	10	05/19/16 03:08 PM
IS: Phenanthrene-d10	66.9	0	50-200	0		%REC	10	05/19/16 03:08 PM
Surr: 2-Fluorobiphenyl	80.4	0	46-115	0		%REC	10	05/19/16 03:08 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *31-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU010-06(8-10)-C
Project:	Laredo SGR	**Lab ID:**	1605096-74
Project No:	04285081.0000.00044	**Collection Date:**	05/07/16 04:24 PM
Lab Order:	1605096	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	71.2	0	58-133	0		%REC	10	05/19/16 03:08 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT: Arcadis
Work Order: 1605096
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_160518B

Sample ID **DCS1-74845**	Batch ID: **74845**	TestNo: **SW6020A**	Units: **mg/Kg**
SampType: **DCS**	Run ID: **ICP-MS3_160518B**	Analysis Date: **5/18/2016 2:52:00 PM**	Prep Date: **4/28/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.289	0.300	0.2500	0	116	80	120	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605096
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_160519A

The QC data in batch 75168 applies to the following samples: 1605096-41A, 1605096-42A, 1605096-43A, 1605096-45A, 1605096-46A, 1605096-47A, 1605096-48A, 1605096-49A, 1605096-50A, 1605096-51A, 1605096-52A, 1605096-53A, 1605096-54A, 1605096-55A, 1605096-56A, 1605096-57A, 1605096-58A, 1605096-59A, 1605096-60A, 1605096-61A

Sample ID **MB-75168** Batch ID: **75168** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **MBLK** Run ID: **ICP-MS3_160519A** Analysis Date: **5/19/2016 8:34:00 PM** Prep Date: **5/16/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.150	0.300								U
IS: Bismuth	50.0		200.0		79.6	30	120			

Sample ID **LCS-75168** Batch ID: **75168** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **LCS** Run ID: **ICP-MS3_160519A** Analysis Date: **5/19/2016 8:40:00 PM** Prep Date: **5/16/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	47.5	0.300	50.00	0	95.0	84	118			
IS: Bismuth	50.0		200.0		78.0	30	120			

Sample ID **LCSD-75168** Batch ID: **75168** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **LCSD** Run ID: **ICP-MS3_160519A** Analysis Date: **5/19/2016 8:46:00 PM** Prep Date: **5/16/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	48.1	0.300	50.00	0	96.2	84	118	1.26	20	
IS: Bismuth	50.0		200.0		77.9	30	120	0	0	

Sample ID **1605096-42A SD** Batch ID: **75168** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **SD** Run ID: **ICP-MS3_160519A** Analysis Date: **5/19/2016 9:04:00 PM** Prep Date: **5/16/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	26.5	1.29	0	26.51				0.203	10	
IS: Bismuth	216		172.4		82.4	30	120	0	0	

Sample ID **1605096-42A PDS** Batch ID: **75168** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **PDS** Run ID: **ICP-MS3_160519A** Analysis Date: **5/19/2016 10:04:00 PM** Prep Date: **5/16/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	69.5	0.259	43.10	26.51	99.9	80	120			
IS: Bismuth	43.1		862.1		79.9	30	120			

Sample ID **1605096-42A MS** Batch ID: **75168** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **MS** Run ID: **ICP-MS3_160519A** Analysis Date: **5/19/2016 10:10:00 PM** Prep Date: **5/16/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	71.3	0.273	45.45	26.51	98.6	84	118			
IS: Bismuth	45.5		181.8		78.7	30	120			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605096
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_160519A

Sample ID **1605096-42A MSD**	Batch ID: **75168**	TestNo: **SW6020A**	Units: **mg/Kg-dry**		
SampType: **MSD**	Run ID: **ICP-MS3_160519A**	Analysis Date: **5/19/2016 10:16:00 PM**	Prep Date: **5/16/2016**		

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	77.1	0.288	48.08	26.51	105	84	118	7.84	20	
IS: Bismuth	48.1		192.3		78.6	30	120	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605096
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_160519A

The QC data in batch 75169 applies to the following samples: 1605096-62A, 1605096-63A, 1605096-64A, 1605096-65A, 1605096-66A, 1605096-67A, 1605096-68A, 1605096-69A, 1605096-70A, 1605096-71A, 1605096-72A, 1605096-73A, 1605096-74A

Sample ID **MB-75169** Batch ID: **75169** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **MBLK** Run ID: **ICP-MS3_160519A** Analysis Date: **5/19/2016 4:40:00 PM** Prep Date: **5/16/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.150	0.300								U
IS: Bismuth	50.0		200.0		98.1	30	120			

Sample ID **LCSD-75169** Batch ID: **75169** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **LCSD** Run ID: **ICP-MS3_160519A** Analysis Date: **5/19/2016 4:52:00 PM** Prep Date: **5/16/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	49.6	0.300	50.00	0	99.1	84	118	1.22	20	
IS: Bismuth	50.0		200.0		90.2	30	120	0	0	

