DHL Analytical, Inc.

Date: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU056(8-10)-C
Project:	Laredo SGR	**Lab ID:**	1605034-15
Project No:	4285081.00044	**Collection Date:**	05/03/16 01:05 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	8.31	0.0980	0.294	0.147		mg/Kg-dry	5	05/16/16 02:08 PM
IS: Bismuth	97.7	0	30-120	0		%REC	5	05/16/16 02:08 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 11:52 PM
Acenaphthylene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 11:52 PM
Anthracene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 11:52 PM
Benzo[a]anthracene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 11:52 PM
Benzo[a]pyrene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 11:52 PM
Benzo[b]fluoranthene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 11:52 PM
Benzo[e]pyrene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 11:52 PM
Benzo[g,h,i]perylene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 11:52 PM
Benzo[j]fluoranthene	0.0741	0.0494	0.0988	0.0741	NU	mg/Kg-dry	10	05/10/16 11:52 PM
Benzo[k]fluoranthene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 11:52 PM
Chrysene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 11:52 PM
Dibenz[a,h]anthracene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 11:52 PM
Fluoranthene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 11:52 PM
Fluorene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 11:52 PM
Indeno[1,2,3-cd]pyrene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 11:52 PM
Phenanthrene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 11:52 PM
Pyrene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 11:52 PM
IS: Acenaphthene-d10	83.9	0	50-200	0		%REC	10	05/10/16 11:52 PM
IS: Chrysene-d12	90.3	0	50-200	0		%REC	10	05/10/16 11:52 PM
IS: Naphthalene-d8	126	0	50-200	0		%REC	10	05/10/16 11:52 PM
IS: Perylene-d12	90.8	0	50-200	0		%REC	10	05/10/16 11:52 PM
IS: Phenanthrene-d10	86.0	0	50-200	0		%REC	10	05/10/16 11:52 PM
Surr: 2-Fluorobiphenyl	87.3	0	46-115	0		%REC	10	05/10/16 11:52 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU056(8-10)-C
Project:	Laredo SGR	**Lab ID:**	1605034-15
Project No:	4285081.00044	**Collection Date:**	05/03/16 01:05 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	76.8	0	58-133	0		%REC	10	05/10/16 11:52 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(0-2)-A
Project:	Laredo SGR	**Lab ID:**	1605034-16
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:37 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	10.9	0.0909	0.273	0.136		mg/Kg-dry	5	05/16/16 02:10 PM
IS: Bismuth	93.5	0	30-120	0		%REC	5	05/16/16 02:10 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0736	0.0491	0.0981	0.0736	U	mg/Kg-dry	10	05/11/16 12:32 AM
Acenaphthylene	0.0736	0.0491	0.0981	0.0736	U	mg/Kg-dry	10	05/11/16 12:32 AM
Anthracene	0.0736	0.0491	0.0981	0.0736	U	mg/Kg-dry	10	05/11/16 12:32 AM
Benzo[a]anthracene	0.0740	0.0491	0.0981	0.0736	J	mg/Kg-dry	10	05/11/16 12:32 AM
Benzo[a]pyrene	0.0894	0.0491	0.0981	0.0736	J	mg/Kg-dry	10	05/11/16 12:32 AM
Benzo[b]fluoranthene	0.0828	0.0491	0.0981	0.0736	J	mg/Kg-dry	10	05/11/16 12:32 AM
Benzo[e]pyrene	0.0686	0.0491	0.0981	0.0736	J	mg/Kg-dry	10	05/11/16 12:32 AM
Benzo[g,h,i]perylene	0.0711	0.0491	0.0981	0.0736	J	mg/Kg-dry	10	05/11/16 12:32 AM
Benzo[j]fluoranthene	0.0736	0.0491	0.0981	0.0736	NU	mg/Kg-dry	10	05/11/16 12:32 AM
Benzo[k]fluoranthene	0.0736	0.0491	0.0981	0.0736	U	mg/Kg-dry	10	05/11/16 12:32 AM
Chrysene	0.0891	0.0491	0.0981	0.0736	J	mg/Kg-dry	10	05/11/16 12:32 AM
Dibenz[a,h]anthracene	0.0736	0.0491	0.0981	0.0736	U	mg/Kg-dry	10	05/11/16 12:32 AM
Fluoranthene	0.130	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/11/16 12:32 AM
Fluorene	0.0736	0.0491	0.0981	0.0736	U	mg/Kg-dry	10	05/11/16 12:32 AM
Indeno[1,2,3-cd]pyrene	0.0589	0.0491	0.0981	0.0736	J	mg/Kg-dry	10	05/11/16 12:32 AM
Phenanthrene	0.0530	0.0491	0.0981	0.0736	J	mg/Kg-dry	10	05/11/16 12:32 AM
Pyrene	0.116	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/11/16 12:32 AM
IS: Acenaphthene-d10	79.1	0	50-200	0		%REC	10	05/11/16 12:32 AM
IS: Chrysene-d12	85.7	0	50-200	0		%REC	10	05/11/16 12:32 AM
IS: Naphthalene-d8	118	0	50-200	0		%REC	10	05/11/16 12:32 AM
IS: Perylene-d12	86.9	0	50-200	0		%REC	10	05/11/16 12:32 AM
IS: Phenanthrene-d10	80.5	0	50-200	0		%REC	10	05/11/16 12:32 AM
Surr: 2-Fluorobiphenyl	85.0	0	46-115	0		%REC	10	05/11/16 12:32 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(0-2)-A
Project:	Laredo SGR	**Lab ID:**	1605034-16
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:37 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	77.5	0	58-133	0		%REC	10	05/11/16 12:32 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(2-4)-A
Project:	Laredo SGR	**Lab ID:**	1605034-17
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:39 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	6.18	0.0926	0.278	0.139		mg/Kg-dry	5	05/16/16 02:12 PM
IS: Bismuth	92.4	0	30-120	0		%REC	5	05/16/16 02:12 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/11/16 01:13 AM
Acenaphthylene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/11/16 01:13 AM
Anthracene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/11/16 01:13 AM
Benzo[a]anthracene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/11/16 01:13 AM
Benzo[a]pyrene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/11/16 01:13 AM
Benzo[b]fluoranthene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/11/16 01:13 AM
Benzo[e]pyrene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/11/16 01:13 AM
Benzo[g,h,i]perylene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/11/16 01:13 AM
Benzo[j]fluoranthene	0.0738	0.0492	0.0984	0.0738	NU	mg/Kg-dry	10	05/11/16 01:13 AM
Benzo[k]fluoranthene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/11/16 01:13 AM
Chrysene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/11/16 01:13 AM
Dibenz[a,h]anthracene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/11/16 01:13 AM
Fluoranthene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/11/16 01:13 AM
Fluorene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/11/16 01:13 AM
Indeno[1,2,3-cd]pyrene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/11/16 01:13 AM
Phenanthrene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/11/16 01:13 AM
Pyrene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/11/16 01:13 AM
IS: Acenaphthene-d10	80.9	0	50-200	0		%REC	10	05/11/16 01:13 AM
IS: Chrysene-d12	87.4	0	50-200	0		%REC	10	05/11/16 01:13 AM
IS: Naphthalene-d8	110	0	50-200	0		%REC	10	05/11/16 01:13 AM
IS: Perylene-d12	88.6	0	50-200	0		%REC	10	05/11/16 01:13 AM
IS: Phenanthrene-d10	78.9	0	50-200	0		%REC	10	05/11/16 01:13 AM
Surr: 2-Fluorobiphenyl	85.9	0	46-115	0		%REC	10	05/11/16 01:13 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(2-4)-A
Project:	Laredo SGR	**Lab ID:**	1605034-17
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:39 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	78.7	0	58-133	0		%REC	10	05/11/16 01:13 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(4-6)-A
Project:	Laredo SGR	**Lab ID:**	1605034-18
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:41 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	6.97	0.0935	0.280	0.140		mg/Kg-dry	5	05/16/16 02:14 PM
IS: Bismuth	91.8	0	30-120	0		%REC	5	05/16/16 02:14 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0733	0.0489	0.0978	0.0733	U	mg/Kg-dry	10	05/11/16 01:53 AM
Acenaphthylene	0.0733	0.0489	0.0978	0.0733	U	mg/Kg-dry	10	05/11/16 01:53 AM
Anthracene	0.0733	0.0489	0.0978	0.0733	U	mg/Kg-dry	10	05/11/16 01:53 AM
Benzo[a]anthracene	0.0733	0.0489	0.0978	0.0733	U	mg/Kg-dry	10	05/11/16 01:53 AM
Benzo[a]pyrene	0.0733	0.0489	0.0978	0.0733	U	mg/Kg-dry	10	05/11/16 01:53 AM
Benzo[b]fluoranthene	0.0733	0.0489	0.0978	0.0733	U	mg/Kg-dry	10	05/11/16 01:53 AM
Benzo[e]pyrene	0.0733	0.0489	0.0978	0.0733	U	mg/Kg-dry	10	05/11/16 01:53 AM
Benzo[g,h,i]perylene	0.0733	0.0489	0.0978	0.0733	U	mg/Kg-dry	10	05/11/16 01:53 AM
Benzo[j]fluoranthene	0.0733	0.0489	0.0978	0.0733	NU	mg/Kg-dry	10	05/11/16 01:53 AM
Benzo[k]fluoranthene	0.0733	0.0489	0.0978	0.0733	U	mg/Kg-dry	10	05/11/16 01:53 AM
Chrysene	0.0733	0.0489	0.0978	0.0733	U	mg/Kg-dry	10	05/11/16 01:53 AM
Dibenz[a,h]anthracene	0.0733	0.0489	0.0978	0.0733	U	mg/Kg-dry	10	05/11/16 01:53 AM
Fluoranthene	0.0733	0.0489	0.0978	0.0733	U	mg/Kg-dry	10	05/11/16 01:53 AM
Fluorene	0.0733	0.0489	0.0978	0.0733	U	mg/Kg-dry	10	05/11/16 01:53 AM
Indeno[1,2,3-cd]pyrene	0.0733	0.0489	0.0978	0.0733	U	mg/Kg-dry	10	05/11/16 01:53 AM
Phenanthrene	0.0733	0.0489	0.0978	0.0733	U	mg/Kg-dry	10	05/11/16 01:53 AM
Pyrene	0.0733	0.0489	0.0978	0.0733	U	mg/Kg-dry	10	05/11/16 01:53 AM
IS: Acenaphthene-d10	83.1	0	50-200	0		%REC	10	05/11/16 01:53 AM
IS: Chrysene-d12	88.3	0	50-200	0		%REC	10	05/11/16 01:53 AM
IS: Naphthalene-d8	121	0	50-200	0		%REC	10	05/11/16 01:53 AM
IS: Perylene-d12	90.1	0	50-200	0		%REC	10	05/11/16 01:53 AM
IS: Phenanthrene-d10	82.9	0	50-200	0		%REC	10	05/11/16 01:53 AM
Surr: 2-Fluorobiphenyl	84.5	0	46-115	0		%REC	10	05/11/16 01:53 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(4-6)-A
Project:	Laredo SGR	**Lab ID:**	1605034-18
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:41 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	76.3	0	58-133	0		%REC	10	05/11/16 01:53 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(6-8)-A
Project:	Laredo SGR	**Lab ID:**	1605034-19
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:43 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	6.92	0.0952	0.286	0.143		mg/Kg-dry	5	05/16/16 02:16 PM
IS: Bismuth	93.6	0	30-120	0		%REC	5	05/16/16 02:16 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/11/16 02:33 AM
Acenaphthylene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/11/16 02:33 AM
Anthracene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/11/16 02:33 AM
Benzo[a]anthracene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/11/16 02:33 AM
Benzo[a]pyrene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/11/16 02:33 AM
Benzo[b]fluoranthene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/11/16 02:33 AM
Benzo[e]pyrene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/11/16 02:33 AM
Benzo[g,h,i]perylene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/11/16 02:33 AM
Benzo[j]fluoranthene	0.0730	0.0487	0.0974	0.0730	NU	mg/Kg-dry	10	05/11/16 02:33 AM
Benzo[k]fluoranthene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/11/16 02:33 AM
Chrysene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/11/16 02:33 AM
Dibenz[a,h]anthracene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/11/16 02:33 AM
Fluoranthene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/11/16 02:33 AM
Fluorene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/11/16 02:33 AM
Indeno[1,2,3-cd]pyrene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/11/16 02:33 AM
Phenanthrene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/11/16 02:33 AM
Pyrene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/11/16 02:33 AM
IS: Acenaphthene-d10	75.2	0	50-200	0		%REC	10	05/11/16 02:33 AM
IS: Chrysene-d12	86.4	0	50-200	0		%REC	10	05/11/16 02:33 AM
IS: Naphthalene-d8	124	0	50-200	0		%REC	10	05/11/16 02:33 AM
IS: Perylene-d12	88.6	0	50-200	0		%REC	10	05/11/16 02:33 AM
IS: Phenanthrene-d10	86.1	0	50-200	0		%REC	10	05/11/16 02:33 AM
Surr: 2-Fluorobiphenyl	83.3	0	46-115	0		%REC	10	05/11/16 02:33 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(6-8)-A
Project:	Laredo SGR	**Lab ID:**	1605034-19
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:43 PM
Lab Order:	1605034	**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	05/11/16 02:33 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(8-10)-A
Project:	Laredo SGR	**Lab ID:**	1605034-20
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:44 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	8.55	0.0952	0.286	0.143		mg/Kg-dry	5	05/16/16 02:18 PM
IS: Bismuth	92.9	0	30-120	0		%REC	5	05/16/16 02:18 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 03:12 AM
Acenaphthylene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 03:12 AM
Anthracene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 03:12 AM
Benzo[a]anthracene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 03:12 AM
Benzo[a]pyrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 03:12 AM
Benzo[b]fluoranthene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 03:12 AM
Benzo[e]pyrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 03:12 AM
Benzo[g,h,i]perylene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 03:12 AM
Benzo[j]fluoranthene	0.0749	0.0500	0.0999	0.0749	NU	mg/Kg-dry	10	05/11/16 03:12 AM
Benzo[k]fluoranthene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 03:12 AM
Chrysene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 03:12 AM
Dibenz[a,h]anthracene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 03:12 AM
Fluoranthene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 03:12 AM
Fluorene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 03:12 AM
Indeno[1,2,3-cd]pyrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 03:12 AM
Phenanthrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 03:12 AM
Pyrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 03:12 AM
IS: Acenaphthene-d10	79.3	0	50-200	0		%REC	10	05/11/16 03:12 AM
IS: Chrysene-d12	83.8	0	50-200	0		%REC	10	05/11/16 03:12 AM
IS: Naphthalene-d8	113	0	50-200	0		%REC	10	05/11/16 03:12 AM
IS: Perylene-d12	84.6	0	50-200	0		%REC	10	05/11/16 03:12 AM
IS: Phenanthrene-d10	80.8	0	50-200	0		%REC	10	05/11/16 03:12 AM
Surr: 2-Fluorobiphenyl	87.0	0	46-115	0		%REC	10	05/11/16 03:12 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(8-10)-A
Project:	Laredo SGR	**Lab ID:**	1605034-20
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:44 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	78.7	0	58-133	0		%REC	10	05/11/16 03:12 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(0-2)-B
Project:	Laredo SGR	**Lab ID:**	1605034-21
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:47 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	12.8	0.0971	0.291	0.146		mg/Kg-dry	5	05/16/16 02:44 PM
IS: Bismuth	92.6	0	30-120	0		%REC	5	05/16/16 02:44 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/12/16 10:31 AM
Acenaphthylene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/12/16 10:31 AM
Anthracene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/12/16 10:31 AM
Benzo[a]anthracene	0.0589	0.0499	0.0998	0.0749	J	mg/Kg-dry	10	05/12/16 10:31 AM
Benzo[a]pyrene	0.0719	0.0499	0.0998	0.0749	J	mg/Kg-dry	10	05/12/16 10:31 AM
Benzo[b]fluoranthene	0.0679	0.0499	0.0998	0.0749	J	mg/Kg-dry	10	05/12/16 10:31 AM
Benzo[e]pyrene	0.0527	0.0499	0.0998	0.0749	J	mg/Kg-dry	10	05/12/16 10:31 AM
Benzo[g,h,i]perylene	0.0569	0.0499	0.0998	0.0749	J	mg/Kg-dry	10	05/12/16 10:31 AM
Benzo[j]fluoranthene	0.0749	0.0499	0.0998	0.0749	NU	mg/Kg-dry	10	05/12/16 10:31 AM
Benzo[k]fluoranthene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/12/16 10:31 AM
Chrysene	0.0728	0.0499	0.0998	0.0749	J	mg/Kg-dry	10	05/12/16 10:31 AM
Dibenz[a,h]anthracene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/12/16 10:31 AM
Fluoranthene	0.0971	0.0499	0.0998	0.0749	J	mg/Kg-dry	10	05/12/16 10:31 AM
Fluorene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/12/16 10:31 AM
Indeno[1,2,3-cd]pyrene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/12/16 10:31 AM
Phenanthrene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/12/16 10:31 AM
Pyrene	0.0911	0.0499	0.0998	0.0749	J	mg/Kg-dry	10	05/12/16 10:31 AM
IS: Acenaphthene-d10	82.2	0	50-200	0		%REC	10	05/12/16 10:31 AM
IS: Chrysene-d12	87.3	0	50-200	0		%REC	10	05/12/16 10:31 AM
IS: Naphthalene-d8	124	0	50-200	0		%REC	10	05/12/16 10:31 AM
IS: Perylene-d12	89.6	0	50-200	0		%REC	10	05/12/16 10:31 AM
IS: Phenanthrene-d10	82.2	0	50-200	0		%REC	10	05/12/16 10:31 AM
Surr: 2-Fluorobiphenyl	81.1	0	46-115	0		%REC	10	05/12/16 10:31 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(0-2)-B
Project:	Laredo SGR	**Lab ID:**	1605034-21
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:47 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	73.2	0	58-133	0		%REC	10	05/12/16 10:31 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(2-4)-B
Project:	Laredo SGR	**Lab ID:**	1605034-22
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:49 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	6.61	0.0962	0.288	0.144		mg/Kg-dry	5	05/16/16 02:46 PM
IS: Bismuth	92.9	0	30-120	0		%REC	5	05/16/16 02:46 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 11:11 AM
Acenaphthylene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 11:11 AM
Anthracene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 11:11 AM
Benzo[a]anthracene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 11:11 AM
Benzo[a]pyrene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 11:11 AM
Benzo[b]fluoranthene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 11:11 AM
Benzo[e]pyrene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 11:11 AM
Benzo[g,h,i]perylene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 11:11 AM
Benzo[j]fluoranthene	0.0737	0.0491	0.0982	0.0737	NU	mg/Kg-dry	10	05/12/16 11:11 AM
Benzo[k]fluoranthene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 11:11 AM
Chrysene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 11:11 AM
Dibenz[a,h]anthracene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 11:11 AM
Fluoranthene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 11:11 AM
Fluorene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 11:11 AM
Indeno[1,2,3-cd]pyrene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 11:11 AM
Phenanthrene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 11:11 AM
Pyrene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 11:11 AM
IS: Acenaphthene-d10	79.2	0	50-200	0		%REC	10	05/12/16 11:11 AM
IS: Chrysene-d12	84.8	0	50-200	0		%REC	10	05/12/16 11:11 AM
IS: Naphthalene-d8	123	0	50-200	0		%REC	10	05/12/16 11:11 AM
IS: Perylene-d12	87.8	0	50-200	0		%REC	10	05/12/16 11:11 AM
IS: Phenanthrene-d10	84.6	0	50-200	0		%REC	10	05/12/16 11:11 AM
Surr: 2-Fluorobiphenyl	80.1	0	46-115	0		%REC	10	05/12/16 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(2-4)-B
Project:	Laredo SGR	**Lab ID:**	1605034-22
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:49 PM
Lab Order:	1605034	**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	05/12/16 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(4-6)-B
Project:	Laredo SGR	**Lab ID:**	1605034-23
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:51 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	7.01	0.0885	0.265	0.133		mg/Kg-dry	5	05/16/16 02:48 PM
IS: Bismuth	91.0	0	30-120	0		%REC	5	05/16/16 02:48 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 11:51 AM
Acenaphthylene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 11:51 AM
Anthracene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 11:51 AM
Benzo[a]anthracene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 11:51 AM
Benzo[a]pyrene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 11:51 AM
Benzo[b]fluoranthene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 11:51 AM
Benzo[e]pyrene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 11:51 AM
Benzo[g,h,i]perylene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 11:51 AM
Benzo[j]fluoranthene	0.0750	0.0500	0.100	0.0750	NU	mg/Kg-dry	10	05/12/16 11:51 AM
Benzo[k]fluoranthene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 11:51 AM
Chrysene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 11:51 AM
Dibenz[a,h]anthracene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 11:51 AM
Fluoranthene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 11:51 AM
Fluorene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 11:51 AM
Indeno[1,2,3-cd]pyrene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 11:51 AM
Phenanthrene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 11:51 AM
Pyrene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 11:51 AM
IS: Acenaphthene-d10	78.1	0	50-200	0		%REC	10	05/12/16 11:51 AM
IS: Chrysene-d12	81.6	0	50-200	0		%REC	10	05/12/16 11:51 AM
IS: Naphthalene-d8	120	0	50-200	0		%REC	10	05/12/16 11:51 AM
IS: Perylene-d12	84.0	0	50-200	0		%REC	10	05/12/16 11:51 AM
IS: Phenanthrene-d10	82.5	0	50-200	0		%REC	10	05/12/16 11:51 AM
Surr: 2-Fluorobiphenyl	81.2	0	46-115	0		%REC	10	05/12/16 11:51 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(4-6)-B
Project:	Laredo SGR	**Lab ID:**	1605034-23
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:51 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	71.7	0	58-133	0		%REC	10	05/12/16 11:51 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(6-8)-B
Project:	Laredo SGR	**Lab ID:**	1605034-24
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:53 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	7.20	0.0909	0.273	0.136		mg/Kg-dry	5	05/16/16 02:50 PM
IS: Bismuth	92.3	0	30-120	0		%REC	5	05/16/16 02:50 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 12:31 PM
Acenaphthylene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 12:31 PM
Anthracene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 12:31 PM
Benzo[a]anthracene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 12:31 PM
Benzo[a]pyrene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 12:31 PM
Benzo[b]fluoranthene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 12:31 PM
Benzo[e]pyrene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 12:31 PM
Benzo[g,h,i]perylene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 12:31 PM
Benzo[j]fluoranthene	0.0725	0.0484	0.0967	0.0725	NU	mg/Kg-dry	10	05/12/16 12:31 PM
Benzo[k]fluoranthene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 12:31 PM
Chrysene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 12:31 PM
Dibenz[a,h]anthracene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 12:31 PM
Fluoranthene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 12:31 PM
Fluorene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 12:31 PM
Indeno[1,2,3-cd]pyrene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 12:31 PM
Phenanthrene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 12:31 PM
Pyrene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 12:31 PM
IS: Acenaphthene-d10	77.7	0	50-200	0		%REC	10	05/12/16 12:31 PM
IS: Chrysene-d12	82.3	0	50-200	0		%REC	10	05/12/16 12:31 PM
IS: Naphthalene-d8	121	0	50-200	0		%REC	10	05/12/16 12:31 PM
IS: Perylene-d12	85.3	0	50-200	0		%REC	10	05/12/16 12:31 PM
IS: Phenanthrene-d10	82.6	0	50-200	0		%REC	10	05/12/16 12:31 PM
Surr: 2-Fluorobiphenyl	78.8	0	46-115	0		%REC	10	05/12/16 12:31 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(6-8)-B
Project:	Laredo SGR	**Lab ID:**	1605034-24
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:53 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	69.7	0	58-133	0		%REC	10	05/12/16 12:31 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(8-10)-B
Project:	Laredo SGR	**Lab ID:**	1605034-25
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:55 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	7.86	0.0893	0.268	0.134		mg/Kg-dry	5	05/16/16 02:52 PM
IS: Bismuth	89.4	0	30-120	0		%REC	5	05/16/16 02:52 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/12/16 01:11 PM
Acenaphthylene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/12/16 01:11 PM
Anthracene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/12/16 01:11 PM
Benzo[a]anthracene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/12/16 01:11 PM
Benzo[a]pyrene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/12/16 01:11 PM
Benzo[b]fluoranthene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/12/16 01:11 PM
Benzo[e]pyrene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/12/16 01:11 PM
Benzo[g,h,i]perylene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/12/16 01:11 PM
Benzo[j]fluoranthene	0.0740	0.0493	0.0986	0.0740	NU	mg/Kg-dry	10	05/12/16 01:11 PM
Benzo[k]fluoranthene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/12/16 01:11 PM
Chrysene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/12/16 01:11 PM
Dibenz[a,h]anthracene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/12/16 01:11 PM
Fluoranthene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/12/16 01:11 PM
Fluorene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/12/16 01:11 PM
Indeno[1,2,3-cd]pyrene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/12/16 01:11 PM
Phenanthrene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/12/16 01:11 PM
Pyrene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/12/16 01:11 PM
IS: Acenaphthene-d10	76.0	0	50-200	0		%REC	10	05/12/16 01:11 PM
IS: Chrysene-d12	82.3	0	50-200	0		%REC	10	05/12/16 01:11 PM
IS: Naphthalene-d8	118	0	50-200	0		%REC	10	05/12/16 01:11 PM
IS: Perylene-d12	84.4	0	50-200	0		%REC	10	05/12/16 01:11 PM
IS: Phenanthrene-d10	78.8	0	50-200	0		%REC	10	05/12/16 01:11 PM
Surr: 2-Fluorobiphenyl	82.6	0	46-115	0		%REC	10	05/12/16 01:11 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(8-10)-B
Project:	Laredo SGR	**Lab ID:**	1605034-25
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:55 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	75.0	0	58-133	0		%REC	10	05/12/16 01:11 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(0-2)-C
Project:	Laredo SGR	**Lab ID:**	1605034-26
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:27 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	16.3	0.0901	0.270	0.135		mg/Kg-dry	5	05/16/16 02:54 PM
IS: Bismuth	89.3	0	30-120	0		%REC	5	05/16/16 02:54 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/12/16 01:51 PM
Acenaphthylene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/12/16 01:51 PM
Anthracene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/12/16 01:51 PM
Benzo[a]anthracene	0.296	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 01:51 PM
Benzo[a]pyrene	0.350	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 01:51 PM
Benzo[b]fluoranthene	0.339	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 01:51 PM
Benzo[e]pyrene	0.279	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 01:51 PM
Benzo[g,h,i]perylene	0.283	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 01:51 PM
Benzo[j]fluoranthene	0.179	0.0496	0.0992	0.0744	N	mg/Kg-dry	10	05/12/16 01:51 PM
Benzo[k]fluoranthene	0.172	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 01:51 PM
Chrysene	0.372	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 01:51 PM
Dibenz[a,h]anthracene	0.0637	0.0496	0.0992	0.0744	J	mg/Kg-dry	10	05/12/16 01:51 PM
Fluoranthene	0.547	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 01:51 PM
Fluorene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/12/16 01:51 PM
Indeno[1,2,3-cd]pyrene	0.236	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 01:51 PM
Phenanthrene	0.236	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 01:51 PM
Pyrene	0.462	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 01:51 PM
IS: Acenaphthene-d10	78.9	0	50-200	0		%REC	10	05/12/16 01:51 PM
IS: Chrysene-d12	83.9	0	50-200	0		%REC	10	05/12/16 01:51 PM
IS: Naphthalene-d8	120	0	50-200	0		%REC	10	05/12/16 01:51 PM
IS: Perylene-d12	88.1	0	50-200	0		%REC	10	05/12/16 01:51 PM
IS: Phenanthrene-d10	85.0	0	50-200	0		%REC	10	05/12/16 01:51 PM
Surr: 2-Fluorobiphenyl	78.4	0	46-115	0		%REC	10	05/12/16 01:51 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(0-2)-C
Project:	Laredo SGR	**Lab ID:**	1605034-26
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:27 PM
Lab Order:	1605034	**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	05/12/16 01:51 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(2-4)-C
Project:	Laredo SGR	**Lab ID:**	1605034-27
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:30 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	7.69	0.0840	0.252	0.126		mg/Kg-dry	5	05/16/16 02:56 PM
IS: Bismuth	87.8	0	30-120	0		%REC	5	05/16/16 02:56 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 02:31 PM
Acenaphthylene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 02:31 PM
Anthracene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 02:31 PM
Benzo[a]anthracene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 02:31 PM
Benzo[a]pyrene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 02:31 PM
Benzo[b]fluoranthene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 02:31 PM
Benzo[e]pyrene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 02:31 PM
Benzo[g,h,i]perylene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 02:31 PM
Benzo[j]fluoranthene	0.0750	0.0500	0.100	0.0750	NU	mg/Kg-dry	10	05/12/16 02:31 PM
Benzo[k]fluoranthene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 02:31 PM
Chrysene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 02:31 PM
Dibenz[a,h]anthracene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 02:31 PM
Fluoranthene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 02:31 PM
Fluorene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 02:31 PM
Indeno[1,2,3-cd]pyrene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 02:31 PM
Phenanthrene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 02:31 PM
Pyrene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 02:31 PM
IS: Acenaphthene-d10	77.4	0	50-200	0		%REC	10	05/12/16 02:31 PM
IS: Chrysene-d12	80.9	0	50-200	0		%REC	10	05/12/16 02:31 PM
IS: Naphthalene-d8	119	0	50-200	0		%REC	10	05/12/16 02:31 PM
IS: Perylene-d12	84.0	0	50-200	0		%REC	10	05/12/16 02:31 PM
IS: Phenanthrene-d10	81.5	0	50-200	0		%REC	10	05/12/16 02:31 PM
Surr: 2-Fluorobiphenyl	77.6	0	46-115	0		%REC	10	05/12/16 02:31 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(2-4)-C
Project:	Laredo SGR	**Lab ID:**	1605034-27
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:30 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	68.6	0	58-133	0		%REC	10	05/12/16 02:31 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(4-6)-C
Project:	Laredo SGR	**Lab ID:**	1605034-28
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:31 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	10.2	0.0855	0.256	0.128		mg/Kg-dry	5	05/16/16 02:58 PM
IS: Bismuth	87.3	0	30-120	0		%REC	5	05/16/16 02:58 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 03:11 PM
Acenaphthylene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 03:11 PM
Anthracene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 03:11 PM
Benzo[a]anthracene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 03:11 PM
Benzo[a]pyrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 03:11 PM
Benzo[b]fluoranthene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 03:11 PM
Benzo[e]pyrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 03:11 PM
Benzo[g,h,i]perylene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 03:11 PM
Benzo[j]fluoranthene	0.0749	0.0500	0.0999	0.0749	NU	mg/Kg-dry	10	05/12/16 03:11 PM
Benzo[k]fluoranthene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 03:11 PM
Chrysene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 03:11 PM
Dibenz[a,h]anthracene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 03:11 PM
Fluoranthene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 03:11 PM
Fluorene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 03:11 PM
Indeno[1,2,3-cd]pyrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 03:11 PM
Phenanthrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 03:11 PM
Pyrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 03:11 PM
IS: Acenaphthene-d10	79.0	0	50-200	0		%REC	10	05/12/16 03:11 PM
IS: Chrysene-d12	84.3	0	50-200	0		%REC	10	05/12/16 03:11 PM
IS: Naphthalene-d8	121	0	50-200	0		%REC	10	05/12/16 03:11 PM
IS: Perylene-d12	87.7	0	50-200	0		%REC	10	05/12/16 03:11 PM
IS: Phenanthrene-d10	81.3	0	50-200	0		%REC	10	05/12/16 03:11 PM
Surr: 2-Fluorobiphenyl	81.8	0	46-115	0		%REC	10	05/12/16 03:11 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(4-6)-C
Project:	Laredo SGR	**Lab ID:**	1605034-28
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:31 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	72.5	0	58-133	0		%REC	10	05/12/16 03:11 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(6-8)-C
Project:	Laredo SGR	**Lab ID:**	1605034-29
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:33 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	9.88	0.0990	0.297	0.149		mg/Kg-dry	5	05/16/16 03:00 PM
IS: Bismuth	89.2	0	30-120	0		%REC	5	05/16/16 03:00 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 03:50 PM
Acenaphthylene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 03:50 PM
Anthracene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 03:50 PM
Benzo[a]anthracene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 03:50 PM
Benzo[a]pyrene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 03:50 PM
Benzo[b]fluoranthene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 03:50 PM
Benzo[e]pyrene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 03:50 PM
Benzo[g,h,i]perylene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 03:50 PM
Benzo[j]fluoranthene	0.0743	0.0495	0.0990	0.0743	NU	mg/Kg-dry	10	05/12/16 03:50 PM
Benzo[k]fluoranthene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 03:50 PM
Chrysene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 03:50 PM
Dibenz[a,h]anthracene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 03:50 PM
Fluoranthene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 03:50 PM
Fluorene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 03:50 PM
Indeno[1,2,3-cd]pyrene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 03:50 PM
Phenanthrene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 03:50 PM
Pyrene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 03:50 PM
IS: Acenaphthene-d10	77.6	0	50-200	0		%REC	10	05/12/16 03:50 PM
IS: Chrysene-d12	81.0	0	50-200	0		%REC	10	05/12/16 03:50 PM
IS: Naphthalene-d8	117	0	50-200	0		%REC	10	05/12/16 03:50 PM
IS: Perylene-d12	85.0	0	50-200	0		%REC	10	05/12/16 03:50 PM
IS: Phenanthrene-d10	82.6	0	50-200	0		%REC	10	05/12/16 03:50 PM
Surr: 2-Fluorobiphenyl	78.5	0	46-115	0		%REC	10	05/12/16 03:50 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(6-8)-C
Project:	Laredo SGR	**Lab ID:**	1605034-29
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:33 PM
Lab Order:	1605034	**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	05/12/16 03:50 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(8-10)-C
Project:	Laredo SGR	**Lab ID:**	1605034-30
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:35 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	7.61	0.0971	0.291	0.146		mg/Kg-dry	5	05/16/16 03:16 PM
IS: Bismuth	90.0	0	30-120	0		%REC	5	05/16/16 03:16 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 04:30 PM
Acenaphthylene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 04:30 PM
Anthracene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 04:30 PM
Benzo[a]anthracene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 04:30 PM
Benzo[a]pyrene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 04:30 PM
Benzo[b]fluoranthene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 04:30 PM
Benzo[e]pyrene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 04:30 PM
Benzo[g,h,i]perylene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 04:30 PM
Benzo[j]fluoranthene	0.0725	0.0484	0.0967	0.0725	NU	mg/Kg-dry	10	05/12/16 04:30 PM
Benzo[k]fluoranthene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 04:30 PM
Chrysene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 04:30 PM
Dibenz[a,h]anthracene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 04:30 PM
Fluoranthene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 04:30 PM
Fluorene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 04:30 PM
Indeno[1,2,3-cd]pyrene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 04:30 PM
Phenanthrene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 04:30 PM
Pyrene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 04:30 PM
IS: Acenaphthene-d10	77.6	0	50-200	0		%REC	10	05/12/16 04:30 PM
IS: Chrysene-d12	80.9	0	50-200	0		%REC	10	05/12/16 04:30 PM
IS: Naphthalene-d8	117	0	50-200	0		%REC	10	05/12/16 04:30 PM
IS: Perylene-d12	83.4	0	50-200	0		%REC	10	05/12/16 04:30 PM
IS: Phenanthrene-d10	77.2	0	50-200	0		%REC	10	05/12/16 04:30 PM
Surr: 2-Fluorobiphenyl	85.3	0	46-115	0		%REC	10	05/12/16 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(8-10)-C
Project:	Laredo SGR	**Lab ID:**	1605034-30
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:35 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	76.8	0	58-133	0		%REC	10	05/12/16 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		

May 20, 2016

Alex Walter
Arcadis
8725 Rosehill #350
Lenexa, Kansas 66215
TEL: (913) 492-0900
FAX (913) 492-0902

Order No.: 1605034

RE: Laredo SGR

Dear Alex Walter:

DHL Analytical, Inc. received 30 sample(s) on 5/4/2016 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

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DHL ANALYTICAL
2300 Double Creek Dr. ■ Round Rock, TX 78664
Phone (512) 388-8222 ■ FAX (512) 388-8229
Web: www.dhlanalytical.com
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№ 70020

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 3, 2016 PAGE 1 OF 2
PO #: 04285081.00044 DHL WORK ORDER #: 1605034
PROJECT LOCATION OR NAME: LAREDO SGR
CLENT PROJECT #: 04285081.00044 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 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 ☐	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-DU056(0-2)-A	01	5-3-16	1228	S	Bag	1				X							X						X								
SGR-DU056(2-4)-A	02	5-3-16	1232	S	Bag	1				X							X						X								
SGR-DU056(4-6)-A	03	5-3-16	1235	S	Bag	1				X							X						X								
SGR-DU056(6-8)-A	04	5-3-16	1236	S	Bag	1				X							X						X								
SGR-DU056(8-10)-A	05	5-3-16	1237	S	Bag	1				X							X						X								
SGR-DU056(0-2)-B	06	5-3-16	1244	S	Bag	1				X							X						X								
SGR-DU056(2-4)-B	07	5-3-16	1246	S	Bag	1				X							X						X								
SGR-DU056(4-6)-B	08	5-3-16	1249	S	Bag	1				X							X						X								
SGR-DU056(6-8)-B	09	5-3-16	1251	S	Bag	1				X							X						X								
SGR-DU056(8-10)-B	10	5-3-16	1252	S	Bag	1				X							X						X								
SGR-DU056(0-2)-C	11	5-3-16	1258	S	Bag	1				X							X						X								
SGR-DU056(2-4)-C	12	5-3-16	1300	S	Bag	1				X							X						X								
SGR-DU056(4-6)-C	13	5-3-16	1301	S	Bag	1				X							X						X								
SGR-DU056(6-8)-C	14	5-3-16	1303	S	Bag	1				X							X						X								
SGR-DU056(8-10)-C	15	5-3-16	1305	S	Bag	1				X							X						X								

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
[signature]	5-3-16 / 1800	Fed ex
Fedex	5/4/16 945	[signature]

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RECEIVING TEMP: 1.7, 0.5, 0.2, 0.3, 0.4 THERM #: 78
CUSTODY SEALS: ☐ BROKEN ☒ INTACT ☐ NOT USED
CARRIER: ☐ LONE STAR ☒ FEDEX ☐ UPS ☐ OTHER
☐ COURIER DELIVERY
☐ HAND DELIVERED

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№ 71100

CHAIN-OF-CUSTODY

CLIENT: Arcadis
ADDRESS: 8725 Rosehill, Suite 350 Lenexa, KS 66215
PHONE: 913-845-3203 FAX/E-MAIL: alex.walter@arcadis.com
DATA REPORTED TO: Alex Walter
ADDITIONAL REPORT COPIES TO: Erika, Denkenberger@arcadis.com

DATE: May 3, 2016 PAGE 2 OF 2
PO #: 04285081.0000.00044 DHL WORK ORDER #: 16005034
PROJECT LOCATION OR NAME: LAKEDO SGR
CLENT PROJECT #: 04285081.0000.00044 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

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 ☐ TX1 ☐ Pb, 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	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 ☐ TX1 ☐ Pb, 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-DU060(0-2)-A	16	5-3-16	1637	S	Bag	1				X						X					X										
SGR-DU060(2-4)-A	17	5-3-16	1639	S	Bag	1				X						X					X										
SGR-DU060(4-6)-A	18	5-3-16	1641	S	Bag	1				X						X					X										
SGR-DU060(6-8)-A	19	5-3-16	1643	S	Bag	1				X						X					X										
SGR-DU060(8-10)-A	20	5-3-16	1644	S	Bag	1				X						X					X										
SGR-DU060(0-2)-B	21	5-3-16	1647	S	Bag	1				X						X					X										
SGR-DU060(2-4)-B	22	5-3-16	1649	S	Bag	1				X						X					X										
SGR-DU060(4-6)-B	23	5-3-16	1651	S	Bag	1				X						X					X										
SGR-DU060(6-8)-B	24	5-3-16	1653	S	Bag	1				X						X					X										
SGR-DU060(8-10)-B	25	5-3-16	1655	S	Bag	1				X						X					X										
SGR-DU060(0-2)-C	26	5-3-16	1627	S	Bag	1				X						X					X										
SGR-DU060(2-4)-C	27	5-3-16	1630	S	Bag	1				X						X					X										
SGR-DU060(4-6)-C	28	5-3-16	1631	S	Bag	1				X						X					X										
SGR-DU060(6-8)-C	29	5-3-16	1633	S	Bag	1				X						X					X										
SGR-DU060(8-10)-C	30	5-3-16	1635	S	Bag	1				X						X					X										

RELINQUISHED BY: (Signature) DATE/TIME: 5-3-16/1600 RECEIVED BY: (Signature) Fed ex
RELINQUISHED BY: (Signature) Fed ex DATE/TIME: 5/4/16 945 RECEIVED BY: (Signature) [signature]
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TURN AROUND TIME
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ORIGIN ID:LRDA (915) 433-1761

ARCADIS
401 E MAIN DR STE 400

EL PASO, TX 79901
UNITED STATES US

SHIP DATE: 03MAY16
ACTWGT: 66.90 LB
CAD: 006994464/SSFE1703
DIMS: 25x14x14 IN

BILL THIRD PARTY

Part # 156297V-455 RITE EXP 03/17

TO **SAMPLE MGR**
DHL ANALYTICAL
2300 DOUBLE CREEK DR.

ROUND ROCK TX 78664

(512) 388-8222 REF:
INV:
PO: DEPT:

FedEx Express

E

REL# 3785346

3 of 5

MPS# 0263 7829 8175 7304

Mstr# 7829 8175 7289 0201

WED - 04 MAY 10:30A
PRIORITY OVERNIGHT

44 BSMA

78664
TX-US AUS

QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

CUSTODY SEAL
DATE 5-3-16
SIGNATURE

ORIGIN ID:LRDA (915) 433-1761

ARCADIS
401 E MAIN DR STE 400

EL PASO, TX 79901
UNITED STATES US

SHIP DATE: 03MAY16
ACTWGT: 66.90 LB
CAD: 006994464/SSFE1703
DIMS: 25x14x14 IN

BILL THIRD PARTY

Part # 56297V-435 AFF2 EXP 03/17

TO SAMPLE MGR
DHL ANALYTICAL
2300 DOUBLE CREEK DR.

ROUND ROCK TX 78664
(512) 388-8222 REF:
INV:
PO: DEPT:

FedEx Express

E

REL# 3785346

5 of 5

MPS# 0263 7829 8175 7326

Mstr# 7829 8175 7289 0201

WED - 04 MAY 10:30A
PRIORITY OVERNIGHT

44 BSMA

78664
TX-US AUS

QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

CUSTODY SEAL
DATE 5-3-16
SIGNATURE

ORIGIN ID:LRDA (915) 433-1761

ARCADIS
401 E MAIN DR STE 400

EL PASO, TX 79901
UNITED STATES US

SHIP DATE: 03MAY16
ACTWGT: 66.90 LB
CAD: 006994464/SSFE1703
DIMS: 25x14x14 IN

BILL THIRD PARTY

Part # 156297V-435 HM2EXP 03/17

TO **SAMPLE MGR**
DHL ANALYTICAL
2300 DOUBLE CREEK DR.

ROUND ROCK TX 78664

(512) 388-8222 REF:
INV:
PO: DEPT:

FedEx Express

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J161010020501 BV

REL# 3785346

2 of 5

MPS# 0263 7829 8175 7290

Mstr# 7829 8175 7289 0201

WED - 04 MAY 10:30A
PRIORITY OVERNIGHT

44 BSMA

78664
TX-US AUS

QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

CUSTODY SEAL
DATE 5-3-16
SIGNATURE [signature]

ORIGIN ID:LRDA (915) 433-1761
ARCADIS
401 E MAIN DR STE 400
EL PASO, TX 79901
UNITED STATES US

SHIP DATE: 03MAY16
ACTWGT: 66.90 LB
CAD: 006894464/SSFE1703
DIMS: 25x14x14 IN
BILL THIRD PARTY

Part # 156297V-435 RT2 EXP 03/17

TO SAMPLE MGR
DHL ANALYTICAL
2300 DOUBLE CREEK DR.

ROUND ROCK TX 78664
(512) 388-8222 REF:
INV:
PO: DEPT:

FedEx Express

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REL# 3785346

4 of 5

WED - 04 MAY 10:30A
PRIORITY OVERNIGHT

MPS# 0263 7829 8175 7315
Mstr# 7829 8175 7289 0201

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78664
TX-US AUS

QEC
Quality Environ
800-255-3950

USTODY SEAL
ATE 5-3-16
GNATURE

ORIGIN ID:LRDA (5)
ARCADIS
401 E MAIN DR STE
EL PASO, TX 7990
UNITED STATES U

1

SHIP DATE: 03MAY16
ACTWGT: 66.90 LB
CAD: 006994464/SSFE1703
DIMS: 25x14x14 IN

BILL THIRD PARTY

Part # 156297V,435 HIP2 EXP 03/17

TO SAMPLE
DHL
230

AL
CREEK DR.

ND ROCK TX 78664
8212 REF:
DEPT:

FedEx
Express

E

REL#
3785346

1 of 5

WED – 04 MAY 10:30A
PRIORITY OVERNIGHT

TRK# 0201 7829 8175 7289

MASTER

44 BSMA

78664
TX-US AUS

QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

CUSTODY SEAL
DATE 5-13-
SIGNATURE

DHL Analytical, Inc.

Sample Receipt Checklist

Client Name **Arcadis** Date Received: **5/4/2016**

Work Order Number **1605034** Received by **JB**

Checklist completed by: Signature 5/4/2016 Date Reviewed by Initials 5/4/2016 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 ☐	**1.7** °C
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH<2 acceptable upon receipt?	Yes ☐	No ☐	NA ☑ LOT #
	Adjusted?		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:** 5/19/2016
Reviewer Name: Angie O'Donnell	**Laboratory Work Order:** 1605034
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]
R1	OI	**Chain-of-Custody (C-O-C)**					
		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				
		4) Were MS/MSD RPDs within laboratory QC limits?	X				
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:** 5/19/2016
Reviewer Name: Angie O'Donnell	**Laboratory Work Order:** 1605034

#[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		05/20/16
Scott Schroeder – Technical Director	Signature	Date

DHL Analytical, Inc. **Date:** *20-May-16*

CLIENT: Arcadis
Project: Laredo SGR
Lab Order: 1605034

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 5/4/2016. A total of 30 samples were received and analyzed. The samples arrived in good condition and were properly packaged.

Exception Report R10-01

For PAH Analysis, the samples were diluted due to observed color of extract; dilution meets project specifications.

For all of the soil samples in this project, DHL Analytical performed an Incremental Sampling Method (ISM) according to an internal SOP, as approved by the client and included in the project QAPP. The workorders will consist of a variation of the following sample types: discreet soil samples collected in 4 ounce soil containers and ISM process not used, surface soil samples processed to pass a #60 sieve (250µ particle size) and sub-surface samples processed to pass #10 sieve (2mm), 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 on 5/4/2016. A Sample Summary was inadvertently not sent. 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 5/13/2016 - from J. DuPont to the Arcadis Kansas Laredo email group regarding request to dilute based on color of extract

DHL Analytical, Inc.

Date: *20-May-16*

CLIENT: Arcadis
Project: Laredo SGR
Lab Order: 1605034

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
1605034-01	SGR-DU056(0-2)-A		05/03/16 12:28 PM	5/4/2016
1605034-02	SGR-DU056(2-4)-A		05/03/16 12:32 PM	5/4/2016
1605034-03	SGR-DU056(4-6)-A		05/03/16 12:35 PM	5/4/2016
1605034-04	SGR-DU056(6-8)-A		05/03/16 12:36 PM	5/4/2016
1605034-05	SGR-DU056(8-10)-A		05/03/16 12:37 PM	5/4/2016
1605034-06	SGR-DU056(0-2)-B		05/03/16 12:44 PM	5/4/2016
1605034-07	SGR-DU056(2-4)-B		05/03/16 12:46 PM	5/4/2016
1605034-08	SGR-DU056(4-6)-B		05/03/16 12:49 PM	5/4/2016
1605034-09	SGR-DU056(6-8)-B		05/03/16 12:51 PM	5/4/2016
1605034-10	SGR-DU056(8-10)-B		05/03/16 12:52 PM	5/4/2016
1605034-11	SGR-DU056(0-2)-C		05/03/16 12:58 PM	5/4/2016
1605034-12	SGR-SU056(2-4)-C		05/03/16 01:00 PM	5/4/2016
1605034-13	SGR-DU056(4-6)-C		05/03/16 01:01 PM	5/4/2016
1605034-14	SGR-DU056(6-8)-C		05/03/16 01:03 PM	5/4/2016
1605034-15	SGR-DU056(8-10)-C		05/03/16 01:05 PM	5/4/2016
1605034-16	SGR-DU060(0-2)-A		05/03/16 04:37 PM	5/4/2016
1605034-17	SGR-DU060(2-4)-A		05/03/16 04:39 PM	5/4/2016
1605034-18	SGR-DU060(4-6)-A		05/03/16 04:41 PM	5/4/2016
1605034-19	SGR-DU060(6-8)-A		05/03/16 04:43 PM	5/4/2016
1605034-20	SGR-DU060(8-10)-A		05/03/16 04:44 PM	5/4/2016
1605034-21	SGR-DU060(0-2)-B		05/03/16 04:47 PM	5/4/2016
1605034-22	SGR-DU060(2-4)-B		05/03/16 04:49 PM	5/4/2016
1605034-23	SGR-DU060(4-6)-B		05/03/16 04:51 PM	5/4/2016
1605034-24	SGR-DU060(6-8)-B		05/03/16 04:53 PM	5/4/2016
1605034-25	SGR-DU060(8-10)-B		05/03/16 04:55 PM	5/4/2016
1605034-26	SGR-DU060(0-2)-C		05/03/16 04:27 PM	5/4/2016
1605034-27	SGR-DU060(2-4)-C		05/03/16 04:30 PM	5/4/2016
1605034-28	SGR-DU060(4-6)-C		05/03/16 04:31 PM	5/4/2016
1605034-29	SGR-DU060(6-8)-C		05/03/16 04:33 PM	5/4/2016
1605034-30	SGR-DU060(8-10)-C		05/03/16 04:35 PM	5/4/2016

DHL Analytical, Inc.

20-May-16

Lab Order: 1605034
Client: Arcadis
Project: Laredo SGR

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1605034-01A	SGR-DU056(0-2)-A	05/03/16 12:28 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/09/16 10:05 AM	75004
	SGR-DU056(0-2)-A	05/03/16 12:28 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/09/16 10:07 AM	75006
1605034-02A	SGR-DU056(2-4)-A	05/03/16 12:32 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/09/16 10:05 AM	75004
	SGR-DU056(2-4)-A	05/03/16 12:32 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/09/16 10:07 AM	75006
1605034-03A	SGR-DU056(4-6)-A	05/03/16 12:35 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/09/16 10:05 AM	75004
	SGR-DU056(4-6)-A	05/03/16 12:35 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/09/16 10:07 AM	75006
1605034-04A	SGR-DU056(6-8)-A	05/03/16 12:36 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/09/16 10:05 AM	75004
	SGR-DU056(6-8)-A	05/03/16 12:36 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/09/16 10:07 AM	75006
1605034-05A	SGR-DU056(8-10)-A	05/03/16 12:37 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/09/16 10:05 AM	75004
	SGR-DU056(8-10)-A	05/03/16 12:37 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/09/16 10:07 AM	75006
1605034-06A	SGR-DU056(0-2)-B	05/03/16 12:44 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/09/16 10:05 AM	75004
	SGR-DU056(0-2)-B	05/03/16 12:44 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/09/16 10:07 AM	75006
1605034-07A	SGR-DU056(2-4)-B	05/03/16 12:46 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/09/16 10:05 AM	75004
	SGR-DU056(2-4)-B	05/03/16 12:46 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/09/16 10:07 AM	75006
1605034-08A	SGR-DU056(4-6)-B	05/03/16 12:49 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/09/16 10:05 AM	75004
	SGR-DU056(4-6)-B	05/03/16 12:49 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/09/16 10:07 AM	75006
1605034-09A	SGR-DU056(6-8)-B	05/03/16 12:51 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/09/16 10:05 AM	75004
	SGR-DU056(6-8)-B	05/03/16 12:51 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/09/16 10:07 AM	75006
1605034-10A	SGR-DU056(8-10)-B	05/03/16 12:52 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/09/16 10:05 AM	75004
	SGR-DU056(8-10)-B	05/03/16 12:52 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/09/16 10:07 AM	75006
1605034-11A	SGR-DU056(0-2)-C	05/03/16 12:58 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/09/16 10:05 AM	75004
	SGR-DU056(0-2)-C	05/03/16 12:58 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/09/16 10:07 AM	75006
1605034-12A	SGR-SU056(2-4)-C	05/03/16 01:00 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/09/16 10:05 AM	75004
	SGR-SU056(2-4)-C	05/03/16 01:00 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/09/16 10:07 AM	75006
1605034-13A	SGR-DU056(4-6)-C	05/03/16 01:01 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/09/16 10:05 AM	75004
	SGR-DU056(4-6)-C	05/03/16 01:01 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/09/16 10:07 AM	75006
1605034-14A	SGR-DU056(6-8)-C	05/03/16 01:03 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/09/16 10:05 AM	75004
	SGR-DU056(6-8)-C	05/03/16 01:03 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/09/16 10:07 AM	75006

Lab Order: 1605034
Client: Arcadis
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PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1605034-15A	SGR-DU056(8-10)-C	05/03/16 01:05 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/09/16 10:05 AM	75004
	SGR-DU056(8-10)-C	05/03/16 01:05 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/09/16 10:07 AM	75006
1605034-16A	SGR-DU060(0-2)-A	05/03/16 04:37 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/09/16 10:05 AM	75004
	SGR-DU060(0-2)-A	05/03/16 04:37 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/09/16 10:07 AM	75006
1605034-17A	SGR-DU060(2-4)-A	05/03/16 04:39 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/09/16 10:05 AM	75004
	SGR-DU060(2-4)-A	05/03/16 04:39 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/09/16 10:07 AM	75006
1605034-18A	SGR-DU060(4-6)-A	05/03/16 04:41 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/09/16 10:05 AM	75004
	SGR-DU060(4-6)-A	05/03/16 04:41 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/09/16 10:07 AM	75006
1605034-19A	SGR-DU060(6-8)-A	05/03/16 04:43 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/09/16 10:05 AM	75004
	SGR-DU060(6-8)-A	05/03/16 04:43 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/09/16 10:07 AM	75006
1605034-20A	SGR-DU060(8-10)-A	05/03/16 04:44 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/09/16 10:05 AM	75004
	SGR-DU060(8-10)-A	05/03/16 04:44 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/09/16 10:07 AM	75006
1605034-21A	SGR-DU060(0-2)-B	05/03/16 04:47 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/09/16 10:10 AM	75007
	SGR-DU060(0-2)-B	05/03/16 04:47 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/09/16 10:24 AM	75009
1605034-22A	SGR-DU060(2-4)-B	05/03/16 04:49 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/09/16 10:10 AM	75007
	SGR-DU060(2-4)-B	05/03/16 04:49 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/09/16 10:24 AM	75009
1605034-23A	SGR-DU060(4-6)-B	05/03/16 04:51 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/09/16 10:10 AM	75007
	SGR-DU060(4-6)-B	05/03/16 04:51 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/09/16 10:24 AM	75009
1605034-24A	SGR-DU060(6-8)-B	05/03/16 04:53 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/09/16 10:10 AM	75007
	SGR-DU060(6-8)-B	05/03/16 04:53 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/09/16 10:24 AM	75009
1605034-25A	SGR-DU060(8-10)-B	05/03/16 04:55 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/09/16 10:10 AM	75007
	SGR-DU060(8-10)-B	05/03/16 04:55 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/09/16 10:24 AM	75009
1605034-26A	SGR-DU060(0-2)-C	05/03/16 04:27 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/09/16 10:10 AM	75007
	SGR-DU060(0-2)-C	05/03/16 04:27 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/09/16 10:24 AM	75009
1605034-27A	SGR-DU060(2-4)-C	05/03/16 04:30 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/09/16 10:10 AM	75007
	SGR-DU060(2-4)-C	05/03/16 04:30 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/09/16 10:24 AM	75009
1605034-28A	SGR-DU060(4-6)-C	05/03/16 04:31 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/09/16 10:10 AM	75007
	SGR-DU060(4-6)-C	05/03/16 04:31 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/09/16 10:24 AM	75009

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PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1605034-29A	SGR-DU060(6-8)-C	05/03/16 04:33 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/09/16 10:10 AM	75007
	SGR-DU060(6-8)-C	05/03/16 04:33 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/09/16 10:24 AM	75009
1605034-30A	SGR-DU060(8-10)-C	05/03/16 04:35 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/09/16 10:10 AM	75007
	SGR-DU060(8-10)-C	05/03/16 04:35 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/09/16 10:24 AM	75009

Lab Order: 1605034
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
1605034-01A	SGR-DU056(0-2)-A	5/3/2016 12:28:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/4/2016 2:45:00 PM	74956
1605034-02A	SGR-DU056(2-4)-A	5/3/2016 12:32:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/4/2016 2:45:00 PM	74956
1605034-03A	SGR-DU056(4-6)-A	5/3/2016 12:35:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/4/2016 2:45:00 PM	74956
1605034-04A	SGR-DU056(6-8)-A	5/3/2016 12:36:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/4/2016 2:45:00 PM	74956
1605034-05A	SGR-DU056(8-10)-A	5/3/2016 12:37:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/4/2016 2:45:00 PM	74956
1605034-06A	SGR-DU056(0-2)-B	5/3/2016 12:44:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/4/2016 2:45:00 PM	74956
1605034-07A	SGR-DU056(2-4)-B	5/3/2016 12:46:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/4/2016 2:45:00 PM	74956
1605034-08A	SGR-DU056(4-6)-B	5/3/2016 12:49:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/4/2016 2:45:00 PM	74956
1605034-09A	SGR-DU056(6-8)-B	5/3/2016 12:51:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/4/2016 2:45:00 PM	74956
1605034-10A	SGR-DU056(8-10)-B	5/3/2016 12:52:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/4/2016 2:45:00 PM	74956
1605034-11A	SGR-DU056(0-2)-C	5/3/2016 12:58:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/4/2016 2:45:00 PM	74956
1605034-12A	SGR-SU056(2-4)-C	5/3/2016 1:00:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/4/2016 2:45:00 PM	74956
1605034-13A	SGR-DU056(4-6)-C	5/3/2016 1:01:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/4/2016 2:45:00 PM	74956
1605034-14A	SGR-DU056(6-8)-C	5/3/2016 1:03:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/4/2016 2:45:00 PM	74956
1605034-15A	SGR-DU056(8-10)-C	5/3/2016 1:05:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/4/2016 2:45:00 PM	74956
1605034-16A	SGR-DU060(0-2)-A	5/3/2016 4:37:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/4/2016 2:45:00 PM	74956
1605034-17A	SGR-DU060(2-4)-A	5/3/2016 4:39:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/4/2016 2:45:00 PM	74956
1605034-18A	SGR-DU060(4-6)-A	5/3/2016 4:41:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/4/2016 2:45:00 PM	74956
1605034-19A	SGR-DU060(6-8)-A	5/3/2016 4:43:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/4/2016 2:45:00 PM	74956
1605034-20A	SGR-DU060(8-10)-A	5/3/2016 4:44:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/4/2016 2:45:00 PM	74956
1605034-21A	SGR-DU060(0-2)-B	5/3/2016 4:47:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/4/2016 2:45:00 PM	74956
1605034-22A	SGR-DU060(2-4)-B	5/3/2016 4:49:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/4/2016 2:45:00 PM	74956
1605034-23A	SGR-DU060(4-6)-B	5/3/2016 4:51:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/4/2016 2:45:00 PM	74956
1605034-24A	SGR-DU060(6-8)-B	5/3/2016 4:53:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/4/2016 2:45:00 PM	74956
1605034-25A	SGR-DU060(8-10)-B	5/3/2016 4:55:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/4/2016 2:45:00 PM	74956
1605034-26A	SGR-DU060(0-2)-C	5/3/2016 4:27:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/4/2016 2:45:00 PM	74956
1605034-27A	SGR-DU060(2-4)-C	5/3/2016 4:30:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/4/2016 2:45:00 PM	74956
1605034-28A	SGR-DU060(4-6)-C	5/3/2016 4:31:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/4/2016 2:45:00 PM	74956

Lab Order: 1605034
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TCLP/SPLP PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1605034-29A	SGR-DU060(6-8)-C	5/3/2016 4:33:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/4/2016 2:45:00 PM	74956
1605034-30A	SGR-DU060(8-10)-C	5/3/2016 4:35:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/4/2016 2:45:00 PM	74956

Lab Order: 1605034
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Project: Laredo SGR

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1605034-01A	SGR-DU056(0-2)-A	Soil	SW8270D-LL	PAHs: GC/MS	75004	10	05/10/16 11:20 AM	GCMS6_160510A
	SGR-DU056(0-2)-A	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75006	5	05/16/16 01:22 PM	ICP-MS4_160516B
1605034-02A	SGR-DU056(2-4)-A	Soil	SW8270D-LL	PAHs: GC/MS	75004	10	05/10/16 12:00 PM	GCMS6_160510A
	SGR-DU056(2-4)-A	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75006	5	05/16/16 01:24 PM	ICP-MS4_160516B
1605034-03A	SGR-DU056(4-6)-A	Soil	SW8270D-LL	PAHs: GC/MS	75004	10	05/10/16 12:40 PM	GCMS6_160510A
	SGR-DU056(4-6)-A	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75006	5	05/16/16 01:26 PM	ICP-MS4_160516B
1605034-04A	SGR-DU056(6-8)-A	Soil	SW8270D-LL	PAHs: GC/MS	75004	10	05/10/16 01:20 PM	GCMS6_160510A
	SGR-DU056(6-8)-A	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75006	5	05/16/16 01:28 PM	ICP-MS4_160516B
1605034-05A	SGR-DU056(8-10)-A	Soil	SW8270D-LL	PAHs: GC/MS	75004	10	05/10/16 01:59 PM	GCMS6_160510A
	SGR-DU056(8-10)-A	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75006	5	05/16/16 01:30 PM	ICP-MS4_160516B
1605034-06A	SGR-DU056(0-2)-B	Soil	SW8270D-LL	PAHs: GC/MS	75004	10	05/10/16 02:39 PM	GCMS6_160510A
	SGR-DU056(0-2)-B	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75006	5	05/16/16 01:32 PM	ICP-MS4_160516B
1605034-07A	SGR-DU056(2-4)-B	Soil	SW8270D-LL	PAHs: GC/MS	75004	10	05/10/16 03:19 PM	GCMS6_160510A
	SGR-DU056(2-4)-B	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75006	5	05/16/16 01:34 PM	ICP-MS4_160516B
1605034-08A	SGR-DU056(4-6)-B	Soil	SW8270D-LL	PAHs: GC/MS	75004	10	05/10/16 04:00 PM	GCMS6_160510A
	SGR-DU056(4-6)-B	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75006	5	05/16/16 01:36 PM	ICP-MS4_160516B
1605034-09A	SGR-DU056(6-8)-B	Soil	SW8270D-LL	PAHs: GC/MS	75004	10	05/10/16 04:39 PM	GCMS6_160510A
	SGR-DU056(6-8)-B	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75006	5	05/16/16 01:18 PM	ICP-MS4_160516B
1605034-10A	SGR-DU056(8-10)-B	Soil	SW8270D-LL	PAHs: GC/MS	75004	10	05/10/16 05:19 PM	GCMS6_160510A
	SGR-DU056(8-10)-B	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75006	5	05/16/16 01:38 PM	ICP-MS4_160516B
1605034-11A	SGR-DU056(0-2)-C	Soil	SW8270D-LL	PAHs: GC/MS	75004	10	05/10/16 09:14 PM	GCMS6_160510A
	SGR-DU056(0-2)-C	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75006	5	05/16/16 02:00 PM	ICP-MS4_160516B
1605034-12A	SGR-SU056(2-4)-C	Soil	SW8270D-LL	PAHs: GC/MS	75004	10	05/10/16 09:54 PM	GCMS6_160510A
	SGR-SU056(2-4)-C	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75006	5	05/16/16 02:02 PM	ICP-MS4_160516B
1605034-13A	SGR-DU056(4-6)-C	Soil	SW8270D-LL	PAHs: GC/MS	75004	10	05/10/16 10:33 PM	GCMS6_160510A
	SGR-DU056(4-6)-C	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75006	5	05/16/16 02:04 PM	ICP-MS4_160516B
1605034-14A	SGR-DU056(6-8)-C	Soil	SW8270D-LL	PAHs: GC/MS	75004	10	05/10/16 11:13 PM	GCMS6_160510A
	SGR-DU056(6-8)-C	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75006	5	05/16/16 02:06 PM	ICP-MS4_160516B

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ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1605034-15A	SGR-DU056(8-10)-C	Soil	SW8270D-LL	PAHs: GC/MS	75004	10	05/10/16 11:52 PM	GCMS6_160510A
	SGR-DU056(8-10)-C	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75006	5	05/16/16 02:08 PM	ICP-MS4_160516B
1605034-16A	SGR-DU060(0-2)-A	Soil	SW8270D-LL	PAHs: GC/MS	75004	10	05/11/16 12:32 AM	GCMS6_160510A
	SGR-DU060(0-2)-A	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75006	5	05/16/16 02:10 PM	ICP-MS4_160516B
1605034-17A	SGR-DU060(2-4)-A	Soil	SW8270D-LL	PAHs: GC/MS	75004	10	05/11/16 01:13 AM	GCMS6_160510A
	SGR-DU060(2-4)-A	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75006	5	05/16/16 02:12 PM	ICP-MS4_160516B
1605034-18A	SGR-DU060(4-6)-A	Soil	SW8270D-LL	PAHs: GC/MS	75004	10	05/11/16 01:53 AM	GCMS6_160510A
	SGR-DU060(4-6)-A	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75006	5	05/16/16 02:14 PM	ICP-MS4_160516B
1605034-19A	SGR-DU060(6-8)-A	Soil	SW8270D-LL	PAHs: GC/MS	75004	10	05/11/16 02:33 AM	GCMS6_160510A
	SGR-DU060(6-8)-A	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75006	5	05/16/16 02:16 PM	ICP-MS4_160516B
1605034-20A	SGR-DU060(8-10)-A	Soil	SW8270D-LL	PAHs: GC/MS	75004	10	05/11/16 03:12 AM	GCMS6_160510A
	SGR-DU060(8-10)-A	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75006	5	05/16/16 02:18 PM	ICP-MS4_160516B
1605034-21A	SGR-DU060(0-2)-B	Soil	SW8270D-LL	PAHs: GC/MS	75007	10	05/12/16 10:31 AM	GCMS6_160512A
	SGR-DU060(0-2)-B	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75009	5	05/16/16 02:44 PM	ICP-MS4_160516B
1605034-22A	SGR-DU060(2-4)-B	Soil	SW8270D-LL	PAHs: GC/MS	75007	10	05/12/16 11:11 AM	GCMS6_160512A
	SGR-DU060(2-4)-B	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75009	5	05/16/16 02:46 PM	ICP-MS4_160516B
1605034-23A	SGR-DU060(4-6)-B	Soil	SW8270D-LL	PAHs: GC/MS	75007	10	05/12/16 11:51 AM	GCMS6_160512A
	SGR-DU060(4-6)-B	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75009	5	05/16/16 02:48 PM	ICP-MS4_160516B
1605034-24A	SGR-DU060(6-8)-B	Soil	SW8270D-LL	PAHs: GC/MS	75007	10	05/12/16 12:31 PM	GCMS6_160512A
	SGR-DU060(6-8)-B	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75009	5	05/16/16 02:50 PM	ICP-MS4_160516B
1605034-25A	SGR-DU060(8-10)-B	Soil	SW8270D-LL	PAHs: GC/MS	75007	10	05/12/16 01:11 PM	GCMS6_160512A
	SGR-DU060(8-10)-B	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75009	5	05/16/16 02:52 PM	ICP-MS4_160516B
1605034-26A	SGR-DU060(0-2)-C	Soil	SW8270D-LL	PAHs: GC/MS	75007	10	05/12/16 01:51 PM	GCMS6_160512A
	SGR-DU060(0-2)-C	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75009	5	05/16/16 02:54 PM	ICP-MS4_160516B
1605034-27A	SGR-DU060(2-4)-C	Soil	SW8270D-LL	PAHs: GC/MS	75007	10	05/12/16 02:31 PM	GCMS6_160512A
	SGR-DU060(2-4)-C	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75009	5	05/16/16 02:56 PM	ICP-MS4_160516B
1605034-28A	SGR-DU060(4-6)-C	Soil	SW8270D-LL	PAHs: GC/MS	75007	10	05/12/16 03:11 PM	GCMS6_160512A
	SGR-DU060(4-6)-C	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75009	5	05/16/16 02:58 PM	ICP-MS4_160516B

Lab Order: 1605034
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
1605034-29A	SGR-DU060(6-8)-C	Soil	SW8270D-LL	PAHs: GC/MS	75007	10	05/12/16 03:50 PM	GCMS6_160512A
	SGR-DU060(6-8)-C	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75009	5	05/16/16 03:00 PM	ICP-MS4_160516B
1605034-30A	SGR-DU060(8-10)-C	Soil	SW8270D-LL	PAHs: GC/MS	75007	10	05/12/16 04:30 PM	GCMS6_160512A
	SGR-DU060(8-10)-C	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75009	5	05/16/16 03:16 PM	ICP-MS4_160516B

DHL Analytical, Inc.

Date: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU056(0-2)-A
Project:	Laredo SGR	**Lab ID:**	1605034-01
Project No:	4285081.00044	**Collection Date:**	05/03/16 12:28 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	46.1	0.0962	0.288	0.144		mg/Kg-dry	5	05/16/16 01:22 PM
IS: Bismuth	99.4	0	30-120	0		%REC	5	05/16/16 01:22 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0723	0.0499	0.0997	0.0748	J	mg/Kg-dry	10	05/10/16 11:20 AM
Acenaphthylene	0.0748	0.0499	0.0997	0.0748	U	mg/Kg-dry	10	05/10/16 11:20 AM
Anthracene	0.576	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/10/16 11:20 AM
Benzo[a]anthracene	2.45	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/10/16 11:20 AM
Benzo[a]pyrene	2.76	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/10/16 11:20 AM
Benzo[b]fluoranthene	2.62	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/10/16 11:20 AM
Benzo[e]pyrene	2.08	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/10/16 11:20 AM
Benzo[g,h,i]perylene	1.89	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/10/16 11:20 AM
Benzo[j]fluoranthene	1.39	0.0499	0.0997	0.0748	N	mg/Kg-dry	10	05/10/16 11:20 AM
Benzo[k]fluoranthene	1.32	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/10/16 11:20 AM
Chrysene	2.80	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/10/16 11:20 AM
Dibenz[a,h]anthracene	0.429	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/10/16 11:20 AM
Fluoranthene	4.78	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/10/16 11:20 AM
Fluorene	0.0836	0.0499	0.0997	0.0748	J	mg/Kg-dry	10	05/10/16 11:20 AM
Indeno[1,2,3-cd]pyrene	1.58	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/10/16 11:20 AM
Phenanthrene	2.46	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/10/16 11:20 AM
Pyrene	3.78	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/10/16 11:20 AM
IS: Acenaphthene-d10	70.8	0	50-200	0		%REC	10	05/10/16 11:20 AM
IS: Chrysene-d12	85.9	0	50-200	0		%REC	10	05/10/16 11:20 AM
IS: Naphthalene-d8	120	0	50-200	0		%REC	10	05/10/16 11:20 AM
IS: Perylene-d12	85.4	0	50-200	0		%REC	10	05/10/16 11:20 AM
IS: Phenanthrene-d10	84.1	0	50-200	0		%REC	10	05/10/16 11:20 AM
Surr: 2-Fluorobiphenyl	91.3	0	46-115	0		%REC	10	05/10/16 11:20 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU056(0-2)-A
Project:	Laredo SGR	**Lab ID:**	1605034-01
Project No:	4285081.00044	**Collection Date:**	05/03/16 12:28 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	81.4	0	58-133	0		%REC	10	05/10/16 11:20 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU056(2-4)-A
Project:	Laredo SGR	**Lab ID:**	1605034-02
Project No:	4285081.00044	**Collection Date:**	05/03/16 12:32 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	8.26	0.0962	0.288	0.144		mg/Kg-dry	5	05/16/16 01:24 PM
IS: Bismuth	96.6	0	30-120	0		%REC	5	05/16/16 01:24 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0748	0.0499	0.0997	0.0748	U	mg/Kg-dry	10	05/10/16 12:00 PM
Acenaphthylene	0.0748	0.0499	0.0997	0.0748	U	mg/Kg-dry	10	05/10/16 12:00 PM
Anthracene	0.0748	0.0499	0.0997	0.0748	U	mg/Kg-dry	10	05/10/16 12:00 PM
Benzo[a]anthracene	0.126	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/10/16 12:00 PM
Benzo[a]pyrene	0.126	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/10/16 12:00 PM
Benzo[b]fluoranthene	0.125	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/10/16 12:00 PM
Benzo[e]pyrene	0.0998	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/10/16 12:00 PM
Benzo[g,h,i]perylene	0.0933	0.0499	0.0997	0.0748	J	mg/Kg-dry	10	05/10/16 12:00 PM
Benzo[j]fluoranthene	0.0683	0.0499	0.0997	0.0748	JN	mg/Kg-dry	10	05/10/16 12:00 PM
Benzo[k]fluoranthene	0.0670	0.0499	0.0997	0.0748	J	mg/Kg-dry	10	05/10/16 12:00 PM
Chrysene	0.143	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/10/16 12:00 PM
Dibenz[a,h]anthracene	0.0748	0.0499	0.0997	0.0748	U	mg/Kg-dry	10	05/10/16 12:00 PM
Fluoranthene	0.253	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/10/16 12:00 PM
Fluorene	0.0748	0.0499	0.0997	0.0748	U	mg/Kg-dry	10	05/10/16 12:00 PM
Indeno[1,2,3-cd]pyrene	0.0780	0.0499	0.0997	0.0748	J	mg/Kg-dry	10	05/10/16 12:00 PM
Phenanthrene	0.147	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/10/16 12:00 PM
Pyrene	0.197	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/10/16 12:00 PM
IS: Acenaphthene-d10	78.1	0	50-200	0		%REC	10	05/10/16 12:00 PM
IS: Chrysene-d12	85.6	0	50-200	0		%REC	10	05/10/16 12:00 PM
IS: Naphthalene-d8	128	0	50-200	0		%REC	10	05/10/16 12:00 PM
IS: Perylene-d12	88.5	0	50-200	0		%REC	10	05/10/16 12:00 PM
IS: Phenanthrene-d10	86.2	0	50-200	0		%REC	10	05/10/16 12:00 PM
Surr: 2-Fluorobiphenyl	82.7	0	46-115	0		%REC	10	05/10/16 12:00 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU056(2-4)-A
Project:	Laredo SGR	**Lab ID:**	1605034-02
Project No:	4285081.00044	**Collection Date:**	05/03/16 12:32 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	75.2	0	58-133	0		%REC	10	05/10/16 12:00 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU056(4-6)-A
Project:	Laredo SGR	**Lab ID:**	1605034-03
Project No:	4285081.00044	**Collection Date:**	05/03/16 12:35 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	16.7	0.0980	0.294	0.147		mg/Kg-dry	5	05/16/16 01:26 PM
IS: Bismuth	96.5	0	30-120	0		%REC	5	05/16/16 01:26 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0714	0.0476	0.0951	0.0714	U	mg/Kg-dry	10	05/10/16 12:40 PM
Acenaphthylene	0.0714	0.0476	0.0951	0.0714	U	mg/Kg-dry	10	05/10/16 12:40 PM
Anthracene	0.0714	0.0476	0.0951	0.0714	U	mg/Kg-dry	10	05/10/16 12:40 PM
Benzo[a]anthracene	0.0714	0.0476	0.0951	0.0714	U	mg/Kg-dry	10	05/10/16 12:40 PM
Benzo[a]pyrene	0.0714	0.0476	0.0951	0.0714	U	mg/Kg-dry	10	05/10/16 12:40 PM
Benzo[b]fluoranthene	0.0714	0.0476	0.0951	0.0714	U	mg/Kg-dry	10	05/10/16 12:40 PM
Benzo[e]pyrene	0.0714	0.0476	0.0951	0.0714	U	mg/Kg-dry	10	05/10/16 12:40 PM
Benzo[g,h,i]perylene	0.0714	0.0476	0.0951	0.0714	U	mg/Kg-dry	10	05/10/16 12:40 PM
Benzo[j]fluoranthene	0.0714	0.0476	0.0951	0.0714	NU	mg/Kg-dry	10	05/10/16 12:40 PM
Benzo[k]fluoranthene	0.0714	0.0476	0.0951	0.0714	U	mg/Kg-dry	10	05/10/16 12:40 PM
Chrysene	0.0714	0.0476	0.0951	0.0714	U	mg/Kg-dry	10	05/10/16 12:40 PM
Dibenz[a,h]anthracene	0.0714	0.0476	0.0951	0.0714	U	mg/Kg-dry	10	05/10/16 12:40 PM
Fluoranthene	0.0611	0.0476	0.0951	0.0714	J	mg/Kg-dry	10	05/10/16 12:40 PM
Fluorene	0.0714	0.0476	0.0951	0.0714	U	mg/Kg-dry	10	05/10/16 12:40 PM
Indeno[1,2,3-cd]pyrene	0.0714	0.0476	0.0951	0.0714	U	mg/Kg-dry	10	05/10/16 12:40 PM
Phenanthrene	0.0714	0.0476	0.0951	0.0714	U	mg/Kg-dry	10	05/10/16 12:40 PM
Pyrene	0.0566	0.0476	0.0951	0.0714	J	mg/Kg-dry	10	05/10/16 12:40 PM
IS: Acenaphthene-d10	79.4	0	50-200	0		%REC	10	05/10/16 12:40 PM
IS: Chrysene-d12	89.5	0	50-200	0		%REC	10	05/10/16 12:40 PM
IS: Naphthalene-d8	129	0	50-200	0		%REC	10	05/10/16 12:40 PM
IS: Perylene-d12	91.0	0	50-200	0		%REC	10	05/10/16 12:40 PM
IS: Phenanthrene-d10	88.4	0	50-200	0		%REC	10	05/10/16 12:40 PM
Surr: 2-Fluorobiphenyl	84.0	0	46-115	0		%REC	10	05/10/16 12:40 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU056(4-6)-A
Project:	Laredo SGR	**Lab ID:**	1605034-03
Project No:	4285081.00044	**Collection Date:**	05/03/16 12:35 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	74.0	0	58-133	0		%REC	10	05/10/16 12:40 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU056(6-8)-A
Project:	Laredo SGR	**Lab ID:**	1605034-04
Project No:	4285081.00044	**Collection Date:**	05/03/16 12:36 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	10.1	0.100	0.300	0.150		mg/Kg-dry	5	05/16/16 01:28 PM
IS: Bismuth	94.9	0	30-120	0		%REC	5	05/16/16 01:28 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/10/16 01:20 PM
Acenaphthylene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/10/16 01:20 PM
Anthracene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/10/16 01:20 PM
Benzo[a]anthracene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/10/16 01:20 PM
Benzo[a]pyrene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/10/16 01:20 PM
Benzo[b]fluoranthene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/10/16 01:20 PM
Benzo[e]pyrene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/10/16 01:20 PM
Benzo[g,h,i]perylene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/10/16 01:20 PM
Benzo[j]fluoranthene	0.0737	0.0491	0.0982	0.0737	NU	mg/Kg-dry	10	05/10/16 01:20 PM
Benzo[k]fluoranthene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/10/16 01:20 PM
Chrysene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/10/16 01:20 PM
Dibenz[a,h]anthracene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/10/16 01:20 PM
Fluoranthene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/10/16 01:20 PM
Fluorene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/10/16 01:20 PM
Indeno[1,2,3-cd]pyrene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/10/16 01:20 PM
Phenanthrene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/10/16 01:20 PM
Pyrene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/10/16 01:20 PM
IS: Acenaphthene-d10	80.0	0	50-200	0		%REC	10	05/10/16 01:20 PM
IS: Chrysene-d12	91.5	0	50-200	0		%REC	10	05/10/16 01:20 PM
IS: Naphthalene-d8	132	0	50-200	0		%REC	10	05/10/16 01:20 PM
IS: Perylene-d12	94.3	0	50-200	0		%REC	10	05/10/16 01:20 PM
IS: Phenanthrene-d10	90.2	0	50-200	0		%REC	10	05/10/16 01:20 PM
Surr: 2-Fluorobiphenyl	81.4	0	46-115	0		%REC	10	05/10/16 01:20 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU056(6-8)-A
Project:	Laredo SGR	**Lab ID:**	1605034-04
Project No:	4285081.00044	**Collection Date:**	05/03/16 12:36 PM
Lab Order:	1605034	**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	05/10/16 01:20 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU056(8-10)-A
Project:	Laredo SGR	**Lab ID:**	1605034-05
Project No:	4285081.00044	**Collection Date:**	05/03/16 12:37 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	10.5	0.0962	0.288	0.144		mg/Kg-dry	5	05/16/16 01:30 PM
IS: Bismuth	95.5	0	30-120	0		%REC	5	05/16/16 01:30 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/10/16 01:59 PM
Acenaphthylene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/10/16 01:59 PM
Anthracene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/10/16 01:59 PM
Benzo[a]anthracene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/10/16 01:59 PM
Benzo[a]pyrene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/10/16 01:59 PM
Benzo[b]fluoranthene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/10/16 01:59 PM
Benzo[e]pyrene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/10/16 01:59 PM
Benzo[g,h,i]perylene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/10/16 01:59 PM
Benzo[j]fluoranthene	0.0740	0.0494	0.0987	0.0740	NU	mg/Kg-dry	10	05/10/16 01:59 PM
Benzo[k]fluoranthene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/10/16 01:59 PM
Chrysene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/10/16 01:59 PM
Dibenz[a,h]anthracene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/10/16 01:59 PM
Fluoranthene	0.0533	0.0494	0.0987	0.0740	J	mg/Kg-dry	10	05/10/16 01:59 PM
Fluorene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/10/16 01:59 PM
Indeno[1,2,3-cd]pyrene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/10/16 01:59 PM
Phenanthrene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/10/16 01:59 PM
Pyrene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/10/16 01:59 PM
IS: Acenaphthene-d10	77.2	0	50-200	0		%REC	10	05/10/16 01:59 PM
IS: Chrysene-d12	87.2	0	50-200	0		%REC	10	05/10/16 01:59 PM
IS: Naphthalene-d8	124	0	50-200	0		%REC	10	05/10/16 01:59 PM
IS: Perylene-d12	89.7	0	50-200	0		%REC	10	05/10/16 01:59 PM
IS: Phenanthrene-d10	83.7	0	50-200	0		%REC	10	05/10/16 01:59 PM
Surr: 2-Fluorobiphenyl	83.3	0	46-115	0		%REC	10	05/10/16 01:59 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU056(8-10)-A
Project:	Laredo SGR	**Lab ID:**	1605034-05
Project No:	4285081.00044	**Collection Date:**	05/03/16 12:37 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	75.6	0	58-133	0		%REC	10	05/10/16 01:59 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU056(0-2)-B
Project:	Laredo SGR	**Lab ID:**	1605034-06
Project No:	4285081.00044	**Collection Date:**	05/03/16 12:44 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	35.6	0.0962	0.288	0.144		mg/Kg-dry	5	05/16/16 01:32 PM
IS: Bismuth	94.6	0	30-120	0		%REC	5	05/16/16 01:32 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 02:39 PM
Acenaphthylene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 02:39 PM
Anthracene	0.112	0.0494	0.0988	0.0741		mg/Kg-dry	10	05/10/16 02:39 PM
Benzo[a]anthracene	0.963	0.0494	0.0988	0.0741		mg/Kg-dry	10	05/10/16 02:39 PM
Benzo[a]pyrene	1.23	0.0494	0.0988	0.0741		mg/Kg-dry	10	05/10/16 02:39 PM
Benzo[b]fluoranthene	1.14	0.0494	0.0988	0.0741		mg/Kg-dry	10	05/10/16 02:39 PM
Benzo[e]pyrene	0.936	0.0494	0.0988	0.0741		mg/Kg-dry	10	05/10/16 02:39 PM
Benzo[g,h,i]perylene	0.893	0.0494	0.0988	0.0741		mg/Kg-dry	10	05/10/16 02:39 PM
Benzo[j]fluoranthene	0.628	0.0494	0.0988	0.0741	N	mg/Kg-dry	10	05/10/16 02:39 PM
Benzo[k]fluoranthene	0.602	0.0494	0.0988	0.0741		mg/Kg-dry	10	05/10/16 02:39 PM
Chrysene	1.15	0.0494	0.0988	0.0741		mg/Kg-dry	10	05/10/16 02:39 PM
Dibenz[a,h]anthracene	0.197	0.0494	0.0988	0.0741		mg/Kg-dry	10	05/10/16 02:39 PM
Fluoranthene	1.64	0.0494	0.0988	0.0741		mg/Kg-dry	10	05/10/16 02:39 PM
Fluorene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 02:39 PM
Indeno[1,2,3-cd]pyrene	0.753	0.0494	0.0988	0.0741		mg/Kg-dry	10	05/10/16 02:39 PM
Phenanthrene	0.555	0.0494	0.0988	0.0741		mg/Kg-dry	10	05/10/16 02:39 PM
Pyrene	1.45	0.0494	0.0988	0.0741		mg/Kg-dry	10	05/10/16 02:39 PM
IS: Acenaphthene-d10	76.7	0	50-200	0		%REC	10	05/10/16 02:39 PM
IS: Chrysene-d12	86.7	0	50-200	0		%REC	10	05/10/16 02:39 PM
IS: Naphthalene-d8	123	0	50-200	0		%REC	10	05/10/16 02:39 PM
IS: Perylene-d12	86.2	0	50-200	0		%REC	10	05/10/16 02:39 PM
IS: Phenanthrene-d10	77.7	0	50-200	0		%REC	10	05/10/16 02:39 PM
Surr: 2-Fluorobiphenyl	85.6	0	46-115	0		%REC	10	05/10/16 02:39 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU056(0-2)-B
Project:	Laredo SGR	**Lab ID:**	1605034-06
Project No:	4285081.00044	**Collection Date:**	05/03/16 12:44 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	81.4	0	58-133	0		%REC	10	05/10/16 02:39 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU056(2-4)-B
Project:	Laredo SGR	**Lab ID:**	1605034-07
Project No:	4285081.00044	**Collection Date:**	05/03/16 12:46 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	88.3	0.0926	0.278	0.139		mg/Kg-dry	5	05/16/16 01:34 PM
IS: Bismuth	92.0	0	30-120	0		%REC	5	05/16/16 01:34 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0535	0.0484	0.0969	0.0727	J	mg/Kg-dry	10	05/10/16 03:19 PM
Acenaphthylene	0.0727	0.0484	0.0969	0.0727	U	mg/Kg-dry	10	05/10/16 03:19 PM
Anthracene	0.334	0.0484	0.0969	0.0727		mg/Kg-dry	10	05/10/16 03:19 PM
Benzo[a]anthracene	1.25	0.0484	0.0969	0.0727		mg/Kg-dry	10	05/10/16 03:19 PM
Benzo[a]pyrene	1.12	0.0484	0.0969	0.0727		mg/Kg-dry	10	05/10/16 03:19 PM
Benzo[b]fluoranthene	1.05	0.0484	0.0969	0.0727		mg/Kg-dry	10	05/10/16 03:19 PM
Benzo[e]pyrene	0.809	0.0484	0.0969	0.0727		mg/Kg-dry	10	05/10/16 03:19 PM
Benzo[g,h,i]perylene	0.679	0.0484	0.0969	0.0727		mg/Kg-dry	10	05/10/16 03:19 PM
Benzo[j]fluoranthene	0.600	0.0484	0.0969	0.0727	N	mg/Kg-dry	10	05/10/16 03:19 PM
Benzo[k]fluoranthene	0.559	0.0484	0.0969	0.0727		mg/Kg-dry	10	05/10/16 03:19 PM
Chrysene	1.40	0.0484	0.0969	0.0727		mg/Kg-dry	10	05/10/16 03:19 PM
Dibenz[a,h]anthracene	0.176	0.0484	0.0969	0.0727		mg/Kg-dry	10	05/10/16 03:19 PM
Fluoranthene	2.84	0.0484	0.0969	0.0727		mg/Kg-dry	10	05/10/16 03:19 PM
Fluorene	0.0523	0.0484	0.0969	0.0727	J	mg/Kg-dry	10	05/10/16 03:19 PM
Indeno[1,2,3-cd]pyrene	0.604	0.0484	0.0969	0.0727		mg/Kg-dry	10	05/10/16 03:19 PM
Phenanthrene	1.48	0.0484	0.0969	0.0727		mg/Kg-dry	10	05/10/16 03:19 PM
Pyrene	2.23	0.0484	0.0969	0.0727		mg/Kg-dry	10	05/10/16 03:19 PM
IS: Acenaphthene-d10	79.3	0	50-200	0		%REC	10	05/10/16 03:19 PM
IS: Chrysene-d12	91.0	0	50-200	0		%REC	10	05/10/16 03:19 PM
IS: Naphthalene-d8	131	0	50-200	0		%REC	10	05/10/16 03:19 PM
IS: Perylene-d12	94.8	0	50-200	0		%REC	10	05/10/16 03:19 PM
IS: Phenanthrene-d10	87.9	0	50-200	0		%REC	10	05/10/16 03:19 PM
Surr: 2-Fluorobiphenyl	84.7	0	46-115	0		%REC	10	05/10/16 03:19 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		

DHL Analytical, Inc.

Date: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU056(2-4)-B
Project:	Laredo SGR	**Lab ID:**	1605034-07
Project No:	4285081.00044	**Collection Date:**	05/03/16 12:46 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	75.5	0	58-133	0		%REC	10	05/10/16 03:19 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		

DHL Analytical, Inc.

Date: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU056(4-6)-B
Project:	Laredo SGR	**Lab ID:**	1605034-08
Project No:	4285081.00044	**Collection Date:**	05/03/16 12:49 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	11.7	0.0962	0.288	0.144		mg/Kg-dry	5	05/16/16 01:36 PM
IS: Bismuth	91.0	0	30-120	0		%REC	5	05/16/16 01:36 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/10/16 04:00 PM
Acenaphthylene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/10/16 04:00 PM
Anthracene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/10/16 04:00 PM
Benzo[a]anthracene	0.0902	0.0500	0.100	0.0750	J	mg/Kg-dry	10	05/10/16 04:00 PM
Benzo[a]pyrene	0.0986	0.0500	0.100	0.0750	J	mg/Kg-dry	10	05/10/16 04:00 PM
Benzo[b]fluoranthene	0.0966	0.0500	0.100	0.0750	J	mg/Kg-dry	10	05/10/16 04:00 PM
Benzo[e]pyrene	0.0794	0.0500	0.100	0.0750	J	mg/Kg-dry	10	05/10/16 04:00 PM
Benzo[g,h,i]perylene	0.0741	0.0500	0.100	0.0750	J	mg/Kg-dry	10	05/10/16 04:00 PM
Benzo[j]fluoranthene	0.0514	0.0500	0.100	0.0750	JN	mg/Kg-dry	10	05/10/16 04:00 PM
Benzo[k]fluoranthene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/10/16 04:00 PM
Chrysene	0.107	0.0500	0.100	0.0750		mg/Kg-dry	10	05/10/16 04:00 PM
Dibenz[a,h]anthracene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/10/16 04:00 PM
Fluoranthene	0.181	0.0500	0.100	0.0750		mg/Kg-dry	10	05/10/16 04:00 PM
Fluorene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/10/16 04:00 PM
Indeno[1,2,3-cd]pyrene	0.0594	0.0500	0.100	0.0750	J	mg/Kg-dry	10	05/10/16 04:00 PM
Phenanthrene	0.0834	0.0500	0.100	0.0750	J	mg/Kg-dry	10	05/10/16 04:00 PM
Pyrene	0.151	0.0500	0.100	0.0750		mg/Kg-dry	10	05/10/16 04:00 PM
IS: Acenaphthene-d10	78.8	0	50-200	0		%REC	10	05/10/16 04:00 PM
IS: Chrysene-d12	87.6	0	50-200	0		%REC	10	05/10/16 04:00 PM
IS: Naphthalene-d8	126	0	50-200	0		%REC	10	05/10/16 04:00 PM
IS: Perylene-d12	89.0	0	50-200	0		%REC	10	05/10/16 04:00 PM
IS: Phenanthrene-d10	87.0	0	50-200	0		%REC	10	05/10/16 04:00 PM
Surr: 2-Fluorobiphenyl	82.9	0	46-115	0		%REC	10	05/10/16 04:00 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU056(4-6)-B
Project:	Laredo SGR	**Lab ID:**	1605034-08
Project No:	4285081.00044	**Collection Date:**	05/03/16 12:49 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	74.2	0	58-133	0		%REC	10	05/10/16 04:00 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU056(6-8)-B
Project:	Laredo SGR	**Lab ID:**	1605034-09
Project No:	4285081.00044	**Collection Date:**	05/03/16 12:51 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	10.2	0.0971	0.291	0.146		mg/Kg-dry	5	05/16/16 01:18 PM
IS: Bismuth	99.1	0	30-120	0		%REC	5	05/16/16 01:18 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/10/16 04:39 PM
Acenaphthylene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/10/16 04:39 PM
Anthracene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/10/16 04:39 PM
Benzo[a]anthracene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/10/16 04:39 PM
Benzo[a]pyrene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/10/16 04:39 PM
Benzo[b]fluoranthene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/10/16 04:39 PM
Benzo[e]pyrene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/10/16 04:39 PM
Benzo[g,h,i]perylene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/10/16 04:39 PM
Benzo[j]fluoranthene	0.0746	0.0497	0.0994	0.0746	NU	mg/Kg-dry	10	05/10/16 04:39 PM
Benzo[k]fluoranthene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/10/16 04:39 PM
Chrysene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/10/16 04:39 PM
Dibenz[a,h]anthracene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/10/16 04:39 PM
Fluoranthene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/10/16 04:39 PM
Fluorene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/10/16 04:39 PM
Indeno[1,2,3-cd]pyrene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/10/16 04:39 PM
Phenanthrene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/10/16 04:39 PM
Pyrene	0.0746	0.0497	0.0994	0.0746	U	mg/Kg-dry	10	05/10/16 04:39 PM
IS: Acenaphthene-d10	81.2	0	50-200	0		%REC	10	05/10/16 04:39 PM
IS: Chrysene-d12	91.7	0	50-200	0		%REC	10	05/10/16 04:39 PM
IS: Naphthalene-d8	130	0	50-200	0		%REC	10	05/10/16 04:39 PM
IS: Perylene-d12	93.8	0	50-200	0		%REC	10	05/10/16 04:39 PM
IS: Phenanthrene-d10	91.6	0	50-200	0		%REC	10	05/10/16 04:39 PM
Surr: 2-Fluorobiphenyl	71.3	0	46-115	0		%REC	10	05/10/16 04:39 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU056(6-8)-B
Project:	Laredo SGR	**Lab ID:**	1605034-09
Project No:	4285081.00044	**Collection Date:**	05/03/16 12:51 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	62.9	0	58-133	0		%REC	10	05/10/16 04:39 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU056(8-10)-B
Project:	Laredo SGR	**Lab ID:**	1605034-10
Project No:	4285081.00044	**Collection Date:**	05/03/16 12:52 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	12.4	0.0971	0.291	0.146		mg/Kg-dry	5	05/16/16 01:38 PM
IS: Bismuth	90.5	0	30-120	0		%REC	5	05/16/16 01:38 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/10/16 05:19 PM
Acenaphthylene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/10/16 05:19 PM
Anthracene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/10/16 05:19 PM
Benzo[a]anthracene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/10/16 05:19 PM
Benzo[a]pyrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/10/16 05:19 PM
Benzo[b]fluoranthene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/10/16 05:19 PM
Benzo[e]pyrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/10/16 05:19 PM
Benzo[g,h,i]perylene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/10/16 05:19 PM
Benzo[j]fluoranthene	0.0749	0.0500	0.0999	0.0749	NU	mg/Kg-dry	10	05/10/16 05:19 PM
Benzo[k]fluoranthene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/10/16 05:19 PM
Chrysene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/10/16 05:19 PM
Dibenz[a,h]anthracene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/10/16 05:19 PM
Fluoranthene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/10/16 05:19 PM
Fluorene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/10/16 05:19 PM
Indeno[1,2,3-cd]pyrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/10/16 05:19 PM
Phenanthrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/10/16 05:19 PM
Pyrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/10/16 05:19 PM
IS: Acenaphthene-d10	77.1	0	50-200	0		%REC	10	05/10/16 05:19 PM
IS: Chrysene-d12	84.7	0	50-200	0		%REC	10	05/10/16 05:19 PM
IS: Naphthalene-d8	125	0	50-200	0		%REC	10	05/10/16 05:19 PM
IS: Perylene-d12	86.7	0	50-200	0		%REC	10	05/10/16 05:19 PM
IS: Phenanthrene-d10	85.5	0	50-200	0		%REC	10	05/10/16 05:19 PM
Surr: 2-Fluorobiphenyl	84.4	0	46-115	0		%REC	10	05/10/16 05:19 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		

DHL Analytical, Inc.

Date: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU056(8-10)-B
Project:	Laredo SGR	**Lab ID:**	1605034-10
Project No:	4285081.00044	**Collection Date:**	05/03/16 12:52 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	76.7	0	58-133	0		%REC	10	05/10/16 05:19 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		

DHL Analytical, Inc.

Date: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU056(0-2)-C
Project:	Laredo SGR	**Lab ID:**	1605034-11
Project No:	4285081.00044	**Collection Date:**	05/03/16 12:58 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	48.4	0.0971	0.291	0.146		mg/Kg-dry	5	05/16/16 02:00 PM
IS: Bismuth	91.0	0	30-120	0		%REC	5	05/16/16 02:00 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/10/16 09:14 PM
Acenaphthylene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/10/16 09:14 PM
Anthracene	0.0763	0.0499	0.0998	0.0749	J	mg/Kg-dry	10	05/10/16 09:14 PM
Benzo[a]anthracene	0.453	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/10/16 09:14 PM
Benzo[a]pyrene	0.513	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/10/16 09:14 PM
Benzo[b]fluoranthene	0.502	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/10/16 09:14 PM
Benzo[e]pyrene	0.417	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/10/16 09:14 PM
Benzo[g,h,i]perylene	0.422	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/10/16 09:14 PM
Benzo[j]fluoranthene	0.268	0.0499	0.0998	0.0749	N	mg/Kg-dry	10	05/10/16 09:14 PM
Benzo[k]fluoranthene	0.257	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/10/16 09:14 PM
Chrysene	0.556	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/10/16 09:14 PM
Dibenz[a,h]anthracene	0.0916	0.0499	0.0998	0.0749	J	mg/Kg-dry	10	05/10/16 09:14 PM
Fluoranthene	0.927	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/10/16 09:14 PM
Fluorene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/10/16 09:14 PM
Indeno[1,2,3-cd]pyrene	0.350	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/10/16 09:14 PM
Phenanthrene	0.414	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/10/16 09:14 PM
Pyrene	0.771	0.0499	0.0998	0.0749		mg/Kg-dry	10	05/10/16 09:14 PM
IS: Acenaphthene-d10	86.2	0	50-200	0		%REC	10	05/10/16 09:14 PM
IS: Chrysene-d12	88.8	0	50-200	0		%REC	10	05/10/16 09:14 PM
IS: Naphthalene-d8	112	0	50-200	0		%REC	10	05/10/16 09:14 PM
IS: Perylene-d12	90.6	0	50-200	0		%REC	10	05/10/16 09:14 PM
IS: Phenanthrene-d10	83.1	0	50-200	0		%REC	10	05/10/16 09:14 PM
Surr: 2-Fluorobiphenyl	82.6	0	46-115	0		%REC	10	05/10/16 09:14 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU056(0-2)-C
Project:	Laredo SGR	**Lab ID:**	1605034-11
Project No:	4285081.00044	**Collection Date:**	05/03/16 12:58 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	77.1	0	58-133	0		%REC	10	05/10/16 09:14 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-SU056(2-4)-C
Project:	Laredo SGR	**Lab ID:**	1605034-12
Project No:	4285081.00044	**Collection Date:**	05/03/16 01:00 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	7.40	0.0909	0.273	0.136		mg/Kg-dry	5	05/16/16 02:02 PM
IS: Bismuth	90.3	0	30-120	0		%REC	5	05/16/16 02:02 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/10/16 09:54 PM
Acenaphthylene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/10/16 09:54 PM
Anthracene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/10/16 09:54 PM
Benzo[a]anthracene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/10/16 09:54 PM
Benzo[a]pyrene	0.0570	0.0496	0.0992	0.0744	J	mg/Kg-dry	10	05/10/16 09:54 PM
Benzo[b]fluoranthene	0.0541	0.0496	0.0992	0.0744	J	mg/Kg-dry	10	05/10/16 09:54 PM
Benzo[e]pyrene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/10/16 09:54 PM
Benzo[g,h,i]perylene	0.0556	0.0496	0.0992	0.0744	J	mg/Kg-dry	10	05/10/16 09:54 PM
Benzo[j]fluoranthene	0.0744	0.0496	0.0992	0.0744	NU	mg/Kg-dry	10	05/10/16 09:54 PM
Benzo[k]fluoranthene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/10/16 09:54 PM
Chrysene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/10/16 09:54 PM
Dibenz[a,h]anthracene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/10/16 09:54 PM
Fluoranthene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/10/16 09:54 PM
Fluorene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/10/16 09:54 PM
Indeno[1,2,3-cd]pyrene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/10/16 09:54 PM
Phenanthrene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/10/16 09:54 PM
Pyrene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/10/16 09:54 PM
IS: Acenaphthene-d10	79.5	0	50-200	0		%REC	10	05/10/16 09:54 PM
IS: Chrysene-d12	90.1	0	50-200	0		%REC	10	05/10/16 09:54 PM
IS: Naphthalene-d8	124	0	50-200	0		%REC	10	05/10/16 09:54 PM
IS: Perylene-d12	91.7	0	50-200	0		%REC	10	05/10/16 09:54 PM
IS: Phenanthrene-d10	89.7	0	50-200	0		%REC	10	05/10/16 09:54 PM
Surr: 2-Fluorobiphenyl	77.9	0	46-115	0		%REC	10	05/10/16 09:54 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-SU056(2-4)-C
Project:	Laredo SGR	**Lab ID:**	1605034-12
Project No:	4285081.00044	**Collection Date:**	05/03/16 01:00 PM
Lab Order:	1605034	**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	05/10/16 09:54 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU056(4-6)-C
Project:	Laredo SGR	**Lab ID:**	1605034-13
Project No:	4285081.00044	**Collection Date:**	05/03/16 01:01 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	9.41	0.0990	0.297	0.149		mg/Kg-dry	5	05/16/16 02:04 PM
IS: Bismuth	94.8	0	30-120	0		%REC	5	05/16/16 02:04 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 10:33 PM
Acenaphthylene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 10:33 PM
Anthracene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 10:33 PM
Benzo[a]anthracene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 10:33 PM
Benzo[a]pyrene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 10:33 PM
Benzo[b]fluoranthene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 10:33 PM
Benzo[e]pyrene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 10:33 PM
Benzo[g,h,i]perylene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 10:33 PM
Benzo[j]fluoranthene	0.0741	0.0494	0.0988	0.0741	NU	mg/Kg-dry	10	05/10/16 10:33 PM
Benzo[k]fluoranthene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 10:33 PM
Chrysene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 10:33 PM
Dibenz[a,h]anthracene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 10:33 PM
Fluoranthene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 10:33 PM
Fluorene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 10:33 PM
Indeno[1,2,3-cd]pyrene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 10:33 PM
Phenanthrene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 10:33 PM
Pyrene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 10:33 PM
IS: Acenaphthene-d10	81.9	0	50-200	0		%REC	10	05/10/16 10:33 PM
IS: Chrysene-d12	87.9	0	50-200	0		%REC	10	05/10/16 10:33 PM
IS: Naphthalene-d8	120	0	50-200	0		%REC	10	05/10/16 10:33 PM
IS: Perylene-d12	87.6	0	50-200	0		%REC	10	05/10/16 10:33 PM
IS: Phenanthrene-d10	84.6	0	50-200	0		%REC	10	05/10/16 10:33 PM
Surr: 2-Fluorobiphenyl	85.4	0	46-115	0		%REC	10	05/10/16 10:33 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU056(4-6)-C
Project:	Laredo SGR	**Lab ID:**	1605034-13
Project No:	4285081.00044	**Collection Date:**	05/03/16 01:01 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	75.7	0	58-133	0		%REC	10	05/10/16 10:33 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU056(6-8)-C
Project:	Laredo SGR	**Lab ID:**	1605034-14
Project No:	4285081.00044	**Collection Date:**	05/03/16 01:03 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	13.0	0.0990	0.297	0.149		mg/Kg-dry	5	05/16/16 02:06 PM
IS: Bismuth	96.5	0	30-120	0		%REC	5	05/16/16 02:06 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/10/16 11:13 PM
Acenaphthylene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/10/16 11:13 PM
Anthracene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/10/16 11:13 PM
Benzo[a]anthracene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/10/16 11:13 PM
Benzo[a]pyrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/10/16 11:13 PM
Benzo[b]fluoranthene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/10/16 11:13 PM
Benzo[e]pyrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/10/16 11:13 PM
Benzo[g,h,i]perylene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/10/16 11:13 PM
Benzo[j]fluoranthene	0.0749	0.0500	0.0999	0.0749	NU	mg/Kg-dry	10	05/10/16 11:13 PM
Benzo[k]fluoranthene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/10/16 11:13 PM
Chrysene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/10/16 11:13 PM
Dibenz[a,h]anthracene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/10/16 11:13 PM
Fluoranthene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/10/16 11:13 PM
Fluorene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/10/16 11:13 PM
Indeno[1,2,3-cd]pyrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/10/16 11:13 PM
Phenanthrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/10/16 11:13 PM
Pyrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/10/16 11:13 PM
IS: Acenaphthene-d10	77.8	0	50-200	0		%REC	10	05/10/16 11:13 PM
IS: Chrysene-d12	89.9	0	50-200	0		%REC	10	05/10/16 11:13 PM
IS: Naphthalene-d8	126	0	50-200	0		%REC	10	05/10/16 11:13 PM
IS: Perylene-d12	90.8	0	50-200	0		%REC	10	05/10/16 11:13 PM
IS: Phenanthrene-d10	89.4	0	50-200	0		%REC	10	05/10/16 11:13 PM
Surr: 2-Fluorobiphenyl	82.3	0	46-115	0		%REC	10	05/10/16 11:13 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU056(6-8)-C
Project:	Laredo SGR	**Lab ID:**	1605034-14
Project No:	4285081.00044	**Collection Date:**	05/03/16 01:03 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	74.3	0	58-133	0		%REC	10	05/10/16 11:13 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU056(8-10)-C
Project:	Laredo SGR	**Lab ID:**	1605034-15
Project No:	4285081.00044	**Collection Date:**	05/03/16 01:05 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	8.31	0.0980	0.294	0.147		mg/Kg-dry	5	05/16/16 02:08 PM
IS: Bismuth	97.7	0	30-120	0		%REC	5	05/16/16 02:08 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 11:52 PM
Acenaphthylene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 11:52 PM
Anthracene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 11:52 PM
Benzo[a]anthracene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 11:52 PM
Benzo[a]pyrene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 11:52 PM
Benzo[b]fluoranthene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 11:52 PM
Benzo[e]pyrene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 11:52 PM
Benzo[g,h,i]perylene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 11:52 PM
Benzo[j]fluoranthene	0.0741	0.0494	0.0988	0.0741	NU	mg/Kg-dry	10	05/10/16 11:52 PM
Benzo[k]fluoranthene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 11:52 PM
Chrysene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 11:52 PM
Dibenz[a,h]anthracene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 11:52 PM
Fluoranthene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 11:52 PM
Fluorene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 11:52 PM
Indeno[1,2,3-cd]pyrene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 11:52 PM
Phenanthrene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 11:52 PM
Pyrene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/10/16 11:52 PM
IS: Acenaphthene-d10	83.9	0	50-200	0		%REC	10	05/10/16 11:52 PM
IS: Chrysene-d12	90.3	0	50-200	0		%REC	10	05/10/16 11:52 PM
IS: Naphthalene-d8	126	0	50-200	0		%REC	10	05/10/16 11:52 PM
IS: Perylene-d12	90.8	0	50-200	0		%REC	10	05/10/16 11:52 PM
IS: Phenanthrene-d10	86.0	0	50-200	0		%REC	10	05/10/16 11:52 PM
Surr: 2-Fluorobiphenyl	87.3	0	46-115	0		%REC	10	05/10/16 11:52 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU056(8-10)-C
Project:	Laredo SGR	**Lab ID:**	1605034-15
Project No:	4285081.00044	**Collection Date:**	05/03/16 01:05 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	76.8	0	58-133	0		%REC	10	05/10/16 11:52 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(0-2)-A
Project:	Laredo SGR	**Lab ID:**	1605034-16
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:37 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	10.9	0.0909	0.273	0.136		mg/Kg-dry	5	05/16/16 02:10 PM
IS: Bismuth	93.5	0	30-120	0		%REC	5	05/16/16 02:10 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0736	0.0491	0.0981	0.0736	U	mg/Kg-dry	10	05/11/16 12:32 AM
Acenaphthylene	0.0736	0.0491	0.0981	0.0736	U	mg/Kg-dry	10	05/11/16 12:32 AM
Anthracene	0.0736	0.0491	0.0981	0.0736	U	mg/Kg-dry	10	05/11/16 12:32 AM
Benzo[a]anthracene	0.0740	0.0491	0.0981	0.0736	J	mg/Kg-dry	10	05/11/16 12:32 AM
Benzo[a]pyrene	0.0894	0.0491	0.0981	0.0736	J	mg/Kg-dry	10	05/11/16 12:32 AM
Benzo[b]fluoranthene	0.0828	0.0491	0.0981	0.0736	J	mg/Kg-dry	10	05/11/16 12:32 AM
Benzo[e]pyrene	0.0686	0.0491	0.0981	0.0736	J	mg/Kg-dry	10	05/11/16 12:32 AM
Benzo[g,h,i]perylene	0.0711	0.0491	0.0981	0.0736	J	mg/Kg-dry	10	05/11/16 12:32 AM
Benzo[j]fluoranthene	0.0736	0.0491	0.0981	0.0736	NU	mg/Kg-dry	10	05/11/16 12:32 AM
Benzo[k]fluoranthene	0.0736	0.0491	0.0981	0.0736	U	mg/Kg-dry	10	05/11/16 12:32 AM
Chrysene	0.0891	0.0491	0.0981	0.0736	J	mg/Kg-dry	10	05/11/16 12:32 AM
Dibenz[a,h]anthracene	0.0736	0.0491	0.0981	0.0736	U	mg/Kg-dry	10	05/11/16 12:32 AM
Fluoranthene	0.130	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/11/16 12:32 AM
Fluorene	0.0736	0.0491	0.0981	0.0736	U	mg/Kg-dry	10	05/11/16 12:32 AM
Indeno[1,2,3-cd]pyrene	0.0589	0.0491	0.0981	0.0736	J	mg/Kg-dry	10	05/11/16 12:32 AM
Phenanthrene	0.0530	0.0491	0.0981	0.0736	J	mg/Kg-dry	10	05/11/16 12:32 AM
Pyrene	0.116	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/11/16 12:32 AM
IS: Acenaphthene-d10	79.1	0	50-200	0		%REC	10	05/11/16 12:32 AM
IS: Chrysene-d12	85.7	0	50-200	0		%REC	10	05/11/16 12:32 AM
IS: Naphthalene-d8	118	0	50-200	0		%REC	10	05/11/16 12:32 AM
IS: Perylene-d12	86.9	0	50-200	0		%REC	10	05/11/16 12:32 AM
IS: Phenanthrene-d10	80.5	0	50-200	0		%REC	10	05/11/16 12:32 AM
Surr: 2-Fluorobiphenyl	85.0	0	46-115	0		%REC	10	05/11/16 12:32 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(0-2)-A
Project:	Laredo SGR	**Lab ID:**	1605034-16
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:37 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	77.5	0	58-133	0		%REC	10	05/11/16 12:32 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(2-4)-A
Project:	Laredo SGR	**Lab ID:**	1605034-17
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:39 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	6.18	0.0926	0.278	0.139		mg/Kg-dry	5	05/16/16 02:12 PM
IS: Bismuth	92.4	0	30-120	0		%REC	5	05/16/16 02:12 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/11/16 01:13 AM
Acenaphthylene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/11/16 01:13 AM
Anthracene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/11/16 01:13 AM
Benzo[a]anthracene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/11/16 01:13 AM
Benzo[a]pyrene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/11/16 01:13 AM
Benzo[b]fluoranthene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/11/16 01:13 AM
Benzo[e]pyrene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/11/16 01:13 AM
Benzo[g,h,i]perylene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/11/16 01:13 AM
Benzo[j]fluoranthene	0.0738	0.0492	0.0984	0.0738	NU	mg/Kg-dry	10	05/11/16 01:13 AM
Benzo[k]fluoranthene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/11/16 01:13 AM
Chrysene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/11/16 01:13 AM
Dibenz[a,h]anthracene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/11/16 01:13 AM
Fluoranthene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/11/16 01:13 AM
Fluorene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/11/16 01:13 AM
Indeno[1,2,3-cd]pyrene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/11/16 01:13 AM
Phenanthrene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/11/16 01:13 AM
Pyrene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/11/16 01:13 AM
IS: Acenaphthene-d10	80.9	0	50-200	0		%REC	10	05/11/16 01:13 AM
IS: Chrysene-d12	87.4	0	50-200	0		%REC	10	05/11/16 01:13 AM
IS: Naphthalene-d8	110	0	50-200	0		%REC	10	05/11/16 01:13 AM
IS: Perylene-d12	88.6	0	50-200	0		%REC	10	05/11/16 01:13 AM
IS: Phenanthrene-d10	78.9	0	50-200	0		%REC	10	05/11/16 01:13 AM
Surr: 2-Fluorobiphenyl	85.9	0	46-115	0		%REC	10	05/11/16 01:13 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(2-4)-A
Project:	Laredo SGR	**Lab ID:**	1605034-17
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:39 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	78.7	0	58-133	0		%REC	10	05/11/16 01:13 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(4-6)-A
Project:	Laredo SGR	**Lab ID:**	1605034-18
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:41 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	6.97	0.0935	0.280	0.140		mg/Kg-dry	5	05/16/16 02:14 PM
IS: Bismuth	91.8	0	30-120	0		%REC	5	05/16/16 02:14 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0733	0.0489	0.0978	0.0733	U	mg/Kg-dry	10	05/11/16 01:53 AM
Acenaphthylene	0.0733	0.0489	0.0978	0.0733	U	mg/Kg-dry	10	05/11/16 01:53 AM
Anthracene	0.0733	0.0489	0.0978	0.0733	U	mg/Kg-dry	10	05/11/16 01:53 AM
Benzo[a]anthracene	0.0733	0.0489	0.0978	0.0733	U	mg/Kg-dry	10	05/11/16 01:53 AM
Benzo[a]pyrene	0.0733	0.0489	0.0978	0.0733	U	mg/Kg-dry	10	05/11/16 01:53 AM
Benzo[b]fluoranthene	0.0733	0.0489	0.0978	0.0733	U	mg/Kg-dry	10	05/11/16 01:53 AM
Benzo[e]pyrene	0.0733	0.0489	0.0978	0.0733	U	mg/Kg-dry	10	05/11/16 01:53 AM
Benzo[g,h,i]perylene	0.0733	0.0489	0.0978	0.0733	U	mg/Kg-dry	10	05/11/16 01:53 AM
Benzo[j]fluoranthene	0.0733	0.0489	0.0978	0.0733	NU	mg/Kg-dry	10	05/11/16 01:53 AM
Benzo[k]fluoranthene	0.0733	0.0489	0.0978	0.0733	U	mg/Kg-dry	10	05/11/16 01:53 AM
Chrysene	0.0733	0.0489	0.0978	0.0733	U	mg/Kg-dry	10	05/11/16 01:53 AM
Dibenz[a,h]anthracene	0.0733	0.0489	0.0978	0.0733	U	mg/Kg-dry	10	05/11/16 01:53 AM
Fluoranthene	0.0733	0.0489	0.0978	0.0733	U	mg/Kg-dry	10	05/11/16 01:53 AM
Fluorene	0.0733	0.0489	0.0978	0.0733	U	mg/Kg-dry	10	05/11/16 01:53 AM
Indeno[1,2,3-cd]pyrene	0.0733	0.0489	0.0978	0.0733	U	mg/Kg-dry	10	05/11/16 01:53 AM
Phenanthrene	0.0733	0.0489	0.0978	0.0733	U	mg/Kg-dry	10	05/11/16 01:53 AM
Pyrene	0.0733	0.0489	0.0978	0.0733	U	mg/Kg-dry	10	05/11/16 01:53 AM
IS: Acenaphthene-d10	83.1	0	50-200	0		%REC	10	05/11/16 01:53 AM
IS: Chrysene-d12	88.3	0	50-200	0		%REC	10	05/11/16 01:53 AM
IS: Naphthalene-d8	121	0	50-200	0		%REC	10	05/11/16 01:53 AM
IS: Perylene-d12	90.1	0	50-200	0		%REC	10	05/11/16 01:53 AM
IS: Phenanthrene-d10	82.9	0	50-200	0		%REC	10	05/11/16 01:53 AM
Surr: 2-Fluorobiphenyl	84.5	0	46-115	0		%REC	10	05/11/16 01:53 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(4-6)-A
Project:	Laredo SGR	**Lab ID:**	1605034-18
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:41 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	76.3	0	58-133	0		%REC	10	05/11/16 01:53 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(6-8)-A
Project:	Laredo SGR	**Lab ID:**	1605034-19
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:43 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	6.92	0.0952	0.286	0.143		mg/Kg-dry	5	05/16/16 02:16 PM
IS: Bismuth	93.6	0	30-120	0		%REC	5	05/16/16 02:16 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/11/16 02:33 AM
Acenaphthylene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/11/16 02:33 AM
Anthracene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/11/16 02:33 AM
Benzo[a]anthracene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/11/16 02:33 AM
Benzo[a]pyrene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/11/16 02:33 AM
Benzo[b]fluoranthene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/11/16 02:33 AM
Benzo[e]pyrene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/11/16 02:33 AM
Benzo[g,h,i]perylene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/11/16 02:33 AM
Benzo[j]fluoranthene	0.0730	0.0487	0.0974	0.0730	NU	mg/Kg-dry	10	05/11/16 02:33 AM
Benzo[k]fluoranthene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/11/16 02:33 AM
Chrysene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/11/16 02:33 AM
Dibenz[a,h]anthracene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/11/16 02:33 AM
Fluoranthene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/11/16 02:33 AM
Fluorene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/11/16 02:33 AM
Indeno[1,2,3-cd]pyrene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/11/16 02:33 AM
Phenanthrene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/11/16 02:33 AM
Pyrene	0.0730	0.0487	0.0974	0.0730	U	mg/Kg-dry	10	05/11/16 02:33 AM
IS: Acenaphthene-d10	75.2	0	50-200	0		%REC	10	05/11/16 02:33 AM
IS: Chrysene-d12	86.4	0	50-200	0		%REC	10	05/11/16 02:33 AM
IS: Naphthalene-d8	124	0	50-200	0		%REC	10	05/11/16 02:33 AM
IS: Perylene-d12	88.6	0	50-200	0		%REC	10	05/11/16 02:33 AM
IS: Phenanthrene-d10	86.1	0	50-200	0		%REC	10	05/11/16 02:33 AM
Surr: 2-Fluorobiphenyl	83.3	0	46-115	0		%REC	10	05/11/16 02:33 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(6-8)-A
Project:	Laredo SGR	**Lab ID:**	1605034-19
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:43 PM
Lab Order:	1605034	**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	05/11/16 02:33 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(8-10)-A
Project:	Laredo SGR	**Lab ID:**	1605034-20
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:44 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	8.55	0.0952	0.286	0.143		mg/Kg-dry	5	05/16/16 02:18 PM
IS: Bismuth	92.9	0	30-120	0		%REC	5	05/16/16 02:18 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 03:12 AM
Acenaphthylene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 03:12 AM
Anthracene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 03:12 AM
Benzo[a]anthracene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 03:12 AM
Benzo[a]pyrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 03:12 AM
Benzo[b]fluoranthene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 03:12 AM
Benzo[e]pyrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 03:12 AM
Benzo[g,h,i]perylene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 03:12 AM
Benzo[j]fluoranthene	0.0749	0.0500	0.0999	0.0749	NU	mg/Kg-dry	10	05/11/16 03:12 AM
Benzo[k]fluoranthene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 03:12 AM
Chrysene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 03:12 AM
Dibenz[a,h]anthracene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 03:12 AM
Fluoranthene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 03:12 AM
Fluorene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 03:12 AM
Indeno[1,2,3-cd]pyrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 03:12 AM
Phenanthrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 03:12 AM
Pyrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 03:12 AM
IS: Acenaphthene-d10	79.3	0	50-200	0		%REC	10	05/11/16 03:12 AM
IS: Chrysene-d12	83.8	0	50-200	0		%REC	10	05/11/16 03:12 AM
IS: Naphthalene-d8	113	0	50-200	0		%REC	10	05/11/16 03:12 AM
IS: Perylene-d12	84.6	0	50-200	0		%REC	10	05/11/16 03:12 AM
IS: Phenanthrene-d10	80.8	0	50-200	0		%REC	10	05/11/16 03:12 AM
Surr: 2-Fluorobiphenyl	87.0	0	46-115	0		%REC	10	05/11/16 03:12 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(8-10)-A
Project:	Laredo SGR	**Lab ID:**	1605034-20
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:44 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	78.7	0	58-133	0		%REC	10	05/11/16 03:12 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(0-2)-B
Project:	Laredo SGR	**Lab ID:**	1605034-21
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:47 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	12.8	0.0971	0.291	0.146		mg/Kg-dry	5	05/16/16 02:44 PM
IS: Bismuth	92.6	0	30-120	0		%REC	5	05/16/16 02:44 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/12/16 10:31 AM
Acenaphthylene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/12/16 10:31 AM
Anthracene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/12/16 10:31 AM
Benzo[a]anthracene	0.0589	0.0499	0.0998	0.0749	J	mg/Kg-dry	10	05/12/16 10:31 AM
Benzo[a]pyrene	0.0719	0.0499	0.0998	0.0749	J	mg/Kg-dry	10	05/12/16 10:31 AM
Benzo[b]fluoranthene	0.0679	0.0499	0.0998	0.0749	J	mg/Kg-dry	10	05/12/16 10:31 AM
Benzo[e]pyrene	0.0527	0.0499	0.0998	0.0749	J	mg/Kg-dry	10	05/12/16 10:31 AM
Benzo[g,h,i]perylene	0.0569	0.0499	0.0998	0.0749	J	mg/Kg-dry	10	05/12/16 10:31 AM
Benzo[j]fluoranthene	0.0749	0.0499	0.0998	0.0749	NU	mg/Kg-dry	10	05/12/16 10:31 AM
Benzo[k]fluoranthene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/12/16 10:31 AM
Chrysene	0.0728	0.0499	0.0998	0.0749	J	mg/Kg-dry	10	05/12/16 10:31 AM
Dibenz[a,h]anthracene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/12/16 10:31 AM
Fluoranthene	0.0971	0.0499	0.0998	0.0749	J	mg/Kg-dry	10	05/12/16 10:31 AM
Fluorene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/12/16 10:31 AM
Indeno[1,2,3-cd]pyrene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/12/16 10:31 AM
Phenanthrene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/12/16 10:31 AM
Pyrene	0.0911	0.0499	0.0998	0.0749	J	mg/Kg-dry	10	05/12/16 10:31 AM
IS: Acenaphthene-d10	82.2	0	50-200	0		%REC	10	05/12/16 10:31 AM
IS: Chrysene-d12	87.3	0	50-200	0		%REC	10	05/12/16 10:31 AM
IS: Naphthalene-d8	124	0	50-200	0		%REC	10	05/12/16 10:31 AM
IS: Perylene-d12	89.6	0	50-200	0		%REC	10	05/12/16 10:31 AM
IS: Phenanthrene-d10	82.2	0	50-200	0		%REC	10	05/12/16 10:31 AM
Surr: 2-Fluorobiphenyl	81.1	0	46-115	0		%REC	10	05/12/16 10:31 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(0-2)-B
Project:	Laredo SGR	**Lab ID:**	1605034-21
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:47 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	73.2	0	58-133	0		%REC	10	05/12/16 10:31 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(2-4)-B
Project:	Laredo SGR	**Lab ID:**	1605034-22
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:49 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	6.61	0.0962	0.288	0.144		mg/Kg-dry	5	05/16/16 02:46 PM
IS: Bismuth	92.9	0	30-120	0		%REC	5	05/16/16 02:46 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 11:11 AM
Acenaphthylene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 11:11 AM
Anthracene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 11:11 AM
Benzo[a]anthracene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 11:11 AM
Benzo[a]pyrene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 11:11 AM
Benzo[b]fluoranthene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 11:11 AM
Benzo[e]pyrene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 11:11 AM
Benzo[g,h,i]perylene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 11:11 AM
Benzo[j]fluoranthene	0.0737	0.0491	0.0982	0.0737	NU	mg/Kg-dry	10	05/12/16 11:11 AM
Benzo[k]fluoranthene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 11:11 AM
Chrysene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 11:11 AM
Dibenz[a,h]anthracene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 11:11 AM
Fluoranthene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 11:11 AM
Fluorene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 11:11 AM
Indeno[1,2,3-cd]pyrene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 11:11 AM
Phenanthrene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 11:11 AM
Pyrene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 11:11 AM
IS: Acenaphthene-d10	79.2	0	50-200	0		%REC	10	05/12/16 11:11 AM
IS: Chrysene-d12	84.8	0	50-200	0		%REC	10	05/12/16 11:11 AM
IS: Naphthalene-d8	123	0	50-200	0		%REC	10	05/12/16 11:11 AM
IS: Perylene-d12	87.8	0	50-200	0		%REC	10	05/12/16 11:11 AM
IS: Phenanthrene-d10	84.6	0	50-200	0		%REC	10	05/12/16 11:11 AM
Surr: 2-Fluorobiphenyl	80.1	0	46-115	0		%REC	10	05/12/16 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(2-4)-B
Project:	Laredo SGR	**Lab ID:**	1605034-22
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:49 PM
Lab Order:	1605034	**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	05/12/16 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(4-6)-B
Project:	Laredo SGR	**Lab ID:**	1605034-23
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:51 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	7.01	0.0885	0.265	0.133		mg/Kg-dry	5	05/16/16 02:48 PM
IS: Bismuth	91.0	0	30-120	0		%REC	5	05/16/16 02:48 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 11:51 AM
Acenaphthylene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 11:51 AM
Anthracene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 11:51 AM
Benzo[a]anthracene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 11:51 AM
Benzo[a]pyrene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 11:51 AM
Benzo[b]fluoranthene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 11:51 AM
Benzo[e]pyrene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 11:51 AM
Benzo[g,h,i]perylene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 11:51 AM
Benzo[j]fluoranthene	0.0750	0.0500	0.100	0.0750	NU	mg/Kg-dry	10	05/12/16 11:51 AM
Benzo[k]fluoranthene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 11:51 AM
Chrysene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 11:51 AM
Dibenz[a,h]anthracene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 11:51 AM
Fluoranthene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 11:51 AM
Fluorene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 11:51 AM
Indeno[1,2,3-cd]pyrene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 11:51 AM
Phenanthrene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 11:51 AM
Pyrene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 11:51 AM
IS: Acenaphthene-d10	78.1	0	50-200	0		%REC	10	05/12/16 11:51 AM
IS: Chrysene-d12	81.6	0	50-200	0		%REC	10	05/12/16 11:51 AM
IS: Naphthalene-d8	120	0	50-200	0		%REC	10	05/12/16 11:51 AM
IS: Perylene-d12	84.0	0	50-200	0		%REC	10	05/12/16 11:51 AM
IS: Phenanthrene-d10	82.5	0	50-200	0		%REC	10	05/12/16 11:51 AM
Surr: 2-Fluorobiphenyl	81.2	0	46-115	0		%REC	10	05/12/16 11:51 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(4-6)-B
Project:	Laredo SGR	**Lab ID:**	1605034-23
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:51 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	71.7	0	58-133	0		%REC	10	05/12/16 11:51 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(6-8)-B
Project:	Laredo SGR	**Lab ID:**	1605034-24
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:53 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	7.20	0.0909	0.273	0.136		mg/Kg-dry	5	05/16/16 02:50 PM
IS: Bismuth	92.3	0	30-120	0		%REC	5	05/16/16 02:50 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 12:31 PM
Acenaphthylene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 12:31 PM
Anthracene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 12:31 PM
Benzo[a]anthracene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 12:31 PM
Benzo[a]pyrene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 12:31 PM
Benzo[b]fluoranthene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 12:31 PM
Benzo[e]pyrene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 12:31 PM
Benzo[g,h,i]perylene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 12:31 PM
Benzo[j]fluoranthene	0.0725	0.0484	0.0967	0.0725	NU	mg/Kg-dry	10	05/12/16 12:31 PM
Benzo[k]fluoranthene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 12:31 PM
Chrysene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 12:31 PM
Dibenz[a,h]anthracene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 12:31 PM
Fluoranthene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 12:31 PM
Fluorene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 12:31 PM
Indeno[1,2,3-cd]pyrene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 12:31 PM
Phenanthrene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 12:31 PM
Pyrene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 12:31 PM
IS: Acenaphthene-d10	77.7	0	50-200	0		%REC	10	05/12/16 12:31 PM
IS: Chrysene-d12	82.3	0	50-200	0		%REC	10	05/12/16 12:31 PM
IS: Naphthalene-d8	121	0	50-200	0		%REC	10	05/12/16 12:31 PM
IS: Perylene-d12	85.3	0	50-200	0		%REC	10	05/12/16 12:31 PM
IS: Phenanthrene-d10	82.6	0	50-200	0		%REC	10	05/12/16 12:31 PM
Surr: 2-Fluorobiphenyl	78.8	0	46-115	0		%REC	10	05/12/16 12:31 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(6-8)-B
Project:	Laredo SGR	**Lab ID:**	1605034-24
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:53 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	69.7	0	58-133	0		%REC	10	05/12/16 12:31 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(8-10)-B
Project:	Laredo SGR	**Lab ID:**	1605034-25
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:55 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	7.86	0.0893	0.268	0.134		mg/Kg-dry	5	05/16/16 02:52 PM
IS: Bismuth	89.4	0	30-120	0		%REC	5	05/16/16 02:52 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/12/16 01:11 PM
Acenaphthylene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/12/16 01:11 PM
Anthracene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/12/16 01:11 PM
Benzo[a]anthracene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/12/16 01:11 PM
Benzo[a]pyrene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/12/16 01:11 PM
Benzo[b]fluoranthene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/12/16 01:11 PM
Benzo[e]pyrene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/12/16 01:11 PM
Benzo[g,h,i]perylene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/12/16 01:11 PM
Benzo[j]fluoranthene	0.0740	0.0493	0.0986	0.0740	NU	mg/Kg-dry	10	05/12/16 01:11 PM
Benzo[k]fluoranthene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/12/16 01:11 PM
Chrysene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/12/16 01:11 PM
Dibenz[a,h]anthracene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/12/16 01:11 PM
Fluoranthene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/12/16 01:11 PM
Fluorene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/12/16 01:11 PM
Indeno[1,2,3-cd]pyrene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/12/16 01:11 PM
Phenanthrene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/12/16 01:11 PM
Pyrene	0.0740	0.0493	0.0986	0.0740	U	mg/Kg-dry	10	05/12/16 01:11 PM
IS: Acenaphthene-d10	76.0	0	50-200	0		%REC	10	05/12/16 01:11 PM
IS: Chrysene-d12	82.3	0	50-200	0		%REC	10	05/12/16 01:11 PM
IS: Naphthalene-d8	118	0	50-200	0		%REC	10	05/12/16 01:11 PM
IS: Perylene-d12	84.4	0	50-200	0		%REC	10	05/12/16 01:11 PM
IS: Phenanthrene-d10	78.8	0	50-200	0		%REC	10	05/12/16 01:11 PM
Surr: 2-Fluorobiphenyl	82.6	0	46-115	0		%REC	10	05/12/16 01:11 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(8-10)-B
Project:	Laredo SGR	**Lab ID:**	1605034-25
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:55 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	75.0	0	58-133	0		%REC	10	05/12/16 01:11 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(0-2)-C
Project:	Laredo SGR	**Lab ID:**	1605034-26
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:27 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	16.3	0.0901	0.270	0.135		mg/Kg-dry	5	05/16/16 02:54 PM
IS: Bismuth	89.3	0	30-120	0		%REC	5	05/16/16 02:54 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/12/16 01:51 PM
Acenaphthylene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/12/16 01:51 PM
Anthracene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/12/16 01:51 PM
Benzo[a]anthracene	0.296	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 01:51 PM
Benzo[a]pyrene	0.350	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 01:51 PM
Benzo[b]fluoranthene	0.339	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 01:51 PM
Benzo[e]pyrene	0.279	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 01:51 PM
Benzo[g,h,i]perylene	0.283	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 01:51 PM
Benzo[j]fluoranthene	0.179	0.0496	0.0992	0.0744	N	mg/Kg-dry	10	05/12/16 01:51 PM
Benzo[k]fluoranthene	0.172	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 01:51 PM
Chrysene	0.372	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 01:51 PM
Dibenz[a,h]anthracene	0.0637	0.0496	0.0992	0.0744	J	mg/Kg-dry	10	05/12/16 01:51 PM
Fluoranthene	0.547	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 01:51 PM
Fluorene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/12/16 01:51 PM
Indeno[1,2,3-cd]pyrene	0.236	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 01:51 PM
Phenanthrene	0.236	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 01:51 PM
Pyrene	0.462	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 01:51 PM
IS: Acenaphthene-d10	78.9	0	50-200	0		%REC	10	05/12/16 01:51 PM
IS: Chrysene-d12	83.9	0	50-200	0		%REC	10	05/12/16 01:51 PM
IS: Naphthalene-d8	120	0	50-200	0		%REC	10	05/12/16 01:51 PM
IS: Perylene-d12	88.1	0	50-200	0		%REC	10	05/12/16 01:51 PM
IS: Phenanthrene-d10	85.0	0	50-200	0		%REC	10	05/12/16 01:51 PM
Surr: 2-Fluorobiphenyl	78.4	0	46-115	0		%REC	10	05/12/16 01:51 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(0-2)-C
Project:	Laredo SGR	**Lab ID:**	1605034-26
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:27 PM
Lab Order:	1605034	**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	05/12/16 01:51 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(2-4)-C
Project:	Laredo SGR	**Lab ID:**	1605034-27
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:30 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	7.69	0.0840	0.252	0.126		mg/Kg-dry	5	05/16/16 02:56 PM
IS: Bismuth	87.8	0	30-120	0		%REC	5	05/16/16 02:56 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 02:31 PM
Acenaphthylene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 02:31 PM
Anthracene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 02:31 PM
Benzo[a]anthracene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 02:31 PM
Benzo[a]pyrene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 02:31 PM
Benzo[b]fluoranthene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 02:31 PM
Benzo[e]pyrene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 02:31 PM
Benzo[g,h,i]perylene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 02:31 PM
Benzo[j]fluoranthene	0.0750	0.0500	0.100	0.0750	NU	mg/Kg-dry	10	05/12/16 02:31 PM
Benzo[k]fluoranthene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 02:31 PM
Chrysene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 02:31 PM
Dibenz[a,h]anthracene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 02:31 PM
Fluoranthene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 02:31 PM
Fluorene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 02:31 PM
Indeno[1,2,3-cd]pyrene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 02:31 PM
Phenanthrene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 02:31 PM
Pyrene	0.0750	0.0500	0.100	0.0750	U	mg/Kg-dry	10	05/12/16 02:31 PM
IS: Acenaphthene-d10	77.4	0	50-200	0		%REC	10	05/12/16 02:31 PM
IS: Chrysene-d12	80.9	0	50-200	0		%REC	10	05/12/16 02:31 PM
IS: Naphthalene-d8	119	0	50-200	0		%REC	10	05/12/16 02:31 PM
IS: Perylene-d12	84.0	0	50-200	0		%REC	10	05/12/16 02:31 PM
IS: Phenanthrene-d10	81.5	0	50-200	0		%REC	10	05/12/16 02:31 PM
Surr: 2-Fluorobiphenyl	77.6	0	46-115	0		%REC	10	05/12/16 02:31 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(2-4)-C
Project:	Laredo SGR	**Lab ID:**	1605034-27
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:30 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	68.6	0	58-133	0		%REC	10	05/12/16 02:31 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(4-6)-C
Project:	Laredo SGR	**Lab ID:**	1605034-28
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:31 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	10.2	0.0855	0.256	0.128		mg/Kg-dry	5	05/16/16 02:58 PM
IS: Bismuth	87.3	0	30-120	0		%REC	5	05/16/16 02:58 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 03:11 PM
Acenaphthylene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 03:11 PM
Anthracene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 03:11 PM
Benzo[a]anthracene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 03:11 PM
Benzo[a]pyrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 03:11 PM
Benzo[b]fluoranthene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 03:11 PM
Benzo[e]pyrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 03:11 PM
Benzo[g,h,i]perylene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 03:11 PM
Benzo[j]fluoranthene	0.0749	0.0500	0.0999	0.0749	NU	mg/Kg-dry	10	05/12/16 03:11 PM
Benzo[k]fluoranthene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 03:11 PM
Chrysene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 03:11 PM
Dibenz[a,h]anthracene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 03:11 PM
Fluoranthene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 03:11 PM
Fluorene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 03:11 PM
Indeno[1,2,3-cd]pyrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 03:11 PM
Phenanthrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 03:11 PM
Pyrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 03:11 PM
IS: Acenaphthene-d10	79.0	0	50-200	0		%REC	10	05/12/16 03:11 PM
IS: Chrysene-d12	84.3	0	50-200	0		%REC	10	05/12/16 03:11 PM
IS: Naphthalene-d8	121	0	50-200	0		%REC	10	05/12/16 03:11 PM
IS: Perylene-d12	87.7	0	50-200	0		%REC	10	05/12/16 03:11 PM
IS: Phenanthrene-d10	81.3	0	50-200	0		%REC	10	05/12/16 03:11 PM
Surr: 2-Fluorobiphenyl	81.8	0	46-115	0		%REC	10	05/12/16 03:11 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(4-6)-C
Project:	Laredo SGR	**Lab ID:**	1605034-28
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:31 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	72.5	0	58-133	0		%REC	10	05/12/16 03:11 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(6-8)-C
Project:	Laredo SGR	**Lab ID:**	1605034-29
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:33 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	9.88	0.0990	0.297	0.149		mg/Kg-dry	5	05/16/16 03:00 PM
IS: Bismuth	89.2	0	30-120	0		%REC	5	05/16/16 03:00 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 03:50 PM
Acenaphthylene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 03:50 PM
Anthracene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 03:50 PM
Benzo[a]anthracene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 03:50 PM
Benzo[a]pyrene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 03:50 PM
Benzo[b]fluoranthene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 03:50 PM
Benzo[e]pyrene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 03:50 PM
Benzo[g,h,i]perylene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 03:50 PM
Benzo[j]fluoranthene	0.0743	0.0495	0.0990	0.0743	NU	mg/Kg-dry	10	05/12/16 03:50 PM
Benzo[k]fluoranthene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 03:50 PM
Chrysene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 03:50 PM
Dibenz[a,h]anthracene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 03:50 PM
Fluoranthene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 03:50 PM
Fluorene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 03:50 PM
Indeno[1,2,3-cd]pyrene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 03:50 PM
Phenanthrene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 03:50 PM
Pyrene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 03:50 PM
IS: Acenaphthene-d10	77.6	0	50-200	0		%REC	10	05/12/16 03:50 PM
IS: Chrysene-d12	81.0	0	50-200	0		%REC	10	05/12/16 03:50 PM
IS: Naphthalene-d8	117	0	50-200	0		%REC	10	05/12/16 03:50 PM
IS: Perylene-d12	85.0	0	50-200	0		%REC	10	05/12/16 03:50 PM
IS: Phenanthrene-d10	82.6	0	50-200	0		%REC	10	05/12/16 03:50 PM
Surr: 2-Fluorobiphenyl	78.5	0	46-115	0		%REC	10	05/12/16 03:50 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(6-8)-C
Project:	Laredo SGR	**Lab ID:**	1605034-29
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:33 PM
Lab Order:	1605034	**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	05/12/16 03:50 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(8-10)-C
Project:	Laredo SGR	**Lab ID:**	1605034-30
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:35 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	7.61	0.0971	0.291	0.146		mg/Kg-dry	5	05/16/16 03:16 PM
IS: Bismuth	90.0	0	30-120	0		%REC	5	05/16/16 03:16 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 04:30 PM
Acenaphthylene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 04:30 PM
Anthracene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 04:30 PM
Benzo[a]anthracene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 04:30 PM
Benzo[a]pyrene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 04:30 PM
Benzo[b]fluoranthene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 04:30 PM
Benzo[e]pyrene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 04:30 PM
Benzo[g,h,i]perylene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 04:30 PM
Benzo[j]fluoranthene	0.0725	0.0484	0.0967	0.0725	NU	mg/Kg-dry	10	05/12/16 04:30 PM
Benzo[k]fluoranthene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 04:30 PM
Chrysene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 04:30 PM
Dibenz[a,h]anthracene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 04:30 PM
Fluoranthene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 04:30 PM
Fluorene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 04:30 PM
Indeno[1,2,3-cd]pyrene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 04:30 PM
Phenanthrene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 04:30 PM
Pyrene	0.0725	0.0484	0.0967	0.0725	U	mg/Kg-dry	10	05/12/16 04:30 PM
IS: Acenaphthene-d10	77.6	0	50-200	0		%REC	10	05/12/16 04:30 PM
IS: Chrysene-d12	80.9	0	50-200	0		%REC	10	05/12/16 04:30 PM
IS: Naphthalene-d8	117	0	50-200	0		%REC	10	05/12/16 04:30 PM
IS: Perylene-d12	83.4	0	50-200	0		%REC	10	05/12/16 04:30 PM
IS: Phenanthrene-d10	77.2	0	50-200	0		%REC	10	05/12/16 04:30 PM
Surr: 2-Fluorobiphenyl	85.3	0	46-115	0		%REC	10	05/12/16 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: *20-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU060(8-10)-C
Project:	Laredo SGR	**Lab ID:**	1605034-30
Project No:	4285081.00044	**Collection Date:**	05/03/16 04:35 PM
Lab Order:	1605034	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	76.8	0	58-133	0		%REC	10	05/12/16 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: *20-May-16*

CLIENT: Arcadis
Work Order: 1605034
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: 1605034
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160516B

The QC data in batch 75006 applies to the following samples: 1605034-01A, 1605034-02A, 1605034-03A, 1605034-04A, 1605034-05A, 1605034-06A, 1605034-07A, 1605034-08A, 1605034-09A, 1605034-10A, 1605034-11A, 1605034-12A, 1605034-13A, 1605034-14A, 1605034-15A, 1605034-16A, 1605034-17A, 1605034-18A, 1605034-19A, 1605034-20A

Sample ID **MB-75006** Batch ID: **75006** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **MBLK** Run ID: **ICP-MS4_160516B** Analysis Date: **5/16/2016 1:10:00 PM** Prep Date: **5/9/2016**

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		105	30	120			

Sample ID **LCS-75006** Batch ID: **75006** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **LCS** Run ID: **ICP-MS4_160516B** Analysis Date: **5/16/2016 1:12:00 PM** Prep Date: **5/9/2016**

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		102	30	120			

Sample ID **LCSD-75006** Batch ID: **75006** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **LCSD** Run ID: **ICP-MS4_160516B** Analysis Date: **5/16/2016 1:14:00 PM** Prep Date: **5/9/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	52.0	0.300	50.00	0	104	84	118	1.28	20	
IS: Bismuth	50.0		200.0		99.9	30	120	0	0	

Sample ID **1605034-09A SD** Batch ID: **75006** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **SD** Run ID: **ICP-MS4_160516B** Analysis Date: **5/16/2016 1:20:00 PM** Prep Date: **5/9/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	10.3	1.46	0	10.23				0.537	10	
IS: Bismuth	243		194.2		102	30	120	0	0	

Sample ID **1605034-09A PDS** Batch ID: **75006** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **PDS** Run ID: **ICP-MS4_160516B** Analysis Date: **5/16/2016 1:40:00 PM** Prep Date: **5/9/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	59.5	0.291	48.54	10.23	101	80	120			
IS: Bismuth	48.5		970.9		91.3	30	120			

Sample ID **1605034-09A MS** Batch ID: **75006** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **MS** Run ID: **ICP-MS4_160516B** Analysis Date: **5/16/2016 1:42:00 PM** Prep Date: **5/9/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	57.9	0.286	47.62	10.23	100	84	118			
IS: Bismuth	47.6		190.5		93.9	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: 1605034
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160516B

Sample ID	**1605034-09A MSD**	Batch ID:	**75006**	TestNo:	**SW6020A**	Units:	**mg/Kg-dry**
SampType:	**MSD**	Run ID:	**ICP-MS4_160516B**	Analysis Date:	**5/16/2016 1:44:00 PM**	Prep Date:	**5/9/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	60.0	0.288	48.08	10.23	104	84	118	3.55	20	
IS: Bismuth	48.1		192.3		92.4	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: 1605034
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: **ICP-MS4_160516B**

The QC data in batch 75009 applies to the following samples: 1605034-21A, 1605034-22A, 1605034-23A, 1605034-24A, 1605034-25A, 1605034-26A, 1605034-27A, 1605034-28A, 1605034-29A, 1605034-30A

Sample ID **MB-75009** Batch ID: **75009** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **MBLK** Run ID: **ICP-MS4_160516B** Analysis Date: **5/16/2016 2:32:00 PM** Prep Date: **5/9/2016**

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		97.9	30	120			

Sample ID **LCS-75009** Batch ID: **75009** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **LCS** Run ID: **ICP-MS4_160516B** Analysis Date: **5/16/2016 2:34:00 PM** Prep Date: **5/9/2016**

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			
IS: Bismuth	50.0		200.0		94.5	30	120			

Sample ID **LCSD-75009** Batch ID: **75009** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **LCSD** Run ID: **ICP-MS4_160516B** Analysis Date: **5/16/2016 2:36:00 PM** Prep Date: **5/9/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	51.1	0.300	50.00	0	102	84	118	3.03	20	
IS: Bismuth	50.0		200.0		93.2	30	120	0	0	

Sample ID **1605047-03A SD** Batch ID: **75009** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **SD** Run ID: **ICP-MS4_160516B** Analysis Date: **5/16/2016 2:42:00 PM** Prep Date: **5/9/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	5.12	1.33	0	5.194				1.49	10	
IS: Bismuth	221		177.0		96.4	30	120	0	0	

Sample ID **1605047-03A PDS** Batch ID: **75009** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **PDS** Run ID: **ICP-MS4_160516B** Analysis Date: **5/16/2016 3:02:00 PM** Prep Date: **5/9/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	50.5	0.265	44.25	5.194	102	80	120			
IS: Bismuth	44.2		885.0		89.5	30	120			

Sample ID **1605047-03A MS** Batch ID: **75009** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **MS** Run ID: **ICP-MS4_160516B** Analysis Date: **5/16/2016 3:04:00 PM** Prep Date: **5/9/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	47.5	0.254	42.37	5.194	99.9	84	118			
IS: Bismuth	42.4		169.5		90.5	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: 1605034
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160516B

Sample ID	**1605047-03A MSD**	Batch ID:	**75009**	TestNo:	**SW6020A**	Units:	**mg/Kg-dry**
SampType:	**MSD**	Run ID:	**ICP-MS4_160516B**	Analysis Date:	**5/16/2016 3:06:00 PM**	Prep Date:	**5/9/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	47.7	0.250	41.67	5.194	102	84	118	0.406	20	
IS: Bismuth	41.7		166.7		90.7	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: 1605034
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	**CCV1-160516**	Batch ID:	**R85839**	TestNo:	**SW6020A**	Units:	**mg/L**
SampType:	**CCV**	Run ID:	**ICP-MS4_160516B**	Analysis Date:	**5/16/2016 1:46:00 PM**	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.198	0.00100	0.200	0	99.2	90	110			
IS: Bismuth	0.200		0.200		98.7	30	120			

Sample ID	**LCVL1-160516**	Batch ID:	**R85839**	TestNo:	**SW6020A**	Units:	**mg/L**
SampType:	**LCVL**	Run ID:	**ICP-MS4_160516B**	Analysis Date:	**5/16/2016 1:54:00 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		92.6	30	120			

Sample ID	**CCV2-160516**	Batch ID:	**R85839**	TestNo:	**SW6020A**	Units:	**mg/L**
SampType:	**CCV**	Run ID:	**ICP-MS4_160516B**	Analysis Date:	**5/16/2016 2:20:00 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		94.6	30	120			

Sample ID	**LCVL2-160516**	Batch ID:	**R85839**	TestNo:	**SW6020A**	Units:	**mg/L**
SampType:	**LCVL**	Run ID:	**ICP-MS4_160516B**	Analysis Date:	**5/16/2016 2:25:00 PM**	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.000937	0.00100	0.00100	0	93.7	80	120			
IS: Bismuth	0.200		0.200		100	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: 1605034
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: **ICP-MS4_160516B**

Sample ID	**CCV3-160516**	Batch ID:	**R85839**	TestNo:	**SW6020A**	Units:	**mg/L**
SampType:	**CCV**	Run ID:	**ICP-MS4_160516B**	Analysis Date:	**5/16/2016 3:08:00 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		94.5	30	120			

Sample ID	**LCVL3-160516**	Batch ID:	**R85839**	TestNo:	**SW6020A**	Units:	**mg/L**
SampType:	**LCVL**	Run ID:	**ICP-MS4_160516B**	Analysis Date:	**5/16/2016 3:12:00 PM**	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.000994	0.00100	0.00100	0	99.4	80	120			
IS: Bismuth	0.200		0.200		93.0	30	120			

Sample ID	**CCV4-160516**	Batch ID:	**R85839**	TestNo:	**SW6020A**	Units:	**mg/L**
SampType:	**CCV**	Run ID:	**ICP-MS4_160516B**	Analysis Date:	**5/16/2016 3:36:00 PM**	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.203	0.00100	0.200	0	102	90	110			
IS: Bismuth	0.200		0.200		91.5	30	120			

Sample ID	**LCVL4-160516**	Batch ID:	**R85839**	TestNo:	**SW6020A**	Units:	**mg/L**
SampType:	**LCVL**	Run ID:	**ICP-MS4_160516B**	Analysis Date:	**5/16/2016 3:41:00 PM**	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.000968	0.00100	0.00100	0	96.8	80	120			
IS: Bismuth	0.200		0.200		94.1	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: 1605034
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: 1605034
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS6_160510A

The QC data in batch 75004 applies to the following samples: 1605034-01A, 1605034-02A, 1605034-03A, 1605034-04A, 1605034-05A, 1605034-06A, 1605034-07A, 1605034-08A, 1605034-09A, 1605034-10A, 1605034-11A, 1605034-12A, 1605034-13A, 1605034-14A, 1605034-15A, 1605034-16A, 1605034-17A, 1605034-18A, 1605034-19A, 1605034-20A

Sample ID **LCS-75004** Batch ID: **75004** TestNo: **SW8270D-LL** Units: **mg/Kg-dry**
SampType: **LCS** Run ID: **GCMS6_160510A** Analysis Date: **5/10/2016 9:53:00 AM** Prep Date: **5/9/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.868	0.0100	1.000	0	86.8	44	111			
Acenaphthylene	0.922	0.0100	1.000	0	92.2	39	116			
Anthracene	0.957	0.0100	1.000	0	95.7	50	114			
Benzo[a]anthracene	0.929	0.0100	1.000	0	92.9	54	122			
Benzo[a]pyrene	0.870	0.0100	1.000	0	87.0	50	125			
Benzo[b]fluoranthene	0.903	0.0100	1.000	0	90.3	53	128			
Benzo[e]pyrene	0.916	0.0100	1.000	0	91.6	43	140			
Benzo[g,h,i]perylene	0.876	0.0100	1.000	0	87.6	49	127			
Benzo[j]fluoranthene	0.912	0.0100	1.000	0	91.2	45	125			N
Benzo[k]fluoranthene	0.902	0.0100	1.000	0	90.2	56	123			
Chrysene	0.893	0.0100	1.000	0	89.2	57	118			
Dibenz[a,h]anthracene	0.871	0.0100	1.000	0	87.1	50	129			
Fluoranthene	1.09	0.0100	1.000	0	109	55	119			
Fluorene	0.901	0.0100	1.000	0	90.1	47	114			
Indeno[1,2,3-cd]pyrene	0.853	0.0100	1.000	0	85.3	49	130			
Phenanthrene	0.899	0.0100	1.000	0	89.9	49	113			
Pyrene	1.06	0.0100	1.000	0	106	55	117			
IS: Acenaphthene-d10	4.00		4.000		54.4	50	200			
IS: Chrysene-d12	4.00		4.000		76.8	50	200			
IS: Naphthalene-d8	4.00		4.000		109	50	200			
IS: Perylene-d12	4.00		4.000		80.0	50	200			
IS: Phenanthrene-d10	4.00		4.000		64.0	50	200			
Surr: 2-Fluorobiphenyl	0.965		1.000		96.5	46	115			
Surr: 4-Terphenyl-d14	0.963		1.000		96.3	58	133			

Sample ID **MB-75004** Batch ID: **75004** TestNo: **SW8270D-LL** Units: **mg/Kg-dry**
SampType: **MBLK** Run ID: **GCMS6_160510A** Analysis Date: **5/10/2016 10:40:00 AM** Prep Date: **5/9/2016**

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: 1605034
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: **GCMS6_160510A**

Sample ID **MB-75004**	Batch ID: **75004**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **MBLK**	Run ID: **GCMS6_160510A**	Analysis Date: **5/10/2016 10:40:00 AM**	Prep Date: **5/9/2016**

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		65.0	50	200			
IS: Chrysene-d12	4.00		4.000		85.2	50	200			
IS: Naphthalene-d8	4.00		4.000		124	50	200			
IS: Perylene-d12	4.00		4.000		87.8	50	200			
IS: Phenanthrene-d10	4.00		4.000		73.5	50	200			
Surr: 2-Fluorobiphenyl	0.850		1.000		85.0	46	115			
Surr: 4-Terphenyl-d14	0.852		1.000		85.2	58	133			

Sample ID **1605034-09AMS**	Batch ID: **75004**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **MS**	Run ID: **GCMS6_160510A**	Analysis Date: **5/10/2016 5:59:00 PM**	Prep Date: **5/9/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.810	0.0999	0.9990	0	81.1	44	111			
Acenaphthylene	0.812	0.0999	0.9990	0	81.3	39	116			
Anthracene	0.857	0.0999	0.9990	0	85.8	50	114			
Benzo[a]anthracene	0.794	0.0999	0.9990	0	79.4	54	122			
Benzo[a]pyrene	0.757	0.0999	0.9990	0	75.8	50	125			
Benzo[b]fluoranthene	0.777	0.0999	0.9990	0	77.8	53	128			
Benzo[e]pyrene	0.806	0.0999	0.9990	0	80.7	43	140			
Benzo[g,h,i]perylene	0.824	0.0999	0.9990	0	82.5	49	127			
Benzo[j]fluoranthene	0.796	0.0999	0.9990	0	79.6	45	125			N
Benzo[k]fluoranthene	0.776	0.0999	0.9990	0	77.6	56	123			
Chrysene	0.804	0.0999	0.9990	0	80.5	57	118			
Dibenz[a,h]anthracene	0.804	0.0999	0.9990	0	80.5	50	129			
Fluoranthene	0.856	0.0999	0.9990	0	85.7	55	119			
Fluorene	0.868	0.0999	0.9990	0	86.8	47	114			
Indeno[1,2,3-cd]pyrene	0.807	0.0999	0.9990	0	80.8	49	130			
Phenanthrene	0.860	0.0999	0.9990	0	86.1	49	113			
Pyrene	0.856	0.0999	0.9990	0	85.6	55	117			
IS: Acenaphthene-d10	40.0		3.996		78.4	50	200			
IS: Chrysene-d12	40.0		3.996		88.8	50	200			
IS: Naphthalene-d8	40.0		3.996		129	50	200			
IS: Perylene-d12	40.0		3.996		91.8	50	200			
IS: Phenanthrene-d10	40.0		3.996		85.8	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: 1605034
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: **GCMS6_160510A**

Sample ID **1605034-09AMS** Batch ID: **75004** TestNo: **SW8270D-LL** Units: **mg/Kg-dry**
SampType: **MS** Run ID: **GCMS6_160510A** Analysis Date: **5/10/2016 5:59:00 PM** Prep Date: **5/9/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorobiphenyl	0.849		0.9990		85.0	46	115			
Surr: 4-Terphenyl-d14	0.736		0.9990		73.6	58	133			

Sample ID **1605034-09AMSD** Batch ID: **75004** TestNo: **SW8270D-LL** Units: **mg/Kg-dry**
SampType: **MSD** Run ID: **GCMS6_160510A** Analysis Date: **5/10/2016 6:38:00 PM** Prep Date: **5/9/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.805	0.0972	0.9718	0	82.8	44	111	0.660	20	
Acenaphthylene	0.814	0.0972	0.9718	0	83.8	39	116	0.295	20	
Anthracene	0.866	0.0972	0.9718	0	89.1	50	114	1.04	20	
Benzo[a]anthracene	0.805	0.0972	0.9718	0	82.8	54	122	1.43	20	
Benzo[a]pyrene	0.762	0.0972	0.9718	0	78.4	50	125	0.678	20	
Benzo[b]fluoranthene	0.769	0.0972	0.9718	0	79.2	53	128	1.06	20	
Benzo[e]pyrene	0.805	0.0972	0.9718	0	82.8	43	140	0.165	20	
Benzo[g,h,i]perylene	0.843	0.0972	0.9718	0	86.7	49	127	2.25	20	
Benzo[j]fluoranthene	0.793	0.0972	0.9718	0	81.6	45	125	0.291	20	N
Benzo[k]fluoranthene	0.781	0.0972	0.9718	0	80.3	56	123	0.647	20	
Chrysene	0.819	0.0972	0.9718	0	84.2	57	118	1.78	20	
Dibenz[a,h]anthracene	0.810	0.0972	0.9718	0	83.4	50	129	0.768	20	
Fluoranthene	0.864	0.0972	0.9718	0	88.9	55	119	0.952	20	
Fluorene	0.885	0.0972	0.9718	0	91.0	47	114	1.96	20	
Indeno[1,2,3-cd]pyrene	0.814	0.0972	0.9718	0	83.8	49	130	0.948	20	
Phenanthrene	0.846	0.0972	0.9718	0	87.0	49	113	1.74	20	
Pyrene	0.858	0.0972	0.9718	0	88.3	55	117	0.322	20	
IS: Acenaphthene-d10	38.9		3.887		75.8	50	200	0	0	
IS: Chrysene-d12	38.9		3.887		87.6	50	200	0	0	
IS: Naphthalene-d8	38.9		3.887		121	50	200	0	0	
IS: Perylene-d12	38.9		3.887		89.0	50	200	0	0	
IS: Phenanthrene-d10	38.9		3.887		87.1	50	200	0	0	
Surr: 2-Fluorobiphenyl	0.831		0.9718		85.5	46	115	0	0	
Surr: 4-Terphenyl-d14	0.726		0.9718		74.7	58	133	0	0	

Sample ID **SBLK-160510** Batch ID: **75004** TestNo: **SW8270D-LL** Units: **mg/Kg-dry**
SampType: **SBLK** Run ID: **GCMS6_160510A** Analysis Date: **5/10/2016 8:33:00 PM** 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: 1605034
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: **GCMS6_160510A**

Sample ID	**SBLK-160510**	Batch ID:	**75004**	TestNo:	**SW8270D-LL**	Units:	**mg/Kg-dry**
SampType:	**SBLK**	Run ID:	**GCMS6_160510A**	Analysis Date:	**5/10/2016 8:33:00 PM**	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: 1605034
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: **GCMS6_160510A**

Sample ID **ICV-160510** Batch ID: **R85721** TestNo: **SW8270D-LL** Units: **mg/Kg-dry**
SampType: **ICV** Run ID: **GCMS6_160510A** Analysis Date: **5/10/2016 9:13:00 AM** Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.96	0.0100	2.000	0	98.1	80	120			
Acenaphthylene	2.09	0.0100	2.000	0	105	80	120			
Anthracene	1.96	0.0100	2.000	0	97.8	80	120			
Benzo[a]anthracene	1.97	0.0100	2.000	0	98.5	80	120			
Benzo[a]pyrene	1.92	0.0100	2.000	0	96.1	80	120			
Benzo[b]fluoranthene	1.95	0.0100	2.000	0	97.7	80	120			
Benzo[e]pyrene	1.90	0.0100	2.000	0	95.2	80	120			
Benzo[g,h,i]perylene	1.84	0.0100	2.000	0	91.9	80	120			
Benzo[j]fluoranthene	1.94	0.0100	2.000	0	96.8	80	120			N
Benzo[k]fluoranthene	1.91	0.0100	2.000	0	95.6	80	120			
Chrysene	1.88	0.0100	2.000	0	94.0	80	120			
Dibenz[a,h]anthracene	1.85	0.0100	2.000	0	92.6	80	120			
Fluoranthene	1.97	0.0100	2.000	0	98.6	80	120			
Fluorene	2.10	0.0100	2.000	0	105	80	120			
Indeno[1,2,3-cd]pyrene	1.82	0.0100	2.000	0	90.8	80	120			
Phenanthrene	1.90	0.0100	2.000	0	94.8	80	120			
Pyrene	1.92	0.0100	2.000	0	95.9	80	120			
IS: Acenaphthene-d10	4.00		4.000		77.7	50	200			
IS: Chrysene-d12	4.00		4.000		91.8	50	200			
IS: Naphthalene-d8	4.00		4.000		136	50	200			
IS: Perylene-d12	4.00		4.000		92.3	50	200			
IS: Phenanthrene-d10	4.00		4.000		91.3	50	200			
Surr: 2-Fluorobiphenyl	2.08		2.000		104	65	120			
Surr: 4-Terphenyl-d14	1.85		2.000		92.5	65	120			

Sample ID **ICV2-160510** Batch ID: **R85721** TestNo: **SW8270D-LL** Units: **mg/Kg-dry**
SampType: **ICV** Run ID: **GCMS6_160510A** Analysis Date: **5/10/2016 7:54:00 PM** Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.96	0.0100	2.000	0	98.0	80	120			
Acenaphthylene	2.07	0.0100	2.000	0	103	80	120			
Anthracene	1.91	0.0100	2.000	0	95.6	80	120			
Benzo[a]anthracene	1.96	0.0100	2.000	0	97.8	80	120			
Benzo[a]pyrene	1.90	0.0100	2.000	0	95.2	80	120			
Benzo[b]fluoranthene	1.88	0.0100	2.000	0	94.1	80	120			
Benzo[e]pyrene	1.86	0.0100	2.000	0	93.1	80	120			
Benzo[g,h,i]perylene	1.97	0.0100	2.000	0	98.4	80	120			
Benzo[j]fluoranthene	1.90	0.0100	2.000	0	95.0	80	120			N
Benzo[k]fluoranthene	1.89	0.0100	2.000	0	94.3	80	120			
Chrysene	1.88	0.0100	2.000	0	93.8	80	120			
Dibenz[a,h]anthracene	1.99	0.0100	2.000	0	99.5	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: 1605034
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: **GCMS6_160510A**

Sample ID **ICV2-160510**	Batch ID: **R85721**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **ICV**	Run ID: **GCMS6_160510A**	Analysis Date: **5/10/2016 7:54:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoranthene	1.98	0.0100	2.000	0	99.1	80	120			
Fluorene	2.07	0.0100	2.000	0	104	80	120			
Indeno[1,2,3-cd]pyrene	1.96	0.0100	2.000	0	97.8	80	120			
Phenanthrene	1.89	0.0100	2.000	0	94.6	80	120			
Pyrene	1.92	0.0100	2.000	0	96.2	80	120			
IS: Acenaphthene-d10	4.00		4.000		80.8	50	200			
IS: Chrysene-d12	4.00		4.000		91.6	50	200			
IS: Naphthalene-d8	4.00		4.000		128	50	200			
IS: Perylene-d12	4.00		4.000		93.4	50	200			
IS: Phenanthrene-d10	4.00		4.000		90.1	50	200			
Surr: 2-Fluorobiphenyl	2.02		2.000		101	65	120			
Surr: 4-Terphenyl-d14	1.86		2.000		93.2	65	120			

Sample ID **CCV-160510**	Batch ID: **R85721**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **CCV**	Run ID: **GCMS6_160510A**	Analysis Date: **5/11/2016 3:52:00 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	1.08	0.0100	1.000	0	108	50	150			
Anthracene	1.01	0.0100	1.000	0	101	50	150			
Benzo[a]anthracene	0.997	0.0100	1.000	0	99.7	50	150			
Benzo[a]pyrene	0.961	0.0100	1.000	0	96.1	50	150			
Benzo[b]fluoranthene	0.957	0.0100	1.000	0	95.7	50	150			
Benzo[e]pyrene	0.943	0.0100	1.000	0	94.3	50	150			
Benzo[g,h,i]perylene	1.02	0.0100	1.000	0	102	50	150			
Benzo[j]fluoranthene	0.967	0.0100	1.000	0	96.7	50	150			N
Benzo[k]fluoranthene	0.988	0.0100	1.000	0	98.8	50	150			
Chrysene	0.957	0.0100	1.000	0	95.7	50	150			
Dibenz[a,h]anthracene	1.02	0.0100	1.000	0	102	50	150			
Fluoranthene	1.04	0.0100	1.000	0	104	50	150			
Fluorene	1.01	0.0100	1.000	0	101	50	150			
Indeno[1,2,3-cd]pyrene	1.01	0.0100	1.000	0	101	50	150			
Phenanthrene	0.982	0.0100	1.000	0	98.2	50	150			
Pyrene	1.02	0.0100	1.000	0	102	50	150			
IS: Acenaphthene-d10	4.00		4.000		86.5	50	200			
IS: Chrysene-d12	4.00		4.000		88.5	50	200			
IS: Naphthalene-d8	4.00		4.000		109	50	200			
IS: Perylene-d12	4.00		4.000		90.0	50	200			
IS: Phenanthrene-d10	4.00		4.000		82.7	50	200			
Surr: 2-Fluorobiphenyl	1.08		1.000		108	50	150			
Surr: 4-Terphenyl-d14	0.982		1.000		98.2	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: 1605034
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS6_160512A

The QC data in batch 75007 applies to the following samples: 1605034-21A, 1605034-22A, 1605034-23A, 1605034-24A, 1605034-25A, 1605034-26A, 1605034-27A, 1605034-28A, 1605034-29A, 1605034-30A

Sample ID **LCS-75007** Batch ID: **75007** TestNo: **SW8270D-LL** Units: **mg/Kg-dry**
SampType: **LCS** Run ID: **GCMS6_160512A** Analysis Date: **5/12/2016 9:12:00 AM** Prep Date: **5/9/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.806	0.0100	1.000	0	80.6	44	111			
Acenaphthylene	0.851	0.0100	1.000	0	85.1	39	116			
Anthracene	0.880	0.0100	1.000	0	88.0	50	114			
Benzo[a]anthracene	0.865	0.0100	1.000	0	86.5	54	122			
Benzo[a]pyrene	0.800	0.0100	1.000	0	80.0	50	125			
Benzo[b]fluoranthene	0.837	0.0100	1.000	0	83.7	53	128			
Benzo[e]pyrene	0.848	0.0100	1.000	0	84.8	43	140			
Benzo[g,h,i]perylene	0.848	0.0100	1.000	0	84.8	49	127			
Benzo[j]fluoranthene	0.847	0.0100	1.000	0	84.7	45	125			N
Benzo[k]fluoranthene	0.849	0.0100	1.000	0	84.9	56	123			
Chrysene	0.843	0.0100	1.000	0	84.3	57	118			
Dibenz[a,h]anthracene	0.844	0.0100	1.000	0	84.4	50	129			
Fluoranthene	0.919	0.0100	1.000	0	91.9	55	119			
Fluorene	0.924	0.0100	1.000	0	92.4	47	114			
Indeno[1,2,3-cd]pyrene	0.827	0.0100	1.000	0	82.7	49	130			
Phenanthrene	0.838	0.0100	1.000	0	83.8	49	113			
Pyrene	0.888	0.0100	1.000	0	88.8	55	117			
IS: Acenaphthene-d10	4.00		4.000		55.8	50	200			
IS: Chrysene-d12	4.00		4.000		76.3	50	200			
IS: Naphthalene-d8	4.00		4.000		98.2	50	200			
IS: Perylene-d12	4.00		4.000		82.5	50	200			
IS: Phenanthrene-d10	4.00		4.000		71.0	50	200			
Surr: 2-Fluorobiphenyl	0.836		1.000		83.6	46	115			
Surr: 4-Terphenyl-d14	0.784		1.000		78.4	58	133			

Sample ID **MB-75007** Batch ID: **75007** TestNo: **SW8270D-LL** Units: **mg/Kg-dry**
SampType: **MBLK** Run ID: **GCMS6_160512A** Analysis Date: **5/12/2016 9:51:00 AM** Prep Date: **5/9/2016**

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: 1605034
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: **GCMS6_160512A**

Sample ID **MB-75007** Batch ID: **75007** TestNo: **SW8270D-LL** Units: **mg/Kg-dry**
SampType: **MBLK** Run ID: **GCMS6_160512A** Analysis Date: **5/12/2016 9:51:00 AM** Prep Date: **5/9/2016**

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		63.0	50	200			
IS: Chrysene-d12	4.00		4.000		81.5	50	200			
IS: Naphthalene-d8	4.00		4.000		103	50	200			
IS: Perylene-d12	4.00		4.000		88.3	50	200			
IS: Phenanthrene-d10	4.00		4.000		76.9	50	200			
Surr: 2-Fluorobiphenyl	0.782		1.000		78.2	46	115			
Surr: 4-Terphenyl-d14	0.730		1.000		73.0	58	133			

Sample ID **1605047-03AMS** Batch ID: **75007** TestNo: **SW8270D-LL** Units: **mg/Kg-dry**
SampType: **MS** Run ID: **GCMS6_160512A** Analysis Date: **5/12/2016 5:49:00 PM** Prep Date: **5/9/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.817	0.0996	0.9960	0	82.0	44	111			
Acenaphthylene	0.818	0.0996	0.9960	0	82.1	39	116			
Anthracene	0.854	0.0996	0.9960	0	85.7	50	114			
Benzo[a]anthracene	0.841	0.0996	0.9960	0	84.5	54	122			
Benzo[a]pyrene	0.832	0.0996	0.9960	0.05194	78.3	50	125			
Benzo[b]fluoranthene	0.849	0.0996	0.9960	0	85.2	53	128			
Benzo[e]pyrene	0.860	0.0996	0.9960	0	86.3	43	140			
Benzo[g,h,i]perylene	0.925	0.0996	0.9960	0	92.9	49	127			
Benzo[j]fluoranthene	0.833	0.0996	0.9960	0	83.7	45	125			N
Benzo[k]fluoranthene	0.828	0.0996	0.9960	0	83.1	56	123			
Chrysene	0.852	0.0996	0.9960	0.05104	80.4	57	118			
Dibenz[a,h]anthracene	0.849	0.0996	0.9960	0	85.2	50	129			
Fluoranthene	0.882	0.0996	0.9960	0.05990	82.6	55	119			
Fluorene	0.882	0.0996	0.9960	0	88.6	47	114			
Indeno[1,2,3-cd]pyrene	0.885	0.0996	0.9960	0	88.8	49	130			
Phenanthrene	0.872	0.0996	0.9960	0	87.5	49	113			
Pyrene	0.858	0.0996	0.9960	0.05453	80.7	55	117			
IS: Acenaphthene-d10	39.8		3.984		75.5	50	200			
IS: Chrysene-d12	39.8		3.984		81.6	50	200			
IS: Naphthalene-d8	39.8		3.984		118	50	200			
IS: Perylene-d12	39.8		3.984		83.7	50	200			
IS: Phenanthrene-d10	39.8		3.984		81.8	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: 1605034
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: **GCMS6_160512A**

Sample ID **1605047-03AMS**	Batch ID: **75007**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **MS**	Run ID: **GCMS6_160512A**	Analysis Date: **5/12/2016 5:49:00 PM**	Prep Date: **5/9/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorobiphenyl	0.833		0.9960		83.7	46	115			
Surr: 4-Terphenyl-d14	0.715		0.9960		71.8	58	133			

Sample ID **1605047-03AMSD**	Batch ID: **75007**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **MSD**	Run ID: **GCMS6_160512A**	Analysis Date: **5/12/2016 6:29:00 PM**	Prep Date: **5/9/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.784	0.0995	0.9950	0	78.8	44	111	4.09	20	
Acenaphthylene	0.804	0.0995	0.9950	0	80.8	39	116	1.73	20	
Anthracene	0.843	0.0995	0.9950	0	84.7	50	114	1.27	20	
Benzo[a]anthracene	0.809	0.0995	0.9950	0	81.3	54	122	3.89	20	
Benzo[a]pyrene	0.745	0.0995	0.9950	0.05194	69.7	50	125	10.9	20	
Benzo[b]fluoranthene	0.799	0.0995	0.9950	0	80.3	53	128	6.07	20	
Benzo[e]pyrene	0.815	0.0995	0.9950	0	81.9	43	140	5.37	20	
Benzo[g,h,i]perylene	0.866	0.0995	0.9950	0	87.0	49	127	6.64	20	
Benzo[j]fluoranthene	0.802	0.0995	0.9950	0	80.6	45	125	3.84	20	N
Benzo[k]fluoranthene	0.794	0.0995	0.9950	0	79.8	56	123	4.14	20	
Chrysene	0.825	0.0995	0.9950	0.05104	77.8	57	118	3.25	20	
Dibenz[a,h]anthracene	0.823	0.0995	0.9950	0	82.7	50	129	3.09	20	
Fluoranthene	0.876	0.0995	0.9950	0.05990	82.1	55	119	0.677	20	
Fluorene	0.825	0.0995	0.9950	0	82.9	47	114	6.75	20	
Indeno[1,2,3-cd]pyrene	0.829	0.0995	0.9950	0	83.3	49	130	6.54	20	
Phenanthrene	0.857	0.0995	0.9950	0	86.2	49	113	1.67	20	
Pyrene	0.858	0.0995	0.9950	0.05453	80.7	55	117	0.087	20	
IS: Acenaphthene-d10	39.8		3.980		82.4	50	200	0	0	
IS: Chrysene-d12	39.8		3.980		85.4	50	200	0	0	
IS: Naphthalene-d8	39.8		3.980		125	50	200	0	0	
IS: Perylene-d12	39.8		3.980		86.5	50	200	0	0	
IS: Phenanthrene-d10	39.8		3.980		83.6	50	200	0	0	
Surr: 2-Fluorobiphenyl	0.810		0.9950		81.4	46	115	0	0	
Surr: 4-Terphenyl-d14	0.733		0.9950		73.7	58	133	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: 1605034
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: **GCMS6_160512A**

Sample ID	**ICV-160512**	Batch ID:	**R85792**	TestNo:	**SW8270D-LL**	Units:	**mg/Kg-dry**
SampType:	**ICV**	Run ID:	**GCMS6_160512A**	Analysis Date:	**5/12/2016 8:31:00 AM**	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.97	0.0100	2.000	0	98.3	80	120			
Acenaphthylene	2.08	0.0100	2.000	0	104	80	120			
Anthracene	1.91	0.0100	2.000	0	95.7	80	120			
Benzo[a]anthracene	1.95	0.0100	2.000	0	97.4	80	120			
Benzo[a]pyrene	1.91	0.0100	2.000	0	95.6	80	120			
Benzo[b]fluoranthene	1.88	0.0100	2.000	0	93.8	80	120			
Benzo[e]pyrene	1.87	0.0100	2.000	0	93.5	80	120			
Benzo[g,h,i]perylene	1.93	0.0100	2.000	0	96.4	80	120			
Benzo[j]fluoranthene	1.89	0.0100	2.000	0	94.6	80	120			N
Benzo[k]fluoranthene	1.94	0.0100	2.000	0	97.2	80	120			
Chrysene	1.87	0.0100	2.000	0	93.3	80	120			
Dibenz[a,h]anthracene	1.95	0.0100	2.000	0	97.5	80	120			
Fluoranthene	1.92	0.0100	2.000	0	95.9	80	120			
Fluorene	2.12	0.0100	2.000	0	106	80	120			
Indeno[1,2,3-cd]pyrene	1.91	0.0100	2.000	0	95.7	80	120			
Phenanthrene	1.88	0.0100	2.000	0	94.0	80	120			
Pyrene	1.85	0.0100	2.000	0	92.6	80	120			
IS: Acenaphthene-d10	4.00		4.000		80.9	50	200			
IS: Chrysene-d12	4.00		4.000		89.1	50	200			
IS: Naphthalene-d8	4.00		4.000		133	50	200			
IS: Perylene-d12	4.00		4.000		91.0	50	200			
IS: Phenanthrene-d10	4.00		4.000		90.7	50	200			
Surr: 2-Fluorobiphenyl	2.01		2.000		101	65	120			
Surr: 4-Terphenyl-d14	1.80		2.000		90.2	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

DHL Analytical, Inc.

Date: *20-May-16*

CLIENT: Arcadis
Work Order: 1605034
Project: Laredo SGR

MQL SUMMARY REPORT

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

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

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

GCMS6
For

DHL Work Order
1605034

GCMS6_160510A
For

DHL Work Order
1605034

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_160510A
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	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	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	
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: 5/11/2016

Second-Level Review: Janice Whitt Date: 5/18/2016

REVIEWED BY
By Janice Whitt at 11:04:44 AM, 5/18/2016

DHL Analytical, Inc.

Run ID: GCMS6_160510A **Run No.:** 85721

Analytical Run Date: 5/10/2016 **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-160510	1	PAH_LL_SDOD1	TUNE	R85721	5/10/2016 8:35:00 AM		
ICV-160510	1	PAH_LL_SDOD1	ICV	R85721	5/10/2016 9:13:00 AM		
LCS-75004	1	PAH_LL_SDOD1	LCS	75004	5/10/2016 9:53:00 AM		
MB-75004	1	PAH_LL_SDOD1	MBLK	75004	5/10/2016 10:40:00 AM		
1605034-01A	10	PAH_LL_SDOD1	SAMP	75004	5/10/2016 11:20:00 AM		
1605034-02A	10	PAH_LL_SDOD1	SAMP	75004	5/10/2016 12:00:00 PM		
1605034-03A	10	PAH_LL_SDOD1	SAMP	75004	5/10/2016 12:40:00 PM		
1605034-04A	10	PAH_LL_SDOD1	SAMP	75004	5/10/2016 1:20:00 PM		
1605034-05A	10	PAH_LL_SDOD1	SAMP	75004	5/10/2016 1:59:00 PM		
1605034-06A	10	PAH_LL_SDOD1	SAMP	75004	5/10/2016 2:39:00 PM		
1605034-07A	10	PAH_LL_SDOD1	SAMP	75004	5/10/2016 3:19:00 PM		
1605034-08A	10	PAH_LL_SDOD1	SAMP	75004	5/10/2016 4:00:00 PM		
1605034-09A	10	PAH_LL_SDOD1	SAMP	75004	5/10/2016 4:39:00 PM		
1605034-10A	10	PAH_LL_SDOD1	SAMP	75004	5/10/2016 5:19:00 PM		
1605034-09AMS	10	PAH_LL_SDOD1	MS	75004	5/10/2016 5:59:00 PM		
1605034-09AMSD	10	PAH_LL_SDOD1	MSD	75004	5/10/2016 6:38:00 PM		
DFTPP2-160510	1	PAH_LL_SDOD1	TUNE	R85721	5/10/2016 7:17:00 PM		
ICV2-160510	1	PAH_LL_SDOD1	ICV	R85721	5/10/2016 7:54:00 PM		
SBLK-160510	1	PAH_LL_SDOD1	SBLK	75004	5/10/2016 8:33:00 PM		
1605034-11A	10	PAH_LL_SDOD1	SAMP	75004	5/10/2016 9:14:00 PM		
1605034-12A	10	PAH_LL_SDOD1	SAMP	75004	5/10/2016 9:54:00 PM		
1605034-13A	10	PAH_LL_SDOD1	SAMP	75004	5/10/2016 10:33:00 PM		
1605034-14A	10	PAH_LL_SDOD1	SAMP	75004	5/10/2016 11:13:00 PM		
1605034-15A	10	PAH_LL_SDOD1	SAMP	75004	5/10/2016 11:52:00 PM		
1605034-16A	10	PAH_LL_SDOD1	SAMP	75004	5/11/2016 12:32:00 AM		
1605034-17A	10	PAH_LL_SDOD1	SAMP	75004	5/11/2016 1:13:00 AM		
1605034-18A	10	PAH_LL_SDOD1	SAMP	75004	5/11/2016 1:53:00 AM		
1605034-19A	10	PAH_LL_SDOD1	SAMP	75004	5/11/2016 2:33:00 AM		
1605034-20A	10	PAH_LL_SDOD1	SAMP	75004	5/11/2016 3:12:00 AM		
CCV-160510	1	PAH_LL_SDOD1	CCV	R85721	5/11/2016 3:52:00 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_160510A** **Run No.:** 85721

Analytical Run Date: 5/10/2016 **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-160510	1	PAH_LL_SDOD1	TUNE	R85721	5/10/2016 8:35:00 AM		
ICV-160510	1	PAH_LL_SDOD1	ICV	R85721	5/10/2016 9:13:00 AM		
LCS-75004	1	PAH_LL_SDOD1	LCS	75004	5/10/2016 9:53:00 AM		
MB-75004	1	PAH_LL_SDOD1	MBLK	75004	5/10/2016 10:40:00 AM		
1605034-01A	10	PAH_LL_SDOD1	SAMP	75004	5/10/2016 11:20:00 AM		All samples in this batch run at 10x - detection limit is sufficient and is approved by project managers.
1605034-02A	10	PAH_LL_SDOD1	SAMP	75004	5/10/2016 12:00:00 PM		
1605034-03A	10	PAH_LL_SDOD1	SAMP	75004	5/10/2016 12:40:00 PM		
1605034-04A	10	PAH_LL_SDOD1	SAMP	75004	5/10/2016 1:20:00 PM		
1605034-05A	10	PAH_LL_SDOD1	SAMP	75004	5/10/2016 1:59:00 PM		
1605034-06A	10	PAH_LL_SDOD1	SAMP	75004	5/10/2016 2:39:00 PM		
1605034-07A	10	PAH_LL_SDOD1	SAMP	75004	5/10/2016 3:19:00 PM		
1605034-08A	10	PAH_LL_SDOD1	SAMP	75004	5/10/2016 4:00:00 PM		
1605034-09A	10	PAH_LL_SDOD1	SAMP	75004	5/10/2016 4:39:00 PM		
1605034-10A	10	PAH_LL_SDOD1	SAMP	75004	5/10/2016 5:19:00 PM		
1605034-09AMS	10	PAH_LL_SDOD1	MS	75004	5/10/2016 5:59:00 PM		
1605034-09AMSD	10	PAH_LL_SDOD1	MSD	75004	5/10/2016 6:38:00 PM		
DFTPP2-160510	1	PAH_LL_SDOD1	TUNE	R85721	5/10/2016 7:17:00 PM		
ICV2-160510	1	PAH_LL_SDOD1	ICV	R85721	5/10/2016 7:54:00 PM		
SBLK-160510	1	PAH_LL_SDOD1	SBLK	75004	5/10/2016 8:33:00 PM		
1605034-11A	10	PAH_LL_SDOD1	SAMP	75004	5/10/2016 9:14:00 PM		
1605034-12A	10	PAH_LL_SDOD1	SAMP	75004	5/10/2016 9:54:00 PM		
1605034-13A	10	PAH_LL_SDOD1	SAMP	75004	5/10/2016 10:33:00 PM		
1605034-14A	10	PAH_LL_SDOD1	SAMP	75004	5/10/2016 11:13:00 PM		
1605034-15A	10	PAH_LL_SDOD1	SAMP	75004	5/10/2016 11:52:00 PM		
1605034-16A	10	PAH_LL_SDOD1	SAMP	75004	5/11/2016 12:32:00 AM		
1605034-17A	10	PAH_LL_SDOD1	SAMP	75004	5/11/2016 1:13:00 AM		
1605034-18A	10	PAH_LL_SDOD1	SAMP	75004	5/11/2016 1:53:00 AM		
1605034-19A	10	PAH_LL_SDOD1	SAMP	75004	5/11/2016 2:33:00 AM		
1605034-20A	10	PAH_LL_SDOD1	SAMP	75004	5/11/2016 3:12:00 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_160510A** **Run No.:** 85721

CCV-160510	1	PAH_LL_SDOD1	CCV	R85721	5/11/2016 3:52:00 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\160510.S
Comment:
Operator:
Data Path: C:\HPCHEM\1\DATA\160510\
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	16051001	DFTPPPAH	DFTPP-160510
2	Sample	2	16051002	PP160421	ICV-160510
3	Sample	3	16051003	PP160421	LCS-75004
4	Sample	4	16051004	PP160421	MB-75004
5	Sample	5	16051005	PP160421	1605034-01A
6	Sample	6	16051006	PP160421	1605034-02A
7	Sample	7	16051007	PP160421	1605034-03A
8	Sample	8	16051008	PP160421	1605034-04A
9	Sample	9	16051009	PP160421	1605034-05A
10	Sample	10	16051010	PP160421	1605034-06A
11	Sample	11	16051011	PP160421	1605034-07A
12	Sample	12	16051012	PP160421	1605034-08A
13	Sample	13	16051013	PP160421	1605034-09A
14	Sample	14	16051014	PP160421	1605034-10A
15	Sample	15	16051015	PP160421	1605034-09AMS
16	Sample	16	16051016	PP160421	1605034-09AMSD
17	Sample	17	16051017	DFTPPPAH	DFTPP2-160510
18	Sample	18	16051018	PP160421	ICV2-160510
19	Sample	19	16051019	PP160421	SBLK-160510
20	Sample	20	16051020	PP160421	1605034-11A
21	Sample	21	16051021	PP160421	1605034-12A
22	Sample	22	16051022	PP160421	1605034-13A
23	Sample	23	16051023	PP160421	1605034-14A
24	Sample	24	16051024	PP160421	1605034-15A
25	Sample	25	16051025	PP160421	1605034-16A
26	Sample	26	16051026	PP160421	1605034-17A
27	Sample	27	16051027	PP160421	1605034-18A
28	Sample	28	16051028	PP160421	1605034-19A
29	Sample	29	16051029	PP160421	1605034-20A
30	Sample	30	16051030	PP160421	CCV-160510

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/9/2016 10:05:24 AM**
Digestion:
Prep End Date: **5/9/2016 5:24:00 PM**

Prep Batch **75004** Prep Code: **3550_PAHDOD** Technician: **Alex Robbins**

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
1605034-01A	Soil		10.03	10	0.997	1	of	1	
1605034-02A	Soil		10.03	10	0.997	1	of	1	
1605034-03A	Soil		10.51	10	0.951	1	of	1	
1605034-04A	Soil		10.18	10	0.982	1	of	1	
1605034-05A	Soil		10.13	10	0.987	1	of	1	
1605034-06A	Soil		10.12	10	0.988	1	of	1	
1605034-07A	Soil		10.32	10	0.969	1	of	1	
1605034-08A	Soil		10	10	1.000	1	of	1	
1605034-09A	Soil		10.06	10	0.994	1	of	3	
1605034-09AMS	Soil		10.01	10	0.999	12	of		
1605034-09AMSD	Soil		10.29	10	0.972	2	of		
1605034-10A	Soil		10.01	10	0.999	1	of	1	
1605034-11A	Soil		10.02	10	0.998	1	of	1	
1605034-12A	Soil		10.08	10	0.992	1	of	1	
1605034-13A	Soil		10.12	10	0.988	1	of	1	
1605034-14A	Soil		10.01	10	0.999	1	of	1	
1605034-15A	Soil		10.12	10	0.988	1	of	1	
1605034-16A	Soil		10.19	10	0.981	1	of	1	
1605034-17A	Soil		10.16	10	0.984	1	of	1	
1605034-18A	Soil		10.23	10	0.978	1	of	1	
1605034-19A	Soil		10.27	10	0.974	1	of	1	
1605034-20A	Soil		10.01	10	0.999	1	of	1	
LCS-75004	Soil		10	10	1.000		of		
MB-75004	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
PAHPREP160317	200 PPM PAH Spike Mix	LCS/MS/MSD	0.05	05/09/2016
SVPREP160415-A	40 PPM Surrogate Standard	ALL	0.25	07/15/2016

REVIEWED BY
By Janice Whitt at 10:34:57 AM, 5/18/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/9/2016 10:05:24 AM**
Digestion:
Prep End Date: 5/9/16 5:24PM

Prep Batch **75004** Prep Code: **3550_PAHDOD** Technician: **Alex Robbins**

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
1605034-01A	Soil		10.03	10	1.000	1	of	1	
1605034-02A	Soil		10.03	10	1.000	1	of	1	
1605034-03A	Soil		10.51	10	1.000	1	of	1	
1605034-04A	Soil		10.18	10	1.000	1	of	1	
1605034-05A	Soil		10.13	10	1.000	1	of	1	
1605034-06A	Soil		10.12	10	1.000	1	of	1	
1605034-07A	Soil		10.32	10	1.000	1	of	1	
1605034-08A	Soil		10.00	10	1.000	1	of	1	
1605034-09A	Soil		10.06	10	1.000	1	of	3	
1605034-09AMS	Soil		10.01	10	1.000	1,2	of	3	
1605034-09AMSD	Soil		10.29	10	1.000	2	of	3	
1605034-10A	Soil		10.01	10	1.000	1	of	1	
1605034-11A	Soil		10.02	10	1.000	1	of	1	
1605034-12A	Soil		10.08	10	1.000	1	of	1	
1605034-13A	Soil		10.12	10	1.000	1	of	1	
1605034-14A	Soil		10.01	10	1.000	1	of	1	
1605034-15A	Soil		10.12	10	1.000	1	of	1	
1605034-16A	Soil		10.19	10	1.000	1	of	1	
1605034-17A	Soil		10.16	10	1.000	1	of	1	
1605034-18A	Soil		10.23	10	1.000	1	of	1	
1605034-19A	Soil		10.27	10	1.000	1	of	1	
1605034-20A	Soil		10.01	10	1.000	1	of	1	
LCS-75004	Soil		10.	10	1.000		of		
MB-75004	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
PAHPREP160317	200 PPM PAH Spike Mix	LCS/MS/MSD	0.05	05/09/2016
SVPREP160415-A	40 PPM Surrogate Standard	ALL	0.25	07/15/2016

REVIEWED BY
By Janice Whitt at 10:34:54 AM, 5/18/2016

5/9/16 / AR 5/9/16

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/4/2016 2:45:00 PM**
Digestion: **Start: 5/4/2016 3:45:00 PM / Stop: 5/6/2016 9:30:00 AM**
Prep End Date: **5/6/2016 5:00:00 PM**

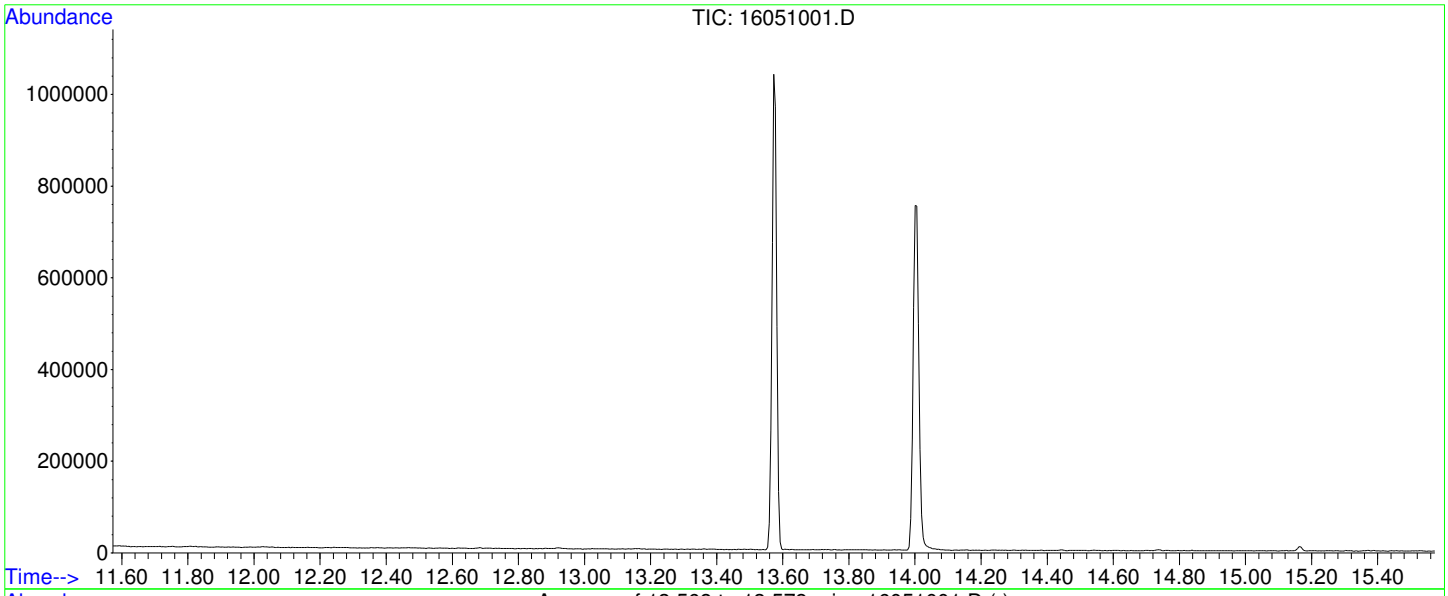
Prep Batch **74956** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker** Prep Factor Units: **mL/**

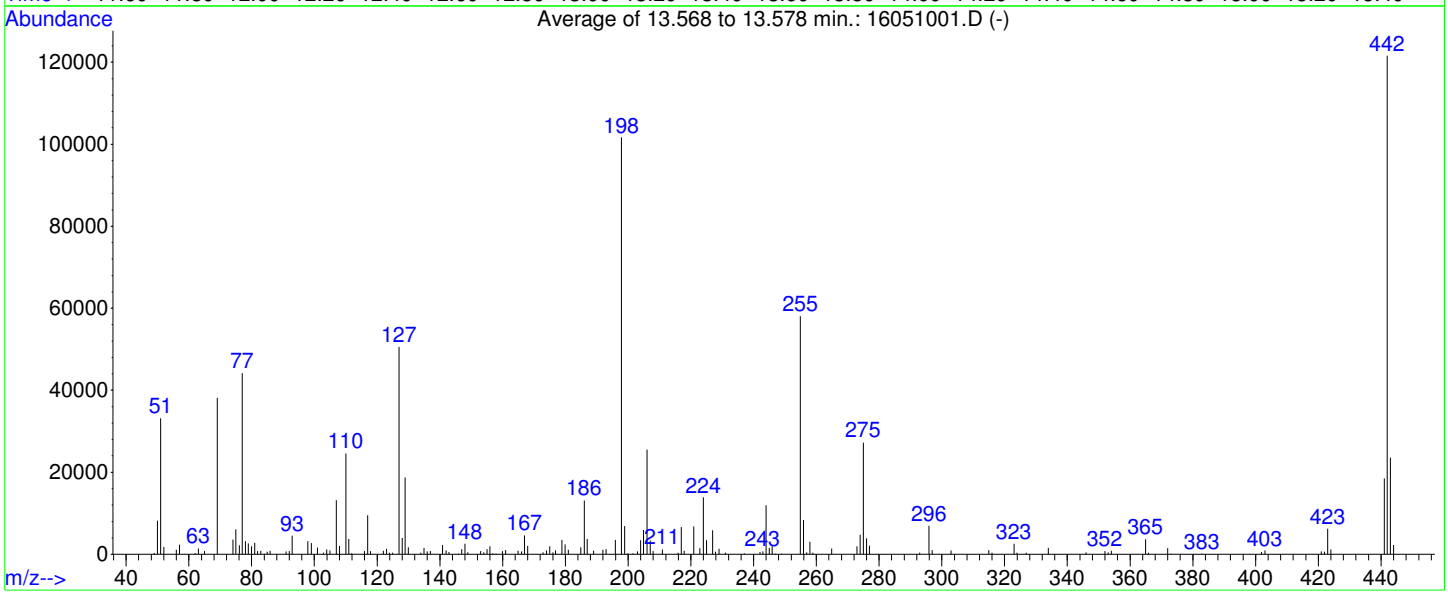
Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #			Cleanup
1605034-01A	Soil		0	0	#Num!	1	of	1	
1605034-02A	Soil		0	0	#Num!	1	of	1	
1605034-03A	Soil		0	0	#Num!	1	of	1	
1605034-04A	Soil		0	0	#Num!	1	of	1	
1605034-05A	Soil		0	0	#Num!	1	of	1	
1605034-06A	Soil		0	0	#Num!	1	of	1	
1605034-07A	Soil		0	0	#Num!	1	of	1	
1605034-08A	Soil		0	0	#Num!	1	of	1	
1605034-09A	Soil		0	0	#Num!		of	3	
1605034-10A	Soil		0	0	#Num!	1	of	1	
1605034-11A	Soil		0	0	#Num!	1	of	1	
1605034-12A	Soil		0	0	#Num!	1	of	1	
1605034-13A	Soil		0	0	#Num!	1	of	1	
1605034-14A	Soil		0	0	#Num!	1	of	1	
1605034-15A	Soil		0	0	#Num!	1	of	1	
1605034-16A	Soil		0	0	#Num!	1	of	1	
1605034-17A	Soil		0	0	#Num!	1	of	1	
1605034-18A	Soil		0	0	#Num!	1	of	1	
1605034-19A	Soil		0	0	#Num!	1	of	1	
1605034-20A	Soil		0	0	#Num!	1	of	1	
1605034-21A	Soil		0	0	#Num!	1	of	1	
1605034-22A	Soil		0	0	#Num!	1	of	1	
1605034-23A	Soil		0	0	#Num!	1	of	1	
1605034-24A	Soil		0	0	#Num!	1	of	1	
1605034-25A	Soil		0	0	#Num!	1	of	1	
1605034-26A	Soil		0	0	#Num!	1	of	1	
1605034-27A	Soil		0	0	#Num!	1	of	1	

REVIEWED BY
By Janice Whitt at 10:33:56 AM, 5/18/2016

DFTPP

Data File : C:\HPCHEM\1\DATA\160510\16051001.D Vial: 1
Acq On : 10 May 2016 8:35 am Operator:
Sample : DFTPP-160510 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





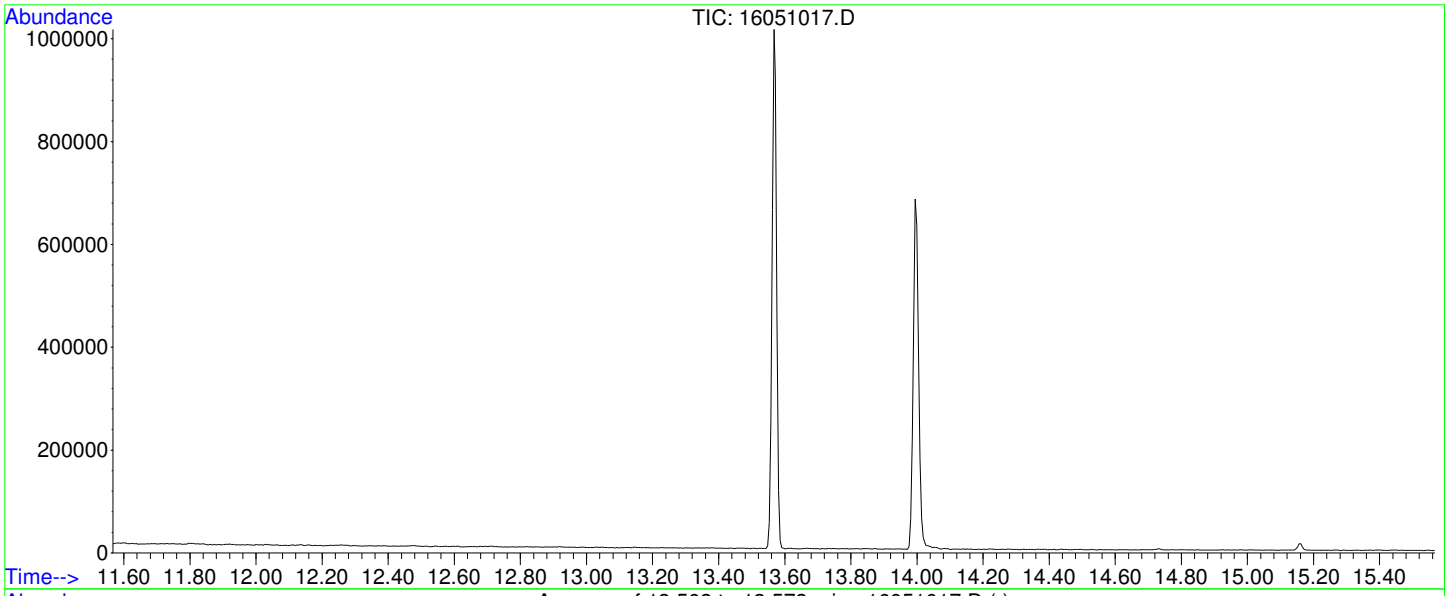
AutoFind: Scans 1590, 1591, 1592; Background Corrected with Scan 1584

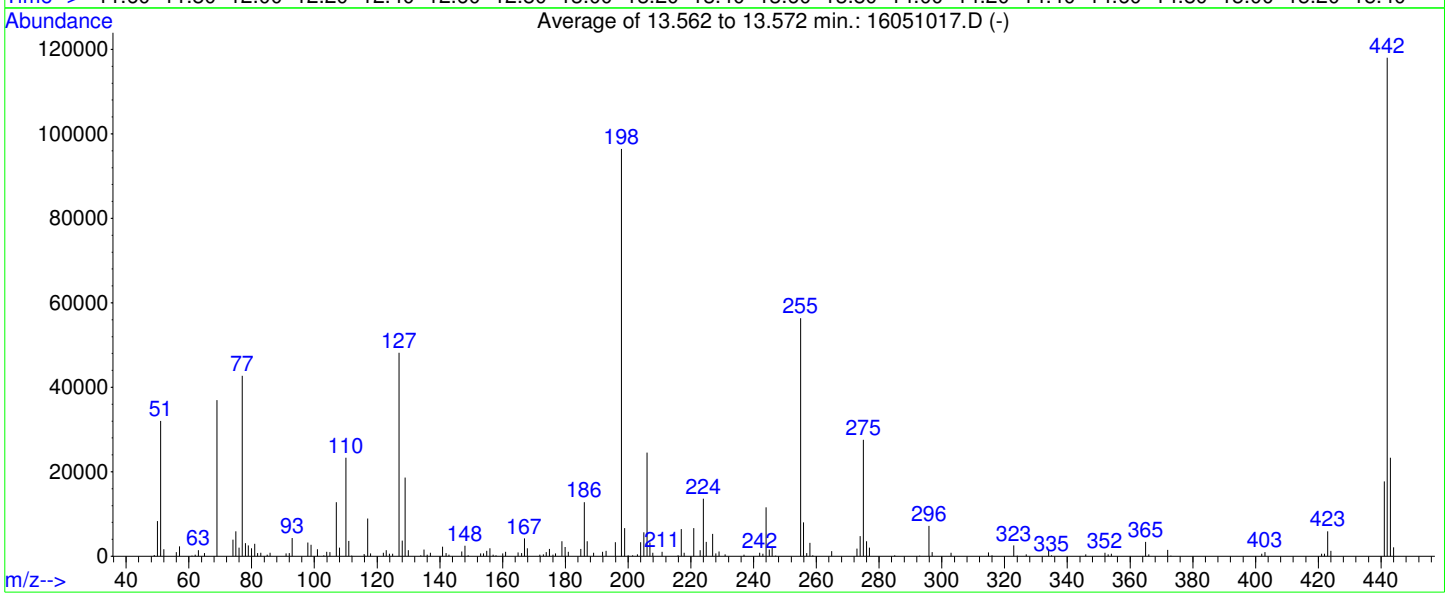
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	32.6	33195	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	37.5	38139	PASS
70	69	0.00	2	0.0	0	PASS
127	198	10	80	49.7	50587	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	101683	PASS
199	198	5	9	6.8	6865	PASS
275	198	10	60	26.8	27259	PASS
365	198	1	200	3.6	3644	PASS
441	442	0.01	24	15.2	18468	PASS
442	198	50	400	119.6	121595	PASS
443	442	15	24	19.4	23551	PASS

REVIEWED BY
By Janice Whitt at 10:34:01 AM, 5/18/2016

16051001.D DFTPPPAH.M Wed May 11 07:58:36 2016

Data File : C:\HPCHEM\1\DATA\160510\16051017.D Vial: 17
Acq On : 10 May 2016 7:17 pm Operator:
Sample : DFTPP2-160510 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 1589, 1590, 1591; Background Corrected with Scan 1583

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	33.3	32077	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	38.3	36965	PASS
70	69	0.00	2	0.0	0	PASS
127	198	10	80	50.0	48195	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	96467	PASS
199	198	5	9	6.9	6660	PASS
275	198	10	60	28.6	27563	PASS
365	198	1	200	3.6	3434	PASS
441	442	0.01	24	15.0	17759	PASS
442	198	50	400	122.4	118035	PASS
443	442	15	24	19.7	23307	PASS

REVIEWED BY
By Janice Whitt at 10:34:04 AM, 5/18/2016

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160510\16051002.D Vial: 2
Acq On : 10 May 2016 9:13 am Operator:
Sample : ICV-160510 Inst : GC/MS #6
Misc : ICV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:02 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.88	136	1575114	4000.00 ug/kg	136
5) Acenaphthene-d10	13.29	164	894102	4000.00 ug/kg	78
11) Phenanthrene-d10	15.38	188	1864405	4000.00 ug/kg	91
17) Chrysene-d12	21.13	240	2085848	4000.00 ug/kg	92
20) Perylene-d12	26.29	264	1901416	4000.00 ug/kg	92

System Monitoring Compounds

7) 2-Fluorobiphenyl	12.22	172	541702	2076.94 ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	51.92%	
16) 4-Terphenyl-d14	17.88	244	892713	1850.74 ug/kg	-0.01
Spiked Amount 4000.000	Range 40 - 140		Recovery =	46.27%	

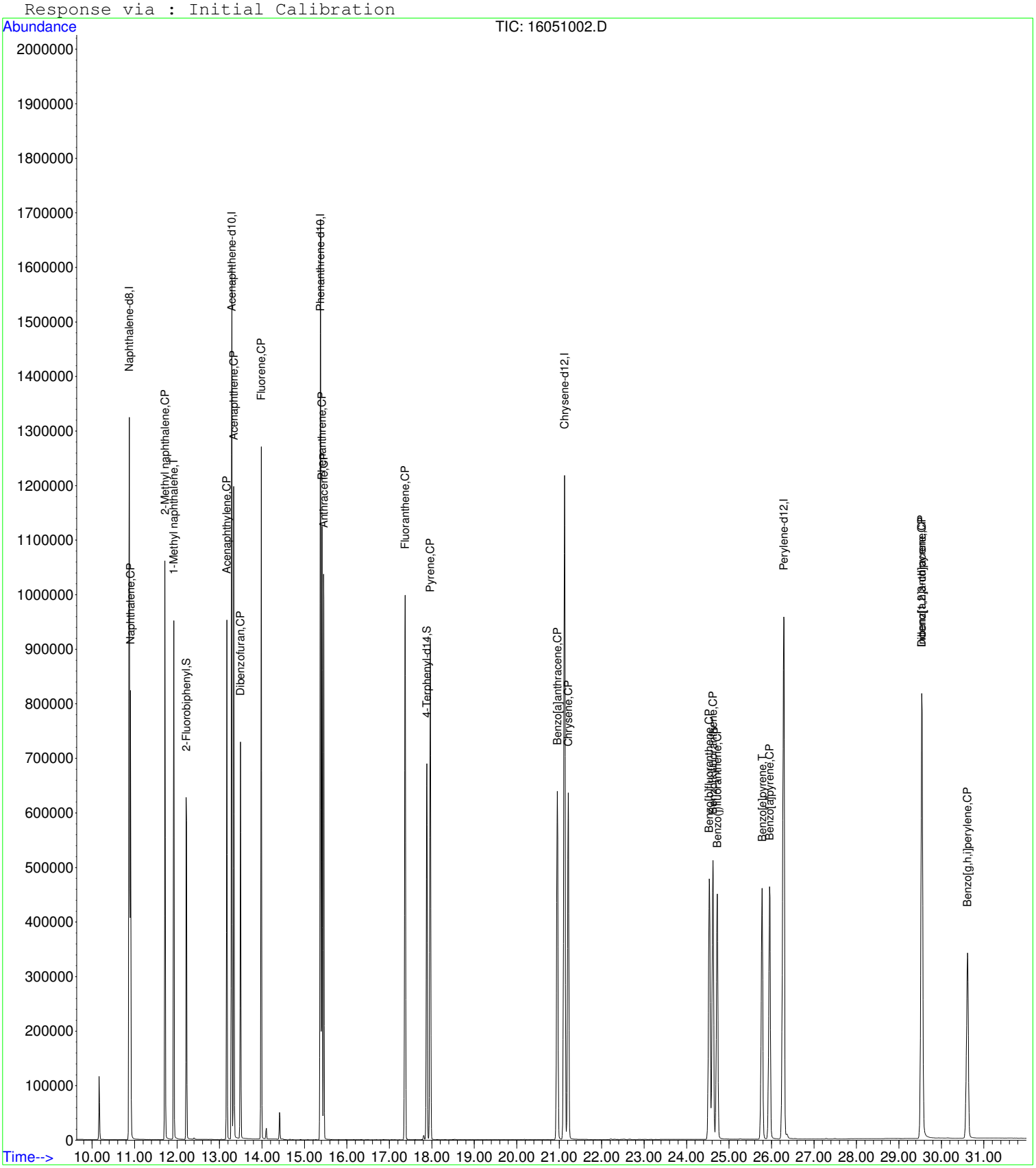
Target Compounds					Qvalue
2) Naphthalene	10.90	128	760181	1929.42 ug/kg	100
3) 2-Methyl naphthalene	11.71	142	523671	1504.69 ug/kg	98
4) 1-Methyl naphthalene	11.92	142	467530	1466.79 ug/kg	98
6) Dibenzofuran	13.49	168	664774	1983.81 ug/kg	99
8) Acenaphthylene	13.17	152	805137	2090.97 ug/kg	100
9) Acenaphthene	13.34	154	468703	1961.11 ug/kg	99
10) Fluorene	13.98	166	610563	2103.56 ug/kg	100
12) Phenanthrene	15.41	178	929231	1895.20 ug/kg	100
13) Anthracene	15.45	178	907368	1955.19 ug/kg	100
14) Fluoranthene	17.37	202	1000586	1972.05 ug/kg	100
15) Pyrene	17.97	202	1010986	1918.15 ug/kg	99
18) Benzo[a]anthracene	20.96	228	963035	1970.75 ug/kg	99
19) Chrysene	21.21	228	887587	1879.90 ug/kg	100
21) Benzo[b]fluoranthene	24.53	252	978883	1953.28 ug/kg	99
22) Benzo[k]fluoranthene	24.62	252	898720	1911.67 ug/kg	100
23) Benzo(j)fluoranthene	24.72	252	810557	1935.51 ug/kg	100
24) Benzo[e]pyrene	25.78	252	854491	1903.92 ug/kg	100
25) Benzo[a]pyrene	25.95	252	881573	1922.20 ug/kg	99
26) Dibenz[a,h]anthracene	29.54	278	773506	1851.89 ug/kg	99
27) Indeno[1,2,3-cd]pyrene	29.55	276	905025	1816.29 ug/kg	96
28) Benzo[g,h,i]perylene	30.61	276	714202	1838.13 ug/kg	100

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160510\16051002.D Vial: 2
Acq On : 10 May 2016 9:13 am Operator:
Sample : ICV-160510 Inst : GC/MS #6
Misc : ICV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:02 2016 Quant Results File: PP160421.RES

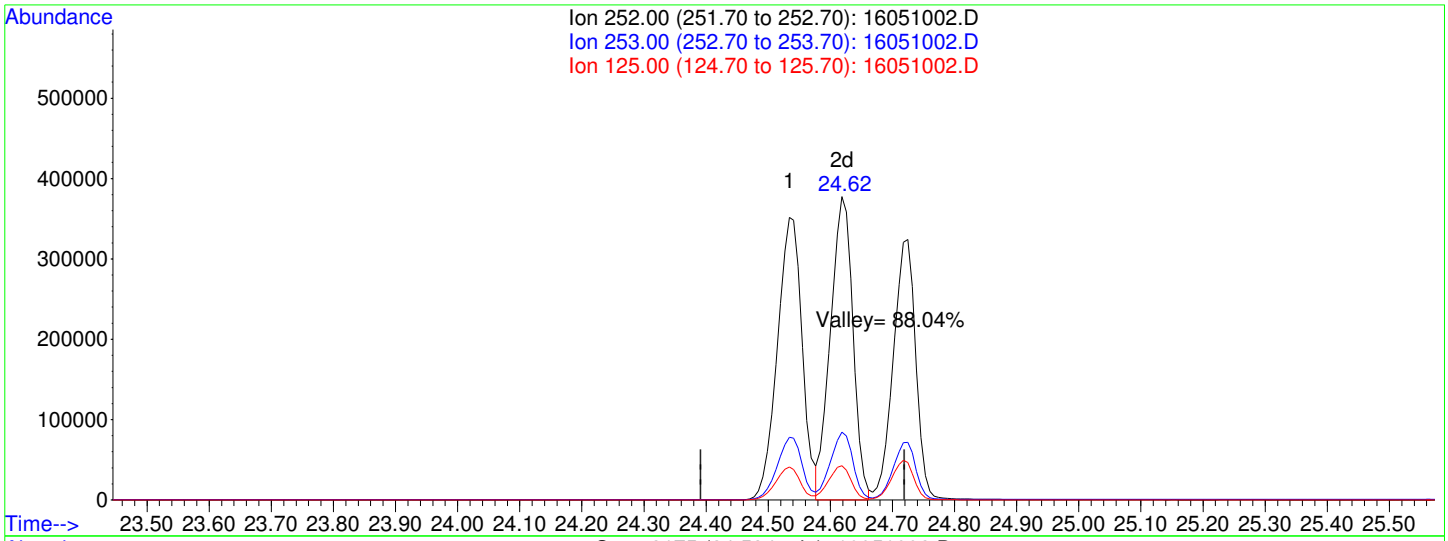
Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri Apr 22 11:43:43 2016
Response via : Initial Calibration

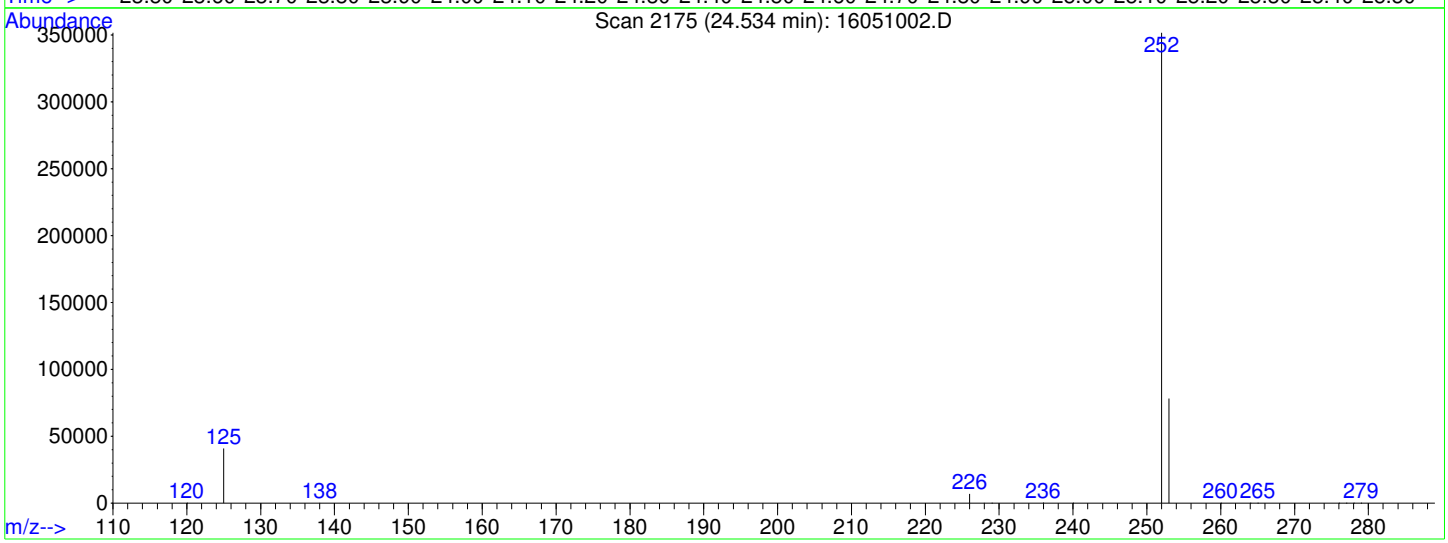


Quantitation Report (Qedit)

```
Data File : C:\HPCHEM\1\DATA\160510\16051002.D          Vial: 2
Acq On    : 10 May 2016   9:13 am                   Operator:
Sample    : ICV-160510                              Inst    : GC/MS #6
Misc      : ICV                                     Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 10  9:45 2016             Quant Results File: temp.res

Method       : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title        : PAH Calibration
Last Update  : Fri Apr 22 11:43:43 2016
Response via : Multiple Level Calibration
```





TIC: 16051002.D

(21) Benzo[b]fluoranthene (CP)

24.53min 1953.28ug/kg

response 978883

Ion	Exp%	Act%
252.00	100	100
253.00	22.20	22.10
125.00	11.00	11.61
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160510\16051003.D Vial: 3
Acq On : 10 May 2016 9:53 am Operator:
Sample : LCS-75004 Inst : GC/MS #6
Misc : LCS Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:03 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.87	136	1261591	4000.00 ug/kg	109
5) Acenaphthene-d10	13.29	164	626807	4000.00 ug/kg	54
11) Phenanthrene-d10	15.37	188	1307303	4000.00 ug/kg	64
17) Chrysene-d12	21.12	240	1744752	4000.00 ug/kg	77
20) Perylene-d12	26.28	264	1648133	4000.00 ug/kg	80

System Monitoring Compounds					
7) 2-Fluorobiphenyl	12.22	172	176529	965.46 ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 24.14%#		
16) 4-Terphenyl-d14	17.88	244	325673	962.90 ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery = 24.07%#		

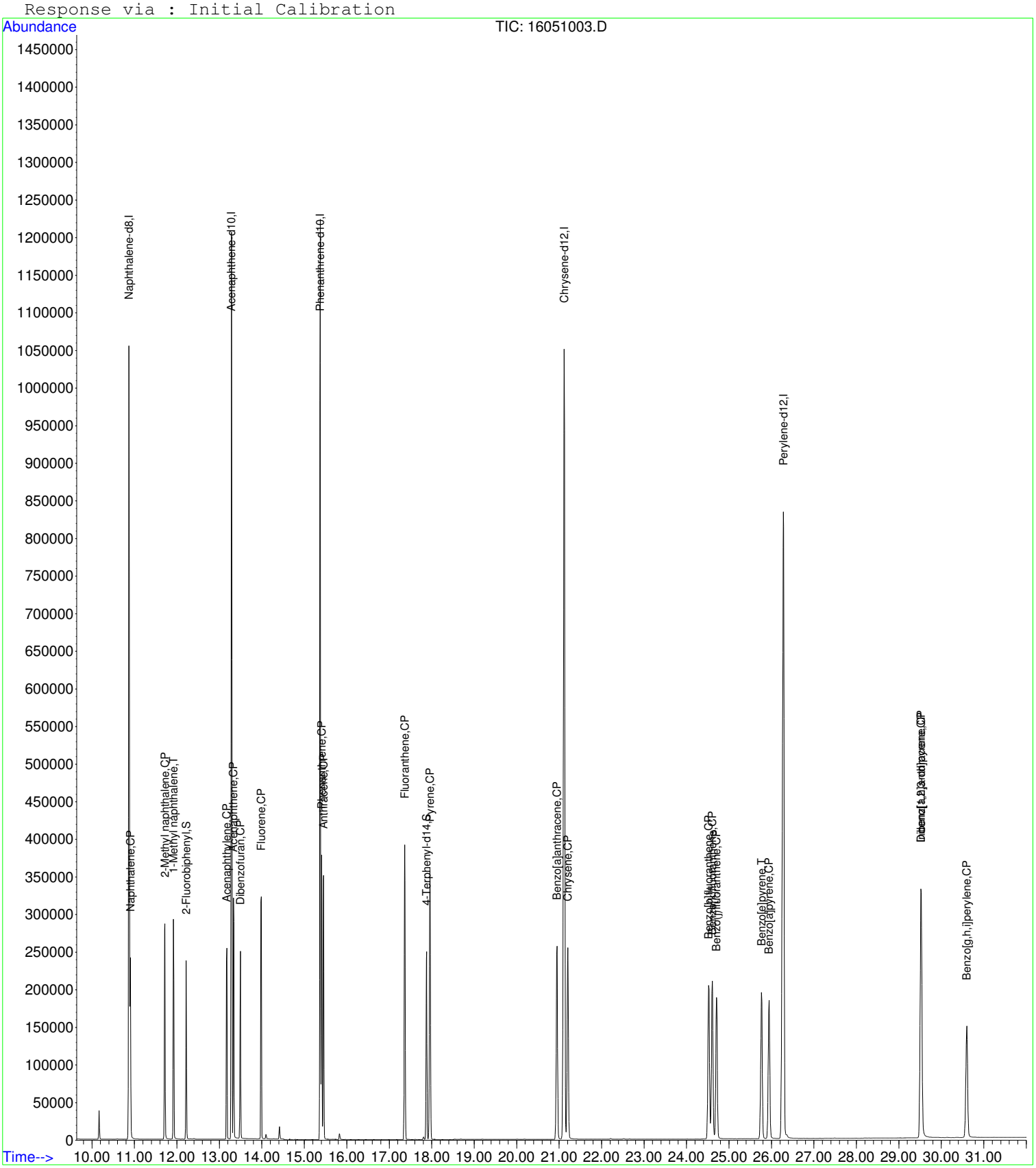
Target Compounds					Qvalue
2) Naphthalene	10.91	128	254676	807.03 ug/kg	100
3) 2-Methyl naphthalene	11.72	142	172429	618.58 ug/kg	96
4) 1-Methyl naphthalene	11.92	142	151967	595.25 ug/kg	92
6) Dibenzofuran	13.49	168	215528	917.45 ug/kg	100
8) Acenaphthylene	13.18	152	248752	921.51 ug/kg	98
9) Acenaphthene	13.33	154	145419	867.92 ug/kg	96
10) Fluorene	13.99	166	183371	901.17 ug/kg	98
12) Phenanthrene	15.41	178	309118	899.12 ug/kg	99
13) Anthracene	15.45	178	311367	956.85 ug/kg	99
14) Fluoranthene	17.37	202	388362	1091.60 ug/kg	99
15) Pyrene	17.96	202	391199	1058.52 ug/kg	99
18) Benzo[a]anthracene	20.95	228	379711	928.95 ug/kg	99
19) Chrysene	21.20	228	352480	892.50 ug/kg	99
21) Benzo[b]fluoranthene	24.52	252	392176	902.82 ug/kg	99
22) Benzo[k]fluoranthene	24.61	252	367388	901.57 ug/kg	100
23) Benzo(j)fluoranthene	24.70	252	330952	911.72 ug/kg	98
24) Benzo[e]pyrene	25.77	252	356404	916.16 ug/kg	100
25) Benzo[a]pyrene	25.94	252	345878	870.06 ug/kg	100
26) Dibenz[a,h]anthracene	29.52	278	315412	871.20 ug/kg	99
27) Indeno[1,2,3-cd]pyrene	29.53	276	368361	852.87 ug/kg	95
28) Benzo[g,h,i]perylene	30.60	276	294896	875.61 ug/kg	99

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160510\16051003.D Vial: 3
Acq On : 10 May 2016 9:53 am Operator:
Sample : LCS-75004 Inst : GC/MS #6
Misc : LCS Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:03 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\160510\16051004.D Vial: 4
Acq On : 10 May 2016 10:40 am Operator:
Sample : MB-75004 Inst : GC/MS #6
Misc : MBLK Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:03 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.88	136	1434725	4000.00	ug/kg	124
5) Acenaphthene-d10	13.29	164	747844	4000.00	ug/kg	65
11) Phenanthrene-d10	15.38	188	1500616	4000.00	ug/kg	73
17) Chrysene-d12	21.13	240	1936406	4000.00	ug/kg	85
20) Perylene-d12	26.29	264	1808166	4000.00	ug/kg	88

System Monitoring Compounds

7) 2-Fluorobiphenyl	12.22	172	185474	850.20	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 21.26%#			
16) 4-Terphenyl-d14	17.88	244	330778	852.00	ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery = 21.30%#			

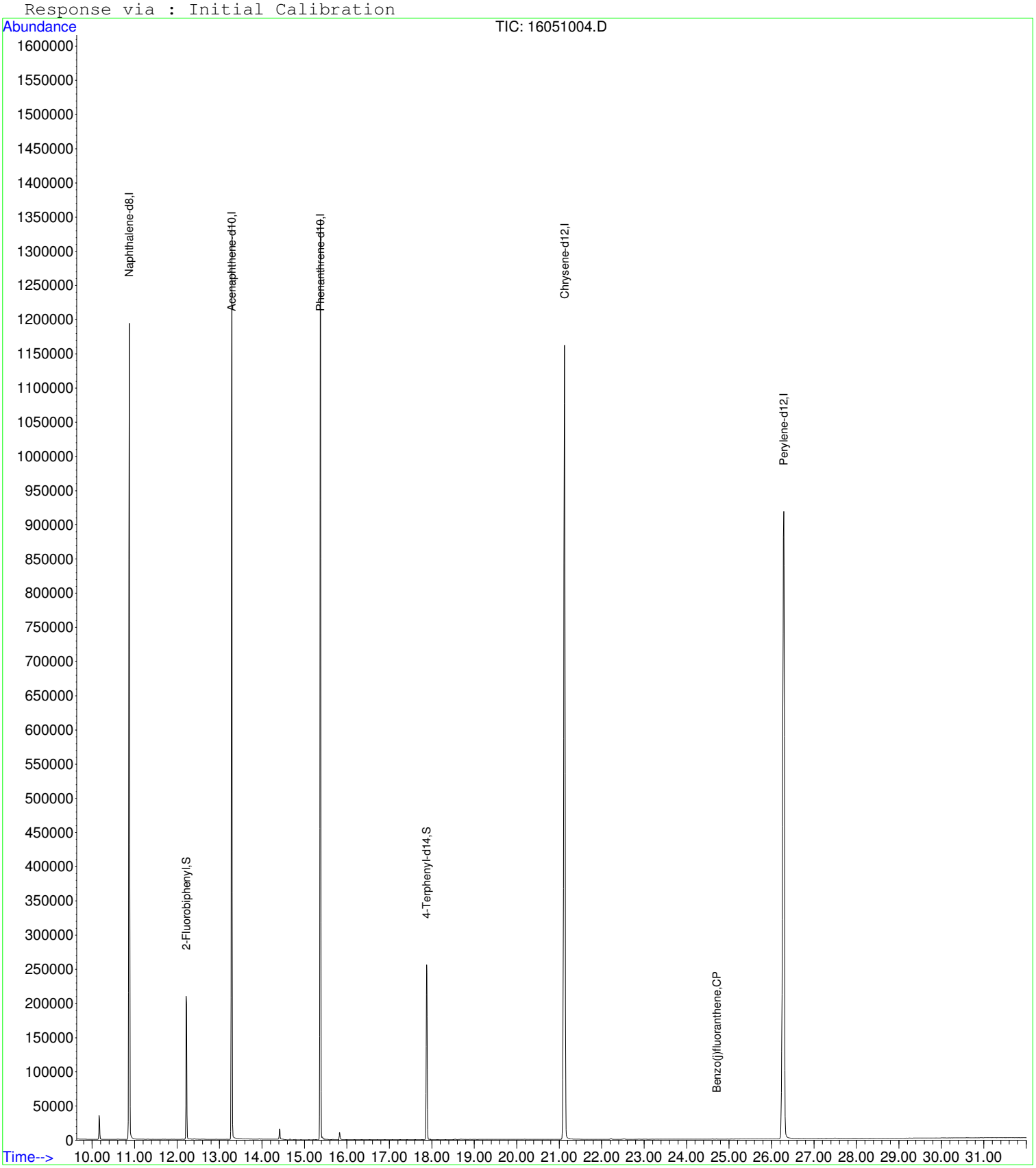
Target Compounds						Qvalue
23) Benzo(j)fluoranthene	24.70	252	135	0.34	ug/kg	64

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160510\16051004.D Vial: 4
Acq On : 10 May 2016 10:40 am Operator:
Sample : MB-75004 Inst : GC/MS #6
Misc : MBLK Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:03 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\160510\16051005.D Vial: 5
Acq On : 10 May 2016 11:20 am Operator:
Sample : 1605034-01A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:04 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.87	136	1388327	4000.00	ug/kg	120
5) Acenaphthene-d10	13.28	164	814545	4000.00	ug/kg	71
11) Phenanthrene-d10	15.37	188	1718422	4000.00	ug/kg	84
17) Chrysene-d12	21.13	240	1950946	4000.00	ug/kg	86
20) Perylene-d12	26.28	264	1759858	4000.00	ug/kg	85

System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.22	172	21691	91.29	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.28%#			
16) 4-Terphenyl-d14	17.87	244	36187	81.39	ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.03%#			

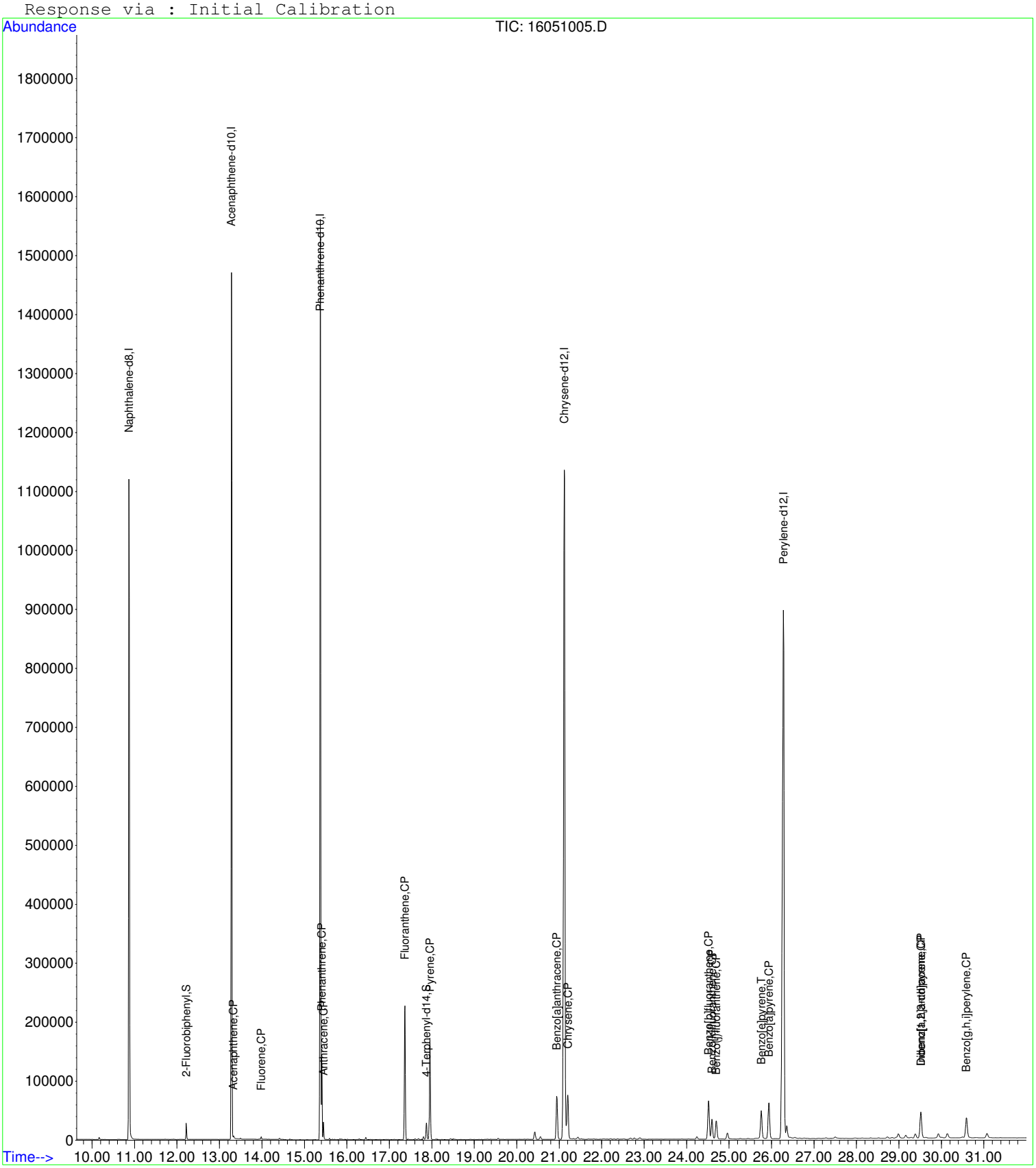
Target Compounds						Qvalue
9) Acenaphthene	13.34	154	1578	7.25	ug/kg	99
10) Fluorene	13.98	166	2219	8.39	ug/kg	99
12) Phenanthrene	15.41	178	111564	246.87	ug/kg	99
13) Anthracene	15.45	178	24704	57.75	ug/kg	99
14) Fluoranthene	17.37	202	224284	479.59	ug/kg	99
15) Pyrene	17.96	202	184285	379.35	ug/kg	99
18) Benzo[a]anthracene	20.94	228	112393	245.90	ug/kg	100
19) Chrysene	21.20	228	123955	280.69	ug/kg	100
21) Benzo[b]fluoranthene	24.52	252	121741	262.46	ug/kg	99
22) Benzo[k]fluoranthene	24.60	252	57574	132.32	ug/kg	99
23) Benzo(j)fluoranthene	24.70	252	54125	139.64	ug/kg	93
24) Benzo[e]pyrene	25.76	252	86661	208.62	ug/kg	99
25) Benzo[a]pyrene	25.94	252	117303	276.34	ug/kg	99
26) Dibenz[a,h]anthracene	29.51	278	16627	43.01	ug/kg	97
27) Indeno[1,2,3-cd]pyrene	29.52	276	72929	158.13	ug/kg	89
28) Benzo[g,h,i]perylene	30.59	276	68144	189.49	ug/kg	99

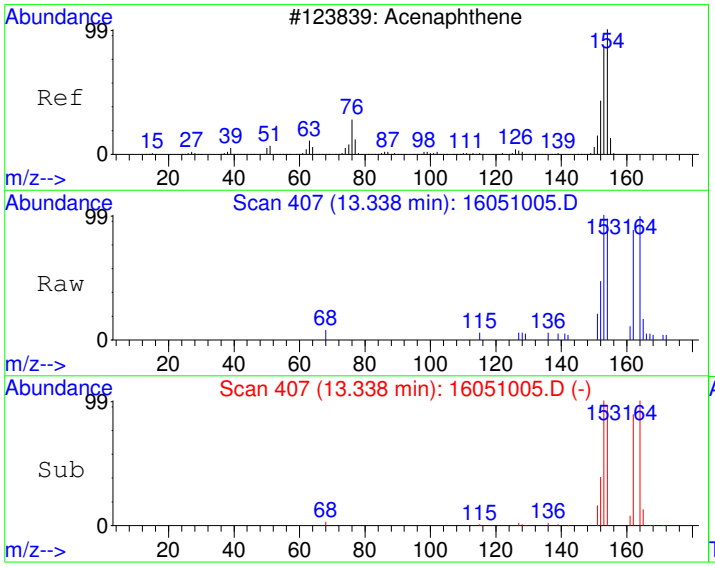
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160510\16051005.D Vial: 5
Acq On : 10 May 2016 11:20 am Operator:
Sample : 1605034-01A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:04 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

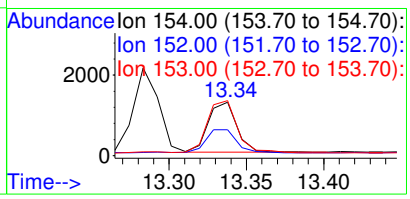


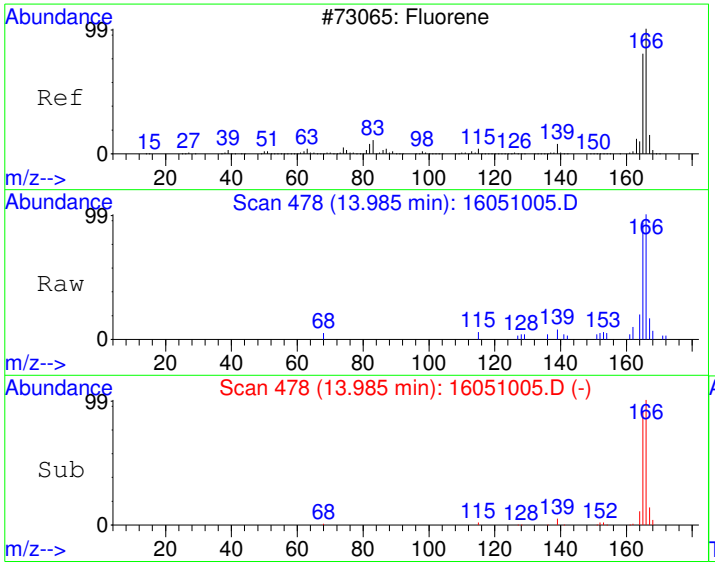


#9
Acenaphthene
Concen: 7.25 ug/kg
RT: 13.34 min Scan# 407
Delta R.T. -0.01 min
Lab File: 16051005.D
Acq: 10 May 2016 11:20 am

Tgt Ion:154 Resp: 1578

Ion	Ratio	Lower	Upper
154	100		
152	46.4	18.9	78.9
153	105.3	75.2	135.2

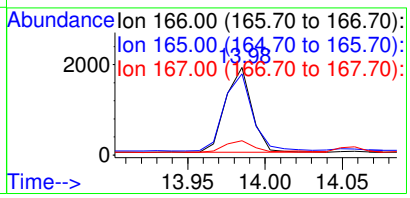


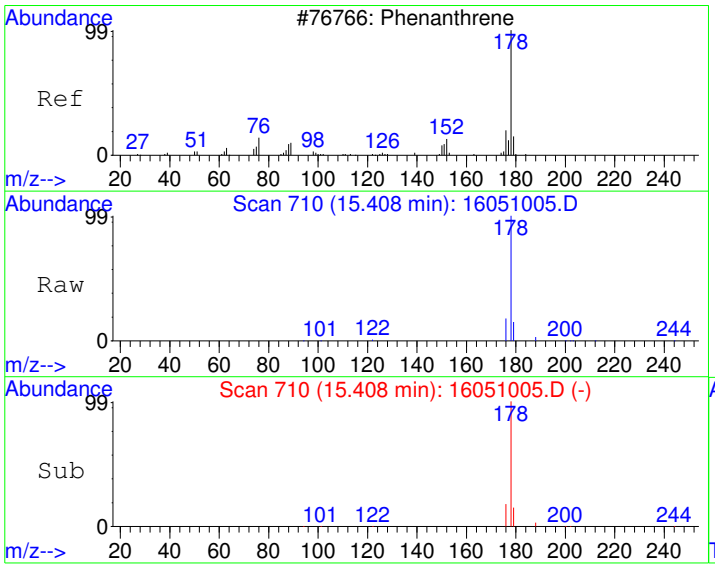


#10
Fluorene
Concen: 8.39 ug/kg
RT: 13.98 min Scan# 478
Delta R.T. -0.01 min
Lab File: 16051005.D
Acq: 10 May 2016 11:20 am

Tgt Ion:166 Resp: 2219

Ion	Ratio	Lower	Upper
166	100		
165	91.0	61.8	121.8
167	13.9	0.0	43.6

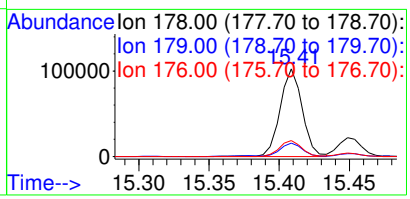


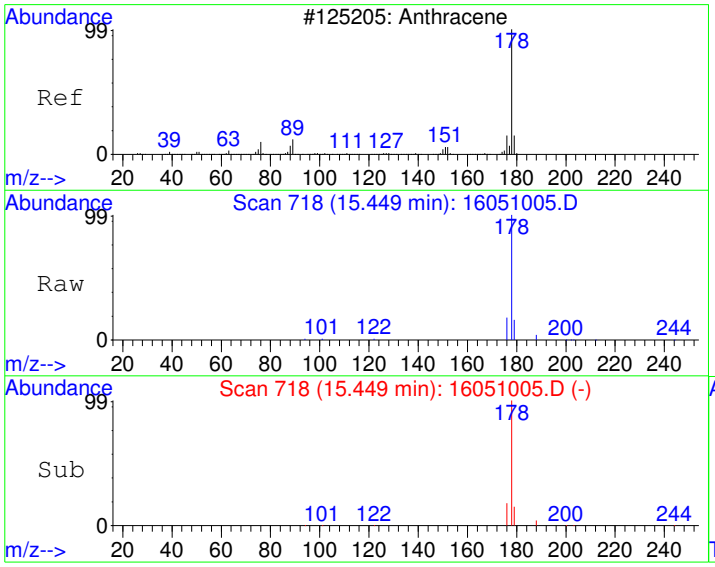


#12
Phenanthrene
Concen: 246.87 ug/kg
RT: 15.41 min Scan# 710
Delta R.T. -0.01 min
Lab File: 16051005.D
Acq: 10 May 2016 11:20 am

Tgt Ion:178 Resp: 111564

Ion	Ratio	Lower	Upper
178	100		
179	15.1	0.0	45.9
176	18.1	0.0	48.5

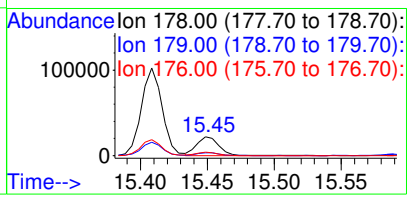


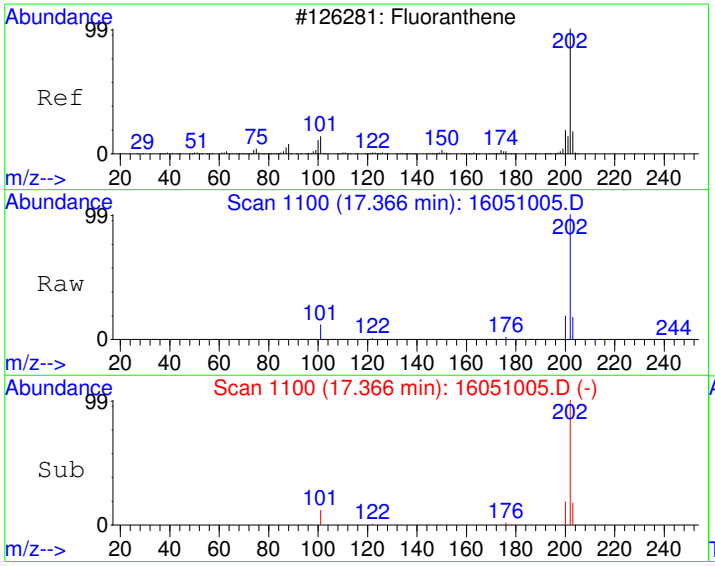


#13
Anthracene
Concen: 57.75 ug/kg
RT: 15.45 min Scan# 718
Delta R.T. -0.01 min
Lab File: 16051005.D
Acq: 10 May 2016 11:20 am

Tgt Ion:178 Resp: 24704

Ion	Ratio	Lower	Upper
178	100		
179	15.2	0.0	45.9
176	17.9	0.0	48.2

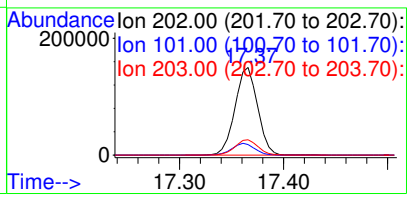


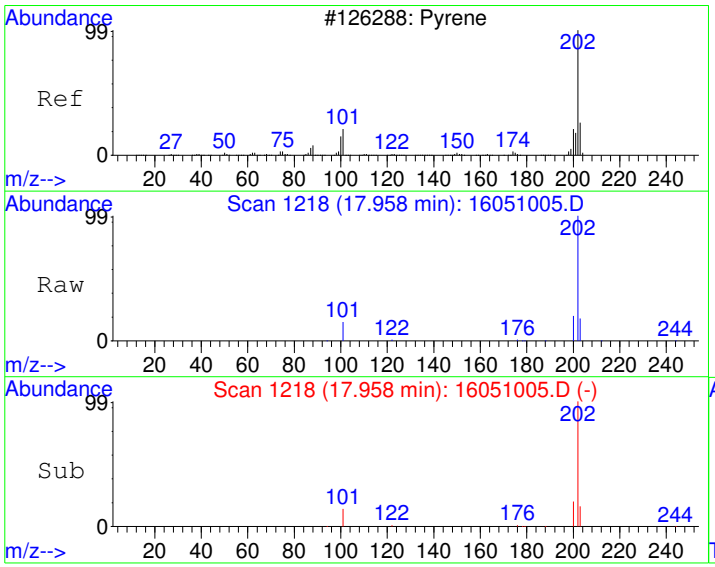


#14
Fluoranthene
Concen: 479.59 ug/kg
RT: 17.37 min Scan# 1100
Delta R.T. -0.01 min
Lab File: 16051005.D
Acq: 10 May 2016 11:20 am

Tgt Ion:202 Resp: 224284

Ion	Ratio	Lower	Upper
202	100		
101	12.1	0.0	43.0
203	17.6	0.0	47.9

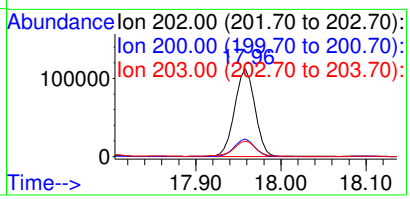


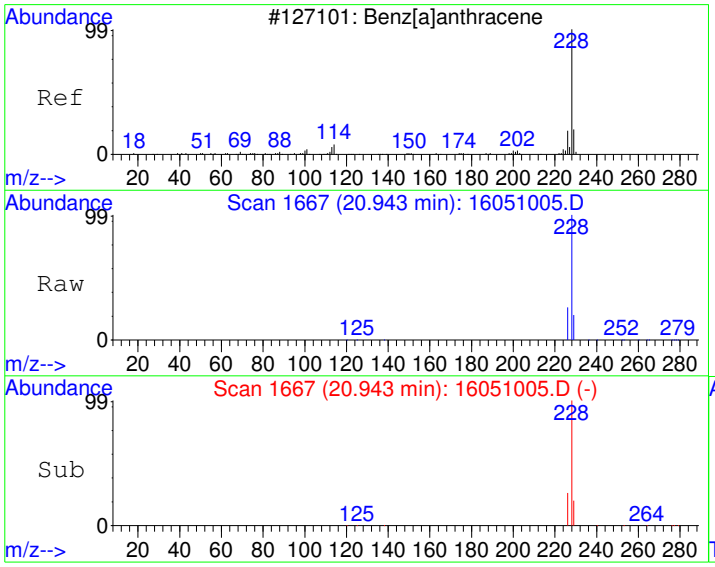


#15
Pyrene
Concen: 379.35 ug/kg
RT: 17.96 min Scan# 1218
Delta R.T. -0.02 min
Lab File: 16051005.D
Acq: 10 May 2016 11:20 am

Tgt Ion:202 Resp: 184285

Ion	Ratio	Lower	Upper
202	100		
200	19.8	0.0	50.0
203	17.6	0.0	48.0

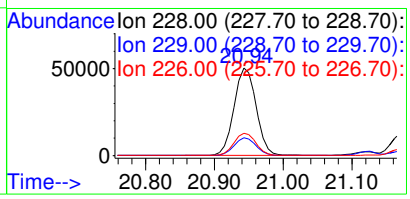


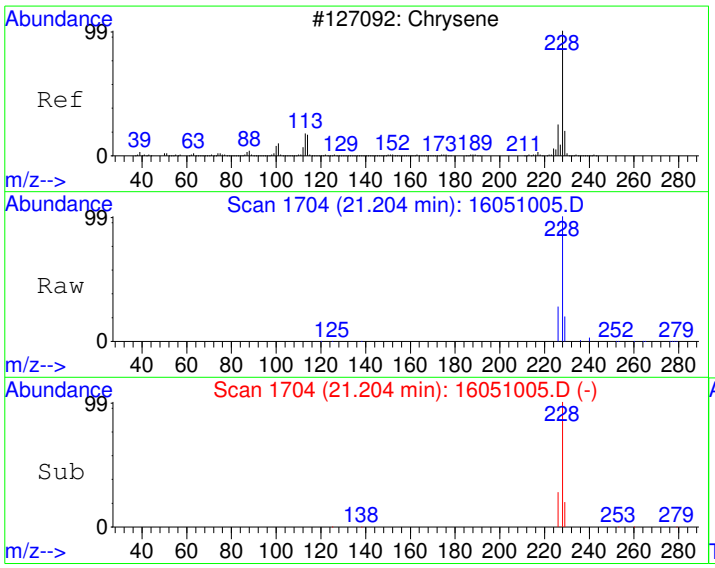


#18
Benzo[a]anthracene
Concen: 245.90 ug/kg
RT: 20.94 min Scan# 1667
Delta R.T. -0.04 min
Lab File: 16051005.D
Acq: 10 May 2016 11:20 am

Tgt Ion:228 Resp: 112393

Ion	Ratio	Lower	Upper
228	100		
229	20.1	0.0	50.1
226	25.6	0.0	55.2

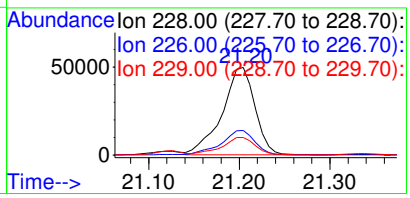


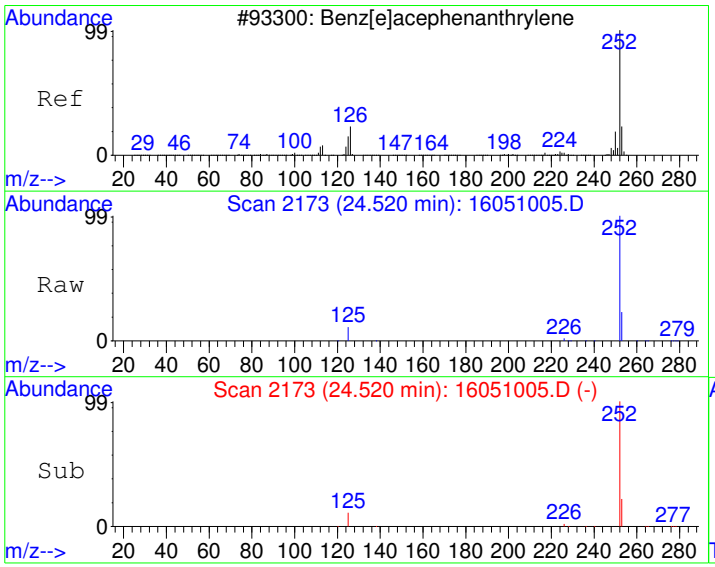


#19
Chrysene
Concen: 280.69 ug/kg
RT: 21.20 min Scan# 1704
Delta R.T. -0.03 min
Lab File: 16051005.D
Acq: 10 May 2016 11:20 am

Tgt Ion:228 Resp: 123955

Ion	Ratio	Lower	Upper
228	100		
226	28.1	0.0	58.1
229	19.9	0.0	50.1

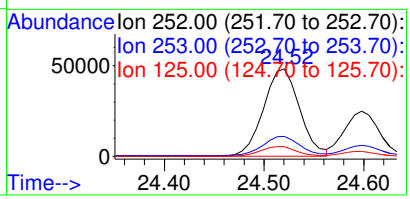


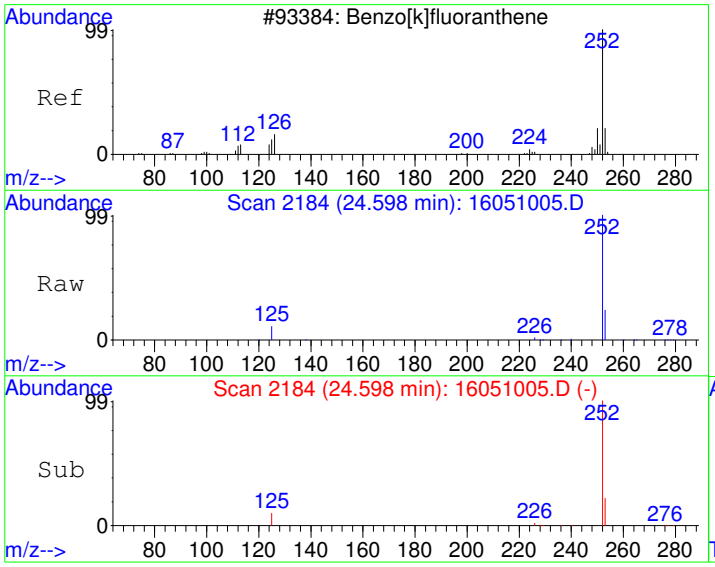


#21
Benzo[b]fluoranthene
Concen: 262.46 ug/kg
RT: 24.52 min Scan# 2173
Delta R.T. -0.04 min
Lab File: 16051005.D
Acq: 10 May 2016 11:20 am

Tgt Ion:252 Resp: 121741

Ion	Ratio	Lower	Upper
252	100		
253	21.8	0.0	52.2
125	10.9	0.0	41.0

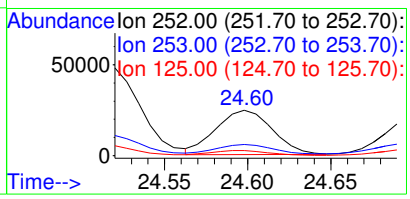


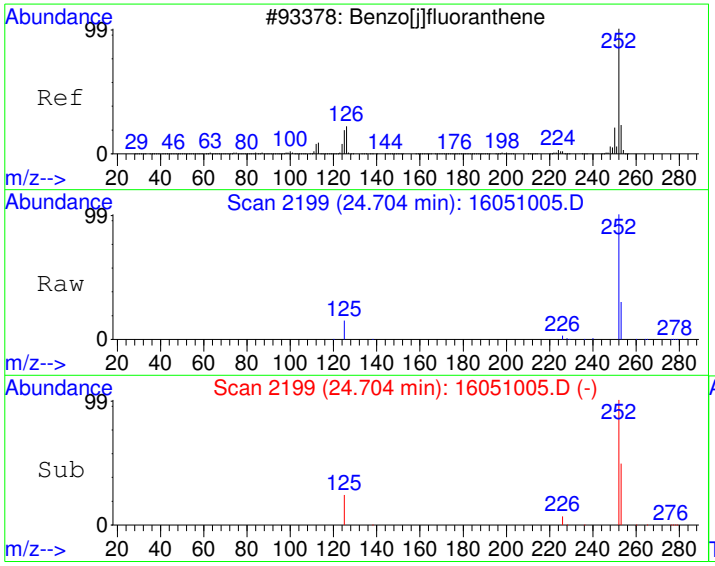


#22
Benzo[k]fluoranthene
Concen: 132.32 ug/kg
RT: 24.60 min Scan# 2184
Delta R.T. -0.04 min
Lab File: 16051005.D
Acq: 10 May 2016 11:20 am

Tgt Ion:252 Resp: 57574

Ion	Ratio	Lower	Upper
252	100		
253	21.2	2.1	42.1
125	11.0	0.0	31.3

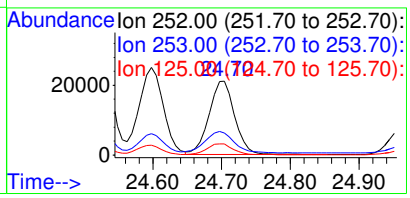


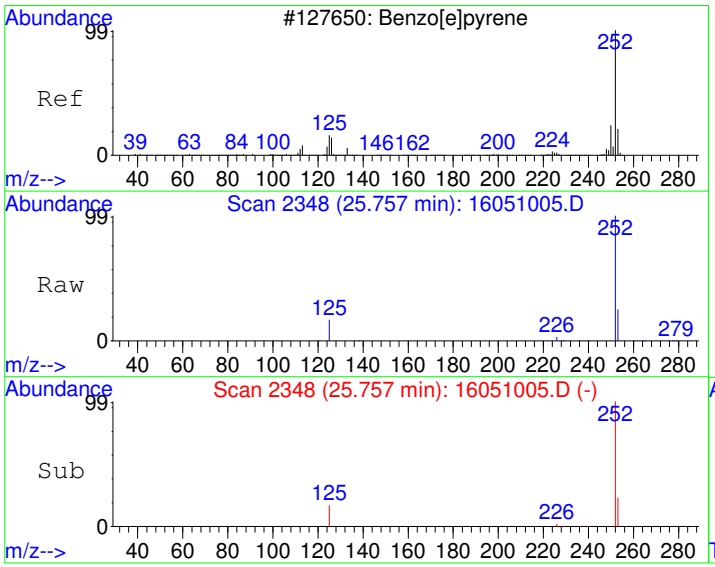


#23
Benzo(j)fluoranthene
Concen: 139.64 ug/kg
RT: 24.70 min Scan# 2199
Delta R.T. -0.04 min
Lab File: 16051005.D
Acq: 10 May 2016 11:20 am

Tgt Ion:252 Resp: 54125

Ion	Ratio	Lower	Upper
252	100		
253	27.2	2.1	42.1
125	14.8	0.0	34.4

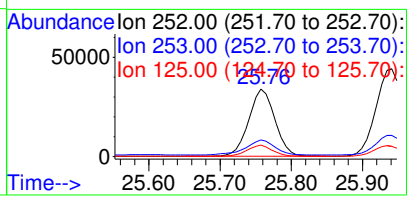


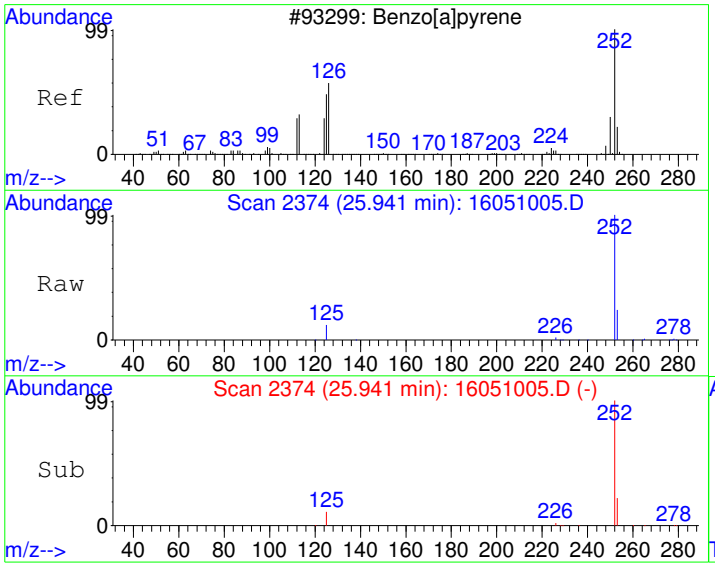


#24
Benzo[e]pyrene
Concen: 208.62 ug/kg
RT: 25.76 min Scan# 2348
Delta R.T. -0.04 min
Lab File: 16051005.D
Acq: 10 May 2016 11:20 am

Tgt Ion:252 Resp: 86661

Ion	Ratio	Lower	Upper
252	100		
253	22.7	2.2	42.2
125	16.5	0.0	36.1

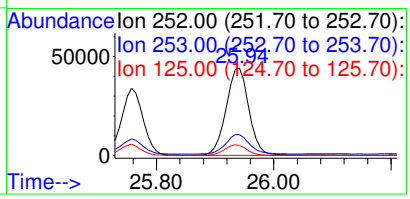


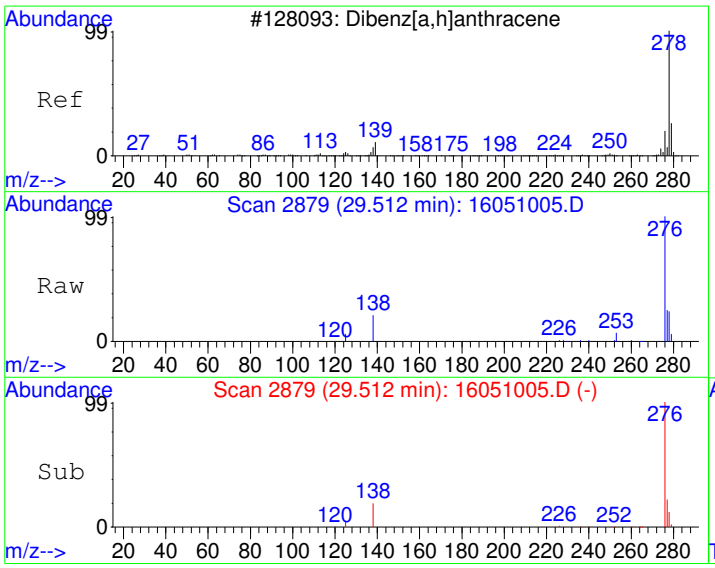


#25
Benzo[a]pyrene
Concen: 276.34 ug/kg
RT: 25.94 min Scan# 2374
Delta R.T. -0.04 min
Lab File: 16051005.D
Acq: 10 May 2016 11:20 am

Tgt Ion:252 Resp: 117303

Ion	Ratio	Lower	Upper
252	100		
253	22.2	1.9	41.9
125	11.3	0.0	31.7

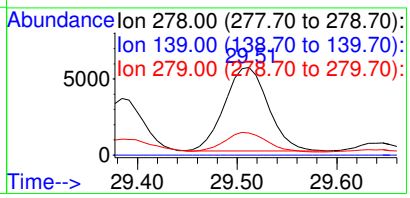


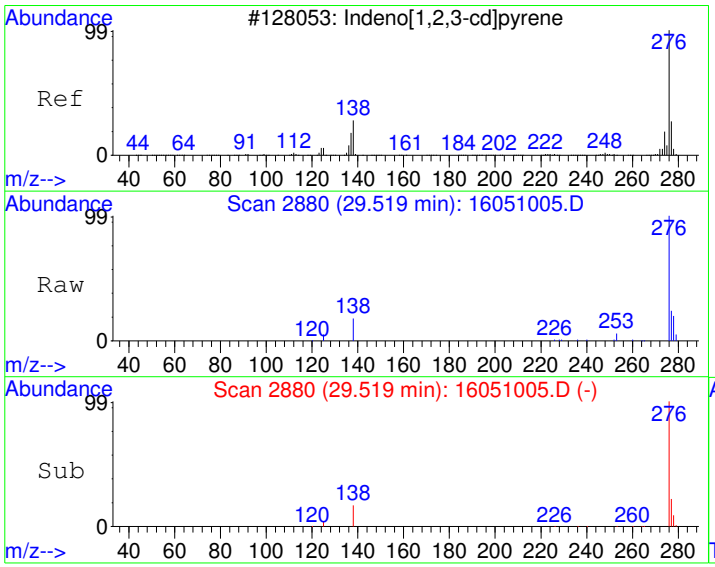


#26
Dibenz[a,h]anthracene
Concen: 43.01 ug/kg
RT: 29.51 min Scan# 2879
Delta R.T. -0.05 min
Lab File: 16051005.D
Acq: 10 May 2016 11:20 am

Tgt Ion:278 Resp: 16627

Ion	Ratio	Lower	Upper
278	100		
139	0.0	0.0	20.0
279	22.7	4.2	44.2

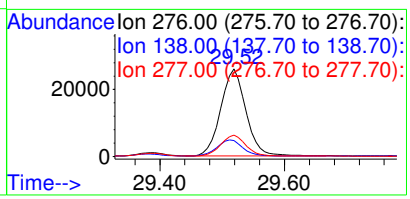


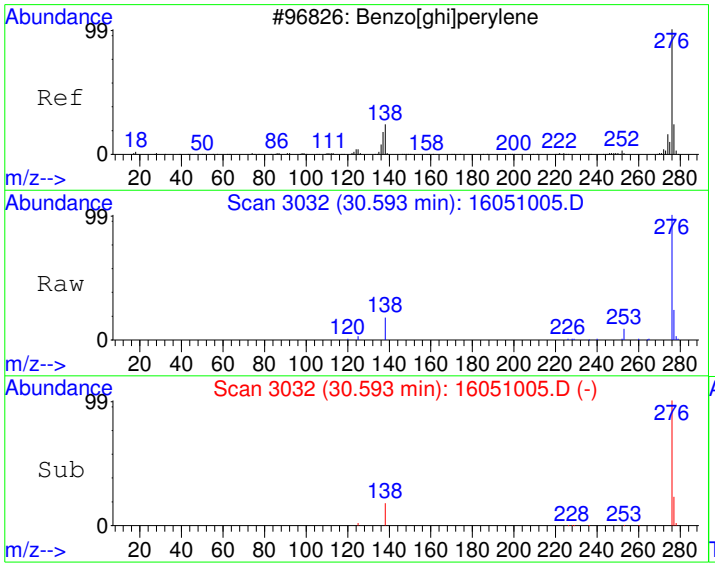


#27
Indeno[1,2,3-cd]pyrene
Concen: 158.13 ug/kg
RT: 29.52 min Scan# 2880
Delta R.T. -0.04 min
Lab File: 16051005.D
Acq: 10 May 2016 11:20 am

Tgt Ion:276 Resp: 72929

Ion	Ratio	Lower	Upper
276	100		
138	17.7	6.7	46.7
277	23.9	5.8	45.8

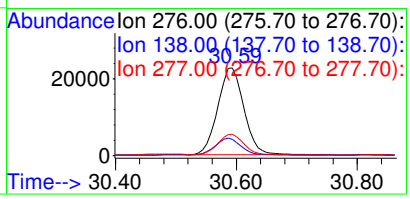




#28
Benzo[g,h,i]perylene
Concen: 189.49 ug/kg
RT: 30.59 min Scan# 3032
Delta R.T. -0.05 min
Lab File: 16051005.D
Acq: 10 May 2016 11:20 am

Tgt Ion:276 Resp: 68144

Ion	Ratio	Lower	Upper
276	100		
138	17.9	0.0	39.1
277	24.0	4.0	44.0



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160510\16051006.D Vial: 6
Acq On : 10 May 2016 12:00 pm Operator:
Sample : 1605034-02A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:04 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.87	136	1484083	4000.00 ug/kg	128
5) Acenaphthene-d10	13.28	164	899663	4000.00 ug/kg	78
11) Phenanthrene-d10	15.37	188	1760681	4000.00 ug/kg	86
17) Chrysene-d12	21.11	240	1944648	4000.00 ug/kg	86
20) Perylene-d12	26.27	264	1823456	4000.00 ug/kg	89

System Monitoring Compounds

7) 2-Fluorobiphenyl	12.22	172	21704	82.70 ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.07%#		
16) 4-Terphenyl-d14	17.87	244	34261	75.21 ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.88%#		

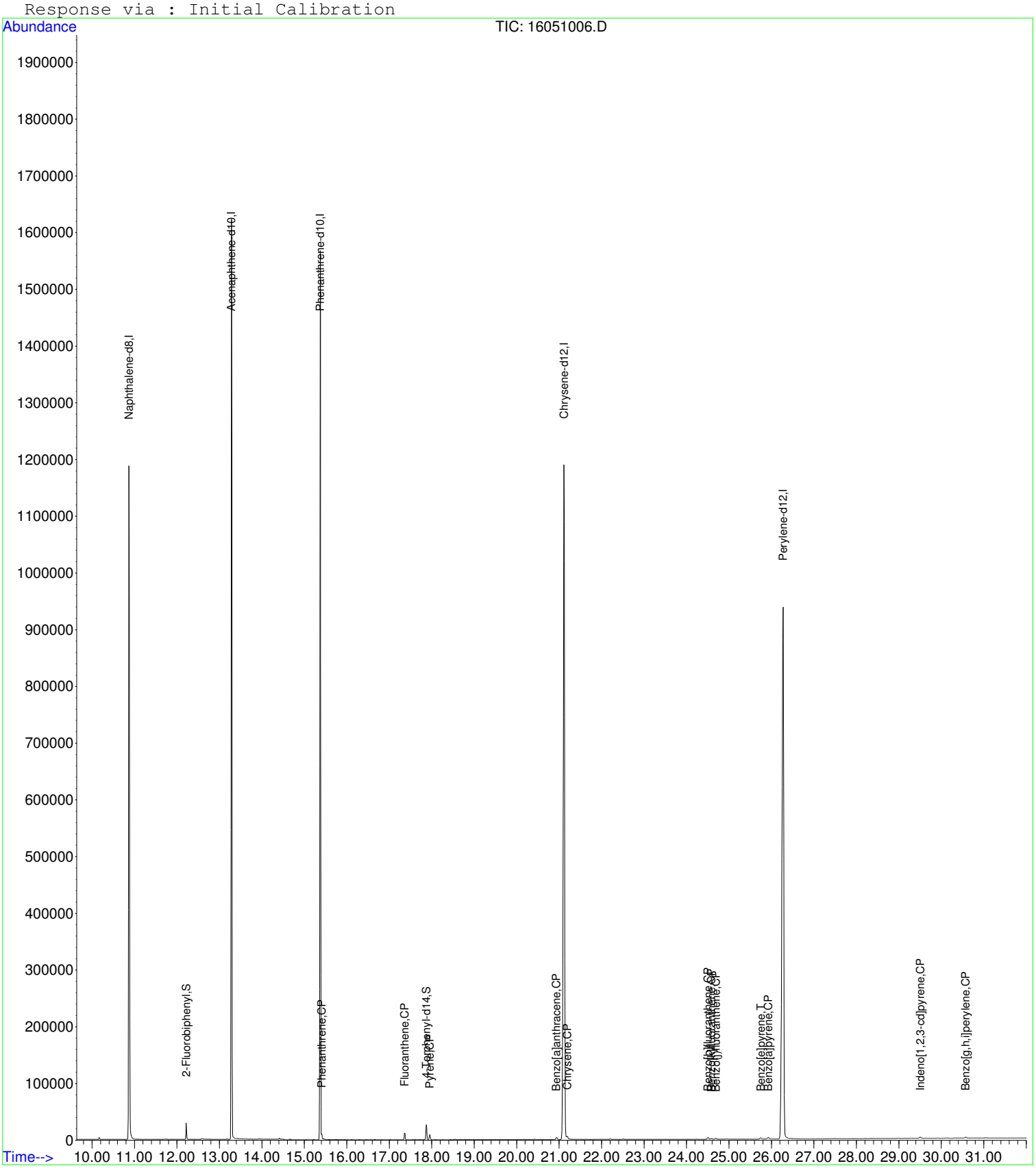
Target Compounds					Qvalue
12) Phenanthrene	15.41	178	6817	14.72 ug/kg	98
14) Fluoranthene	17.36	202	12159	25.38 ug/kg	98
15) Pyrene	17.95	202	9841	19.77 ug/kg	99
18) Benzo[a]anthracene	20.94	228	5756	12.63 ug/kg	98
19) Chrysene	21.19	228	6297	14.31 ug/kg	99
21) Benzo[b]fluoranthene	24.51	252	6027	12.54 ug/kg	98
22) Benzo[k]fluoranthene	24.58	252	3030	6.72 ug/kg	96
23) Benzo(j)fluoranthene	24.69	252	2753	6.85 ug/kg	93
24) Benzo[e]pyrene	25.75	252	4309	10.01 ug/kg	97
25) Benzo[a]pyrene	25.93	252	5540	12.60 ug/kg	98
27) Indeno[1,2,3-cd]pyrene	29.51	276	3736	7.82 ug/kg	89
28) Benzo[g,h,i]perylene	30.57	276	3486	9.36 ug/kg	98

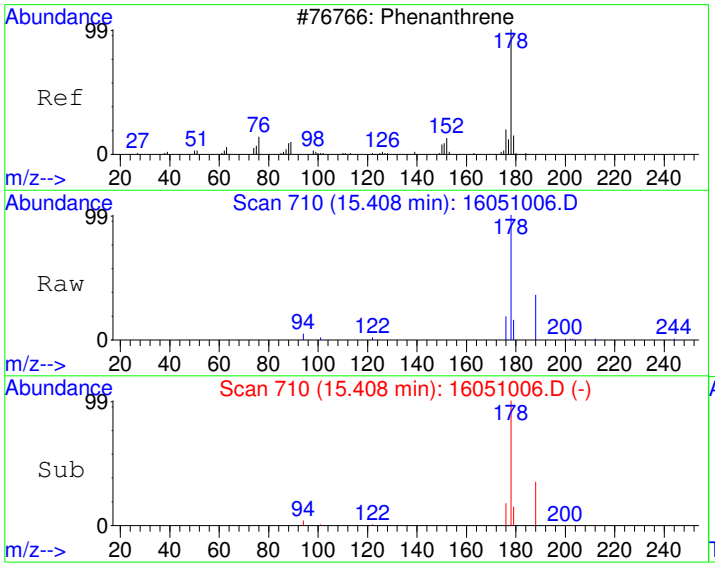
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160510\16051006.D Vial: 6
Acq On : 10 May 2016 12:00 pm Operator:
Sample : 1605034-02A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:04 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

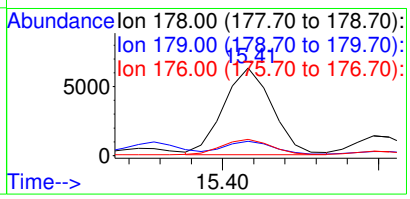


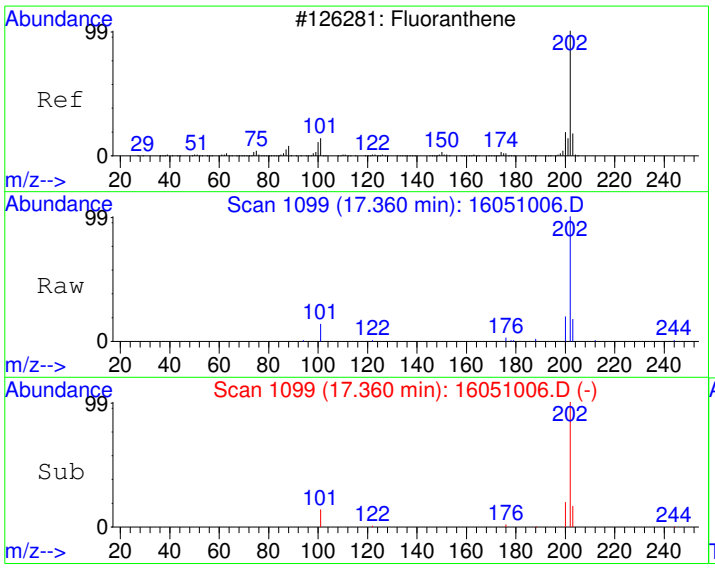


#12
Phenanthrene
Concen: 14.72 ug/kg
RT: 15.41 min Scan# 710
Delta R.T. -0.02 min
Lab File: 16051006.D
Acq: 10 May 2016 12:00 pm

Tgt Ion:178 Resp: 6817

Ion	Ratio	Lower	Upper
178	100		
179	14.9	0.0	45.9
176	18.0	0.0	48.5

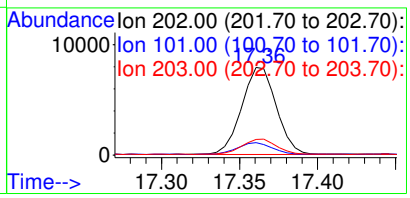


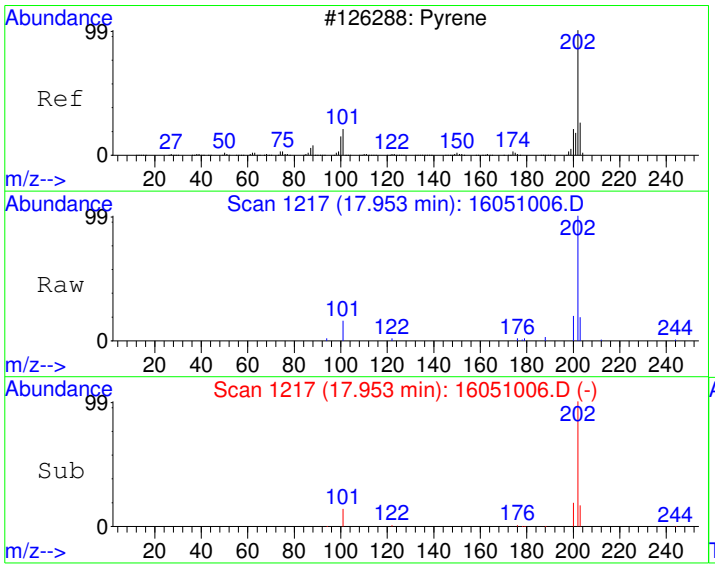


#14
Fluoranthene
Concen: 25.38 ug/kg
RT: 17.36 min Scan# 1099
Delta R.T. -0.02 min
Lab File: 16051006.D
Acq: 10 May 2016 12:00 pm

Tgt Ion:202 Resp: 12159

Ion	Ratio	Lower	Upper
202	100		
101	13.5	0.0	43.0
203	17.2	0.0	47.9

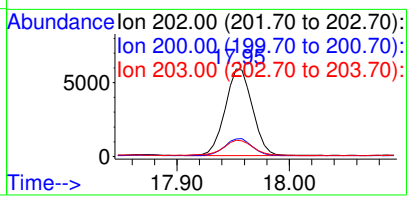


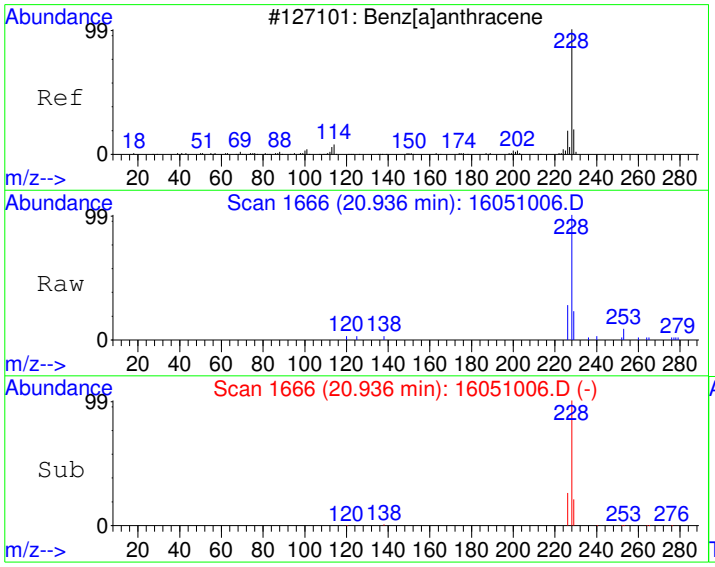


#15
Pyrene
Concen: 19.77 ug/kg
RT: 17.95 min Scan# 1217
Delta R.T. -0.03 min
Lab File: 16051006.D
Acq: 10 May 2016 12:00 pm

Tgt Ion:202 Resp: 9841

Ion	Ratio	Lower	Upper
202	100		
200	19.4	0.0	50.0
203	17.8	0.0	48.0

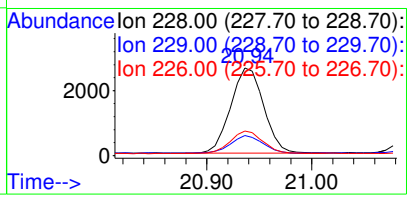


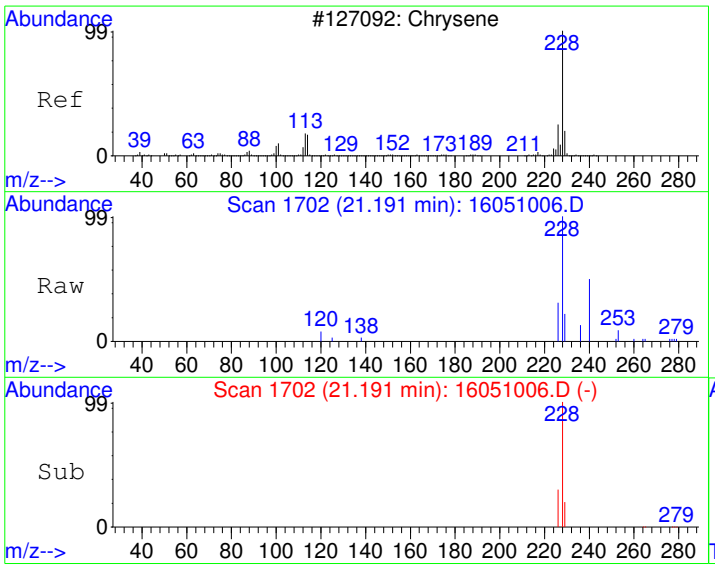


#18
Benzo[a]anthracene
Concen: 12.63 ug/kg
RT: 20.94 min Scan# 1666
Delta R.T. -0.04 min
Lab File: 16051006.D
Acq: 10 May 2016 12:00 pm

Tgt Ion:228 Resp: 5756

Ion	Ratio	Lower	Upper
228	100		
229	20.9	0.0	50.1
226	26.3	0.0	55.2

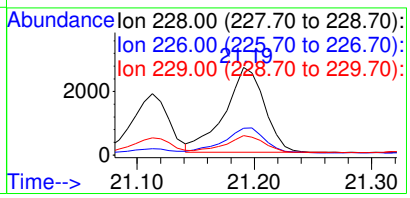


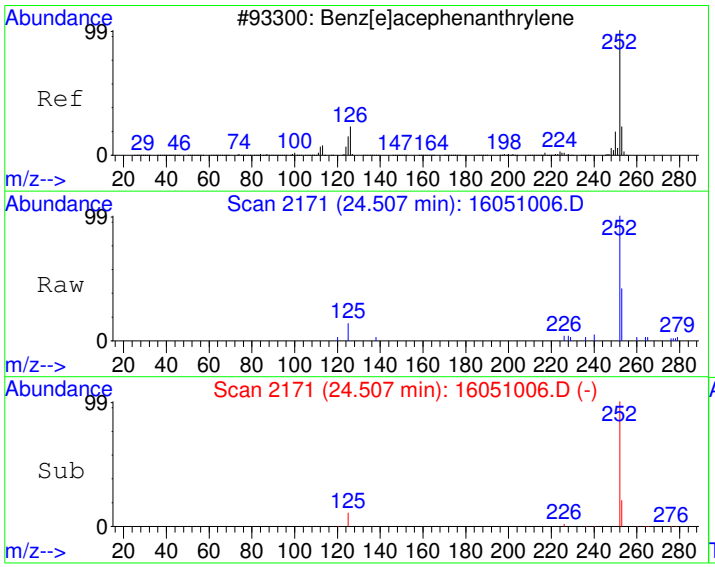


#19
Chrysene
Concen: 14.31 ug/kg
RT: 21.19 min Scan# 1702
Delta R.T. -0.04 min
Lab File: 16051006.D
Acq: 10 May 2016 12:00 pm

Tgt Ion:228 Resp: 6297

Ion	Ratio	Lower	Upper
228	100		
226	29.0	0.0	58.1
229	19.8	0.0	50.1

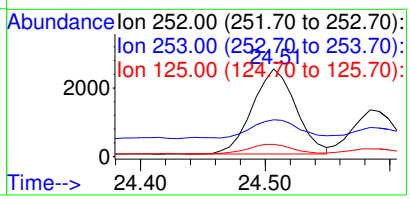


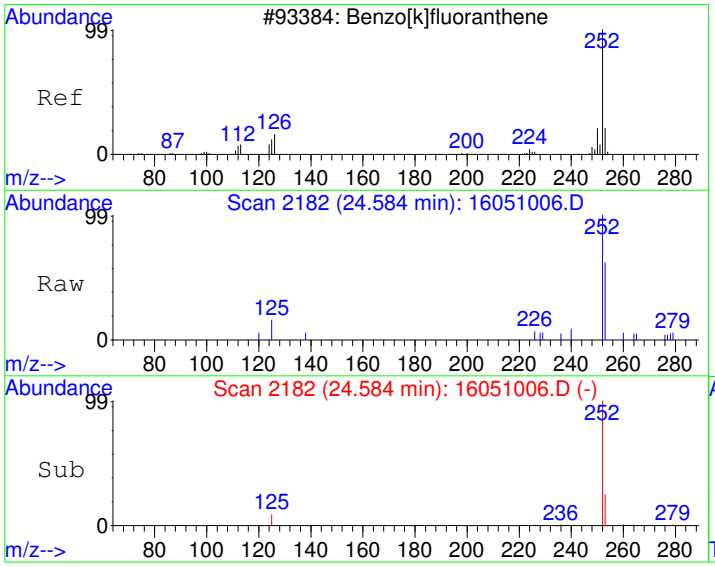


#21
Benzo[b]fluoranthene
Concen: 12.54 ug/kg
RT: 24.51 min Scan# 2171
Delta R.T. -0.05 min
Lab File: 16051006.D
Acq: 10 May 2016 12:00 pm

Tgt Ion:252 Resp: 6027

Ion	Ratio	Lower	Upper
252	100		
253	21.2	0.0	52.2
125	11.3	0.0	41.0

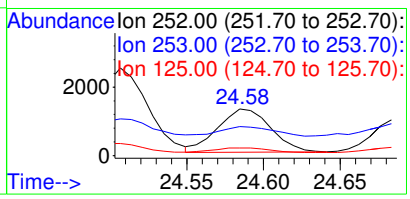


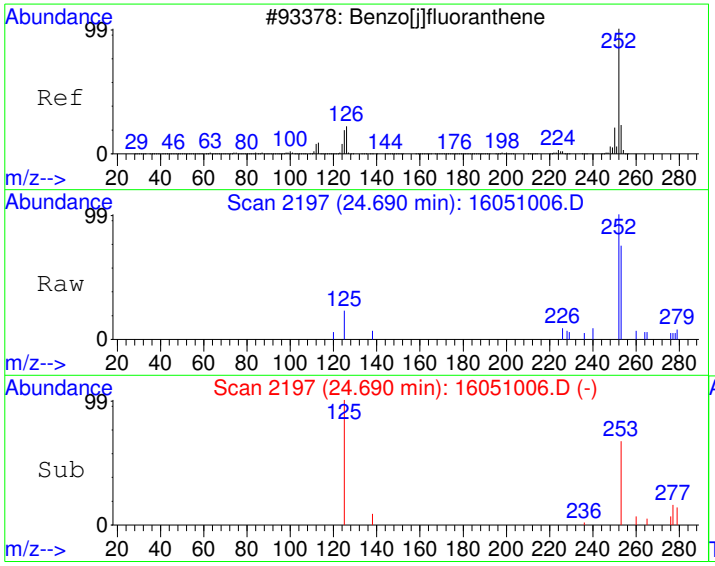


#22
Benzo[k]fluoranthene
Concen: 6.72 ug/kg
RT: 24.58 min Scan# 2182
Delta R.T. -0.06 min
Lab File: 16051006.D
Acq: 10 May 2016 12:00 pm

Tgt Ion:252 Resp: 3030

Ion	Ratio	Lower	Upper
252	100		
253	19.7	2.1	42.1
125	10.3	0.0	31.3

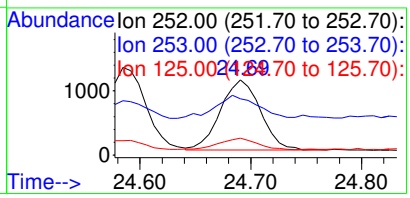


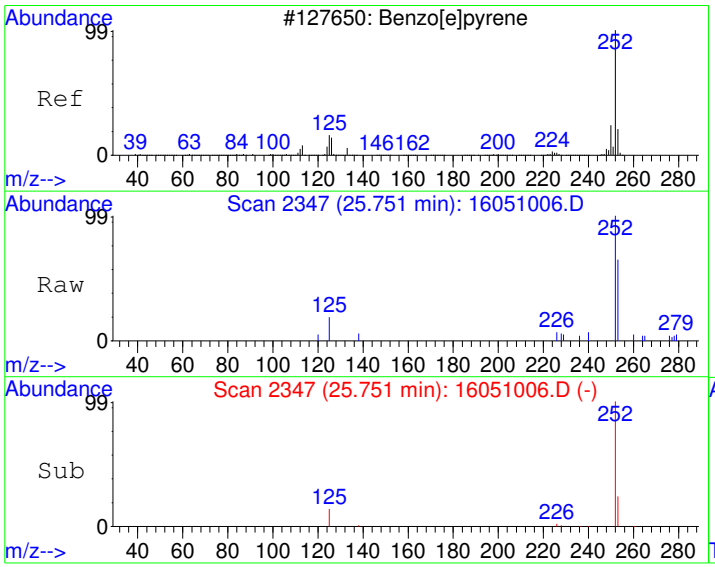


#23
Benzo(j)fluoranthene
Concen: 6.85 ug/kg
RT: 24.69 min Scan# 2197
Delta R.T. -0.06 min
Lab File: 16051006.D
Acq: 10 May 2016 12:00 pm

Tgt Ion:252 Resp: 2753

Ion	Ratio	Lower	Upper
252	100		
253	26.2	2.1	42.1
125	16.3	0.0	34.4

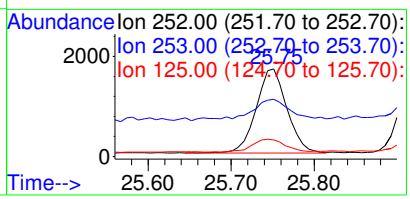


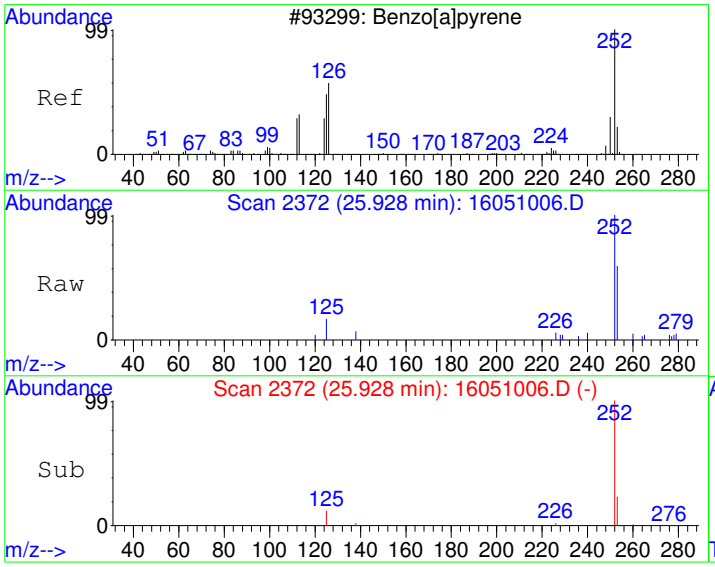


#24
Benzo[e]pyrene
Concen: 10.01 ug/kg
RT: 25.75 min Scan# 2347
Delta R.T. -0.05 min
Lab File: 16051006.D
Acq: 10 May 2016 12:00 pm

Tgt Ion:252 Resp: 4309

Ion	Ratio	Lower	Upper
252	100		
253	23.1	2.2	42.2
125	13.9	0.0	36.1

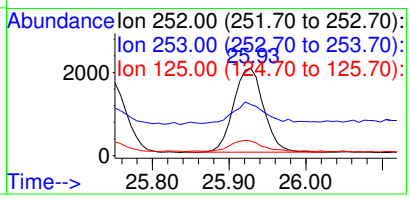


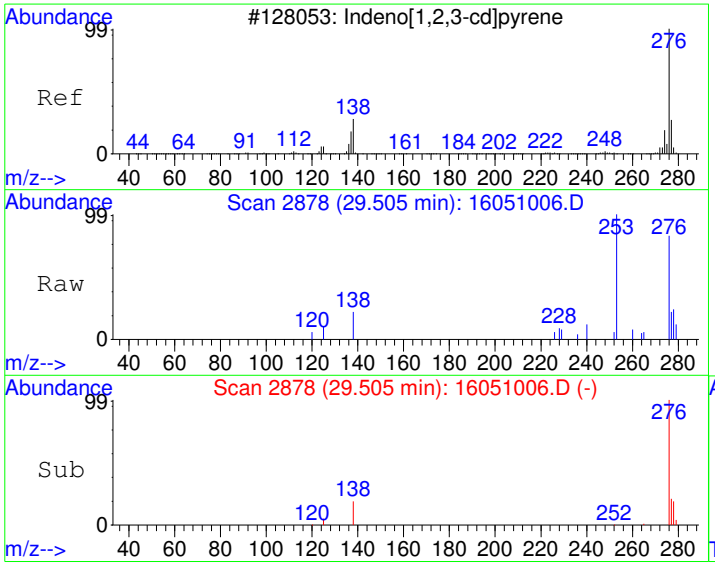


#25
Benzo[a]pyrene
Concen: 12.60 ug/kg
RT: 25.93 min Scan# 2372
Delta R.T. -0.06 min
Lab File: 16051006.D
Acq: 10 May 2016 12:00 pm

Tgt Ion:252 Resp: 5540

Ion	Ratio	Lower	Upper
252	100		
253	22.4	1.9	41.9
125	12.7	0.0	31.7

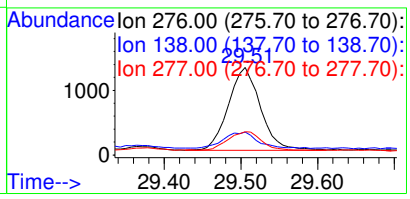


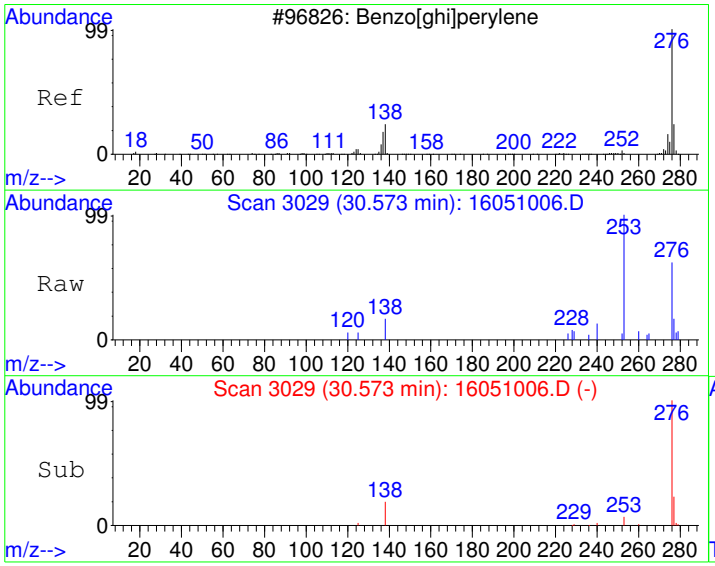


#27
Indeno[1,2,3-cd]pyrene
Concen: 7.82 ug/kg
RT: 29.51 min Scan# 2878
Delta R.T. -0.06 min
Lab File: 16051006.D
Acq: 10 May 2016 12:00 pm

Tgt Ion:276 Resp: 3736

Ion	Ratio	Lower	Upper
276	100		
138	19.2	6.7	46.7
277	22.0	5.8	45.8

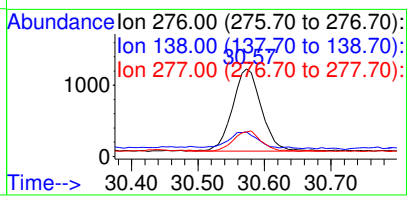




#28
Benzo[g,h,i]perylene
Concen: 9.36 ug/kg
RT: 30.57 min Scan# 3029
Delta R.T. -0.07 min
Lab File: 16051006.D
Acq: 10 May 2016 12:00 pm

Tgt Ion:276 Resp: 3486

Ion	Ratio	Lower	Upper
276	100		
138	20.3	0.0	39.1
277	23.6	4.0	44.0



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160510\16051007.D Vial: 7
Acq On : 10 May 2016 12:40 pm Operator:
Sample : 1605034-03A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:04 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.88	136	1491159	4000.00	ug/kg	129
5) Acenaphthene-d10	13.29	164	913862	4000.00	ug/kg	79
11) Phenanthrene-d10	15.37	188	1804730	4000.00	ug/kg	88
17) Chrysene-d12	21.12	240	2033330	4000.00	ug/kg	90
20) Perylene-d12	26.28	264	1874351	4000.00	ug/kg	91

System Monitoring Compounds

7) 2-Fluorobiphenyl	12.22	172	22396	84.01	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.10%#			
16) 4-Terphenyl-d14	17.87	244	34566	74.03	ug/kg	-0.03
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.85%#			

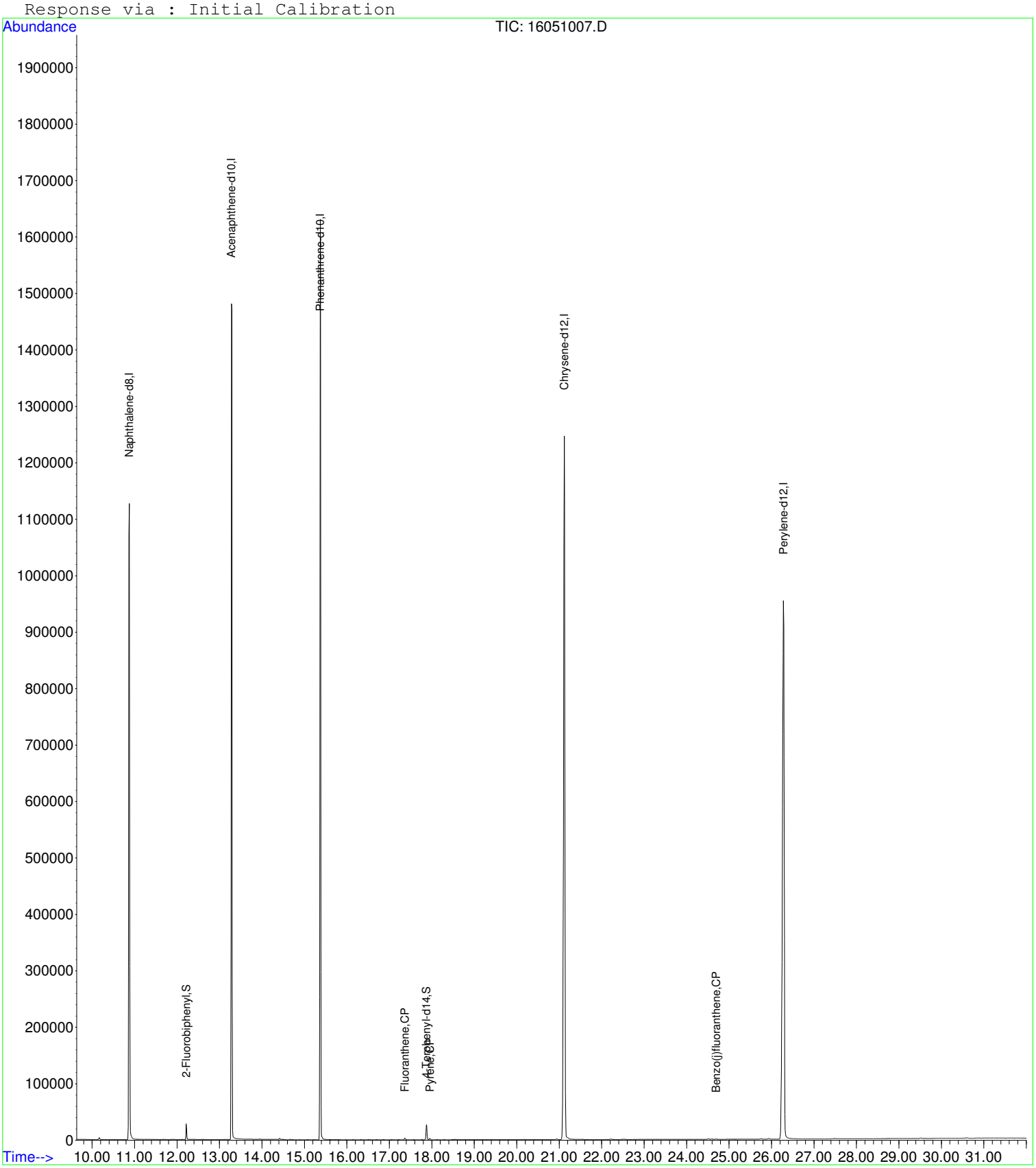
Target Compounds						Qvalue
14) Fluoranthene	17.36	202	3151	6.42	ug/kg	97
15) Pyrene	17.96	202	3038	5.95	ug/kg	99
23) Benzo(j)fluoranthene	24.70	252	1015	2.46	ug/kg	85

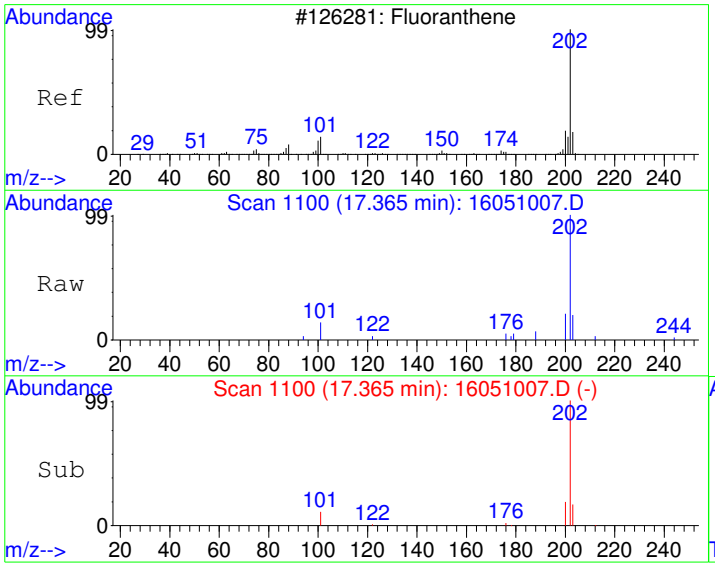
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160510\16051007.D Vial: 7
Acq On : 10 May 2016 12:40 pm Operator:
Sample : 1605034-03A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:04 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

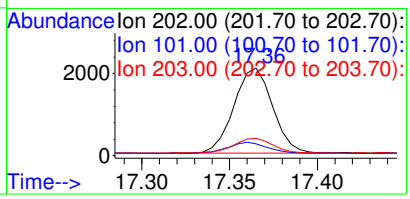


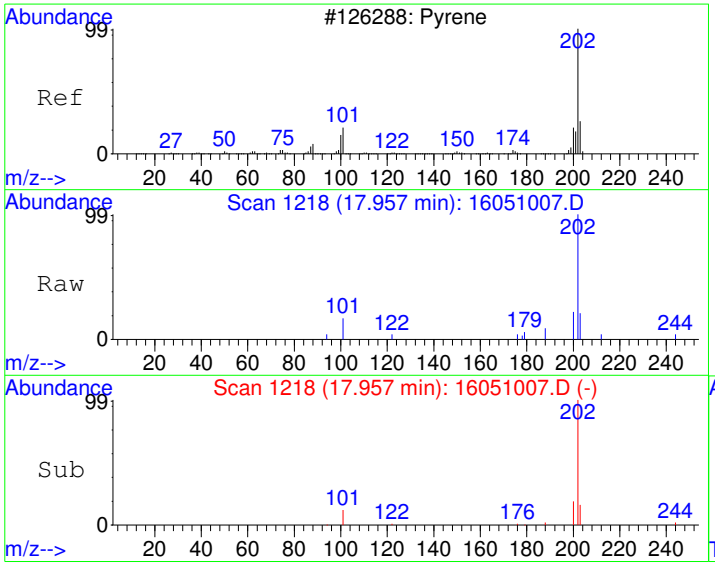


#14
Fluoranthene
Concen: 6.42 ug/kg
RT: 17.36 min Scan# 1100
Delta R.T. -0.02 min
Lab File: 16051007.D
Acq: 10 May 2016 12:40 pm

Tgt Ion:202 Resp: 3151

Ion	Ratio	Lower	Upper
202	100		
101	11.3	0.0	43.0
203	17.2	0.0	47.9

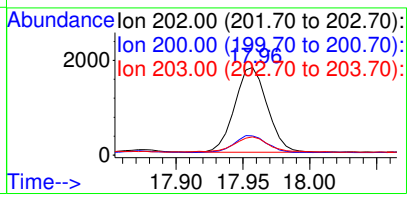


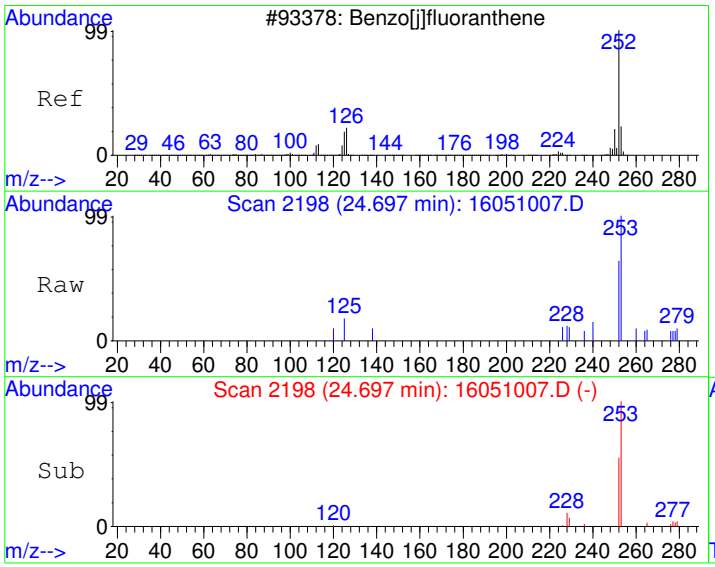


#15
Pyrene
Concen: 5.95 ug/kg
RT: 17.96 min Scan# 1218
Delta R.T. -0.02 min
Lab File: 16051007.D
Acq: 10 May 2016 12:40 pm

Tgt Ion:202 Resp: 3038

Ion	Ratio	Lower	Upper
202	100		
200	19.6	0.0	50.0
203	17.8	0.0	48.0

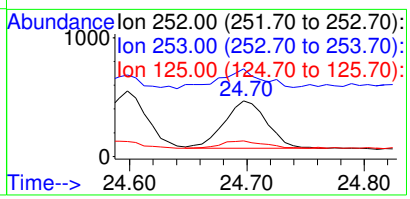




#23
Benzo(j)fluoranthene
Concen: 2.46 ug/kg
RT: 24.70 min Scan# 2198
Delta R.T. -0.05 min
Lab File: 16051007.D
Acq: 10 May 2016 12:40 pm

Tgt Ion:252 Resp: 1015

Ion	Ratio	Lower	Upper
252	100		
253	33.0	2.1	42.1
125	15.8	0.0	34.4



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160510\16051008.D Vial: 8
Acq On : 10 May 2016 1:20 pm Operator:
Sample : 1605034-04A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:04 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.88	136	1530411	4000.00	ug/kg	132
5) Acenaphthene-d10	13.29	164	920901	4000.00	ug/kg	80
11) Phenanthrene-d10	15.37	188	1841281	4000.00	ug/kg	90
17) Chrysene-d12	21.12	240	2078058	4000.00	ug/kg	91
20) Perylene-d12	26.29	264	1941615	4000.00	ug/kg	94

System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.22	172	21866	81.40	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.04%#			
16) 4-Terphenyl-d14	17.87	244	33804	70.96	ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.77%#			

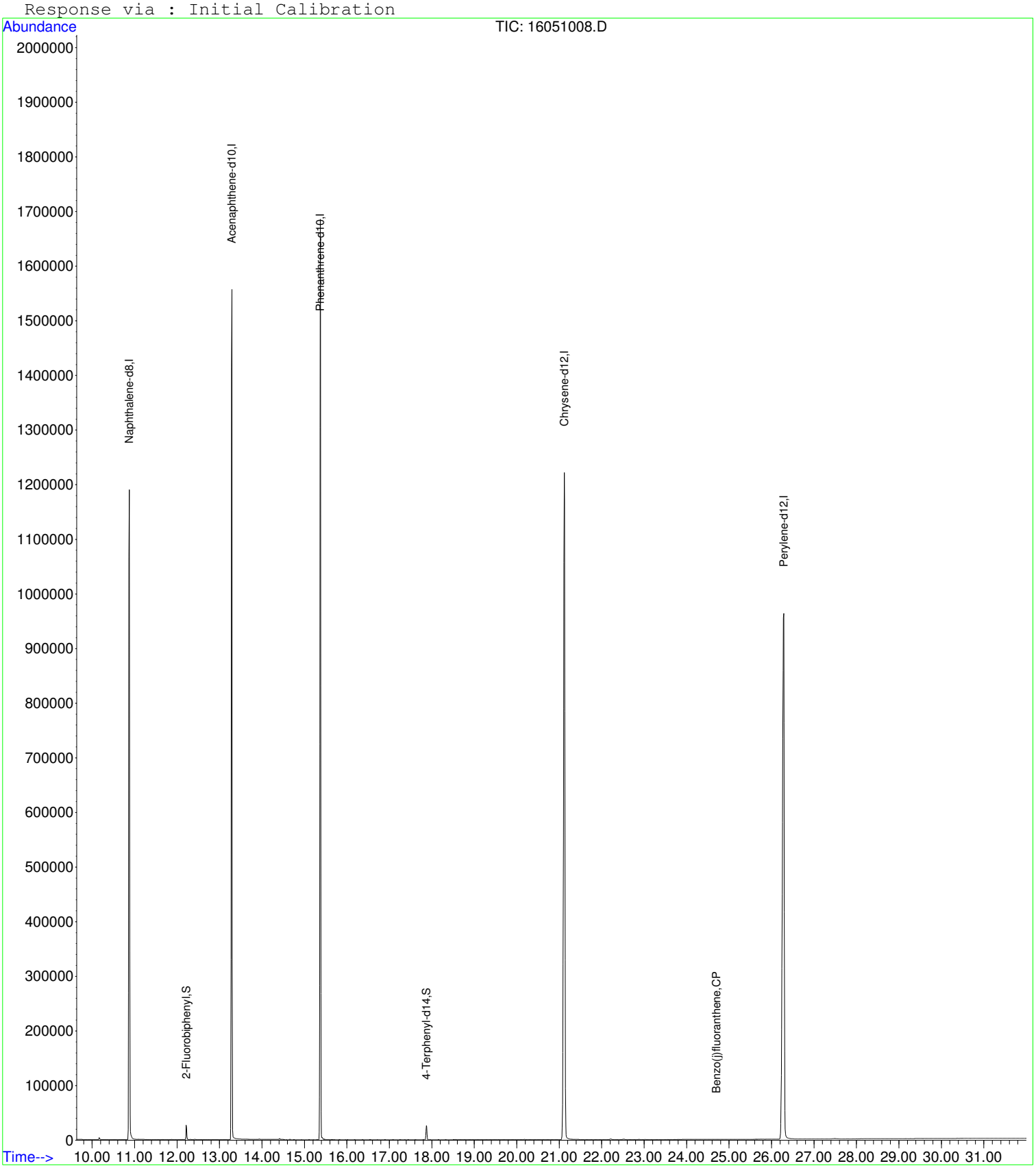
Target Compounds						Qvalue
23) Benzo(j)fluoranthene	24.70	252	184	0.43	ug/kg	80

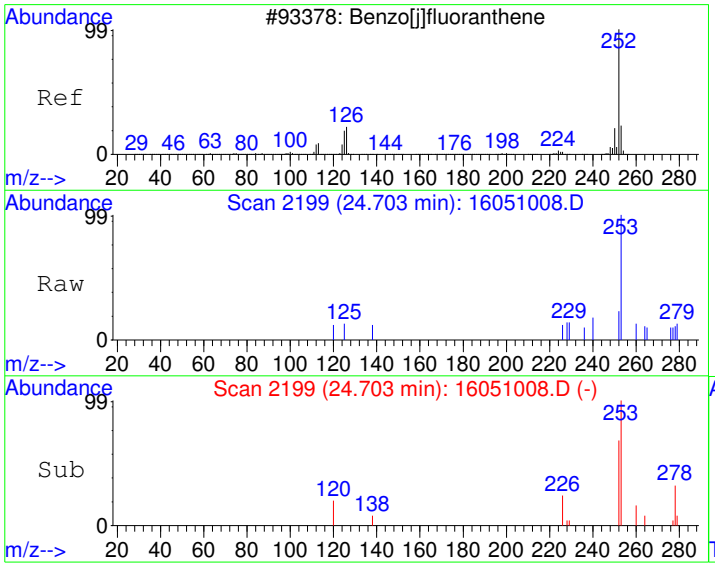
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160510\16051008.D Vial: 8
Acq On : 10 May 2016 1:20 pm Operator:
Sample : 1605034-04A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:04 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

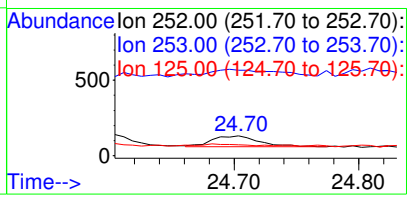




#23
Benzo(j)fluoranthene
Concen: 0.43 ug/kg
RT: 24.70 min Scan# 2199
Delta R.T. -0.04 min
Lab File: 16051008.D
Acq: 10 May 2016 1:20 pm

Tgt Ion:252 Resp: 184

Ion	Ratio	Lower	Upper
252	100		
253	33.3	2.1	42.1
125	8.3	0.0	34.4



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160510\16051009.D Vial: 9
Acq On : 10 May 2016 1:59 pm Operator:
Sample : 1605034-05A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:04 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.88	136	1433786	4000.00	ug/kg	124
5) Acenaphthene-d10	13.29	164	888932	4000.00	ug/kg	77
11) Phenanthrene-d10	15.37	188	1709595	4000.00	ug/kg	84
17) Chrysene-d12	21.12	240	1981425	4000.00	ug/kg	87
20) Perylene-d12	26.28	264	1848184	4000.00	ug/kg	90

System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.22	172	21605	83.32	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.08%#			
16) 4-Terphenyl-d14	17.87	244	33456	75.64	ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.89%#			

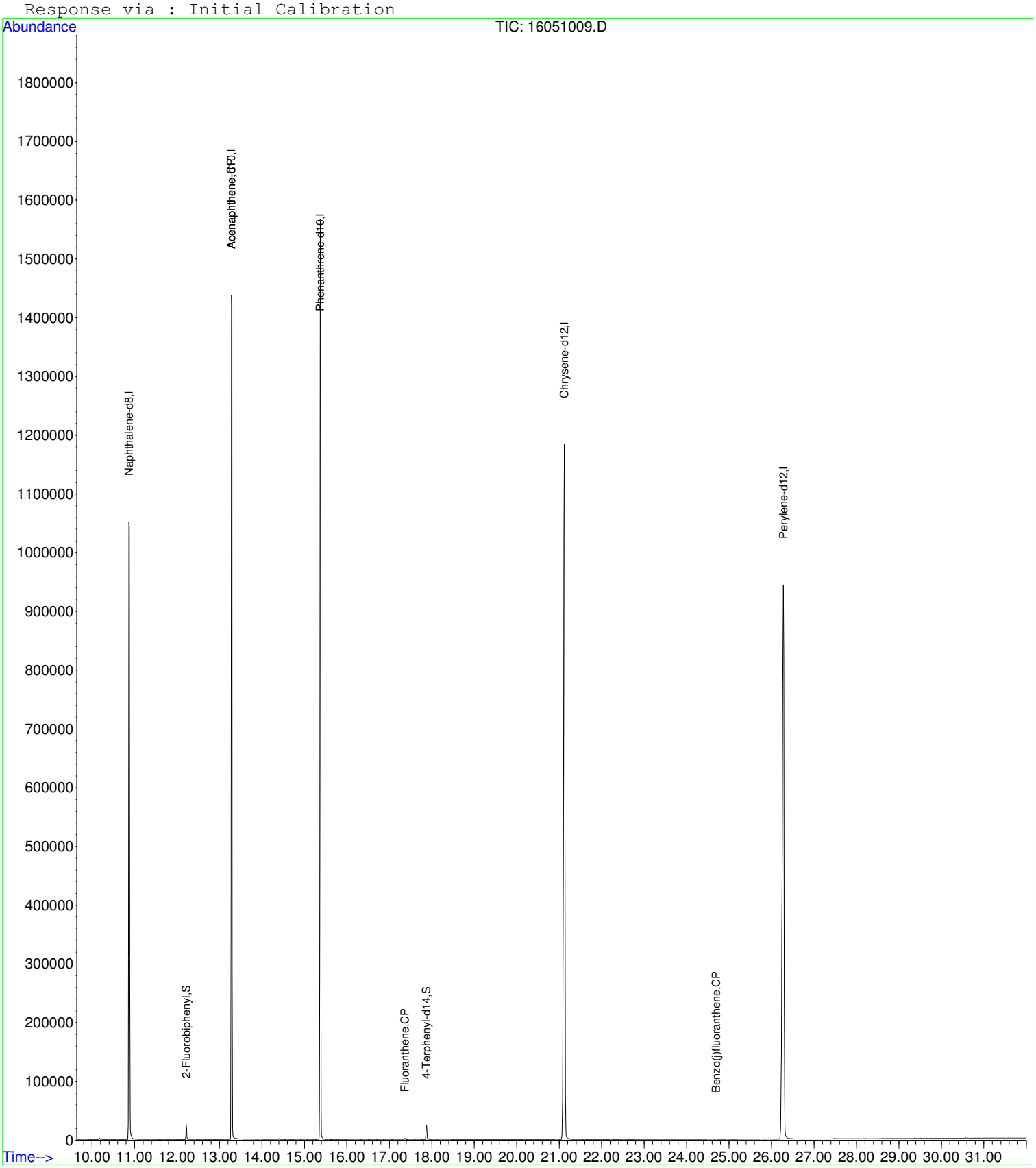
Target Compounds						Qvalue
9) Acenaphthene	13.28	154	2653	11.17	ug/kg#	9
14) Fluoranthene	17.37	202	2511	5.40	ug/kg	99
23) Benzo(j)fluoranthene	24.70	252	745	1.83	ug/kg	93

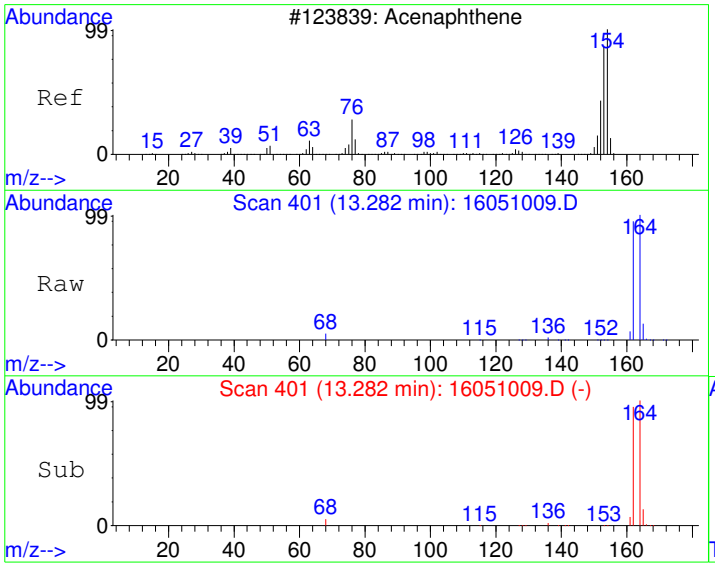
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160510\16051009.D Vial: 9
Acq On : 10 May 2016 1:59 pm Operator:
Sample : 1605034-05A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:04 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

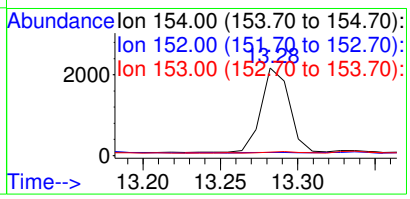


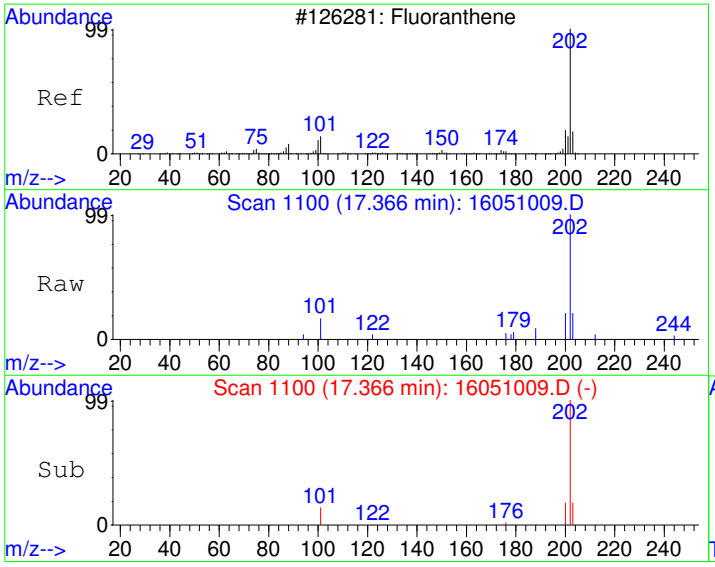


#9
Acenaphthene
Concen: 11.17 ug/kg
RT: 13.28 min Scan# 401
Delta R.T. -0.06 min
Lab File: 16051009.D
Acq: 10 May 2016 1:59 pm

Tgt Ion:154 Resp: 2653

Ion	Ratio	Lower	Upper
154	100		
152	0.8	18.9	78.9#
153	1.2	75.2	135.2#

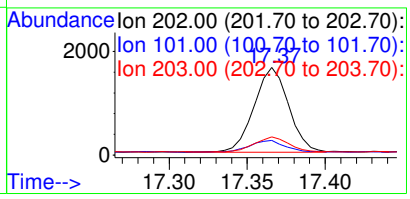


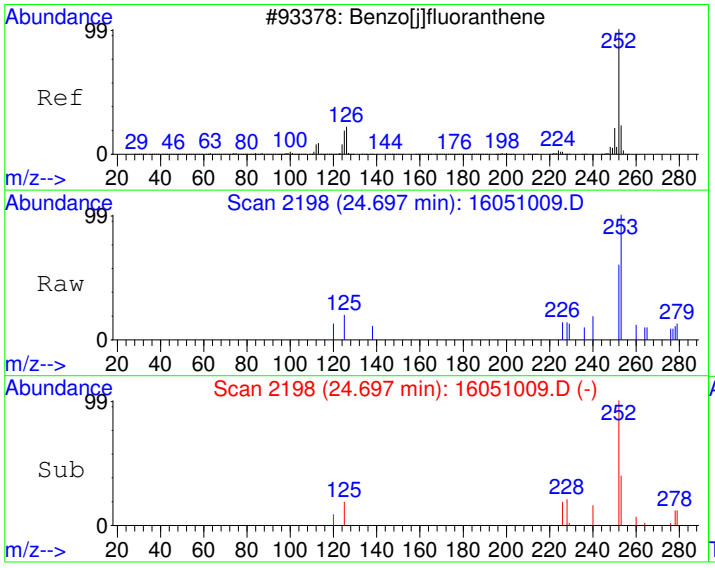


#14
Fluoranthene
Concen: 5.40 ug/kg
RT: 17.37 min Scan# 1100
Delta R.T. -0.01 min
Lab File: 16051009.D
Acq: 10 May 2016 1:59 pm

Tgt Ion:202 Resp: 2511

Ion	Ratio	Lower	Upper
202	100		
101	13.8	0.0	43.0
203	17.6	0.0	47.9

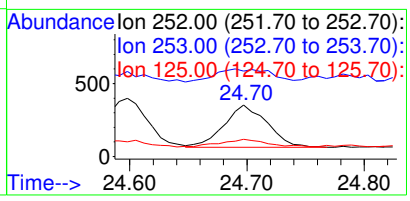




#23
Benzo(j)fluoranthene
Concen: 1.83 ug/kg
RT: 24.70 min Scan# 2198
Delta R.T. -0.05 min
Lab File: 16051009.D
Acq: 10 May 2016 1:59 pm

Tgt Ion:252 Resp: 745

Ion	Ratio	Lower	Upper
252	100		
253	25.8	2.1	42.1
125	17.2	0.0	34.4



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160510\16051010.D Vial: 10
Acq On : 10 May 2016 2:39 pm Operator:
Sample : 1605034-06A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:05 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.88	136	1426536	4000.00	ug/kg	123
5) Acenaphthene-d10	13.29	164	883036	4000.00	ug/kg	77
11) Phenanthrene-d10	15.37	188	1585907	4000.00	ug/kg	78
17) Chrysene-d12	21.12	240	1969518	4000.00	ug/kg	87
20) Perylene-d12	26.28	264	1775219	4000.00	ug/kg	86

System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.22	172	22051	85.61	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.14%#			
16) 4-Terphenyl-d14	17.87	244	33387	81.37	ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.03%#			

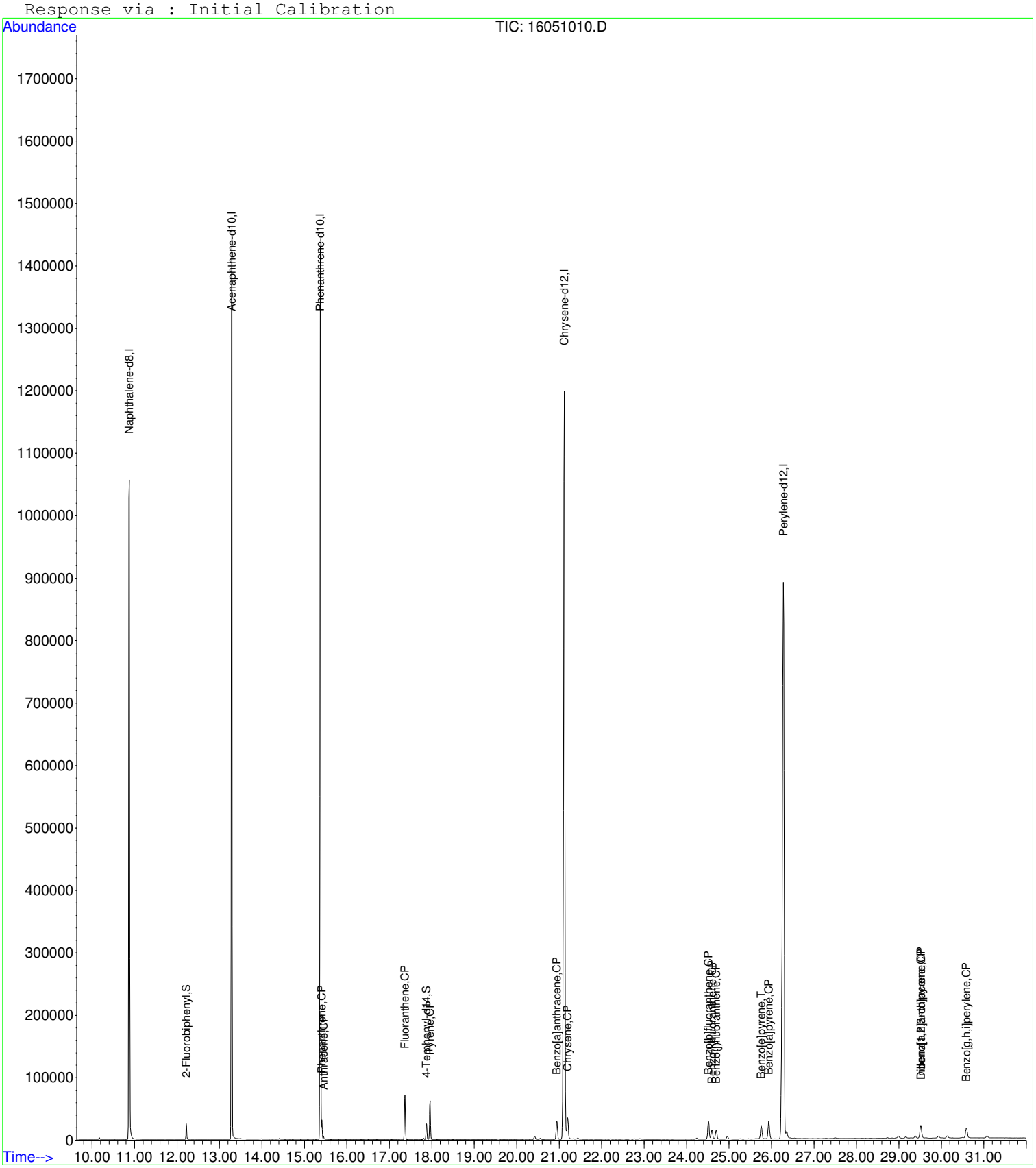
Target Compounds						Qvalue
12) Phenanthrene	15.41	178	23412	56.13	ug/kg	100
13) Anthracene	15.45	178	4488	11.37	ug/kg	98
14) Fluoranthene	17.37	202	71716	166.17	ug/kg	99
15) Pyrene	17.96	202	65932	147.06	ug/kg	99
18) Benzo[a]anthracene	20.94	228	44955	97.43	ug/kg	99
19) Chrysene	21.20	228	52102	116.87	ug/kg	99
21) Benzo[b]fluoranthene	24.51	252	53940	115.28	ug/kg	99
22) Benzo[k]fluoranthene	24.60	252	26730	60.90	ug/kg	99
23) Benzo(j)fluoranthene	24.70	252	24853	63.56	ug/kg	91
24) Benzo[e]pyrene	25.76	252	39690	94.72	ug/kg	99
25) Benzo[a]pyrene	25.93	252	53445	124.82	ug/kg	99
26) Dibenz[a,h]anthracene	29.51	278	7793	19.98	ug/kg	94
27) Indeno[1,2,3-cd]pyrene	29.52	276	35470	76.25	ug/kg	90
28) Benzo[g,h,i]perylene	30.59	276	32788	90.38	ug/kg	98

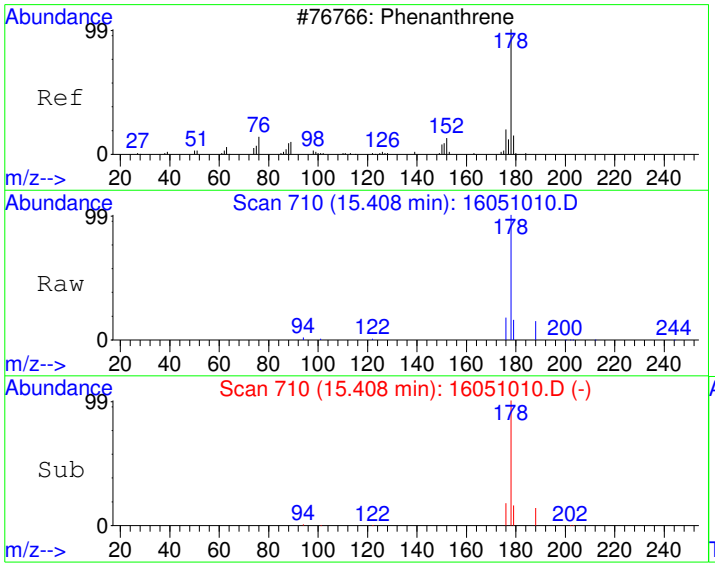
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160510\16051010.D Vial: 10
Acq On : 10 May 2016 2:39 pm Operator:
Sample : 1605034-06A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:05 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

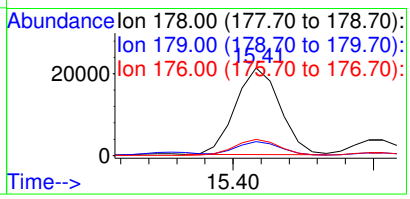


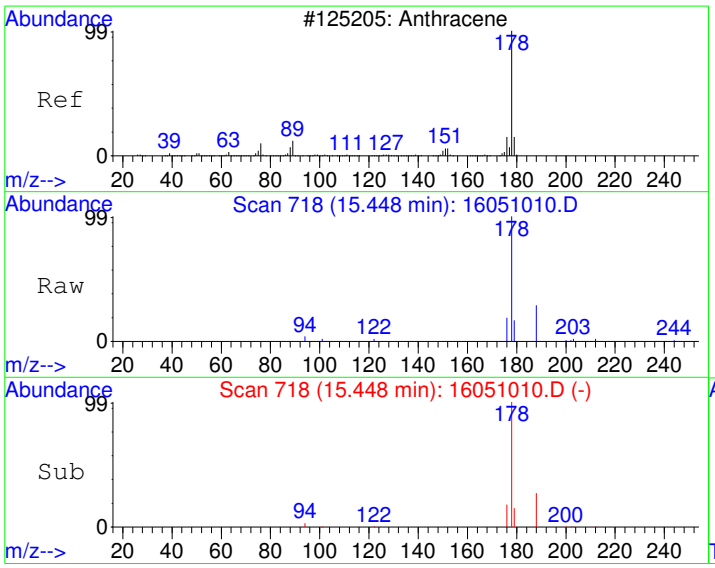


#12
Phenanthrene
Concen: 56.13 ug/kg
RT: 15.41 min Scan# 710
Delta R.T. -0.02 min
Lab File: 16051010.D
Acq: 10 May 2016 2:39 pm

Tgt Ion:178 Resp: 23412

Ion	Ratio	Lower	Upper
178	100		
179	15.7	0.0	45.9
176	18.4	0.0	48.5

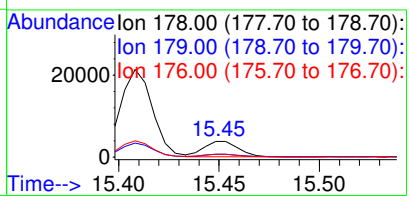


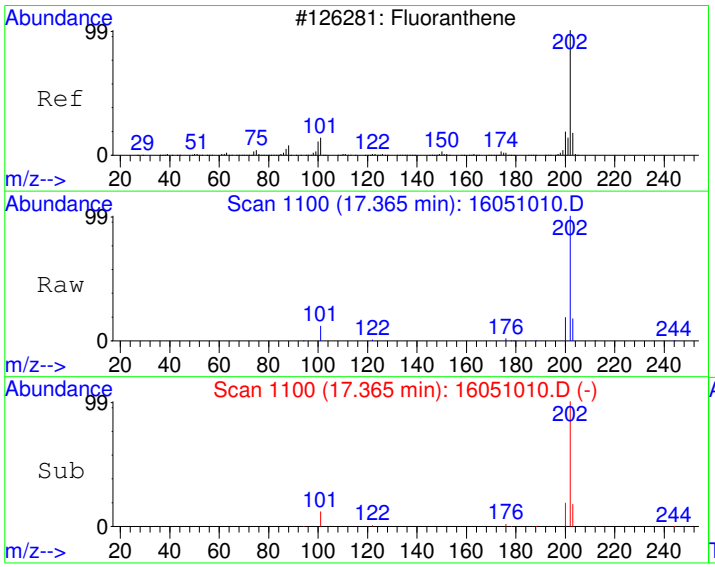


#13
Anthracene
Concen: 11.37 ug/kg
RT: 15.45 min Scan# 718
Delta R.T. -0.02 min
Lab File: 16051010.D
Acq: 10 May 2016 2:39 pm

Tgt Ion:178 Resp: 4488

Ion	Ratio	Lower	Upper
178	100		
179	14.6	0.0	45.9
176	17.5	0.0	48.2

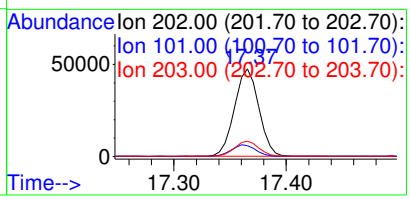


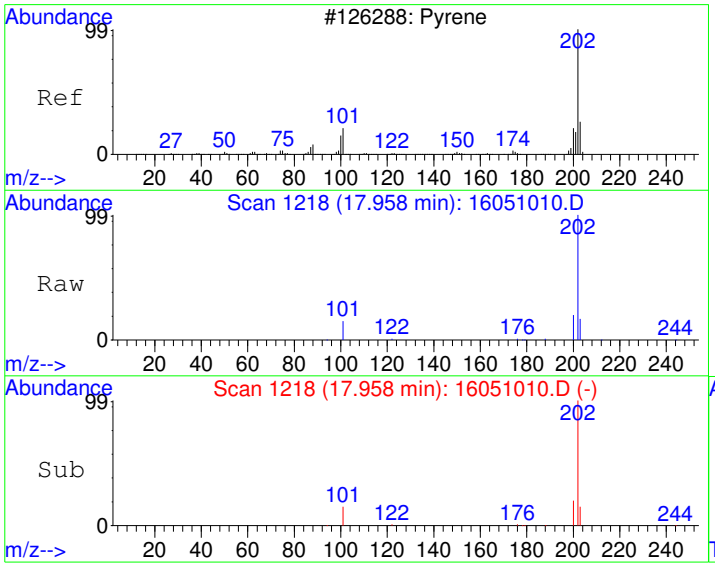


#14
Fluoranthene
Concen: 166.17 ug/kg
RT: 17.37 min Scan# 1100
Delta R.T. -0.01 min
Lab File: 16051010.D
Acq: 10 May 2016 2:39 pm

Tgt Ion:202 Resp: 71716

Ion	Ratio	Lower	Upper
202	100		
101	12.2	0.0	43.0
203	17.5	0.0	47.9

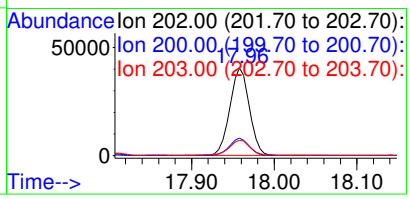


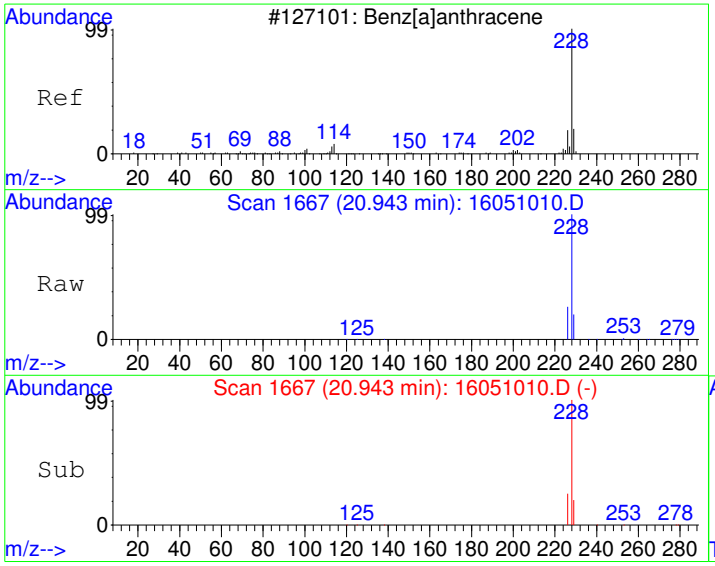


#15
Pyrene
Concen: 147.06 ug/kg
RT: 17.96 min Scan# 1218
Delta R.T. -0.02 min
Lab File: 16051010.D
Acq: 10 May 2016 2:39 pm

Tgt Ion:202 Resp: 65932

Ion	Ratio	Lower	Upper
202	100		
200	19.8	0.0	50.0
203	17.3	0.0	48.0

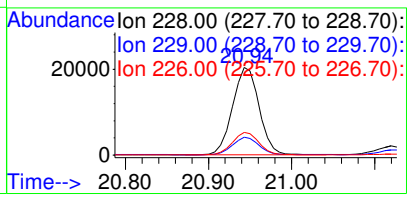


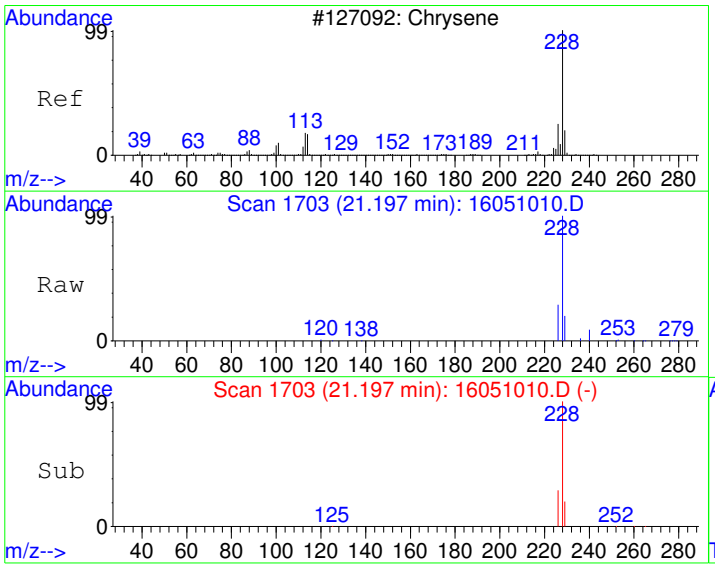


#18
Benzo[a]anthracene
Concen: 97.43 ug/kg
RT: 20.94 min Scan# 1667
Delta R.T. -0.04 min
Lab File: 16051010.D
Acq: 10 May 2016 2:39 pm

Tgt Ion:228 Resp: 44955

Ion	Ratio	Lower	Upper
228	100		
229	19.9	0.0	50.1
226	25.5	0.0	55.2

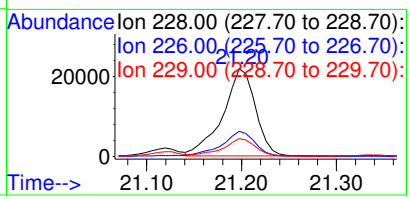


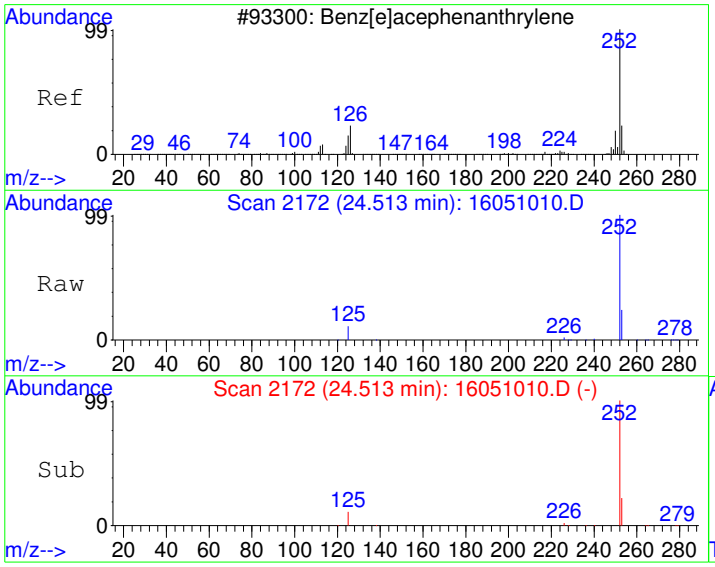


#19
Chrysene
Concen: 116.87 ug/kg
RT: 21.20 min Scan# 1703
Delta R.T. -0.04 min
Lab File: 16051010.D
Acq: 10 May 2016 2:39 pm

Tgt Ion:228 Resp: 52102

Ion	Ratio	Lower	Upper
228	100		
226	28.6	0.0	58.1
229	19.9	0.0	50.1

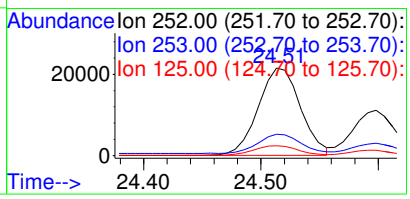


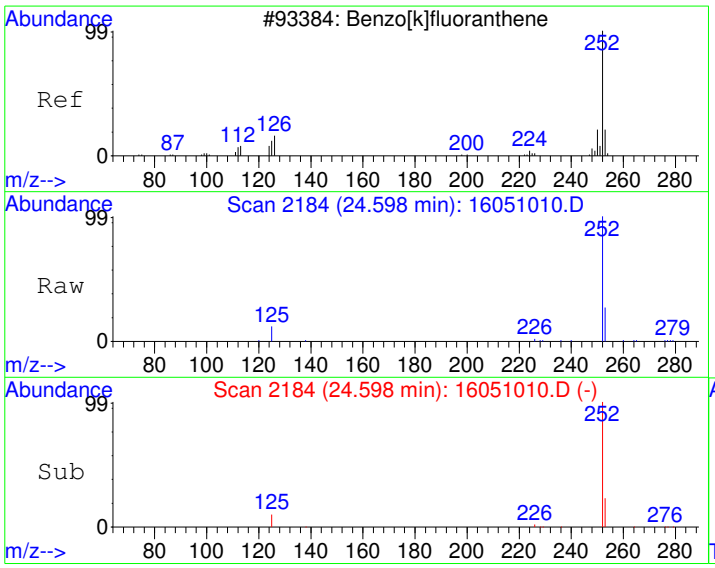


#21
Benzo[b]fluoranthene
Concen: 115.28 ug/kg
RT: 24.51 min Scan# 2172
Delta R.T. -0.04 min
Lab File: 16051010.D
Acq: 10 May 2016 2:39 pm

Tgt Ion:252 Resp: 53940

Ion	Ratio	Lower	Upper
252	100		
253	21.9	0.0	52.2
125	11.1	0.0	41.0

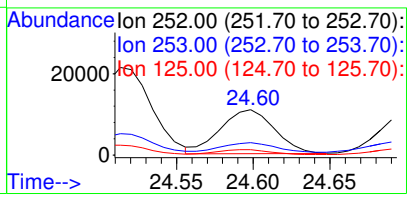


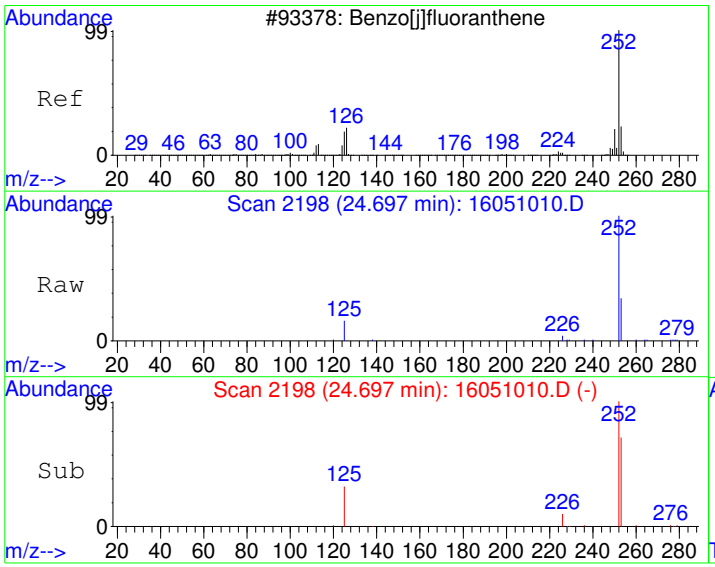


#22
Benzo[k]fluoranthene
Concen: 60.90 ug/kg
RT: 24.60 min Scan# 2184
Delta R.T. -0.04 min
Lab File: 16051010.D
Acq: 10 May 2016 2:39 pm

Tgt Ion:252 Resp: 26730

Ion	Ratio	Lower	Upper
252	100		
253	21.9	2.1	42.1
125	11.0	0.0	31.3

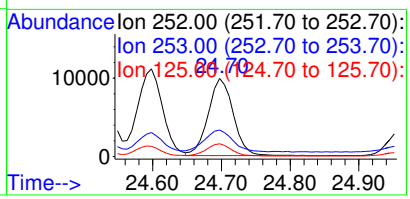


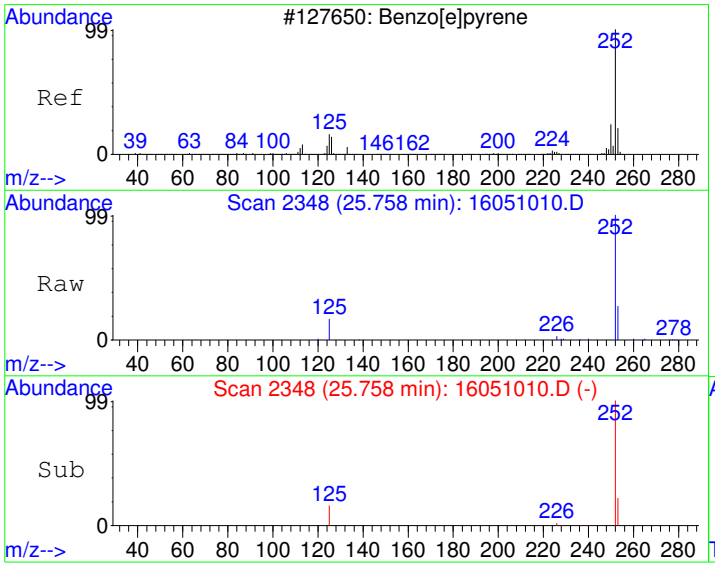


#23
Benzo(j)fluoranthene
Concen: 63.56 ug/kg
RT: 24.70 min Scan# 2198
Delta R.T. -0.05 min
Lab File: 16051010.D
Acq: 10 May 2016 2:39 pm

Tgt Ion:252 Resp: 24853

Ion	Ratio	Lower	Upper
252	100		
253	28.1	2.1	42.1
125	15.7	0.0	34.4

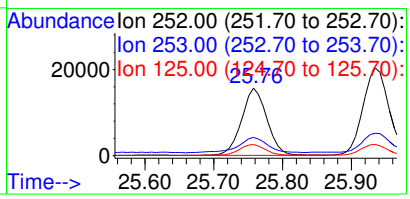


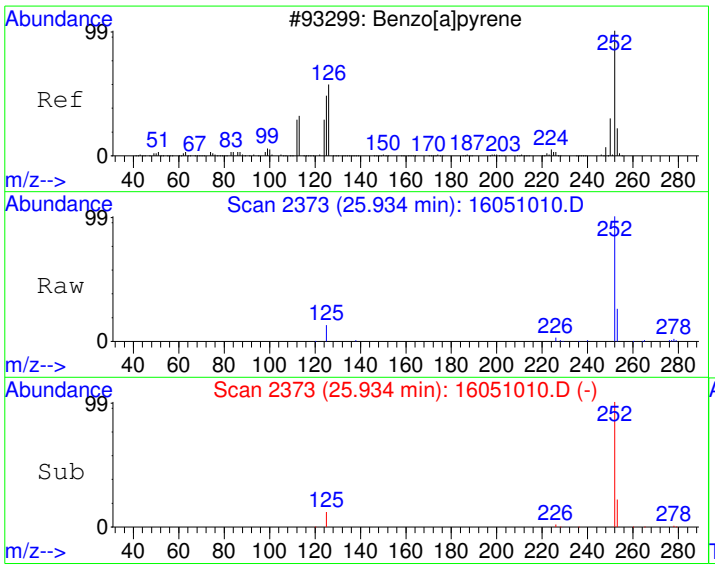


#24
Benzo[e]pyrene
Concen: 94.72 ug/kg
RT: 25.76 min Scan# 2348
Delta R.T. -0.04 min
Lab File: 16051010.D
Acq: 10 May 2016 2:39 pm

Tgt Ion:252 Resp: 39690

Ion	Ratio	Lower	Upper
252	100		
253	22.7	2.2	42.2
125	16.0	0.0	36.1

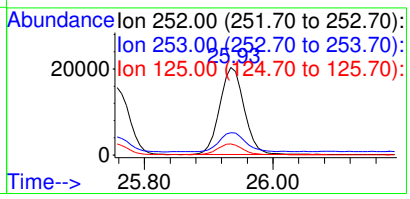


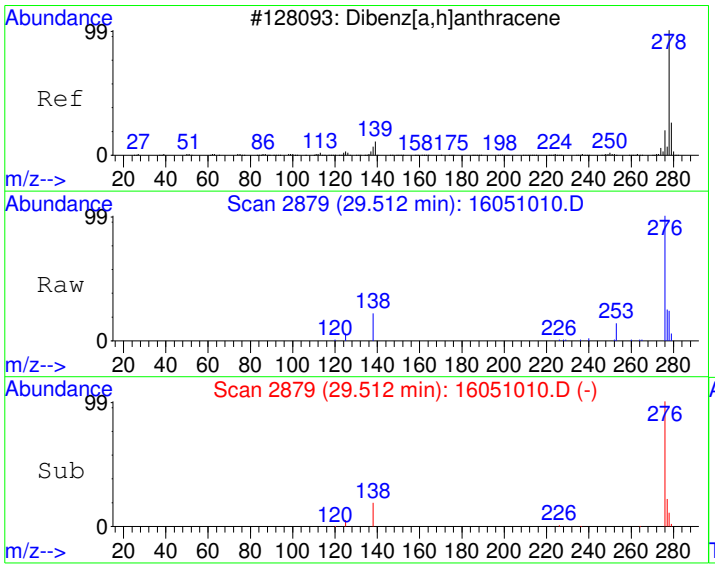


#25
Benzo[a]pyrene
Concen: 124.82 ug/kg
RT: 25.93 min Scan# 2373
Delta R.T. -0.05 min
Lab File: 16051010.D
Acq: 10 May 2016 2:39 pm

Tgt Ion:252 Resp: 53445

Ion	Ratio	Lower	Upper
252	100		
253	22.0	1.9	41.9
125	12.4	0.0	31.7

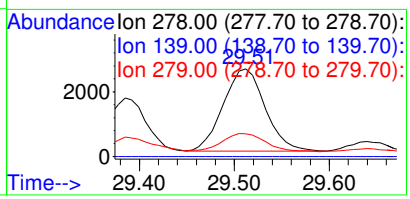


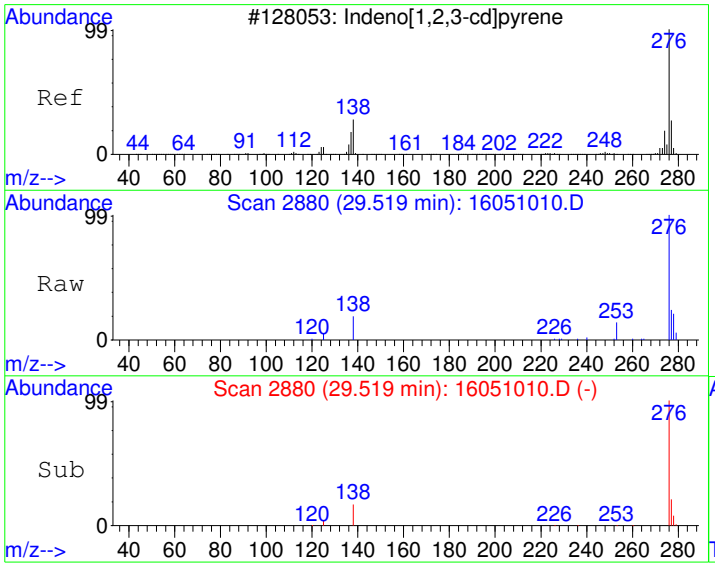


#26
Dibenz[a,h]anthracene
Concen: 19.98 ug/kg
RT: 29.51 min Scan# 2879
Delta R.T. -0.05 min
Lab File: 16051010.D
Acq: 10 May 2016 2:39 pm

Tgt Ion:278 Resp: 7793

Ion	Ratio	Lower	Upper
278	100		
139	0.0	0.0	20.0
279	21.3	4.2	44.2

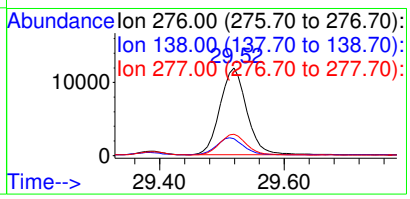


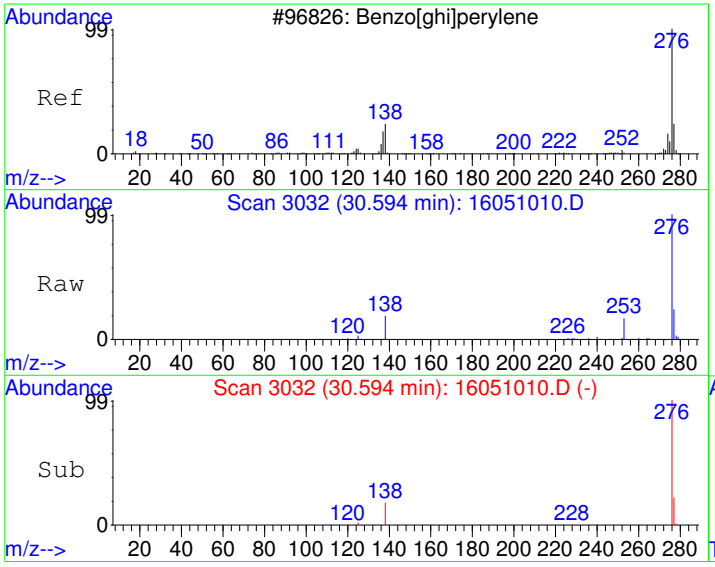


#27
Indeno[1,2,3-cd]pyrene
Concen: 76.25 ug/kg
RT: 29.52 min Scan# 2880
Delta R.T. -0.04 min
Lab File: 16051010.D
Acq: 10 May 2016 2:39 pm

Tgt Ion:276 Resp: 35470

Ion	Ratio	Lower	Upper
276	100		
138	18.5	6.7	46.7
277	23.7	5.8	45.8

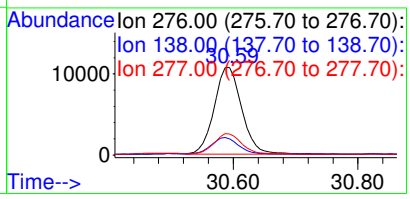




#28
Benzo[g,h,i]perylene
Concen: 90.38 ug/kg
RT: 30.59 min Scan# 3032
Delta R.T. -0.05 min
Lab File: 16051010.D
Acq: 10 May 2016 2:39 pm

Tgt Ion:276 Resp: 32788

Ion	Ratio	Lower	Upper
276	100		
138	17.9	0.0	39.1
277	23.4	4.0	44.0



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160510\16051011.D Vial: 11
Acq On : 10 May 2016 3:19 pm Operator:
Sample : 1605034-07A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:05 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.87	136	1518252	4000.00 ug/kg	131
5) Acenaphthene-d10	13.29	164	913007	4000.00 ug/kg	79
11) Phenanthrene-d10	15.38	188	1795761	4000.00 ug/kg	88
17) Chrysene-d12	21.12	240	2067450	4000.00 ug/kg	91
20) Perylene-d12	26.28	264	1952623	4000.00 ug/kg	95

System Monitoring Compounds					
7) 2-Fluorobiphenyl	12.22	172	22548	84.66 ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	2.12%#	
16) 4-Terphenyl-d14	17.87	244	35082	75.51 ug/kg	-0.03
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.89%#	

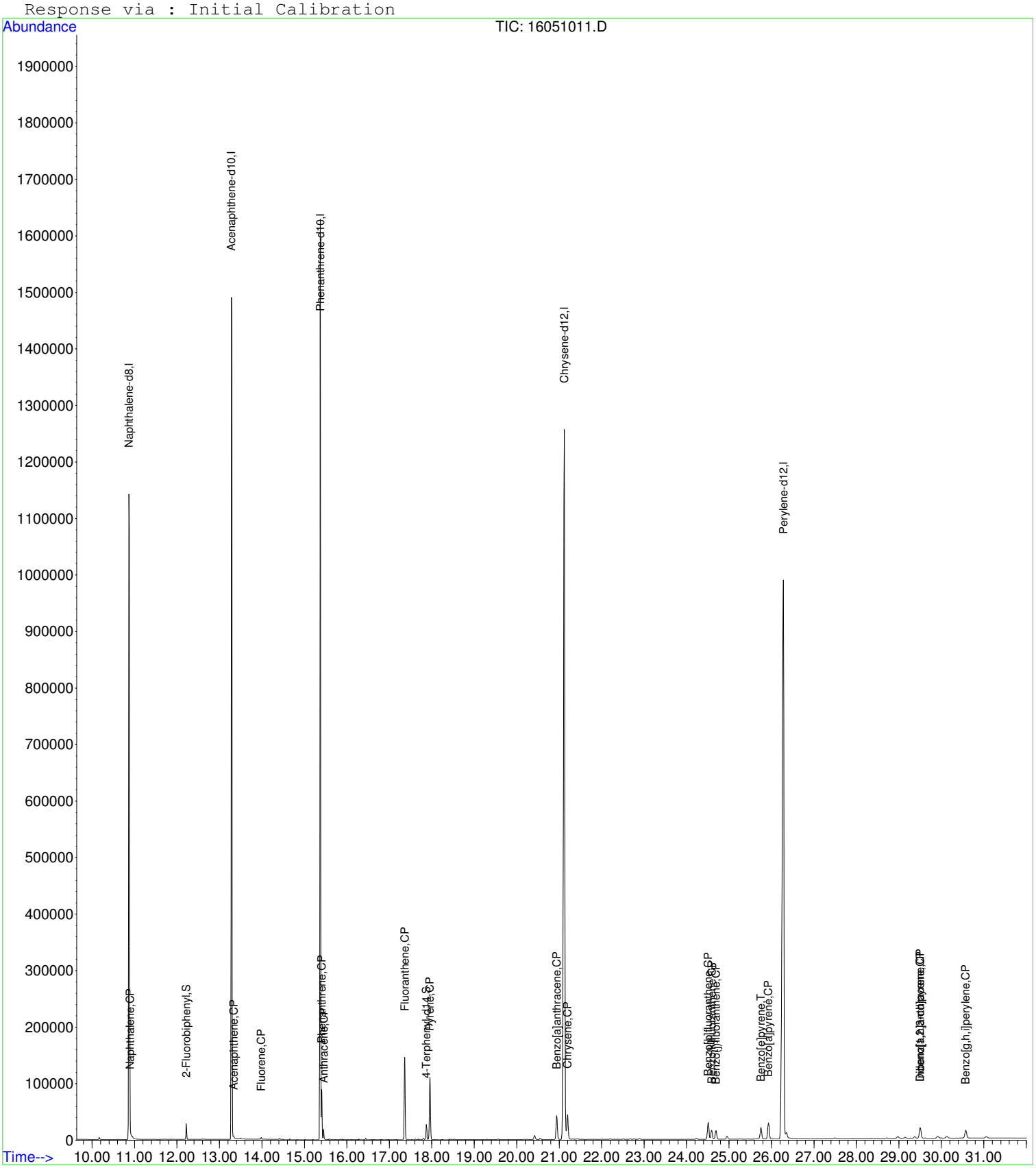
Target Compounds					Qvalue
2) Naphthalene	10.90	128	2035	5.36 ug/kg	98
9) Acenaphthene	13.34	154	1346	5.52 ug/kg	99
10) Fluorene	13.98	166	1600	5.40 ug/kg	100
12) Phenanthrene	15.41	178	71974	152.40 ug/kg	99
13) Anthracene	15.45	178	15395	34.44 ug/kg	99
14) Fluoranthene	17.36	202	143066	292.75 ug/kg	99
15) Pyrene	17.96	202	117030	230.53 ug/kg	99
18) Benzo[a]anthracene	20.94	228	62471	128.98 ug/kg	99
19) Chrysene	21.20	228	67556	144.36 ug/kg	100
21) Benzo[b]fluoranthene	24.51	252	55766	108.36 ug/kg	98
22) Benzo[k]fluoranthene	24.59	252	27875	57.74 ug/kg	99
23) Benzo(j)fluoranthene	24.69	252	26627	61.91 ug/kg	92
24) Benzo[e]pyrene	25.75	252	38466	83.46 ug/kg	100
25) Benzo[a]pyrene	25.93	252	54531	115.78 ug/kg	99
26) Dibenz[a,h]anthracene	29.49	278	7795	18.17 ug/kg	94
27) Indeno[1,2,3-cd]pyrene	29.50	276	31910	62.36 ug/kg	90
28) Benzo[g,h,i]perylene	30.57	276	27945	70.04 ug/kg	100

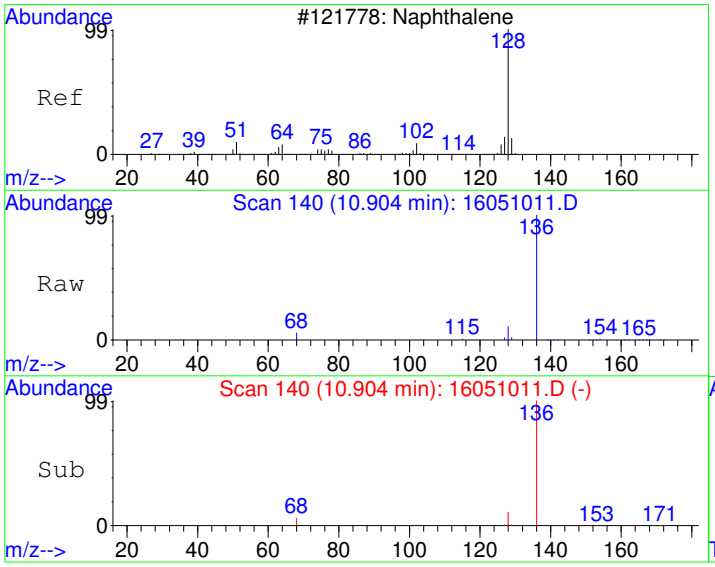
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160510\16051011.D Vial: 11
Acq On : 10 May 2016 3:19 pm Operator:
Sample : 1605034-07A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:05 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

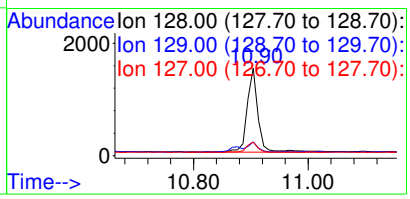


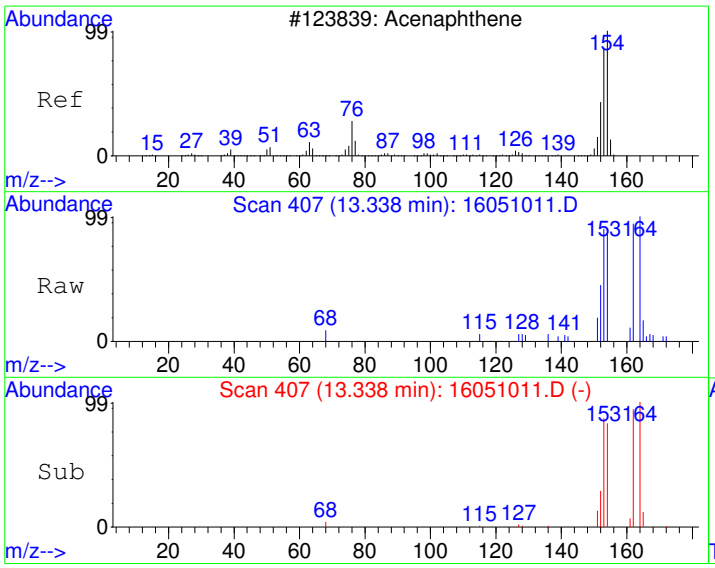


#2
Naphthalene
Concen: 5.36 ug/kg
RT: 10.90 min Scan# 140
Delta R.T. -0.01 min
Lab File: 16051011.D
Acq: 10 May 2016 3:19 pm

Tgt Ion:128 Resp: 2035

Ion	Ratio	Lower	Upper
128	100		
129	12.3	0.0	41.1
127	12.3	0.0	42.4

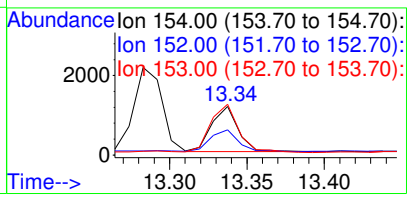


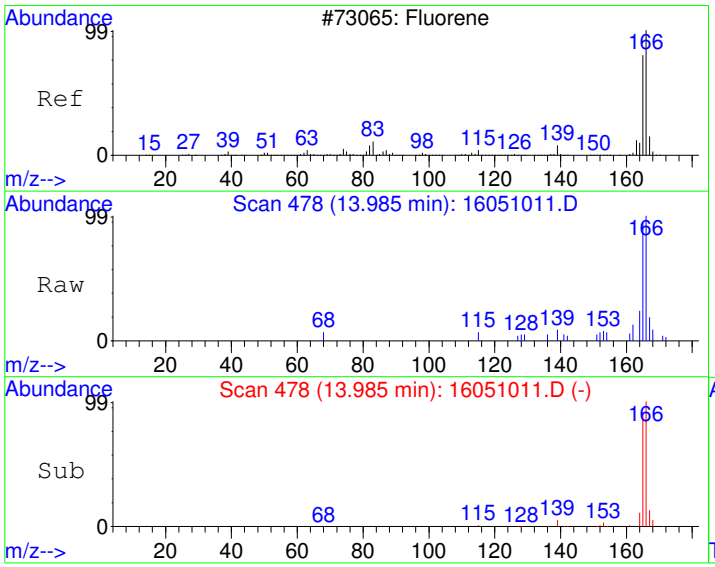


#9
Acenaphthene
Concen: 5.52 ug/kg
RT: 13.34 min Scan# 407
Delta R.T. -0.01 min
Lab File: 16051011.D
Acq: 10 May 2016 3:19 pm

Tgt Ion:154 Resp: 1346

Ion	Ratio	Lower	Upper
154	100		
152	47.7	18.9	78.9
153	105.9	75.2	135.2

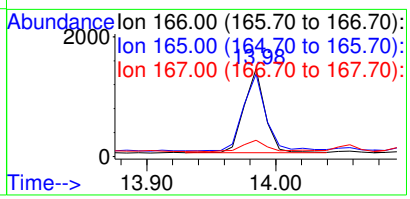


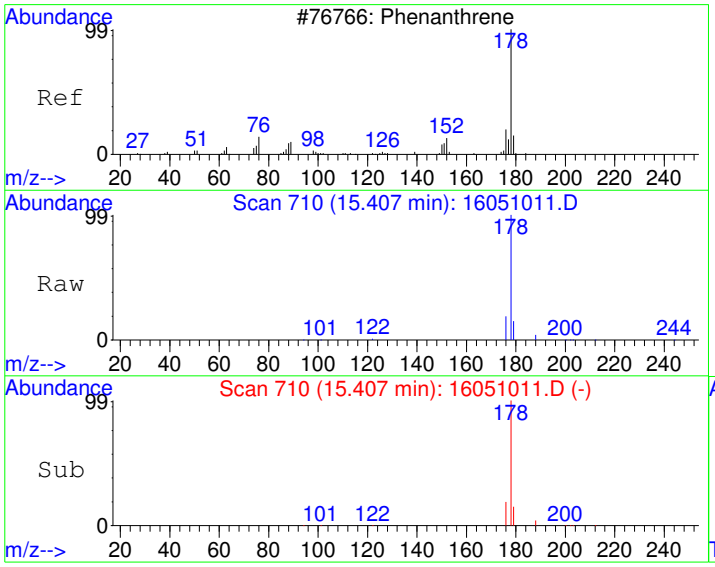


#10
Fluorene
Concen: 5.40 ug/kg
RT: 13.98 min Scan# 478
Delta R.T. -0.01 min
Lab File: 16051011.D
Acq: 10 May 2016 3:19 pm

Tgt Ion:166 Resp: 1600

Ion	Ratio	Lower	Upper
166	100		
165	91.4	61.8	121.8
167	13.4	0.0	43.6

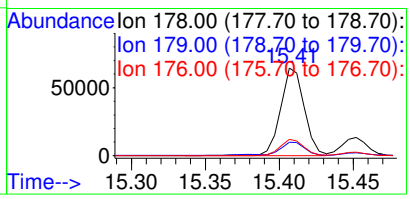


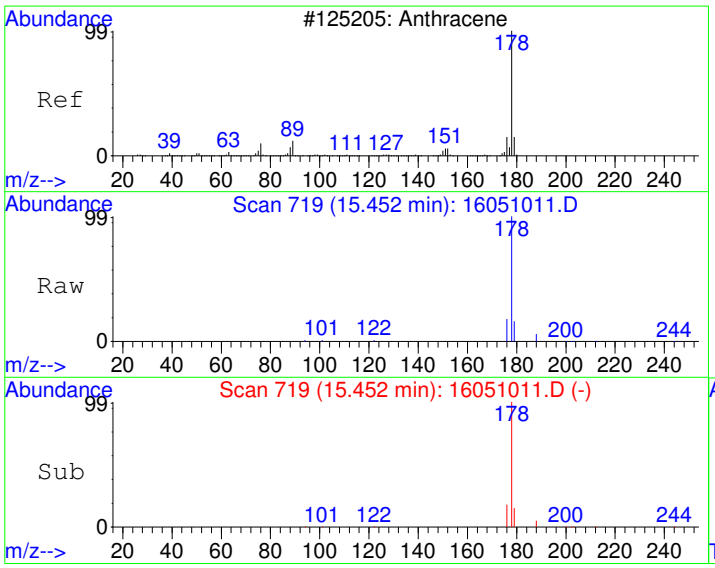


#12
Phenanthrene
Concen: 152.40 ug/kg
RT: 15.41 min Scan# 710
Delta R.T. -0.02 min
Lab File: 16051011.D
Acq: 10 May 2016 3:19 pm

Tgt Ion:178 Resp: 71974

Ion	Ratio	Lower	Upper
178	100		
179	15.3	0.0	45.9
176	18.6	0.0	48.5

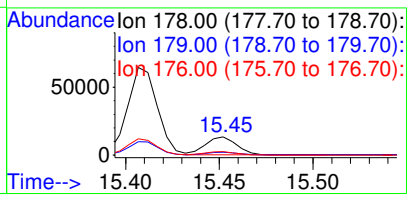


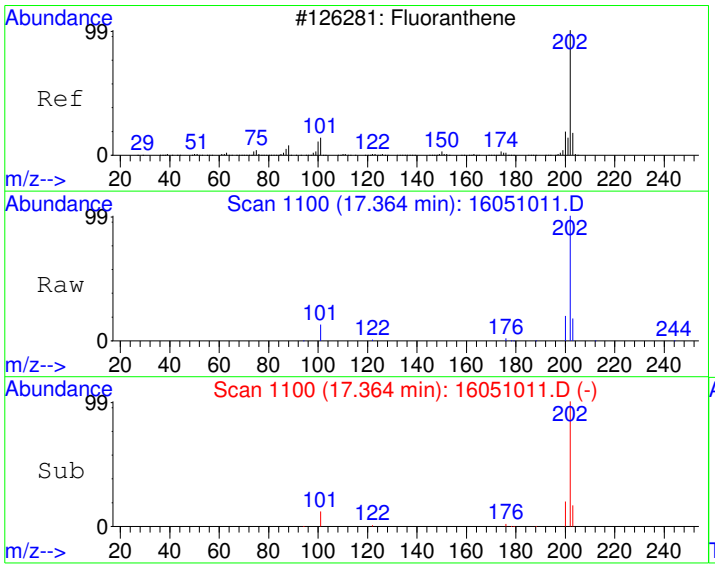


#13
Anthracene
Concen: 34.44 ug/kg
RT: 15.45 min Scan# 719
Delta R.T. -0.01 min
Lab File: 16051011.D
Acq: 10 May 2016 3:19 pm

Tgt Ion:178 Resp: 15395

Ion	Ratio	Lower	Upper
178	100		
179	15.2	0.0	45.9
176	17.9	0.0	48.2

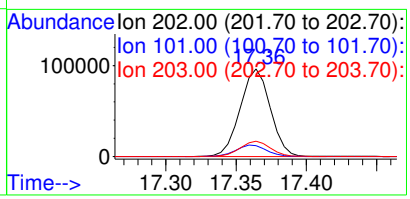


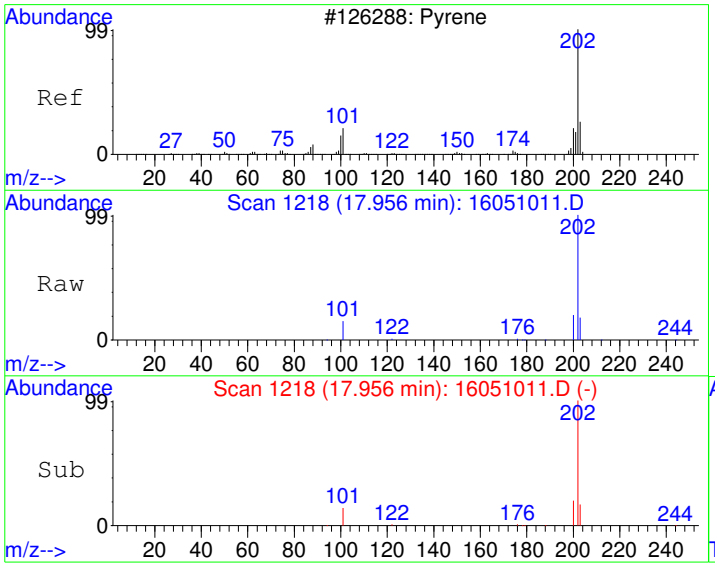


#14
Fluoranthene
Concen: 292.75 ug/kg
RT: 17.36 min Scan# 1100
Delta R.T. -0.02 min
Lab File: 16051011.D
Acq: 10 May 2016 3:19 pm

Tgt Ion:202 Resp: 143066

Ion	Ratio	Lower	Upper
202	100		
101	12.5	0.0	43.0
203	17.4	0.0	47.9

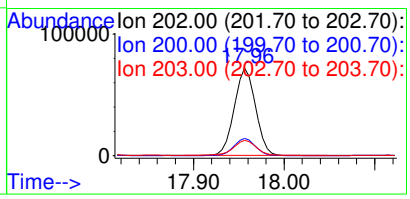


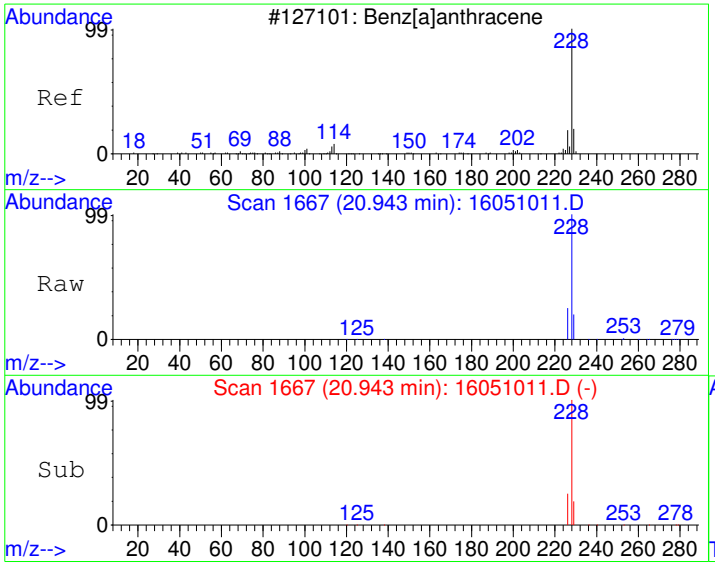


#15
Pyrene
Concen: 230.53 ug/kg
RT: 17.96 min Scan# 1218
Delta R.T. -0.02 min
Lab File: 16051011.D
Acq: 10 May 2016 3:19 pm

Tgt Ion:202 Resp: 117030

Ion	Ratio	Lower	Upper
202	100		
200	19.7	0.0	50.0
203	17.6	0.0	48.0

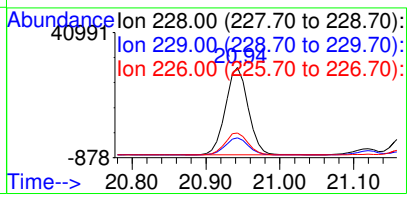


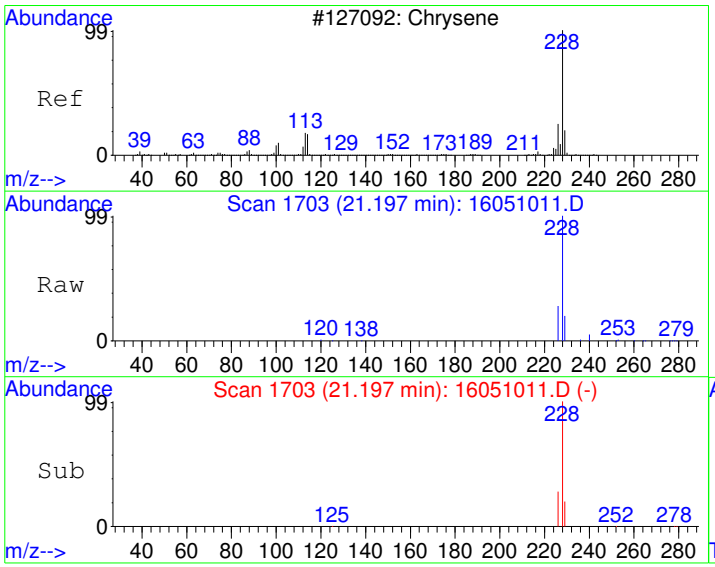


#18
Benzo[a]anthracene
Concen: 128.98 ug/kg
RT: 20.94 min Scan# 1667
Delta R.T. -0.04 min
Lab File: 16051011.D
Acq: 10 May 2016 3:19 pm

Tgt Ion:228 Resp: 62471

Ion	Ratio	Lower	Upper
228	100		
229	19.4	0.0	50.1
226	25.0	0.0	55.2

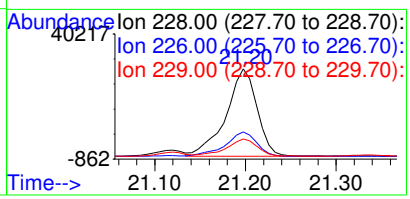


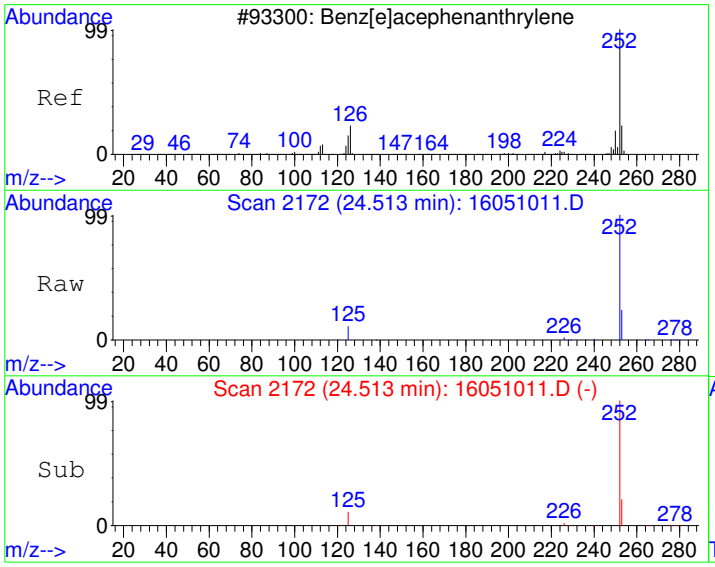


#19
Chrysene
Concen: 144.36 ug/kg
RT: 21.20 min Scan# 1703
Delta R.T. -0.04 min
Lab File: 16051011.D
Acq: 10 May 2016 3:19 pm

Tgt Ion:228 Resp: 67556

Ion	Ratio	Lower	Upper
228	100		
226	28.1	0.0	58.1
229	19.9	0.0	50.1

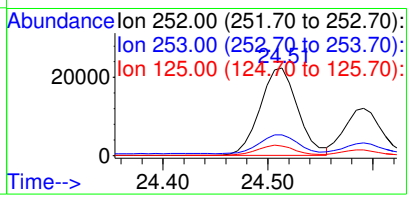


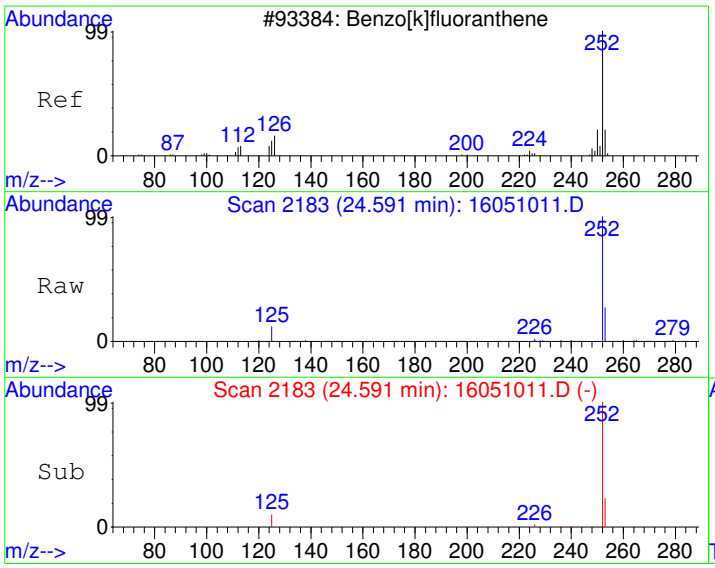


#21
Benzo[b]fluoranthene
Concen: 108.36 ug/kg
RT: 24.51 min Scan# 2172
Delta R.T. -0.04 min
Lab File: 16051011.D
Acq: 10 May 2016 3:19 pm

Tgt Ion:252 Resp: 55766

Ion	Ratio	Lower	Upper
252	100		
253	21.4	0.0	52.2
125	10.6	0.0	41.0

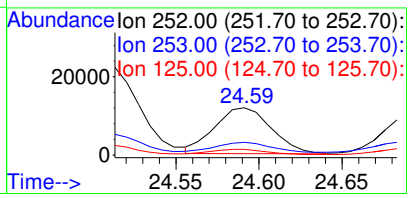


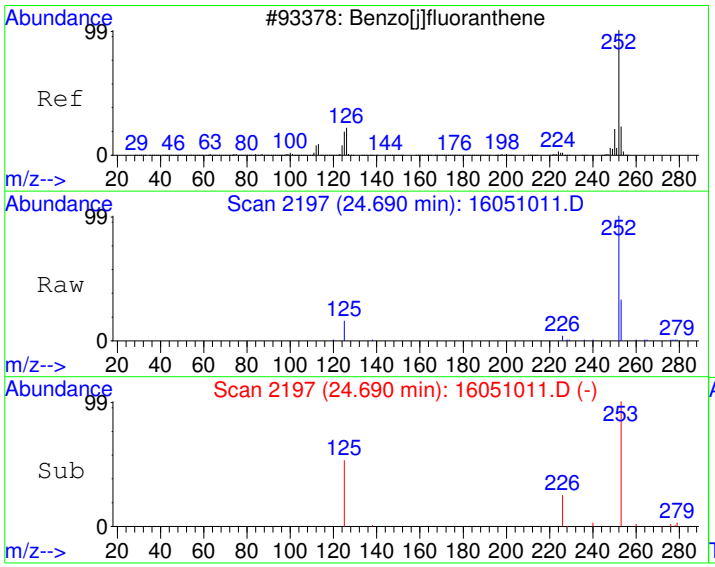


#22
Benzo[k]fluoranthene
Concen: 57.74 ug/kg
RT: 24.59 min Scan# 2183
Delta R.T. -0.05 min
Lab File: 16051011.D
Acq: 10 May 2016 3:19 pm

Tgt Ion:252 Resp: 27875

Ion	Ratio	Lower	Upper
252	100		
253	21.6	2.1	42.1
125	11.2	0.0	31.3

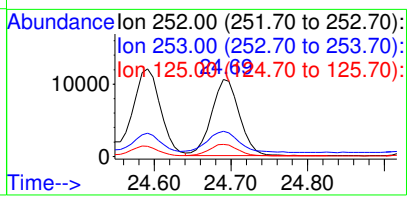


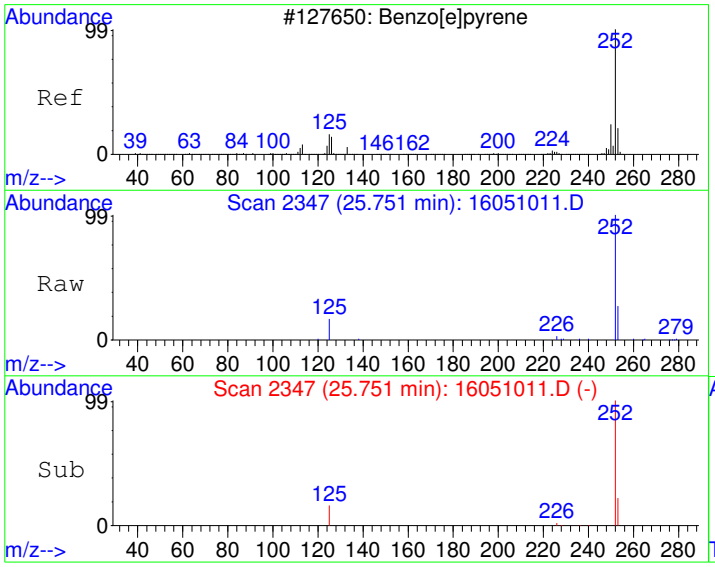


#23
Benzo(j)fluoranthene
Concen: 61.91 ug/kg
RT: 24.69 min Scan# 2197
Delta R.T. -0.06 min
Lab File: 16051011.D
Acq: 10 May 2016 3:19 pm

Tgt Ion:252 Resp: 26627

Ion	Ratio	Lower	Upper
252	100		
253	27.4	2.1	42.1
125	15.2	0.0	34.4

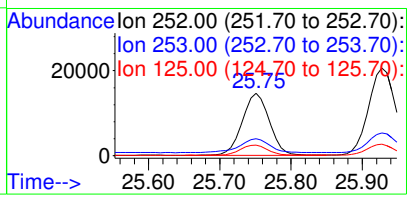


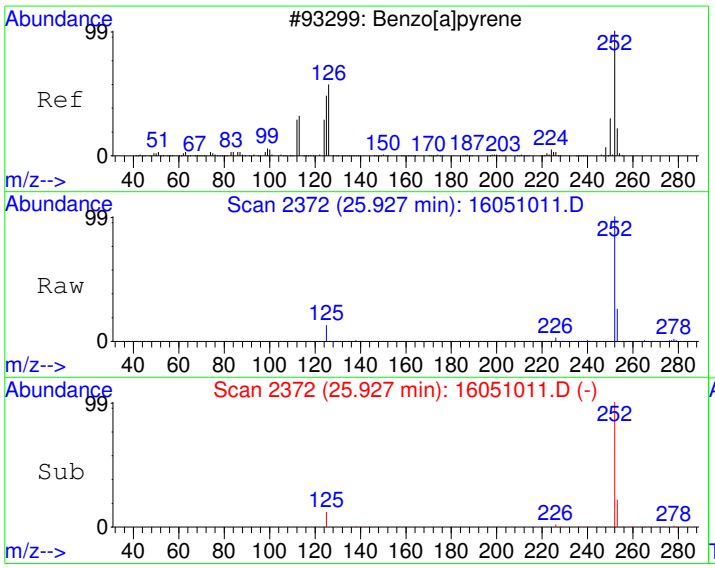


#24
Benzo[e]pyrene
Concen: 83.46 ug/kg
RT: 25.75 min Scan# 2347
Delta R.T. -0.05 min
Lab File: 16051011.D
Acq: 10 May 2016 3:19 pm

Tgt Ion:252 Resp: 38466

Ion	Ratio	Lower	Upper
252	100		
253	22.2	2.2	42.2
125	16.2	0.0	36.1

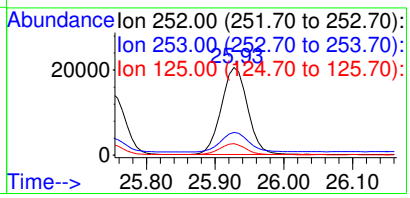


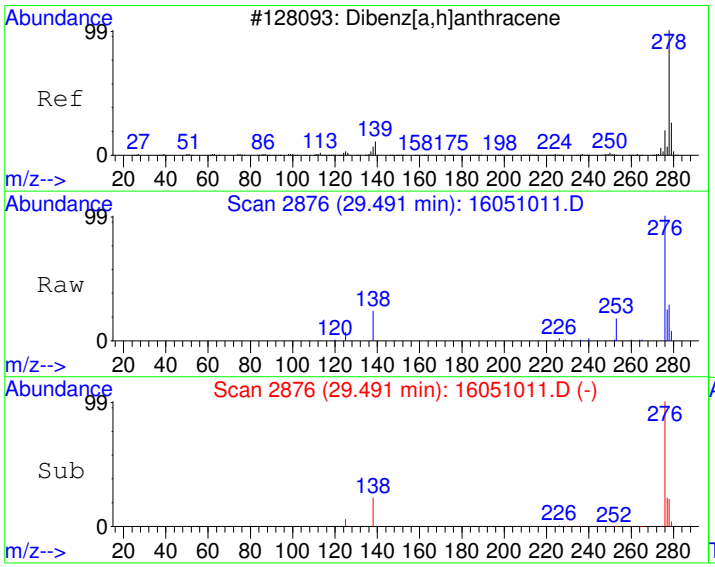


#25
Benzo[a]pyrene
Concen: 115.78 ug/kg
RT: 25.93 min Scan# 2372
Delta R.T. -0.06 min
Lab File: 16051011.D
Acq: 10 May 2016 3:19 pm

Tgt Ion:252 Resp: 54531

Ion	Ratio	Lower	Upper
252	100		
253	22.3	1.9	41.9
125	12.6	0.0	31.7

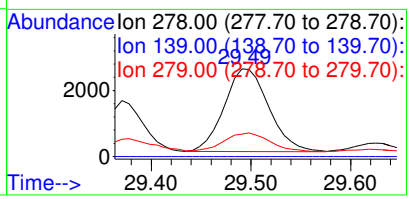


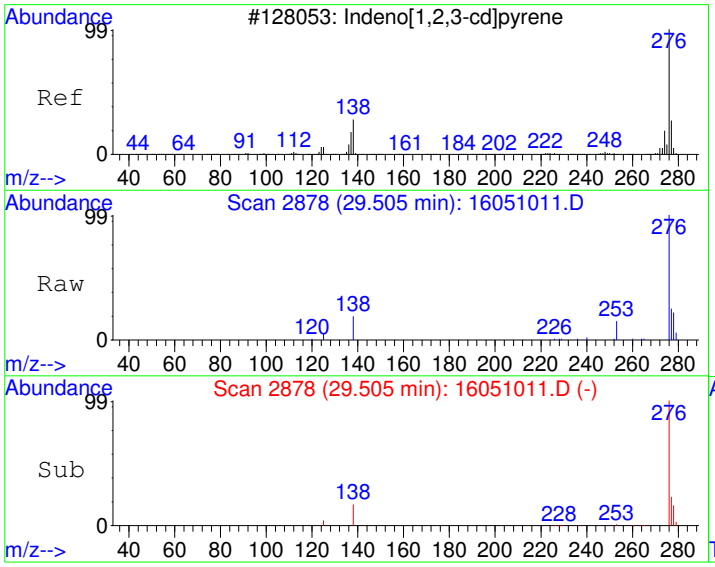


#26
Dibenz[a,h]anthracene
Concen: 18.17 ug/kg
RT: 29.49 min Scan# 2876
Delta R.T. -0.07 min
Lab File: 16051011.D
Acq: 10 May 2016 3:19 pm

Tgt Ion:278 Resp: 7795

Ion	Ratio	Lower	Upper
278	100		
139	0.0	0.0	20.0
279	21.3	4.2	44.2

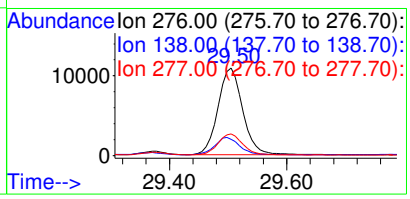


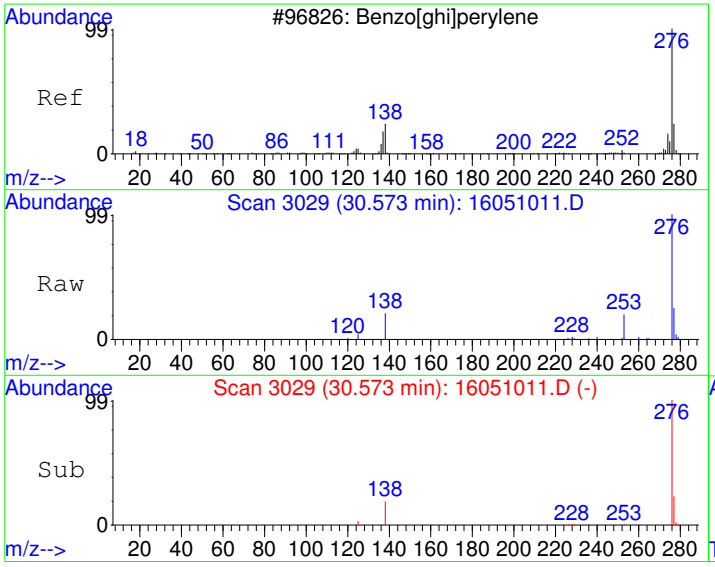


#27
Indeno[1,2,3-cd]pyrene
Concen: 62.36 ug/kg
RT: 29.50 min Scan# 2878
Delta R.T. -0.06 min
Lab File: 16051011.D
Acq: 10 May 2016 3:19 pm

Tgt Ion:276 Resp: 31910

Ion	Ratio	Lower	Upper
276	100		
138	17.9	6.7	46.7
277	24.1	5.8	45.8

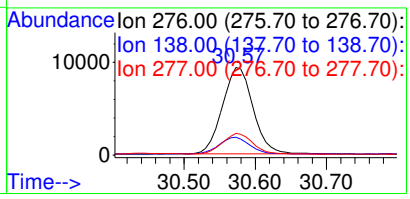




#28
Benzo[g,h,i]perylene
Concen: 70.04 ug/kg
RT: 30.57 min Scan# 3029
Delta R.T. -0.07 min
Lab File: 16051011.D
Acq: 10 May 2016 3:19 pm

Tgt Ion:276 Resp: 27945

Ion	Ratio	Lower	Upper
276	100		
138	19.5	0.0	39.1
277	24.0	4.0	44.0



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160510\16051012.D Vial: 12
Acq On : 10 May 2016 4:00 pm Operator:
Sample : 1605034-08A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:05 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.87	136	1456733	4000.00	ug/kg	126
5) Acenaphthene-d10	13.29	164	906935	4000.00	ug/kg	79
11) Phenanthrene-d10	15.38	188	1777594	4000.00	ug/kg	87
17) Chrysene-d12	21.12	240	1989480	4000.00	ug/kg	88
20) Perylene-d12	26.28	264	1832231	4000.00	ug/kg	89

System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.22	172	21941	82.93	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.07%#			
16) 4-Terphenyl-d14	17.88	244	34123	74.20	ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.86%#			

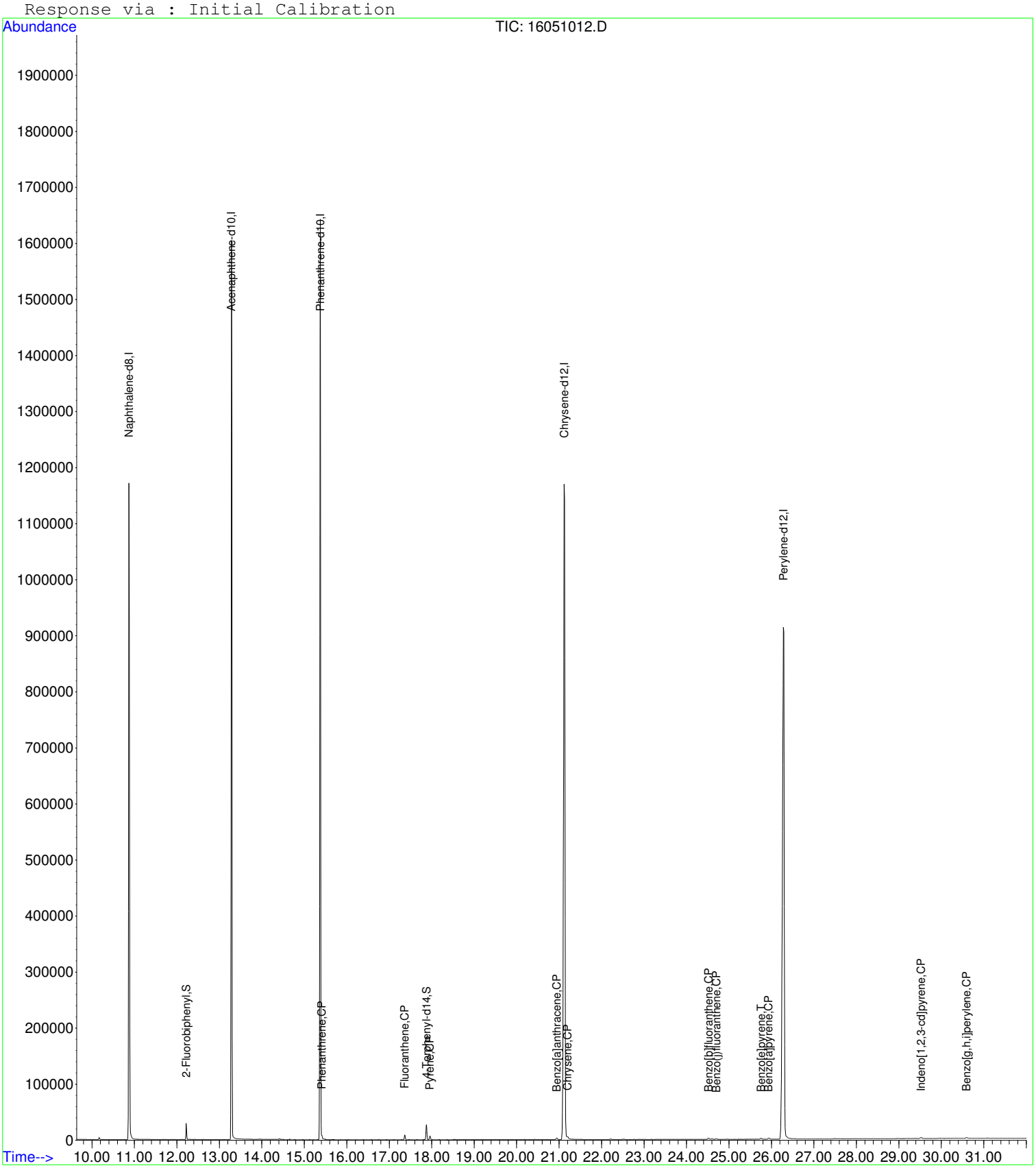
Target Compounds						Qvalue
12) Phenanthrene	15.41	178	3901	8.34	ug/kg	99
14) Fluoranthene	17.36	202	8746	18.08	ug/kg	99
15) Pyrene	17.96	202	7568	15.06	ug/kg	99
18) Benzo[a]anthracene	20.94	228	4202	9.02	ug/kg	97
19) Chrysene	21.21	228	4803	10.67	ug/kg	98
21) Benzo[b]fluoranthene	24.52	252	4665	9.66	ug/kg	98
23) Benzo(j)fluoranthene	24.70	252	2076	5.14	ug/kg	92
24) Benzo[e]pyrene	25.77	252	3436	7.94	ug/kg	98
25) Benzo[a]pyrene	25.94	252	4359	9.86	ug/kg	95
27) Indeno[1,2,3-cd]pyrene	29.53	276	2852	5.94	ug/kg	92
28) Benzo[g,h,i]perylene	30.59	276	2774	7.41	ug/kg	99

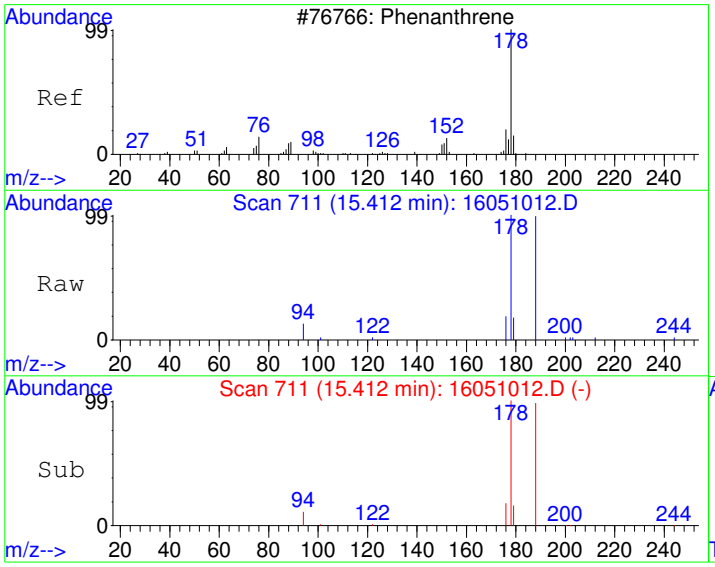
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160510\16051012.D Vial: 12
Acq On : 10 May 2016 4:00 pm Operator:
Sample : 1605034-08A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:05 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

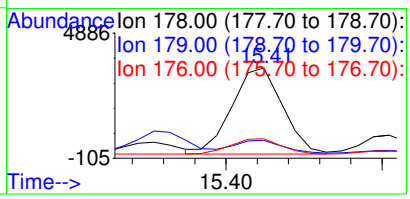


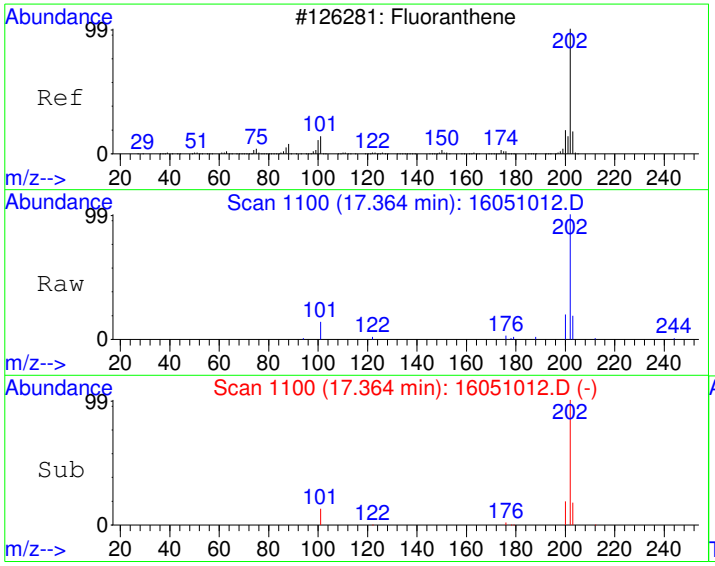


#12
Phenanthrene
Concen: 8.34 ug/kg
RT: 15.41 min Scan# 711
Delta R.T. -0.01 min
Lab File: 16051012.D
Acq: 10 May 2016 4:00 pm

Tgt Ion:178 Resp: 3901

Ion	Ratio	Lower	Upper
178	100		
179	15.4	0.0	45.9
176	18.3	0.0	48.5

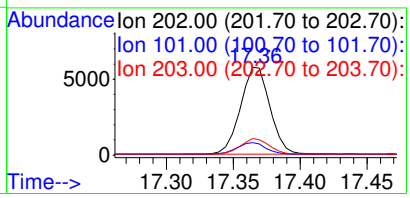


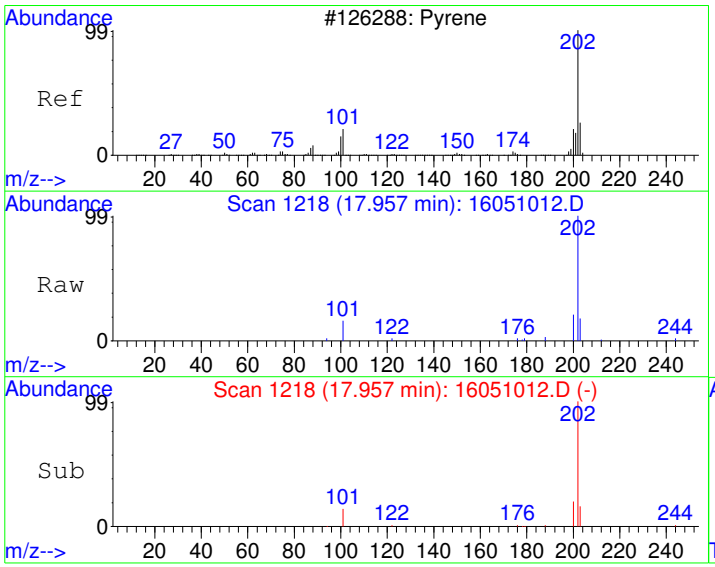


#14
Fluoranthene
Concen: 18.08 ug/kg
RT: 17.36 min Scan# 1100
Delta R.T. -0.02 min
Lab File: 16051012.D
Acq: 10 May 2016 4:00 pm

Tgt Ion:202 Resp: 8746

Ion	Ratio	Lower	Upper
202	100		
101	13.4	0.0	43.0
203	18.0	0.0	47.9

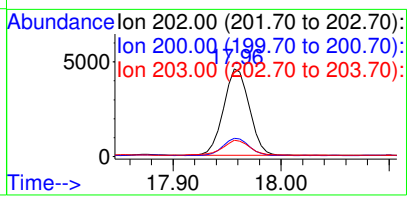


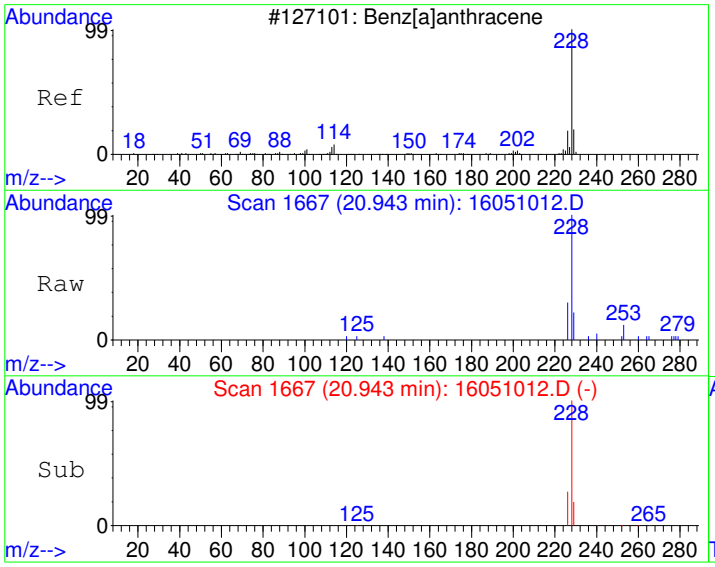


#15
Pyrene
Concen: 15.06 ug/kg
RT: 17.96 min Scan# 1218
Delta R.T. -0.02 min
Lab File: 16051012.D
Acq: 10 May 2016 4:00 pm

Tgt Ion:202 Resp: 7568

Ion	Ratio	Lower	Upper
202	100		
200	19.8	0.0	50.0
203	17.3	0.0	48.0

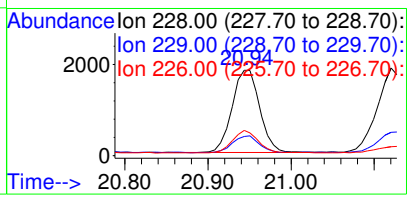


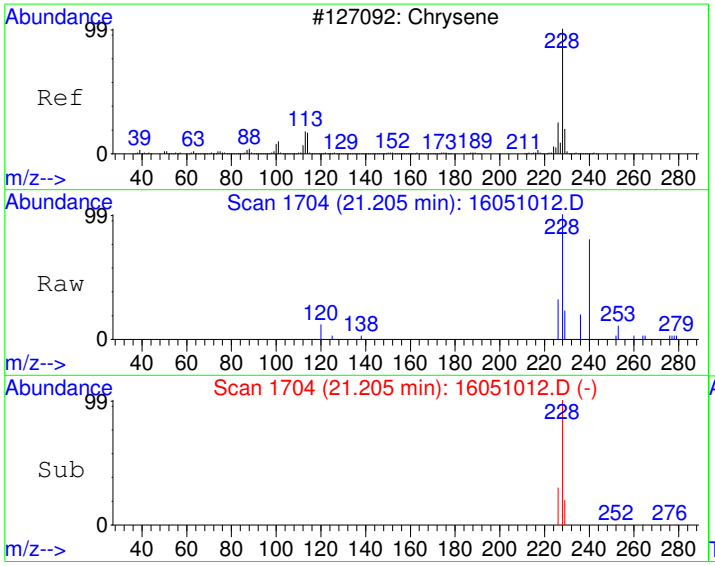


#18
Benzo[a]anthracene
Concen: 9.02 ug/kg
RT: 20.94 min Scan# 1667
Delta R.T. -0.03 min
Lab File: 16051012.D
Acq: 10 May 2016 4:00 pm

Tgt Ion:228 Resp: 4202

Ion	Ratio	Lower	Upper
228	100		
229	19.5	0.0	50.1
226	27.4	0.0	55.2

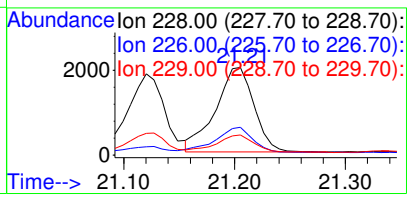


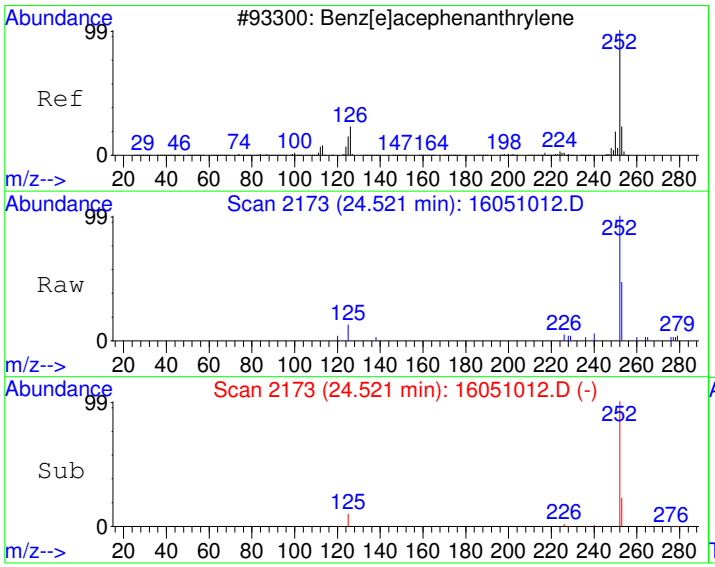


#19
Chrysene
Concen: 10.67 ug/kg
RT: 21.21 min Scan# 1704
Delta R.T. -0.03 min
Lab File: 16051012.D
Acq: 10 May 2016 4:00 pm

Tgt Ion:228 Resp: 4803

Ion	Ratio	Lower	Upper
228	100		
226	29.7	0.0	58.1
229	20.3	0.0	50.1

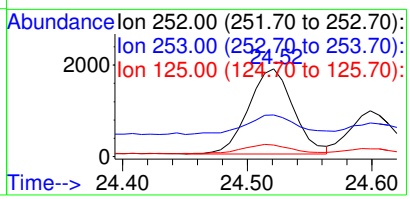


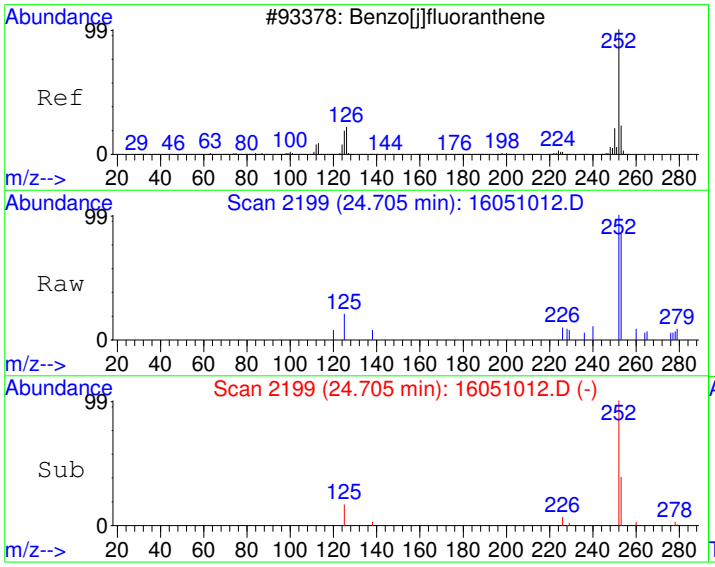


#21
Benzo[b]fluoranthene
Concen: 9.66 ug/kg
RT: 24.52 min Scan# 2173
Delta R.T. -0.03 min
Lab File: 16051012.D
Acq: 10 May 2016 4:00 pm

Tgt Ion:252 Resp: 4665

Ion	Ratio	Lower	Upper
252	100		
253	23.0	0.0	52.2
125	9.8	0.0	41.0

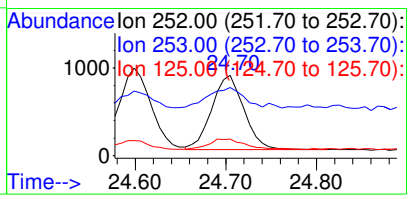


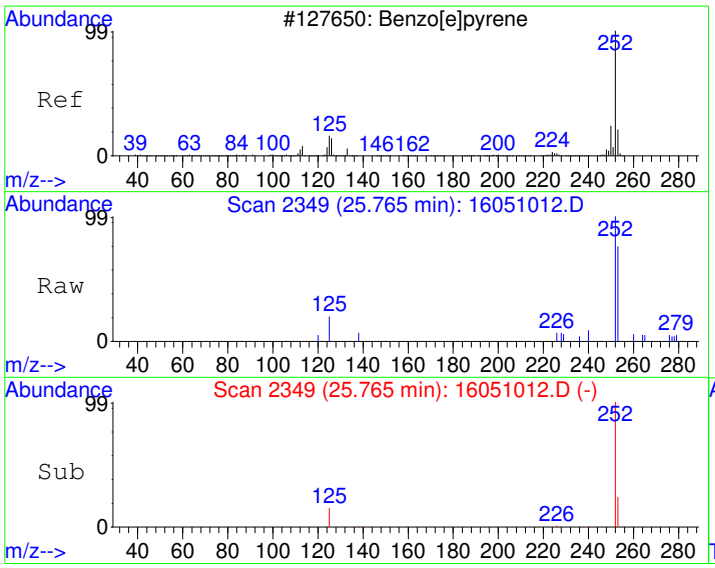


#23
Benzo(j)fluoranthene
Concen: 5.14 ug/kg
RT: 24.70 min Scan# 2199
Delta R.T. -0.04 min
Lab File: 16051012.D
Acq: 10 May 2016 4:00 pm

Tgt Ion:252 Resp: 2076

Ion	Ratio	Lower	Upper
252	100		
253	27.5	2.1	42.1
125	13.6	0.0	34.4

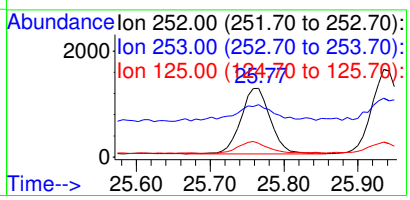


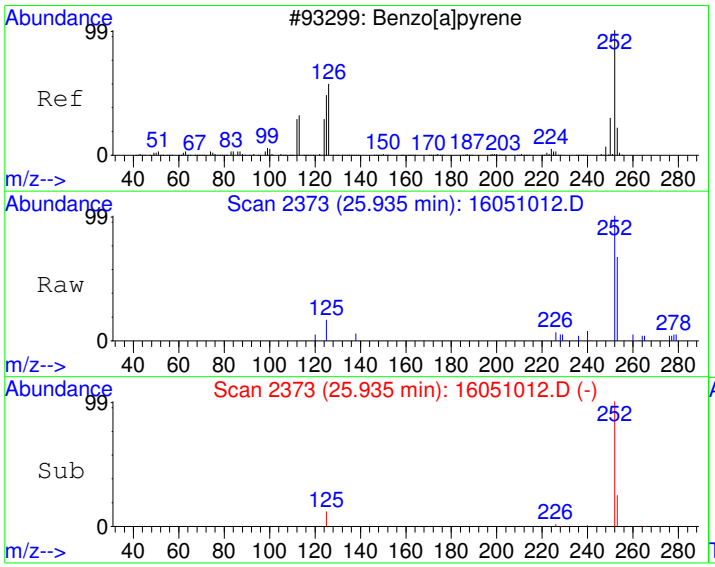


#24
Benzo[e]pyrene
Concen: 7.94 ug/kg
RT: 25.77 min Scan# 2349
Delta R.T. -0.03 min
Lab File: 16051012.D
Acq: 10 May 2016 4:00 pm

Tgt Ion:252 Resp: 3436

Ion	Ratio	Lower	Upper
252	100		
253	21.4	2.2	42.2
125	14.8	0.0	36.1

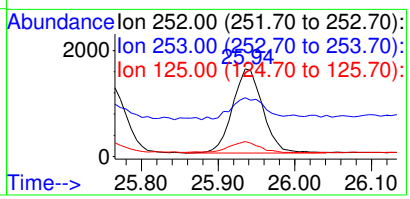


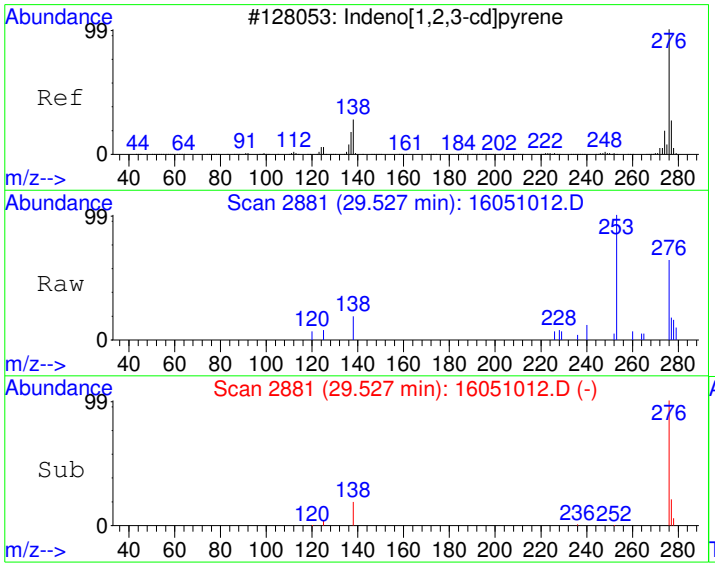


#25
Benzo[a]pyrene
Concen: 9.86 ug/kg
RT: 25.94 min Scan# 2373
Delta R.T. -0.05 min
Lab File: 16051012.D
Acq: 10 May 2016 4:00 pm

Tgt Ion:252 Resp: 4359

Ion	Ratio	Lower	Upper
252	100		
253	24.4	1.9	41.9
125	12.9	0.0	31.7

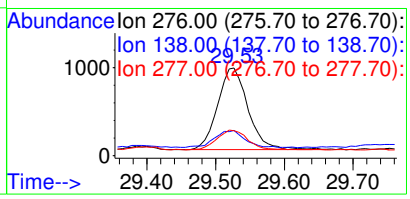


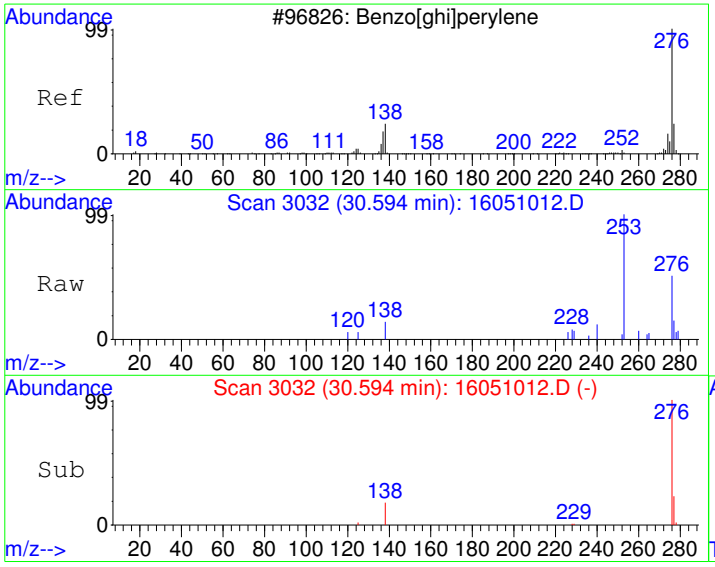


#27
Indeno[1,2,3-cd]pyrene
Concen: 5.94 ug/kg
RT: 29.53 min Scan# 2881
Delta R.T. -0.03 min
Lab File: 16051012.D
Acq: 10 May 2016 4:00 pm

Tgt Ion:276 Resp: 2852

Ion	Ratio	Lower	Upper
276	100		
138	20.6	6.7	46.7
277	23.5	5.8	45.8

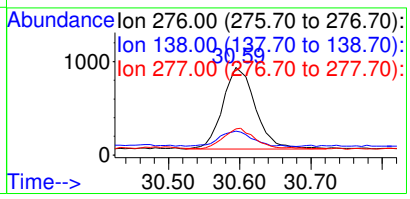




#28
Benzo[g,h,i]perylene
Concen: 7.41 ug/kg
RT: 30.59 min Scan# 3032
Delta R.T. -0.05 min
Lab File: 16051012.D
Acq: 10 May 2016 4:00 pm

Tgt Ion:276 Resp: 2774

Ion	Ratio	Lower	Upper
276	100		
138	18.1	0.0	39.1
277	24.5	4.0	44.0



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160510\16051013.D Vial: 13
Acq On : 10 May 2016 4:39 pm Operator:
Sample : 1605034-09A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:05 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.88	136	1509183	4000.00	ug/kg	130
5) Acenaphthene-d10	13.29	164	934470	4000.00	ug/kg	81
11) Phenanthrene-d10	15.38	188	1871675	4000.00	ug/kg	92
17) Chrysene-d12	21.13	240	2084093	4000.00	ug/kg	92
20) Perylene-d12	26.29	264	1932721	4000.00	ug/kg	94

System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.22	172	19443	71.33	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.78%#			
16) 4-Terphenyl-d14	17.88	244	30477	62.94	ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.57%#			

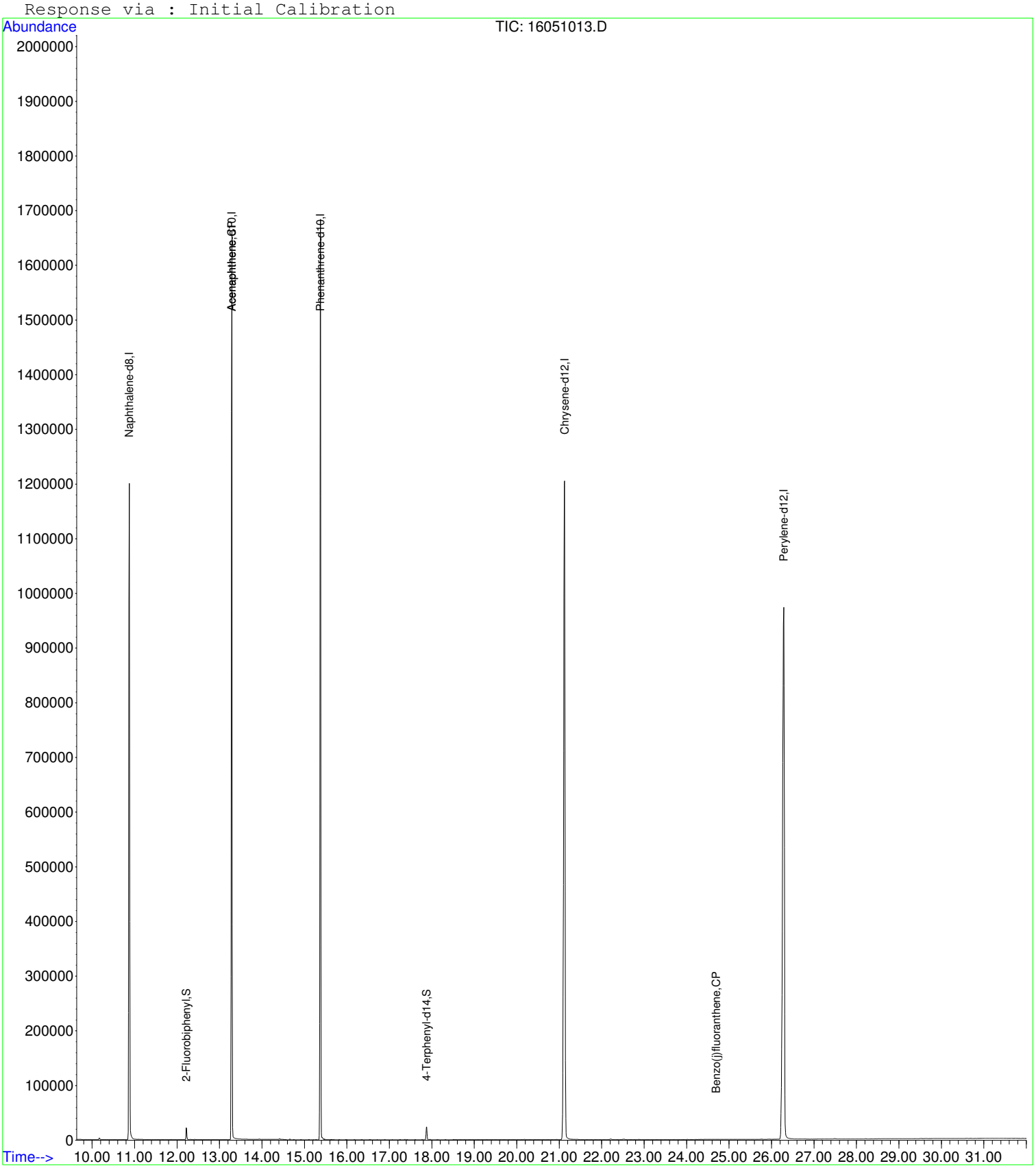
Target Compounds						Qvalue
9) Acenaphthene	13.29	154	2778	11.12	ug/kg#	9
23) Benzo(j)fluoranthene	24.70	252	266	0.62	ug/kg#	70

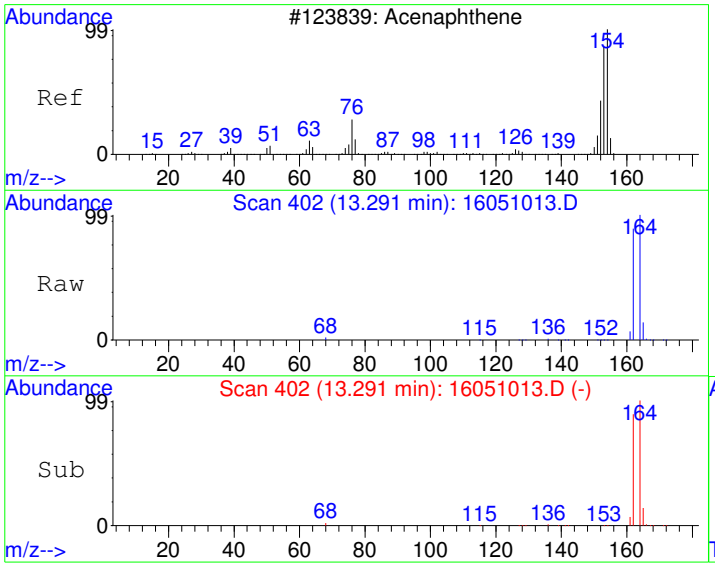
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160510\16051013.D Vial: 13
Acq On : 10 May 2016 4:39 pm Operator:
Sample : 1605034-09A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:05 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

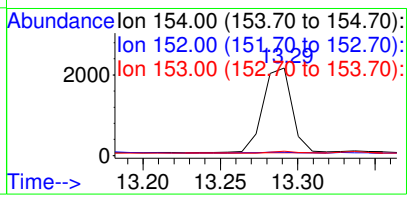


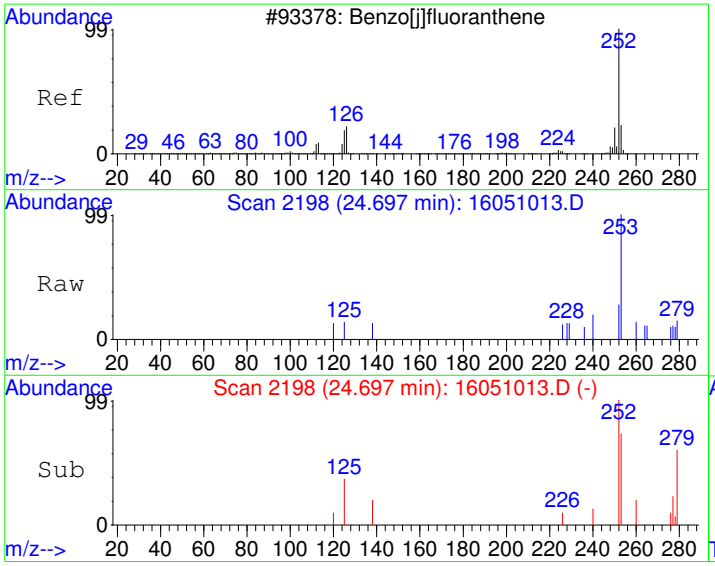


#9
Acenaphthene
Concen: 11.12 ug/kg
RT: 13.29 min Scan# 402
Delta R.T. -0.05 min
Lab File: 16051013.D
Acq: 10 May 2016 4:39 pm

Tgt Ion:154 Resp: 2778

Ion	Ratio	Lower	Upper
154	100		
152	0.9	18.9	78.9#
153	2.3	75.2	135.2#

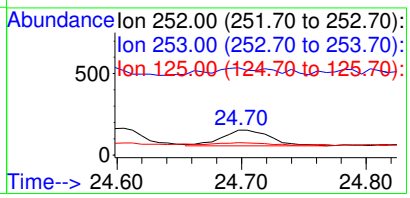




#23
Benzo(j)fluoranthene
Concen: 0.62 ug/kg
RT: 24.70 min Scan# 2198
Delta R.T. -0.05 min
Lab File: 16051013.D
Acq: 10 May 2016 4:39 pm

Tgt Ion:252 Resp: 266

Ion	Ratio	Lower	Upper
252	100		
253	43.8	2.1	42.1#
125	11.5	0.0	34.4



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160510\16051014.D Vial: 14
Acq On : 10 May 2016 5:19 pm Operator:
Sample : 1605034-10A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:05 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.87	136	1447370	4000.00	ug/kg	125
5) Acenaphthene-d10	13.29	164	887937	4000.00	ug/kg	77
11) Phenanthrene-d10	15.38	188	1745852	4000.00	ug/kg	85
17) Chrysene-d12	21.12	240	1923554	4000.00	ug/kg	85
20) Perylene-d12	26.29	264	1785174	4000.00	ug/kg	87

System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.22	172	21864	84.41	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.11%#			
16) 4-Terphenyl-d14	17.88	244	34631	76.67	ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.92%#			

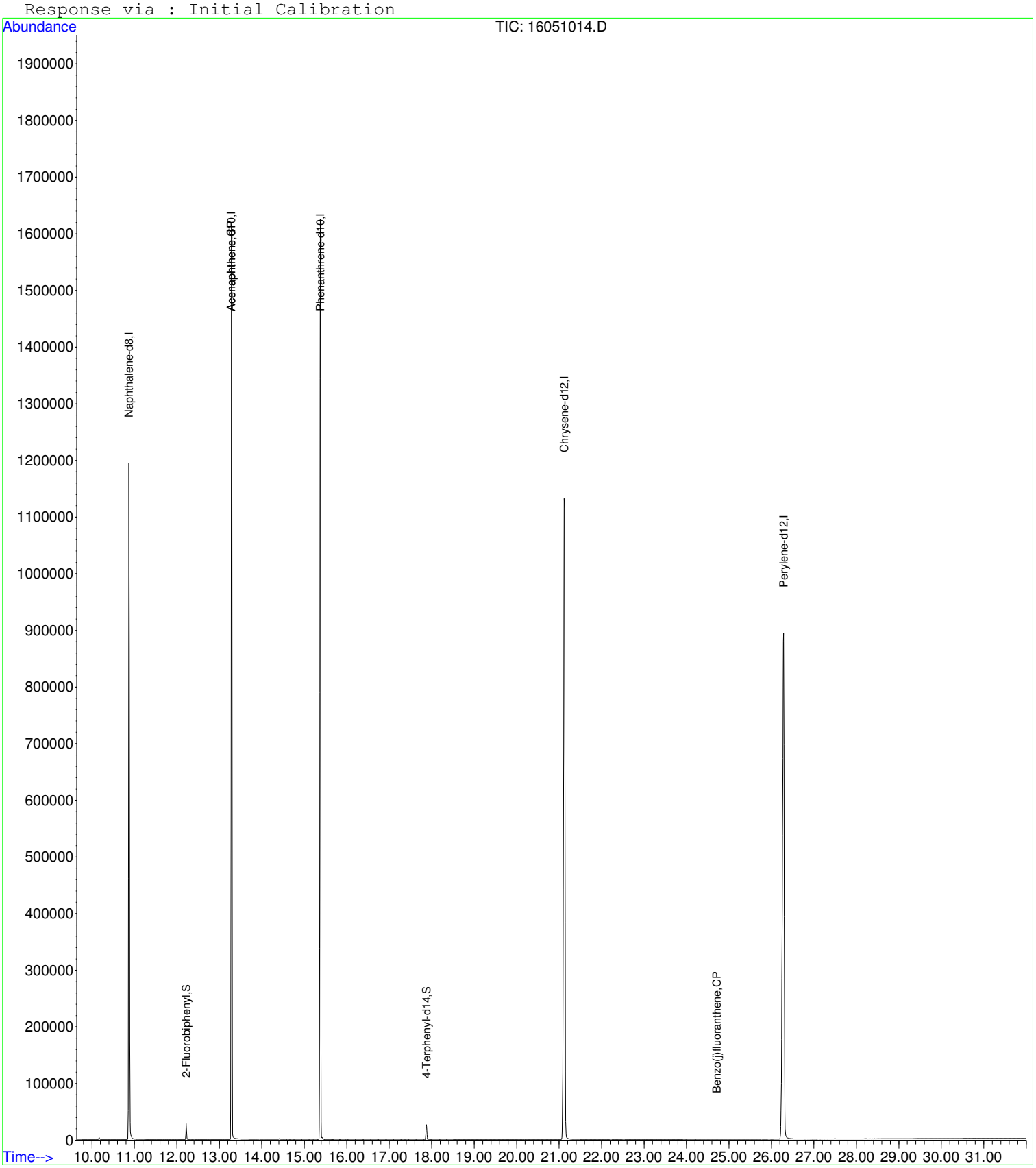
Target Compounds						Qvalue
9) Acenaphthene	13.29	154	2626	11.06	ug/kg#	9
23) Benzo(j)fluoranthene	24.71	252	146	0.37	ug/kg	93

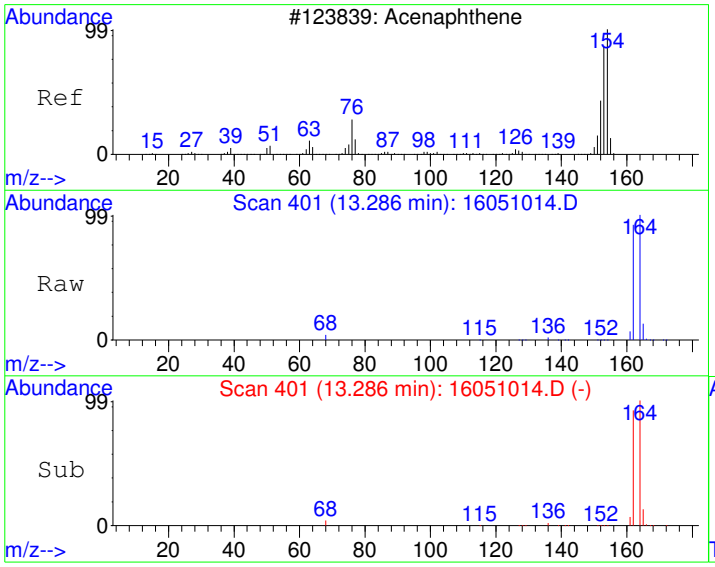
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160510\16051014.D Vial: 14
Acq On : 10 May 2016 5:19 pm Operator:
Sample : 1605034-10A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:05 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

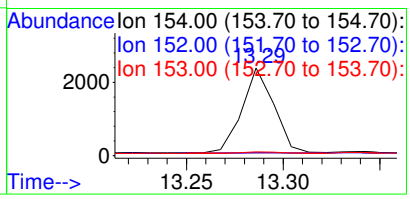


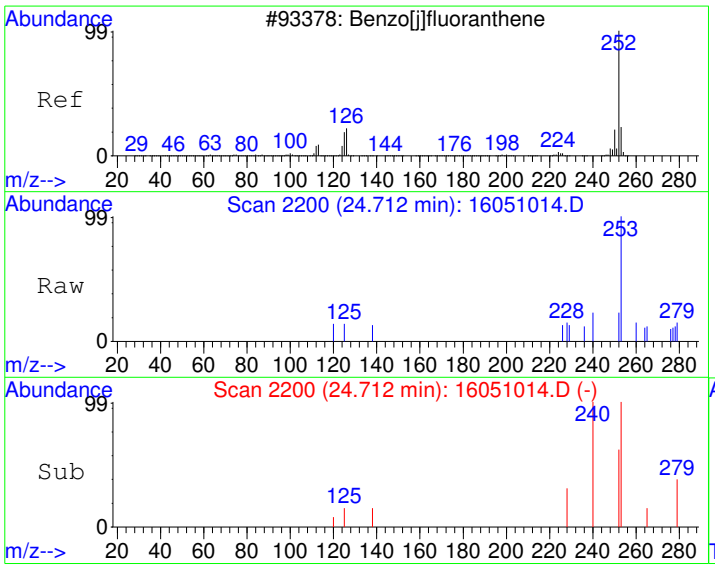


#9
Acenaphthene
Concen: 11.06 ug/kg
RT: 13.29 min Scan# 401
Delta R.T. -0.06 min
Lab File: 16051014.D
Acq: 10 May 2016 5:19 pm

Tgt Ion:154 Resp: 2626

Ion	Ratio	Lower	Upper
154	100		
152	0.6	18.9	78.9#
153	1.9	75.2	135.2#

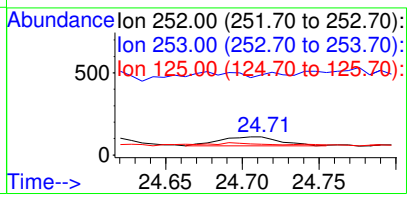




#23
Benzo(j)fluoranthene
Concen: 0.37 ug/kg
RT: 24.71 min Scan# 2200
Delta R.T. -0.03 min
Lab File: 16051014.D
Acq: 10 May 2016 5:19 pm

Tgt Ion:252 Resp: 146

Ion	Ratio	Lower	Upper
252	100		
253	22.2	2.1	42.1
125	7.4	0.0	34.4



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160510\16051015.D Vial: 15
Acq On : 10 May 2016 5:59 pm Operator:
Sample : 1605034-09AMS Inst : GC/MS #6
Misc : MS Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:03 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.87	136	1495329	4000.00 ug/kg	129
5) Acenaphthene-d10	13.28	164	902734	4000.00 ug/kg	78
11) Phenanthrene-d10	15.38	188	1751387	4000.00 ug/kg	86
17) Chrysene-d12	21.13	240	2016975	4000.00 ug/kg	89
20) Perylene-d12	26.29	264	1890719	4000.00 ug/kg	92

System Monitoring Compounds					
7) 2-Fluorobiphenyl	12.22	172	22389	85.02 ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	2.13%#	
16) 4-Terphenyl-d14	17.88	244	33361	73.63 ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.84%#	

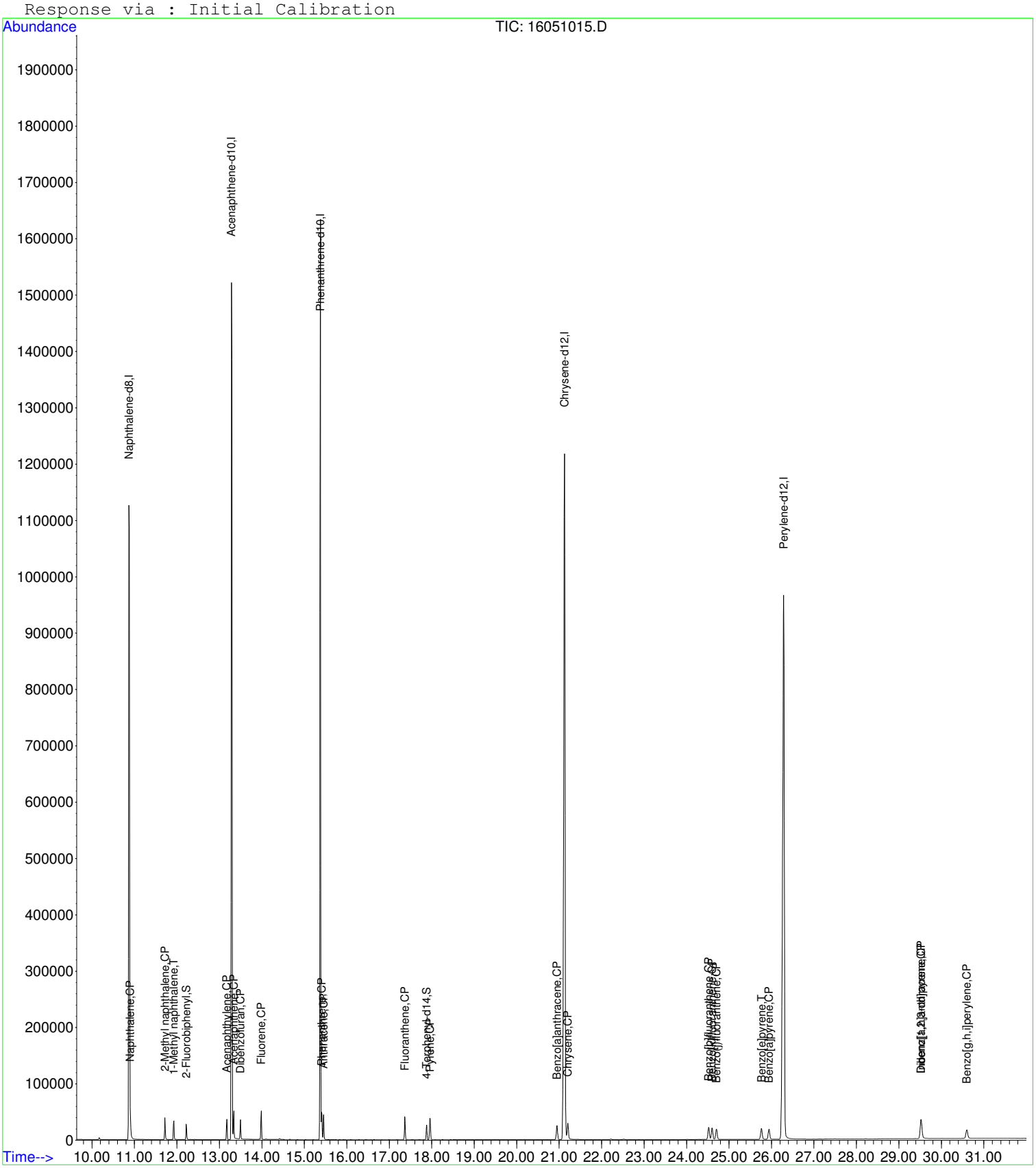
Target Compounds					Qvalue
2) Naphthalene	10.91	128	29276	78.27 ug/kg	99
3) 2-Methyl naphthalene	11.72	142	20269	61.35 ug/kg	98
4) 1-Methyl naphthalene	11.93	142	18625	61.55 ug/kg	99
6) Dibenzofuran	13.49	168	30122	89.03 ug/kg	99
8) Acenaphthylene	13.18	152	31593	81.26 ug/kg	99
9) Acenaphthene	13.34	154	19569	81.10 ug/kg	99
10) Fluorene	13.99	166	25450	86.84 ug/kg	99
12) Phenanthrene	15.41	178	39671	86.13 ug/kg	99
13) Anthracene	15.45	178	37400	85.79 ug/kg	99
14) Fluoranthene	17.37	202	40849	85.70 ug/kg	99
15) Pyrene	17.96	202	42408	85.65 ug/kg	99
18) Benzo[a]anthracene	20.95	228	37533	79.43 ug/kg	100
19) Chrysene	21.20	228	36756	80.51 ug/kg	99
21) Benzo[b]fluoranthene	24.52	252	38781	77.82 ug/kg	99
22) Benzo[k]fluoranthene	24.60	252	36302	77.65 ug/kg	99
23) Benzo(j)fluoranthene	24.70	252	33165	79.64 ug/kg	98
24) Benzo[e]pyrene	25.76	252	36005	80.68 ug/kg	100
25) Benzo[a]pyrene	25.94	252	34558	75.78 ug/kg	99
26) Dibenz[a,h]anthracene	29.52	278	33438	80.51 ug/kg	98
27) Indeno[1,2,3-cd]pyrene	29.53	276	40014	80.76 ug/kg	95
28) Benzo[g,h,i]perylene	30.60	276	31875	82.50 ug/kg	99

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160510\16051015.D Vial: 15
Acq On : 10 May 2016 5:59 pm Operator:
Sample : 1605034-09AMS Inst : GC/MS #6
Misc : MS Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:03 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\160510\16051016.D Vial: 16
Acq On : 10 May 2016 6:38 pm Operator:
Sample : 1605034-09AMSD Inst : GC/MS #6
Misc : MSD Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:03 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.88	136	1402459	4000.00	ug/kg	121
5) Acenaphthene-d10	13.29	164	872573	4000.00	ug/kg	76
11) Phenanthrene-d10	15.38	188	1779121	4000.00	ug/kg	87
17) Chrysene-d12	21.13	240	1989417	4000.00	ug/kg	88
20) Perylene-d12	26.28	264	1833762	4000.00	ug/kg	89

System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.22	172	21764	85.50	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.14%#			
16) 4-Terphenyl-d14	17.88	244	34402	74.74	ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.87%#			

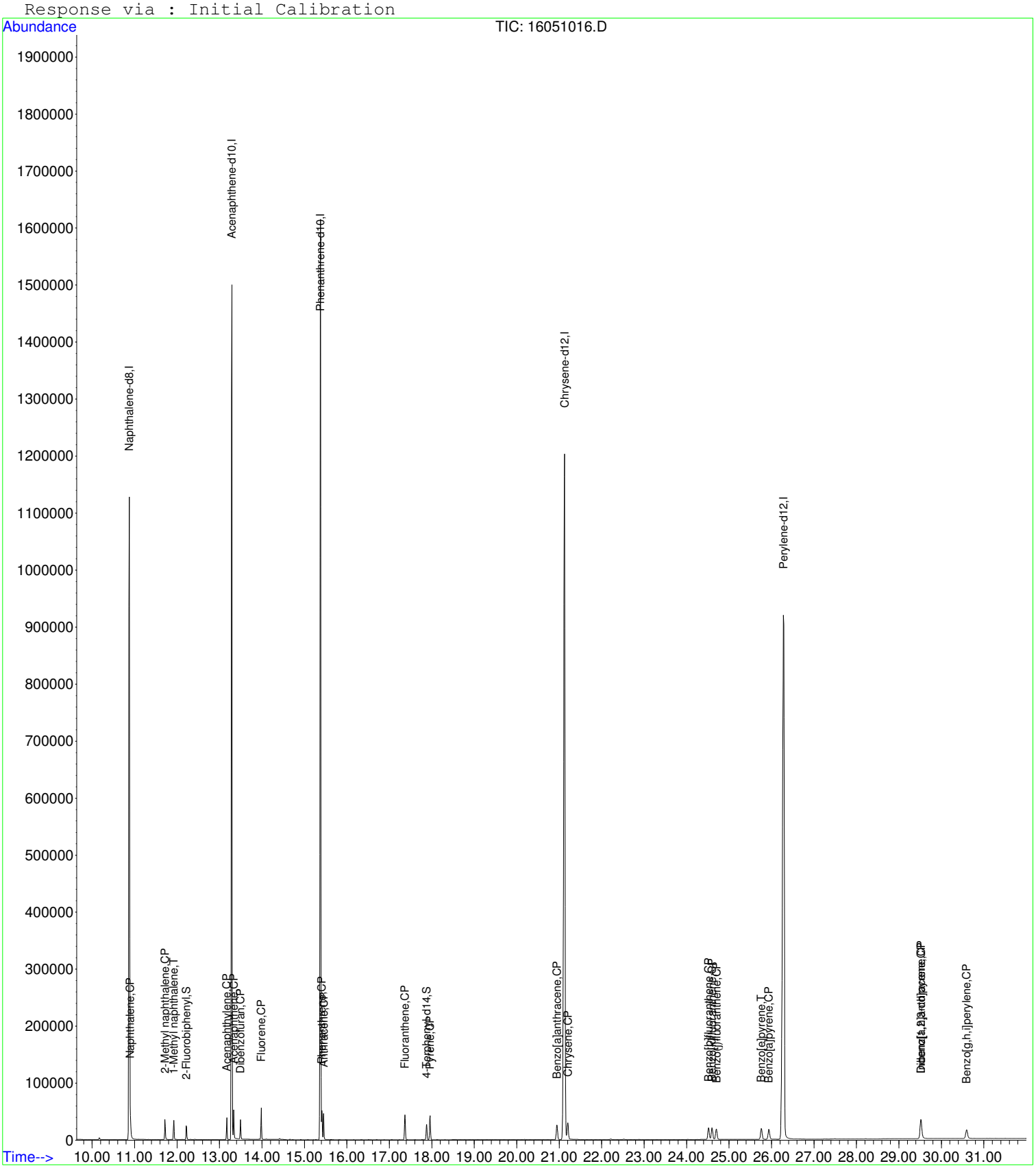
Target Compounds						Qvalue
2) Naphthalene	10.90	128	27677	78.90	ug/kg	100
3) 2-Methyl naphthalene	11.71	142	19200	61.96	ug/kg	96
4) 1-Methyl naphthalene	11.92	142	17806	62.74	ug/kg	98
6) Dibenzofuran	13.49	168	30373	92.87	ug/kg	100
8) Acenaphthylene	13.17	152	31482	83.78	ug/kg	99
9) Acenaphthene	13.34	154	19318	82.82	ug/kg	99
10) Fluorene	13.98	166	25788	91.04	ug/kg	99
12) Phenanthrene	15.41	178	40712	87.01	ug/kg	99
13) Anthracene	15.45	178	39461	89.11	ug/kg	99
14) Fluoranthene	17.37	202	43062	88.94	ug/kg	99
15) Pyrene	17.96	202	44424	88.33	ug/kg	99
18) Benzo[a]anthracene	20.95	228	38603	82.83	ug/kg	99
19) Chrysene	21.20	228	37939	84.25	ug/kg	99
21) Benzo[b]fluoranthene	24.52	252	38256	79.15	ug/kg	99
22) Benzo[k]fluoranthene	24.60	252	36426	80.34	ug/kg	99
23) Benzo(j)fluoranthene	24.70	252	32968	81.63	ug/kg	99
24) Benzo[e]pyrene	25.76	252	35841	82.80	ug/kg	99
25) Benzo[a]pyrene	25.93	252	34689	78.43	ug/kg	99
26) Dibenz[a,h]anthracene	29.52	278	33595	83.40	ug/kg	99
27) Indeno[1,2,3-cd]pyrene	29.52	276	40277	83.81	ug/kg	97
28) Benzo[g,h,i]perylene	30.59	276	32502	86.74	ug/kg	100

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160510\16051016.D Vial: 16
Acq On : 10 May 2016 6:38 pm Operator:
Sample : 1605034-09AMSD Inst : GC/MS #6
Misc : MSD Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:03 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



16051016.D PP160421.M Wed May 11 08:03:25 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160510\16051018.D Vial: 18
Acq On : 10 May 2016 7:54 pm Operator:
Sample : ICV2-160510 Inst : GC/MS #6
Misc : ICV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:03 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.87	136	1482801	4000.00	ug/kg	128
5) Acenaphthene-d10	13.29	164	930007	4000.00	ug/kg	81
11) Phenanthrene-d10	15.38	188	1839515	4000.00	ug/kg	90
17) Chrysene-d12	21.13	240	2080234	4000.00	ug/kg	92
20) Perylene-d12	26.29	264	1923129	4000.00	ug/kg	93

System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.22	172	547944	2019.77	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 50.49%			
16) 4-Terphenyl-d14	17.88	244	886815	1863.39	ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery = 46.58%			

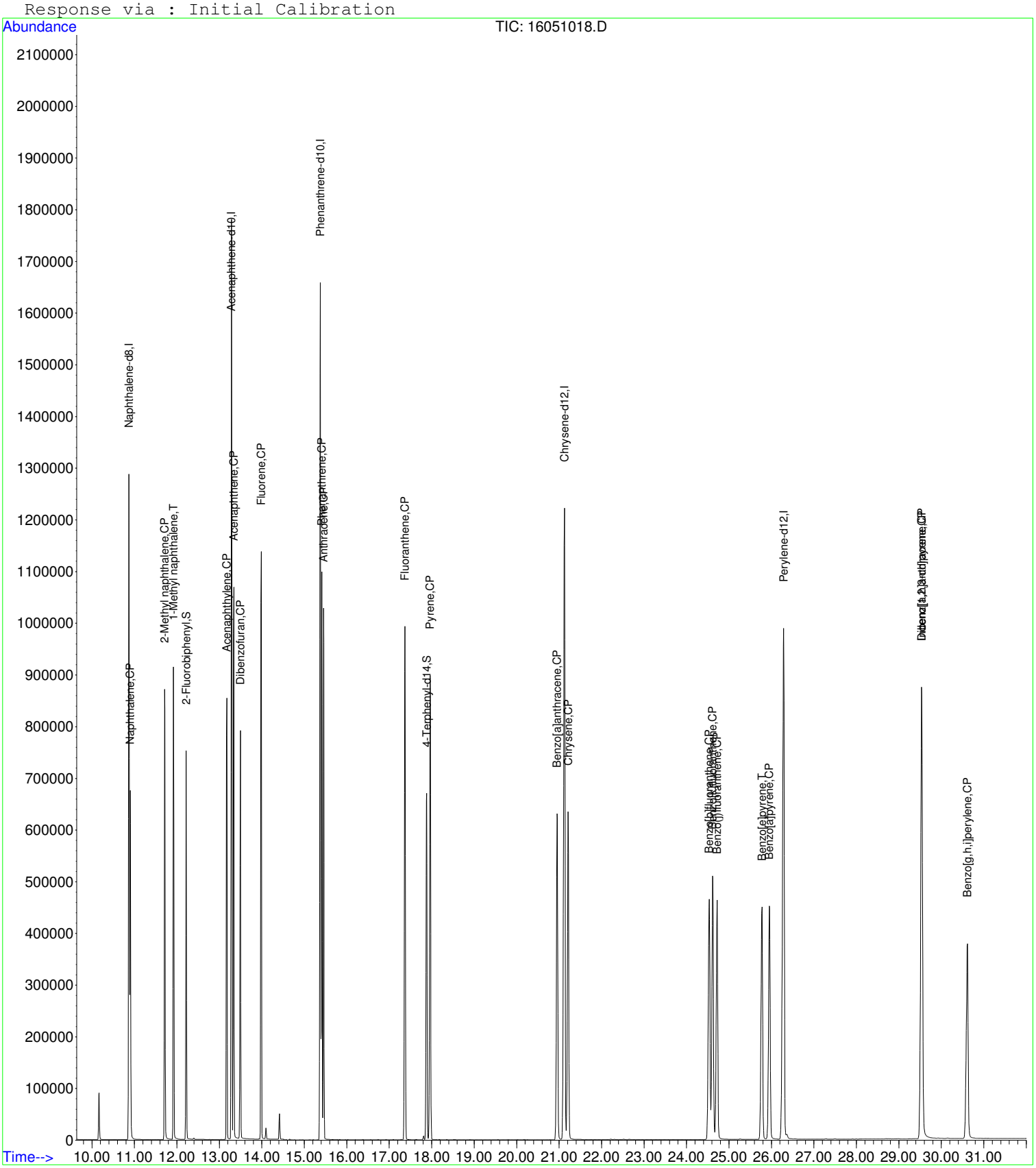
Target Compounds						Qvalue
2) Naphthalene	10.90	128	712333	1920.53	ug/kg	99
3) 2-Methyl naphthalene	11.72	142	513558	1567.50	ug/kg	96
4) 1-Methyl naphthalene	11.92	142	461281	1537.28	ug/kg	93
6) Dibenzofuran	13.50	168	689269	1977.49	ug/kg	100
8) Acenaphthylene	13.18	152	827937	2067.17	ug/kg	99
9) Acenaphthene	13.34	154	487419	1960.69	ug/kg	97
10) Fluorene	13.99	166	626378	2074.73	ug/kg	96
12) Phenanthrene	15.41	178	915059	1891.55	ug/kg	100
13) Anthracene	15.45	178	875748	1912.59	ug/kg	100
14) Fluoranthene	17.37	202	992192	1981.96	ug/kg	99
15) Pyrene	17.96	202	1000557	1924.05	ug/kg	99
18) Benzo[a]anthracene	20.95	228	953650	1956.82	ug/kg	100
19) Chrysene	21.21	228	883109	1875.46	ug/kg	100
21) Benzo[b]fluoranthene	24.54	252	954110	1882.35	ug/kg	100
22) Benzo[k]fluoranthene	24.62	252	896352	1885.10	ug/kg	100
23) Benzo(j)fluoranthene	24.72	252	805044	1900.64	ug/kg	99
24) Benzo[e]pyrene	25.78	252	845515	1862.65	ug/kg	100
25) Benzo[a]pyrene	25.95	252	883211	1904.03	ug/kg	99
26) Dibenz[a,h]anthracene	29.53	278	840923	1990.57	ug/kg	100
27) Indeno[1,2,3-cd]pyrene	29.54	276	985828	1956.12	ug/kg	98
28) Benzo[g,h,i]perylene	30.62	276	773141	1967.36	ug/kg	100

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160510\16051018.D Vial: 18
Acq On : 10 May 2016 7:54 pm Operator:
Sample : ICV2-160510 Inst : GC/MS #6
Misc : ICV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:03 2016 Quant Results File: PP160421.RES

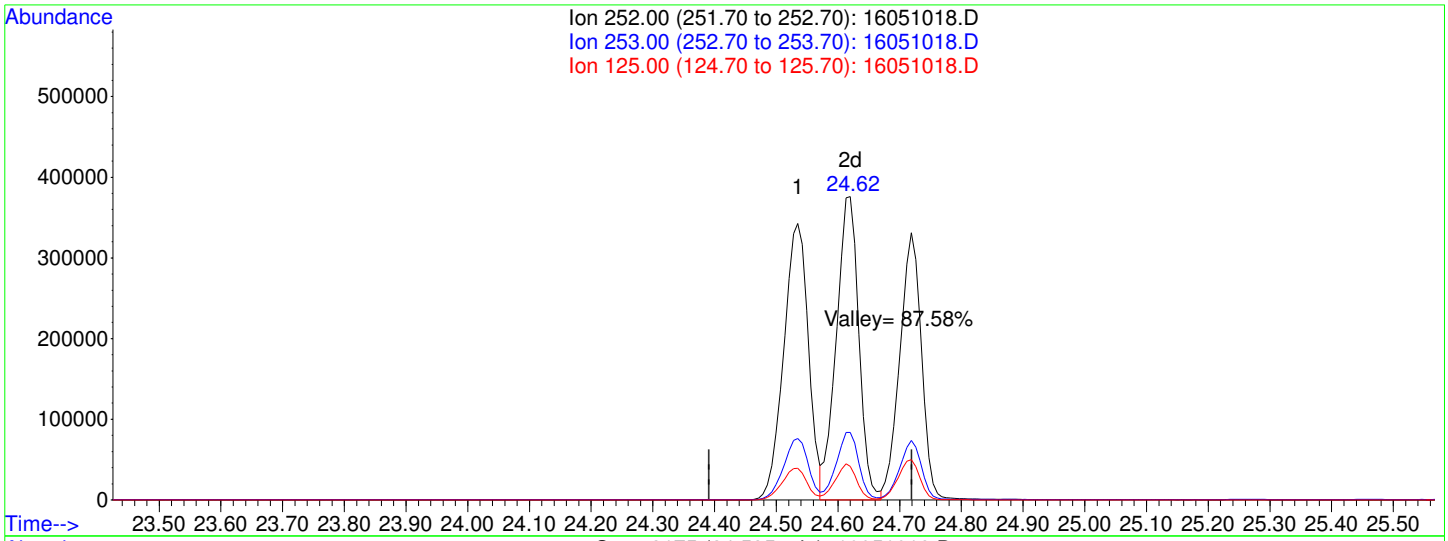
Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri Apr 22 11:43:43 2016
Response via : Initial Calibration

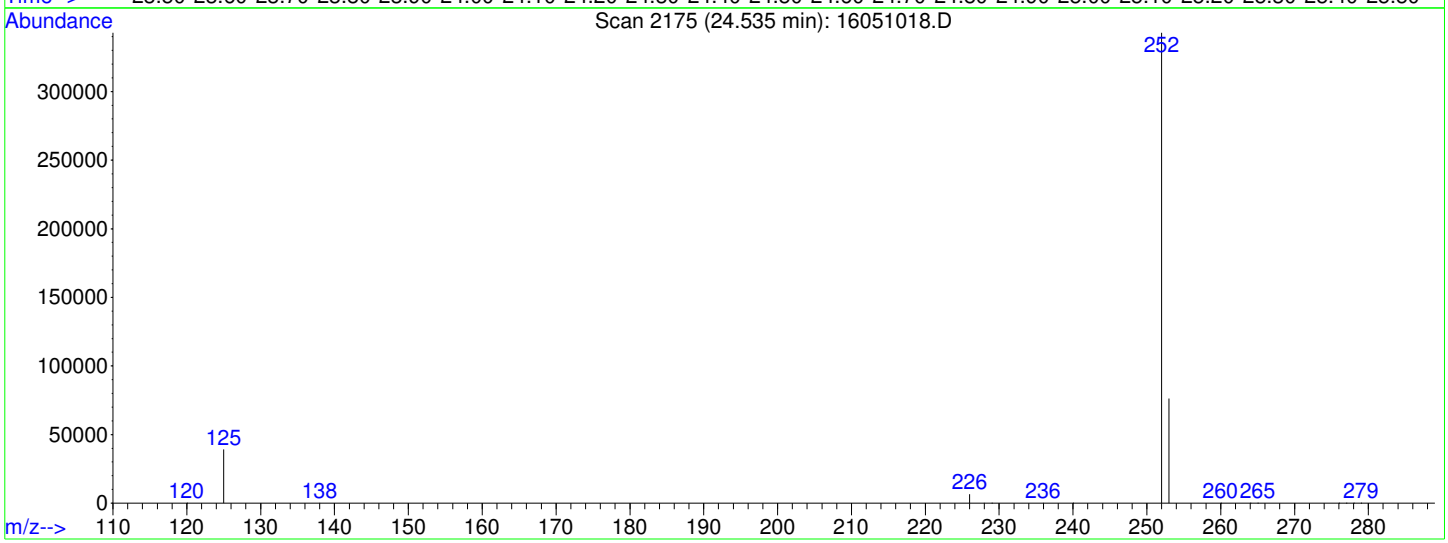


Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\160510\16051018.D Vial: 18
Acq On : 10 May 2016 7:54 pm Operator:
Sample : ICV2-160510 Inst : GC/MS #6
Misc : ICV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 10 20:26 2016 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri Apr 22 11:43:43 2016
Response via : Multiple Level Calibration





TIC: 16051018.D

(21) Benzo[b]fluoranthene (CP)

24.54min 1882.35ug/kg

response 954110

Ion	Exp%	Act%
252.00	100	100
253.00	22.20	22.11
125.00	11.00	11.41
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160510\16051019.D Vial: 19
Acq On : 10 May 2016 8:33 pm Operator:
Sample : SBLK-160510 Inst : GC/MS #6
Misc : SBLK Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:03 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.87	136	1266987	4000.00	ug/kg	109
5) Acenaphthene-d10	13.28	164	882641	4000.00	ug/kg	77
11) Phenanthrene-d10	15.37	188	1657789	4000.00	ug/kg	81
17) Chrysene-d12	21.12	240	1863264	4000.00	ug/kg	82
20) Perylene-d12	26.27	264	1711526	4000.00	ug/kg	83

System Monitoring Compounds

7) 2-Fluorobiphenyl	12.22	172	119	0.46	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 0.01%#			
16) 4-Terphenyl-d14	17.88	244	363	0.85	ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery = 0.02%#			

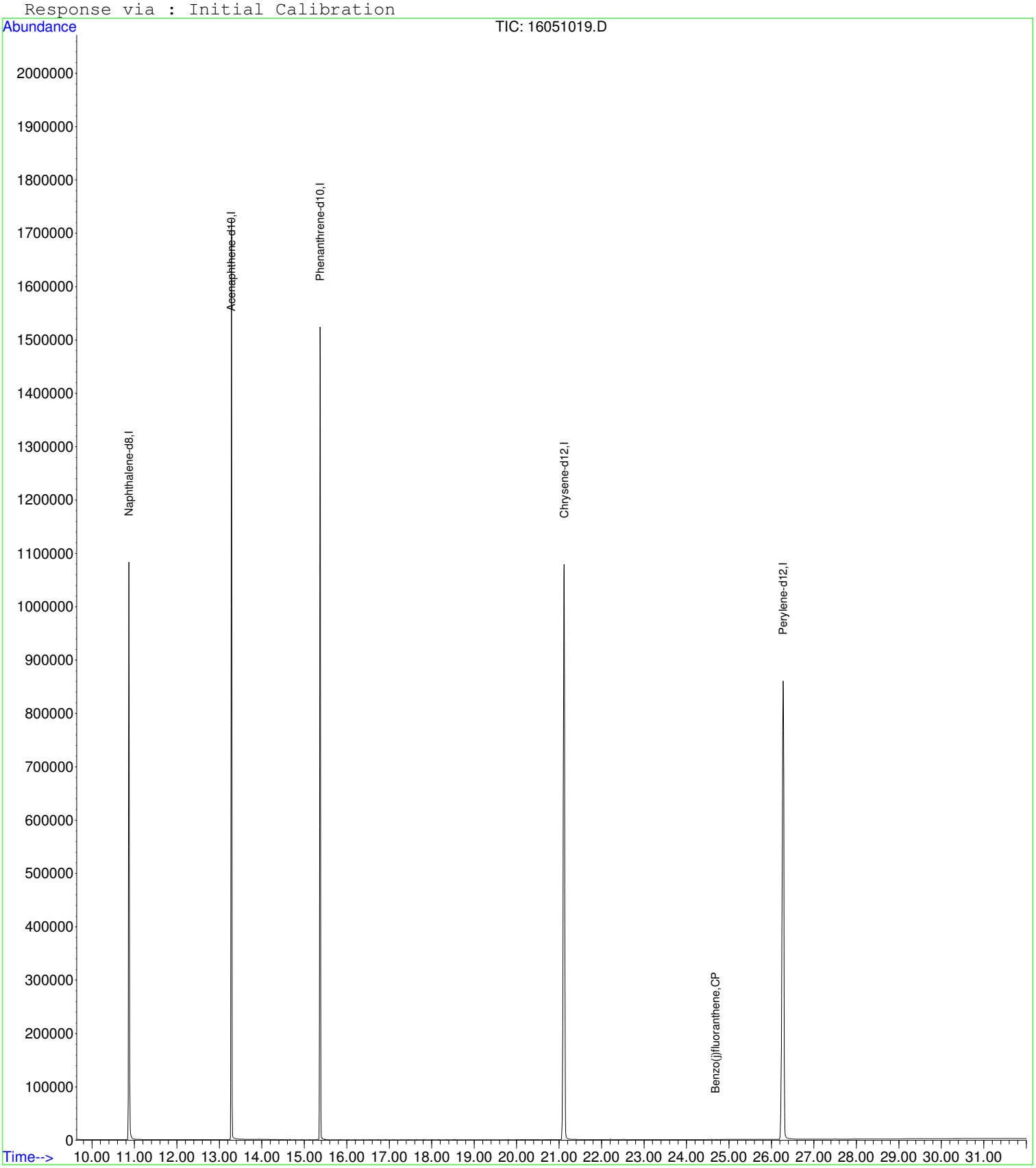
Target Compounds						Qvalue
23) Benzo(j)fluoranthene	24.69	252	129	0.34	ug/kg	77

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160510\16051019.D Vial: 19
Acq On : 10 May 2016 8:33 pm Operator:
Sample : SBLK-160510 Inst : GC/MS #6
Misc : SBLK Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:03 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\160510\16051020.D Vial: 20
Acq On : 10 May 2016 9:14 pm Operator:
Sample : 1605034-11A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:06 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.87	136	1299397	4000.00 ug/kg	112
5) Acenaphthene-d10	13.28	164	992426	4000.00 ug/kg	86
11) Phenanthrene-d10	15.37	188	1697370	4000.00 ug/kg	83
17) Chrysene-d12	21.11	240	2016299	4000.00 ug/kg	89
20) Perylene-d12	26.27	264	1865243	4000.00 ug/kg	91

System Monitoring Compounds					
7) 2-Fluorobiphenyl	12.22	172	23903	82.57 ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.06%#		
16) 4-Terphenyl-d14	17.87	244	33838	77.06 ug/kg	-0.03
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.93%#		

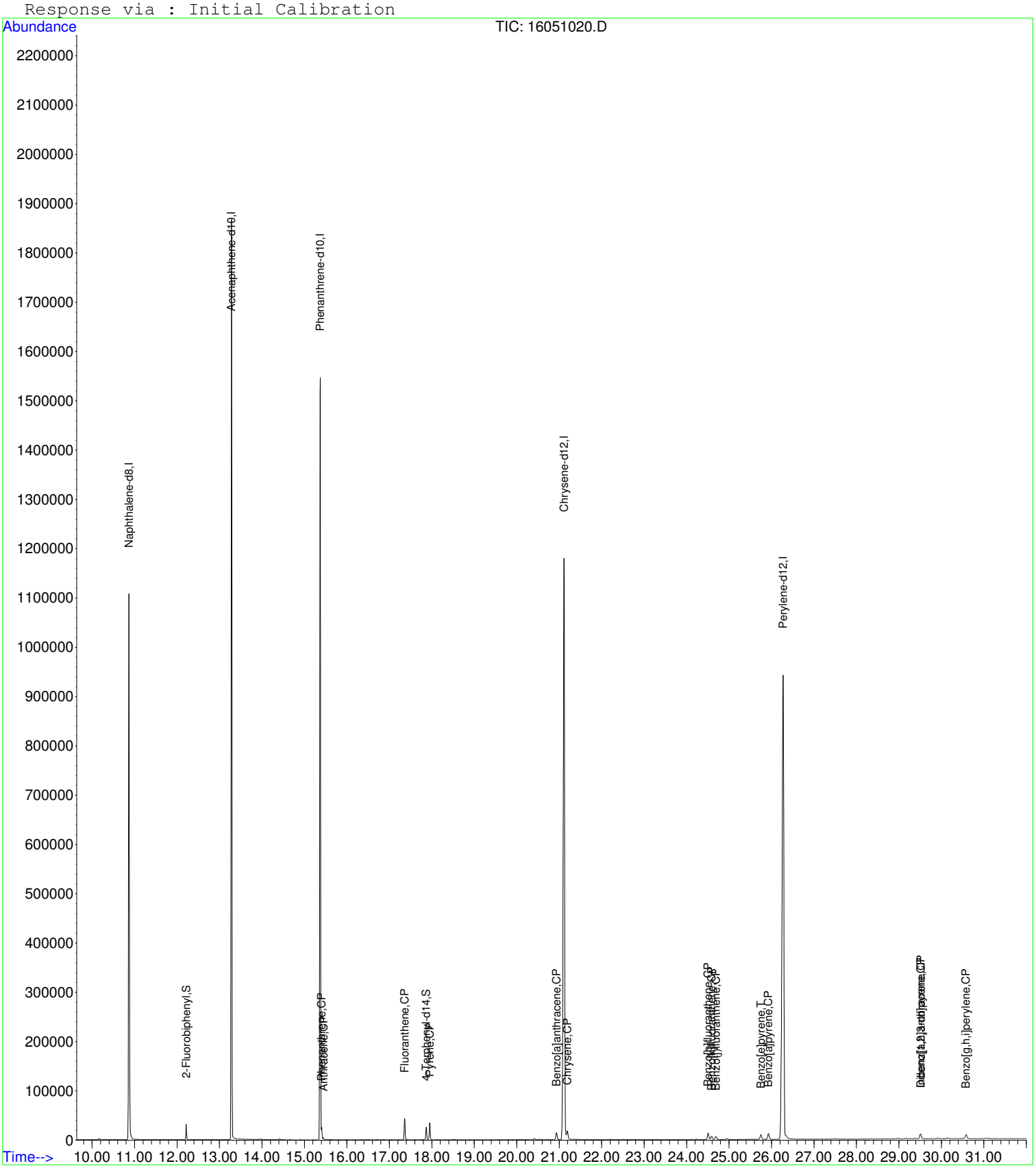
Target Compounds					Qvalue
12) Phenanthrene	15.40	178	18512	41.47 ug/kg	98
13) Anthracene	15.45	178	3234	7.65 ug/kg	98
14) Fluoranthene	17.36	202	42921	92.92 ug/kg	98
15) Pyrene	17.95	202	37063	77.24 ug/kg	98
18) Benzo[a]anthracene	20.94	228	21431	45.37 ug/kg	99
19) Chrysene	21.19	228	25422	55.70 ug/kg	99
21) Benzo[b]fluoranthene	24.51	252	24738	50.32 ug/kg	98
22) Benzo[k]fluoranthene	24.59	252	11899	25.80 ug/kg	98
23) Benzo(j)fluoranthene	24.69	252	11018	26.82 ug/kg	92
24) Benzo[e]pyrene	25.75	252	18386	41.76 ug/kg	99
25) Benzo[a]pyrene	25.93	252	23130	51.41 ug/kg	99
26) Dibenz[a,h]anthracene	29.51	278	3761	9.18 ug/kg	95
27) Indeno[1,2,3-cd]pyrene	29.51	276	17140	35.07 ug/kg	91
28) Benzo[g,h,i]perylene	30.59	276	16122	42.30 ug/kg	99

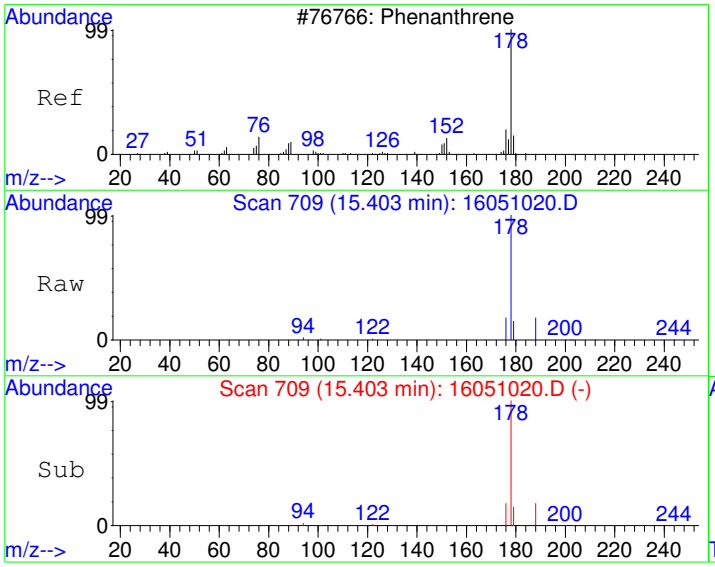
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160510\16051020.D Vial: 20
Acq On : 10 May 2016 9:14 pm Operator:
Sample : 1605034-11A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:06 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

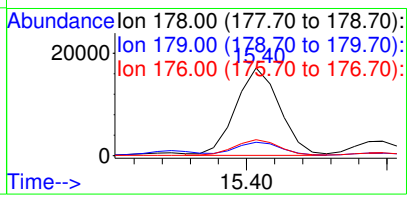


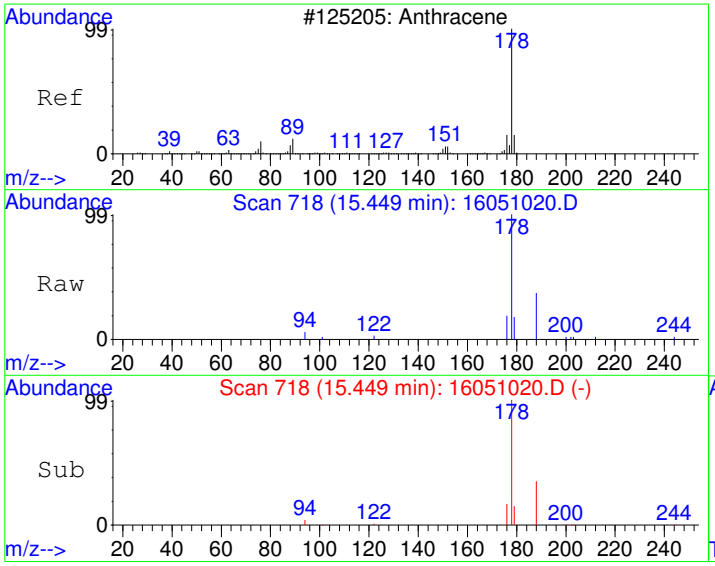


#12
Phenanthrene
Concen: 41.47 ug/kg
RT: 15.40 min Scan# 709
Delta R.T. -0.02 min
Lab File: 16051020.D
Acq: 10 May 2016 9:14 pm

Tgt Ion:178 Resp: 18512

Ion	Ratio	Lower	Upper
178	100		
179	14.9	0.0	45.9
176	18.1	0.0	48.5

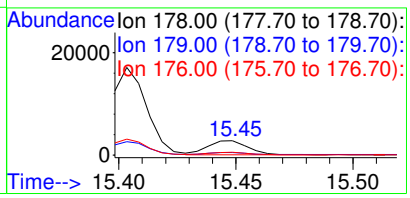


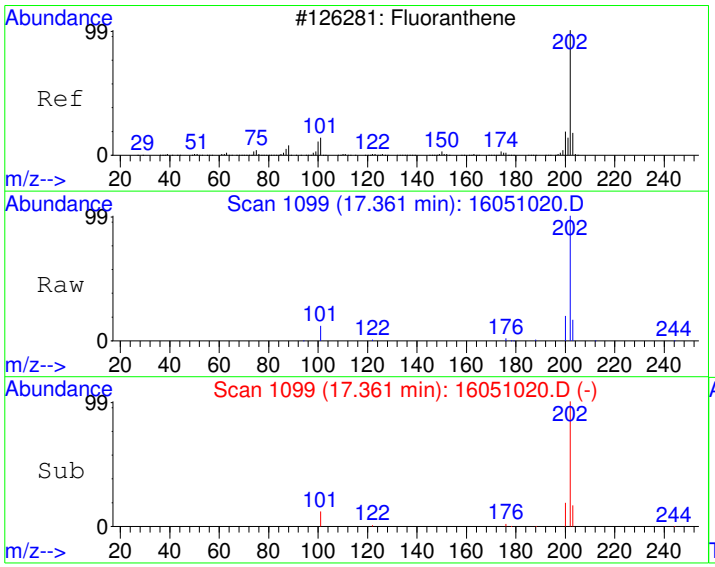


#13
Anthracene
Concen: 7.65 ug/kg
RT: 15.45 min Scan# 718
Delta R.T. -0.01 min
Lab File: 16051020.D
Acq: 10 May 2016 9:14 pm

Tgt Ion:178 Resp: 3234

Ion	Ratio	Lower	Upper
178	100		
179	15.5	0.0	45.9
176	17.2	0.0	48.2

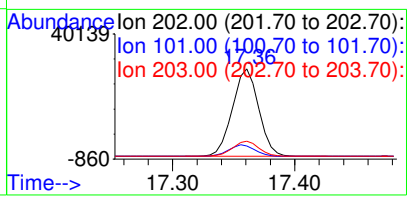


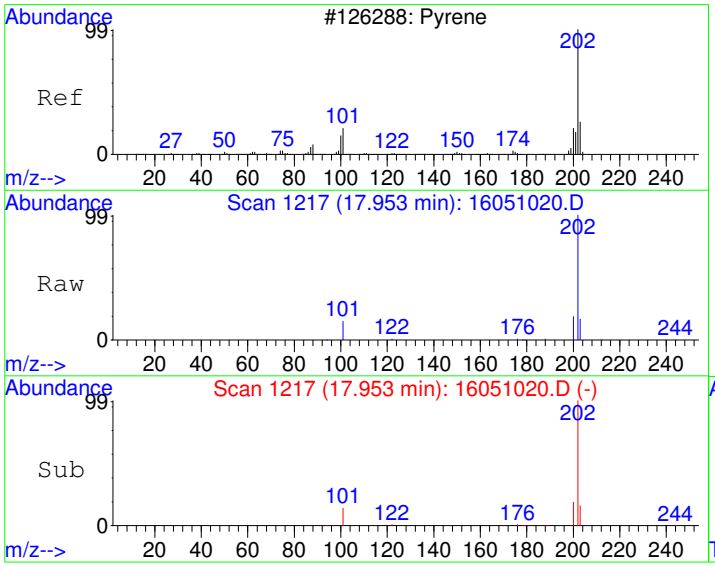


#14
Fluoranthene
Concen: 92.92 ug/kg
RT: 17.36 min Scan# 1099
Delta R.T. -0.02 min
Lab File: 16051020.D
Acq: 10 May 2016 9:14 pm

Tgt Ion:202 Resp: 42921

Ion	Ratio	Lower	Upper
202	100		
101	11.8	0.0	43.0
203	17.3	0.0	47.9

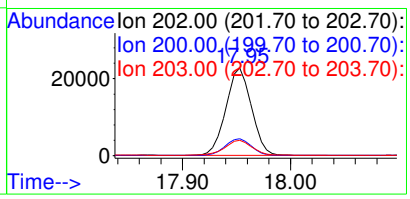


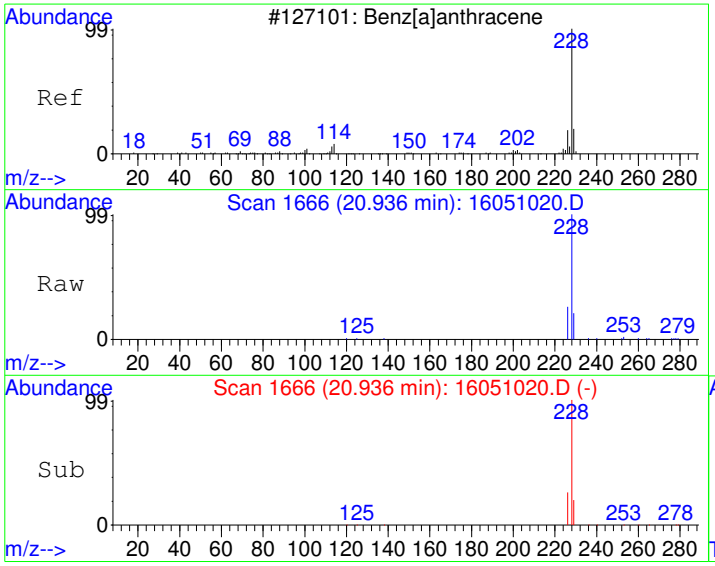


#15
Pyrene
Concen: 77.24 ug/kg
RT: 17.95 min Scan# 1217
Delta R.T. -0.02 min
Lab File: 16051020.D
Acq: 10 May 2016 9:14 pm

Tgt Ion:202 Resp: 37063

Ion	Ratio	Lower	Upper
202	100		
200	19.2	0.0	50.0
203	17.2	0.0	48.0

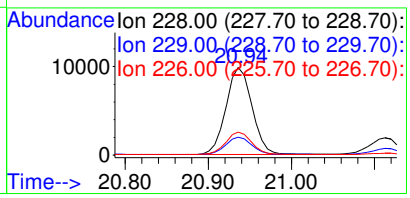


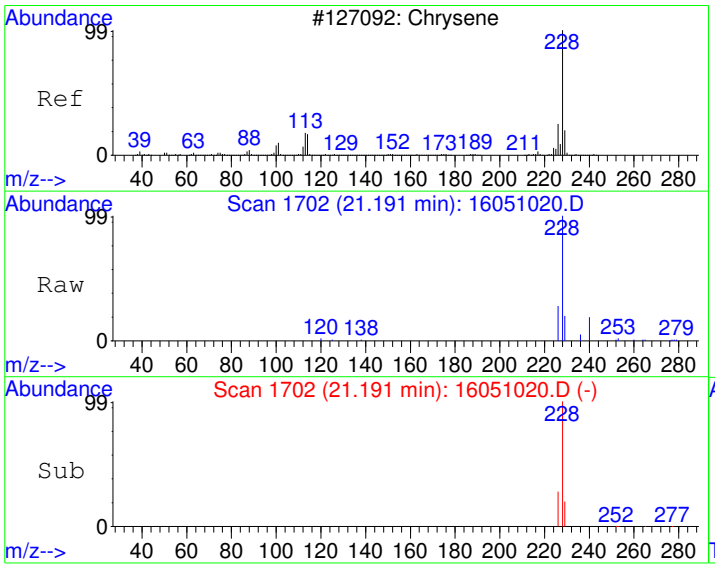


#18
Benzo[a]anthracene
Concen: 45.37 ug/kg
RT: 20.94 min Scan# 1666
Delta R.T. -0.04 min
Lab File: 16051020.D
Acq: 10 May 2016 9:14 pm

Tgt Ion:228 Resp: 21431

Ion	Ratio	Lower	Upper
228	100		
229	19.9	0.0	50.1
226	25.8	0.0	55.2

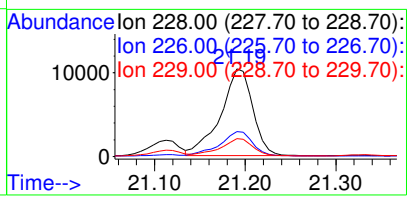


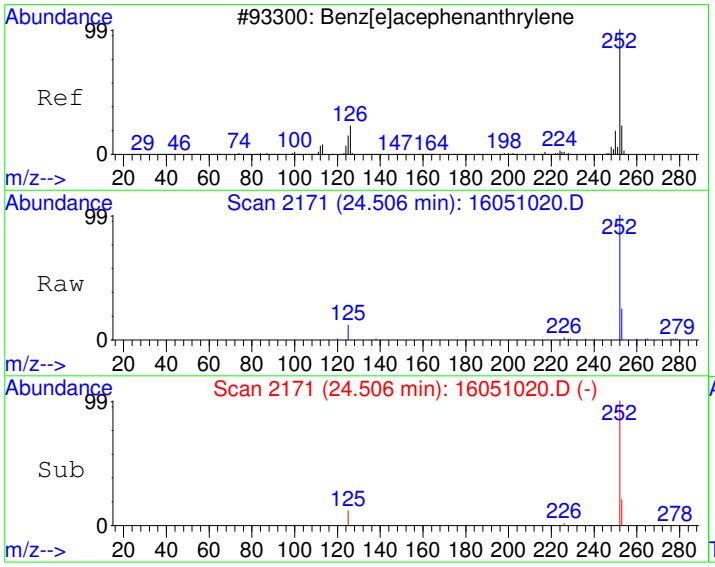


#19
Chrysene
Concen: 55.70 ug/kg
RT: 21.19 min Scan# 1702
Delta R.T. -0.04 min
Lab File: 16051020.D
Acq: 10 May 2016 9:14 pm

Tgt Ion:228 Resp: 25422

Ion	Ratio	Lower	Upper
228	100		
226	27.9	0.0	58.1
229	19.7	0.0	50.1

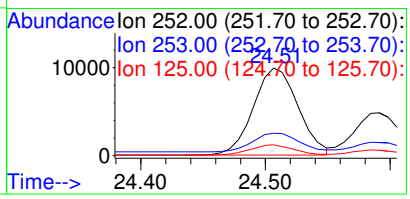


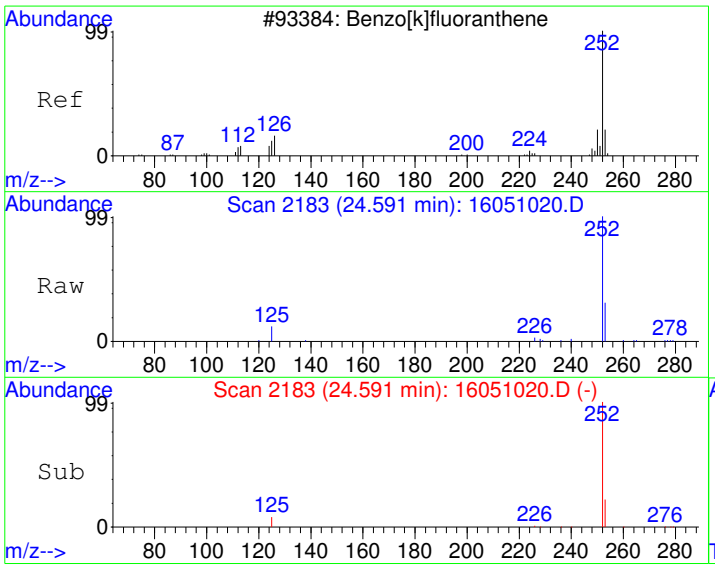


#21
Benzo[b]fluoranthene
Concen: 50.32 ug/kg
RT: 24.51 min Scan# 2171
Delta R.T. -0.05 min
Lab File: 16051020.D
Acq: 10 May 2016 9:14 pm

Tgt Ion:252 Resp: 24738

Ion	Ratio	Lower	Upper
252	100		
253	21.3	0.0	52.2
125	11.7	0.0	41.0

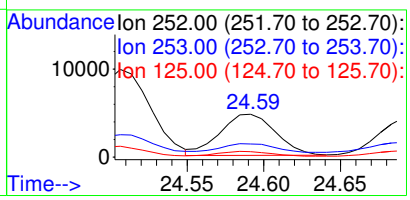


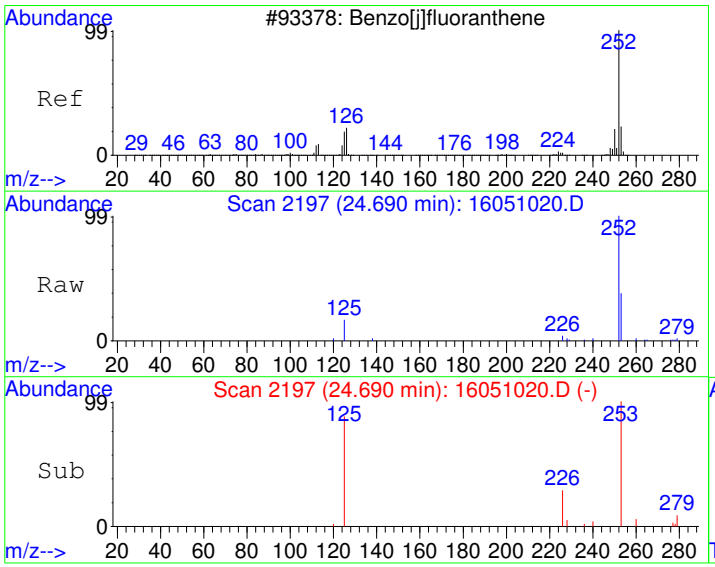


#22
Benzo[k]fluoranthene
Concen: 25.80 ug/kg
RT: 24.59 min Scan# 2183
Delta R.T. -0.05 min
Lab File: 16051020.D
Acq: 10 May 2016 9:14 pm

Tgt Ion:252 Resp: 11899

Ion	Ratio	Lower	Upper
252	100		
253	20.7	2.1	42.1
125	11.1	0.0	31.3

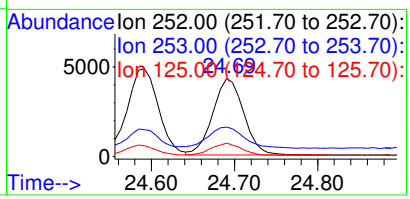


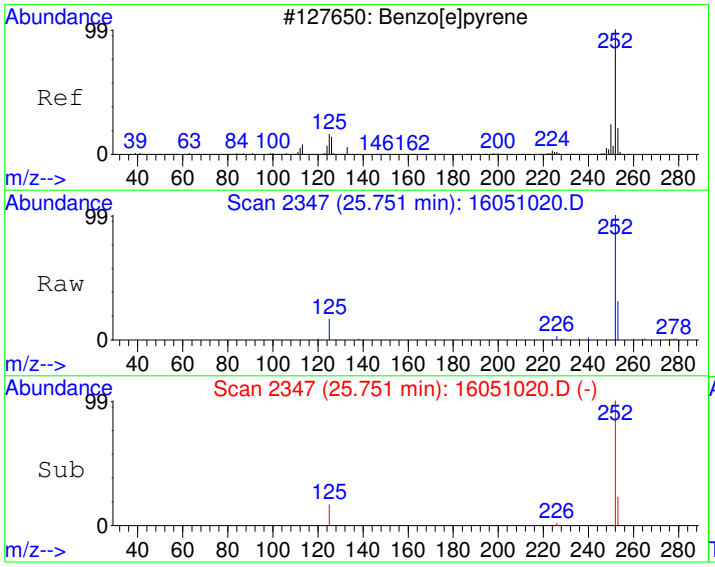


#23
Benzo(j)fluoranthene
Concen: 26.82 ug/kg
RT: 24.69 min Scan# 2197
Delta R.T. -0.06 min
Lab File: 16051020.D
Acq: 10 May 2016 9:14 pm

Tgt Ion:252 Resp: 11018

Ion	Ratio	Lower	Upper
252	100		
253	27.7	2.1	42.1
125	15.8	0.0	34.4

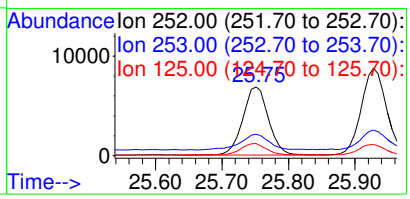


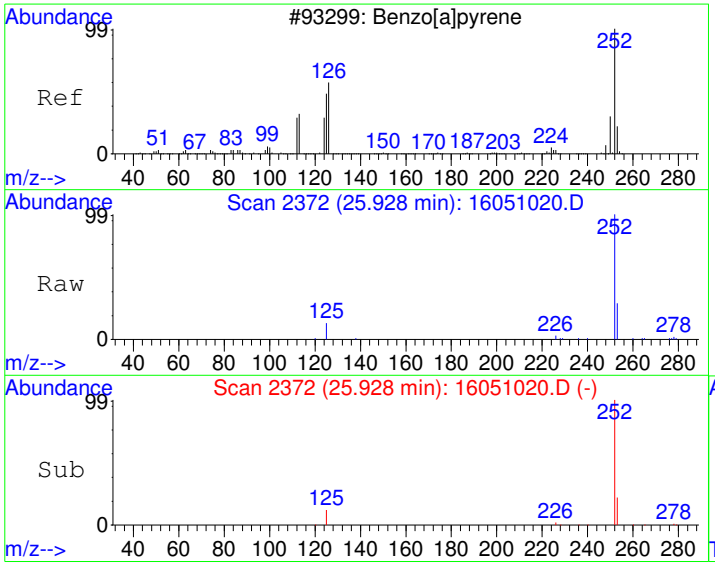


#24
Benzo[e]pyrene
Concen: 41.76 ug/kg
RT: 25.75 min Scan# 2347
Delta R.T. -0.05 min
Lab File: 16051020.D
Acq: 10 May 2016 9:14 pm

Tgt Ion:252 Resp: 18386

Ion	Ratio	Lower	Upper
252	100		
253	22.8	2.2	42.2
125	16.6	0.0	36.1

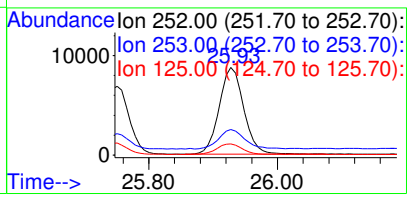


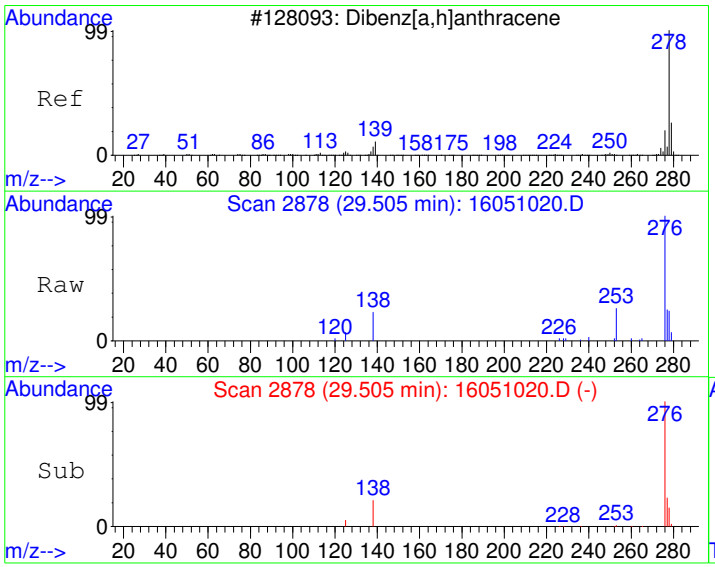


#25
Benzo[a]pyrene
Concen: 51.41 ug/kg
RT: 25.93 min Scan# 2372
Delta R.T. -0.06 min
Lab File: 16051020.D
Acq: 10 May 2016 9:14 pm

Tgt Ion:252 Resp: 23130

Ion	Ratio	Lower	Upper
252	100		
253	22.6	1.9	41.9
125	12.2	0.0	31.7

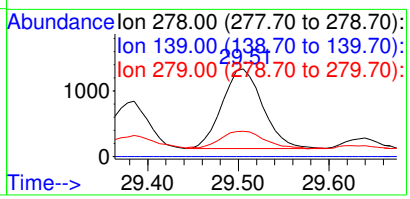


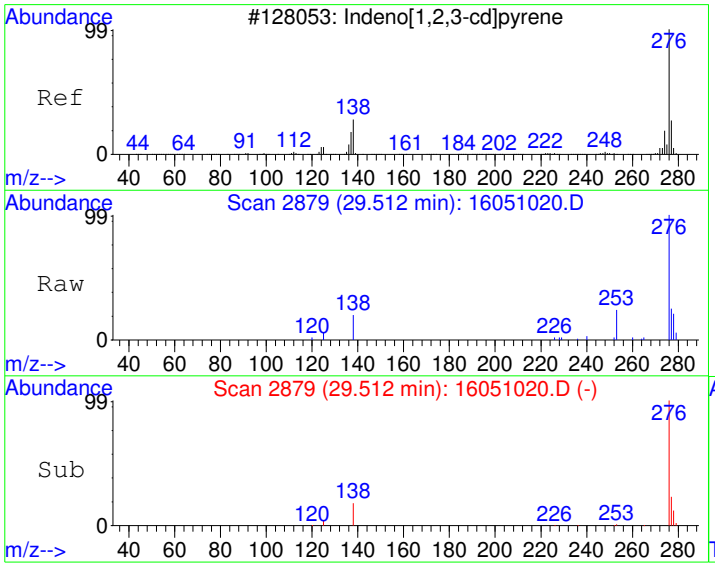


#26
Dibenz[a,h]anthracene
Concen: 9.18 ug/kg
RT: 29.51 min Scan# 2878
Delta R.T. -0.06 min
Lab File: 16051020.D
Acq: 10 May 2016 9:14 pm

Tgt Ion:278 Resp: 3761

Ion	Ratio	Lower	Upper
278	100		
139	0.0	0.0	20.0
279	21.9	4.2	44.2

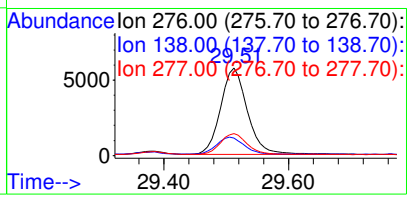


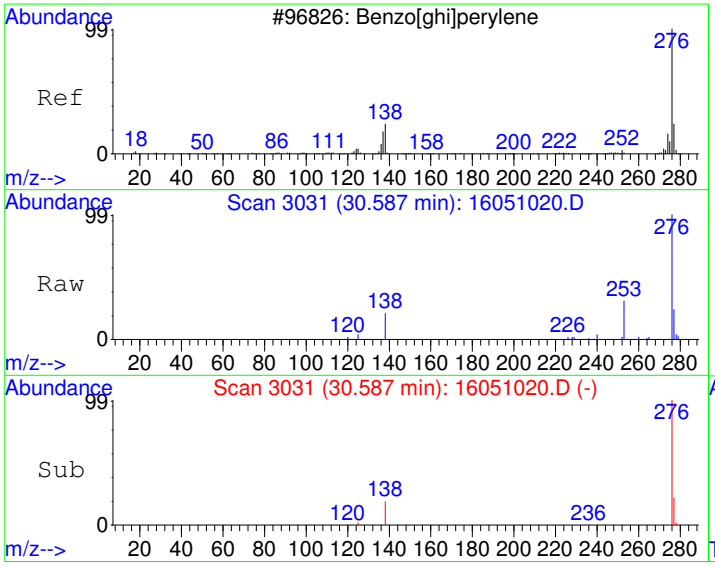


#27
Indeno[1,2,3-cd]pyrene
Concen: 35.07 ug/kg
RT: 29.51 min Scan# 2879
Delta R.T. -0.05 min
Lab File: 16051020.D
Acq: 10 May 2016 9:14 pm

Tgt Ion:276 Resp: 17140

Ion	Ratio	Lower	Upper
276	100		
138	18.9	6.7	46.7
277	24.1	5.8	45.8

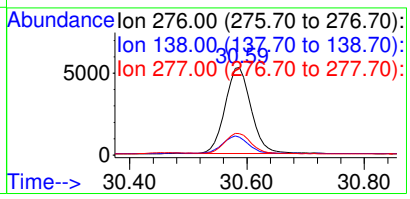




#28
Benzo[g,h,i]perylene
Concen: 42.30 ug/kg
RT: 30.59 min Scan# 3031
Delta R.T. -0.06 min
Lab File: 16051020.D
Acq: 10 May 2016 9:14 pm

Tgt Ion:276 Resp: 16122

Ion	Ratio	Lower	Upper
276	100		
138	19.2	0.0	39.1
277	23.2	4.0	44.0



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160510\16051021.D Vial: 21
Acq On : 10 May 2016 9:54 pm Operator:
Sample : 1605034-12A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:06 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.87	136	1438505	4000.00	ug/kg	124
5) Acenaphthene-d10	13.28	164	915397	4000.00	ug/kg	80
11) Phenanthrene-d10	15.37	188	1832179	4000.00	ug/kg	90
17) Chrysene-d12	21.11	240	2046480	4000.00	ug/kg	90
20) Perylene-d12	26.27	264	1888732	4000.00	ug/kg	92

System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.22	172	20809	77.93	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.95%#			
16) 4-Terphenyl-d14	17.87	244	33956	71.63	ug/kg	-0.03
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.79%#			

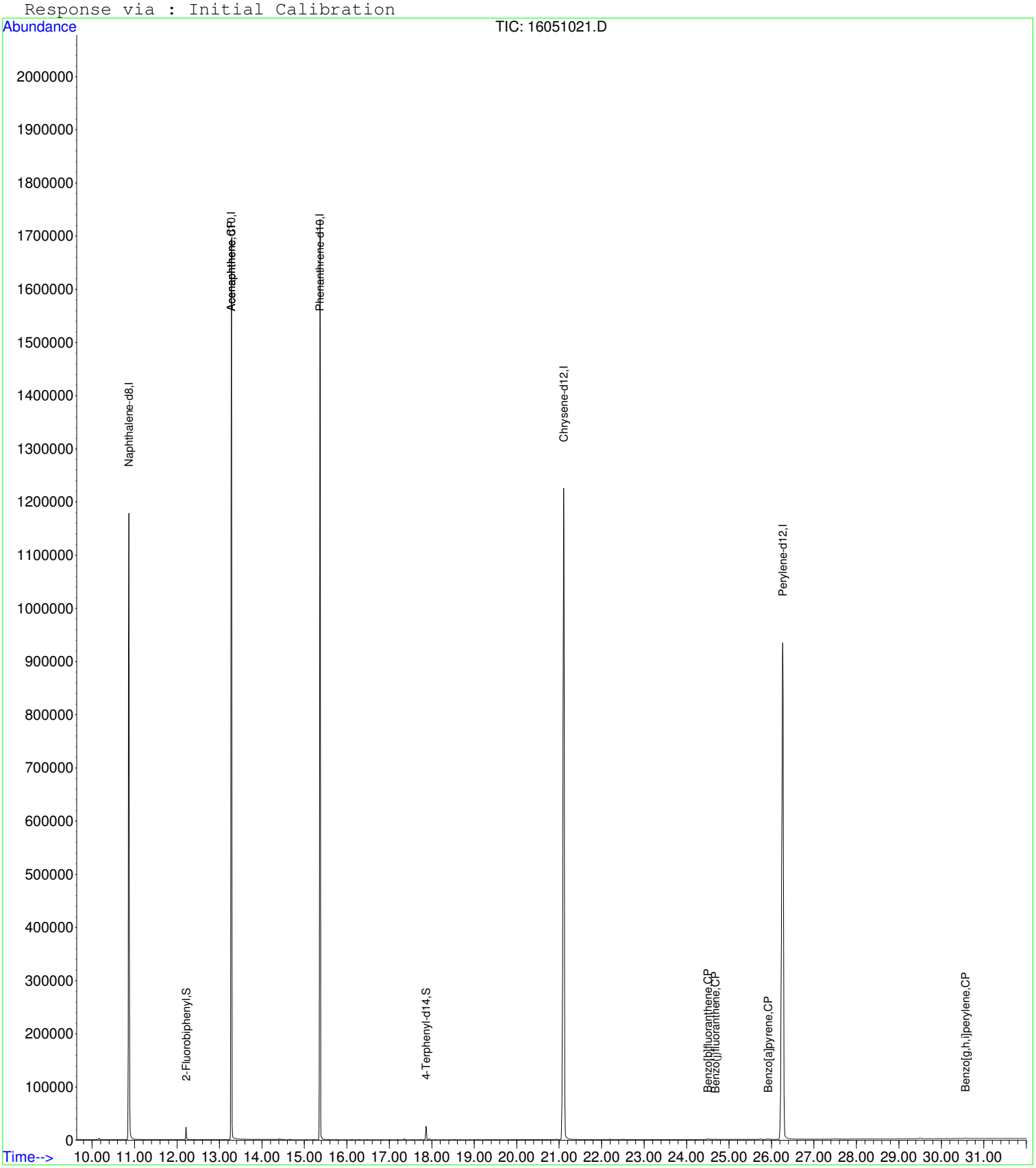
Target Compounds						Qvalue
9) Acenaphthene	13.28	154	2707	11.06	ug/kg#	9
21) Benzo[b]fluoranthene	24.50	252	2712	5.45	ug/kg	98
23) Benzo(j)fluoranthene	24.68	252	1152	2.77	ug/kg	91
25) Benzo[a]pyrene	25.92	252	2619	5.75	ug/kg	95
28) Benzo[g,h,i]perylene	30.57	276	2163	5.60	ug/kg	98

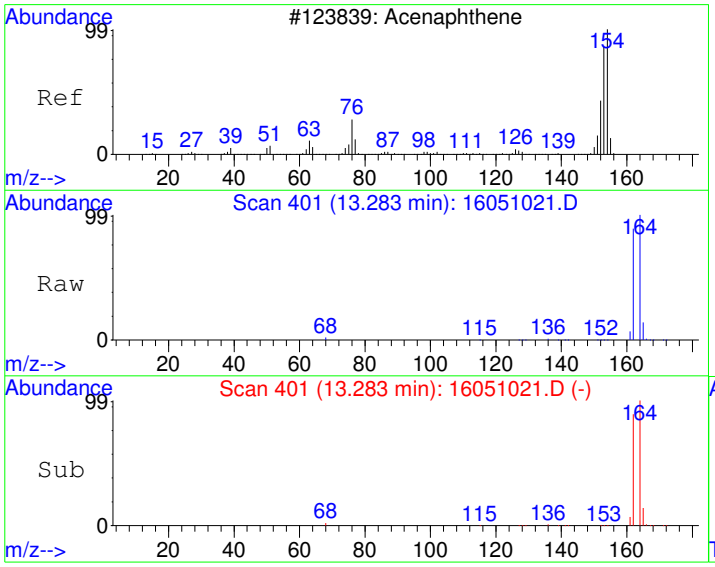
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160510\16051021.D Vial: 21
Acq On : 10 May 2016 9:54 pm Operator:
Sample : 1605034-12A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:06 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

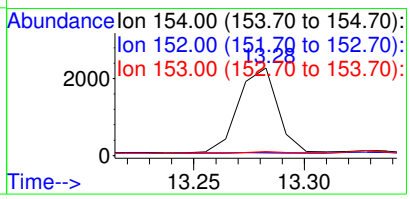


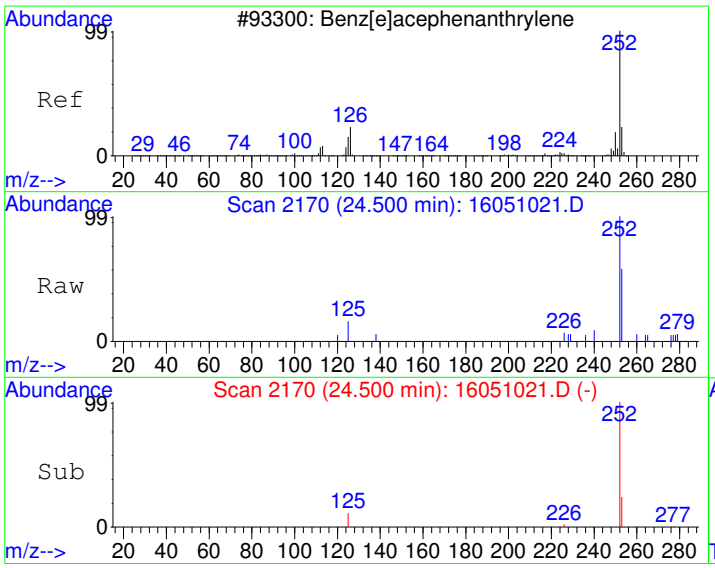


#9
Acenaphthene
Concen: 11.06 ug/kg
RT: 13.28 min Scan# 401
Delta R.T. -0.06 min
Lab File: 16051021.D
Acq: 10 May 2016 9:54 pm

Tgt Ion:154 Resp: 2707

Ion	Ratio	Lower	Upper
154	100		
152	0.5	18.9	78.9#
153	2.1	75.2	135.2#

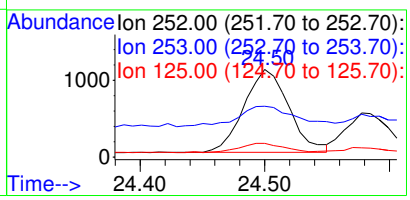


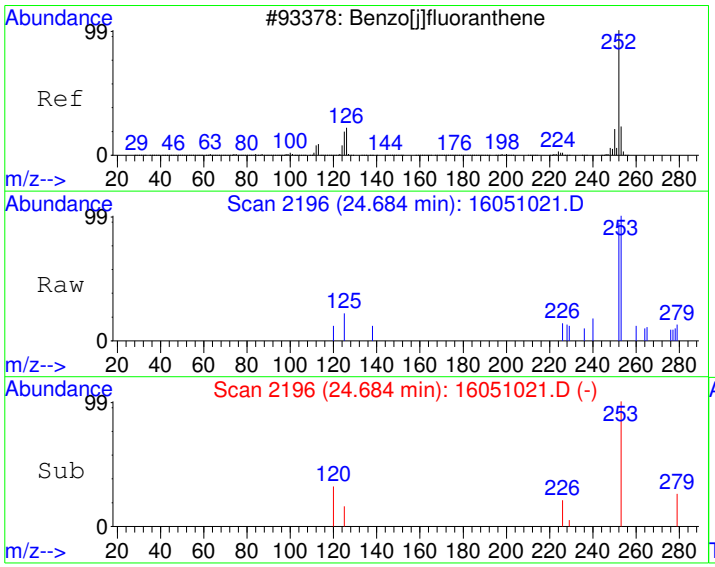


#21
Benzo[b]fluoranthene
Concen: 5.45 ug/kg
RT: 24.50 min Scan# 2170
Delta R.T. -0.06 min
Lab File: 16051021.D
Acq: 10 May 2016 9:54 pm

Tgt Ion:252 Resp: 2712

Ion	Ratio	Lower	Upper
252	100		
253	23.4	0.0	52.2
125	11.2	0.0	41.0

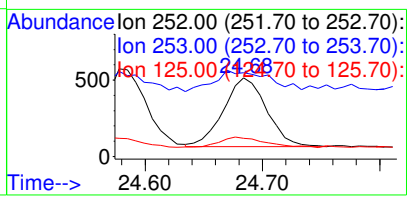


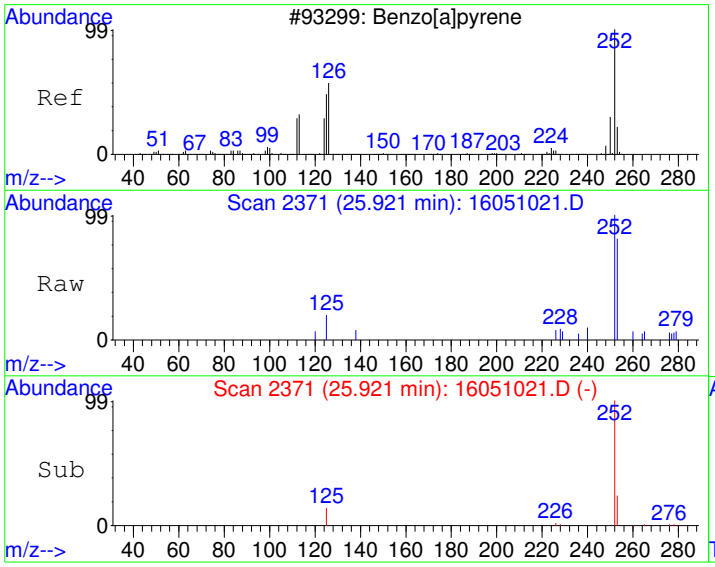


#23
Benzo(j)fluoranthene
Concen: 2.77 ug/kg
RT: 24.68 min Scan# 2196
Delta R.T. -0.06 min
Lab File: 16051021.D
Acq: 10 May 2016 9:54 pm

Tgt Ion:252 Resp: 1152

Ion	Ratio	Lower	Upper
252	100		
253	27.5	2.1	42.1
125	12.6	0.0	34.4

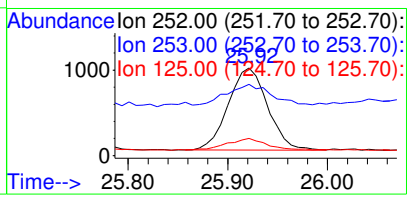


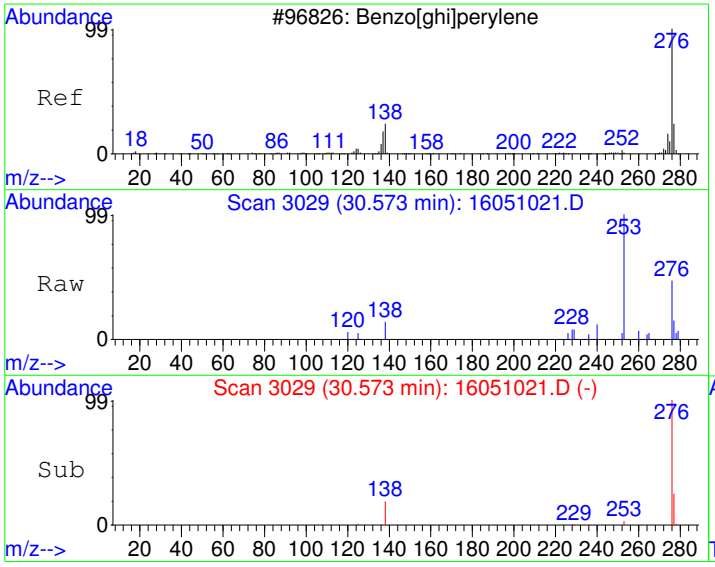


#25
Benzo[a]pyrene
Concen: 5.75 ug/kg
RT: 25.92 min Scan# 2371
Delta R.T. -0.06 min
Lab File: 16051021.D
Acq: 10 May 2016 9:54 pm

Tgt Ion:252 Resp: 2619

Ion	Ratio	Lower	Upper
252	100		
253	23.9	1.9	41.9
125	14.1	0.0	31.7

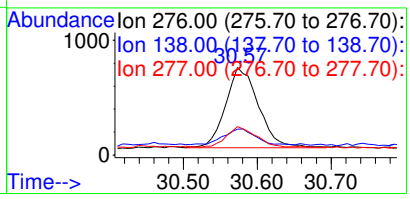




#28
Benzo[g,h,i]perylene
Concen: 5.60 ug/kg
RT: 30.57 min Scan# 3029
Delta R.T. -0.07 min
Lab File: 16051021.D
Acq: 10 May 2016 9:54 pm

Tgt Ion:276 Resp: 2163

Ion	Ratio	Lower	Upper
276	100		
138	19.9	0.0	39.1
277	25.2	4.0	44.0



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160510\16051022.D Vial: 22
Acq On : 10 May 2016 10:33 pm Operator:
Sample : 1605034-13A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:06 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1395358	4000.00 ug/kg	120
5) Acenaphthene-d10	13.28	164	942921	4000.00 ug/kg	82
11) Phenanthrene-d10	15.37	188	1728637	4000.00 ug/kg	85
17) Chrysene-d12	21.11	240	1996278	4000.00 ug/kg	88
20) Perylene-d12	26.27	264	1803819	4000.00 ug/kg	88

System Monitoring Compounds					
7) 2-Fluorobiphenyl	12.21	172	23501	85.44 ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery =	2.14%#	
16) 4-Terphenyl-d14	17.86	244	33857	75.70 ug/kg	-0.04
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.89%#	

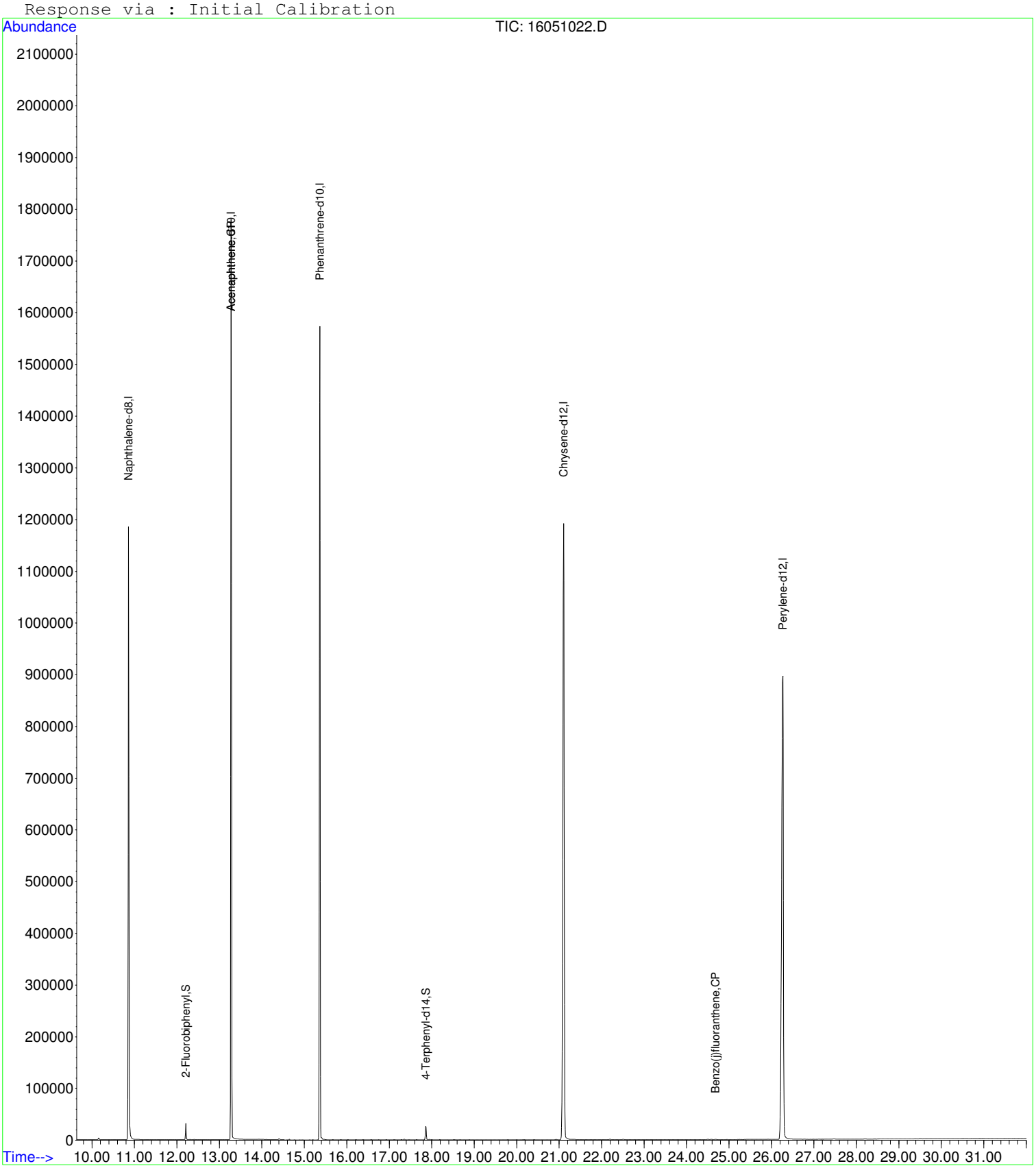
Target Compounds					Qvalue
9) Acenaphthene	13.28	154	2850	11.31 ug/kg#	9
23) Benzo(j)fluoranthene	24.68	252	482	1.21 ug/kg	76

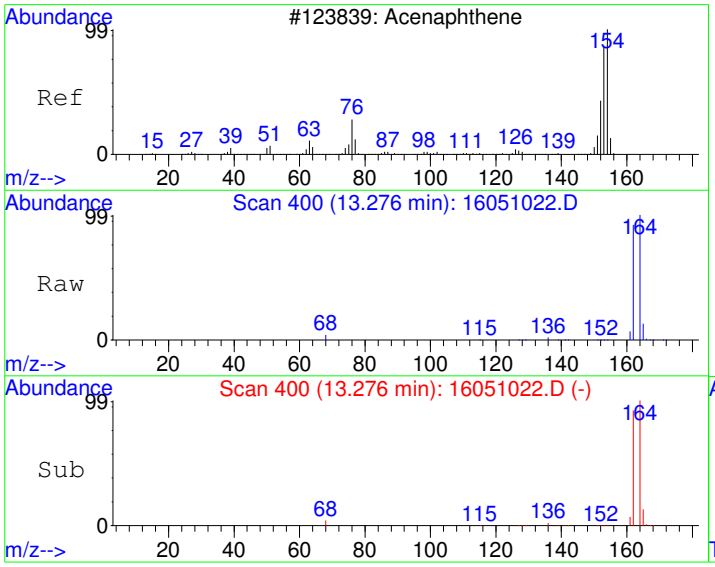
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160510\16051022.D Vial: 22
Acq On : 10 May 2016 10:33 pm Operator:
Sample : 1605034-13A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:06 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

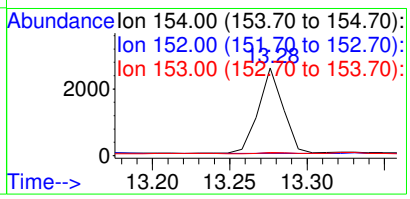


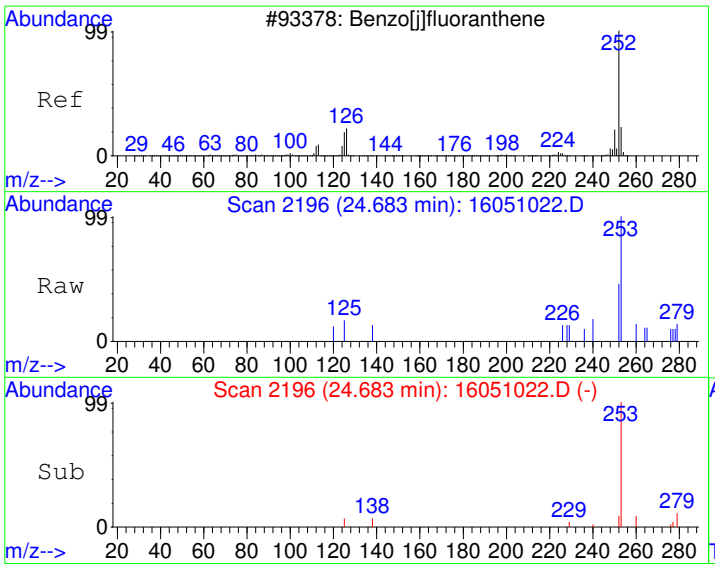


#9
Acenaphthene
Concen: 11.31 ug/kg
RT: 13.28 min Scan# 400
Delta R.T. -0.07 min
Lab File: 16051022.D
Acq: 10 May 2016 10:33 pm

Tgt Ion:154 Resp: 2850

Ion	Ratio	Lower	Upper
154	100		
152	0.7	18.9	78.9#
153	1.2	75.2	135.2#

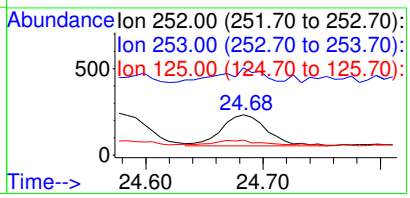




#23
Benzo(j)fluoranthene
Concen: 1.21 ug/kg
RT: 24.68 min Scan# 2196
Delta R.T. -0.06 min
Lab File: 16051022.D
Acq: 10 May 2016 10:33 pm

Tgt Ion:252 Resp: 482

Ion	Ratio	Lower	Upper
252	100		
253	40.0	2.1	42.1
125	16.1	0.0	34.4



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160510\16051023.D Vial: 23
Acq On : 10 May 2016 11:13 pm Operator:
Sample : 1605034-14A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:06 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.87	136	1455177	4000.00	ug/kg	126
5) Acenaphthene-d10	13.28	164	895343	4000.00	ug/kg	78
11) Phenanthrene-d10	15.37	188	1825403	4000.00	ug/kg	89
17) Chrysene-d12	21.11	240	2042835	4000.00	ug/kg	90
20) Perylene-d12	26.27	264	1869847	4000.00	ug/kg	91

System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.22	172	21499	82.32	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.06%#			
16) 4-Terphenyl-d14	17.86	244	35091	74.30	ug/kg	-0.03
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.86%#			

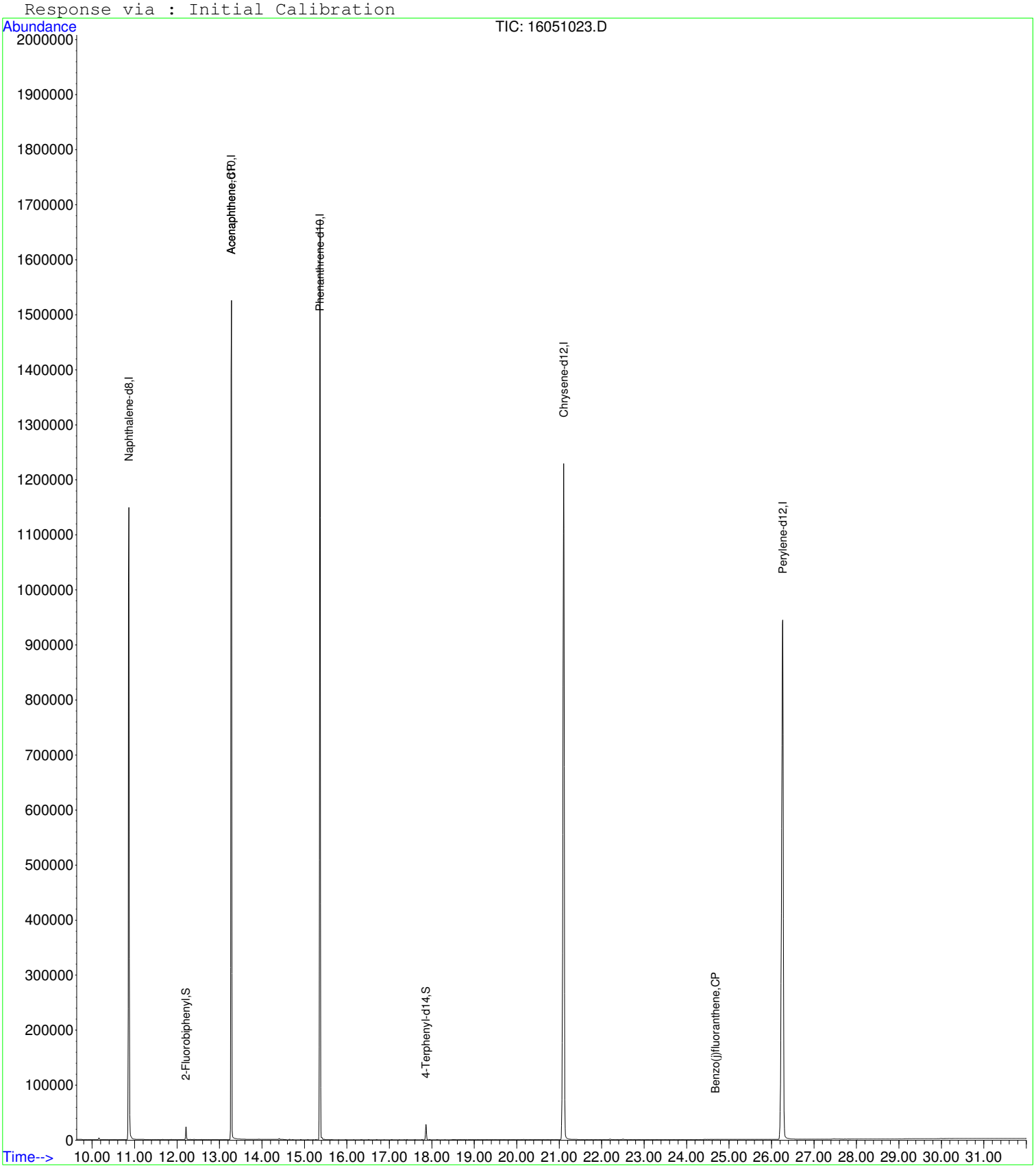
Target Compounds						Qvalue
9) Acenaphthene	13.27	154	2693	11.25	ug/kg#	8
23) Benzo(j)fluoranthene	24.68	252	137	0.33	ug/kg#	51

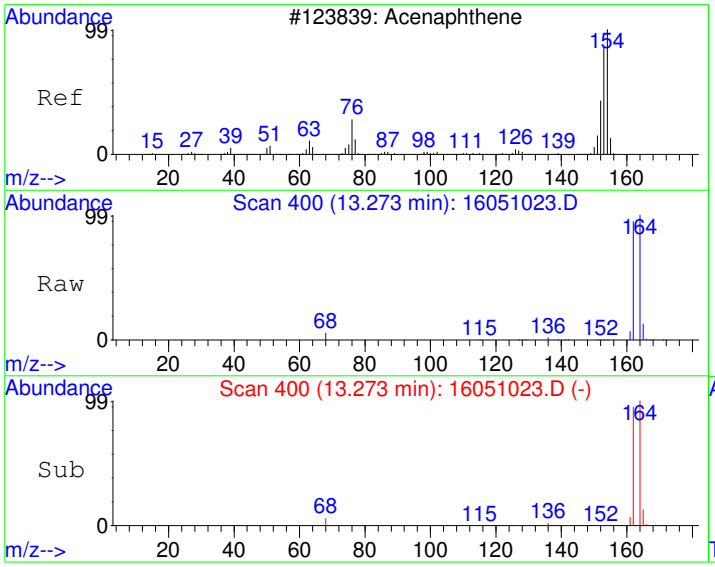
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160510\16051023.D Vial: 23
Acq On : 10 May 2016 11:13 pm Operator:
Sample : 1605034-14A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:06 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

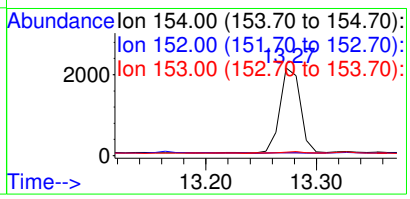


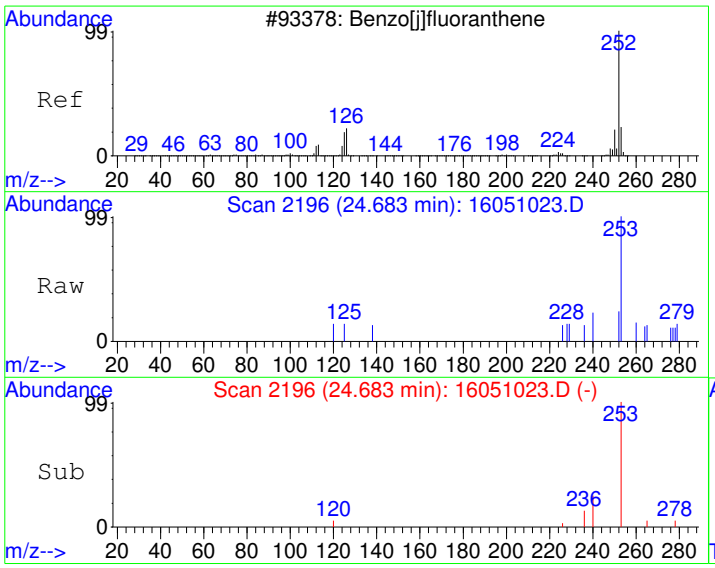


#9
Acenaphthene
Concen: 11.25 ug/kg
RT: 13.27 min Scan# 400
Delta R.T. -0.07 min
Lab File: 16051023.D
Acq: 10 May 2016 11:13 pm

Tgt Ion:154 Resp: 2693

Ion	Ratio	Lower	Upper
154	100		
152	0.5	18.9	78.9#
153	1.1	75.2	135.2#

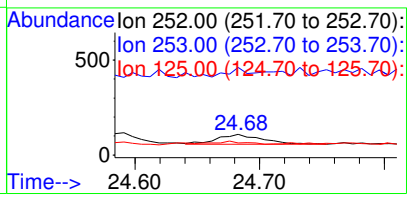




#23
Benzo(j)fluoranthene
Concen: 0.33 ug/kg
RT: 24.68 min Scan# 2196
Delta R.T. -0.06 min
Lab File: 16051023.D
Acq: 10 May 2016 11:13 pm

Tgt Ion:252 Resp: 137

Ion	Ratio	Lower	Upper
252	100		
253	50.9	2.1	42.1#
125	1.9	0.0	34.4



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160510\16051024.D Vial: 24
Acq On : 10 May 2016 11:52 pm Operator:
Sample : 1605034-15A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:06 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1459267	4000.00	ug/kg	126
5) Acenaphthene-d10	13.27	164	965915	4000.00	ug/kg	84
11) Phenanthrene-d10	15.36	188	1756617	4000.00	ug/kg	86
17) Chrysene-d12	21.11	240	2050085	4000.00	ug/kg	90
20) Perylene-d12	26.26	264	1869971	4000.00	ug/kg	91

System Monitoring Compounds

7) 2-Fluorobiphenyl	12.21	172	24607	87.33	ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.18%#			
16) 4-Terphenyl-d14	17.86	244	34926	76.85	ug/kg	-0.03
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.92%#			

Target Compounds

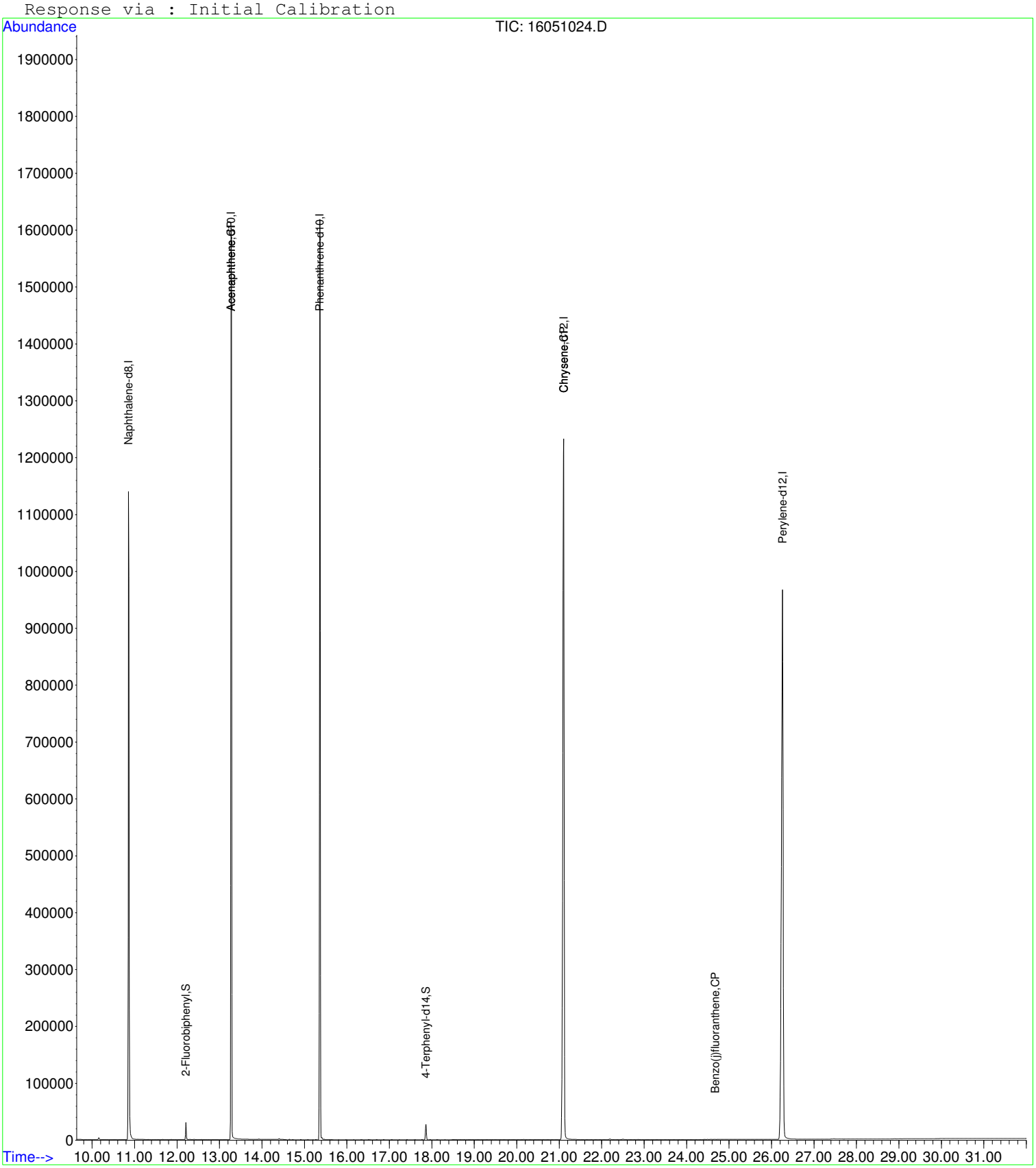
						Qvalue
9) Acenaphthene	13.27	154	2843	11.01	ug/kg#	9
19) Chrysene	21.11	228	4107	8.85	ug/kg	75
23) Benzo(j)fluoranthene	24.68	252	51	0.12	ug/kg#	58

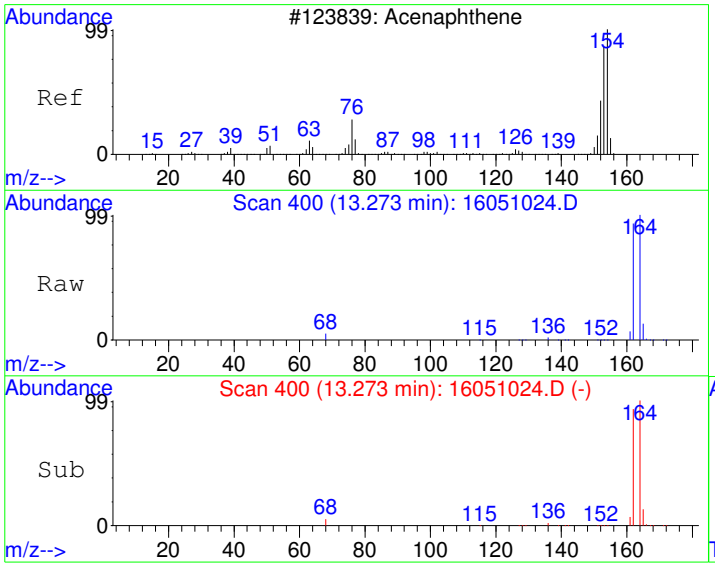
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160510\16051024.D Vial: 24
Acq On : 10 May 2016 11:52 pm Operator:
Sample : 1605034-15A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:06 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

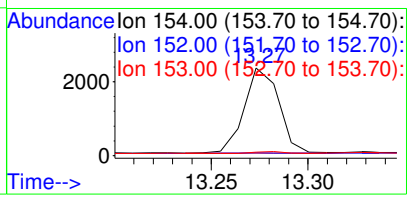


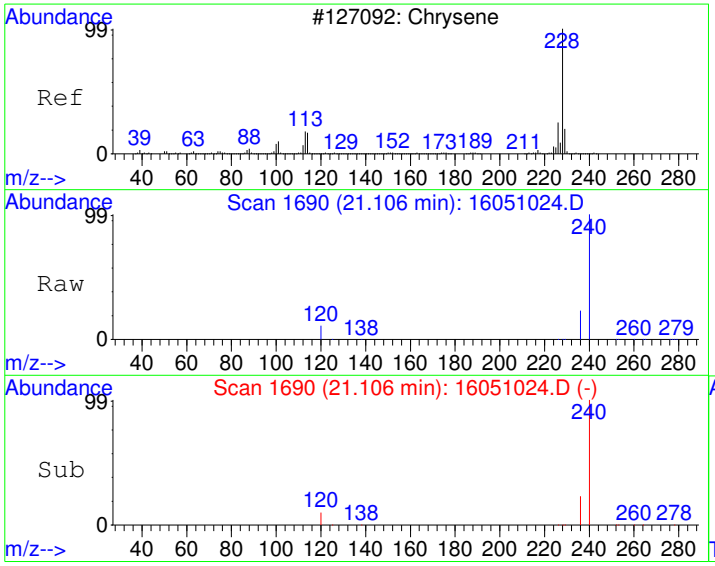


#9
Acenaphthene
Concen: 11.01 ug/kg
RT: 13.27 min Scan# 400
Delta R.T. -0.07 min
Lab File: 16051024.D
Acq: 10 May 2016 11:52 pm

Tgt Ion:154 Resp: 2843

Ion	Ratio	Lower	Upper
154	100		
152	0.5	18.9	78.9#
153	1.3	75.2	135.2#

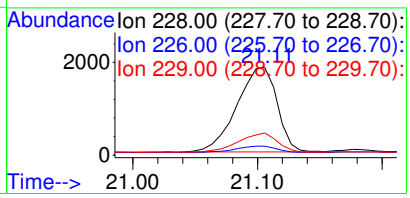


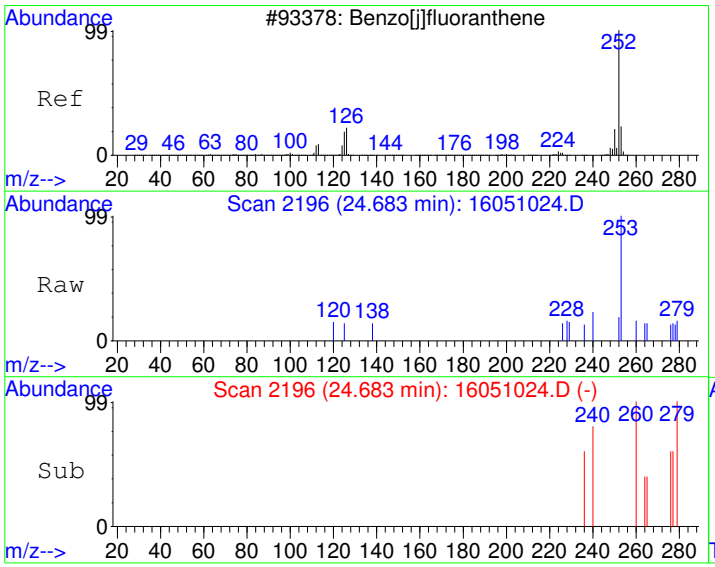


#19
Chrysene
Concen: 8.85 ug/kg
RT: 21.11 min Scan# 1690
Delta R.T. -0.13 min
Lab File: 16051024.D
Acq: 10 May 2016 11:52 pm

Tgt Ion:228 Resp: 4107

Ion	Ratio	Lower	Upper
228	100		
226	7.4	0.0	58.1
229	22.7	0.0	50.1

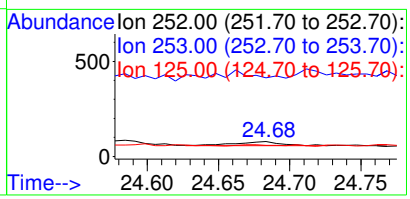




#23
Benzo(j)fluoranthene
Concen: 0.12 ug/kg
RT: 24.68 min Scan# 2196
Delta R.T. -0.06 min
Lab File: 16051024.D
Acq: 10 May 2016 11:52 pm

Tgt Ion:252 Resp: 51

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



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160510\16051025.D Vial: 25
Acq On : 11 May 2016 12:32 am Operator:
Sample : 1605034-16A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:06 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1369805	4000.00 ug/kg	118
5) Acenaphthene-d10	13.27	164	911177	4000.00 ug/kg	79
11) Phenanthrene-d10	15.36	188	1643392	4000.00 ug/kg	80
17) Chrysene-d12	21.11	240	1946900	4000.00 ug/kg	86
20) Perylene-d12	26.26	264	1789494	4000.00 ug/kg	87

System Monitoring Compounds

7) 2-Fluorobiphenyl	12.21	172	22594	85.00 ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery =	2.13%#	
16) 4-Terphenyl-d14	17.86	244	32940	77.47 ug/kg	-0.03
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.94%#	

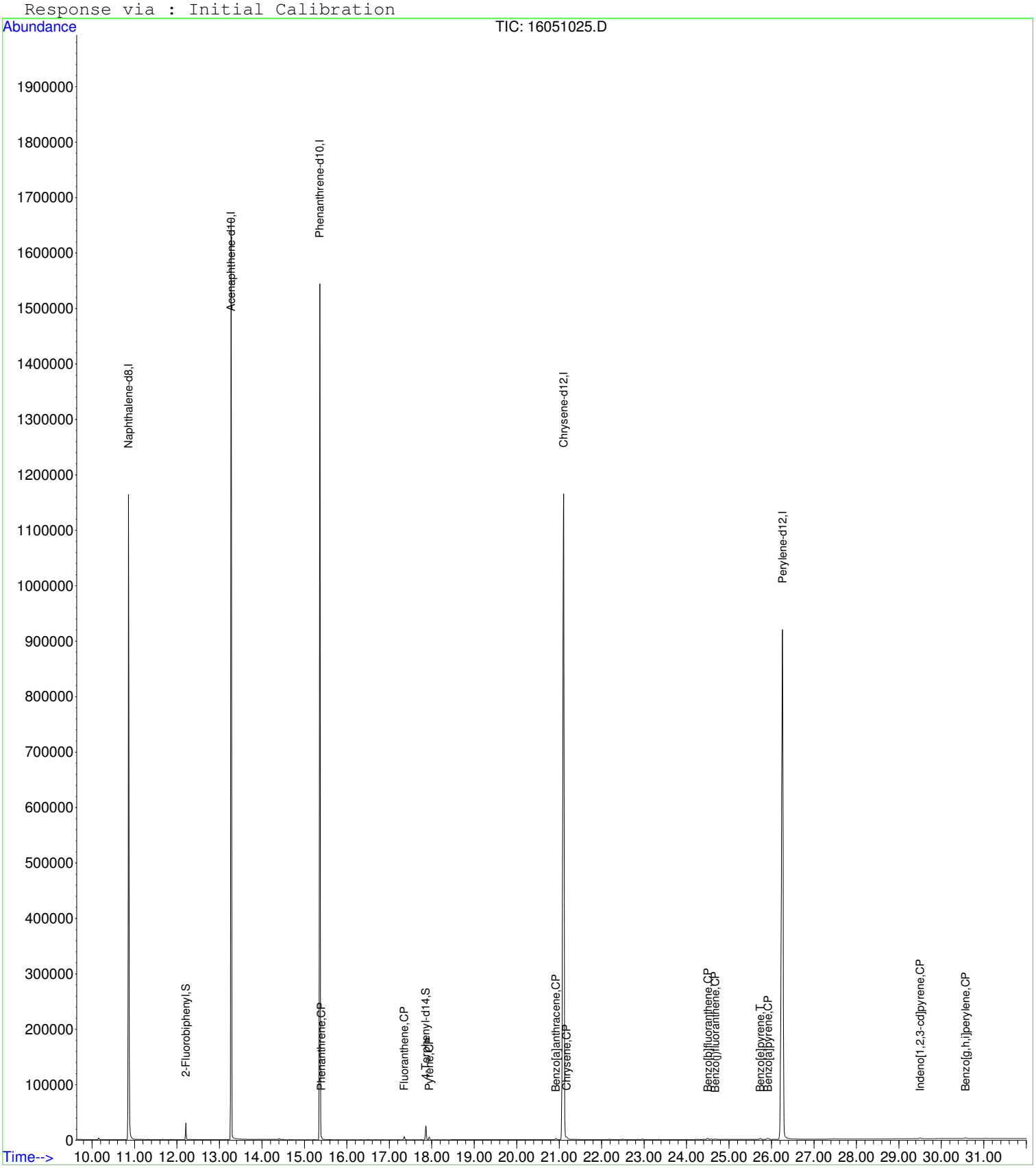
Target Compounds					Qvalue
12) Phenanthrene	15.40	178	2334	5.40 ug/kg	99
14) Fluoranthene	17.35	202	5943	13.29 ug/kg	99
15) Pyrene	17.94	202	5497	11.83 ug/kg	97
18) Benzo[a]anthracene	20.93	228	3438	7.54 ug/kg	98
19) Chrysene	21.18	228	4003	9.08 ug/kg	99
21) Benzo[b]fluoranthene	24.50	252	3982	8.44 ug/kg	98
23) Benzo(j)fluoranthene	24.68	252	1857	4.71 ug/kg	89
24) Benzo[e]pyrene	25.74	252	2952	6.99 ug/kg	97
25) Benzo[a]pyrene	25.91	252	3932	9.11 ug/kg	98
27) Indeno[1,2,3-cd]pyrene	29.50	276	2816	6.00 ug/kg	90
28) Benzo[g,h,i]perylene	30.57	276	2647	7.24 ug/kg	98

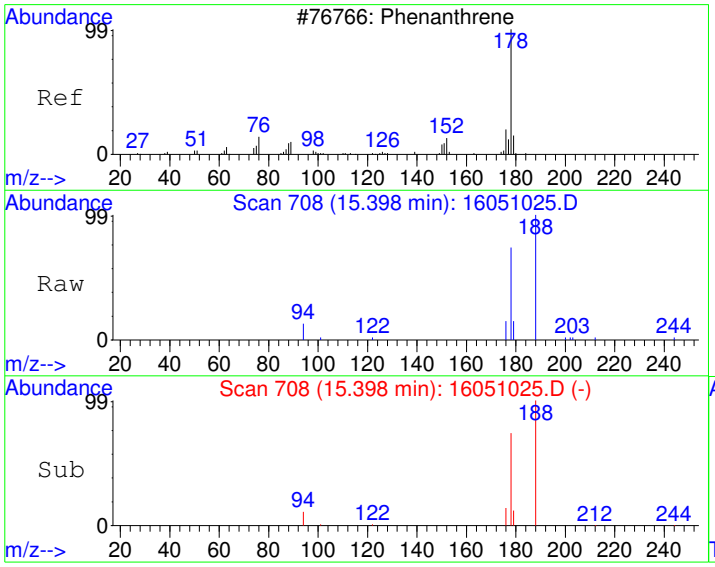
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160510\16051025.D Vial: 25
Acq On : 11 May 2016 12:32 am Operator:
Sample : 1605034-16A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:06 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

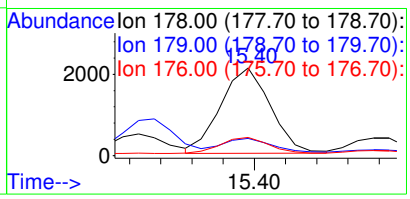


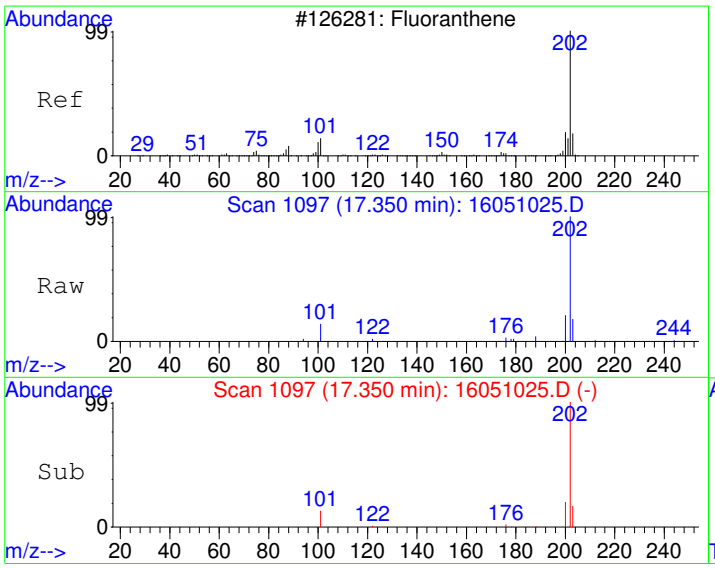


#12
Phenanthrene
Concen: 5.40 ug/kg
RT: 15.40 min Scan# 708
Delta R.T. -0.03 min
Lab File: 16051025.D
Acq: 11 May 2016 12:32 am

Tgt Ion:178 Resp: 2334

Ion	Ratio	Lower	Upper
178	100		
179	16.3	0.0	45.9
176	18.9	0.0	48.5

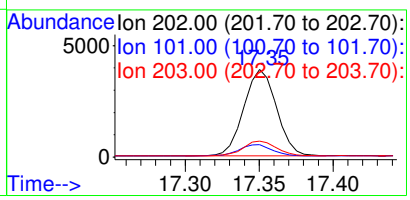


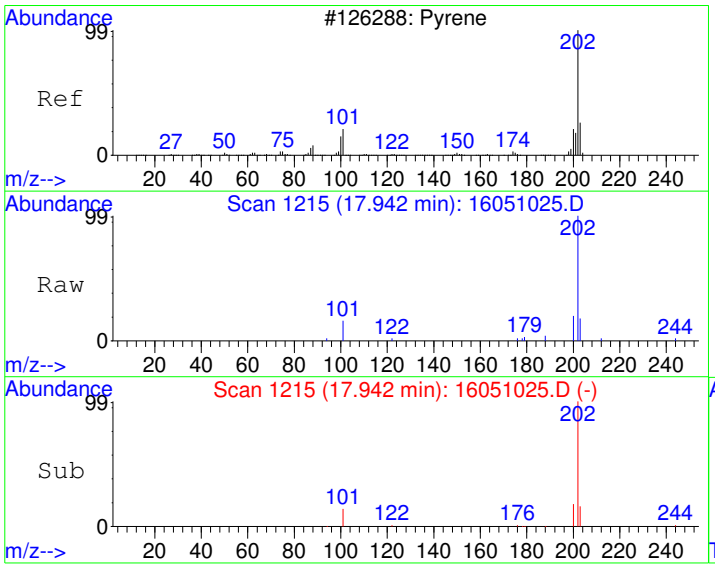


#14
Fluoranthene
Concen: 13.29 ug/kg
RT: 17.35 min Scan# 1097
Delta R.T. -0.03 min
Lab File: 16051025.D
Acq: 11 May 2016 12:32 am

Tgt Ion:202 Resp: 5943

Ion	Ratio	Lower	Upper
202	100		
101	12.9	0.0	43.0
203	17.0	0.0	47.9

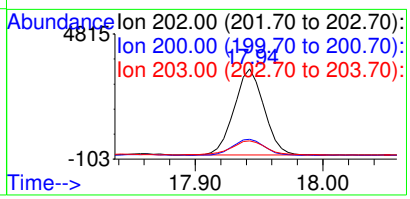


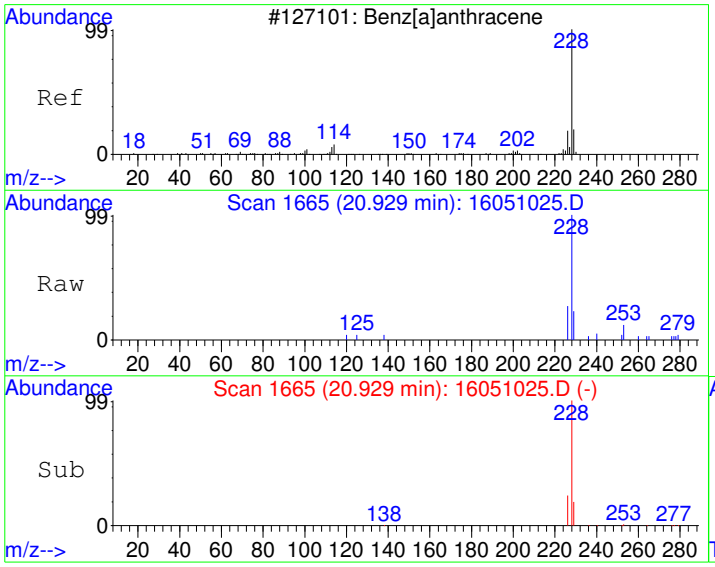


#15
Pyrene
Concen: 11.83 ug/kg
RT: 17.94 min Scan# 1215
Delta R.T. -0.04 min
Lab File: 16051025.D
Acq: 11 May 2016 12:32 am

Tgt Ion:202 Resp: 5497

Ion	Ratio	Lower	Upper
202	100		
200	18.4	0.0	50.0
203	16.5	0.0	48.0

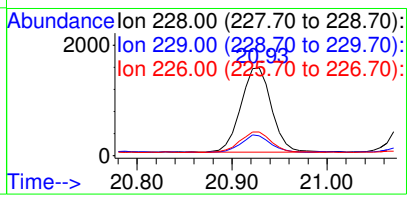


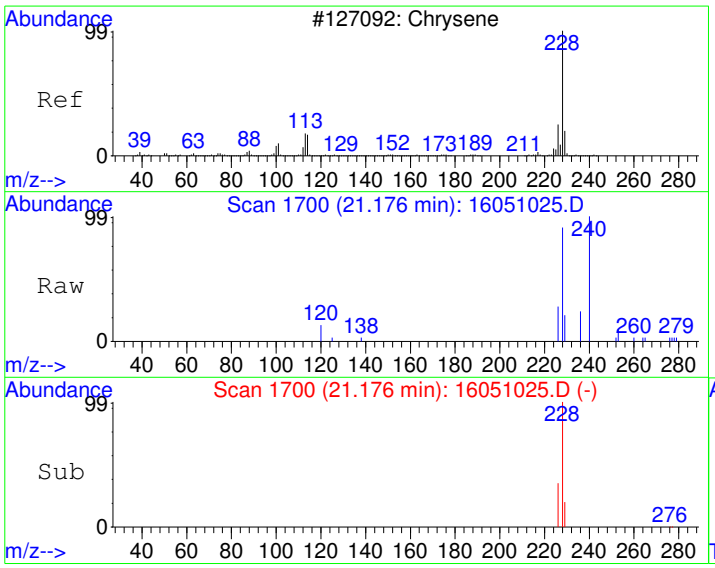


#18
Benzo[a]anthracene
Concen: 7.54 ug/kg
RT: 20.93 min Scan# 1665
Delta R.T. -0.05 min
Lab File: 16051025.D
Acq: 11 May 2016 12:32 am

Tgt Ion:228 Resp: 3438

Ion	Ratio	Lower	Upper
228	100		
229	19.6	0.0	50.1
226	24.2	0.0	55.2

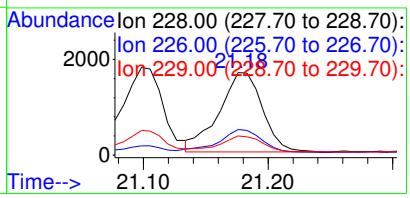


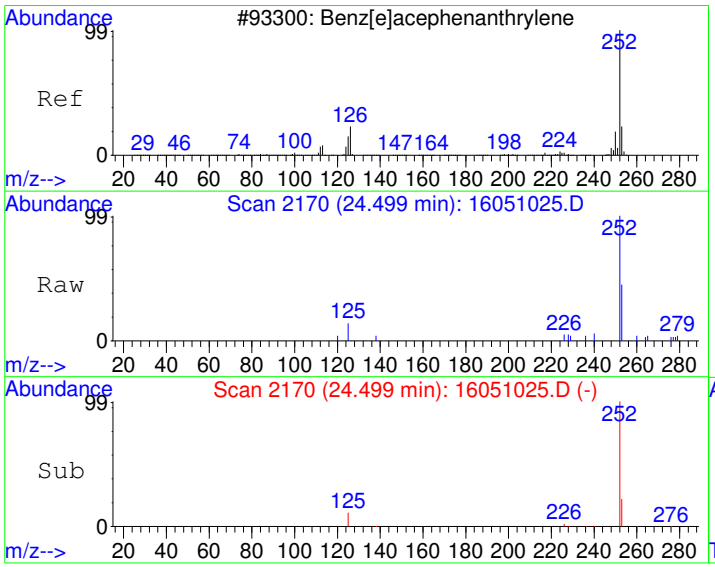


#19
Chrysene
Concen: 9.08 ug/kg
RT: 21.18 min Scan# 1700
Delta R.T. -0.06 min
Lab File: 16051025.D
Acq: 11 May 2016 12:32 am

Tgt Ion:228 Resp: 4003

Ion	Ratio	Lower	Upper
228	100		
226	28.8	0.0	58.1
229	20.0	0.0	50.1

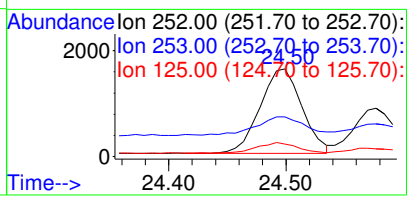


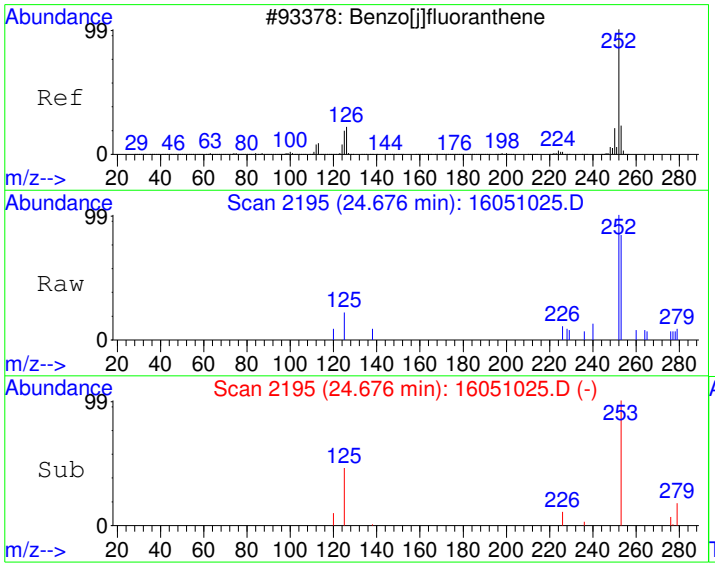


#21
Benzo[b]fluoranthene
Concen: 8.44 ug/kg
RT: 24.50 min Scan# 2170
Delta R.T. -0.06 min
Lab File: 16051025.D
Acq: 11 May 2016 12:32 am

Tgt Ion:252 Resp: 3982

Ion	Ratio	Lower	Upper
252	100		
253	20.9	0.0	52.2
125	10.3	0.0	41.0

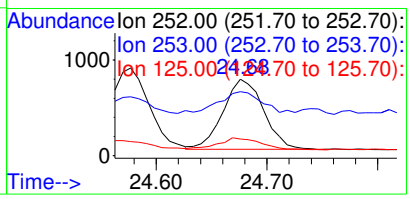


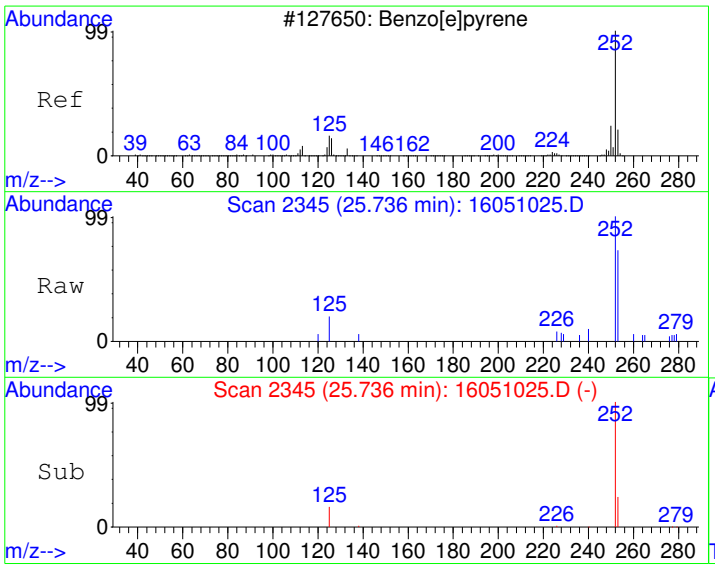


#23
Benzo(j)fluoranthene
Concen: 4.71 ug/kg
RT: 24.68 min Scan# 2195
Delta R.T. -0.07 min
Lab File: 16051025.D
Acq: 11 May 2016 12:32 am

Tgt Ion:252 Resp: 1857

Ion	Ratio	Lower	Upper
252	100		
253	29.9	2.1	42.1
125	15.3	0.0	34.4

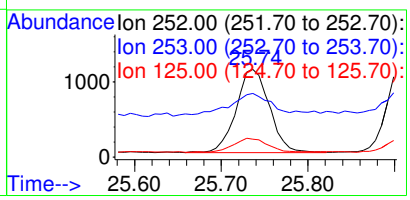


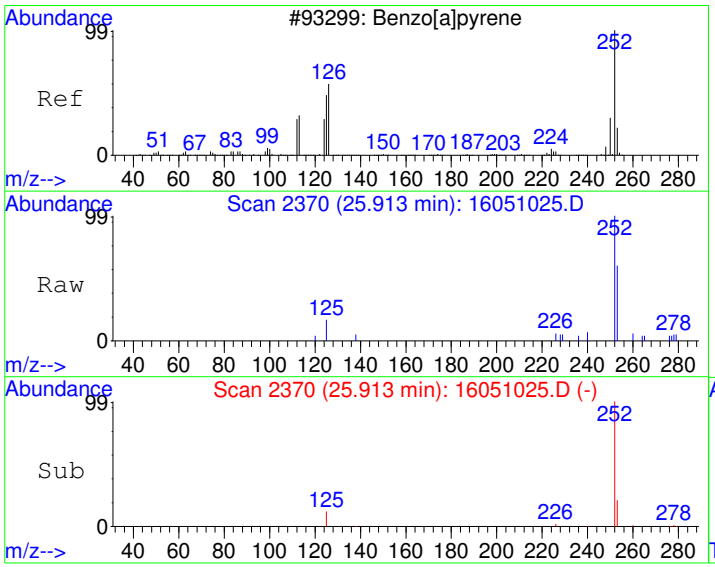


#24
Benzo[e]pyrene
Concen: 6.99 ug/kg
RT: 25.74 min Scan# 2345
Delta R.T. -0.06 min
Lab File: 16051025.D
Acq: 11 May 2016 12:32 am

Tgt Ion:252 Resp: 2952

Ion	Ratio	Lower	Upper
252	100		
253	24.7	2.2	42.2
125	15.8	0.0	36.1

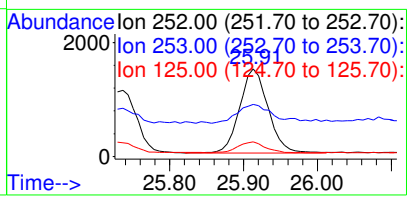


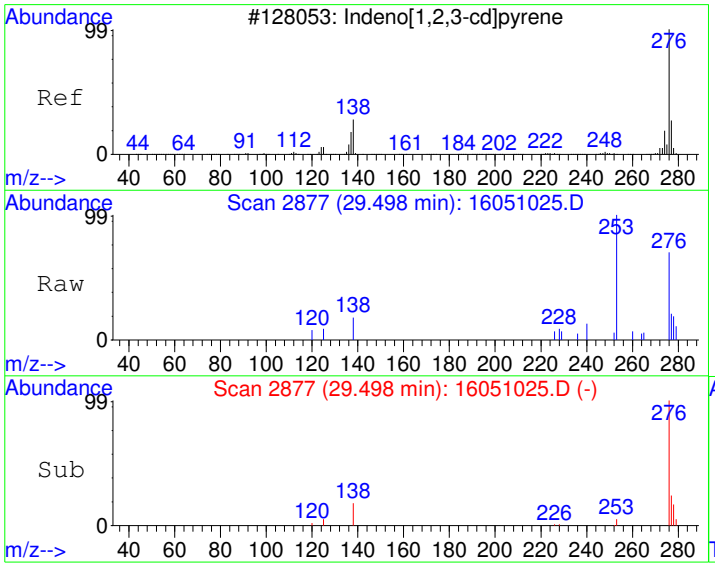


#25
Benzo[a]pyrene
Concen: 9.11 ug/kg
RT: 25.91 min Scan# 2370
Delta R.T. -0.07 min
Lab File: 16051025.D
Acq: 11 May 2016 12:32 am

Tgt Ion:252 Resp: 3932

Ion	Ratio	Lower	Upper
252	100		
253	20.8	1.9	41.9
125	12.6	0.0	31.7

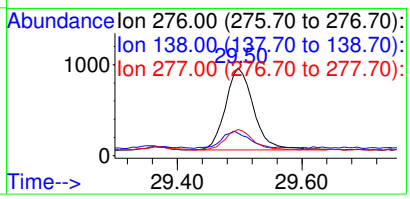


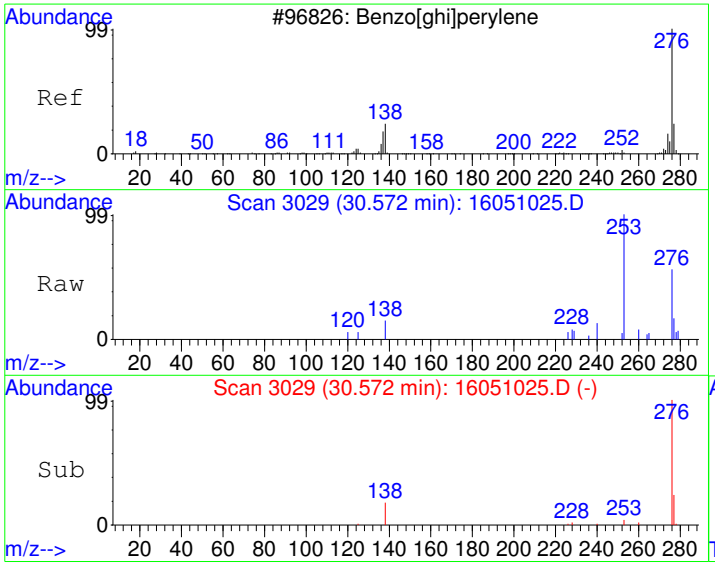


#27
Indeno[1,2,3-cd]pyrene
Concen: 6.00 ug/kg
RT: 29.50 min Scan# 2877
Delta R.T. -0.06 min
Lab File: 16051025.D
Acq: 11 May 2016 12:32 am

Tgt Ion:276 Resp: 2816

Ion	Ratio	Lower	Upper
276	100		
138	17.7	6.7	46.7
277	24.9	5.8	45.8

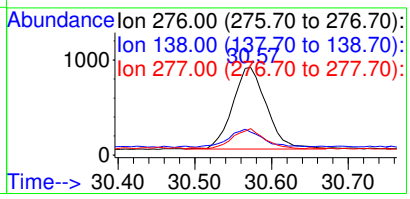




#28
Benzo[g,h,i]perylene
Concen: 7.24 ug/kg
RT: 30.57 min Scan# 3029
Delta R.T. -0.07 min
Lab File: 16051025.D
Acq: 11 May 2016 12:32 am

Tgt Ion:276 Resp: 2647

Ion	Ratio	Lower	Upper
276	100		
138	17.5	0.0	39.1
277	24.5	4.0	44.0



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160510\16051026.D Vial: 26
Acq On : 11 May 2016 1:13 am Operator:
Sample : 1605034-17A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:07 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1271188	4000.00	ug/kg	110
5) Acenaphthene-d10	13.28	164	931704	4000.00	ug/kg	81
11) Phenanthrene-d10	15.36	188	1611682	4000.00	ug/kg	79
17) Chrysene-d12	21.11	240	1984494	4000.00	ug/kg	87
20) Perylene-d12	26.26	264	1824407	4000.00	ug/kg	89

System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.21	172	23337	85.87	ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.15%#			
16) 4-Terphenyl-d14	17.86	244	32825	78.72	ug/kg	-0.04
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.97%#			

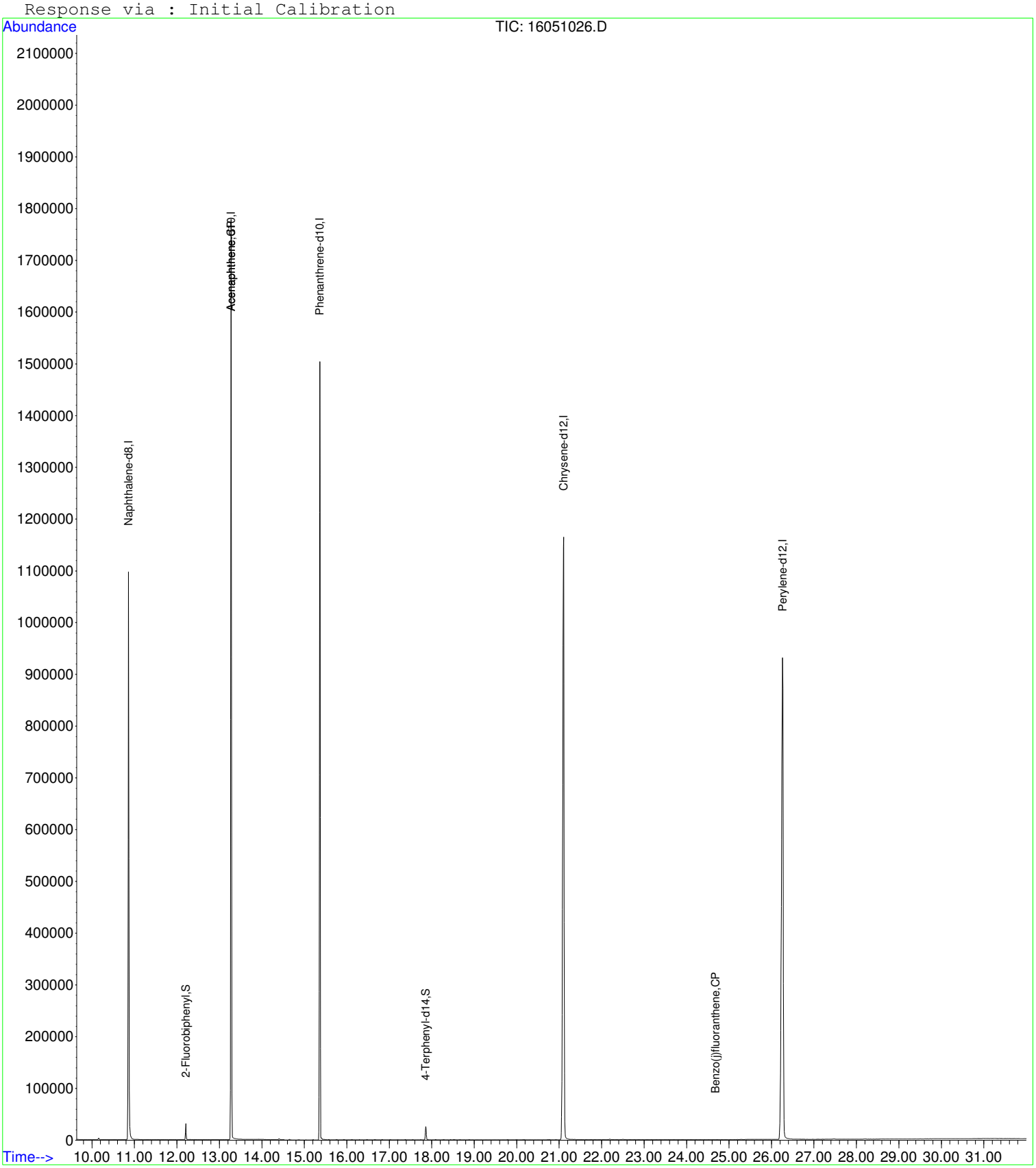
Target Compounds						Qvalue
9) Acenaphthene	13.28	154	2765	11.10	ug/kg#	9
23) Benzo(j)fluoranthene	24.68	252	80	0.20	ug/kg#	58

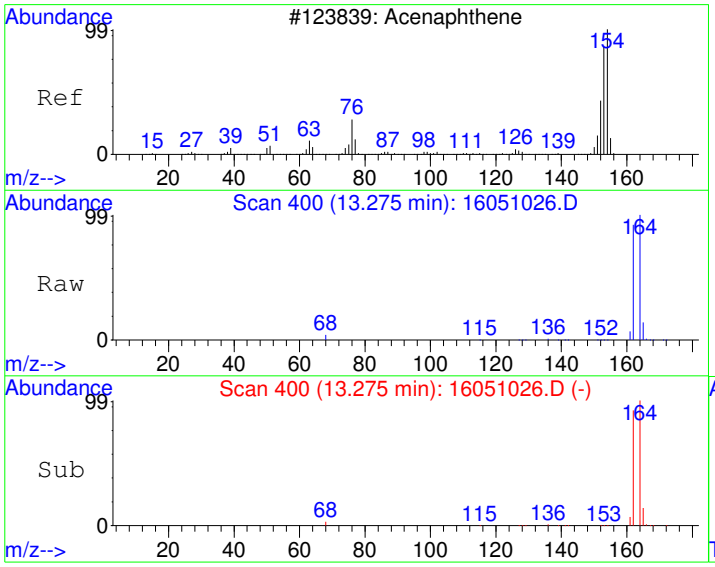
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160510\16051026.D Vial: 26
Acq On : 11 May 2016 1:13 am Operator:
Sample : 1605034-17A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:07 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

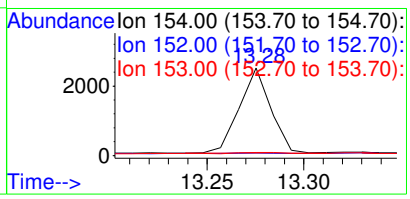


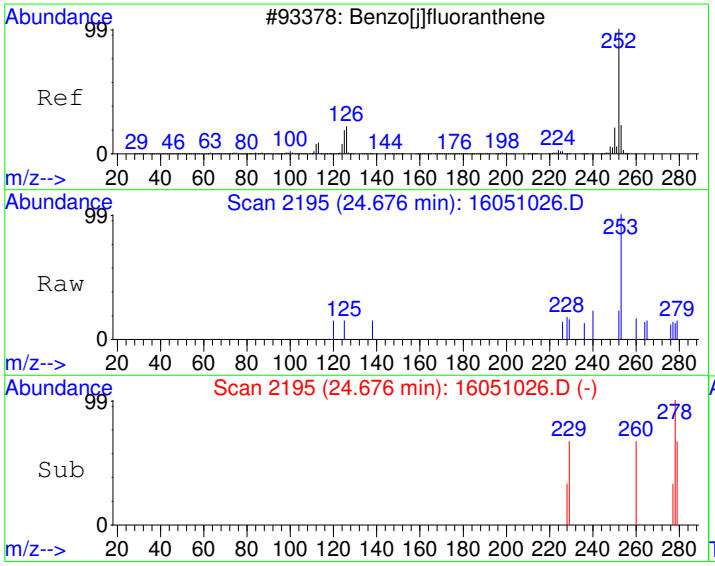


#9
Acenaphthene
Concen: 11.10 ug/kg
RT: 13.28 min Scan# 400
Delta R.T. -0.07 min
Lab File: 16051026.D
Acq: 11 May 2016 1:13 am

Tgt Ion:154 Resp: 2765

Ion	Ratio	Lower	Upper
154	100		
152	0.9	18.9	78.9#
153	1.2	75.2	135.2#

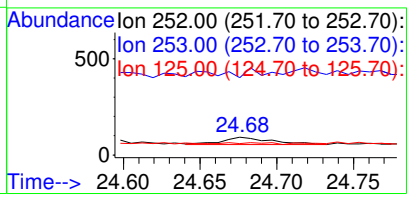




#23
Benzo(j)fluoranthene
Concen: 0.20 ug/kg
RT: 24.68 min Scan# 2195
Delta R.T. -0.07 min
Lab File: 16051026.D
Acq: 11 May 2016 1:13 am

Tgt Ion:252 Resp: 80

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



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160510\16051027.D Vial: 27
Acq On : 11 May 2016 1:53 am Operator:
Sample : 1605034-18A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:07 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1405751	4000.00	ug/kg	121
5) Acenaphthene-d10	13.27	164	956770	4000.00	ug/kg	83
11) Phenanthrene-d10	15.36	188	1693431	4000.00	ug/kg	83
17) Chrysene-d12	21.11	240	2005250	4000.00	ug/kg	88
20) Perylene-d12	26.27	264	1856642	4000.00	ug/kg	90

System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.21	172	23589	84.52	ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.11%#			
16) 4-Terphenyl-d14	17.86	244	33415	76.27	ug/kg	-0.04
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.91%#			

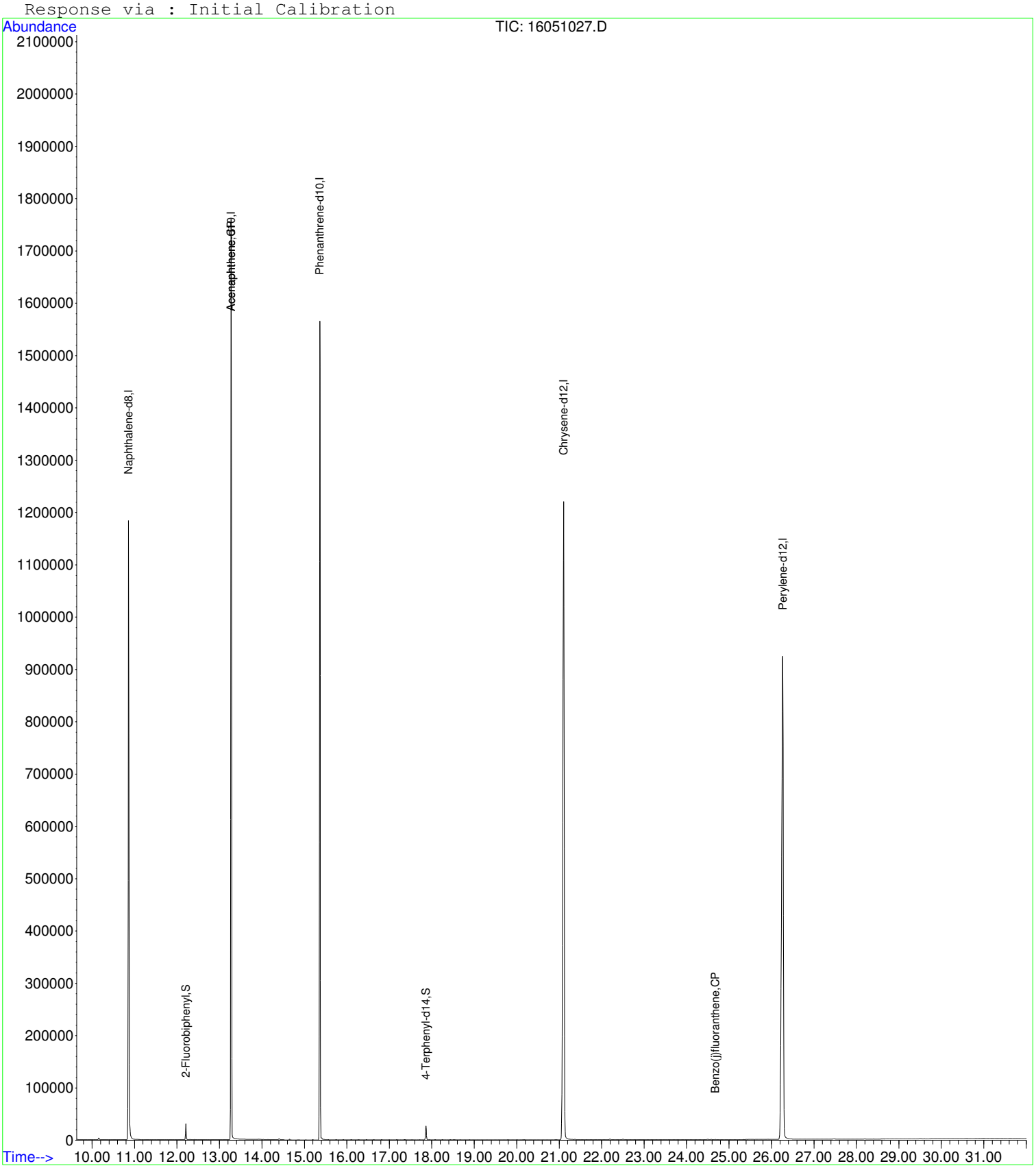
Target Compounds						Qvalue
9) Acenaphthene	13.27	154	2839	11.10	ug/kg#	9
23) Benzo(j)fluoranthene	24.68	252	279	0.68	ug/kg	89

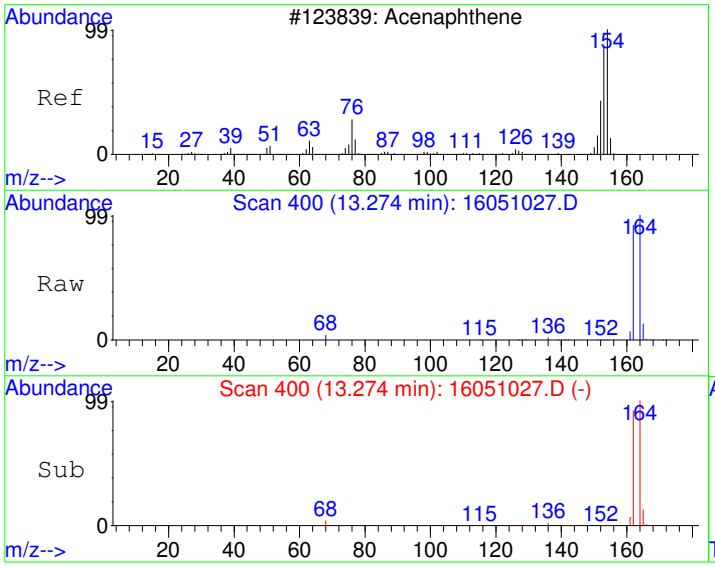
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160510\16051027.D Vial: 27
Acq On : 11 May 2016 1:53 am Operator:
Sample : 1605034-18A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:07 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

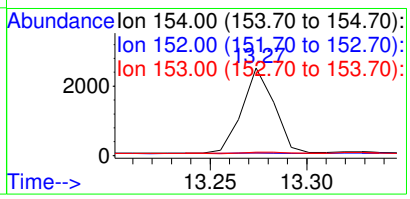


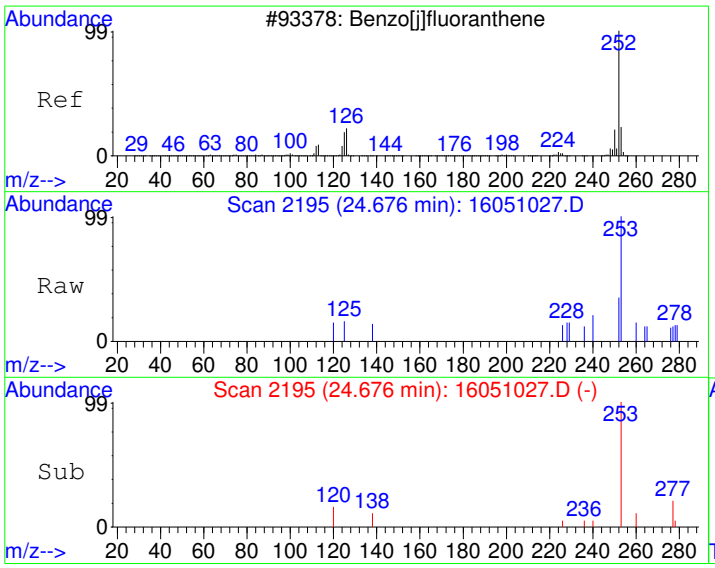


#9
Acenaphthene
Concen: 11.10 ug/kg
RT: 13.27 min Scan# 400
Delta R.T. -0.07 min
Lab File: 16051027.D
Acq: 11 May 2016 1:53 am

Tgt Ion:154 Resp: 2839

Ion	Ratio	Lower	Upper
154	100		
152	0.7	18.9	78.9#
153	1.6	75.2	135.2#

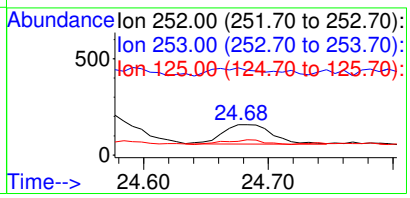




#23
Benzo(j)fluoranthene
Concen: 0.68 ug/kg
RT: 24.68 min Scan# 2195
Delta R.T. -0.07 min
Lab File: 16051027.D
Acq: 11 May 2016 1:53 am

Tgt Ion:252 Resp: 279

Ion	Ratio	Lower	Upper
252	100		
253	30.6	2.1	42.1
125	14.3	0.0	34.4



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160510\16051028.D Vial: 28
Acq On : 11 May 2016 2:33 am Operator:
Sample : 1605034-19A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:07 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1436370	4000.00	ug/kg	124
5) Acenaphthene-d10	13.27	164	865327	4000.00	ug/kg	75
11) Phenanthrene-d10	15.37	188	1759100	4000.00	ug/kg	86
17) Chrysene-d12	21.11	240	1962850	4000.00	ug/kg	86
20) Perylene-d12	26.27	264	1824525	4000.00	ug/kg	89

System Monitoring Compounds

7) 2-Fluorobiphenyl	12.21	172	21036	83.34	ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.08%#			
16) 4-Terphenyl-d14	17.87	244	33044	72.61	ug/kg	-0.03
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.82%#			

Target Compounds

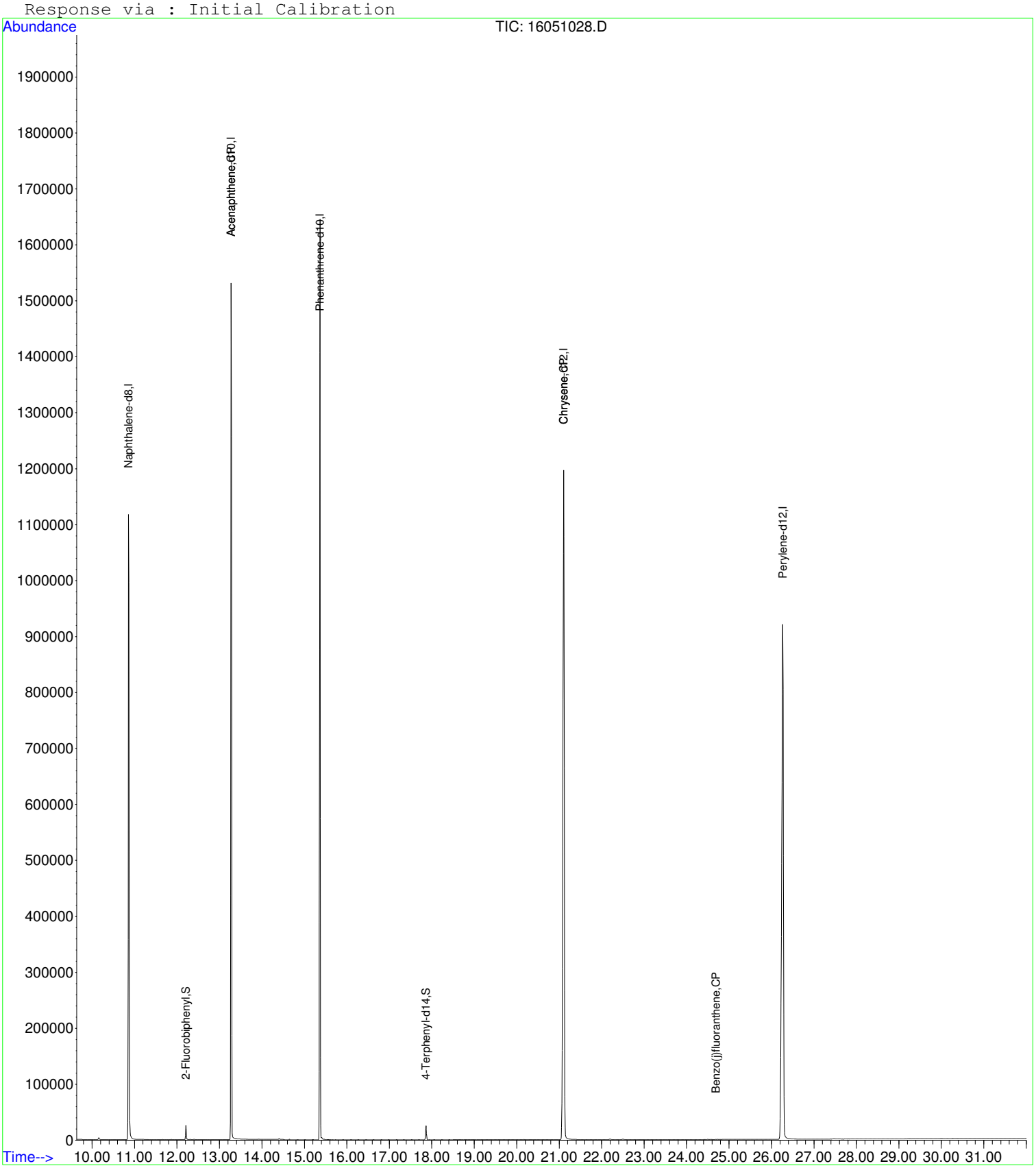
						Qvalue
9) Acenaphthene	13.27	154	2552	11.03	ug/kg#	9
19) Chrysene	21.11	228	3918	8.82	ug/kg	76
23) Benzo(j)fluoranthene	24.68	252	48	0.12	ug/kg#	61

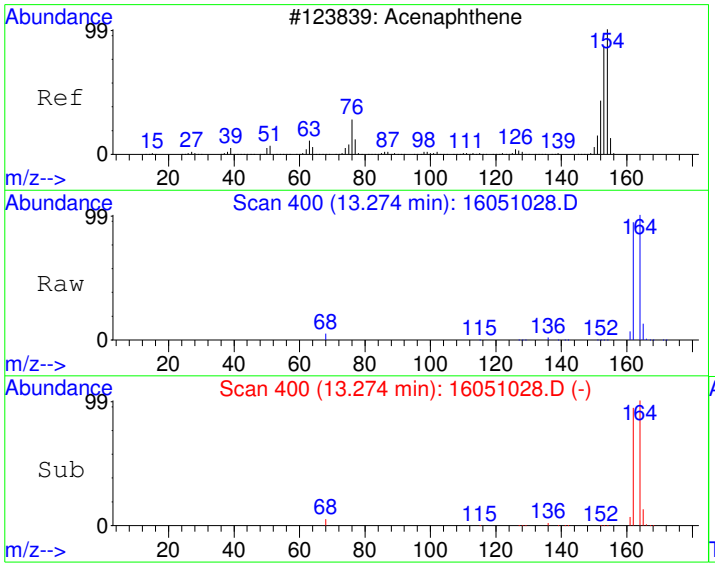
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160510\16051028.D Vial: 28
Acq On : 11 May 2016 2:33 am Operator:
Sample : 1605034-19A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:07 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

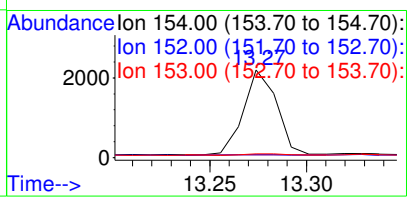


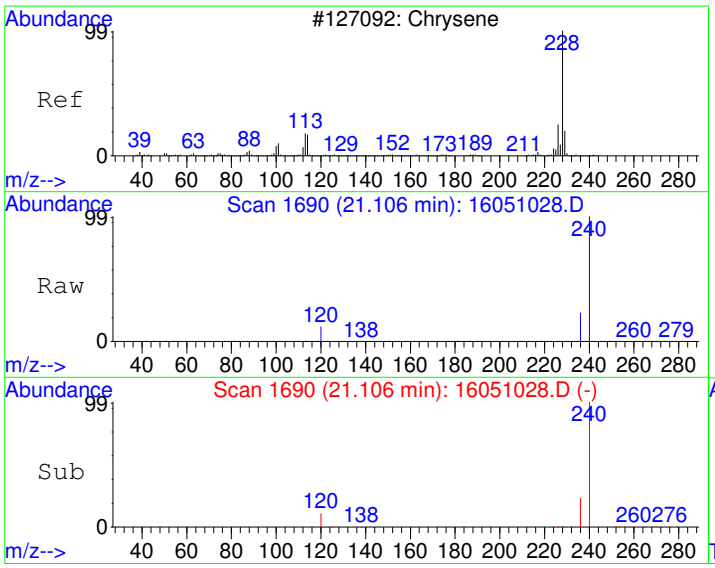


#9
Acenaphthene
Concen: 11.03 ug/kg
RT: 13.27 min Scan# 400
Delta R.T. -0.07 min
Lab File: 16051028.D
Acq: 11 May 2016 2:33 am

Tgt Ion:154 Resp: 2552

Ion	Ratio	Lower	Upper
154	100		
152	0.7	18.9	78.9#
153	1.6	75.2	135.2#

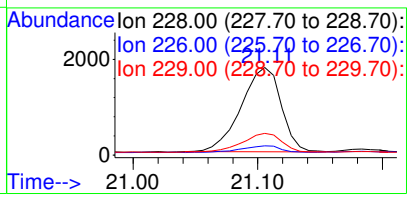


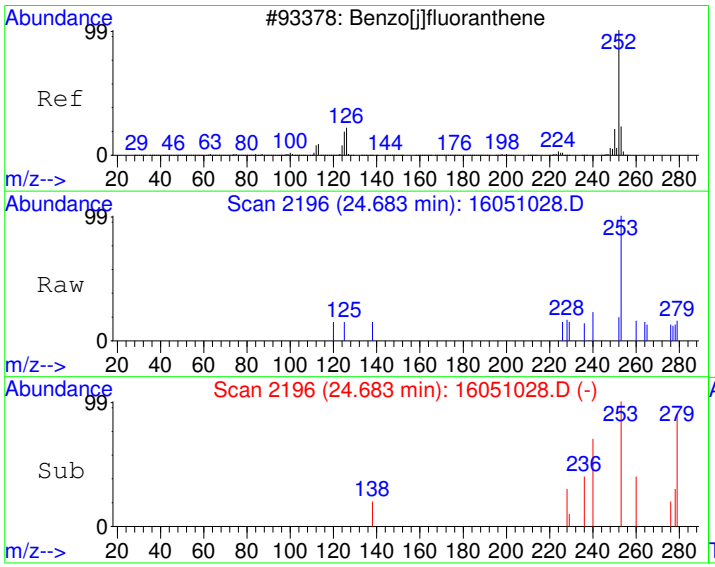


#19
Chrysene
Concen: 8.82 ug/kg
RT: 21.11 min Scan# 1690
Delta R.T. -0.13 min
Lab File: 16051028.D
Acq: 11 May 2016 2:33 am

Tgt Ion:228 Resp: 3918

Ion	Ratio	Lower	Upper
228	100		
226	7.7	0.0	58.1
229	22.2	0.0	50.1

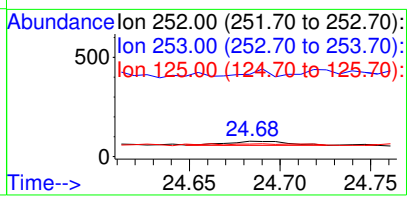




#23
Benzo(j)fluoranthene
Concen: 0.12 ug/kg
RT: 24.68 min Scan# 2196
Delta R.T. -0.06 min
Lab File: 16051028.D
Acq: 11 May 2016 2:33 am

Tgt Ion:252 Resp: 48

Ion	Ratio	Lower	Upper
252	100		
253	45.0	2.1	42.1#
125	25.0	0.0	34.4



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160510\16051029.D Vial: 29
Acq On : 11 May 2016 3:12 am Operator:
Sample : 1605034-20A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:07 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1312102	4000.00	ug/kg	113
5) Acenaphthene-d10	13.28	164	913465	4000.00	ug/kg	79
11) Phenanthrene-d10	15.36	188	1651021	4000.00	ug/kg	81
17) Chrysene-d12	21.11	240	1904595	4000.00	ug/kg	84
20) Perylene-d12	26.26	264	1741565	4000.00	ug/kg	85

System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.21	172	23193	87.04	ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.18%#			
16) 4-Terphenyl-d14	17.86	244	33614	78.69	ug/kg	-0.03
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.97%#			

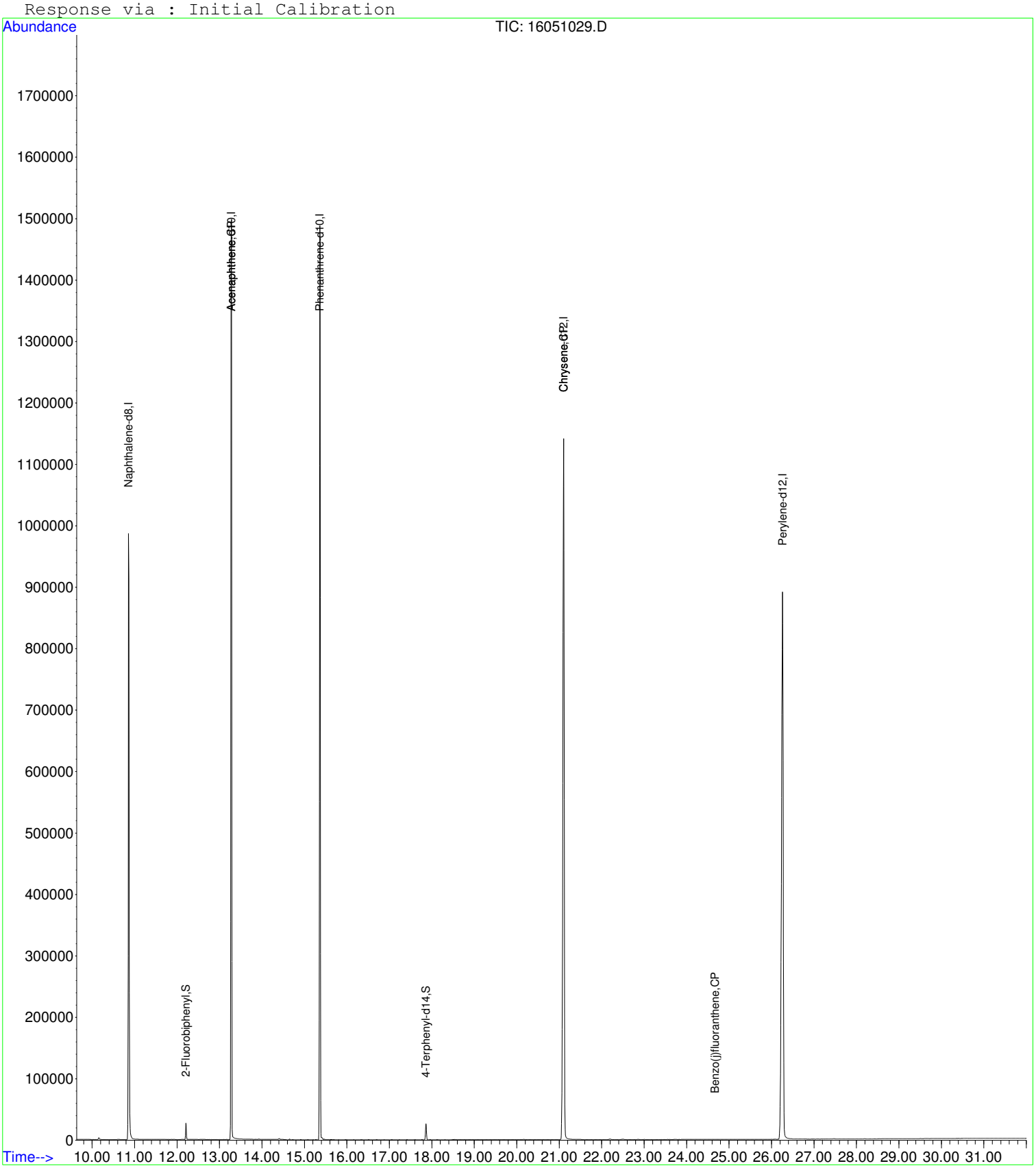
Target Compounds						Qvalue
9) Acenaphthene	13.27	154	2705	11.08	ug/kg#	9
19) Chrysene	21.11	228	3831	8.89	ug/kg	73
23) Benzo(j)fluoranthene	24.68	252	34	0.09	ug/kg#	61

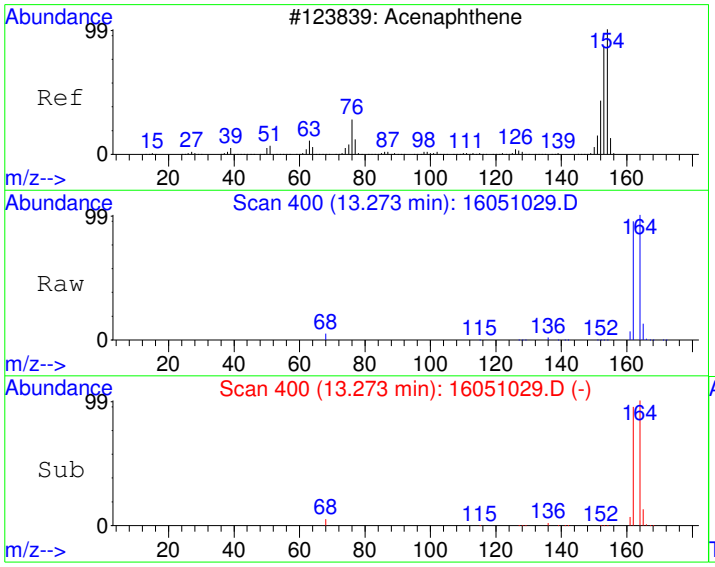
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160510\16051029.D Vial: 29
Acq On : 11 May 2016 3:12 am Operator:
Sample : 1605034-20A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:07 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

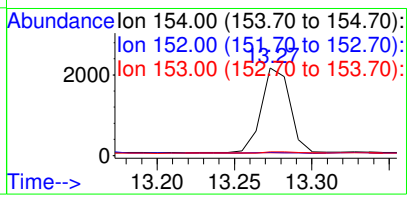


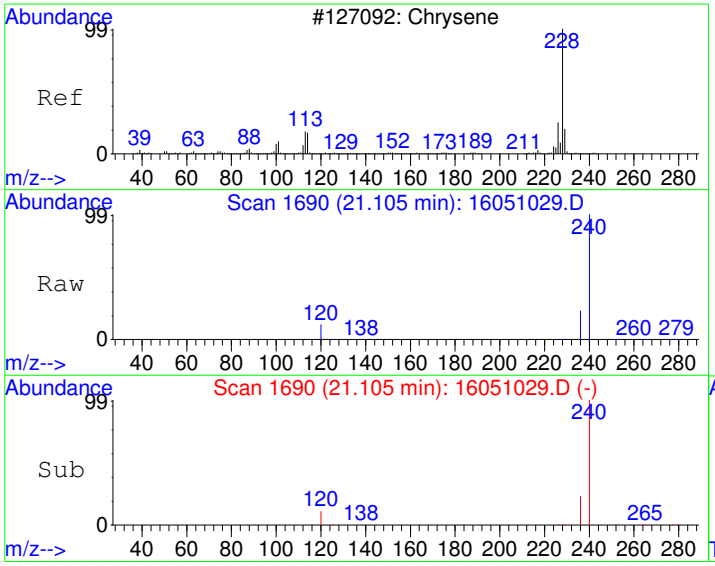


#9
Acenaphthene
Concen: 11.08 ug/kg
RT: 13.27 min Scan# 400
Delta R.T. -0.07 min
Lab File: 16051029.D
Acq: 11 May 2016 3:12 am

Tgt Ion:154 Resp: 2705

Ion	Ratio	Lower	Upper
154	100		
152	0.8	18.9	78.9#
153	1.7	75.2	135.2#

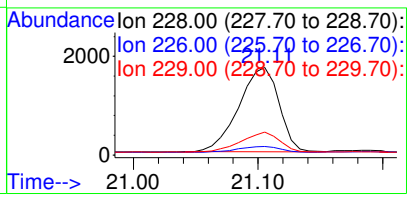


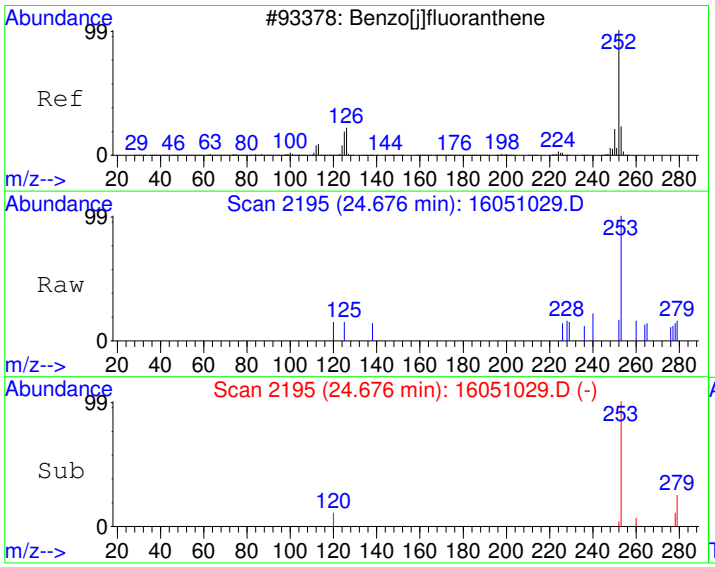


#19
Chrysene
Concen: 8.89 ug/kg
RT: 21.11 min Scan# 1690
Delta R.T. -0.13 min
Lab File: 16051029.D
Acq: 11 May 2016 3:12 am

Tgt Ion:228 Resp: 3831

Ion	Ratio	Lower	Upper
228	100		
226	6.7	0.0	58.1
229	23.9	0.0	50.1

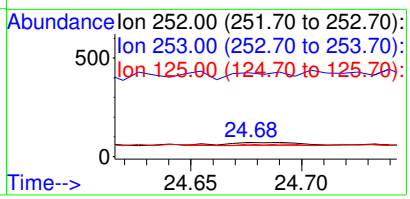




#23
Benzo(j)fluoranthene
Concen: 0.09 ug/kg
RT: 24.68 min Scan# 2195
Delta R.T. -0.07 min
Lab File: 16051029.D
Acq: 11 May 2016 3:12 am

Tgt Ion:252 Resp: 34

Ion	Ratio	Lower	Upper
252	100		
253	33.3	2.1	42.1
125	40.0	0.0	34.4#



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160510\16051030.D Vial: 30
Acq On : 11 May 2016 3:52 am Operator:
Sample : CCV-160510 Inst : GC/MS #6
Misc : CCV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:03 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1260018	4000.00	ug/kg	109
5) Acenaphthene-d10	13.27	164	995528	4000.00	ug/kg	86
11) Phenanthrene-d10	15.37	188	1688418	4000.00	ug/kg	83
17) Chrysene-d12	21.11	240	2010130	4000.00	ug/kg	88
20) Perylene-d12	26.26	264	1854433	4000.00	ug/kg	90

System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.21	172	314821	1084.08	ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery = 27.10%#			
16) 4-Terphenyl-d14	17.86	244	429169	982.48	ug/kg	-0.04
Spiked Amount 4000.000	Range 40 - 140		Recovery = 24.56%#			

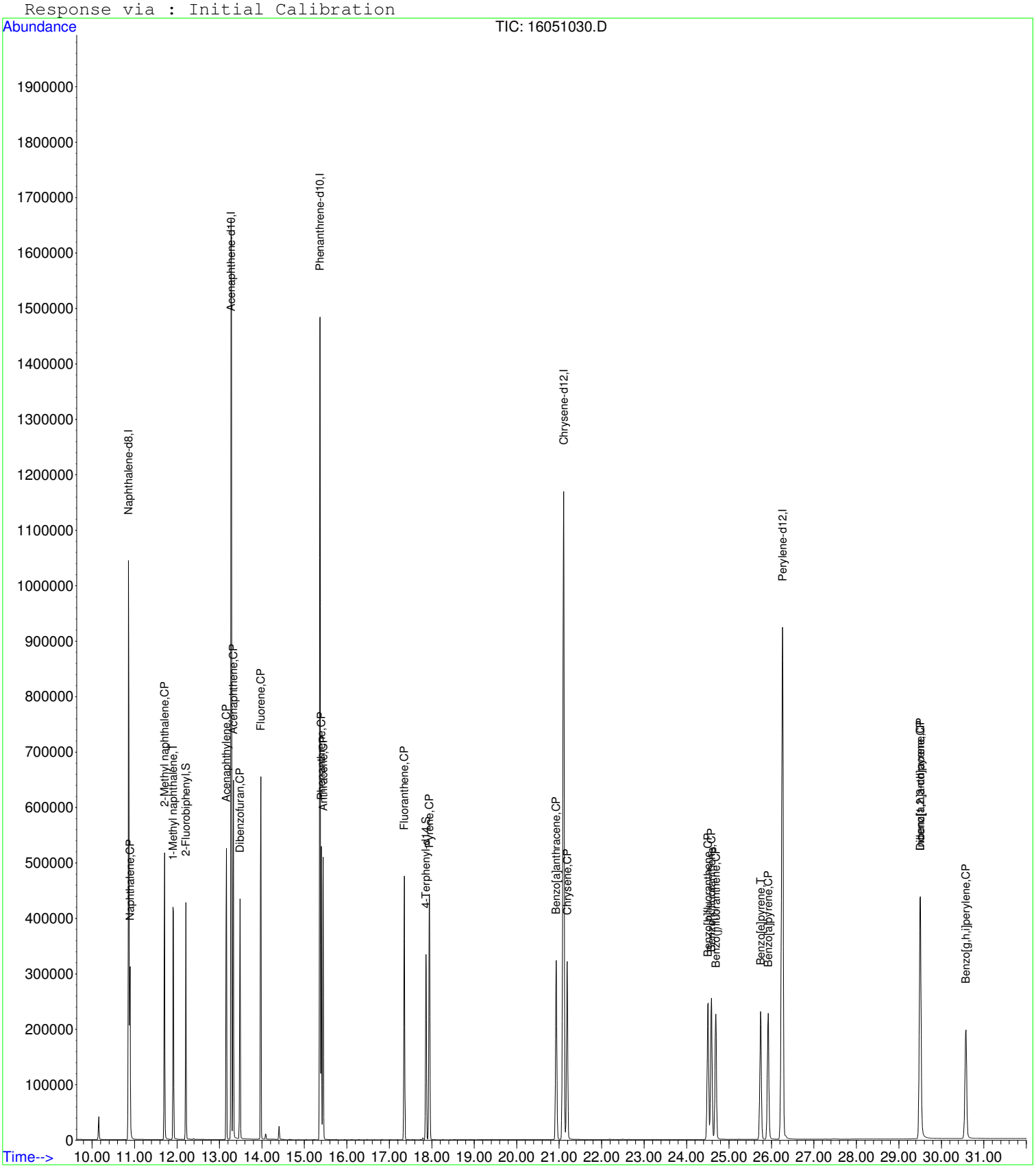
Target Compounds						Qvalue
2) Naphthalene	10.89	128	316582	1004.46	ug/kg	100
3) 2-Methyl naphthalene	11.71	142	268939	966.00	ug/kg	99
4) 1-Methyl naphthalene	11.92	142	244524	958.99	ug/kg	98
6) Dibenzofuran	13.48	168	368229	986.91	ug/kg	100
8) Acenaphthylene	13.16	152	461155	1075.62	ug/kg	99
9) Acenaphthene	13.33	154	269014	1010.91	ug/kg	99
10) Fluorene	13.98	166	327938	1014.73	ug/kg	98
12) Phenanthrene	15.40	178	436054	982.05	ug/kg	100
13) Anthracene	15.44	178	425607	1012.69	ug/kg	99
14) Fluoranthene	17.35	202	476266	1036.51	ug/kg	98
15) Pyrene	17.95	202	486543	1019.34	ug/kg	99
18) Benzo[a]anthracene	20.93	228	469513	997.00	ug/kg	100
19) Chrysene	21.19	228	435399	956.91	ug/kg	99
21) Benzo[b]fluoranthene	24.51	252	467716	956.94	ug/kg	100
22) Benzo[k]fluoranthene	24.58	252	453061	988.12	ug/kg	100
23) Benzo(j)fluoranthene	24.69	252	394818	966.66	ug/kg	100
24) Benzo[e]pyrene	25.74	252	412630	942.69	ug/kg	100
25) Benzo[a]pyrene	25.92	252	429945	961.21	ug/kg	99
26) Dibenz[a,h]anthracene	29.50	278	413607	1015.33	ug/kg	100
27) Indeno[1,2,3-cd]pyrene	29.51	276	489514	1007.29	ug/kg	98
28) Benzo[g,h,i]perylene	30.58	276	387165	1021.69	ug/kg	99

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160510\16051030.D Vial: 30
Acq On : 11 May 2016 3:52 am Operator:
Sample : CCV-160510 Inst : GC/MS #6
Misc : CCV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 11 8:03 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



GCMS6_160512A
For

DHL Work Order
1605034

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_160512A
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	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	
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: 5/13/2016

Second-Level Review: Janice Whitt Date: 5/16/2016

REVIEWED BY
By Janice Whitt at 9:12:49 AM, 5/16/2016

DHL Analytical, Inc.

Run ID: **GCMS6_160512A** **Run No.:** 85792

Analytical Run Date: 5/12/2016 **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-160512	1	PAH_LL_SDOD1	TUNE	R85792	5/12/2016 7:54:00 AM		
ICV-160512	1	PAH_LL_SDOD1	ICV	R85792	5/12/2016 8:31:00 AM		
LCS-75007	1	PAH_LL_SDOD1	LCS	75007	5/12/2016 9:12:00 AM		
MB-75007	1	PAH_LL_SDOD1	MBLK	75007	5/12/2016 9:51:00 AM		
1605034-21A	10	PAH_LL_SDOD1	SAMP	75007	5/12/2016 10:31:00 AM		All samples in this batch run at 10x - detection limit is sufficient and is approved by project managers.
1605034-22A	10	PAH_LL_SDOD1	SAMP	75007	5/12/2016 11:11:00 AM		
1605034-23A	10	PAH_LL_SDOD1	SAMP	75007	5/12/2016 11:51:00 AM		
1605034-24A	10	PAH_LL_SDOD1	SAMP	75007	5/12/2016 12:31:00 PM		
1605034-25A	10	PAH_LL_SDOD1	SAMP	75007	5/12/2016 1:11:00 PM		
1605034-26A	10	PAH_LL_SDOD1	SAMP	75007	5/12/2016 1:51:00 PM		
1605034-27A	10	PAH_LL_SDOD1	SAMP	75007	5/12/2016 2:31:00 PM		
1605034-28A	10	PAH_LL_SDOD1	SAMP	75007	5/12/2016 3:11:00 PM		
1605034-29A	10	PAH_LL_SDOD1	SAMP	75007	5/12/2016 3:50:00 PM		
1605034-30A	10	PAH_LL_SDOD1	SAMP	75007	5/12/2016 4:30:00 PM		
1605047-02A	10	PAH_LL_SDOD1	SAMP	75007	5/12/2016 5:10:00 PM		
1605047-03AMS	10	PAH_LL_SDOD1	MS	75007	5/12/2016 5:49:00 PM		
1605047-03AMSD	10	PAH_LL_SDOD1	MSD	75007	5/12/2016 6:29:00 PM		
DFTPP2-160512	1	PAH_LL_SDOD1	TUNE	R85792	5/12/2016 7:07:00 PM		
ICV2-160512	1	PAH_LL_SDOD1	ICV	R85792	5/12/2016 7:44:00 PM		
SB-160512	1	PAH_LL_SDOD1	SBLK	75007	5/12/2016 8:24:00 PM		
1605047-03A	10	PAH_LL_SDOD1	SAMP	75007	5/12/2016 9:03:00 PM		
1605047-04A	10	PAH_LL_SDOD1	SAMP	75007	5/12/2016 9:43:00 PM		
1605047-05A	10	PAH_LL_SDOD1	SAMP	75007	5/12/2016 10:24:00 PM		
1605047-07A	10	PAH_LL_SDOD1	SAMP	75007	5/12/2016 11:04:00 PM		
1605047-08A	10	PAH_LL_SDOD1	SAMP	75007	5/12/2016 11:44:00 PM		
1605047-09A	10	PAH_LL_SDOD1	SAMP	75007	5/13/2016 12:23:00 AM		
1605047-10A	10	PAH_LL_SDOD1	SAMP	75007	5/13/2016 1:03:00 AM		
1605047-06A	10	PAH_LL_SDOD1	SAMP	75007	5/13/2016 1:43:00 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_160512A** **Run No.:** 85792

1605047-01A	20	PAH_LL_SDOD1	SAMP	75007	5/13/2016 2:23:00 AM		20x done instead of 10x due to color and high concentration of hydrocarbons.
CCV1-160512	1	PAH_LL_SDOD1	CCV	R85792	5/13/2016 3:03:00 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\160512.S
Comment:
Operator:
Data Path: C:\HPCHEM\1\DATA\160512\
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	16051201	DFTPPPAH	DFTPP-160512
2	Sample	2	16051202	PP160421	ICV-160512
3	Sample	3	16051203	PP160421	LCS-75007
4	Sample	4	16051204	PP160421	MB-75007
5	Sample	5	16051205	PP160421	1605034-21A
6	Sample	6	16051206	PP160421	1605034-22A
7	Sample	7	16051207	PP160421	1605034-23A
8	Sample	8	16051208	PP160421	1605034-24A
9	Sample	9	16051209	PP160421	1605034-25A
10	Sample	10	16051210	PP160421	1605034-26A
11	Sample	11	16051211	PP160421	1605034-27A
12	Sample	12	16051212	PP160421	1605034-28A
13	Sample	13	16051213	PP160421	1605034-29A
14	Sample	14	16051214	PP160421	1605034-30A
15	Sample	15	16051215	PP160421	1605047-02A
16	Sample	16	16051216	PP160421	1605047-03AMS
17	Sample	17	16051217	PP160421	1605047-03AMSD
18	Sample	18	16051218	DFTPPPAH	DFTPP2-160512
19	Sample	19	16051219	PP160421	ICV2-160512
20	Sample	20	16051220	PP160421	SB-160512
21	Sample	21	16051221	PP160421	1605047-03A
22	Sample	22	16051222	PP160421	1605047-04A
23	Sample	23	16051223	PP160421	1605047-05A
24	Sample	24	16051224	PP160421	1605047-07A
25	Sample	25	16051225	PP160421	1605047-08A
26	Sample	26	16051226	PP160421	1605047-09A
27	Sample	27	16051227	PP160421	1605047-10A
28	Sample	28	16051228	PP160421	1605047-06A
29	Sample	29	16051229	PP160421	1605047-01A
30	Sample	30	16051230	PP160421	CCV1-160512

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/9/2016 10:10:23 AM**
Digestion:
Prep End Date: **5/9/2016 5:24:00 PM**

Prep Batch **75007** Prep Code: **3550_PAHDOD** Technician: **Alex Robbins**

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
1605034-21A	Soil		10.02	10	0.998	1	of	1	
1605034-22A	Soil		10.18	10	0.982	1	of	1	
1605034-23A	Soil		10	10	1.000	1	of	1	
1605034-24A	Soil		10.34	10	0.967	1	of	1	
1605034-25A	Soil		10.14	10	0.986	1	of	1	
1605034-26A	Soil		10.08	10	0.992	1	of	1	
1605034-27A	Soil		10	10	1.000	1	of	1	
1605034-28A	Soil		10.01	10	0.999	1	of	1	
1605034-29A	Soil		10.1	10	0.990	1	of	1	
1605034-30A	Soil		10.34	10	0.967	1	of	1	
1605047-01A	Soil		10.03	10	0.997	1	of	1	
1605047-02A	Soil		10.01	10	0.999	1	of	1	
1605047-03A	Soil		10.05	10	0.995	1	of	3	
1605047-03AMS	Soil		10.04	10	0.996	12	of		
1605047-03AMSD	Soil		10.05	10	0.995	2	of		
1605047-04A	Soil		10.41	10	0.961	1	of	1	
1605047-05A	Soil		10.01	10	0.999	1	of	1	
1605047-06A	Soil		10.19	10	0.981	1	of	1	
1605047-07A	Soil		10.1	10	0.990	1	of	1	
1605047-08A	Soil		10.07	10	0.993	1	of	1	
1605047-09A	Soil		10.56	10	0.947	1	of	1	
1605047-10A	Soil		10.12	10	0.988	1	of	1	
LCS-75007	Soil		10	10	1.000		of		
MB-75007	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
PAHPREP160317	200 PPM PAH Spike Mix	LCS/MS/MSD	0.05	05/09/2016
SVPREP160415-A	40 PPM Surrogate Standard	ALL	0.25	07/15/2016

REVIEWED BY
By Janice Whitt at 8:22:33 AM, 5/16/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/9/2016 10:10:23 AM**
Digestion:
Prep End Date: 5/9/16 5:24PM

Prep Batch **75007** Prep Code: **3550_PAHDOD** Technician: **Alex Robbins**

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
1605034-21A	Soil		10.02	10	1.000	1	of	1	
1605034-22A	Soil		10.18	10	1.000	1	of	1	
1605034-23A	Soil		10.00	10	1.000	1	of	1	
1605034-24A	Soil		10.34	10	1.000	1	of	1	
1605034-25A	Soil		10.14	10	1.000	1	of	1	
1605034-26A	Soil		10.08	10	1.000	1	of	1	
1605034-27A	Soil		10.00	10	1.000	1	of	1	
1605034-28A	Soil		10.01	10	1.000	1	of	1	
1605034-29A	Soil		10.10	10	1.000	1	of	1	
1605034-30A	Soil		10.34	10	1.000	1	of	1	
1605047-01A	Soil		10.03	10	1.000	1	of	1	
1605047-02A	Soil		10.01	10	1.000	1	of	1	
1605047-03A	Soil		10.05	10	1.000	1	of	3	
1605047-03AMS	Soil		10.04	10	1.000	12	of	3	
1605047-03AMSD	Soil		10.05	10	1.000	2	of	3	
1605047-04A	Soil		10.41	10	1.000	1	of	1	
1605047-05A	Soil		10.01	10	1.000	1	of	1	
1605047-06A	Soil		10.19	10	1.000	1	of	1	
1605047-07A	Soil		10.10	10	1.000	1	of	1	
1605047-08A	Soil		10.07	10	1.000	1	of	1	
1605047-09A	Soil		10.54	10	1.000	1	of	1	
1605047-10A	Soil		10.12	10	1.000	1	of	1	
LCS-75007	Soil		10	10	1.000		of		
MB-75007	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
PAHPREP160317	200 PPM PAH Spike Mix	LCS/MS/MSD	0.05	05/09/2016
SVPREP160415-A	40 PPM Surrogate Standard	ALL	0.25	07/15/2016

5/9/16 / AR 5/9/16

REVIEWED BY
By Janice Whitt at 8:22:30 AM, 5/16/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/4/2016 2:45:00 PM**
Digestion: **Start: 5/4/2016 3:45:00 PM / Stop: 5/6/2016 9:30:00 AM**
Prep End Date: **5/6/2016 5:00:00 PM**

Prep Batch **74956** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker** Prep Factor Units: **mL/**

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #			Cleanup
1605034-01A	Soil		0	0	#Num!	1	of	1	
1605034-02A	Soil		0	0	#Num!	1	of	1	
1605034-03A	Soil		0	0	#Num!	1	of	1	
1605034-04A	Soil		0	0	#Num!	1	of	1	
1605034-05A	Soil		0	0	#Num!	1	of	1	
1605034-06A	Soil		0	0	#Num!	1	of	1	
1605034-07A	Soil		0	0	#Num!	1	of	1	
1605034-08A	Soil		0	0	#Num!	1	of	1	
1605034-09A	Soil		0	0	#Num!		of	3	
1605034-10A	Soil		0	0	#Num!	1	of	1	
1605034-11A	Soil		0	0	#Num!	1	of	1	
1605034-12A	Soil		0	0	#Num!	1	of	1	
1605034-13A	Soil		0	0	#Num!	1	of	1	
1605034-14A	Soil		0	0	#Num!	1	of	1	
1605034-15A	Soil		0	0	#Num!	1	of	1	
1605034-16A	Soil		0	0	#Num!	1	of	1	
1605034-17A	Soil		0	0	#Num!	1	of	1	
1605034-18A	Soil		0	0	#Num!	1	of	1	
1605034-19A	Soil		0	0	#Num!	1	of	1	
1605034-20A	Soil		0	0	#Num!	1	of	1	
1605034-21A	Soil		0	0	#Num!	1	of	1	
1605034-22A	Soil		0	0	#Num!	1	of	1	
1605034-23A	Soil		0	0	#Num!	1	of	1	
1605034-24A	Soil		0	0	#Num!	1	of	1	
1605034-25A	Soil		0	0	#Num!	1	of	1	
1605034-26A	Soil		0	0	#Num!	1	of	1	
1605034-27A	Soil		0	0	#Num!	1	of	1	

REVIEWED BY
By Janice Whitt at 8:24:46 AM, 5/16/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/4/2016 2:45:00 PM**
Digestion: **Start: 5/4/2016 3:45:00 PM / Stop: 5/6/2016 9:30:00 AM**
Prep End Date: **5/6/2016 5:00:00 PM**

Prep Batch **74956** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker** Prep Factor Units: **mL/**

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605034-28A	Soil		0	0	#Num!	1 of 1	
1605034-29A	Soil		0	0	#Num!	1 of 1	
1605034-30A	Soil		0	0	#Num!	1 of 1	

REVIEWED BY
By Janice Whitt at 8:24:48 AM, 5/16/2016

DHL Analytical, Inc.

PREP BATCH REPORT

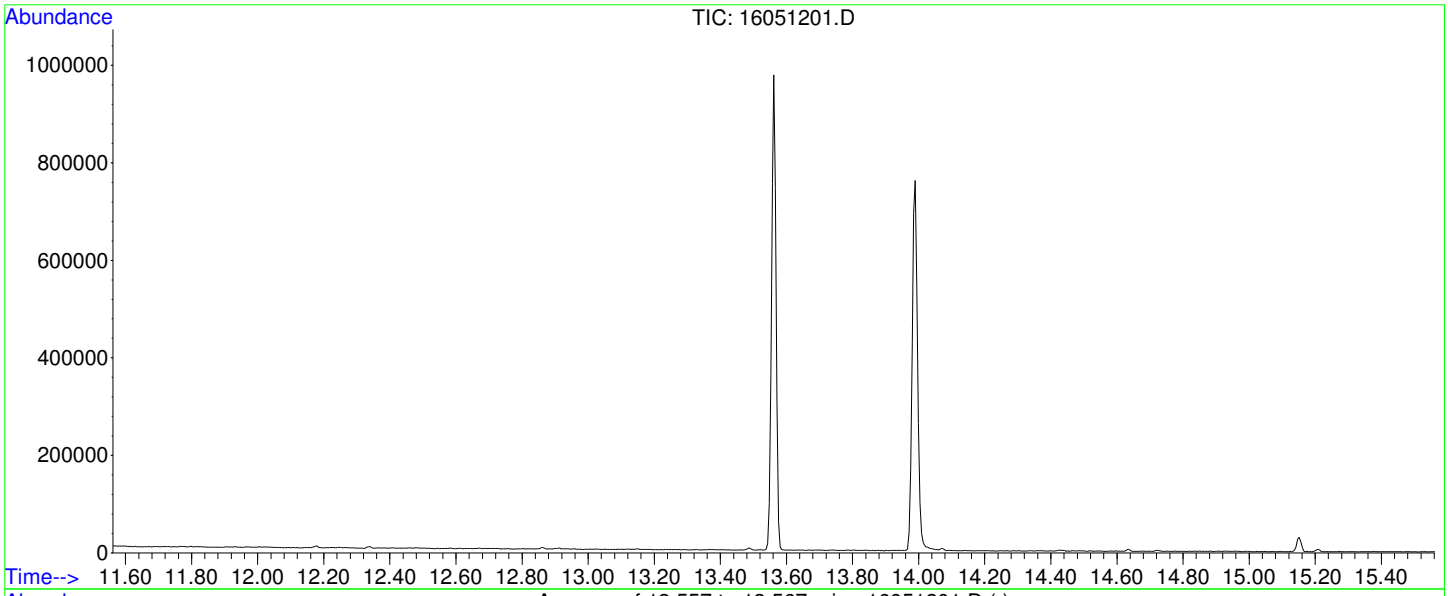
Prep Start Date: **5/5/2016 2:00:00 PM**
Digestion: **Start: 5/5/2016 5:00:00 PM / Stop: 5/7/2016 9:00:00 AM**
Prep End Date: **5/7/2016 3:30:00 PM**

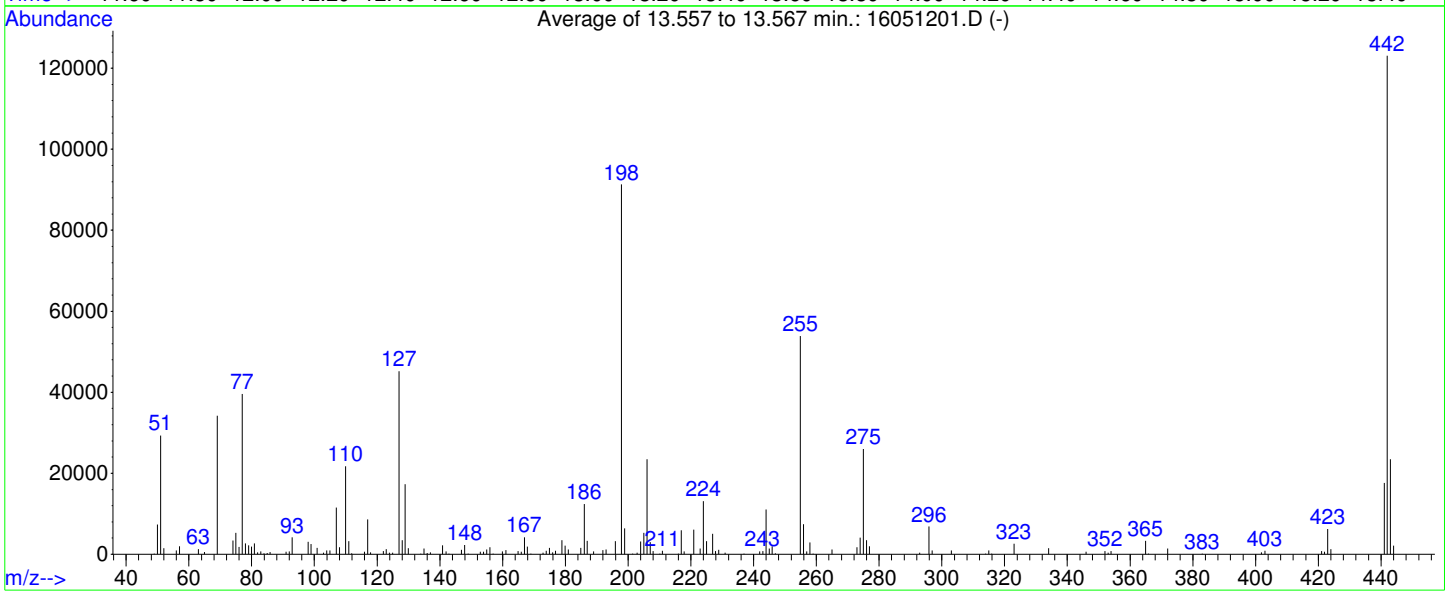
Prep Batch **74972** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker** Prep Factor Units: **mL/**

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #			Cleanup
1605047-01A	Soil		0	0	#Num!	1	of	1	
1605047-02A	Soil		0	0	#Num!	1	of	1	
1605047-03A	Soil		0	0	#Num!		of	3	Extra sample was subsampled for MS/MSD.
1605047-04A	Soil		0	0	#Num!	1	of	1	
1605047-05A	Soil		0	0	#Num!	1	of	1	
1605047-06A	Soil		0	0	#Num!	1	of	1	
1605047-07A	Soil		0	0	#Num!	1	of	1	
1605047-08A	Soil		0	0	#Num!	1	of	1	
1605047-09A	Soil		0	0	#Num!	1	of	1	
1605047-10A	Soil		0	0	#Num!	1	of	1	
1605047-11A	Soil		0	0	#Num!	1	of	1	
1605047-12A	Soil		0	0	#Num!	1	of	1	
1605047-13A	Soil		0	0	#Num!	1	of	1	
1605047-14A	Soil		0	0	#Num!	1	of	1	
1605047-15A	Soil		0	0	#Num!	1	of	1	
1605047-16A	Soil		0	0	#Num!	1	of	1	
1605047-17A	Soil		0	0	#Num!	1	of	1	
1605047-18A	Soil		0	0	#Num!	1	of	1	
1605047-19A	Soil		0	0	#Num!	1	of	1	
1605047-20A	Soil		0	0	#Num!	1	of	1	
1605047-21A	Soil		0	0	#Num!	1	of	1	
1605047-22A	Soil		0	0	#Num!	1	of	1	
1605047-23A	Soil		0	0	#Num!	1	of	1	
1605047-24A	Soil		0	0	#Num!		of	3	Extra sample was subsampled for MS/MSD.
1605047-25A	Soil		0	0	#Num!	1	of	1	
1605047-26A	Soil		0	0	#Num!	1	of	1	
1605047-27A	Soil		0	0	#Num!	1	of	1	

REVIEWED BY
By Janice Whitt at 8:26:02 AM, 5/16/2016

Data File : C:\HPCHEM\1\DATA\160512\16051201.D Vial: 1
Acq On : 12 May 2016 7:54 am Operator:
Sample : DFTPP-160512 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



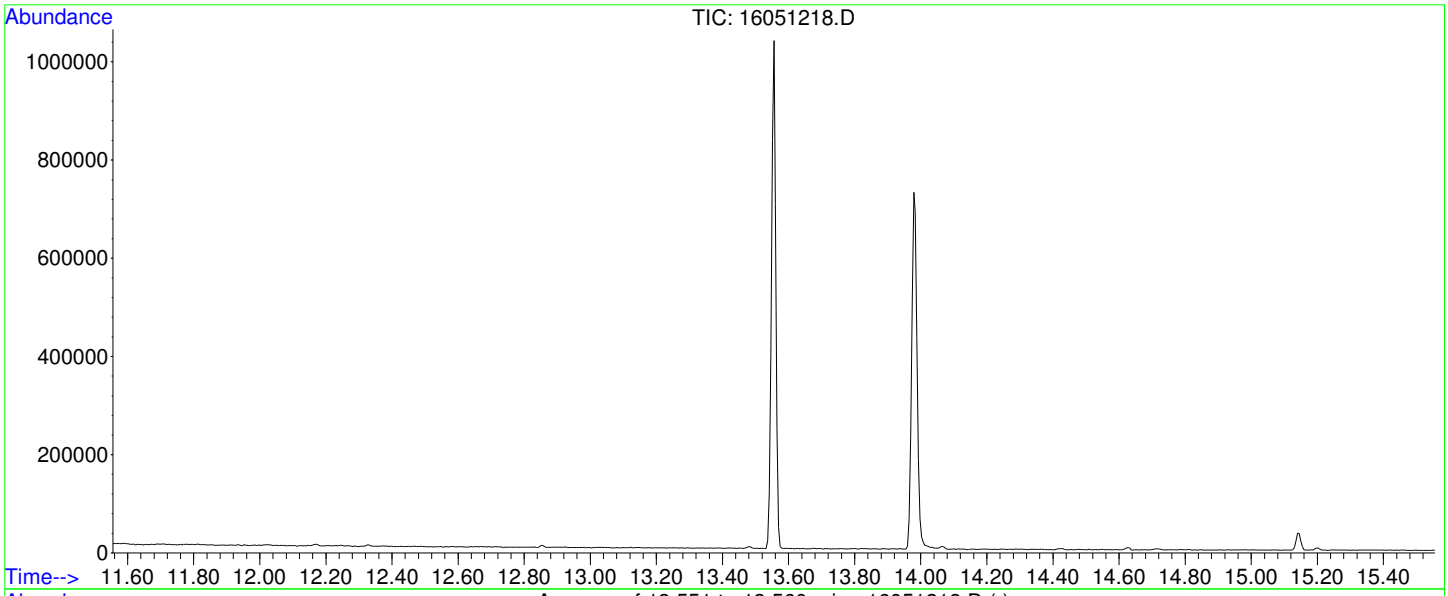


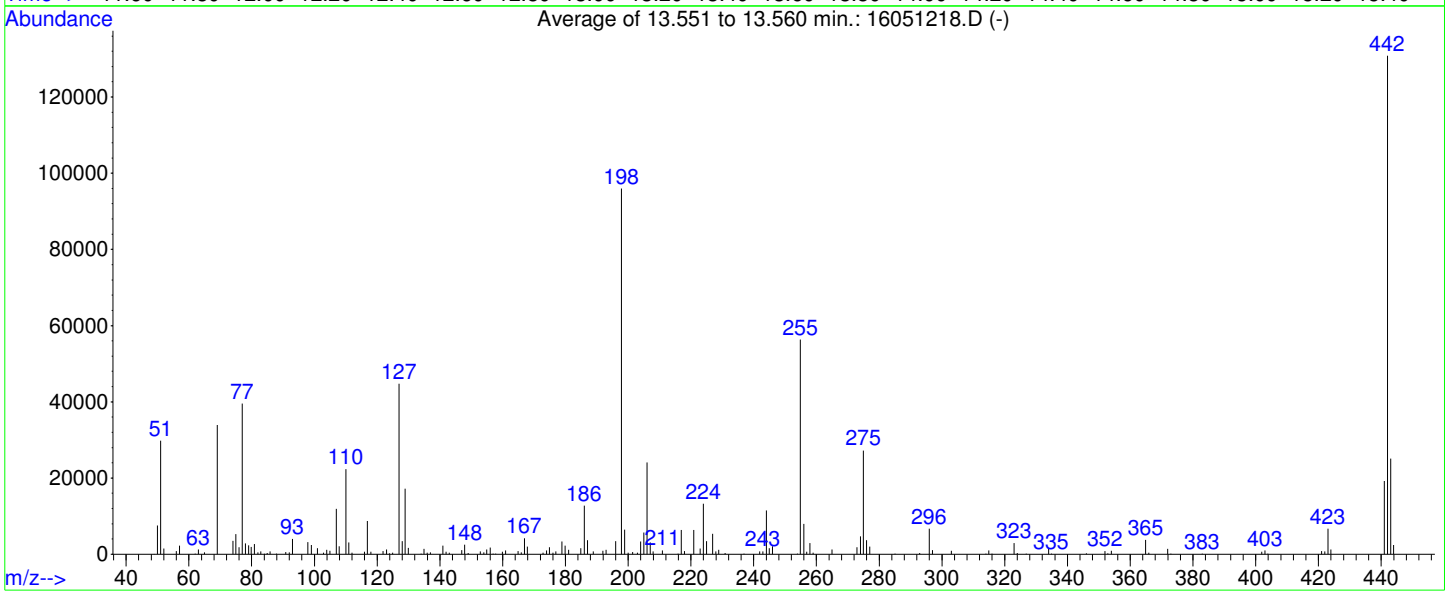
AutoFind: Scans 1588, 1589, 1590; Background Corrected with Scan 1582

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	32.1	29349	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	37.5	34197	PASS
70	69	0.00	2	0.0	0	PASS
127	198	10	80	49.5	45160	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	91309	PASS
199	198	5	9	7.0	6364	PASS
275	198	10	60	28.4	25976	PASS
365	198	1	200	3.7	3350	PASS
441	442	0.01	24	14.3	17655	PASS
442	198	50	400	134.8	123101	PASS
443	442	15	24	19.1	23493	PASS

REVIEWED BY
By Janice Whitt at 8:24:50 AM, 5/16/2016

Data File : C:\HPCHEM\1\DATA\160512\16051218.D Vial: 18
Acq On : 12 May 2016 7:07 pm Operator:
Sample : DFTPP2-160512 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	31.1	29843	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	35.4	33941	PASS
70	69	0.00	2	0.0	0	PASS
127	198	10	80	46.7	44800	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	95971	PASS
199	198	5	9	6.8	6495	PASS
275	198	10	60	28.4	27227	PASS
365	198	1	200	3.9	3767	PASS
441	442	0.01	24	14.7	19253	PASS
442	198	50	400	136.3	130848	PASS
443	442	15	24	19.2	25072	PASS

REVIEWED BY
By Janice Whitt at 8:24:52 AM, 5/16/2016

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160512\16051202.D Vial: 2
Acq On : 12 May 2016 8:31 am Operator:
Sample : ICV-160512 Inst : GC/MS #6
Misc : ICV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:08 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1538840	4000.00	ug/kg	133
5) Acenaphthene-d10	13.27	164	930821	4000.00	ug/kg	81
11) Phenanthrene-d10	15.36	188	1851610	4000.00	ug/kg	91
17) Chrysene-d12	21.10	240	2023154	4000.00	ug/kg	89
20) Perylene-d12	26.26	264	1874760	4000.00	ug/kg	91

System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.21	172	545899	2010.47	ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery = 50.26%			
16) 4-Terphenyl-d14	17.86	244	864516	1804.67	ug/kg	-0.04
Spiked Amount 4000.000	Range 40 - 140		Recovery = 45.12%			

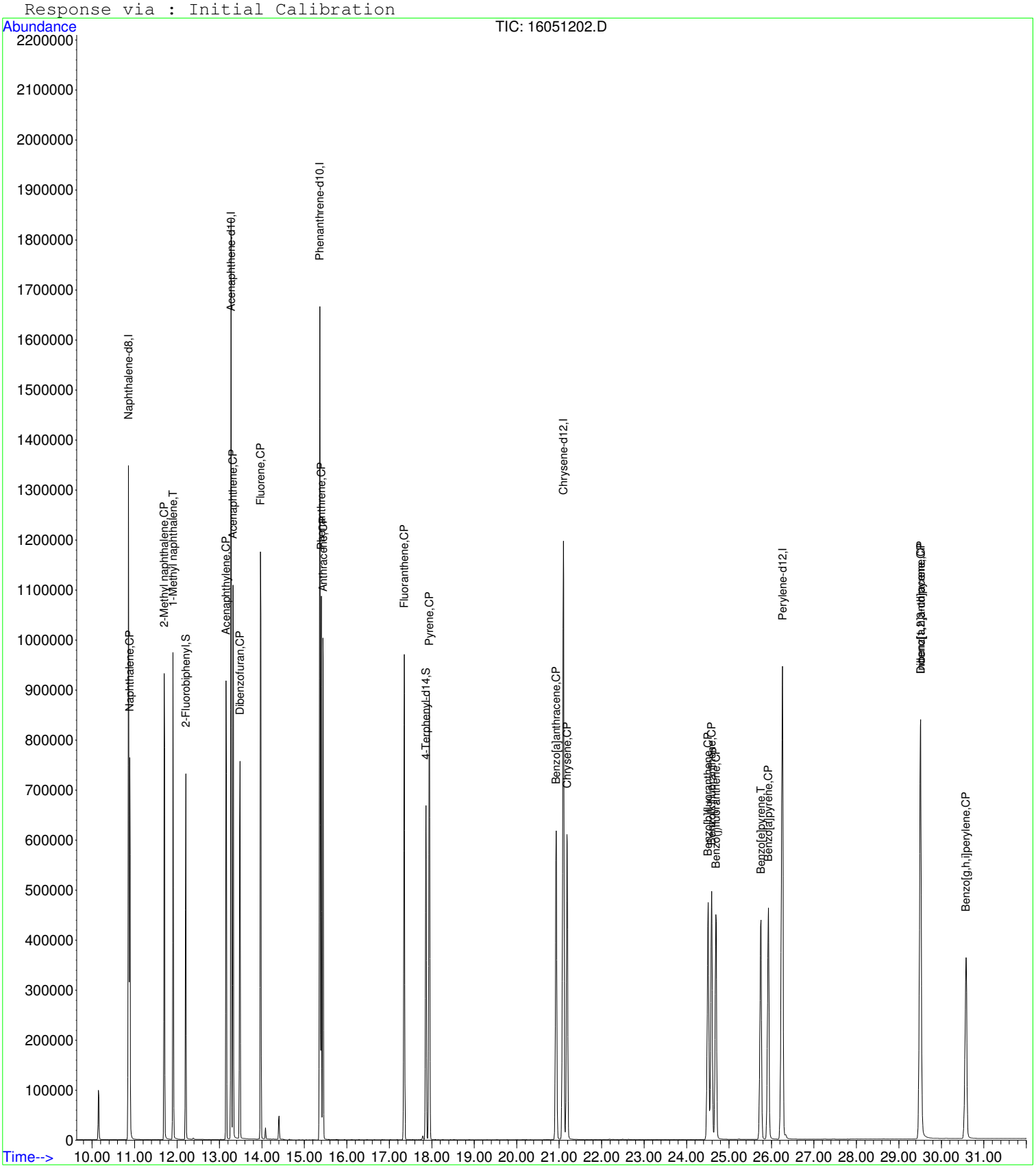
Target Compounds						Qvalue
2) Naphthalene	10.89	128	747225	1941.24	ug/kg	99
3) 2-Methyl naphthalene	11.70	142	516830	1520.04	ug/kg	94
4) 1-Methyl naphthalene	11.91	142	466509	1498.09	ug/kg	95
6) Dibenzofuran	13.48	168	694182	1989.85	ug/kg	99
8) Acenaphthylene	13.16	152	835016	2083.02	ug/kg	99
9) Acenaphthene	13.32	154	489297	1966.52	ug/kg	97
10) Fluorene	13.97	166	640714	2120.36	ug/kg	98
12) Phenanthrene	15.40	178	915065	1879.20	ug/kg	100
13) Anthracene	15.44	178	882608	1914.98	ug/kg	100
14) Fluoranthene	17.35	202	966411	1917.85	ug/kg	99
15) Pyrene	17.94	202	969357	1851.87	ug/kg	100
18) Benzo[a]anthracene	20.93	228	923521	1948.46	ug/kg	100
19) Chrysene	21.18	228	854709	1866.36	ug/kg	100
21) Benzo[b]fluoranthene	24.51	252	927129	1876.32	ug/kg	99
22) Benzo[k]fluoranthene	24.59	252	900731	1943.19	ug/kg	99
23) Benzo(j)fluoranthene	24.69	252	781358	1892.32	ug/kg	99
24) Benzo[e]pyrene	25.75	252	827333	1869.62	ug/kg	99
25) Benzo[a]pyrene	25.93	252	864347	1911.44	ug/kg	100
26) Dibenz[a,h]anthracene	29.51	278	802829	1949.43	ug/kg	100
27) Indeno[1,2,3-cd]pyrene	29.51	276	940395	1914.11	ug/kg	97
28) Benzo[g,h,i]perylene	30.59	276	738738	1928.31	ug/kg	99

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160512\16051202.D Vial: 2
Acq On : 12 May 2016 8:31 am Operator:
Sample : ICV-160512 Inst : GC/MS #6
Misc : ICV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:08 2016 Quant Results File: PP160421.RES

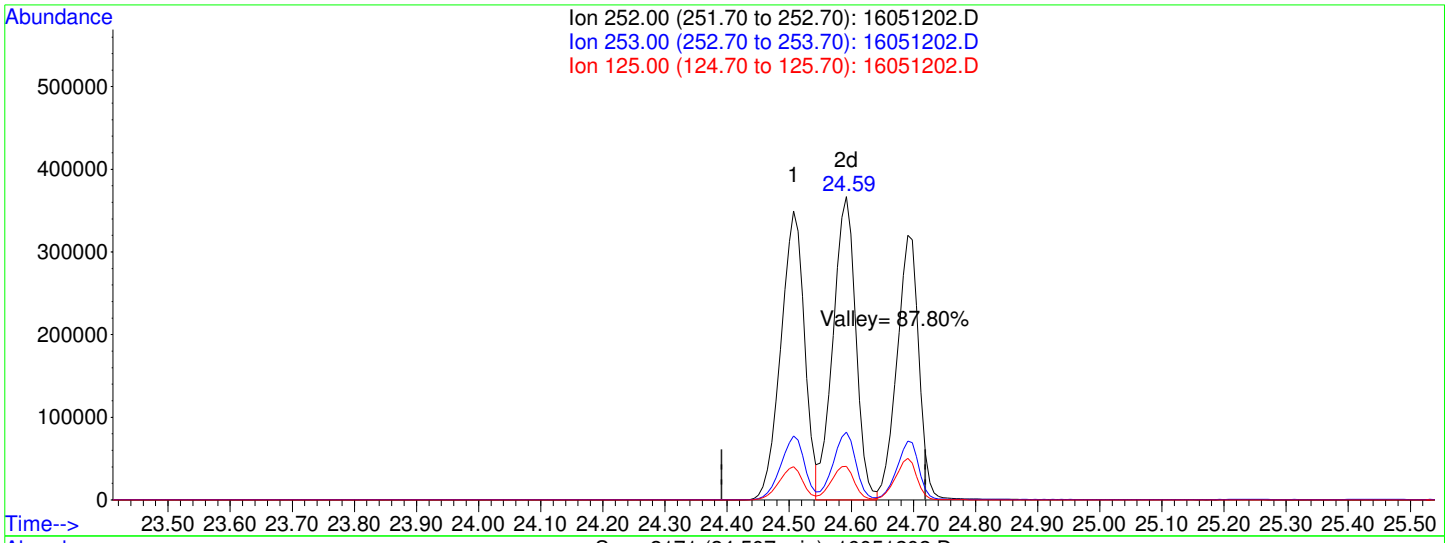
Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri Apr 22 11:43:43 2016
Response via : Initial Calibration

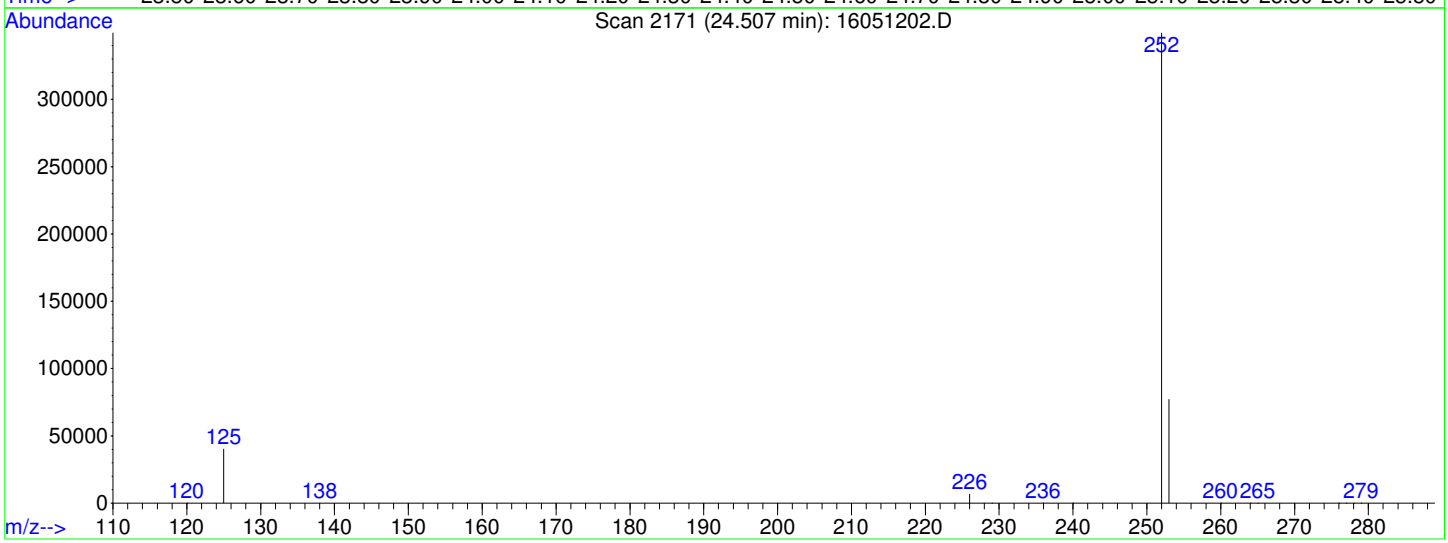


Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\160512\16051202.D Vial: 2
Acq On : 12 May 2016 8:31 am Operator:
Sample : ICV-160512 Inst : GC/MS #6
Misc : ICV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 12 9:03 2016 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri Apr 22 11:43:43 2016
Response via : Multiple Level Calibration





TIC: 16051202.D

(21) Benzo[b]fluoranthene (CP)

24.51min 1876.32ug/kg

response 927129

Ion	Exp%	Act%
252.00	100	100
253.00	22.20	21.99
125.00	11.00	11.52
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160512\16051203.D Vial: 3
Acq On : 12 May 2016 9:12 am Operator:
Sample : LCS-75007 Inst : GC/MS #6
Misc : LCS Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:08 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1138790	4000.00 ug/kg	98
5) Acenaphthene-d10	13.27	164	642733	4000.00 ug/kg	56
11) Phenanthrene-d10	15.36	188	1449134	4000.00 ug/kg	71
17) Chrysene-d12	21.09	240	1732740	4000.00 ug/kg	76
20) Perylene-d12	26.25	264	1699151	4000.00 ug/kg	82

System Monitoring Compounds					
7) 2-Fluorobiphenyl	12.21	172	156768	836.14 ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery = 20.90%#		
16) 4-Terphenyl-d14	17.86	244	293913	783.94 ug/kg	-0.04
Spiked Amount 4000.000	Range 40 - 140		Recovery = 19.60%#		

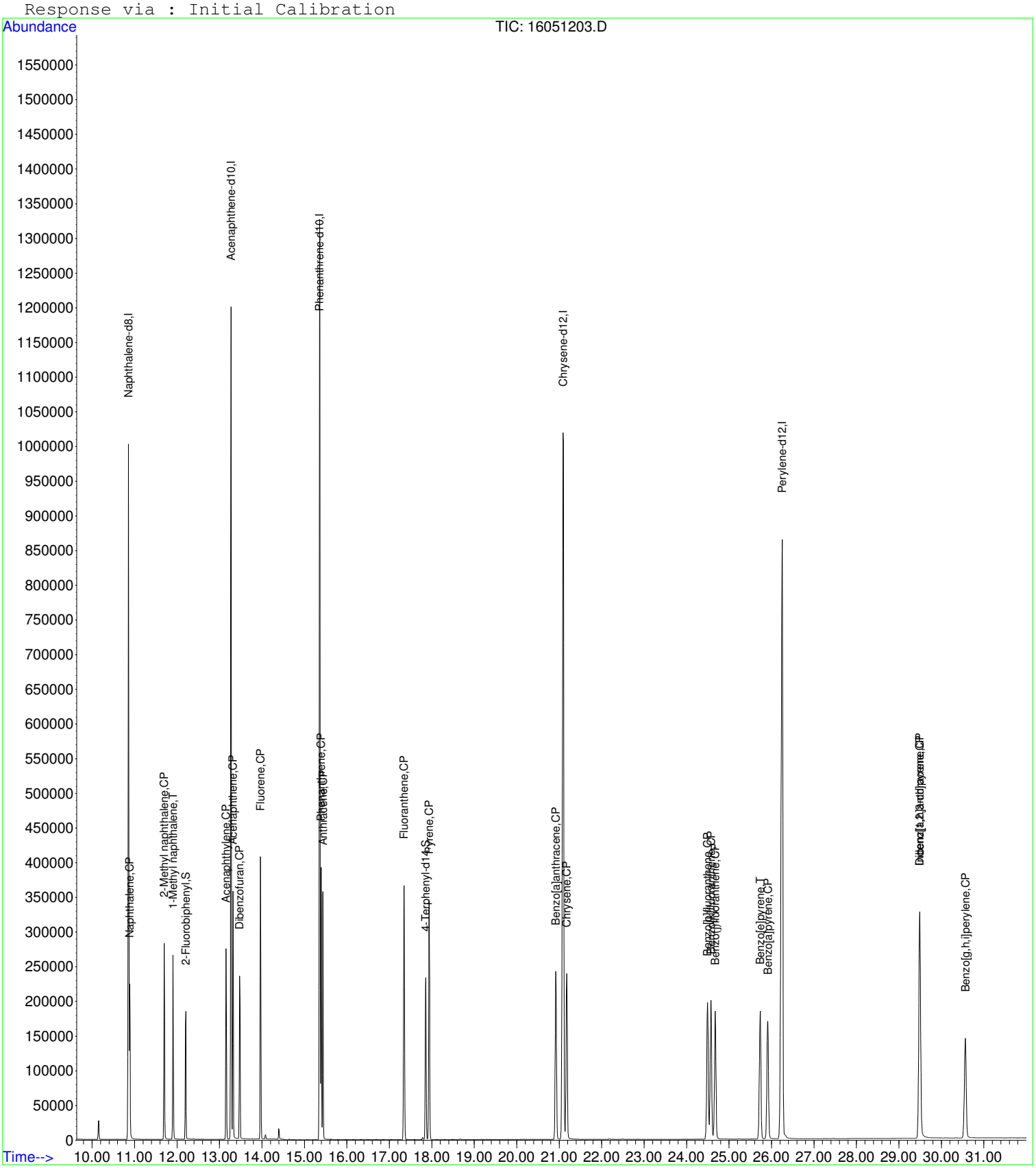
Target Compounds					Qvalue
2) Naphthalene	10.89	128	212271	745.19 ug/kg	99
3) 2-Methyl naphthalene	11.70	142	145681	578.98 ug/kg	96
4) 1-Methyl naphthalene	11.91	142	130503	566.30 ug/kg	96
6) Dibenzofuran	13.48	168	220989	917.39 ug/kg	100
8) Acenaphthylene	13.15	152	235545	850.96 ug/kg	99
9) Acenaphthene	13.32	154	138481	806.03 ug/kg	98
10) Fluorene	13.97	166	192788	923.97 ug/kg	99
12) Phenanthrene	15.39	178	319348	837.97 ug/kg	99
13) Anthracene	15.44	178	317380	879.87 ug/kg	99
14) Fluoranthene	17.35	202	362340	918.78 ug/kg	99
15) Pyrene	17.94	202	363985	888.49 ug/kg	99
18) Benzo[a]anthracene	20.92	228	351330	865.48 ug/kg	99
19) Chrysene	21.18	228	330681	843.11 ug/kg	100
21) Benzo[b]fluoranthene	24.49	252	374672	836.62 ug/kg	99
22) Benzo[k]fluoranthene	24.58	252	356712	849.08 ug/kg	99
23) Benzo(j)fluoranthene	24.68	252	316952	846.94 ug/kg	100
24) Benzo[e]pyrene	25.74	252	340171	848.17 ug/kg	99
25) Benzo[a]pyrene	25.91	252	327777	799.77 ug/kg	100
26) Dibenz[a,h]anthracene	29.49	278	314908	843.69 ug/kg	99
27) Indeno[1,2,3-cd]pyrene	29.49	276	368255	827.03 ug/kg	97
28) Benzo[g,h,i]perylene	30.57	276	294556	848.34 ug/kg	100

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160512\16051203.D Vial: 3
Acq On : 12 May 2016 9:12 am Operator:
Sample : LCS-75007 Inst : GC/MS #6
Misc : LCS Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:08 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\160512\16051204.D Vial: 4
Acq On : 12 May 2016 9:51 am Operator:
Sample : MB-75007 Inst : GC/MS #6
Misc : MBLK Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:08 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.85	136	1196975	4000.00	ug/kg	103
5) Acenaphthene-d10	13.27	164	724786	4000.00	ug/kg	63
11) Phenanthrene-d10	15.36	188	1570080	4000.00	ug/kg	77
17) Chrysene-d12	21.09	240	1851663	4000.00	ug/kg	82
20) Perylene-d12	26.25	264	1819035	4000.00	ug/kg	88

System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.20	172	165419	782.40	ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery = 19.56%#			
16) 4-Terphenyl-d14	17.85	244	296479	729.87	ug/kg	-0.05
Spiked Amount 4000.000	Range 40 - 140		Recovery = 18.25%#			

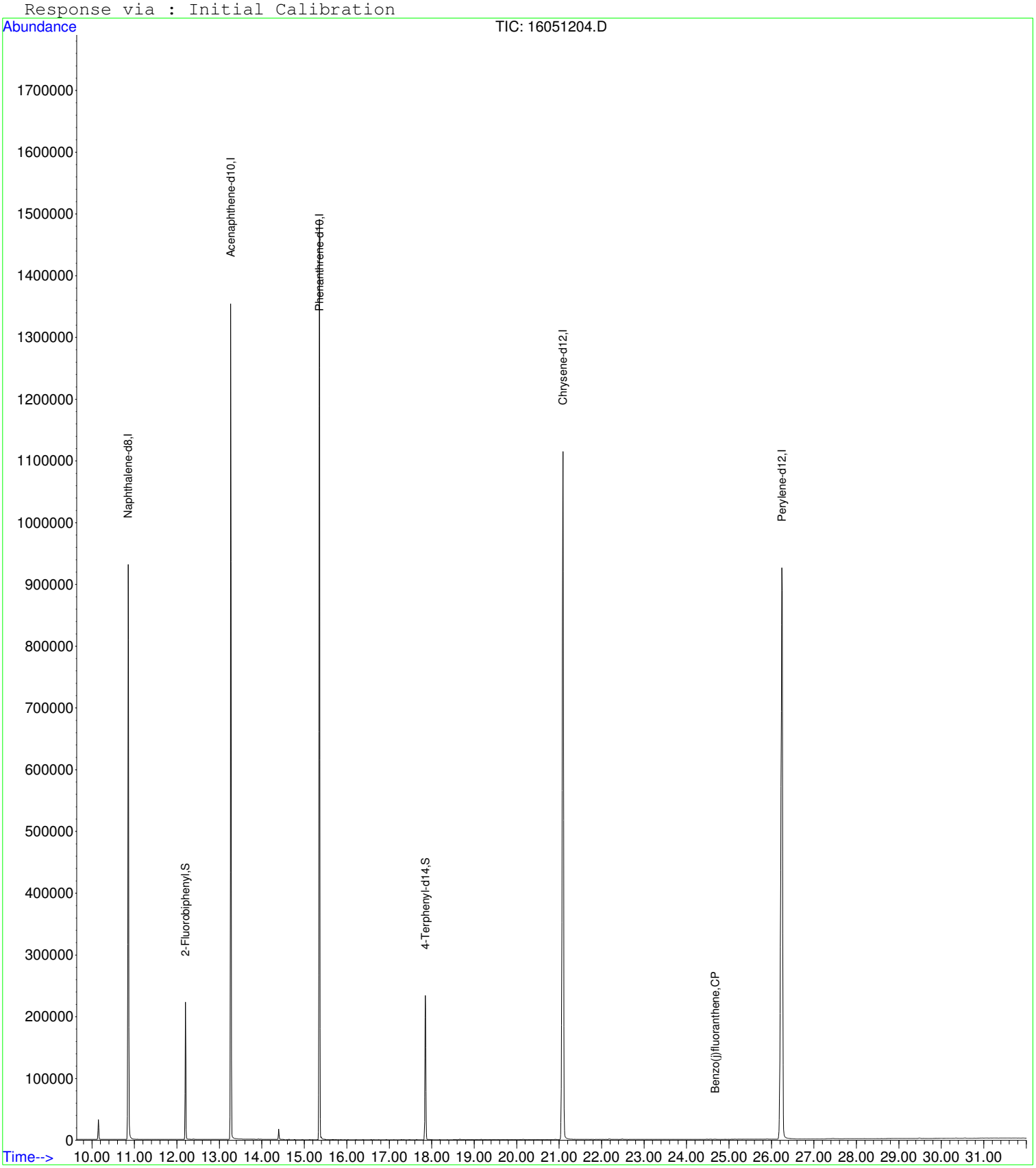
Target Compounds						Qvalue
23) Benzo(j)fluoranthene	24.68	252	354	0.88	ug/kg	83

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160512\16051204.D Vial: 4
Acq On : 12 May 2016 9:51 am Operator:
Sample : MB-75007 Inst : GC/MS #6
Misc : MBLK Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:08 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\160512\16051205.D Vial: 5
Acq On : 12 May 2016 10:31 am Operator:
Sample : 1605034-21A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:13 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.85	136	1442307	4000.00 ug/kg	124
5) Acenaphthene-d10	13.27	164	945891	4000.00 ug/kg	82
11) Phenanthrene-d10	15.36	188	1679638	4000.00 ug/kg	82
17) Chrysene-d12	21.09	240	1983650	4000.00 ug/kg	87
20) Perylene-d12	26.25	264	1846562	4000.00 ug/kg	90

System Monitoring Compounds

7) 2-Fluorobiphenyl	12.20	172	22382	81.12 ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.03%#		
16) 4-Terphenyl-d14	17.85	244	31819	73.22 ug/kg	-0.05
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.83%#		

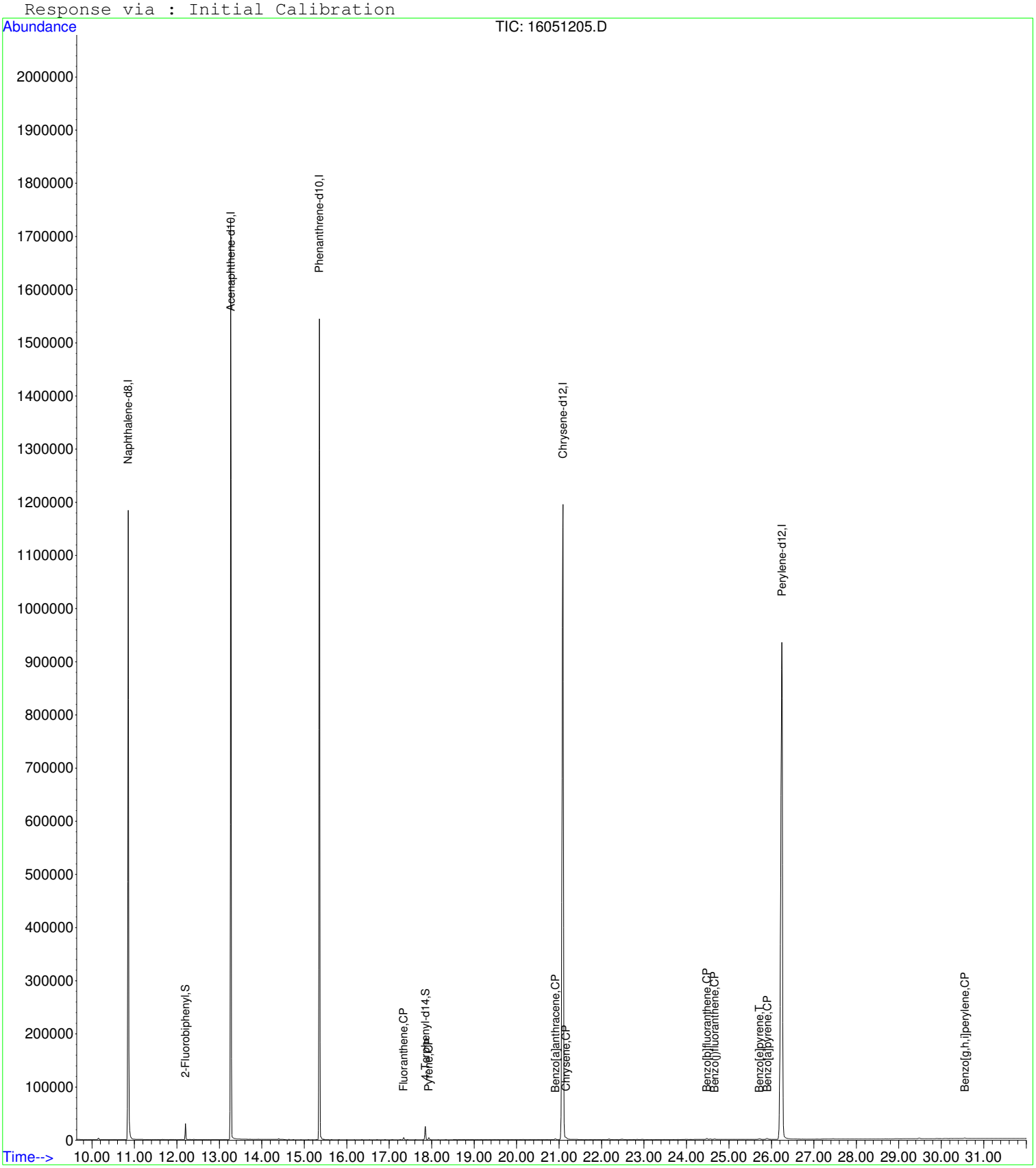
Target Compounds					Qvalue
14) Fluoranthene	17.34	202	4446	9.73 ug/kg	98
15) Pyrene	17.93	202	4335	9.13 ug/kg	99
18) Benzo[a]anthracene	20.92	228	2744	5.90 ug/kg	97
19) Chrysene	21.17	228	3272	7.29 ug/kg	98
21) Benzo[b]fluoranthene	24.48	252	3308	6.80 ug/kg	97
23) Benzo(j)fluoranthene	24.66	252	1379	3.39 ug/kg	91
24) Benzo[e]pyrene	25.72	252	2302	5.28 ug/kg	99
25) Benzo[a]pyrene	25.90	252	3207	7.20 ug/kg	98
28) Benzo[g,h,i]perylene	30.55	276	2150	5.70 ug/kg	98

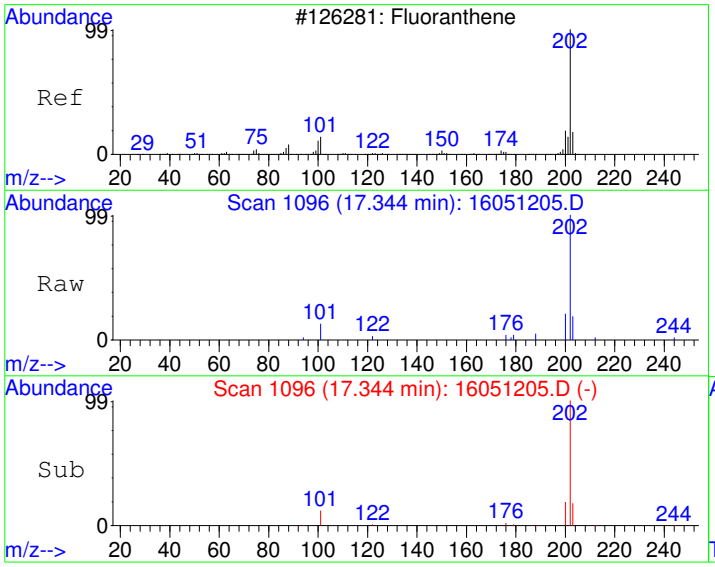
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160512\16051205.D Vial: 5
Acq On : 12 May 2016 10:31 am Operator:
Sample : 1605034-21A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:13 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

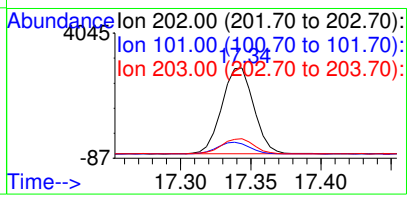


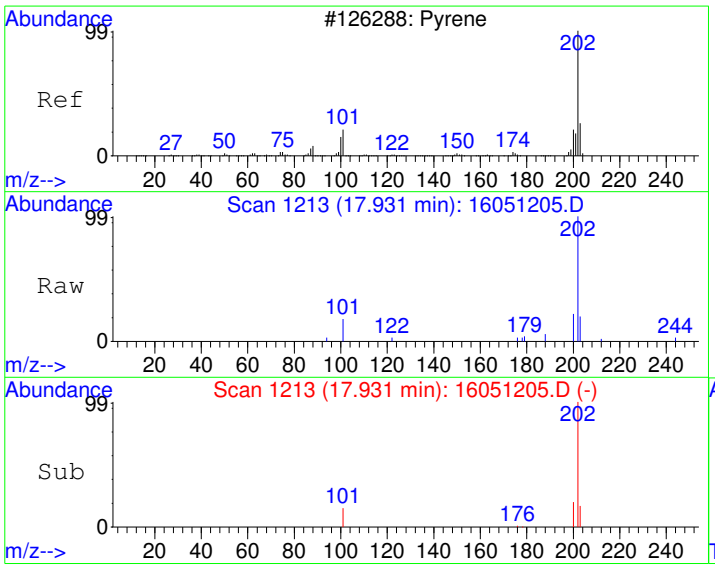


#14
Fluoranthene
Concen: 9.73 ug/kg
RT: 17.34 min Scan# 1096
Delta R.T. -0.04 min
Lab File: 16051205.D
Acq: 12 May 2016 10:31 am

Tgt Ion:202 Resp: 4446

Ion	Ratio	Lower	Upper
202	100		
101	11.8	0.0	43.0
203	17.6	0.0	47.9

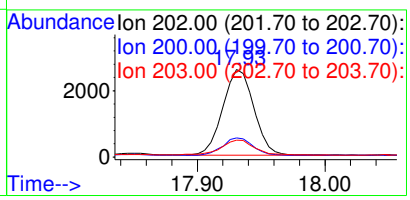


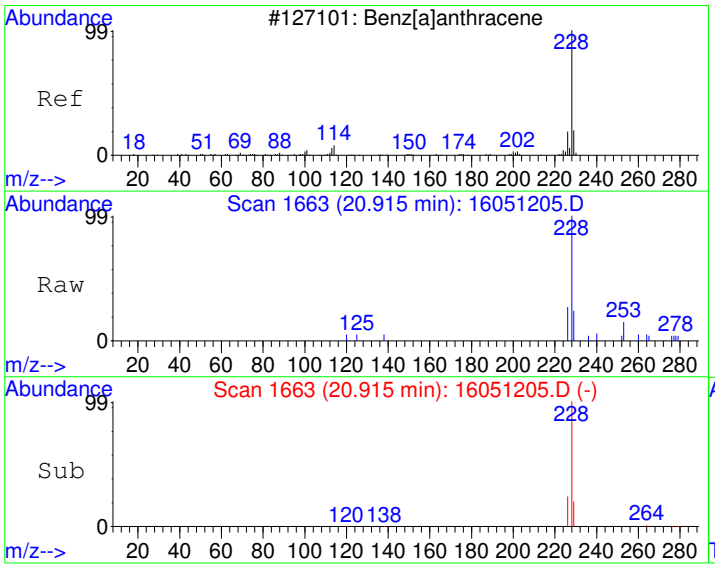


#15
Pyrene
Concen: 9.13 ug/kg
RT: 17.93 min Scan# 1213
Delta R.T. -0.05 min
Lab File: 16051205.D
Acq: 12 May 2016 10:31 am

Tgt Ion:202 Resp: 4335

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

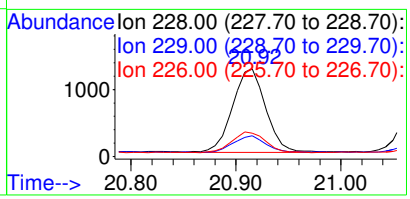


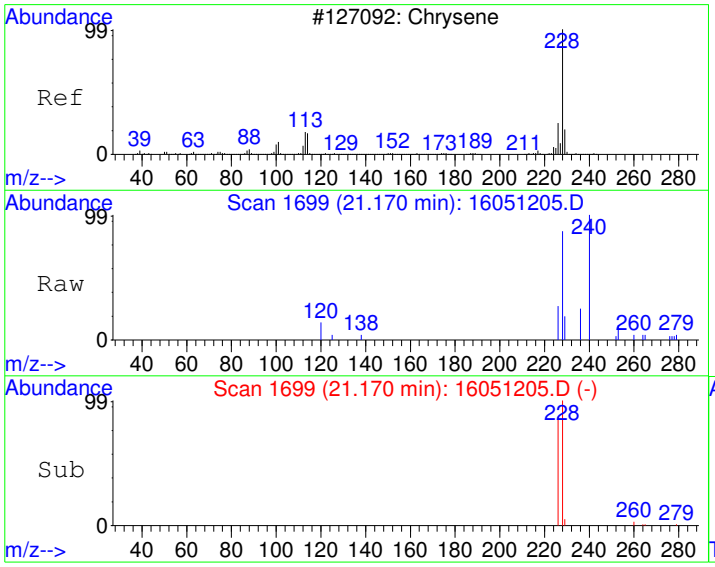


#18
Benzo[a]anthracene
Concen: 5.90 ug/kg
RT: 20.92 min Scan# 1663
Delta R.T. -0.06 min
Lab File: 16051205.D
Acq: 12 May 2016 10:31 am

Tgt Ion:228 Resp: 2744

Ion	Ratio	Lower	Upper
228	100		
229	19.7	0.0	50.1
226	23.2	0.0	55.2

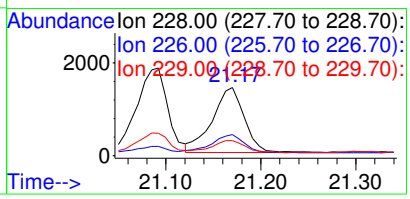


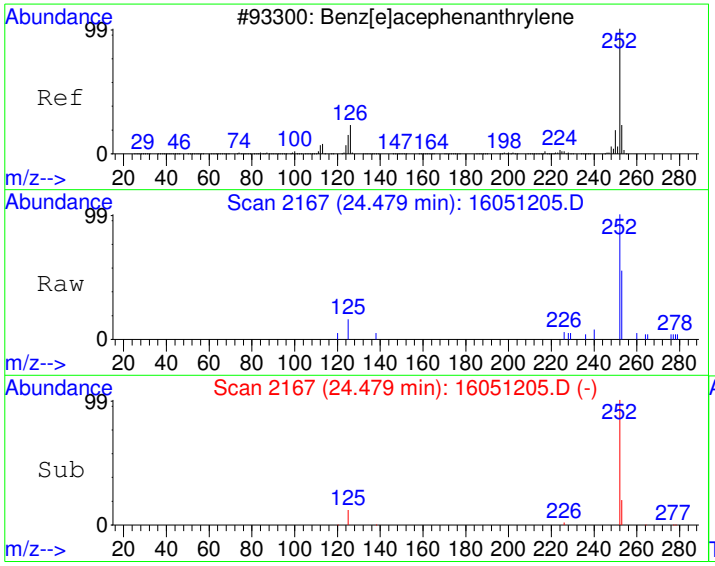


#19
Chrysene
Concen: 7.29 ug/kg
RT: 21.17 min Scan# 1699
Delta R.T. -0.06 min
Lab File: 16051205.D
Acq: 12 May 2016 10:31 am

Tgt Ion:228 Resp: 3272

Ion	Ratio	Lower	Upper
228	100		
226	28.3	0.0	58.1
229	18.2	0.0	50.1

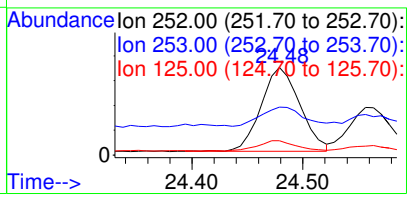


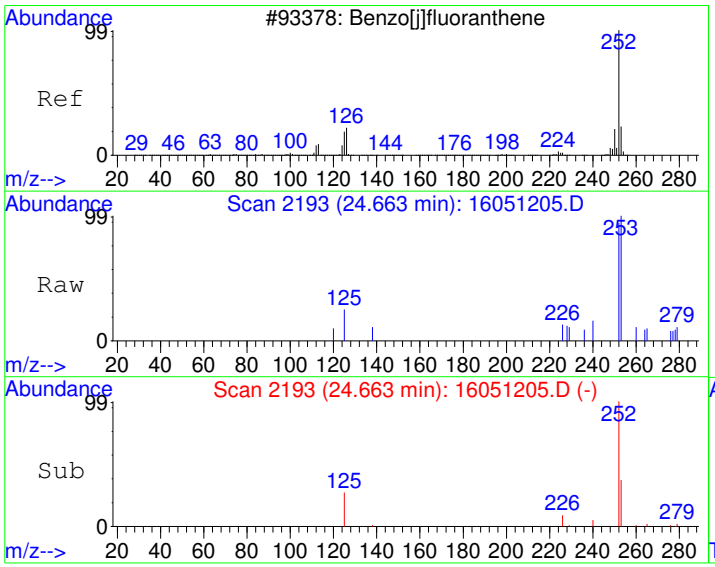


#21
Benzo[b]fluoranthene
Concen: 6.80 ug/kg
RT: 24.48 min Scan# 2167
Delta R.T. -0.08 min
Lab File: 16051205.D
Acq: 12 May 2016 10:31 am

Tgt Ion:252 Resp: 3308

Ion	Ratio	Lower	Upper
252	100		
253	20.1	0.0	52.2
125	11.7	0.0	41.0

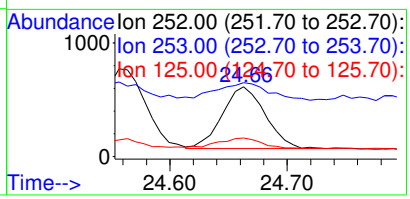


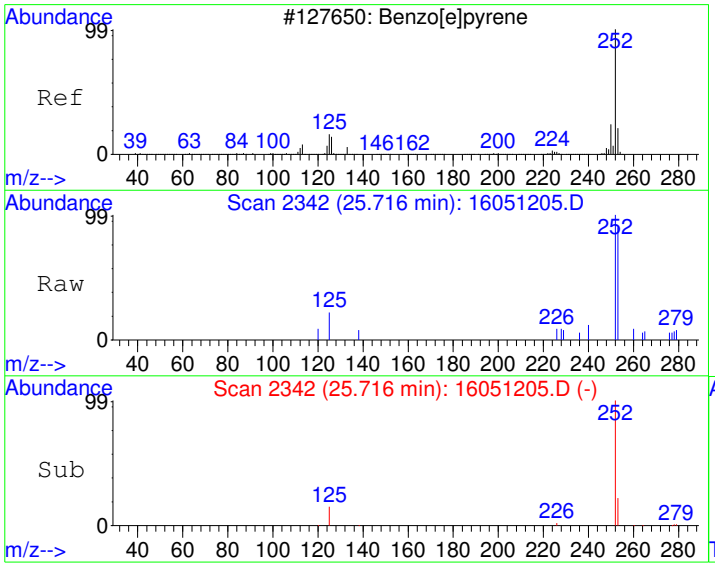


#23
Benzo(j)fluoranthene
Concen: 3.39 ug/kg
RT: 24.66 min Scan# 2193
Delta R.T. -0.08 min
Lab File: 16051205.D
Acq: 12 May 2016 10:31 am

Tgt Ion:252 Resp: 1379

Ion	Ratio	Lower	Upper
252	100		
253	27.4	2.1	42.1
125	17.1	0.0	34.4

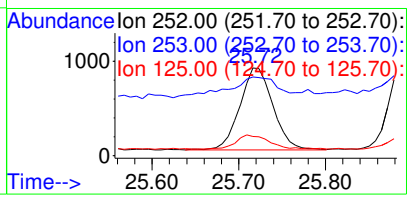


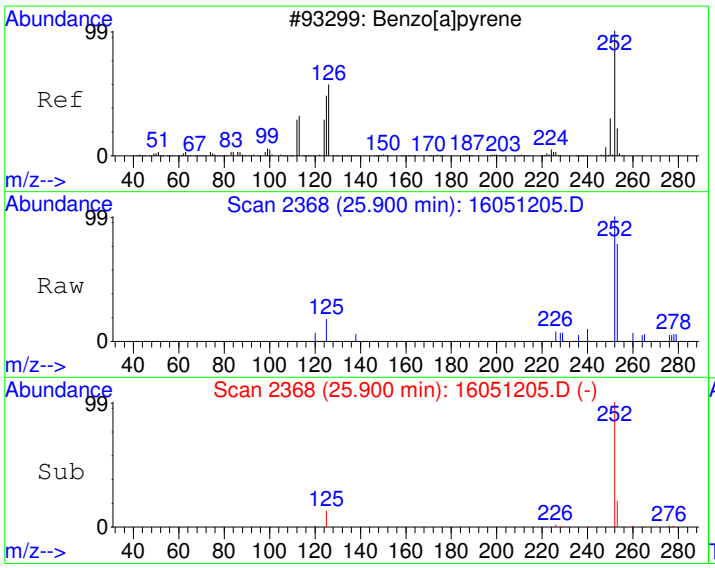


#24
Benzo[e]pyrene
Concen: 5.28 ug/kg
RT: 25.72 min Scan# 2342
Delta R.T. -0.08 min
Lab File: 16051205.D
Acq: 12 May 2016 10:31 am

Tgt Ion:252 Resp: 2302

Ion	Ratio	Lower	Upper
252	100		
253	21.9	2.2	42.2
125	15.4	0.0	36.1

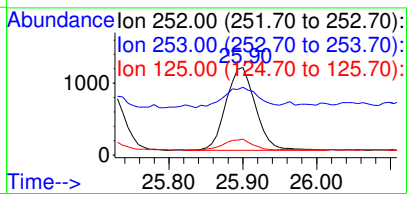


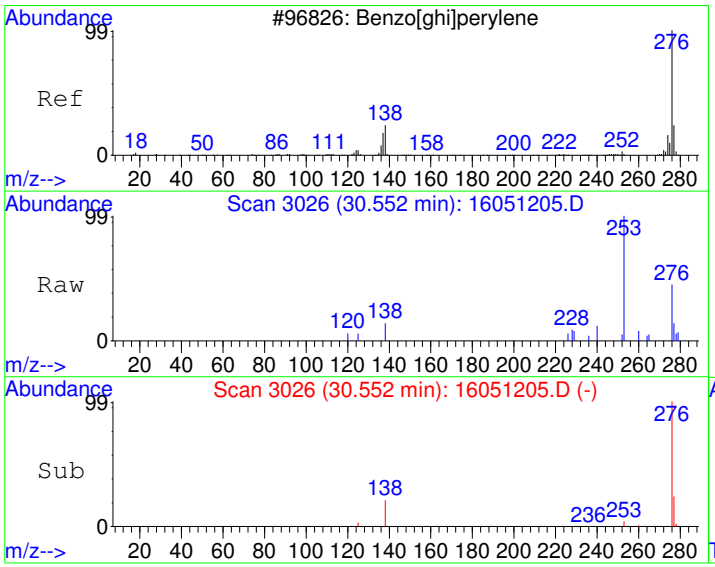


#25
Benzo[a]pyrene
Concen: 7.20 ug/kg
RT: 25.90 min Scan# 2368
Delta R.T. -0.08 min
Lab File: 16051205.D
Acq: 12 May 2016 10:31 am

Tgt Ion:252 Resp: 3207

Ion	Ratio	Lower	Upper
252	100		
253	21.4	1.9	41.9
125	13.1	0.0	31.7

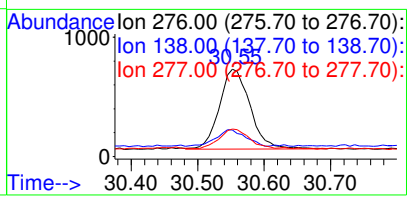




#28
Benzo[g,h,i]perylene
Concen: 5.70 ug/kg
RT: 30.55 min Scan# 3026
Delta R.T. -0.09 min
Lab File: 16051205.D
Acq: 12 May 2016 10:31 am

Tgt Ion:276 Resp: 2150

Ion	Ratio	Lower	Upper
276	100		
138	20.6	0.0	39.1
277	24.2	4.0	44.0



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160512\16051206.D Vial: 6
Acq On : 12 May 2016 11:11 am Operator:
Sample : 1605034-22A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:13 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.85	136	1421576	4000.00 ug/kg	123
5) Acenaphthene-d10	13.27	164	911216	4000.00 ug/kg	79
11) Phenanthrene-d10	15.36	188	1727242	4000.00 ug/kg	85
17) Chrysene-d12	21.08	240	1925653	4000.00 ug/kg	85
20) Perylene-d12	26.24	264	1809046	4000.00 ug/kg	88

System Monitoring Compounds					
7) 2-Fluorobiphenyl	12.20	172	21285	80.08 ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery =	2.00%#	
16) 4-Terphenyl-d14	17.85	244	31982	71.57 ug/kg	-0.05
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.79%#	

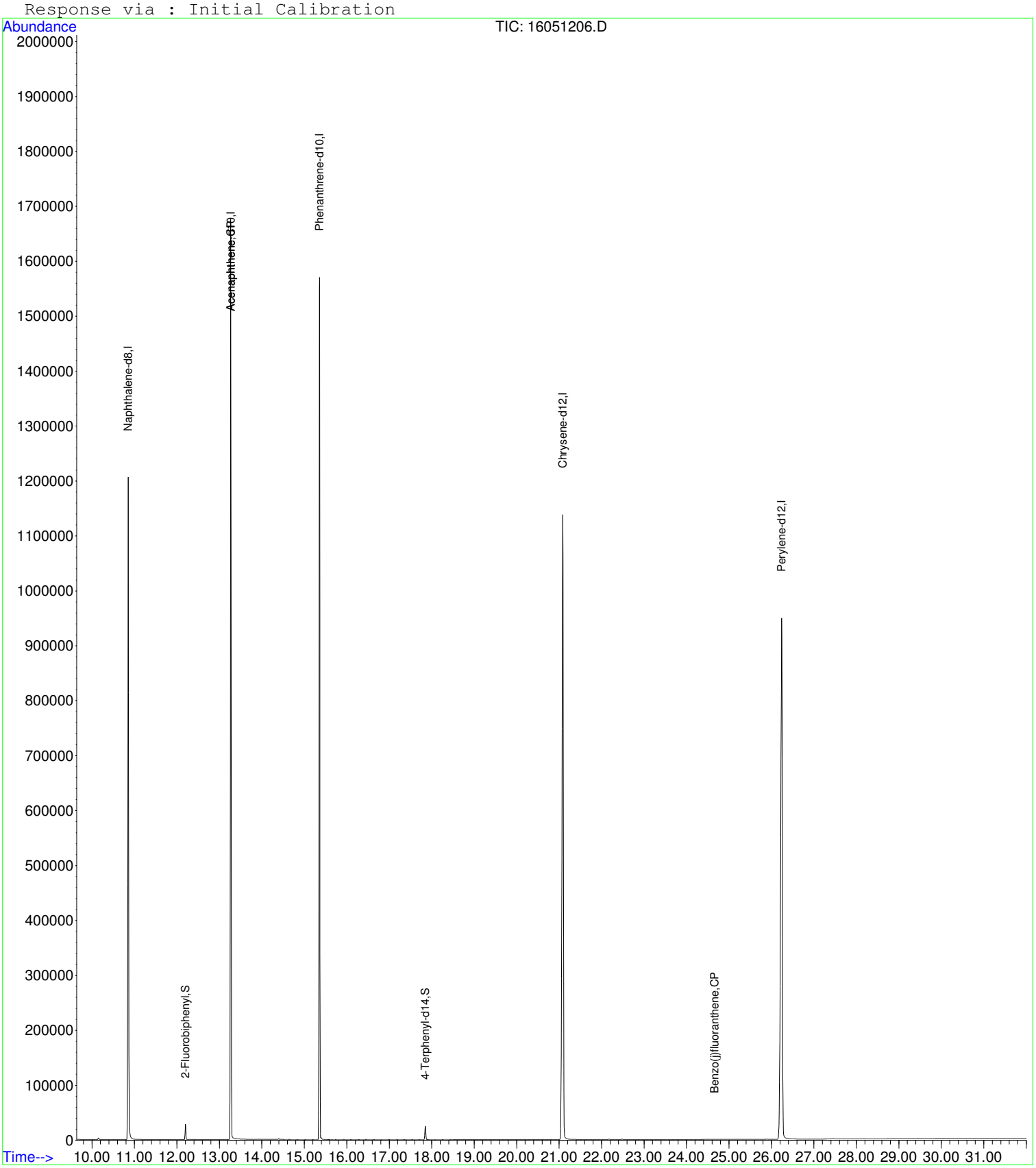
Target Compounds					Qvalue
9) Acenaphthene	13.27	154	2764	~~11.35 ug/kg~~#	9
23) Benzo(j)fluoranthene	24.66	252	63	0.16 ug/kg	78

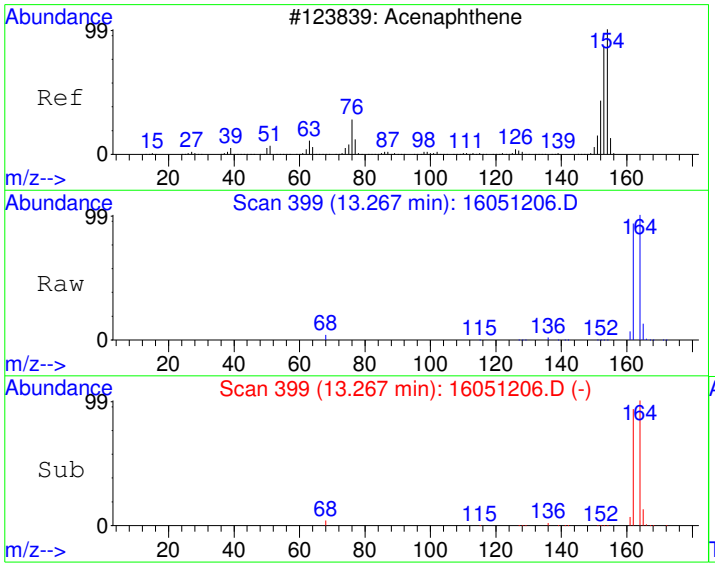
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160512\16051206.D Vial: 6
Acq On : 12 May 2016 11:11 am Operator:
Sample : 1605034-22A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:13 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

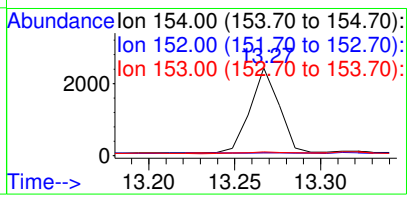


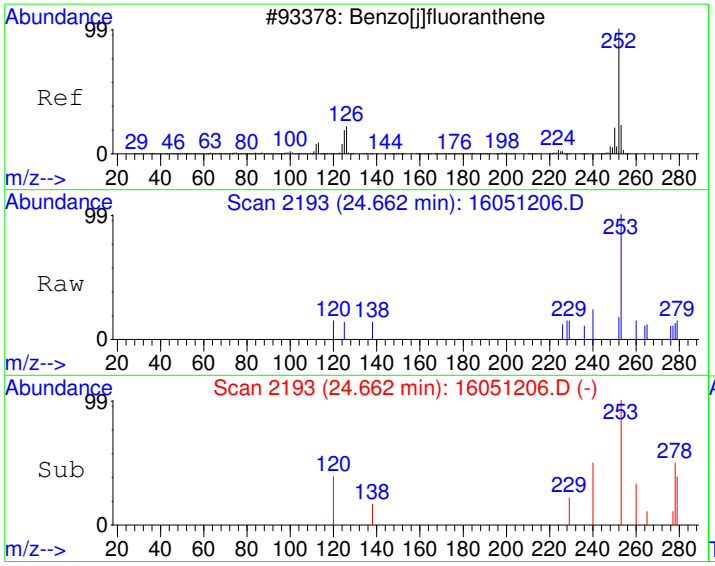


#9
Acenaphthene
Concen: 11.35 ug/kg
RT: 13.27 min Scan# 399
Delta R.T. -0.08 min
Lab File: 16051206.D
Acq: 12 May 2016 11:11 am

Tgt Ion:154 Resp: 2764

Ion	Ratio	Lower	Upper
154	100		
152	0.6	18.9	78.9#
153	1.8	75.2	135.2#

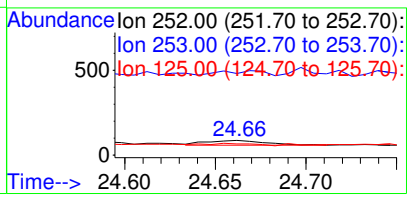




#23
Benzo(j)fluoranthene
Concen: 0.16 ug/kg
RT: 24.66 min Scan# 2193
Delta R.T. -0.08 min
Lab File: 16051206.D
Acq: 12 May 2016 11:11 am

Tgt Ion:252 Resp: 63

Ion	Ratio	Lower	Upper
252	100		
253	7.4	2.1	42.1
125	11.1	0.0	34.4



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160512\16051207.D Vial: 7
Acq On : 12 May 2016 11:51 am Operator:
Sample : 1605034-23A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:14 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1385591	4000.00	ug/kg	120
5) Acenaphthene-d10	13.27	164	899157	4000.00	ug/kg	78
11) Phenanthrene-d10	15.36	188	1685330	4000.00	ug/kg	83
17) Chrysene-d12	21.09	240	1852465	4000.00	ug/kg	82
20) Perylene-d12	26.25	264	1731167	4000.00	ug/kg	84

System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.21	172	21292	81.18	ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.03%#			
16) 4-Terphenyl-d14	17.85	244	31259	71.69	ug/kg	-0.05
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.79%#			

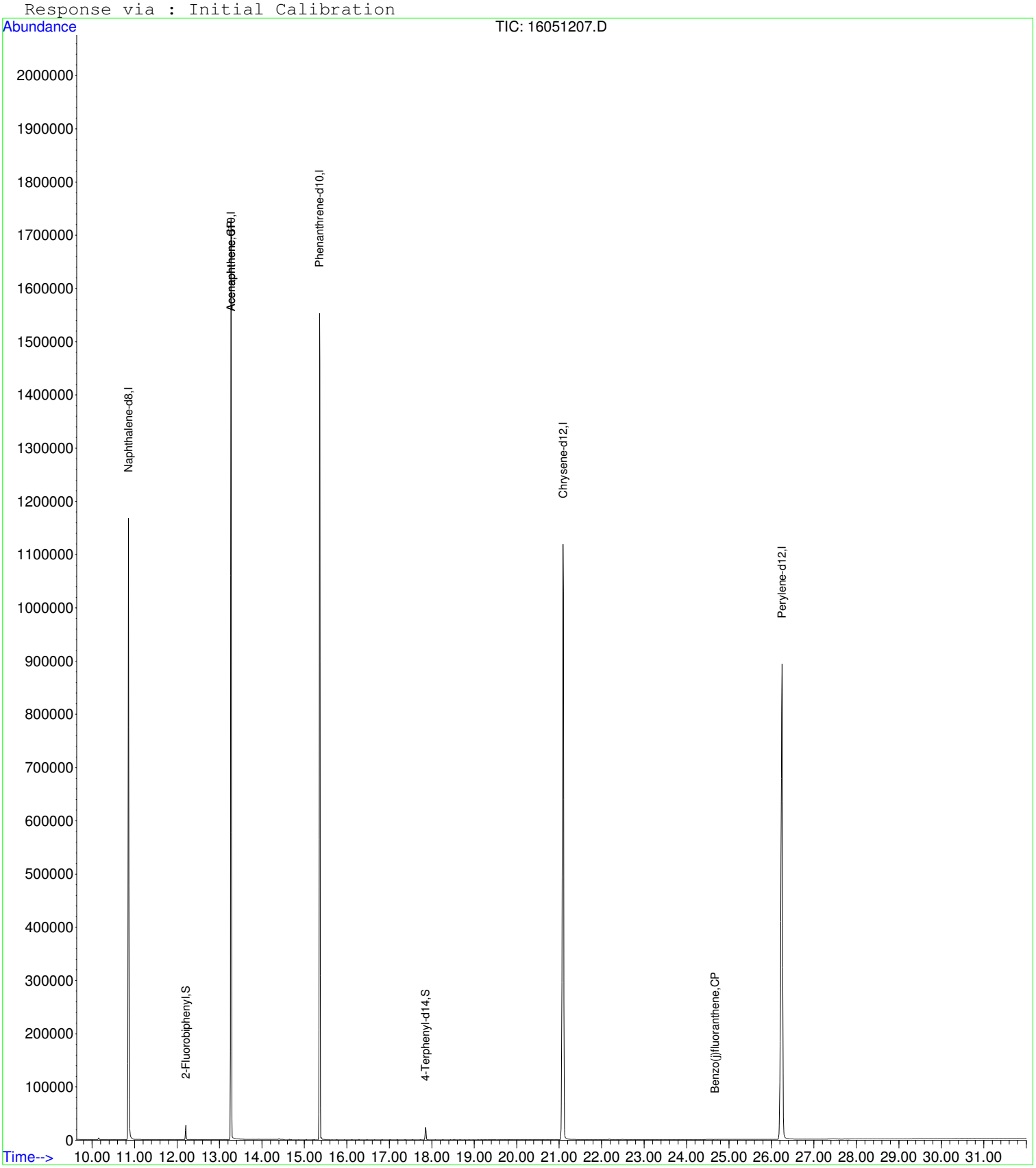
Target Compounds						Qvalue
9) Acenaphthene	13.27	154	2716	~~11.30~~	~~ug/kg#~~	9
23) Benzo(j)fluoranthene	24.66	252	62	0.16	ug/kg#	1

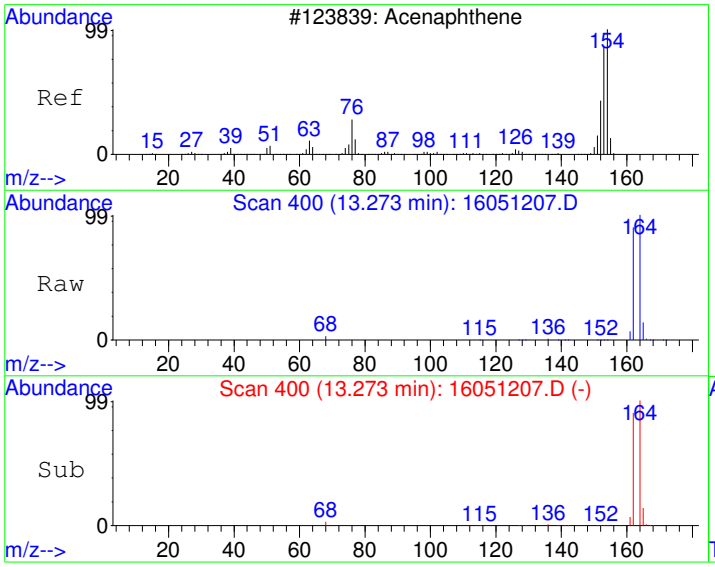
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160512\16051207.D Vial: 7
Acq On : 12 May 2016 11:51 am Operator:
Sample : 1605034-23A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:14 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

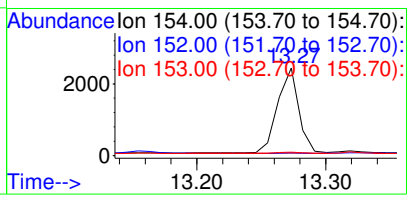


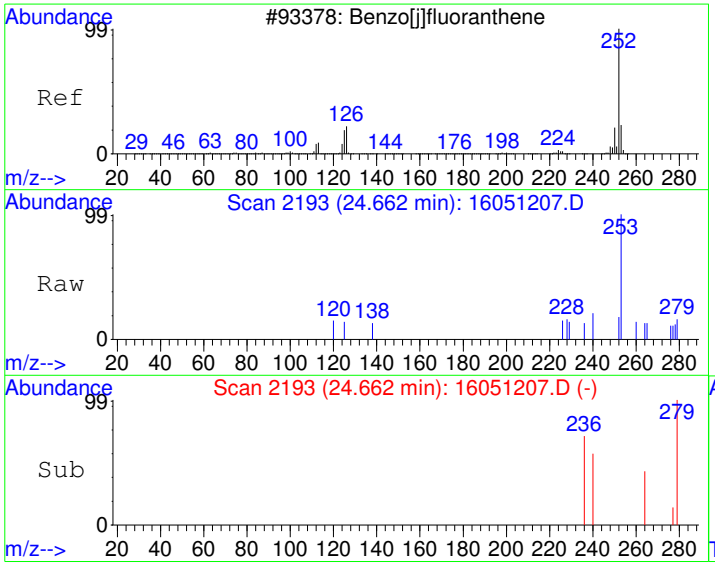


#9
Acenaphthene
Concen: 11.30 ug/kg
RT: 13.27 min Scan# 400
Delta R.T. -0.07 min
Lab File: 16051207.D
Acq: 12 May 2016 11:51 am

Tgt Ion:154 Resp: 2716

Ion	Ratio	Lower	Upper
154	100		
152	0.4	18.9	78.9#
153	1.7	75.2	135.2#

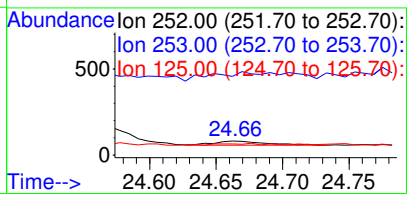




#23
Benzo(j)fluoranthene
Concen: 0.16 ug/kg
RT: 24.66 min Scan# 2193
Delta R.T. -0.08 min
Lab File: 16051207.D
Acq: 12 May 2016 11:51 am

Tgt Ion:252 Resp: 62

Ion	Ratio	Lower	Upper
252	100		
253	112.5	2.1	42.1#
125	20.8	0.0	34.4



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160512\16051208.D Vial: 8
Acq On : 12 May 2016 12:31 pm Operator:
Sample : 1605034-24A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:14 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1402553	4000.00 ug/kg	121
5) Acenaphthene-d10	13.27	164	894205	4000.00 ug/kg	78
11) Phenanthrene-d10	15.36	188	1687672	4000.00 ug/kg	83
17) Chrysene-d12	21.09	240	1869106	4000.00 ug/kg	82
20) Perylene-d12	26.25	264	1757947	4000.00 ug/kg	85

System Monitoring Compounds

7) 2-Fluorobiphenyl	12.21	172	20561	78.82 ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.97%#	
16) 4-Terphenyl-d14	17.85	244	30433	69.70 ug/kg	-0.05
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.74%#	

Target Compounds

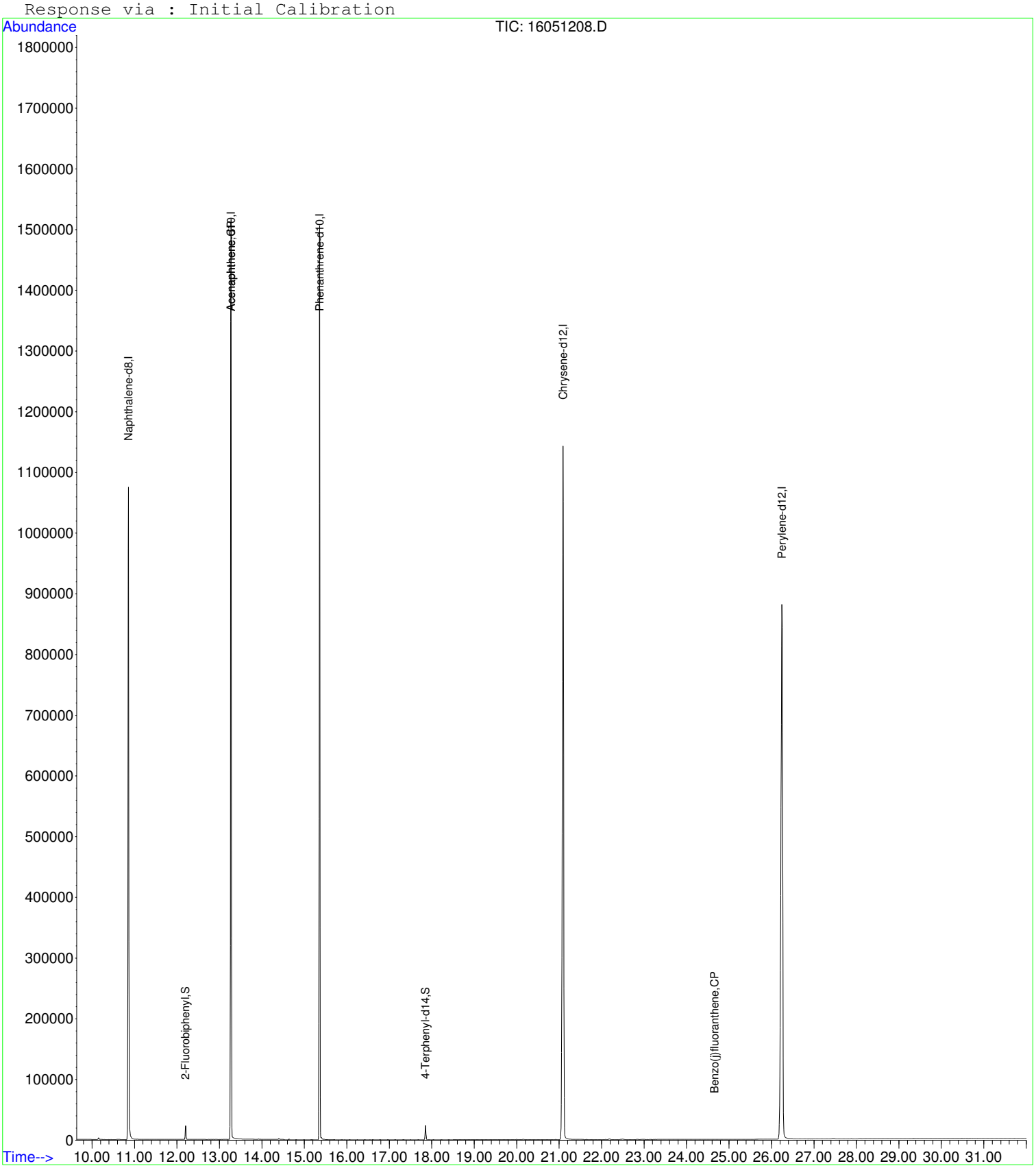
					Qvalue
9) Acenaphthene	13.27	154	2632	~~11.01 ug/kg#~~	9
23) Benzo(j)fluoranthene	24.67	252	50	0.13 ug/kg#	1

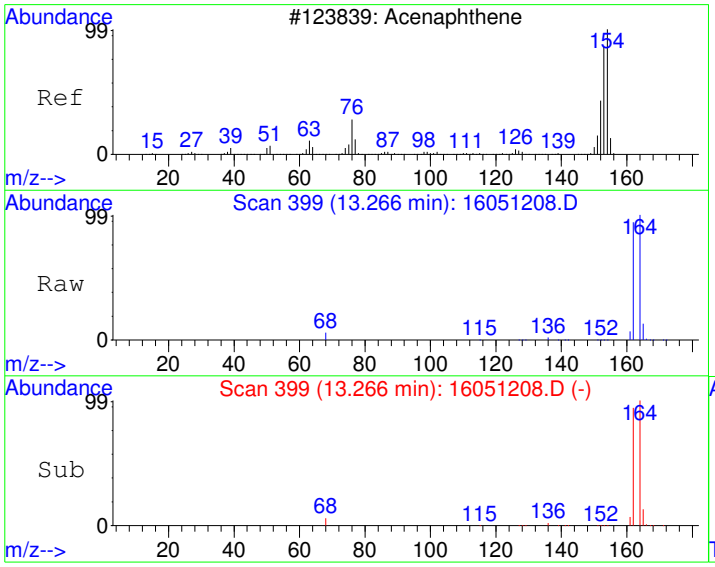
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160512\16051208.D Vial: 8
Acq On : 12 May 2016 12:31 pm Operator:
Sample : 1605034-24A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:14 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

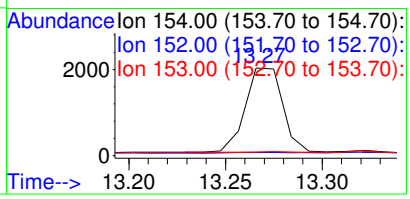


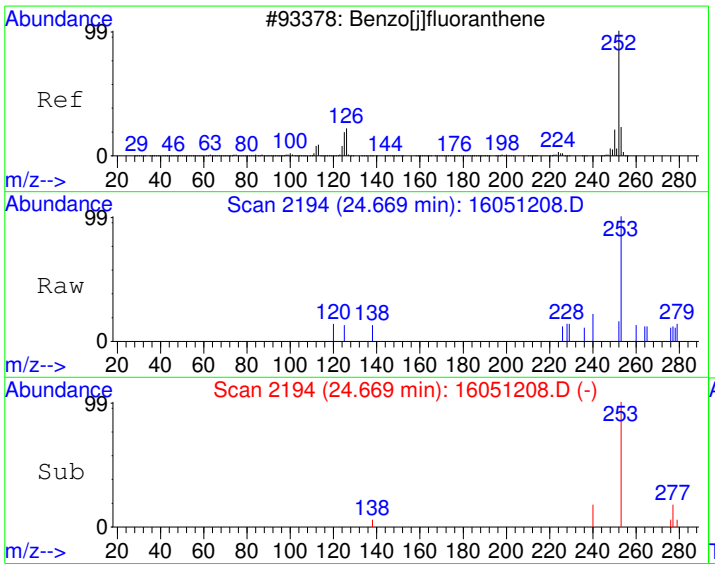


#9
Acenaphthene
Concen: 11.01 ug/kg
RT: 13.27 min Scan# 399
Delta R.T. -0.08 min
Lab File: 16051208.D
Acq: 12 May 2016 12:31 pm

Tgt Ion:154 Resp: 2632

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

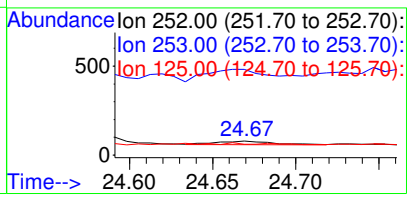




#23
Benzo(j)fluoranthene
Concen: 0.13 ug/kg
RT: 24.67 min Scan# 2194
Delta R.T. -0.08 min
Lab File: 16051208.D
Acq: 12 May 2016 12:31 pm

Tgt Ion:252 Resp: 50

Ion	Ratio	Lower	Upper
252	100		
253	368.4	2.1	42.1#
125	15.8	0.0	34.4



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160512\16051209.D Vial: 9
Acq On : 12 May 2016 1:11 pm Operator:
Sample : 1605034-25A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:14 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1362744	4000.00 ug/kg	118
5) Acenaphthene-d10	13.28	164	874553	4000.00 ug/kg	76
11) Phenanthrene-d10	15.36	188	1610340	4000.00 ug/kg	79
17) Chrysene-d12	21.09	240	1870559	4000.00 ug/kg	82
20) Perylene-d12	26.25	264	1738182	4000.00 ug/kg	84

System Monitoring Compounds					
7) 2-Fluorobiphenyl	12.21	172	21066	82.57 ug/kg	-0.01
Spiked Amount 4000.000	Range 40 - 140		Recovery =	2.06%#	
16) 4-Terphenyl-d14	17.86	244	31241	74.99 ug/kg	-0.04
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.87%#	

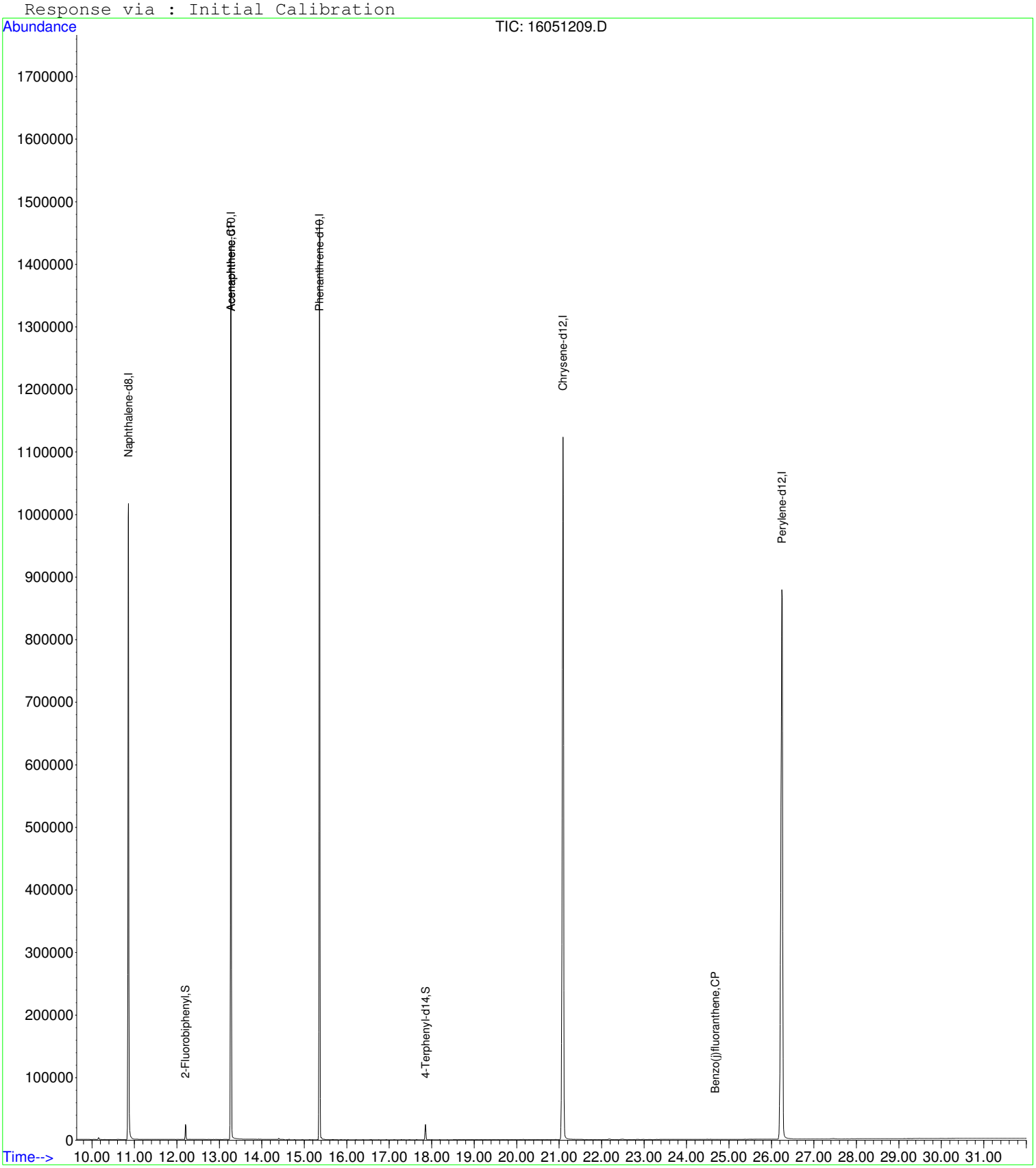
Target Compounds					Qvalue
9) Acenaphthene	13.27	154	2631	~~11.25 ug/kg#~~	9
23) Benzo(j)fluoranthene	24.68	252	80	0.21 ug/kg#	40

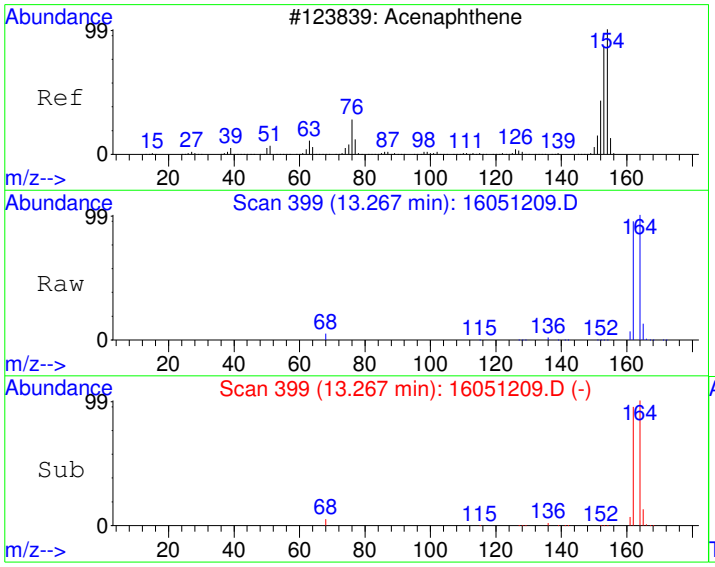
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160512\16051209.D Vial: 9
Acq On : 12 May 2016 1:11 pm Operator:
Sample : 1605034-25A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:14 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

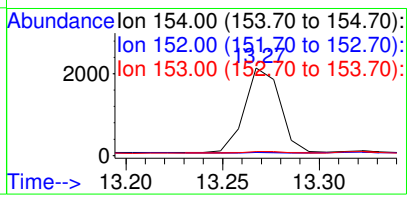


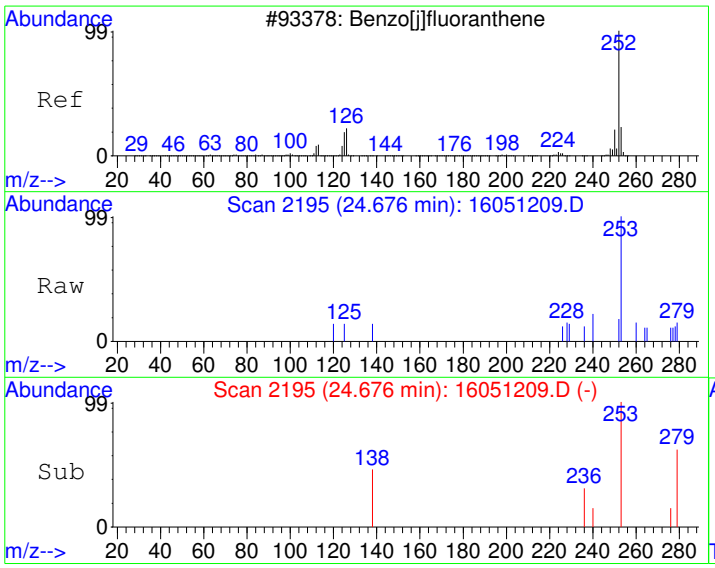


#9
Acenaphthene
Concen: 11.25 ug/kg
RT: 13.27 min Scan# 399
Delta R.T. -0.08 min
Lab File: 16051209.D
Acq: 12 May 2016 1:11 pm

Tgt Ion:154 Resp: 2631

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

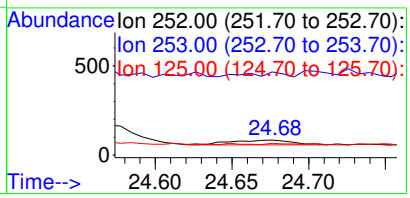




#23
Benzo(j)fluoranthene
Concen: 0.21 ug/kg
RT: 24.68 min Scan# 2195
Delta R.T. -0.07 min
Lab File: 16051209.D
Acq: 12 May 2016 1:11 pm

Tgt Ion:252 Resp: 80

Ion	Ratio	Lower	Upper
252	100		
253	64.3	2.1	42.1#
125	21.4	0.0	34.4



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160512\16051210.D Vial: 10
Acq On : 12 May 2016 1:51 pm Operator:
Sample : 1605034-26A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:14 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1394220	4000.00 ug/kg	120
5) Acenaphthene-d10	13.27	164	908270	4000.00 ug/kg	79
11) Phenanthrene-d10	15.36	188	1735357	4000.00 ug/kg	85
17) Chrysene-d12	21.09	240	1905423	4000.00 ug/kg	84
20) Perylene-d12	26.25	264	1814171	4000.00 ug/kg	88

System Monitoring Compounds					
7) 2-Fluorobiphenyl	12.21	172	20776	78.41 ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.96%#	
16) 4-Terphenyl-d14	17.85	244	31220	69.54 ug/kg	-0.05
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.74%#	

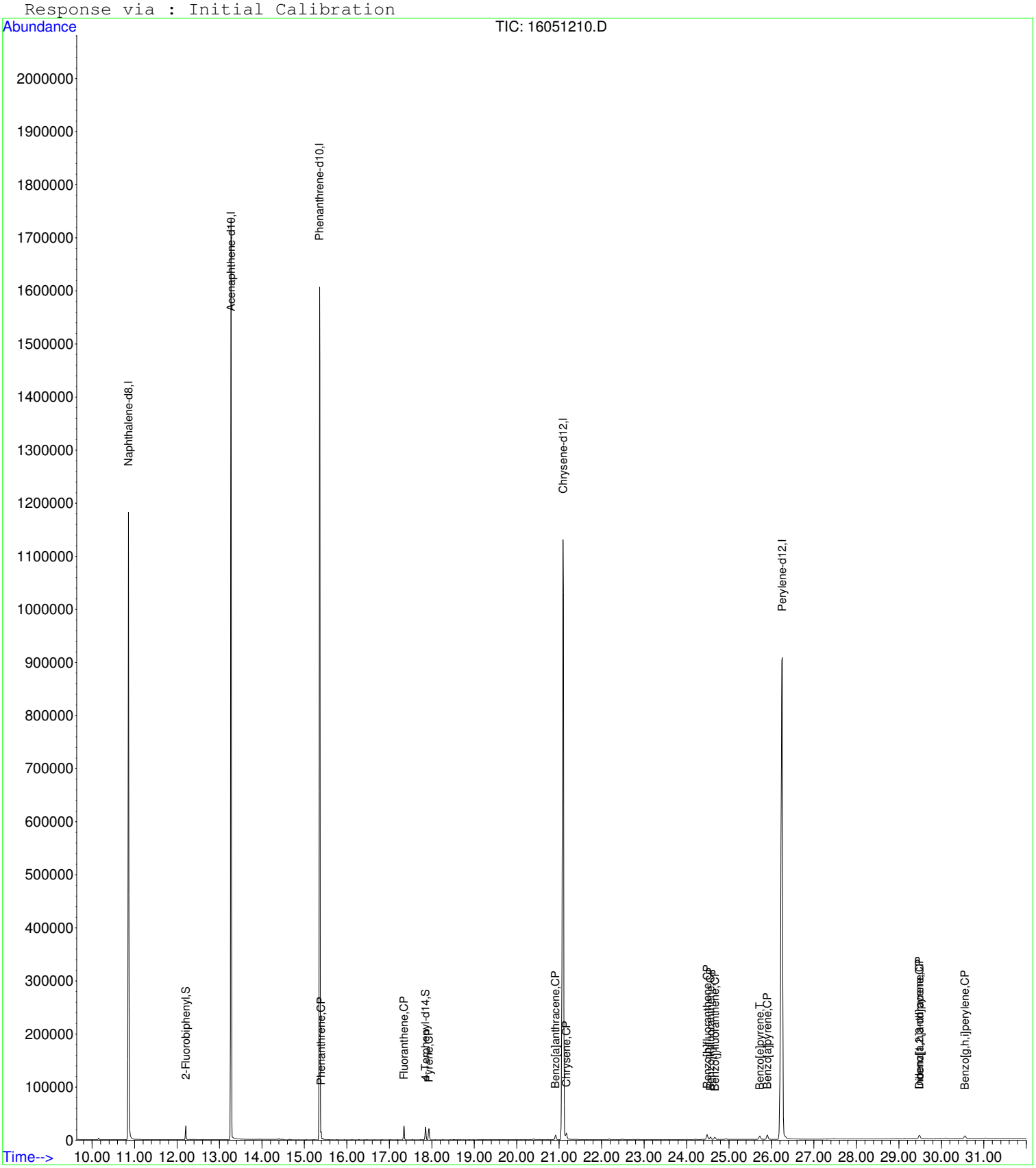
Target Compounds					Qvalue
12) Phenanthrene	15.39	178	10859	23.79 ug/kg	99
14) Fluoranthene	17.34	202	26060	55.18 ug/kg	99
15) Pyrene	17.94	202	22840	46.56 ug/kg	99
18) Benzo[a]anthracene	20.91	228	13309	29.81 ug/kg	99
19) Chrysene	21.17	228	16172	37.50 ug/kg	99
21) Benzo[b]fluoranthene	24.49	252	16345	34.18 ug/kg	98
22) Benzo[k]fluoranthene	24.56	252	7761	17.30 ug/kg	99
23) Benzo(j)fluoranthene	24.67	252	7216	18.06 ug/kg	96
24) Benzo[e]pyrene	25.72	252	12026	28.08 ug/kg	98
25) Benzo[a]pyrene	25.90	252	15445	35.30 ug/kg	97
26) Dibenz[a,h]anthracene	29.48	278	2558	6.42 ug/kg	96
27) Indeno[1,2,3-cd]pyrene	29.48	276	11321	23.81 ug/kg	90
28) Benzo[g,h,i]perylene	30.55	276	10566	28.50 ug/kg	98

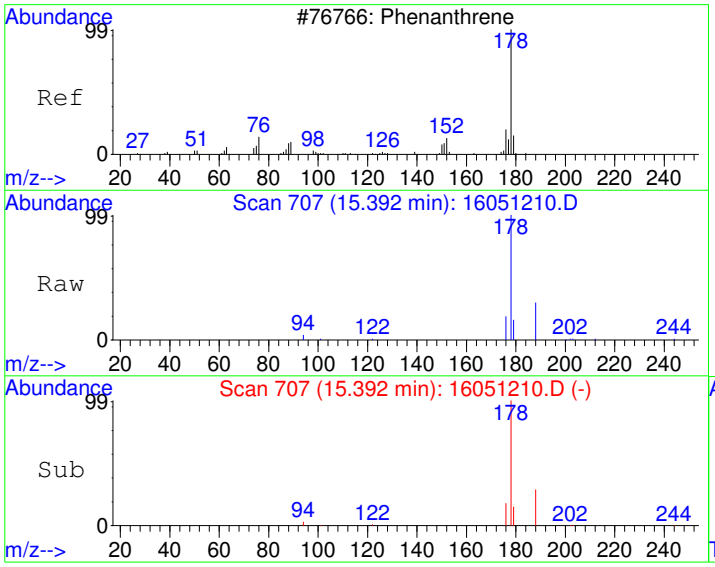
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160512\16051210.D Vial: 10
Acq On : 12 May 2016 1:51 pm Operator:
Sample : 1605034-26A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:14 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

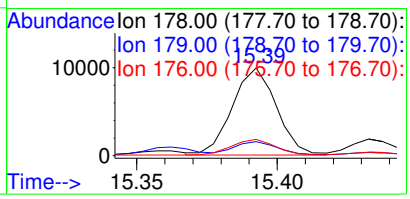


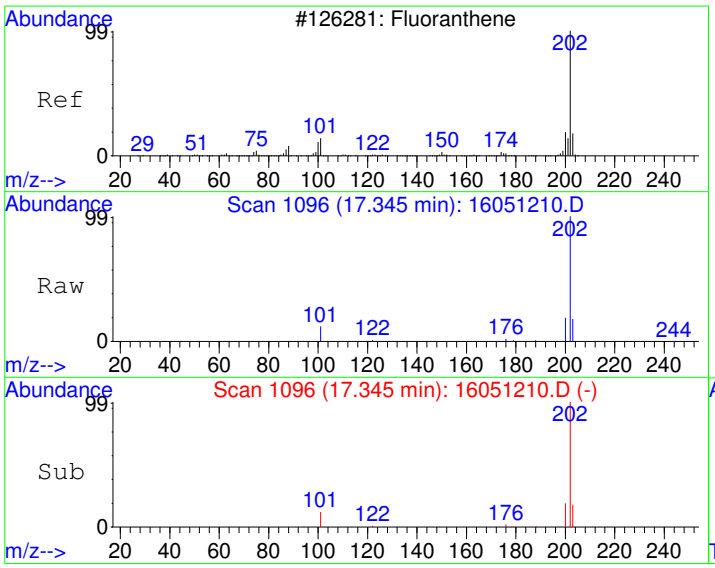


#12
Phenanthrene
Concen: 23.79 ug/kg
RT: 15.39 min Scan# 707
Delta R.T. -0.03 min
Lab File: 16051210.D
Acq: 12 May 2016 1:51 pm

Tgt Ion:178 Resp: 10859

Ion	Ratio	Lower	Upper
178	100		
179	15.3	0.0	45.9
176	18.7	0.0	48.5

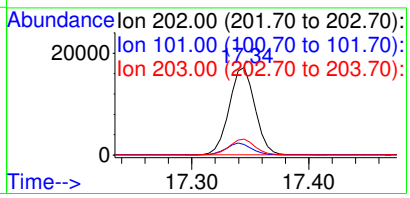


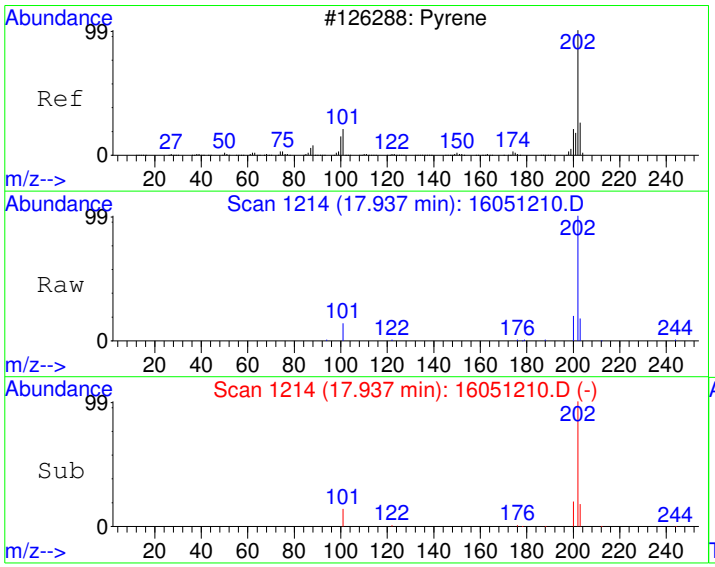


#14
Fluoranthene
Concen: 55.18 ug/kg
RT: 17.34 min Scan# 1096
Delta R.T. -0.04 min
Lab File: 16051210.D
Acq: 12 May 2016 1:51 pm

Tgt Ion:202 Resp: 26060

Ion	Ratio	Lower	Upper
202	100		
101	11.8	0.0	43.0
203	17.8	0.0	47.9

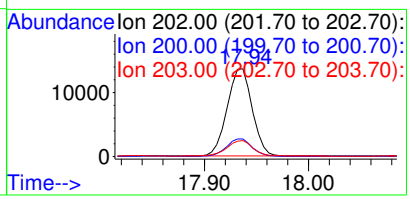


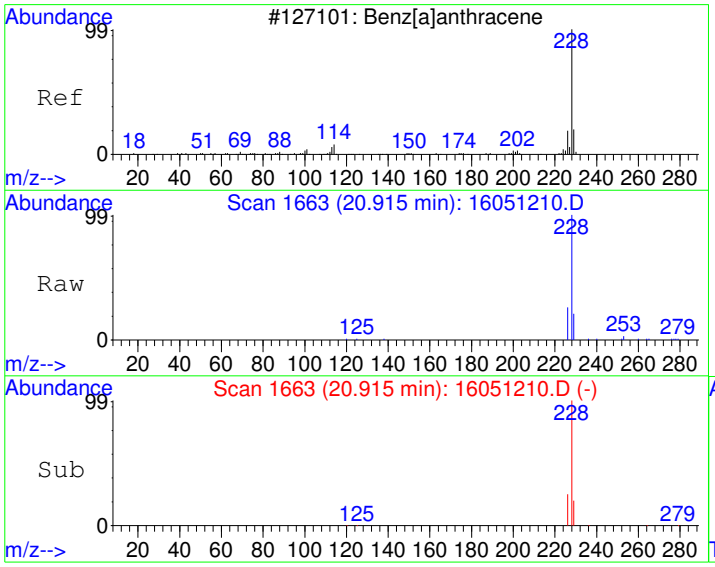


#15
Pyrene
Concen: 46.56 ug/kg
RT: 17.94 min Scan# 1214
Delta R.T. -0.04 min
Lab File: 16051210.D
Acq: 12 May 2016 1:51 pm

Tgt Ion:202 Resp: 22840

Ion	Ratio	Lower	Upper
202	100		
200	19.7	0.0	50.0
203	17.7	0.0	48.0

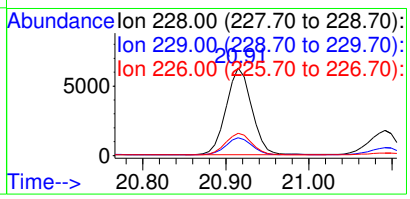


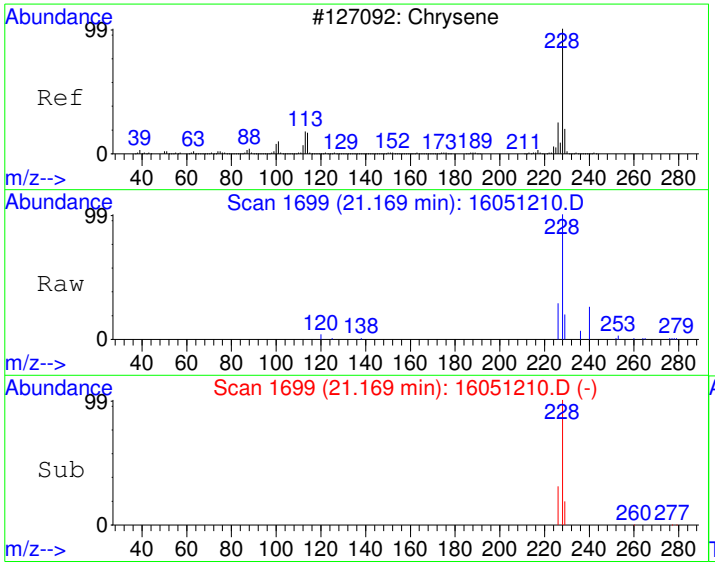


#18
Benzo[a]anthracene
Concen: 29.81 ug/kg
RT: 20.91 min Scan# 1663
Delta R.T. -0.06 min
Lab File: 16051210.D
Acq: 12 May 2016 1:51 pm

Tgt Ion:228 Resp: 13309

Ion	Ratio	Lower	Upper
228	100		
229	19.7	0.0	50.1
226	24.9	0.0	55.2

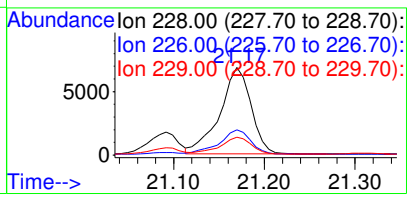


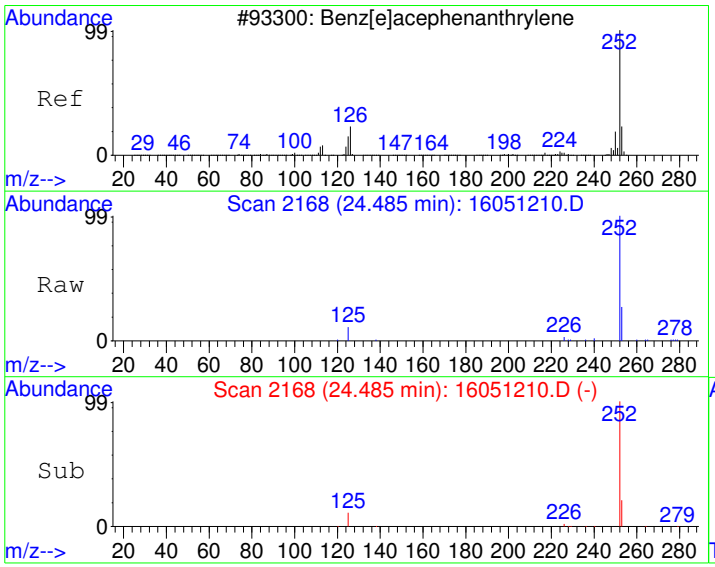


#19
Chrysene
Concen: 37.50 ug/kg
RT: 21.17 min Scan# 1699
Delta R.T. -0.06 min
Lab File: 16051210.D
Acq: 12 May 2016 1:51 pm

Tgt Ion:228 Resp: 16172

Ion	Ratio	Lower	Upper
228	100		
226	28.2	0.0	58.1
229	19.5	0.0	50.1

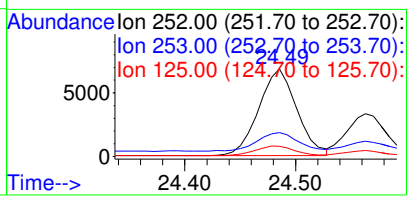


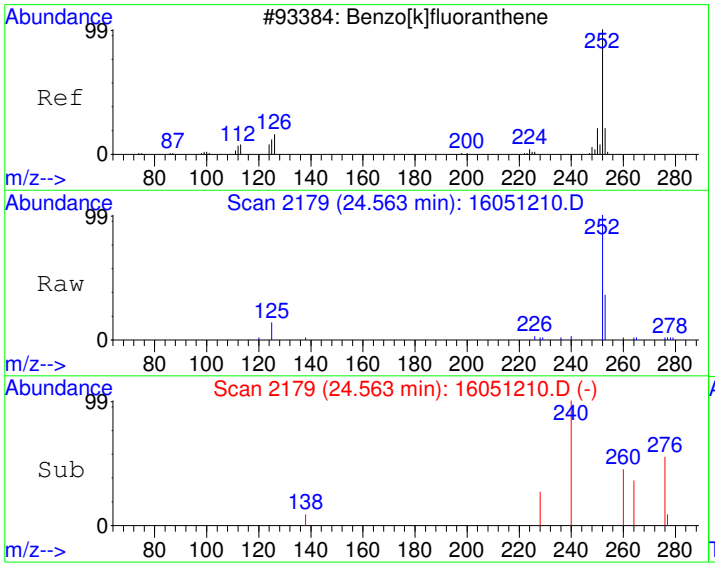


#21
Benzo[b]fluoranthene
Concen: 34.18 ug/kg
RT: 24.49 min Scan# 2168
Delta R.T. -0.07 min
Lab File: 16051210.D
Acq: 12 May 2016 1:51 pm

Tgt Ion:252 Resp: 16345

Ion	Ratio	Lower	Upper
252	100		
253	21.3	0.0	52.2
125	10.6	0.0	41.0

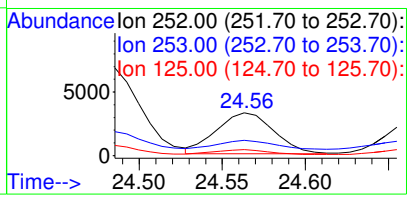


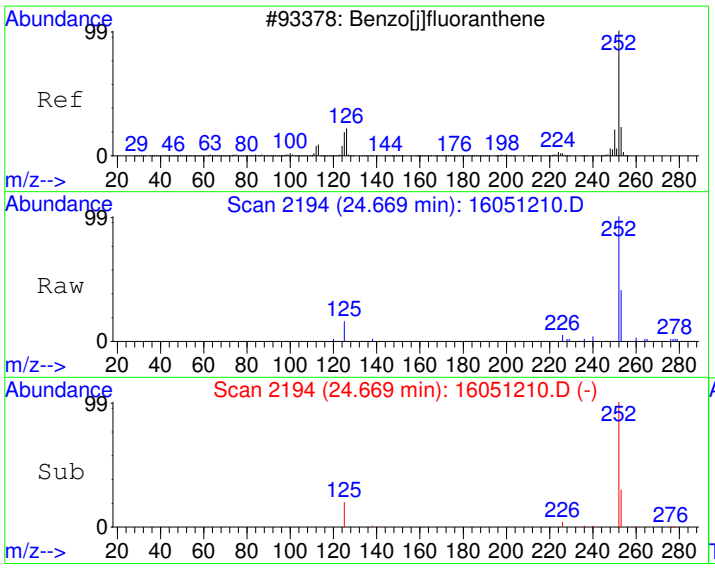


#22
Benzo[k]fluoranthene
Concen: 17.30 ug/kg
RT: 24.56 min Scan# 2179
Delta R.T. -0.08 min
Lab File: 16051210.D
Acq: 12 May 2016 1:51 pm

Tgt Ion:252 Resp: 7761

Ion	Ratio	Lower	Upper
252	100		
253	22.6	2.1	42.1
125	12.0	0.0	31.3

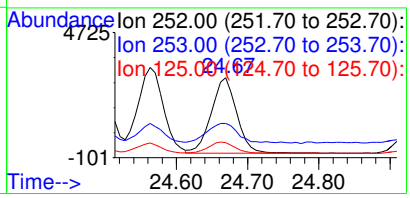


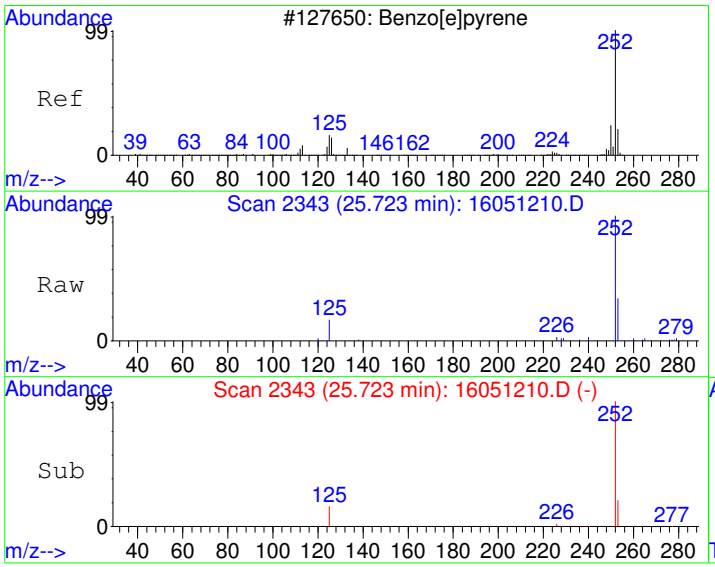


#23
Benzo(j)fluoranthene
Concen: 18.06 ug/kg
RT: 24.67 min Scan# 2194
Delta R.T. -0.08 min
Lab File: 16051210.D
Acq: 12 May 2016 1:51 pm

Tgt Ion:252 Resp: 7216

Ion	Ratio	Lower	Upper
252	100		
253	25.2	2.1	42.1
125	14.4	0.0	34.4

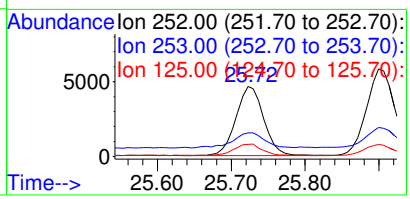


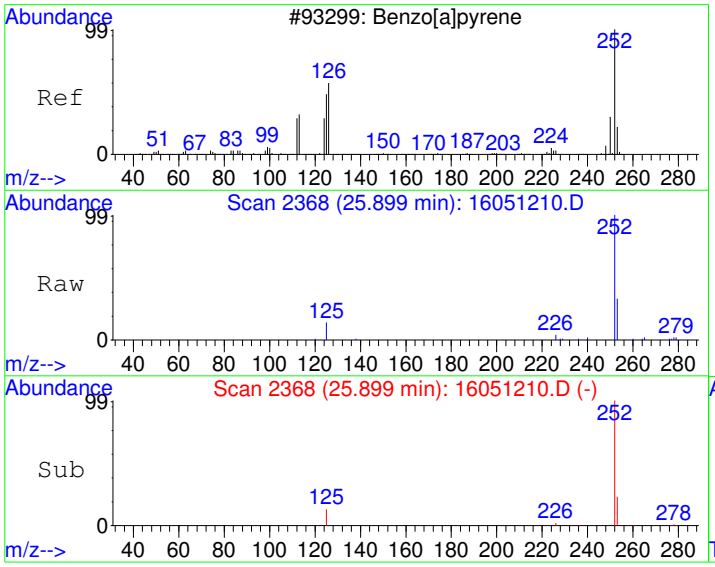


#24
Benzo[e]pyrene
Concen: 28.08 ug/kg
RT: 25.72 min Scan# 2343
Delta R.T. -0.08 min
Lab File: 16051210.D
Acq: 12 May 2016 1:51 pm

Tgt Ion:252 Resp: 12026

Ion	Ratio	Lower	Upper
252	100		
253	21.0	2.2	42.2
125	16.0	0.0	36.1

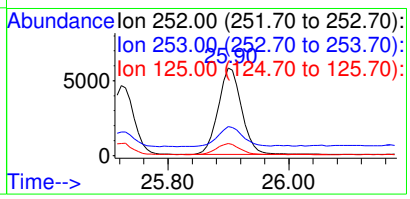


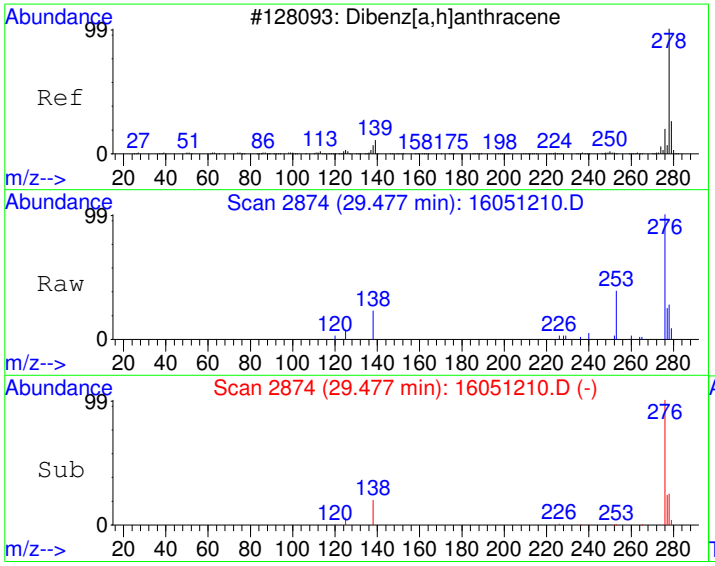


#25
Benzo[a]pyrene
Concen: 35.30 ug/kg
RT: 25.90 min Scan# 2368
Delta R.T. -0.08 min
Lab File: 16051210.D
Acq: 12 May 2016 1:51 pm

Tgt Ion:252 Resp: 15445

Ion	Ratio	Lower	Upper
252	100		
253	23.0	1.9	41.9
125	12.8	0.0	31.7

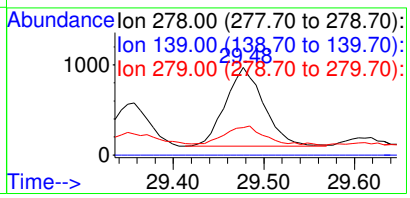


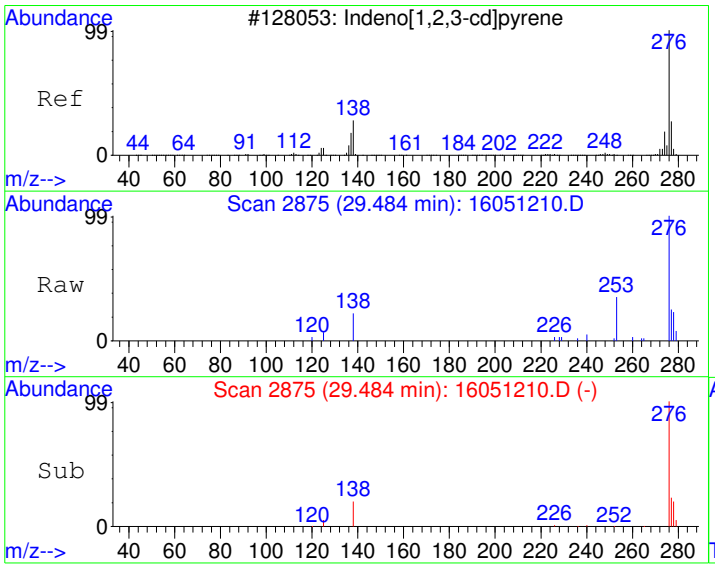


#26
Dibenz[a,h]anthracene
Concen: 6.42 ug/kg
RT: 29.48 min Scan# 2874
Delta R.T. -0.08 min
Lab File: 16051210.D
Acq: 12 May 2016 1:51 pm

Tgt Ion:278 Resp: 2558

Ion	Ratio	Lower	Upper
278	100		
139	0.0	0.0	20.0
279	22.2	4.2	44.2

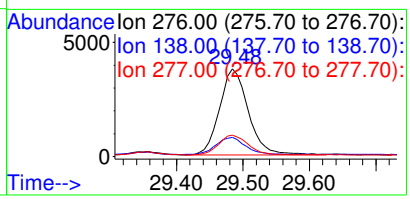


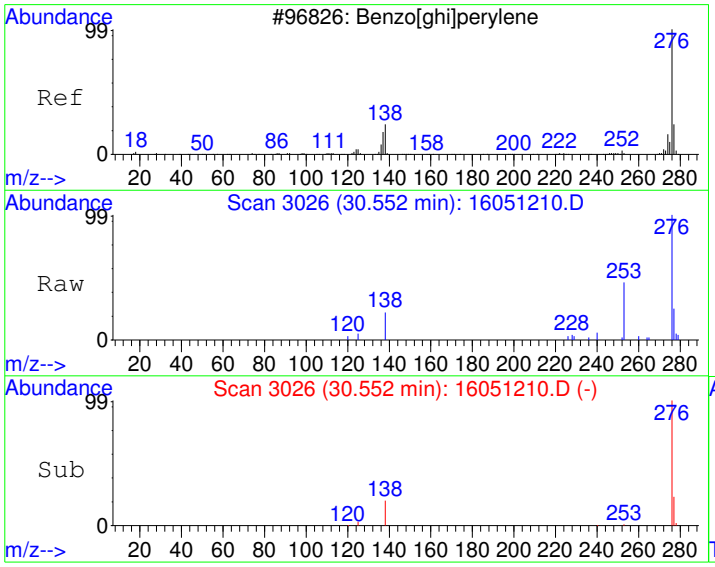


#27
Indeno[1,2,3-cd]pyrene
Concen: 23.81 ug/kg
RT: 29.48 min Scan# 2875
Delta R.T. -0.08 min
Lab File: 16051210.D
Acq: 12 May 2016 1:51 pm

Tgt Ion:276 Resp: 11321

Ion	Ratio	Lower	Upper
276	100		
138	19.7	6.7	46.7
277	23.1	5.8	45.8

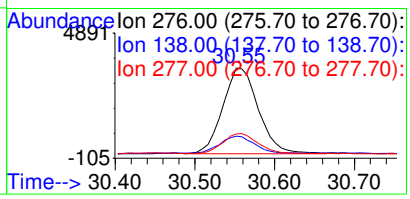




#28
Benzo[g,h,i]perylene
Concen: 28.50 ug/kg
RT: 30.55 min Scan# 3026
Delta R.T. -0.09 min
Lab File: 16051210.D
Acq: 12 May 2016 1:51 pm

Tgt Ion:276 Resp: 10566

Ion	Ratio	Lower	Upper
276	100		
138	19.9	0.0	39.1
277	23.1	4.0	44.0



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160512\16051211.D Vial: 11
Acq On : 12 May 2016 2:31 pm Operator:
Sample : 1605034-27A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:14 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1380666	4000.00 ug/kg	119
5) Acenaphthene-d10	13.28	164	891416	4000.00 ug/kg	77
11) Phenanthrene-d10	15.36	188	1665489	4000.00 ug/kg	82
17) Chrysene-d12	21.09	240	1837975	4000.00 ug/kg	81
20) Perylene-d12	26.25	264	1731067	4000.00 ug/kg	84

System Monitoring Compounds					
7) 2-Fluorobiphenyl	12.21	172	20180	77.61 ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.94%#	
16) 4-Terphenyl-d14	17.85	244	29537	68.55 ug/kg	-0.04
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.71%#	

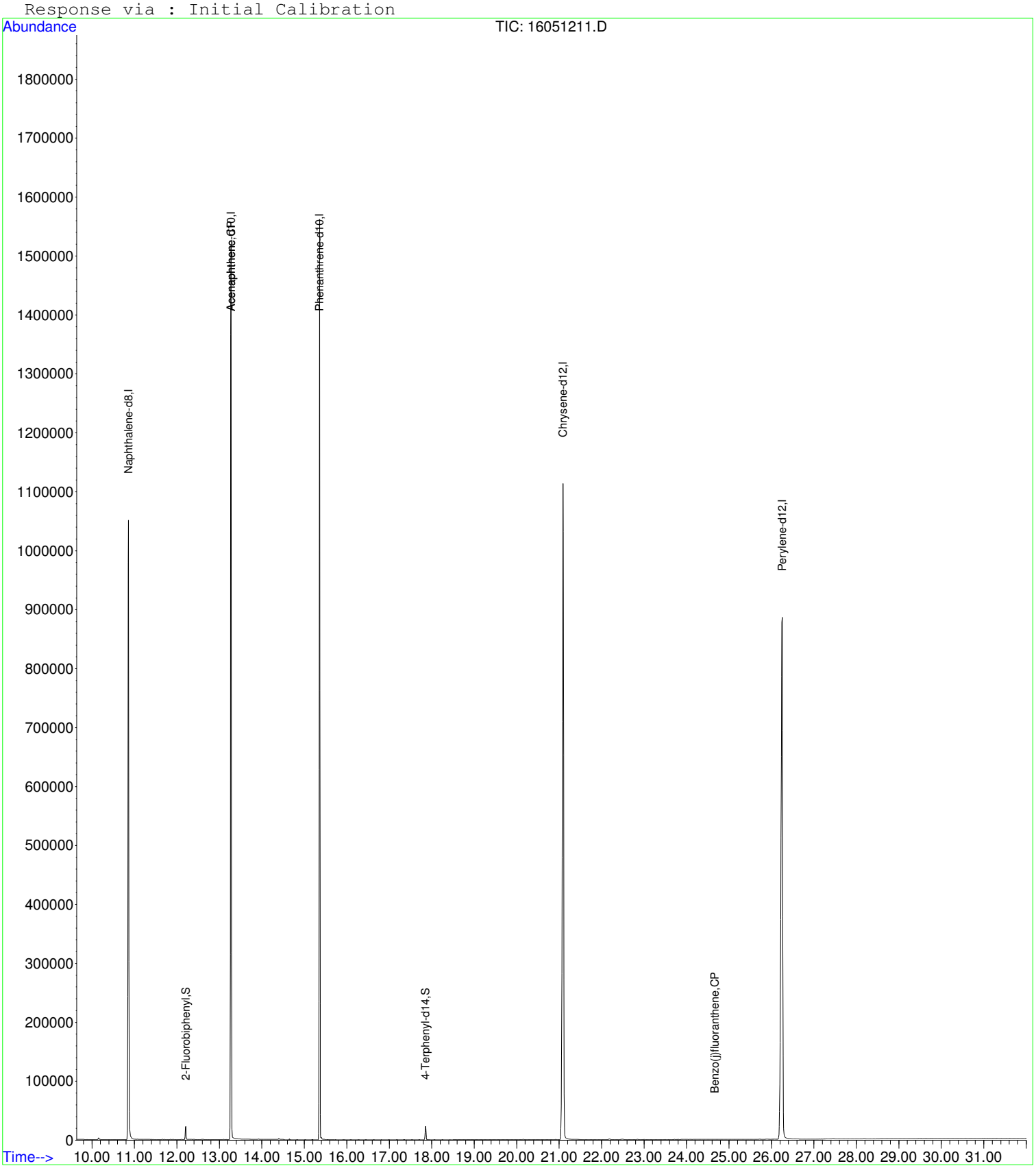
Target Compounds					Qvalue
9) Acenaphthene	13.27	154	2665	~~11.18 ug/kg~~#	9
23) Benzo(j)fluoranthene	24.67	252	121	0.32 ug/kg	68

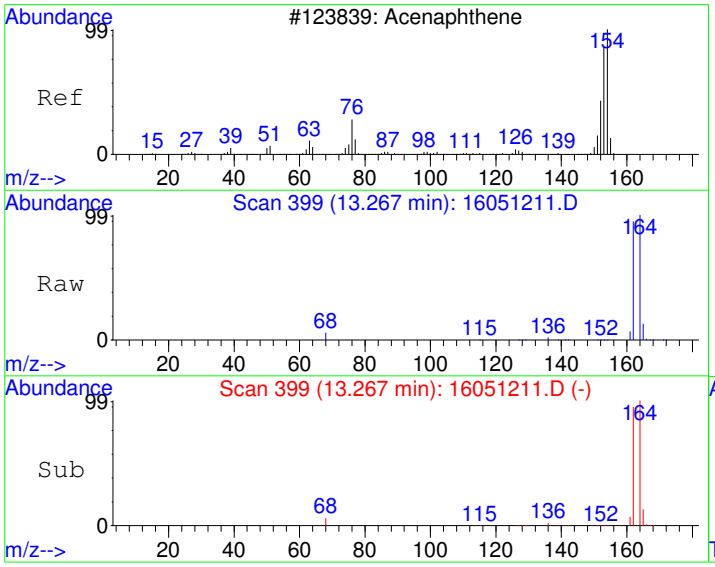
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160512\16051211.D Vial: 11
Acq On : 12 May 2016 2:31 pm Operator:
Sample : 1605034-27A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:14 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

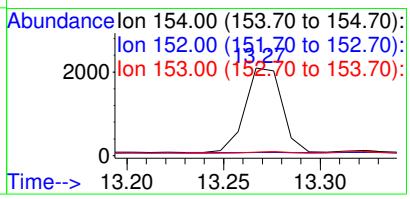


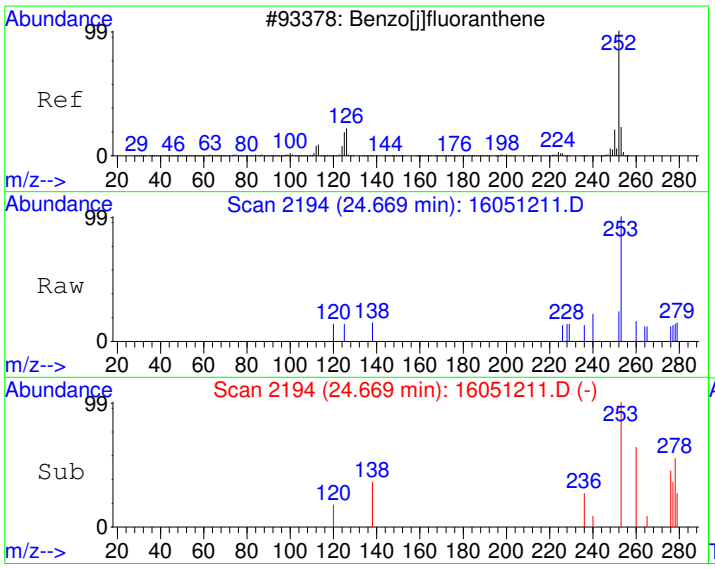


#9
Acenaphthene
Concen: 11.18 ug/kg
RT: 13.27 min Scan# 399
Delta R.T. -0.08 min
Lab File: 16051211.D
Acq: 12 May 2016 2:31 pm

Tgt Ion:154 Resp: 2665

Ion	Ratio	Lower	Upper
154	100		
152	0.7	18.9	78.9#
153	1.4	75.2	135.2#

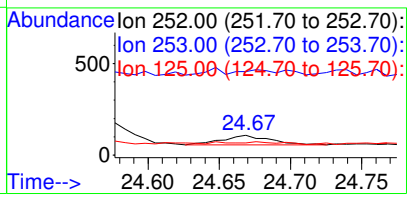




#23
Benzo(j)fluoranthene
Concen: 0.32 ug/kg
RT: 24.67 min Scan# 2194
Delta R.T. -0.08 min
Lab File: 16051211.D
Acq: 12 May 2016 2:31 pm

Tgt Ion:252 Resp: 121

Ion	Ratio	Lower	Upper
252	100		
253	36.5	2.1	42.1
125	0.0	0.0	34.4



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160512\16051212.D Vial: 12
Acq On : 12 May 2016 3:11 pm Operator:
Sample : 1605034-28A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:14 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.85	136	1402061	4000.00 ug/kg	121
5) Acenaphthene-d10	13.27	164	909947	4000.00 ug/kg	79
11) Phenanthrene-d10	15.36	188	1660687	4000.00 ug/kg	81
17) Chrysene-d12	21.09	240	1914708	4000.00 ug/kg	84
20) Perylene-d12	26.25	264	1805603	4000.00 ug/kg	88

System Monitoring Compounds					
7) 2-Fluorobiphenyl	12.21	172	21712	81.80 ug/kg	-0.01
Spiked Amount 4000.000	Range 40 - 140		Recovery =	2.04%#	
16) 4-Terphenyl-d14	17.86	244	31129	72.45 ug/kg	-0.04
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.81%#	

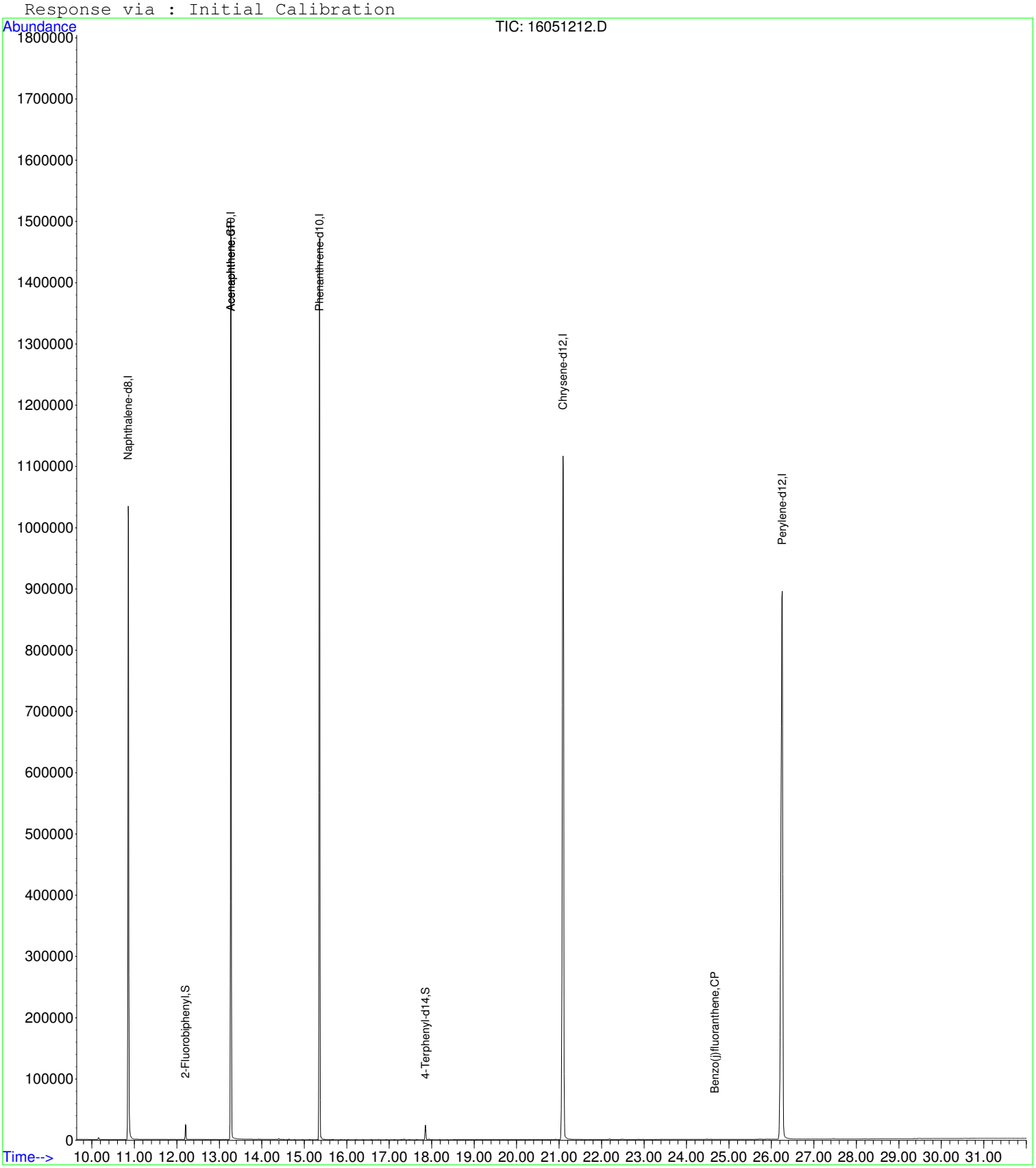
Target Compounds					Qvalue
9) Acenaphthene	13.27	154	2745	~~11.29 ug/kg#~~	9
23) Benzo(j)fluoranthene	24.67	252	428	1.08 ug/kg	82

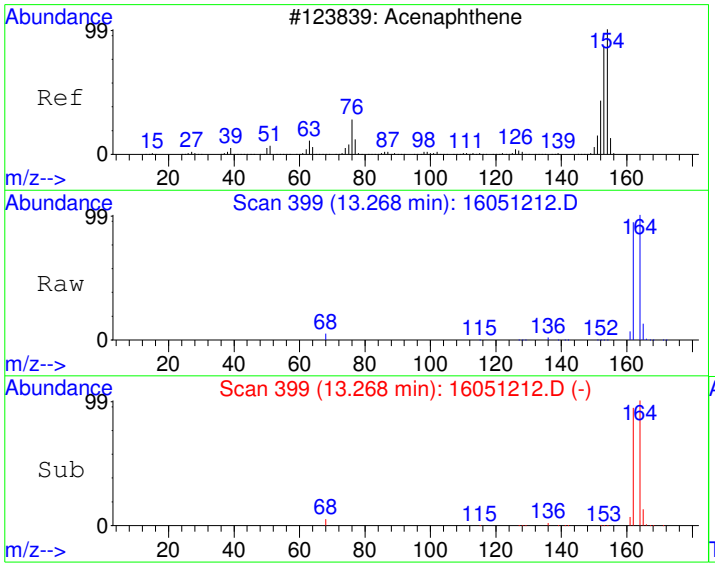
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160512\16051212.D Vial: 12
Acq On : 12 May 2016 3:11 pm Operator:
Sample : 1605034-28A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:14 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

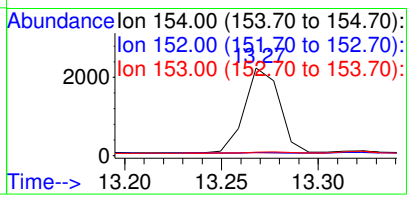


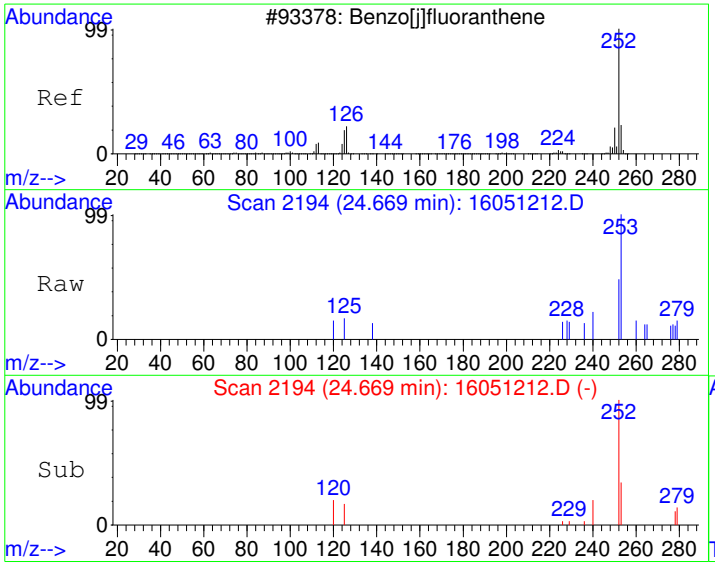


#9
Acenaphthene
Concen: 11.29 ug/kg
RT: 13.27 min Scan# 399
Delta R.T. -0.08 min
Lab File: 16051212.D
Acq: 12 May 2016 3:11 pm

Tgt Ion:154 Resp: 2745

Ion	Ratio	Lower	Upper
154	100		
152	0.7	18.9	78.9#
153	1.3	75.2	135.2#

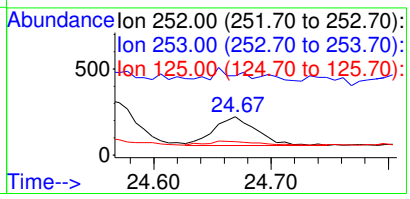




#23
Benzo(j)fluoranthene
Concen: 1.08 ug/kg
RT: 24.67 min Scan# 2194
Delta R.T. -0.08 min
Lab File: 16051212.D
Acq: 12 May 2016 3:11 pm

Tgt Ion:252 Resp: 428

Ion	Ratio	Lower	Upper
252	100		
253	10.1	2.1	42.1
125	11.9	0.0	34.4



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160512\16051213.D Vial: 13
Acq On : 12 May 2016 3:50 pm Operator:
Sample : 1605034-29A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:14 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1354541	4000.00 ug/kg	117
5) Acenaphthene-d10	13.27	164	892880	4000.00 ug/kg	78
11) Phenanthrene-d10	15.36	188	1686574	4000.00 ug/kg	83
17) Chrysene-d12	21.09	240	1839465	4000.00 ug/kg	81
20) Perylene-d12	26.25	264	1750492	4000.00 ug/kg	85

System Monitoring Compounds					
7) 2-Fluorobiphenyl	12.21	172	20448	78.51 ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.96%#	
16) 4-Terphenyl-d14	17.85	244	30331	69.51 ug/kg	-0.05
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.74%#	

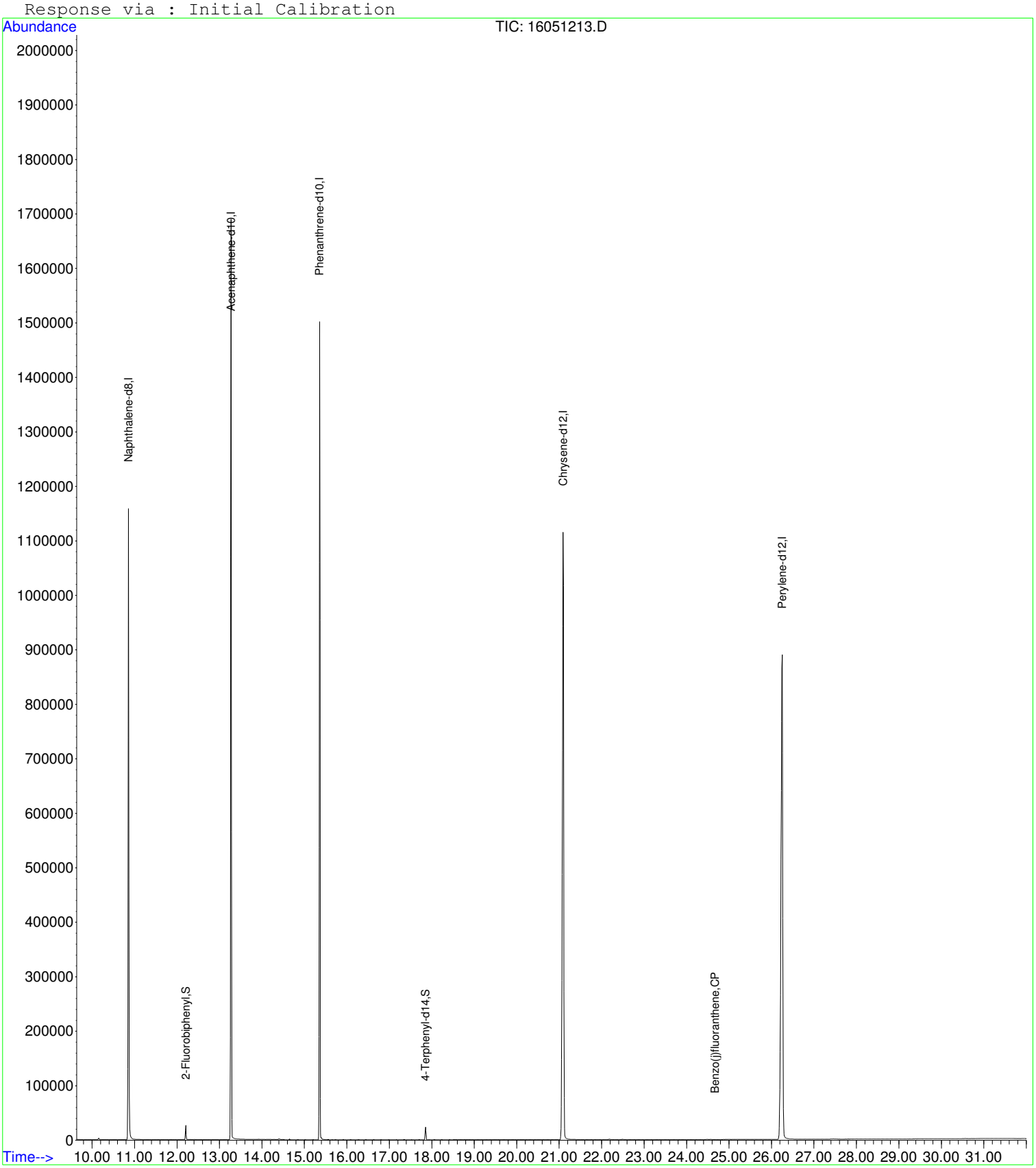
Target Compounds					Qvalue
23) Benzo(j)fluoranthene	24.66	252	109	0.28 ug/kg	85

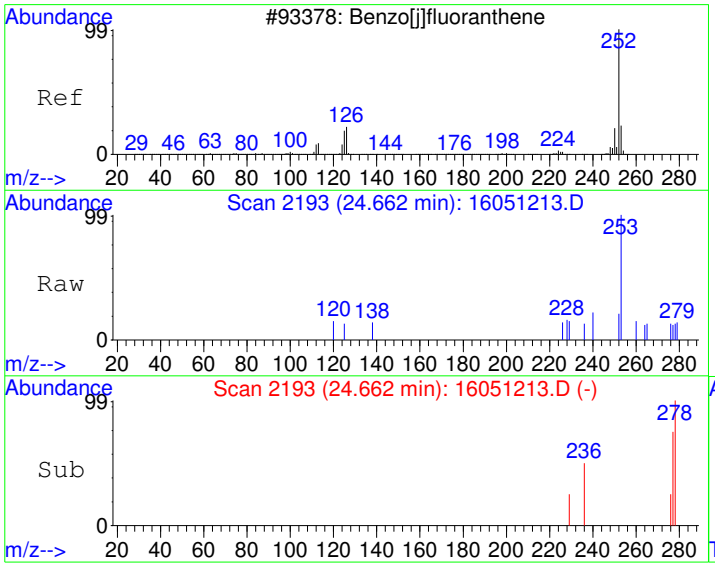
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160512\16051213.D Vial: 13
Acq On : 12 May 2016 3:50 pm Operator:
Sample : 1605034-29A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:14 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

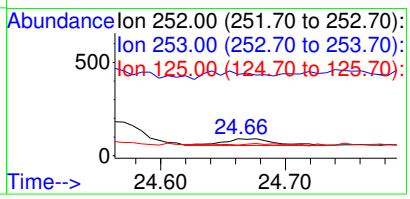




#23
Benzo(j)fluoranthene
Concen: 0.28 ug/kg
RT: 24.66 min Scan# 2193
Delta R.T. -0.08 min
Lab File: 16051213.D
Acq: 12 May 2016 3:50 pm

Tgt Ion:252 Resp: 109

Ion	Ratio	Lower	Upper
252	100		
253	16.7	2.1	42.1
125	5.6	0.0	34.4



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160512\16051214.D Vial: 14
Acq On : 12 May 2016 4:30 pm Operator:
Sample : 1605034-30A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:15 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1354559	4000.00 ug/kg	117
5) Acenaphthene-d10	13.27	164	893638	4000.00 ug/kg	78
11) Phenanthrene-d10	15.36	188	1576738	4000.00 ug/kg	77
17) Chrysene-d12	21.09	240	1837137	4000.00 ug/kg	81
20) Perylene-d12	26.25	264	1718312	4000.00 ug/kg	83

System Monitoring Compounds					
7) 2-Fluorobiphenyl	12.21	172	22236	85.30 ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery =	2.13%#	
16) 4-Terphenyl-d14	17.85	244	31331	76.80 ug/kg	-0.04
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.92%#	

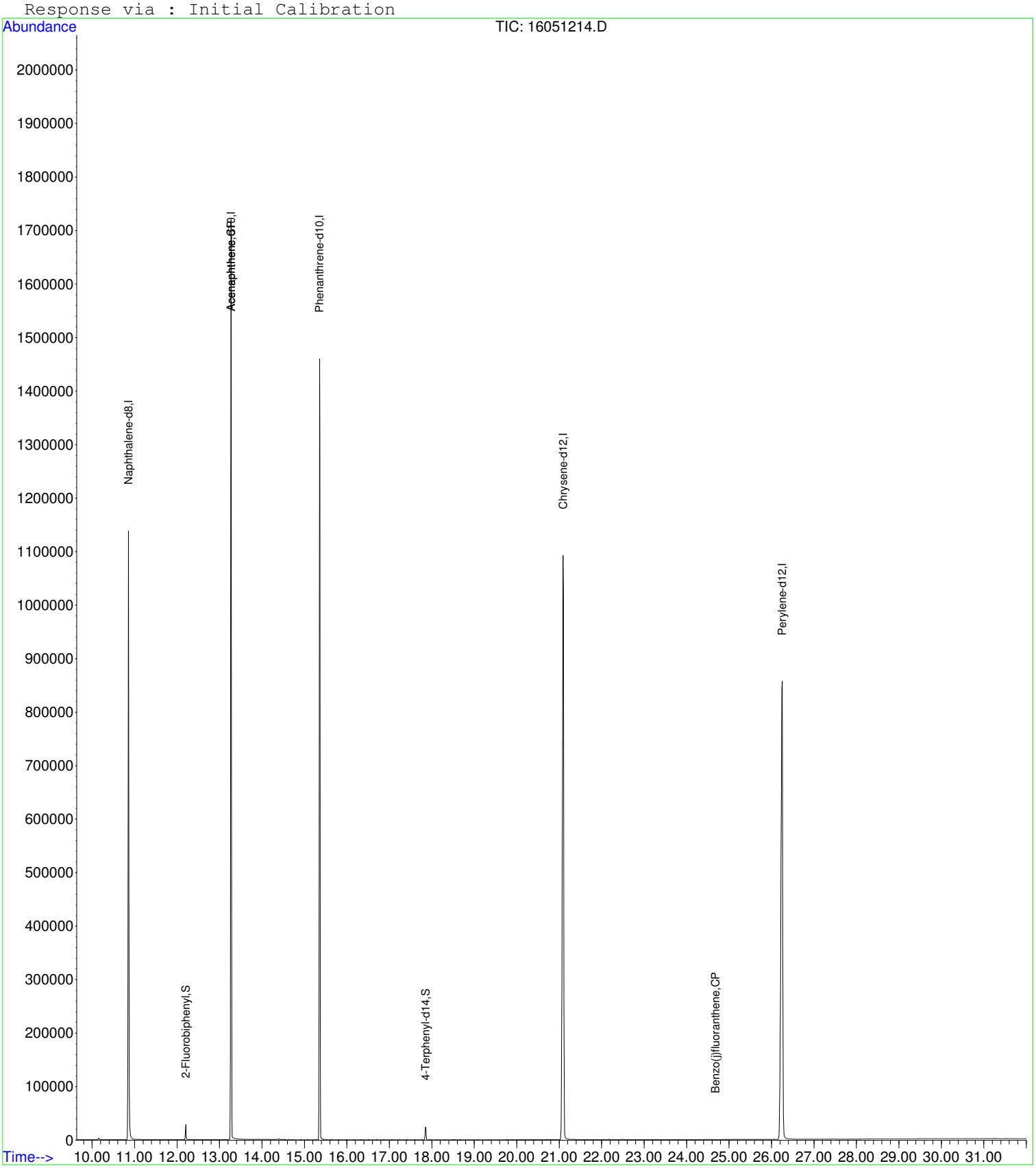
Target Compounds					Qvalue
9) Acenaphthene	13.27	154	2694	~~11.28 ug/kg#~~	9
23) Benzo(j)fluoranthene	24.68	252	45	0.12 ug/kg#	64

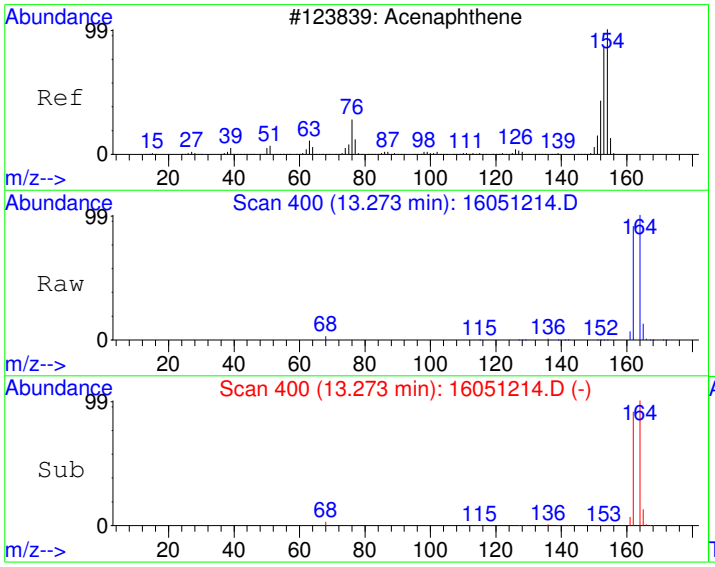
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160512\16051214.D Vial: 14
Acq On : 12 May 2016 4:30 pm Operator:
Sample : 1605034-30A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:15 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

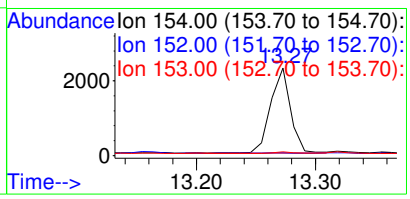


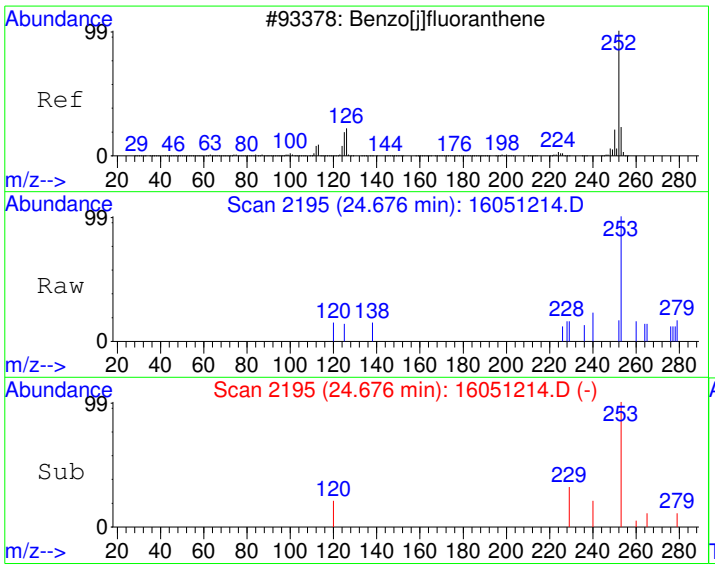


#9
Acenaphthene
Concen: 11.28 ug/kg
RT: 13.27 min Scan# 400
Delta R.T. -0.07 min
Lab File: 16051214.D
Acq: 12 May 2016 4:30 pm

Tgt Ion:154 Resp: 2694

Ion	Ratio	Lower	Upper
154	100		
152	0.4	18.9	78.9#
153	2.1	75.2	135.2#

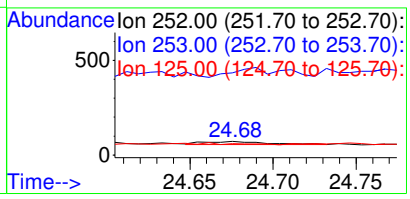




#23
Benzo(j)fluoranthene
Concen: 0.12 ug/kg
RT: 24.68 min Scan# 2195
Delta R.T. -0.07 min
Lab File: 16051214.D
Acq: 12 May 2016 4:30 pm

Tgt Ion:252 Resp: 45

Ion	Ratio	Lower	Upper
252	100		
253	0.0	2.1	42.1#
125	5.9	0.0	34.4



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160512\16051216.D Vial: 16
Acq On : 12 May 2016 5:49 pm Operator:
Sample : 1605047-03AMS Inst : GC/MS #6
Misc : MS Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:08 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1364390	4000.00 ug/kg	118
5) Acenaphthene-d10	13.28	164	869649	4000.00 ug/kg	76
11) Phenanthrene-d10	15.36	188	1670449	4000.00 ug/kg	82
17) Chrysene-d12	21.09	240	1853377	4000.00 ug/kg	82
20) Perylene-d12	26.25	264	1724410	4000.00 ug/kg	84

System Monitoring Compounds					
7) 2-Fluorobiphenyl	12.21	172	21224	83.66 ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.09%#		
16) 4-Terphenyl-d14	17.85	244	31044	71.83 ug/kg	-0.04
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.80%#		

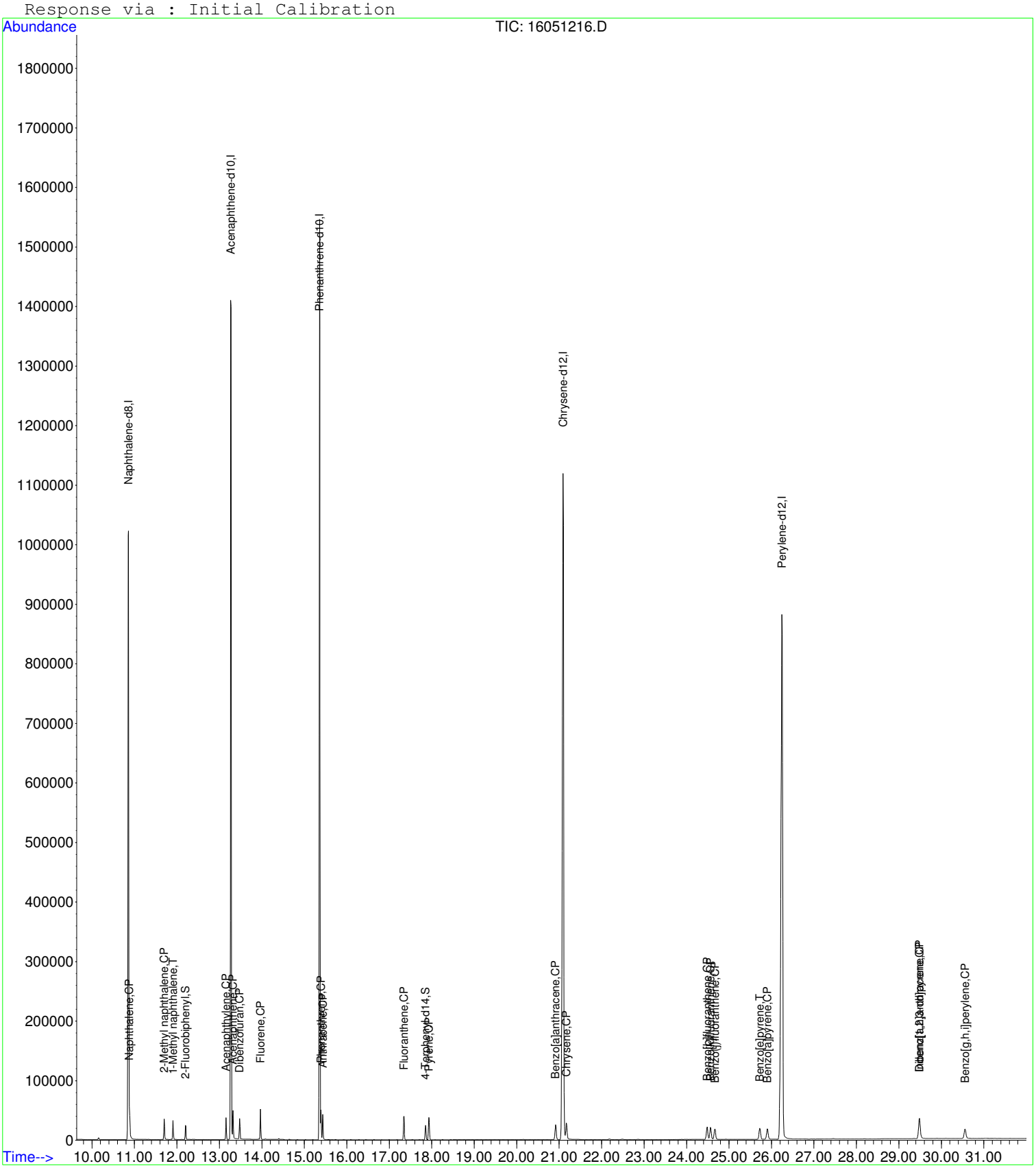
Target Compounds					Qvalue
2) Naphthalene	10.89	128	26434	77.45 ug/kg	100
3) 2-Methyl naphthalene	11.70	142	18770	62.26 ug/kg	96
4) 1-Methyl naphthalene	11.91	142	17144	62.09 ug/kg	98
6) Dibenzofuran	13.48	168	29503	90.52 ug/kg	100
8) Acenaphthylene	13.16	152	30756	82.12 ug/kg	99
9) Acenaphthene	13.32	154	19064	82.01 ug/kg	98
10) Fluorene	13.97	166	25009	88.59 ug/kg	98
12) Phenanthrene	15.39	178	38448	87.52 ug/kg	100
13) Anthracene	15.43	178	35641	85.72 ug/kg	99
14) Fluoranthene	17.35	202	40275	88.59 ug/kg	98
15) Pyrene	17.93	202	40692	86.17 ug/kg	99
18) Benzo[a]anthracene	20.91	228	36671	84.46 ug/kg	99
19) Chrysene	21.17	228	35892	85.55 ug/kg	99
21) Benzo[b]fluoranthene	24.49	252	38723	85.20 ug/kg	99
22) Benzo[k]fluoranthene	24.56	252	35427	83.09 ug/kg	99
23) Benzo(j)fluoranthene	24.67	252	31781	83.68 ug/kg	99
24) Benzo[e]pyrene	25.72	252	35138	86.33 ug/kg	99
25) Benzo[a]pyrene	25.91	252	34727	83.49 ug/kg	100
26) Dibenz[a,h]anthracene	29.48	278	32280	85.22 ug/kg	98
27) Indeno[1,2,3-cd]pyrene	29.48	276	40146	88.84 ug/kg	97
28) Benzo[g,h,i]perylene	30.56	276	32735	92.90 ug/kg	99

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160512\16051216.D Vial: 16
Acq On : 12 May 2016 5:49 pm Operator:
Sample : 1605047-03AMS Inst : GC/MS #6
Misc : MS Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:08 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\160512\16051217.D Vial: 17
Acq On : 12 May 2016 6:29 pm Operator:
Sample : 1605047-03AMSD Inst : GC/MS #6
Misc : MSD Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:08 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1453541	4000.00 ug/kg	125
5) Acenaphthene-d10	13.28	164	948573	4000.00 ug/kg	82
11) Phenanthrene-d10	15.36	188	1707288	4000.00 ug/kg	84
17) Chrysene-d12	21.09	240	1940127	4000.00 ug/kg	85
20) Perylene-d12	26.25	264	1782024	4000.00 ug/kg	87

System Monitoring Compounds					
7) 2-Fluorobiphenyl	12.20	172	22532	81.43 ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.04%#		
16) 4-Terphenyl-d14	17.85	244	32549	73.69 ug/kg	-0.04
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.84%#		

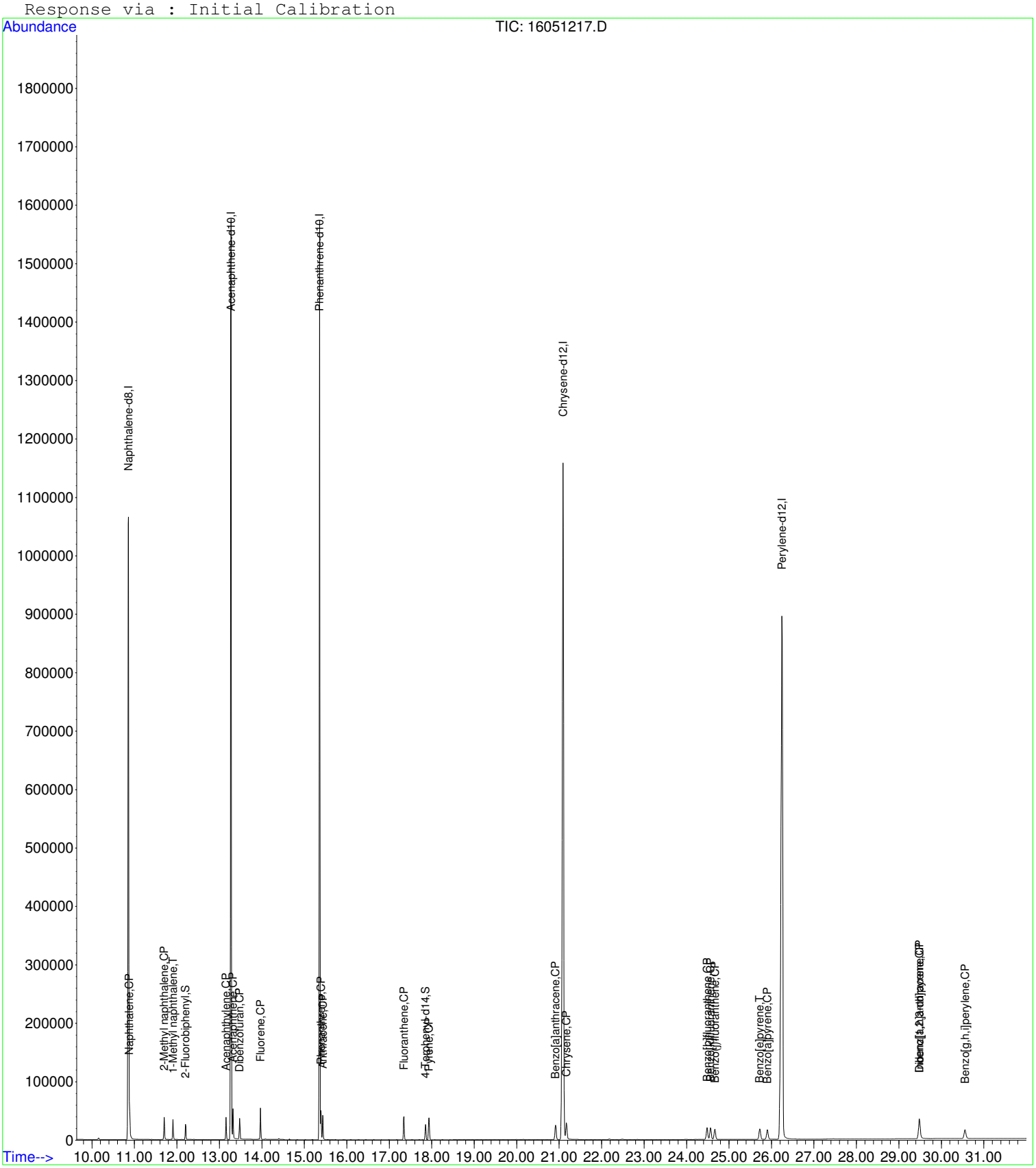
Target Compounds					Qvalue
2) Naphthalene	10.89	128	27676	76.12 ug/kg	99
3) 2-Methyl naphthalene	11.70	142	20443	63.65 ug/kg	96
4) 1-Methyl naphthalene	11.91	142	18891	64.22 ug/kg	99
6) Dibenzofuran	13.48	168	30233	85.04 ug/kg	99
8) Acenaphthylene	13.16	152	33004	80.79 ug/kg	98
9) Acenaphthene	13.32	154	19981	78.80 ug/kg	99
10) Fluorene	13.97	166	25526	82.89 ug/kg	100
12) Phenanthrene	15.39	178	38686	86.16 ug/kg	99
13) Anthracene	15.43	178	36003	84.72 ug/kg	98
14) Fluoranthene	17.35	202	40922	88.08 ug/kg	98
15) Pyrene	17.94	202	41595	86.18 ug/kg	98
18) Benzo[a]anthracene	20.91	228	36960	81.32 ug/kg	99
19) Chrysene	21.17	228	36405	82.90 ug/kg	99
21) Benzo[b]fluoranthene	24.48	252	37696	80.26 ug/kg	99
22) Benzo[k]fluoranthene	24.56	252	35162	79.80 ug/kg	99
23) Benzo(j)fluoranthene	24.67	252	31637	80.61 ug/kg	100
24) Benzo[e]pyrene	25.72	252	34449	81.90 ug/kg	99
25) Benzo[a]pyrene	25.90	252	32202	74.92 ug/kg	98
26) Dibenz[a,h]anthracene	29.48	278	32377	82.71 ug/kg	99
27) Indeno[1,2,3-cd]pyrene	29.48	276	38899	83.30 ug/kg	96
28) Benzo[g,h,i]perylene	30.56	276	31688	87.02 ug/kg	99

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160512\16051217.D Vial: 17
Acq On : 12 May 2016 6:29 pm Operator:
Sample : 1605047-03AMSD Inst : GC/MS #6
Misc : MSD Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:08 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\160512\16051219.D Vial: 19
Acq On : 12 May 2016 7:44 pm Operator:
Sample : ICV2-160512 Inst : GC/MS #6
Misc : ICV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:08 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1459872	4000.00 ug/kg	126
5) Acenaphthene-d10	13.27	164	995191	4000.00 ug/kg	86
11) Phenanthrene-d10	15.36	188	1812429	4000.00 ug/kg	89
17) Chrysene-d12	21.10	240	2051734	4000.00 ug/kg	90
20) Perylene-d12	26.25	264	1860539	4000.00 ug/kg	90

System Monitoring Compounds

7) 2-Fluorobiphenyl	12.21	172	600150	2067.31 ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery = 51.68%		
16) 4-Terphenyl-d14	17.86	244	886356	1890.26 ug/kg	-0.04
Spiked Amount 4000.000	Range 40 - 140		Recovery = 47.26%		

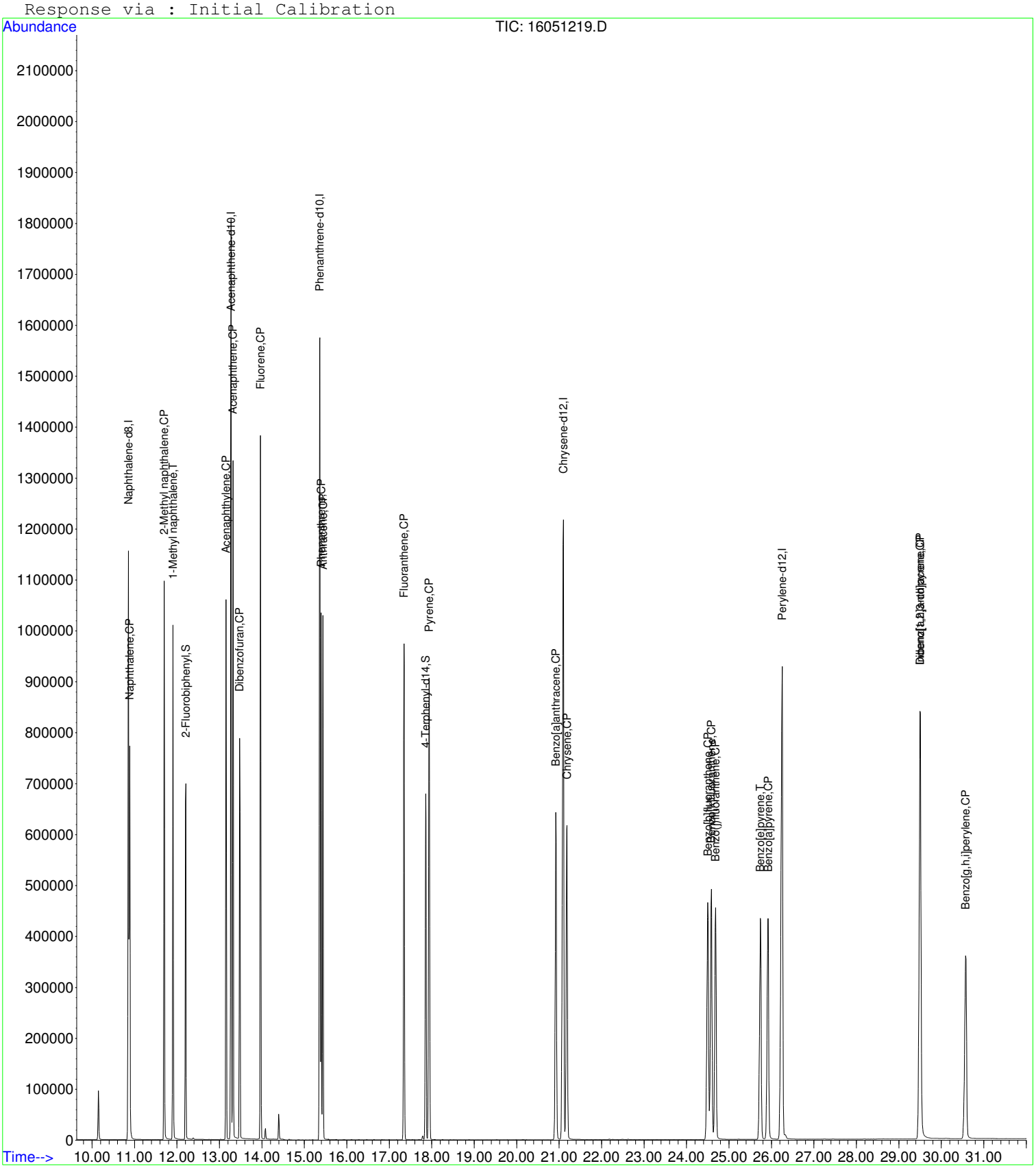
Target Compounds					Qvalue
2) Naphthalene	10.89	128	712649	1951.56 ug/kg	99
3) 2-Methyl naphthalene	11.70	142	551528	1709.84 ug/kg	97
4) 1-Methyl naphthalene	11.91	142	499370	1690.36 ug/kg	99
6) Dibenzofuran	13.48	168	729477	1955.77 ug/kg	99
8) Acenaphthylene	13.16	152	896789	2092.42 ug/kg	100
9) Acenaphthene	13.32	154	526222	1978.13 ug/kg	99
10) Fluorene	13.97	166	654159	2024.82 ug/kg	100
12) Phenanthrene	15.40	178	910440	1910.13 ug/kg	100
13) Anthracene	15.44	178	850855	1886.00 ug/kg	100
14) Fluoranthene	17.34	202	977641	1982.08 ug/kg	99
15) Pyrene	17.94	202	990030	1932.26 ug/kg	100
18) Benzo[a]anthracene	20.92	228	933561	1942.20 ug/kg	100
19) Chrysene	21.18	228	867186	1867.23 ug/kg	100
21) Benzo[b]fluoranthene	24.50	252	923175	1882.59 ug/kg	99
22) Benzo[k]fluoranthene	24.59	252	896210	1948.21 ug/kg	100
23) Benzo(j)fluoranthene	24.68	252	781380	1906.83 ug/kg	99
24) Benzo[e]pyrene	25.74	252	817244	1860.94 ug/kg	99
25) Benzo[a]pyrene	25.92	252	851468	1897.35 ug/kg	99
26) Dibenz[a,h]anthracene	29.50	278	811933	1986.60 ug/kg	100
27) Indeno[1,2,3-cd]pyrene	29.51	276	951558	1951.64 ug/kg	99
28) Benzo[g,h,i]perylene	30.58	276	748230	1968.02 ug/kg	99

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160512\16051219.D Vial: 19
Acq On : 12 May 2016 7:44 pm Operator:
Sample : ICV2-160512 Inst : GC/MS #6
Misc : ICV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:08 2016 Quant Results File: PP160421.RES

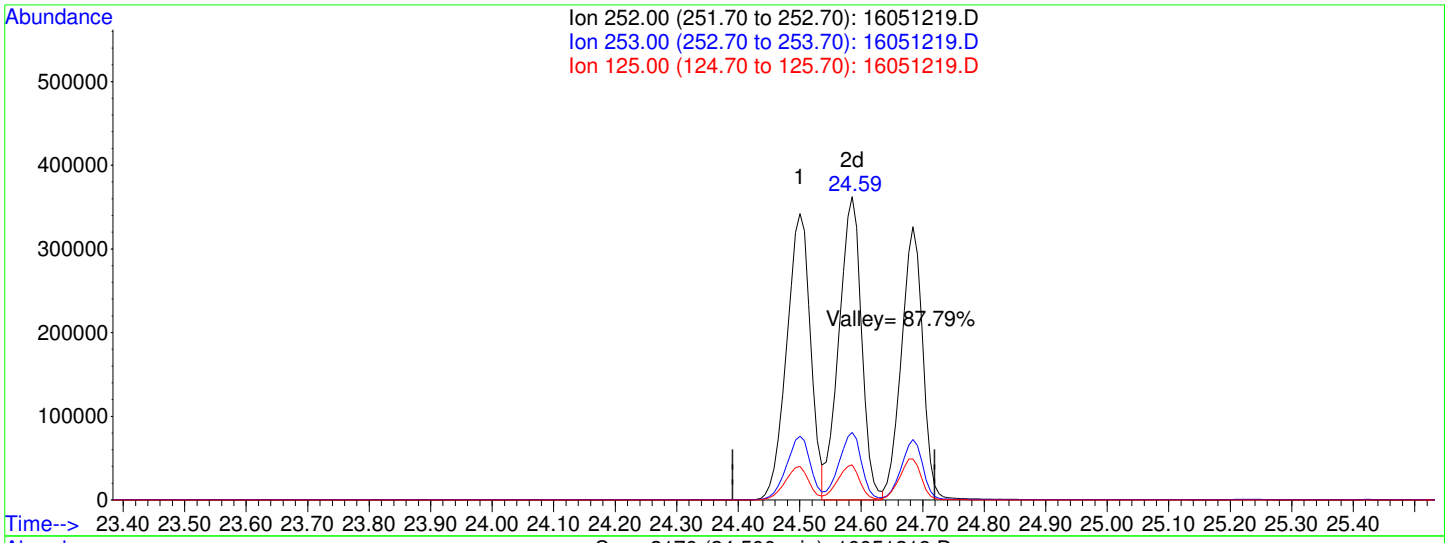
Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri Apr 22 11:43:43 2016
Response via : Initial Calibration

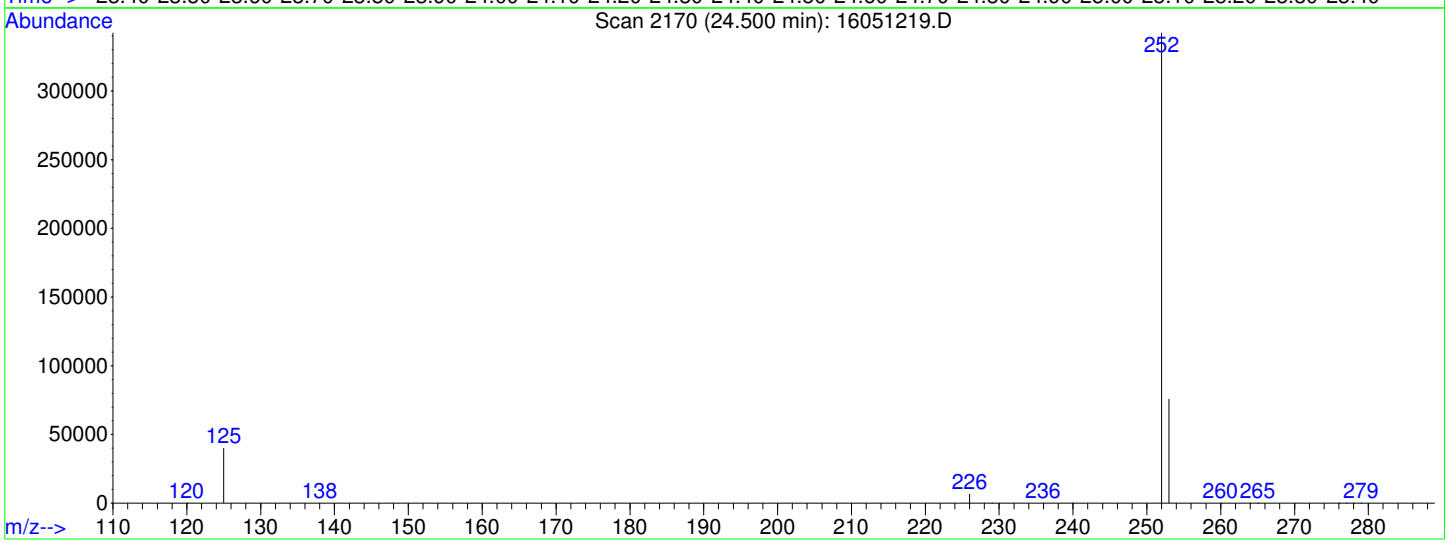


Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\160512\16051219.D Vial: 19
Acq On : 12 May 2016 7:44 pm Operator:
Sample : ICV2-160512 Inst : GC/MS #6
Misc : ICV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 12 20:16 2016 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri Apr 22 11:43:43 2016
Response via : Multiple Level Calibration





TIC: 16051219.D

(21) Benzo[b]fluoranthene (CP)

24.50min 1882.59ug/kg

response 923175

Ion	Exp%	Act%
252.00	100	100
253.00	22.20	22.10
125.00	11.00	11.69
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160512\16051220.D Vial: 20
Acq On : 12 May 2016 8:24 pm Operator:
Sample : SB-160512 Inst : GC/MS #6
Misc : SBLK Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:08 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1367606	4000.00	ug/kg	118
5) Acenaphthene-d10	13.27	164	899937	4000.00	ug/kg	78
11) Phenanthrene-d10	15.36	188	1643180	4000.00	ug/kg	80
17) Chrysene-d12	21.09	240	1847209	4000.00	ug/kg	81
20) Perylene-d12	26.25	264	1738036	4000.00	ug/kg	84

System Monitoring Compounds

7) 2-Fluorobiphenyl	12.21	172	206	0.78	ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery = 0.02%#			
16) 4-Terphenyl-d14	17.85	244	512	1.20	ug/kg	-0.04
Spiked Amount 4000.000	Range 40 - 140		Recovery = 0.03%#			

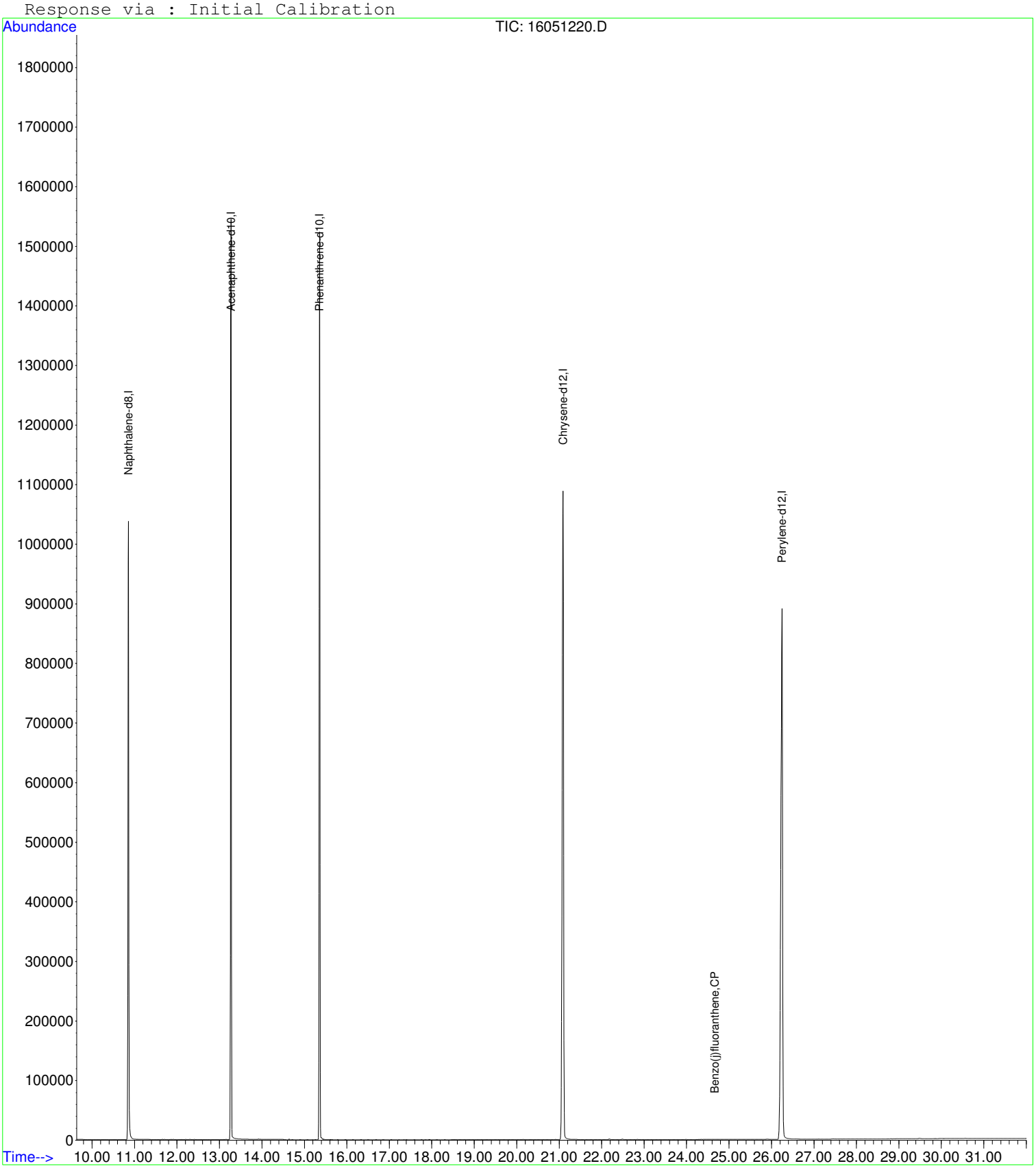
Target Compounds						Qvalue
23) Benzo(j)fluoranthene	24.66	252	164	0.43	ug/kg	89

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160512\16051220.D Vial: 20
Acq On : 12 May 2016 8:24 pm Operator:
Sample : SB-160512 Inst : GC/MS #6
Misc : SBLK Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:08 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\160512\16051230.D Vial: 30
Acq On : 13 May 2016 3:03 am Operator:
Sample : CCV1-160512 Inst : GC/MS #6
Misc : CCV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:09 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.85	136	1438492	4000.00	ug/kg	124
5) Acenaphthene-d10	13.27	164	890655	4000.00	ug/kg	77
11) Phenanthrene-d10	15.36	188	1613116	4000.00	ug/kg	79
17) Chrysene-d12	21.09	240	1899671	4000.00	ug/kg	84
20) Perylene-d12	26.25	264	1708414	4000.00	ug/kg	83

System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.20	172	281423	1083.18	ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery = 27.08%#			
16) 4-Terphenyl-d14	17.85	244	417969	1001.50	ug/kg	-0.04
Spiked Amount 4000.000	Range 40 - 140		Recovery = 25.04%#			

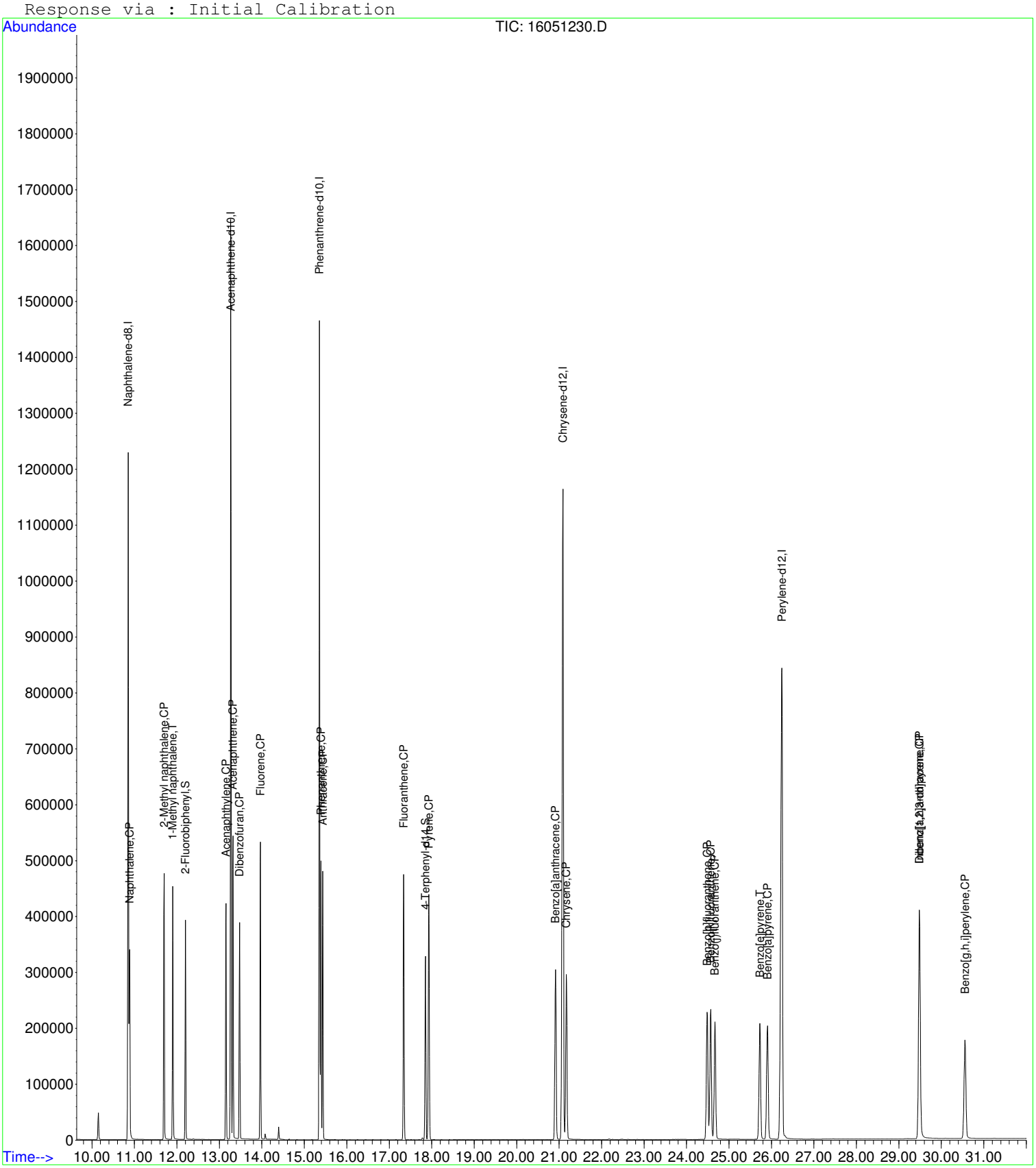
Target Compounds						Qvalue
2) Naphthalene	10.89	128	363311	1009.70	ug/kg	100
3) 2-Methyl naphthalene	11.70	142	266888	839.70	ug/kg	98
4) 1-Methyl naphthalene	11.90	142	240035	824.59	ug/kg	92
6) Dibenzofuran	13.48	168	330766	990.89	ug/kg	99
8) Acenaphthylene	13.16	152	410942	1071.36	ug/kg	99
9) Acenaphthene	13.32	154	241341	1013.71	ug/kg	98
10) Fluorene	13.97	166	293075	1013.63	ug/kg	97
12) Phenanthrene	15.39	178	416617	982.07	ug/kg	99
13) Anthracene	15.43	178	397539	990.06	ug/kg	99
14) Fluoranthene	17.34	202	463442	1055.68	ug/kg	99
15) Pyrene	17.93	202	466872	1023.79	ug/kg	99
18) Benzo[a]anthracene	20.91	228	443502	996.53	ug/kg	99
19) Chrysene	21.17	228	411432	956.81	ug/kg	100
21) Benzo[b]fluoranthene	24.48	252	437207	970.97	ug/kg	99
22) Benzo[k]fluoranthene	24.57	252	419794	993.82	ug/kg	100
23) Benzo(j)fluoranthene	24.67	252	365930	972.51	ug/kg	98
24) Benzo[e]pyrene	25.73	252	384497	953.50	ug/kg	100
25) Benzo[a]pyrene	25.91	252	397327	964.21	ug/kg	99
26) Dibenz[a,h]anthracene	29.48	278	376800	1004.03	ug/kg	99
27) Indeno[1,2,3-cd]pyrene	29.48	276	445905	995.98	ug/kg	100
28) Benzo[g,h,i]perylene	30.56	276	355993	1019.72	ug/kg	99

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160512\16051230.D Vial: 30
Acq On : 13 May 2016 3:03 am Operator:
Sample : CCV1-160512 Inst : GC/MS #6
Misc : CCV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:09 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



GCMS6
Calibration Curve
For

DHL Work Order
1605034

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

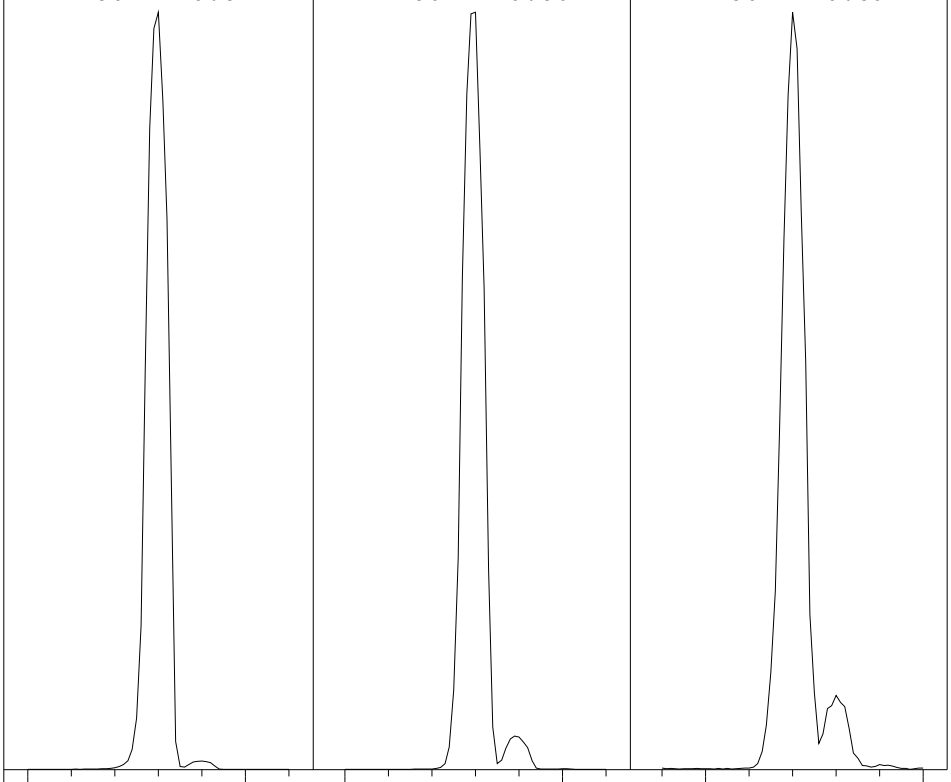
Second-Level Review: [signature] Date: 04/22/2016

HP5973

Instrument: GC/MS #6

Thu Apr 21 13:07:27 2016 C:\HPCHEM\1\5973\ATUNE.U

Mass	Ab	Pw50
69.00	443007	0.57
219.00	295483	0.58
502.00	16133	0.59



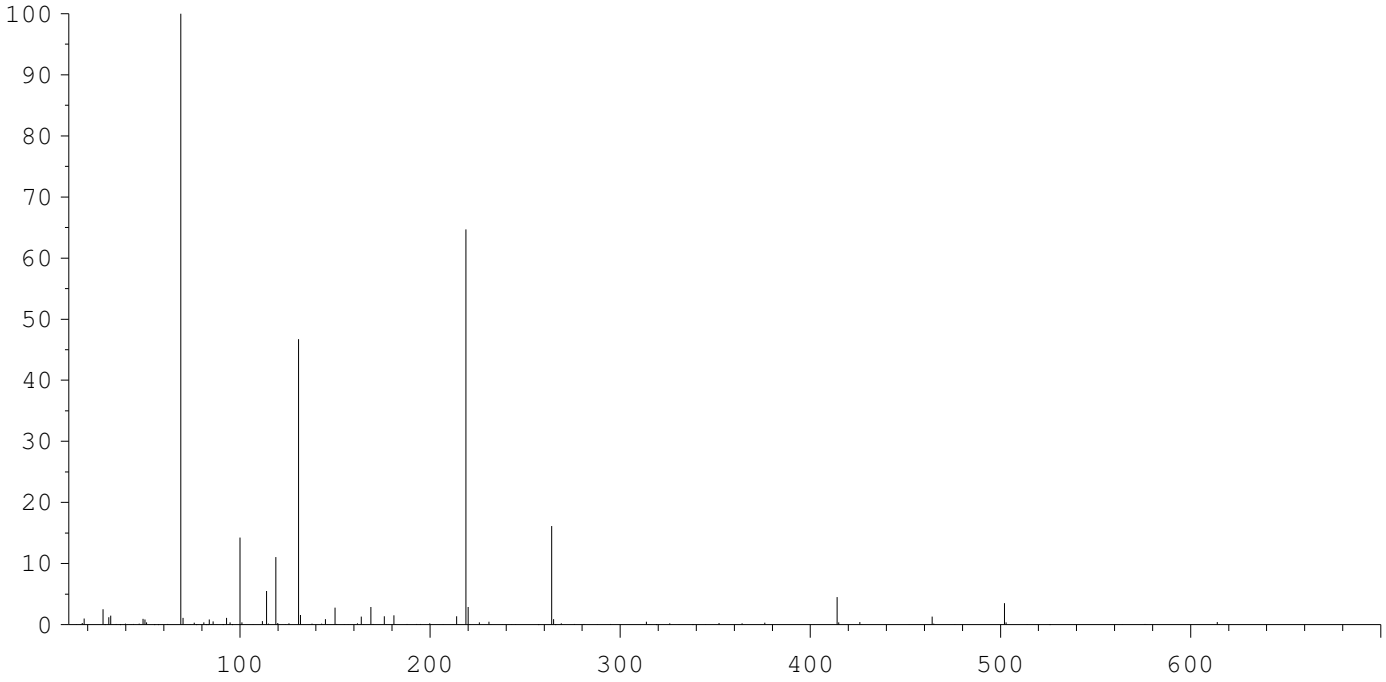
Ion Pol	POS	MassGain	7
		MassOffs	-14
Emission	34.6	AmuGain	2195
EleEnergy	69.9	AmuOffs	127
Filament	2	Wid219	0.011
		DC Pol	POS
Repeller	19.90		
IonFocus	80.7	HED	ON
EntLens	14.0	EMVolts	1424
EntOffs	16.06		
		Samples	8
PFTBA	OPEN	Averages	3
		StepSize	0.10

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	64.7	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

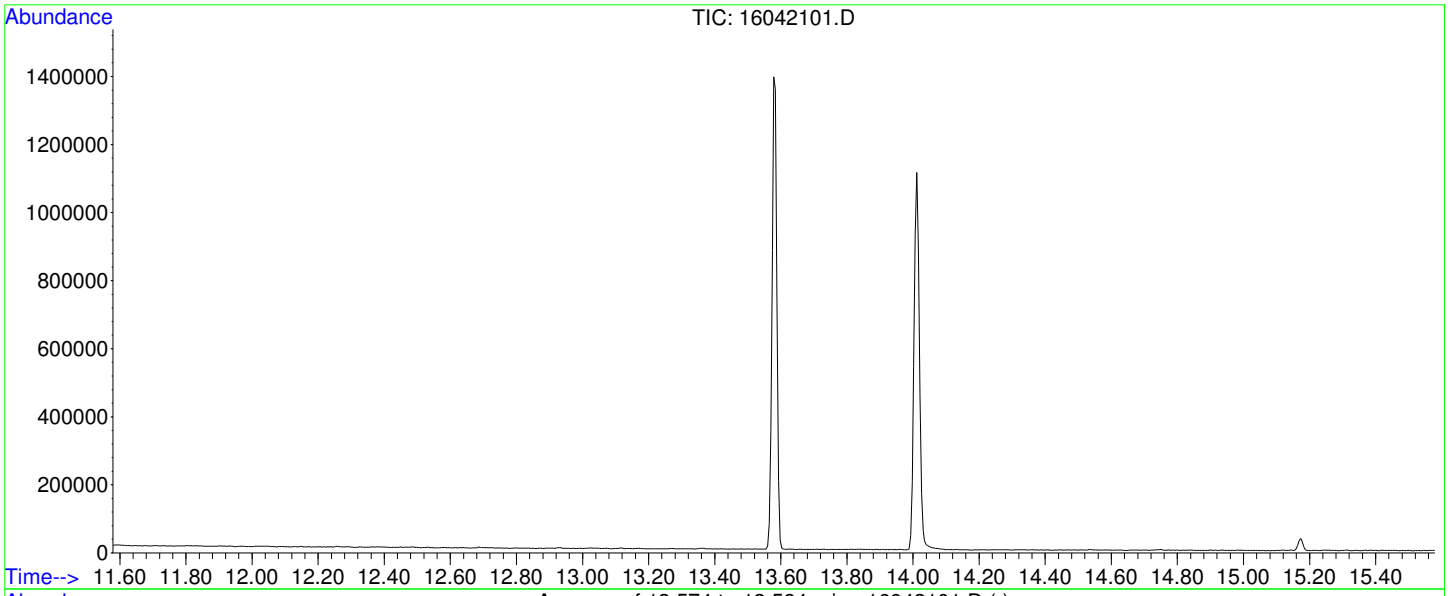
REVIEWED/APPROVED
By Sherri Herschmann at 9:42:37 AM, 4/28/2016

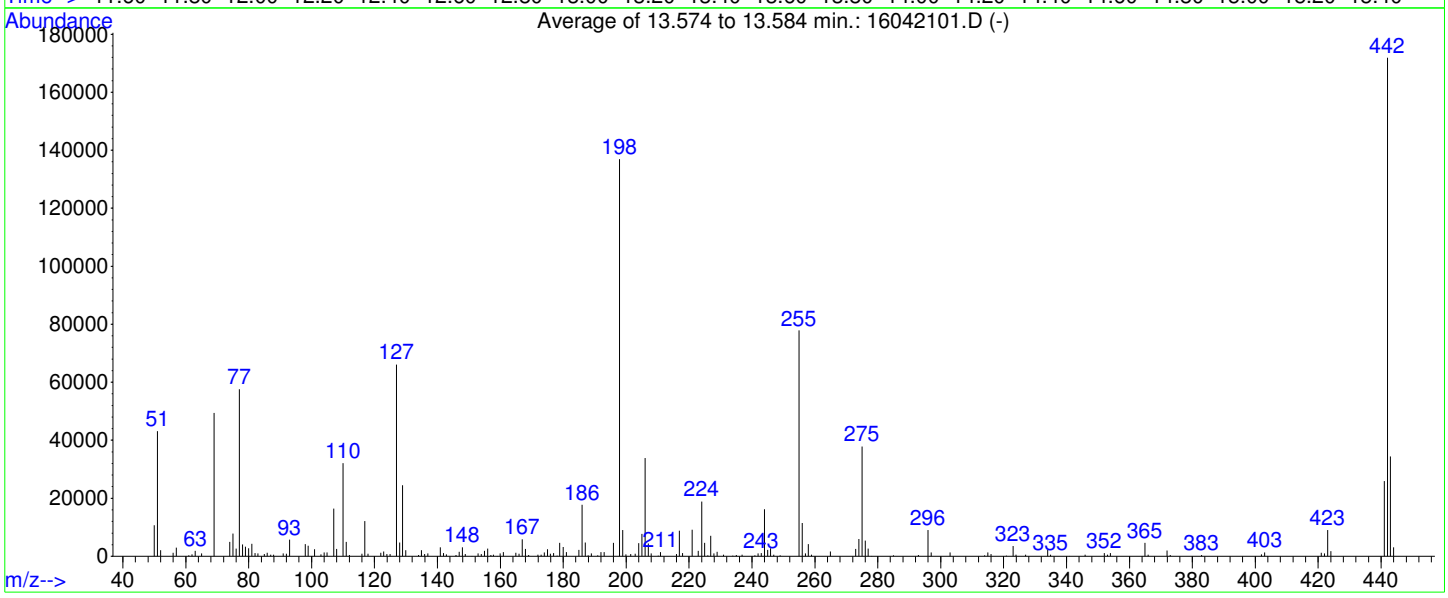
Calibration Files
1 =16042103.D 2 =16042104.D 3 =16042105.D 4 =16042106.D 5 =16042107.D 6 =16042108.D 7 =16042109.D
8 =16042110.D

		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 Reprocessed low point.
DataAcq Meth : PP160322

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%#		

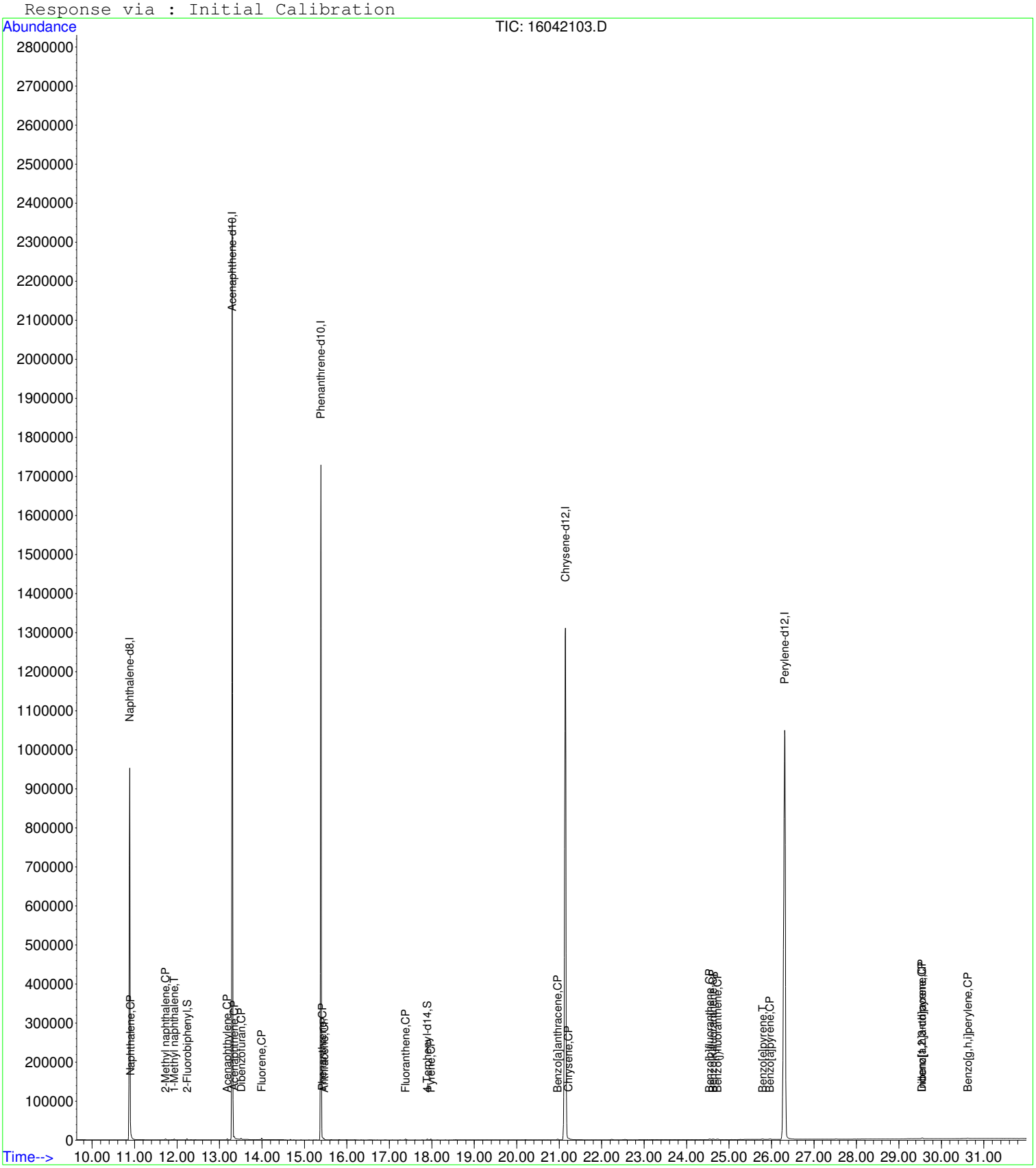
Target Compounds					Qvalue
2) Naphthalene	10.91	128	1531	5.36 ug/kg	98
3) 2-Methyl naphthalene	11.73	142	1362	5.39 ug/kg	98
4) 1-Methyl naphthalene	11.93	142	1218	5.27 ug/kg	92
6) Dibenzofuran	13.51	168	2405	5.15 ug/kg	100
8) Acenaphthylene	13.18	152	2605	4.86 ug/kg	99
9) Acenaphthene	13.35	154	1708	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%#		

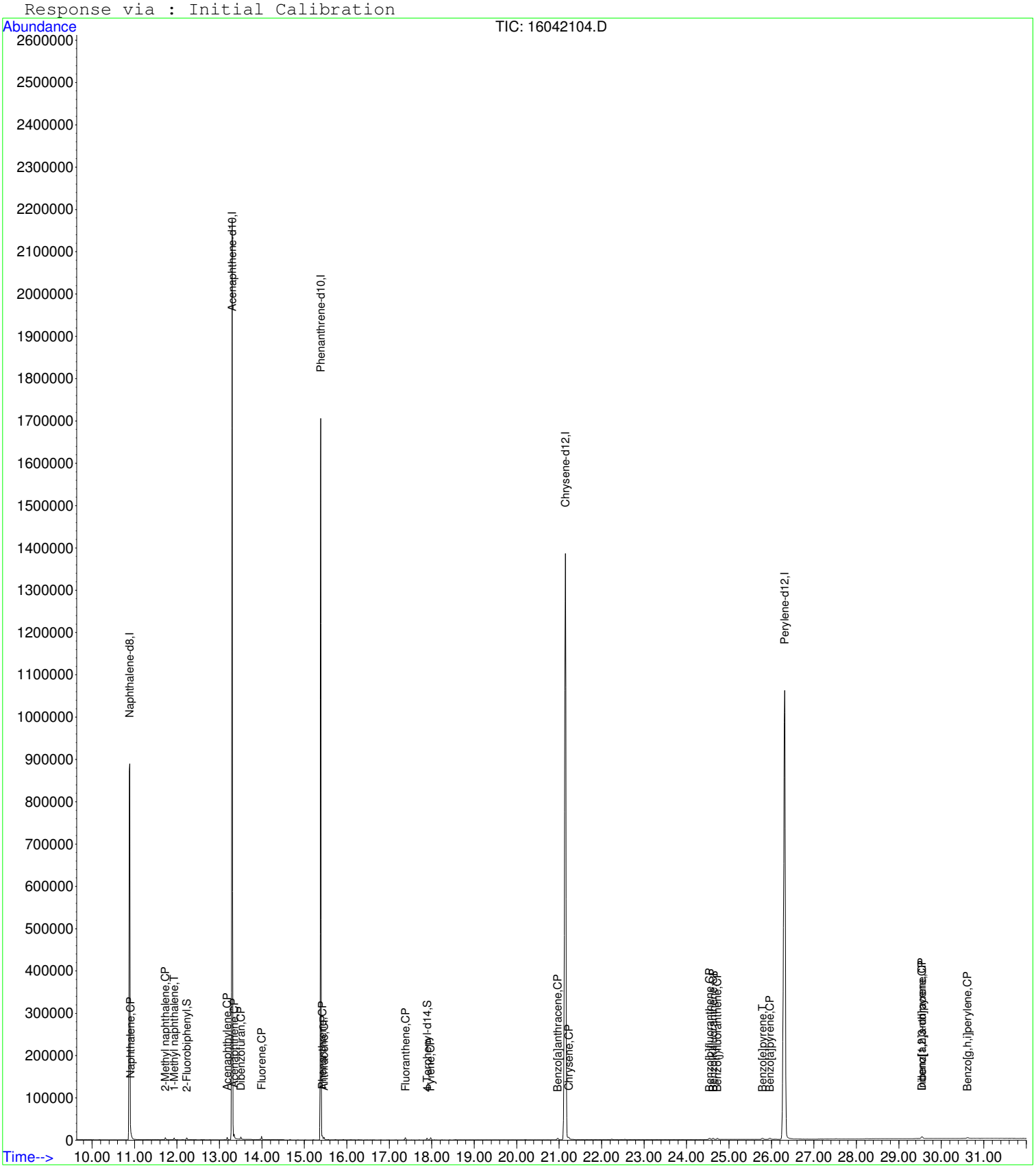
Target Compounds					Qvalue
2) Naphthalene	10.91	128	3165	10.55 ug/kg	99
3) 2-Methyl naphthalene	11.72	142	2722	10.27 ug/kg	96
4) 1-Methyl naphthalene	11.93	142	2498	10.30 ug/kg	98
6) Dibenzofuran	13.50	168	4637	10.12 ug/kg	97
8) Acenaphthylene	13.18	152	5169	9.82 ug/kg	99
9) Acenaphthene	13.35	154	3288	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



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%#	

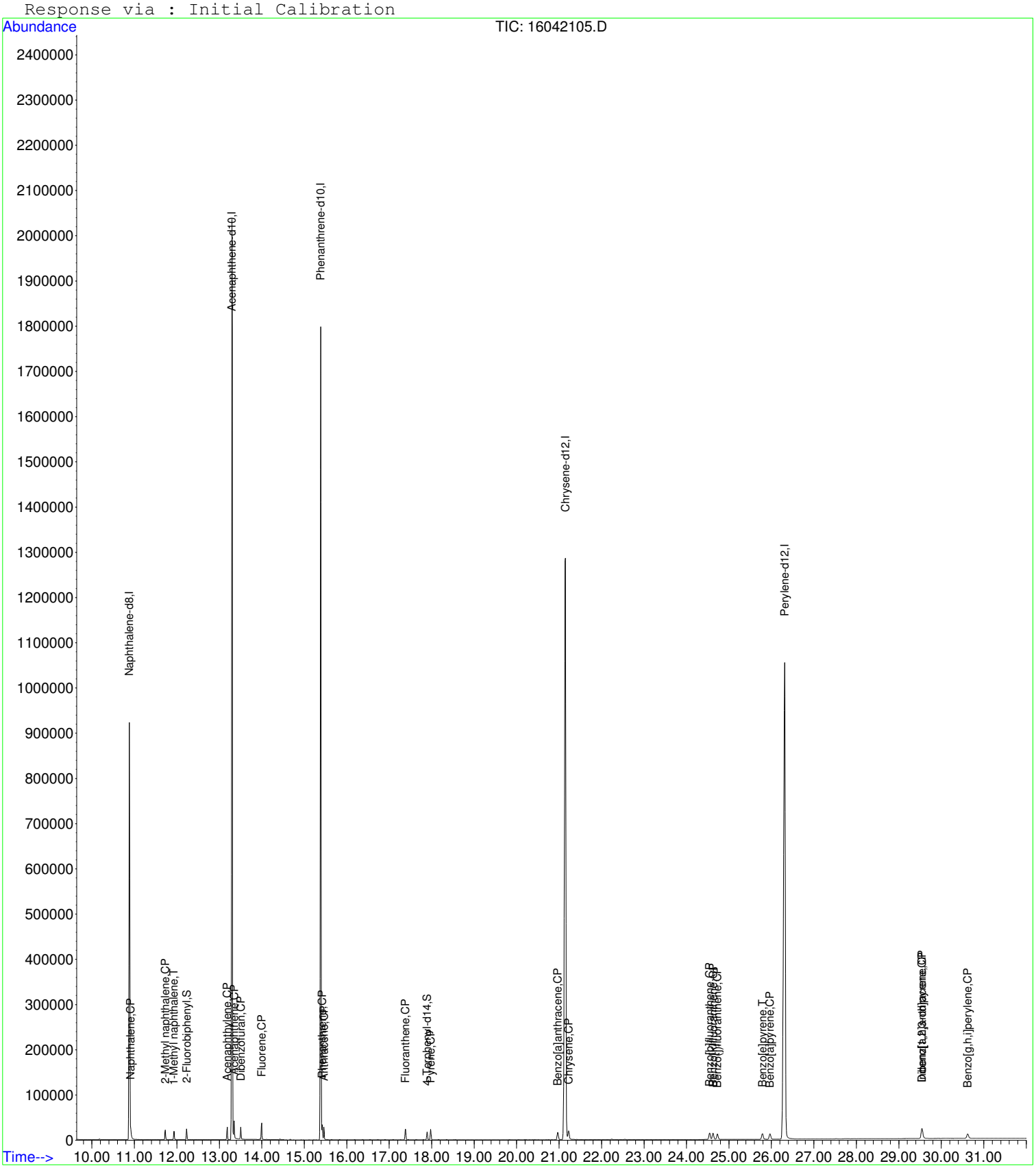
Target Compounds					Qvalue
2) Naphthalene	10.92	128	13632	50.43 ug/kg	99
3) 2-Methyl naphthalene	11.73	142	12186	51.04 ug/kg	97
4) 1-Methyl naphthalene	11.94	142	11156	51.02 ug/kg	99
6) Dibenzofuran	13.51	168	22945	50.95 ug/kg	99
8) Acenaphthylene	13.19	152	25071	48.45 ug/kg	98
9) Acenaphthene	13.35	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%#	

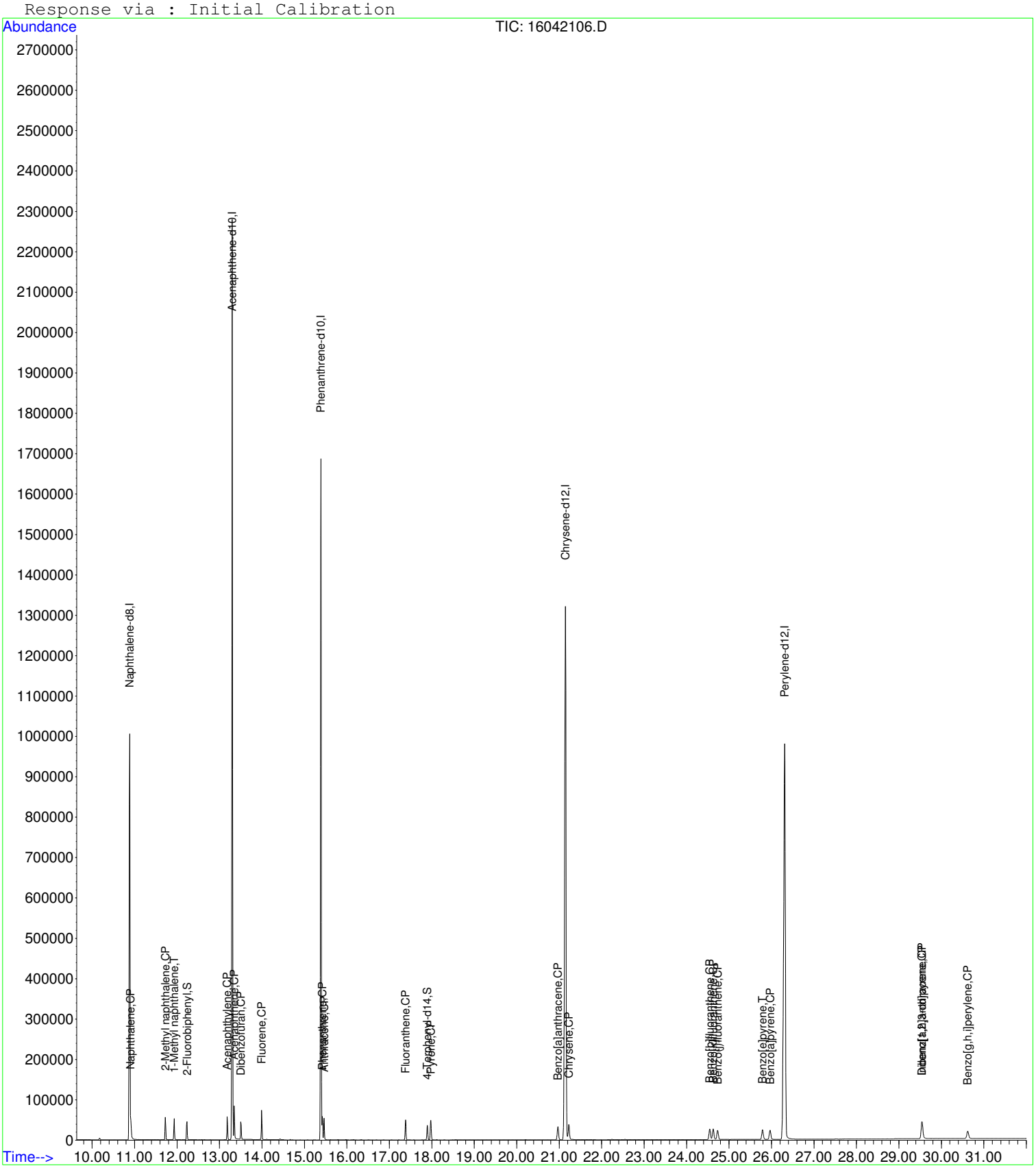
Target Compounds					Qvalue
2) Naphthalene	10.91	128	31387	98.73 ug/kg	100
3) 2-Methyl naphthalene	11.72	142	29129	103.73 ug/kg	96
4) 1-Methyl naphthalene	11.93	142	26563	103.29 ug/kg	97
6) Dibenzofuran	13.51	168	41336	93.73 ug/kg	98
8) Acenaphthylene	13.18	152	50435	99.53 ug/kg	99
9) Acenaphthene	13.35	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

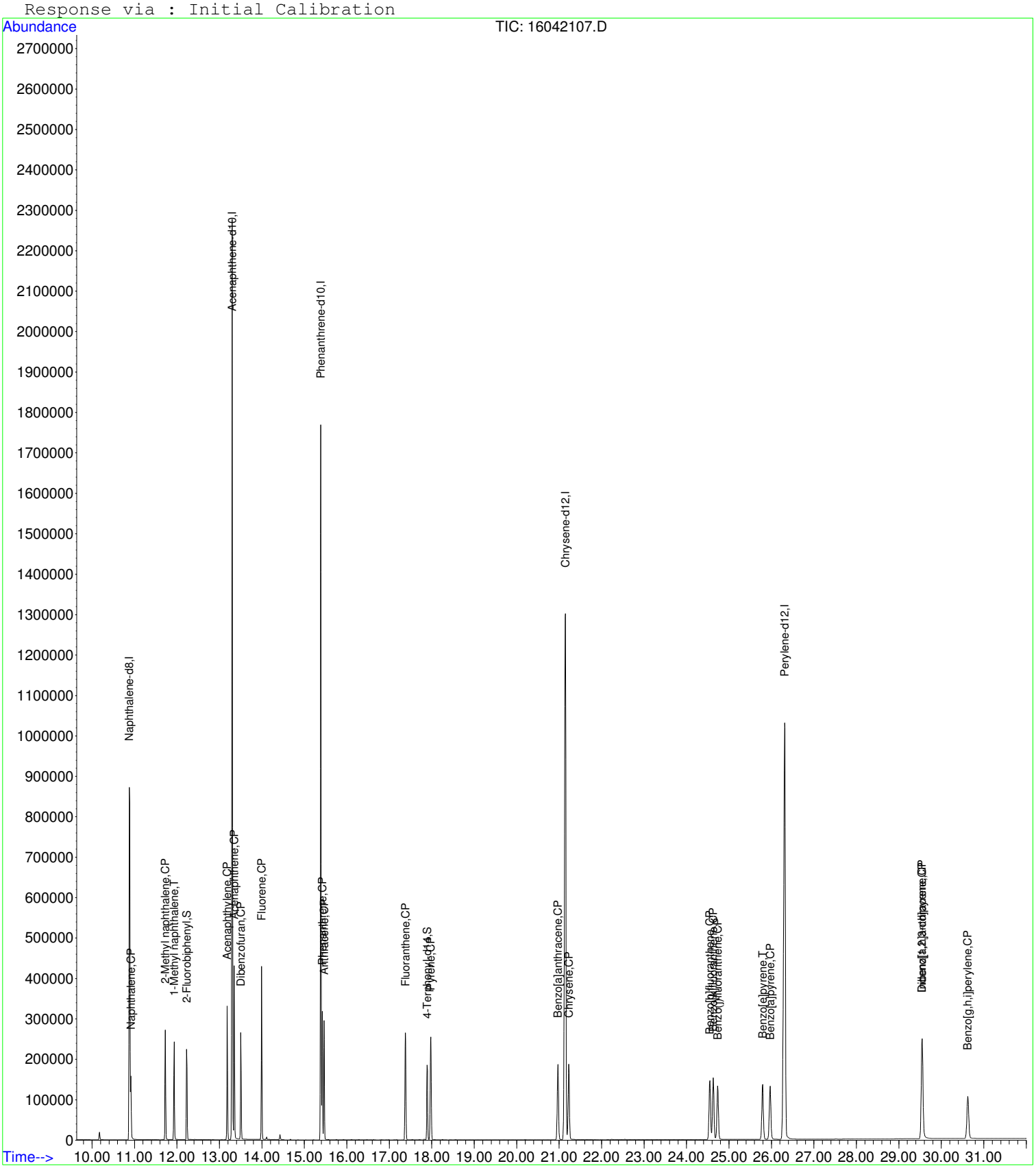
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.88	136	1148191	4000.00 ug/kg	99
5) Acenaphthene-d10	13.30	164	1212423	4000.00 ug/kg	105
11) Phenanthrene-d10	15.39	188	1918468	4000.00 ug/kg	94
17) Chrysene-d12	21.15	240	2190661	4000.00 ug/kg	96
20) Perylene-d12	26.31	264	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%#			

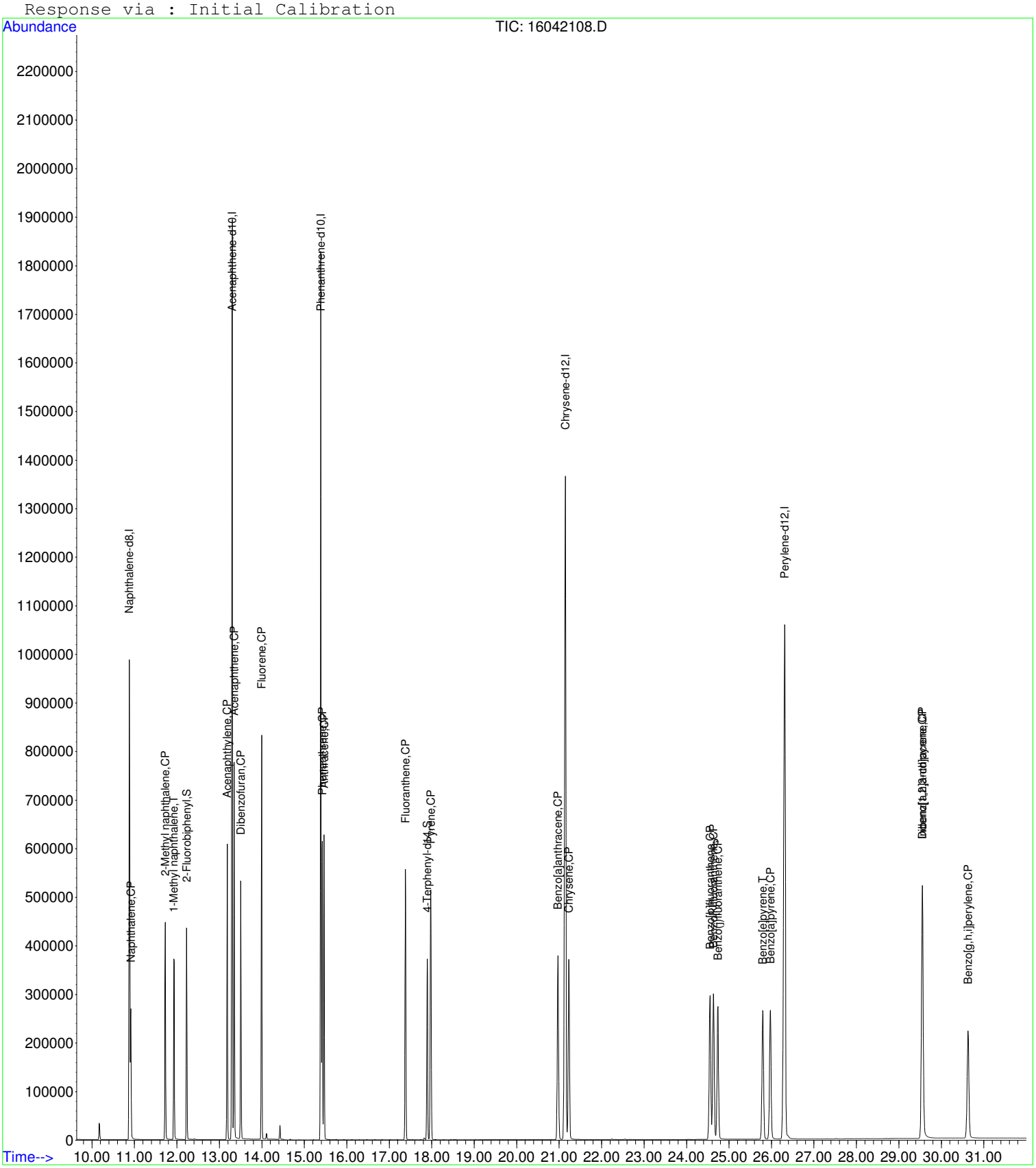
Target Compounds						Qvalue
2) Naphthalene	10.92	128	277677	976.77	ug/kg	100
3) 2-Methyl naphthalene	11.73	142	236454	941.63	ug/kg	97
4) 1-Methyl naphthalene	11.94	142	218047	948.10	ug/kg	98
6) Dibenzofuran	13.50	168	452065	1043.89	ug/kg	99
8) Acenaphthylene	13.18	152	509913	1024.72	ug/kg	99
9) Acenaphthene	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%	

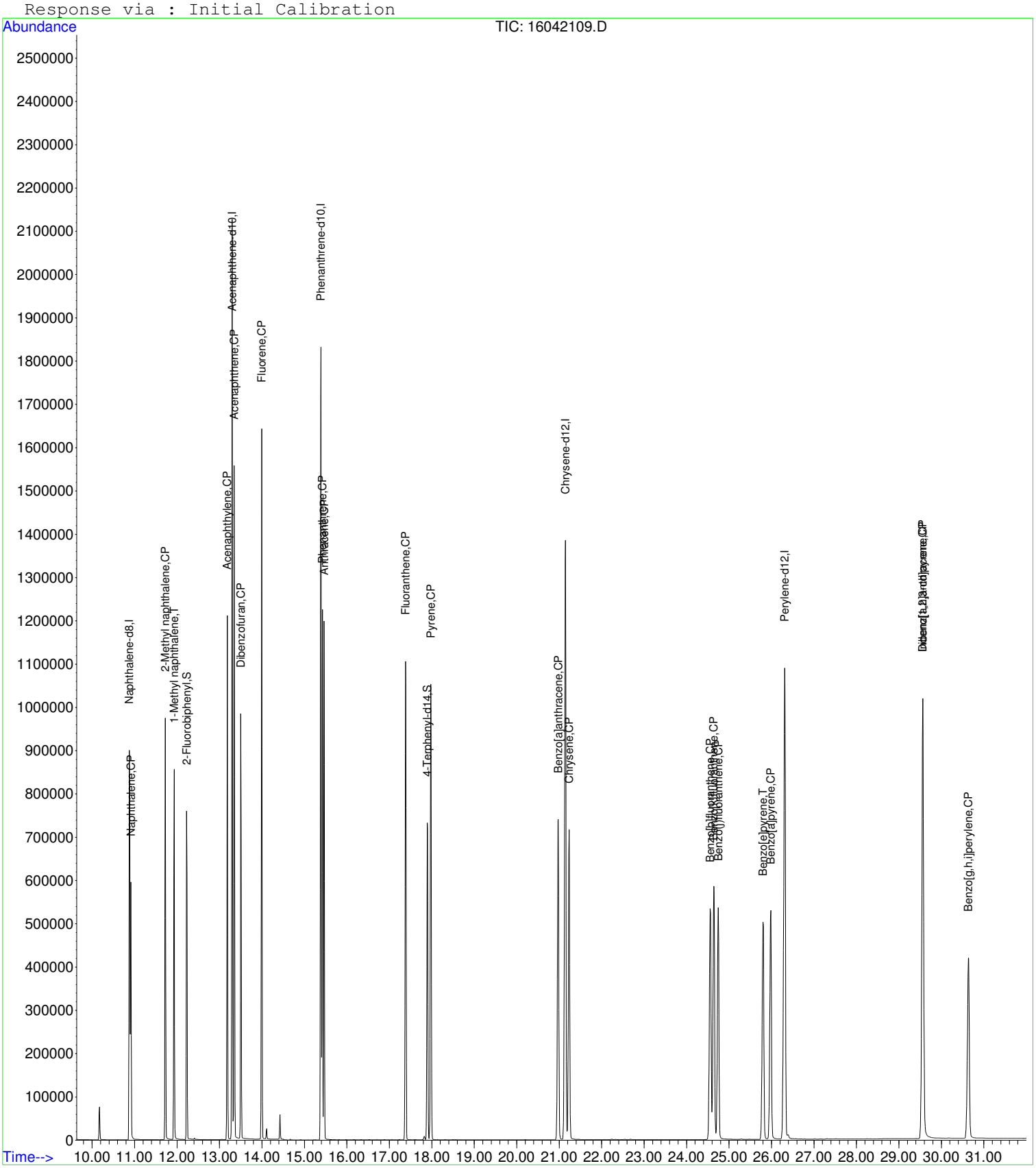
Target Compounds					Qvalue
2) Naphthalene	10.91	128	561019	1934.86 ug/kg	100
3) 2-Methyl naphthalene	11.72	142	481530	1880.07 ug/kg	100
4) 1-Methyl naphthalene	11.93	142	443761	1891.77 ug/kg	100
6) Dibenzofuran	13.50	168	873590	2024.72 ug/kg	100
8) Acenaphthylene	13.18	152	1023648	2064.73 ug/kg	100
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

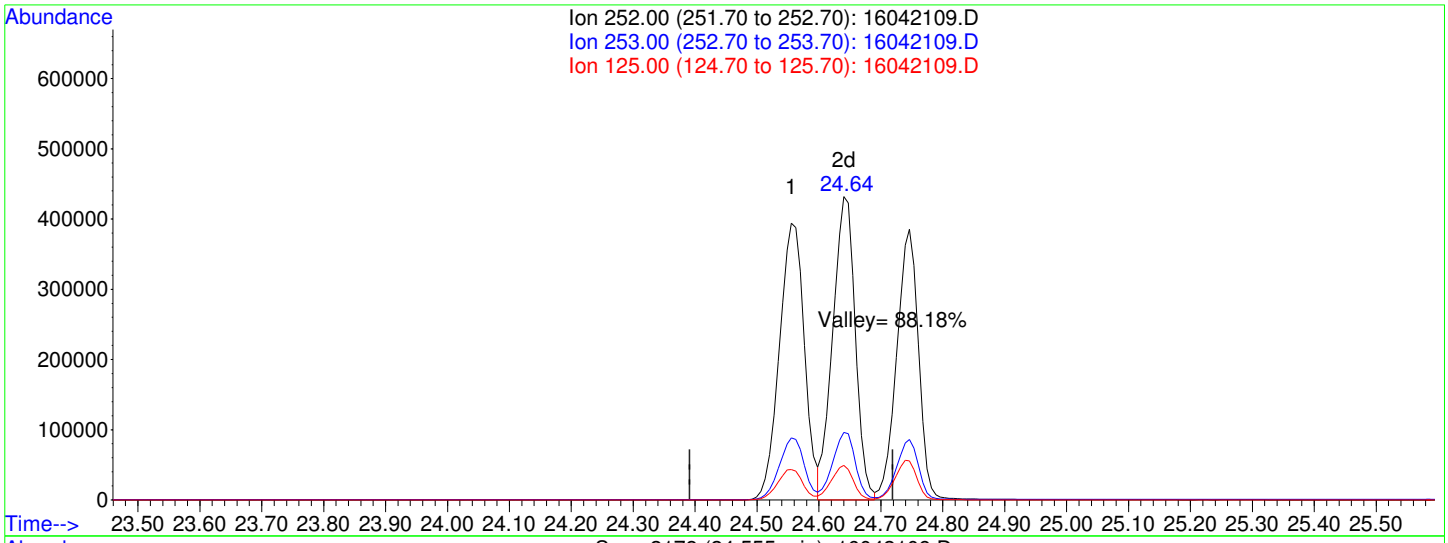
Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri Apr 22 11:43:43 2016
Response via : Initial Calibration

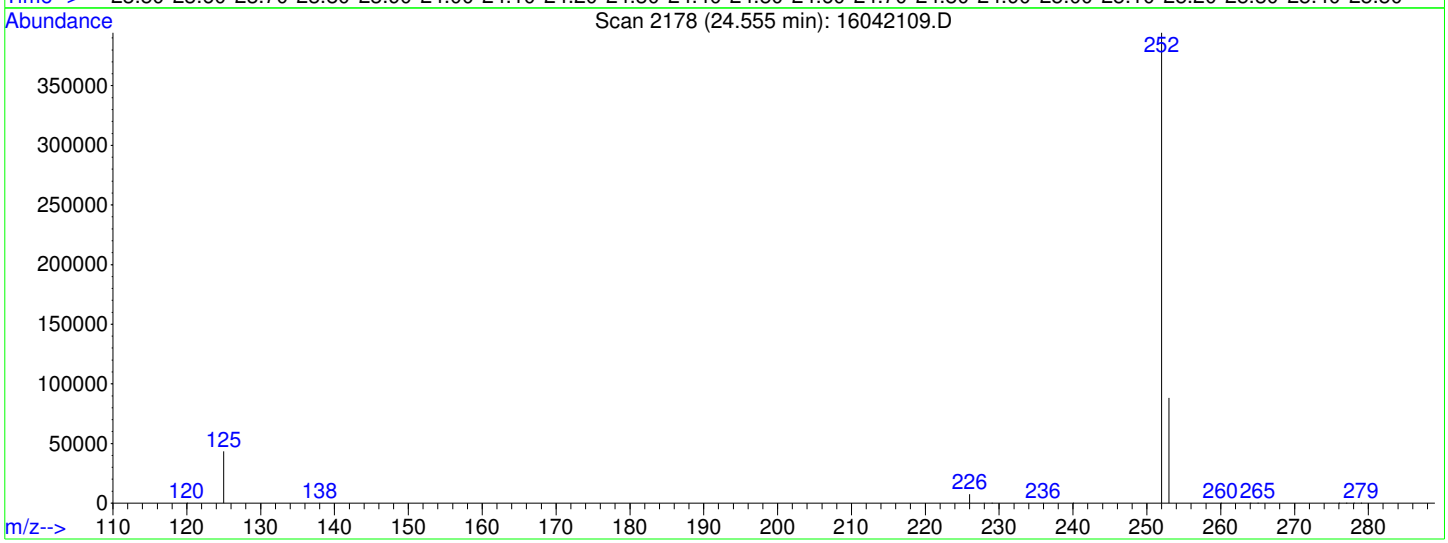


Quantitation Report (Qedit)

```
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%			

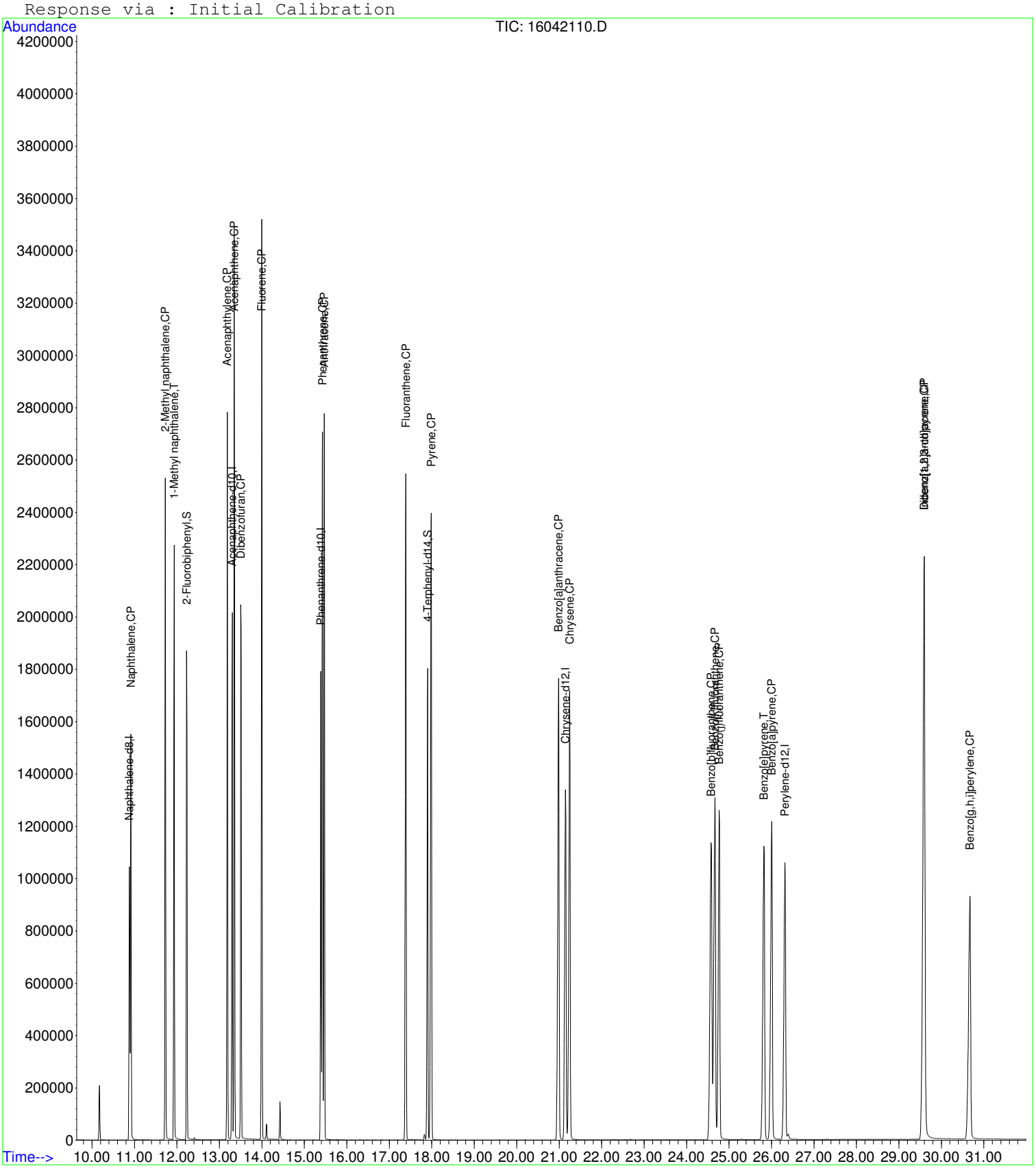
Target Compounds						Qvalue
2) Naphthalene	10.91	128	1466551	4624.22	ug/kg	99
3) 2-Methyl naphthalene	11.73	142	1254770	4479.04	ug/kg	99
4) 1-Methyl naphthalene	11.94	142	1162503	4530.90	ug/kg	99
6) Dibenzofuran	13.51	168	2052094	4677.28	ug/kg	99
8) Acenaphthylene	13.18	152	2446851	4853.52	ug/kg	98
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%#	

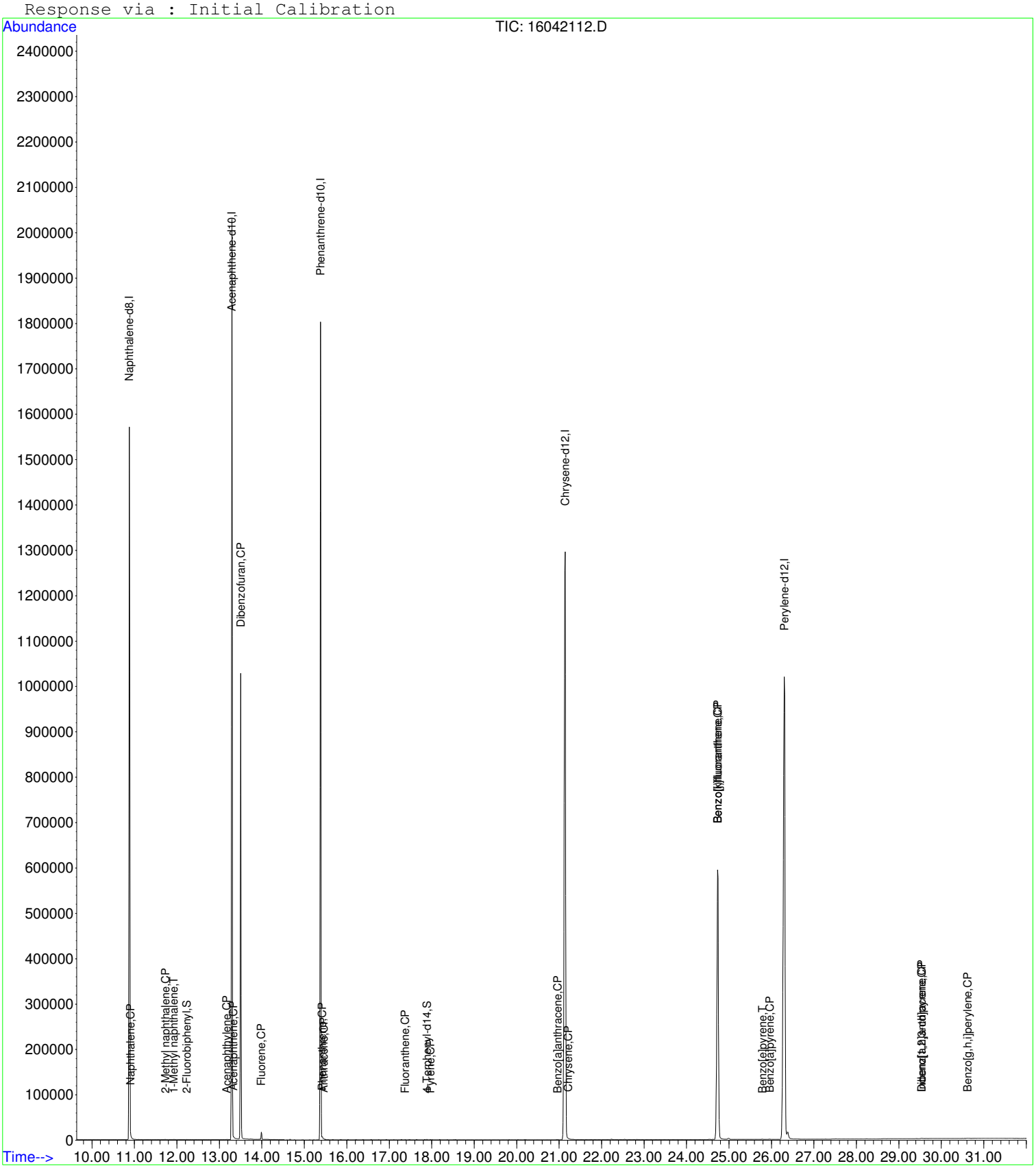
Target Compounds					Qvalue	
2) Naphthalene	10.92	128	667	1.50 ug/kg	98	
3) 2-Methyl naphthalene	11.73	142	541	1.38 ug/kg	94	
4) 1-Methyl naphthalene	11.93	142	390	1.09 ug/kg	96	
6) Dibenzofuran	13.50	168	930384	2312.95 ug/kg	99	92.52%
8) Acenaphthylene	13.18	152	654	1.41 ug/kg	99	
9) Acenaphthene	13.34	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%	

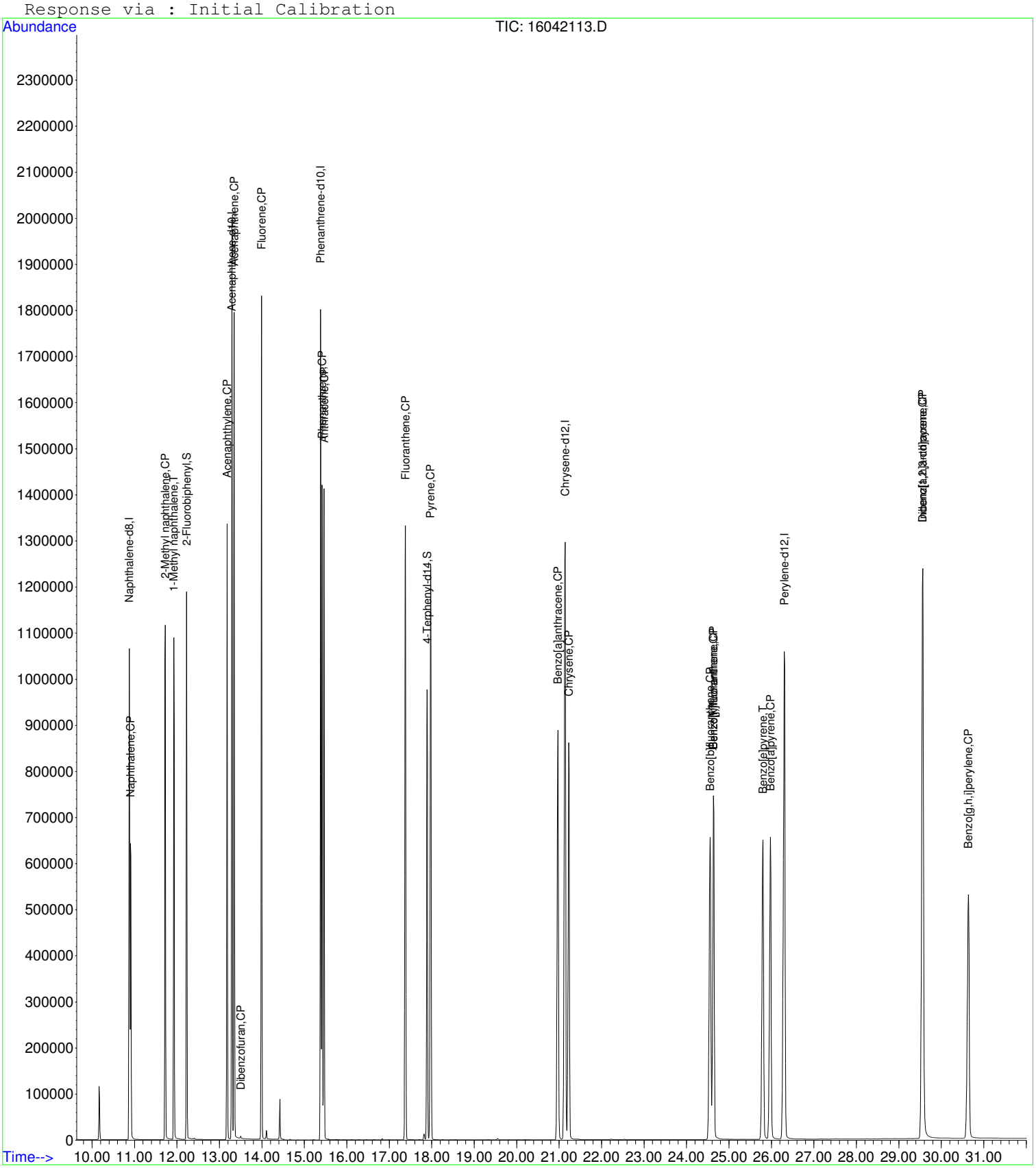
Target Compounds					Qvalue
2) Naphthalene	10.90	128	700486	2319.36 ug/kg	99
3) 2-Methyl naphthalene	11.72	142	646154	2422.05 ug/kg	96
4) 1-Methyl naphthalene	11.93	142	589122	2411.14 ug/kg	93
6) ~~Dibenzofuran~~	~~13.50~~	~~168~~	~~4477~~	~~10.62 ug/kg~~	~~99~~
8) Acenaphthylene	13.18	152	1162279	2398.54 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



16042113.D PP160421.M Fri Apr 22 11:46:43 2016 Page 2

ICP-MS4
For

DHL Work Order
1605034

ICP-MS4_160516B
For

DHL Work Order
1605034

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

DHL Analytical, Inc.

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

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

20

#	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-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: **5/9/2016 10:07:59 AM**
Digestion:
Prep End Date:

Prep Batch **75006** Prep Code: **3050_IDOD** Technician: **Cassie Van Dyke** Prep Factor Units: **mL/g**

Equipment List
Hot Block #3
Thermometer #71
Balance #30
Pipette #P-01
Pipette#-P-09

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605034-01A	Soil		1.04	50	50.000	1 of 1	
1605034-02A	Soil		1.04	50	50.000	1 of 1	
1605034-03A	Soil		1.02	50	50.000	1 of 1	
1605034-04A	Soil		1.00	50	50.000	1 of 1	
1605034-05A	Soil		1.04	50	50.000	1 of 1	
1605034-06A	Soil		1.04	50	50.000	1 of 1	
1605034-07A	Soil		1.08	50	50.000	1 of 1	
1605034-08A	Soil		1.04	50	50.000	1 of 1	
1605034-09A	Soil		1.03	50	50.000	2 of 3	
1605034-09AMS	Soil		1.05 ~~1.04~~	50	50.000	2 of 3	
1605034-09AMSD	Soil		1.04 ~~1.08~~	50	50.000	2 of 3	
1605034-10A	Soil	SID 5/9	1.03 ~~1.08~~	50	50.000	1 of 1	
1605034-11A	Soil		1.03	50	50.000	1 of 1	
1605034-12A	Soil		1.10	50	50.000	1 of 1	
1605034-13A	Soil		1.01	50	50.000	1 of 1	
1605034-14A	Soil		1.01	50	50.000	1 of 1	
1605034-15A	Soil		1.02	50	50.000	1 of 1	
1605034-16A	Soil		1.10	50	50.000	1 of 1	
1605034-17A	Soil		1.08	50	50.000	1 of 1	
1605034-18A	Soil		1.07	50	50.000	1 of 1	
1605034-19A	Soil		1.05	50	50.000	1 of 1	
1605034-20A	Soil		1.05	50	50.000	1 of 1	
LCS-75006	Soil		1	50	50.000	of	
LCSD-75006	Soil		1	50	50.000	of	
MB-75006	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	Samp Type	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-160428-05	50 PPM Custom+Sn,Ti,B,Mo,Sr CAL	LCS/MS/MSD	1	07/27/2016
MET-SPIKE-160509-4	50 PPM Sb+Ag CAL	LCS/MS/MSD	1	08/07/2016

11:58 - 12:08
12:10 - 14:10
14:35 - 16:35
17:03 - 17:18

REVIEWED BY
By Janice Whitt at 10:04:52 AM, 5/17/2016

5/9/16

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/4/2016 2:45:00 PM**
Digestion: **Start: 5/4/2016 3:45:00 PM / Stop: 5/6/2016 9:30:00 AM**
Prep End Date: **5/6/2016 5:00:00 PM**

Prep Batch **74956** Prep Code: **ISM2MM_PREP** Technician **Jennifer Barker** Prep Factor Units: **mL/**

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605034-01A	Soil		0	0	#Num!	1 of 1	
1605034-02A	Soil		0	0	#Num!	1 of 1	
1605034-03A	Soil		0	0	#Num!	1 of 1	
1605034-04A	Soil		0	0	#Num!	1 of 1	
1605034-05A	Soil		0	0	#Num!	1 of 1	
1605034-06A	Soil		0	0	#Num!	1 of 1	
1605034-07A	Soil		0	0	#Num!	1 of 1	
1605034-08A	Soil		0	0	#Num!	1 of 1	
1605034-09A	Soil		0	0	#Num!	of 3	
1605034-10A	Soil		0	0	#Num!	1 of 1	
1605034-11A	Soil		0	0	#Num!	1 of 1	
1605034-12A	Soil		0	0	#Num!	1 of 1	
1605034-13A	Soil		0	0	#Num!	1 of 1	
1605034-14A	Soil		0	0	#Num!	1 of 1	
1605034-15A	Soil		0	0	#Num!	1 of 1	
1605034-16A	Soil		0	0	#Num!	1 of 1	
1605034-17A	Soil		0	0	#Num!	1 of 1	
1605034-18A	Soil		0	0	#Num!	1 of 1	
1605034-19A	Soil		0	0	#Num!	1 of 1	
1605034-20A	Soil		0	0	#Num!	1 of 1	
1605034-21A	Soil		0	0	#Num!	1 of 1	
1605034-22A	Soil		0	0	#Num!	1 of 1	
1605034-23A	Soil		0	0	#Num!	1 of 1	
1605034-24A	Soil		0	0	#Num!	1 of 1	
1605034-25A	Soil		0	0	#Num!	1 of 1	
1605034-26A	Soil		0	0	#Num!	1 of 1	
1605034-27A	Soil		0	0	#Num!	1 of 1	

REVIEWED BY
By Janice Whitt at 10:05:53 AM, 5/17/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/4/2016 2:45:00 PM**
Digestion: **Start: 5/4/2016 3:45:00 PM / Stop: 5/6/2016 9:30:00 AM**
Prep End Date: **5/6/2016 5:00:00 PM**

Prep Batch **74956** Prep Code: **ISM2MM_PREP** Technician **Jennifer Barker** Prep Factor Units: **mL/**

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605034-28A	Soil		0	0	#Num!	1 of 1	
1605034-29A	Soil		0	0	#Num!	1 of 1	
1605034-30A	Soil		0	0	#Num!	1 of 1	

REVIEWED BY
By Janice Whitt at 10:05:55 AM, 5/17/2016

MECHANICAL VOLUMETRIC PIPETTE VOLUME DAILY CHECK - DOD QSM 5.0

ANALYST:	CVD	**BALANCE #:**	26	
TEST DATE:	05/09/2016	**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**

PIPETTE ID: P-01	TEST VOLUME (mL)	TOTAL WT (g)	Volume of H_2O at °C	% TEST VOL (98-102%)	BIAS MEAN CRITERIA (± 2%)	PRECISION % RSD Calculated
1	5.00	5.0082	4.9982	99.96	PASS	RSD MUST BE ≤ 1% OF TEST VOLUME VALUE
2		5.0095	4.9995	99.99		
3		5.0106	5.0006	100.01		
AVERAGE (MEAN)		5.009	4.999	99.99		0.024
						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	0.2037	0.2033	101.65	PASS	RSD MUST BE ≤ 1% OF TEST VOLUME VALUE
2		0.2026	0.2022	101.10		
3		0.2031	0.2027	101.35		
AVERAGE (MEAN)		0.203	0.203	101.36		0.271
						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)						

5/9/16

Analyst / Date

REVIEWED BY
By Janice Whitt at 10:05:47 AM, 5/17/2016

Review and Approved / Date

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/9/2016 10:07:59 AM**
Digestion: **Start: 5/9/2016 11:58:00 AM / Stop: 5/9/2016 5:18:00 PM**
Prep End Date: **5/9/2016 5:22:12 PM**

Prep Batch **75006** Prep Code: **3050_IDOD** Technician: **Cassie Van Dyke**

Prep Factor Units: **mL/g**

Equipment List

- Hot Block #3
- Thermometer #71
- Balance #30
- Pipette #P-01
- Pipette#-P-09

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605034-01A	Soil		1.04	50	48.077	1 of 1	
1605034-02A	Soil		1.04	50	48.077	1 of 1	
1605034-03A	Soil		1.02	50	49.020	1 of 1	
1605034-04A	Soil		1	50	50.000	1 of 1	
1605034-05A	Soil		1.04	50	48.077	1 of 1	
1605034-06A	Soil		1.04	50	48.077	1 of 1	
1605034-07A	Soil		1.08	50	46.296	1 of 1	
1605034-08A	Soil		1.04	50	48.077	1 of 1	
1605034-09A	Soil		1.03	50	48.544	of 3	
1605034-09A MS	Soil		1.05	50	47.619	of	
1605034-09A MSD	Soil		1.04	50	48.077	of	
1605034-09A PDS	Soil		1.03	50	48.544	of	
1605034-09A SD	Soil		1.03	50	48.544	of	
1605034-10A	Soil		1.03	50	48.544	1 of 1	
1605034-11A	Soil		1.03	50	48.544	1 of 1	
1605034-12A	Soil		1.1	50	45.455	1 of 1	
1605034-13A	Soil		1.01	50	49.505	1 of 1	
1605034-14A	Soil		1.01	50	49.505	1 of 1	
1605034-15A	Soil		1.02	50	49.020	1 of 1	
1605034-16A	Soil		1.1	50	45.455	1 of 1	
1605034-17A	Soil		1.08	50	46.296	1 of 1	
1605034-18A	Soil		1.07	50	46.729	1 of 1	
1605034-19A	Soil		1.05	50	47.619	1 of 1	
1605034-20A	Soil		1.05	50	47.619	1 of 1	
LCS-75006	Soil		1	50	50.000	of	
LCSD-75006	Soil		1	50	50.000	of	
MB-75006	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-160428-05	50 PPM Custom+Sn,Ti,B,Mo,Sr CAL	LCS/MS/MSD	1	07/27/2016
MET-SPIKE-160509-4	50 PPM Sb+Ag CAL	LCS/MS/MSD	1	08/07/2016

REVIEWED BY
By Janice Whitt at 10:05:44 AM, 5/17/2016

MECHANICAL VOLUMETRIC PIPETTE VOLUME DAILY CHECK - DOD QSM 5.0

ANALYST:	Ryan Oliver	**BALANCE #:**	30	
TEST DATE:	05/16/2016	**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

PIPETTE ID: P-31	TEST VOLUME (mL)	TOTAL WT (g)	Volume of H_2O at °C	% TEST VOL (98-102%)	BIAS MEAN CRITERIA (± 2%)	PRECISION % RSD Calculated
1	5.00	5.0027	4.9927	99.85	PASS	RSD MUST BE ≤ 1% OF TEST VOLUME VALUE
2		5.0063	4.9963	99.93		
3		5.0105	5.0005	100.01		
AVERAGE (MEAN)		5.007	4.996	99.93		0.078
						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	0.9989	0.9969	99.69	PASS	RSD MUST BE ≤ 1% OF TEST VOLUME VALUE
2		1.0016	0.9996	99.96		
3		1.0024	1.0004	100.04		
AVERAGE (MEAN)		1.001	0.999	99.90		0.183
						PASS

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	0.500	0.5002	0.4992	99.84	PASS	RSD MUST BE ≤ 1% OF TEST VOLUME VALUE
2		0.5041	0.5031	100.62		
3		0.5032	0.5022	100.44		
AVERAGE (MEAN)		0.503	0.501	100.30		0.406
						PASS

5/16/16

Analyst / Date

REVIEWED BY
By Janice Whitt at 10:06:04 AM, 5/17/2016

Review and Approved / Date

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/9/2016 10:24:29 AM**
Digestion:
Prep End Date:

Prep Batch **75009** Prep Code: **3050_IDOD** Technician: **Will Boston**

Prep Factor Units: **mL/g**

Equipment List
Hot Block #3
Thermometer #71
Balance #30
Pipette #P-01
Pipette#-P-09

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #			Cleanup
1605034-21A	Soil		1 .03	50	50.000	1	of	1	
1605034-22A	Soil		1 .04	50	50.000	1	of	1	
1605034-23A	Soil		1 .13	50	50.000	1	of	1	
1605034-24A	Soil		1 .10	50	50.000	1	of	1	
1605034-25A	Soil		1 .12	50	50.000	1	of	1	
1605034-26A	Soil		1 .11	50	50.000	1	of	1	
1605034-27A	Soil		1 .19	50	50.000	1	of	1	
1605034-28A	Soil		1 .17	50	50.000	1	of	1	
1605034-29A	Soil		1 .01	50	50.000	1	of	1	
1605034-30A	Soil		1 .03	50	50.000	1	of	1	
1605047-01A	Soil		1 .13	50	50.000	1	of	1	
1605047-02A	Soil		1 .07	50	50.000	1	of	1	
1605047-03A	Soil		1 .13	50	50.000	2	of	3	
1605047-03AMS	Soil		1 .18	50	50.000	2	of	3	
1605047-03AMSD	Soil		1 .20	50	50.000	2	of	3	
1605047-04A	Soil		1 .14	50	50.000	1	of	1	
1605047-05A	Soil		1 .16	50	50.000	1	of	1	
1605047-06A	Soil		1 .07	50	50.000	1	of	1	
1605047-07A	Soil		1 .01	50	50.000	1	of	1	
1605047-08A	Soil		1 .03	50	50.000	1	of	1	
1605047-09A	Soil		1 .19	50	50.000	1	of	1	
WB 05/09 1605047-10A	Soil		1 ~~.19~~ .17	50	50.000	1	of	1	
LCS-75009	Soil		1	50	50.000		of		
LCSD-75009	Soil		1	50	50.000		of		
MB-75009	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	Samp Type	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-160428-05	50 PPM Custom+Sn,Ti,B,Mo,Sr CAL	LCS/MS/MSD	1	07/27/2016
MET-SPIKE-160509-4	50 PPM Sb+Ag CAL	LCS/MS/MSD	1	08/07/2016

11:58 - 12:08
12:11 - 14:11
14:40 - 16:40
~~17:00 - 17:15~~
17:04 - 17:19

REVIEWED BY
By Janice Whitt at 10:07:20 AM, 5/17/2016

WBoston 5/9/16

L Va Ryle 5/9/16

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/4/2016 2:45:00 PM**
Digestion: **Start: 5/4/2016 3:45:00 PM / Stop: 5/6/2016 9:30:00 AM**
Prep End Date: **5/6/2016 5:00:00 PM**

Prep Batch **74956** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker** Prep Factor Units: **mL/**

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #			Cleanup
1605034-01A	Soil		0	0	#Num!	1	of	1	
1605034-02A	Soil		0	0	#Num!	1	of	1	
1605034-03A	Soil		0	0	#Num!	1	of	1	
1605034-04A	Soil		0	0	#Num!	1	of	1	
1605034-05A	Soil		0	0	#Num!	1	of	1	
1605034-06A	Soil		0	0	#Num!	1	of	1	
1605034-07A	Soil		0	0	#Num!	1	of	1	
1605034-08A	Soil		0	0	#Num!	1	of	1	
1605034-09A	Soil		0	0	#Num!		of	3	
1605034-10A	Soil		0	0	#Num!	1	of	1	
1605034-11A	Soil		0	0	#Num!	1	of	1	
1605034-12A	Soil		0	0	#Num!	1	of	1	
1605034-13A	Soil		0	0	#Num!	1	of	1	
1605034-14A	Soil		0	0	#Num!	1	of	1	
1605034-15A	Soil		0	0	#Num!	1	of	1	
1605034-16A	Soil		0	0	#Num!	1	of	1	
1605034-17A	Soil		0	0	#Num!	1	of	1	
1605034-18A	Soil		0	0	#Num!	1	of	1	
1605034-19A	Soil		0	0	#Num!	1	of	1	
1605034-20A	Soil		0	0	#Num!	1	of	1	
1605034-21A	Soil		0	0	#Num!	1	of	1	
1605034-22A	Soil		0	0	#Num!	1	of	1	
1605034-23A	Soil		0	0	#Num!	1	of	1	
1605034-24A	Soil		0	0	#Num!	1	of	1	
1605034-25A	Soil		0	0	#Num!	1	of	1	
1605034-26A	Soil		0	0	#Num!	1	of	1	
1605034-27A	Soil		0	0	#Num!	1	of	1	

REVIEWED BY
By Janice Whitt at 10:07:26 AM, 5/17/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/4/2016 2:45:00 PM**
Digestion: **Start: 5/4/2016 3:45:00 PM / Stop: 5/6/2016 9:30:00 AM**
Prep End Date: **5/6/2016 5:00:00 PM**

Prep Batch **74956** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker** Prep Factor Units: **mL/**

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605034-28A	Soil		0	0	#Num!	1 of 1	
1605034-29A	Soil		0	0	#Num!	1 of 1	
1605034-30A	Soil		0	0	#Num!	1 of 1	

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By Janice Whitt at 10:07:28 AM, 5/17/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/5/2016 2:00:00 PM**
Digestion: **Start: 5/5/2016 5:00:00 PM / Stop: 5/7/2016 9:00:00 AM**
Prep End Date: **5/7/2016 3:30:00 PM**

Prep Batch **74972** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker** Prep Factor Units: **mL/**

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #			Cleanup
1605047-01A	Soil		0	0	#Num!	1	of	1	
1605047-02A	Soil		0	0	#Num!	1	of	1	
1605047-03A	Soil		0	0	#Num!		of	3	
1605047-04A	Soil		0	0	#Num!	1	of	1	
1605047-05A	Soil		0	0	#Num!	1	of	1	
1605047-06A	Soil		0	0	#Num!	1	of	1	
1605047-07A	Soil		0	0	#Num!	1	of	1	
1605047-08A	Soil		0	0	#Num!	1	of	1	
1605047-09A	Soil		0	0	#Num!	1	of	1	
1605047-10A	Soil		0	0	#Num!	1	of	1	
1605047-11A	Soil		0	0	#Num!	1	of	1	
1605047-12A	Soil		0	0	#Num!	1	of	1	
1605047-13A	Soil		0	0	#Num!	1	of	1	
1605047-14A	Soil		0	0	#Num!	1	of	1	
1605047-15A	Soil		0	0	#Num!	1	of	1	
1605047-16A	Soil		0	0	#Num!	1	of	1	
1605047-17A	Soil		0	0	#Num!	1	of	1	
1605047-18A	Soil		0	0	#Num!	1	of	1	
1605047-19A	Soil		0	0	#Num!	1	of	1	
1605047-20A	Soil		0	0	#Num!	1	of	1	
1605047-21A	Soil		0	0	#Num!	1	of	1	
1605047-22A	Soil		0	0	#Num!	1	of	1	
1605047-23A	Soil		0	0	#Num!	1	of	1	
1605047-24A	Soil		0	0	#Num!		of	3	
1605047-25A	Soil		0	0	#Num!	1	of	1	
1605047-26A	Soil		0	0	#Num!	1	