Sample ID **LCS-75169** Batch ID: **75169** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **LCS** Run ID: **ICP-MS3_160519A** Analysis Date: **5/19/2016 5:04:00 PM** Prep Date: **5/16/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	49.0	0.300	50.00	0	97.9	84	118			
IS: Bismuth	50.0		200.0		91.8	30	120			

Sample ID **1605096-70A SD** Batch ID: **75169** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **SD** Run ID: **ICP-MS3_160519A** Analysis Date: **5/19/2016 5:16:00 PM** Prep Date: **5/16/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	181	1.39	0	190.4				4.97	10	
IS: Bismuth	231		185.2		95.0	30	120	0	0	

Sample ID **1605096-70A PDS** Batch ID: **75169** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **PDS** Run ID: **ICP-MS3_160519A** Analysis Date: **5/19/2016 6:15:00 PM** Prep Date: **5/16/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	239	0.278	46.30	190.4	105	80	120			
IS: Bismuth	46.3		925.9		79.7	30	120			

Sample ID **1605096-70A MS** Batch ID: **75169** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **MS** Run ID: **ICP-MS3_160519A** Analysis Date: **5/19/2016 6:21:00 PM** Prep Date: **5/16/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	233	0.273	45.45	190.4	93.2	84	118			
IS: Bismuth	45.5		181.8		80.8	30	120			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605096
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_160519A

Sample ID **1605096-70A MSD**	Batch ID: **75169**	TestNo: **SW6020A**	Units: **mg/Kg-dry**		
SampType: **MSD**	Run ID: **ICP-MS3_160519A**	Analysis Date: **5/19/2016 6:27:00 PM**	Prep Date: **5/16/2016**		

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	216	0.291	48.54	190.4	52.7	84	118	7.47	20	S
IS: Bismuth	48.5		194.2		82.8	30	120	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605096
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_160519A

Sample ID **ICV1-160519**	Batch ID: **R85905**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **ICV**	Run ID: **ICP-MS3_160519A**	Analysis Date: **5/19/2016 1:04:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.0984	0.00100	0.100	0	98.4	90	110			
IS: Bismuth	0.200		0.200		87.9	30	120			

Sample ID **ILCVL-160519**	Batch ID: **R85905**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS3_160519A**	Analysis Date: **5/19/2016 1:16:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.000993	0.00100	0.00100	0	99.3	80	120			
IS: Bismuth	0.200		0.200		90.2	30	120			

Sample ID **CCV2-160519**	Batch ID: **R85905**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS3_160519A**	Analysis Date: **5/19/2016 4:22:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.200	0.00100	0.200	0	99.9	90	110			
IS: Bismuth	0.200		0.200		93.6	30	120			

Sample ID **LCVL2-160519**	Batch ID: **R85905**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS3_160519A**	Analysis Date: **5/19/2016 4:34:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00101	0.00100	0.00100	0	101	80	120			
IS: Bismuth	0.200		0.200		95.5	30	120			

Sample ID **CCV3-160519**	Batch ID: **R85905**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS3_160519A**	Analysis Date: **5/19/2016 6:39:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.201	0.00100	0.200	0	101	90	110			
IS: Bismuth	0.200		0.200		85.1	30	120			

Sample ID **LCVL3-160519**	Batch ID: **R85905**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS3_160519A**	Analysis Date: **5/19/2016 6:57:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00102	0.00100	0.00100	0	102	80	120			
IS: Bismuth	0.200		0.200		89.5	30	120			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605096
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_160519A

Sample ID **CCV4-160519**	Batch ID: **R85905**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS3_160519A**	Analysis Date: **5/19/2016 8:09:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.192	0.00100	0.200	0	95.8	90	110			
IS: Bismuth	0.200		0.200		80.4	30	120			

Sample ID **LCVL4-160519**	Batch ID: **R85905**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS3_160519A**	Analysis Date: **5/19/2016 8:21:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00100	0.00100	0.00100	0	100	80	120			
IS: Bismuth	0.200		0.200		82.4	30	120			

Sample ID **CCV5-160519**	Batch ID: **R85905**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS3_160519A**	Analysis Date: **5/19/2016 10:28:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.190	0.00100	0.200	0	95.2	90	110			
IS: Bismuth	0.200		0.200		80.8	30	120			

Sample ID **LCVL5-160519**	Batch ID: **R85905**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS3_160519A**	Analysis Date: **5/19/2016 10:40:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00104	0.00100	0.00100	0	104	80	120			
IS: Bismuth	0.200		0.200		83.3	30	120			

Sample ID **CCV6-160519**	Batch ID: **R85905**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS3_160519A**	Analysis Date: **5/19/2016 11:52:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.192	0.00100	0.200	0	96.2	90	110			
IS: Bismuth	0.200		0.200		80.9	30	120			

Sample ID **LCVL6-160519**	Batch ID: **R85905**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS3_160519A**	Analysis Date: **5/20/2016 12:04:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00106	0.00100	0.00100	0	106	80	120			
IS: Bismuth	0.200		0.200		88.7	30	120			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605096
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_160525A

The QC data in batch 75167 applies to the following samples: 1605096-19A, 1605096-20A, 1605096-21A, 1605096-22A, 1605096-23A, 1605096-24A, 1605096-25A, 1605096-26A, 1605096-27A, 1605096-28A, 1605096-29A, 1605096-30A, 1605096-31A, 1605096-32A, 1605096-33A, 1605096-34A, 1605096-35A, 1605096-38A, 1605096-39A, 1605096-40A

Sample ID **MB-75167** Batch ID: **75167** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **MBLK** Run ID: **ICP-MS3_160525A** Analysis Date: **5/25/2016 1:13:00 PM** Prep Date: **5/17/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.150	0.300								U
IS: Bismuth	50.0		200.0		96.7	30	120			

Sample ID **LCS-75167** Batch ID: **75167** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **LCS** Run ID: **ICP-MS3_160525A** Analysis Date: **5/25/2016 1:19:00 PM** Prep Date: **5/17/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	50.5	0.300	50.00	0	101	84	118			
IS: Bismuth	50.0		200.0		90.8	30	120			

Sample ID **LCSD-75167** Batch ID: **75167** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **LCSD** Run ID: **ICP-MS3_160525A** Analysis Date: **5/25/2016 1:25:00 PM** Prep Date: **5/17/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	51.2	0.300	50.00	0	102	84	118	1.23	20	
IS: Bismuth	50.0		200.0		92.0	30	120	0	0	

Sample ID **1605096-25A SD** Batch ID: **75167** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **SD** Run ID: **ICP-MS3_160525A** Analysis Date: **5/25/2016 1:43:00 PM** Prep Date: **5/17/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	10.8	1.32	0	11.14				2.93	10	
IS: Bismuth	219		175.4		87.1	30	120	0	0	

Sample ID **1605096-25A PDS** Batch ID: **75167** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **PDS** Run ID: **ICP-MS3_160525A** Analysis Date: **5/25/2016 2:42:00 PM** Prep Date: **5/17/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	55.2	0.263	43.86	11.14	101	80	120			
IS: Bismuth	43.9		877.2		86.0	30	120			

Sample ID **1605096-25A MS** Batch ID: **75167** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **MS** Run ID: **ICP-MS3_160525A** Analysis Date: **5/25/2016 2:48:00 PM** Prep Date: **5/17/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	61.0	0.288	48.08	11.14	104	84	118			
IS: Bismuth	48.1		192.3		90.7	30	120			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605096
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_160525A

Sample ID **1605096-25A MSD**	Batch ID: **75167**	TestNo: **SW6020A**	Units: **mg/Kg-dry**		
SampType: **MSD**	Run ID: **ICP-MS3_160525A**	Analysis Date: **5/25/2016 2:54:00 PM**	Prep Date: **5/17/2016**		

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	61.1	0.294	49.02	11.14	102	84	118	0.152	20	
IS: Bismuth	49.0		196.1		86.1	30	120	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605096
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_160525A

Sample ID **ICV1-160525**	Batch ID: **R86019**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **ICV**	Run ID: **ICP-MS3_160525A**	Analysis Date: **5/25/2016 12:52:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.0996	0.00100	0.100	0	99.6	90	110			
IS: Bismuth	0.200		0.200		91.9	30	120			

Sample ID **ILCVL-160525**	Batch ID: **R86019**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS3_160525A**	Analysis Date: **5/25/2016 1:04:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00103	0.00100	0.00100	0	103	80	120			
IS: Bismuth	0.200		0.200		93.6	30	120			

Sample ID **CCV1-160525**	Batch ID: **R86019**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS3_160525A**	Analysis Date: **5/25/2016 3:00:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.203	0.00100	0.200	0	101	90	110			
IS: Bismuth	0.200		0.200		93.7	30	120			

Sample ID **LCVL1-160525**	Batch ID: **R86019**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS3_160525A**	Analysis Date: **5/25/2016 3:12:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00113	0.00100	0.00100	0	113	80	120			
IS: Bismuth	0.200		0.200		98.1	30	120			

Sample ID **CCV2-160525**	Batch ID: **R86019**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS3_160525A**	Analysis Date: **5/25/2016 4:18:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.204	0.00100	0.200	0	102	90	110			
IS: Bismuth	0.200		0.200		102	30	120			

Sample ID **LCVL2-160525**	Batch ID: **R86019**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS3_160525A**	Analysis Date: **5/25/2016 4:30:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00113	0.00100	0.00100	0	113	80	120			
IS: Bismuth	0.200		0.200		107	30	120			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605096
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160427C

Sample ID **DCS1-74736**	Batch ID: **74736**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **DCS**	Run ID: **ICP-MS4_160427C**	Analysis Date: **4/27/2016 4:25:00 PM**	Prep Date: **4/21/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.000486	0.00100	0.000500	0	97.2	80	120	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Arcadis
Work Order: 1605096
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160429A

Sample ID **DCS1-74845**	Batch ID: **74845**	TestNo: **SW6020A**	Units: **mg/Kg**
SampType: **DCS**	Run ID: **ICP-MS4_160429A**	Analysis Date: **4/29/2016 12:19:00 PM**	Prep Date: **4/28/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.310	0.300	0.2500	0	124	70	130	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified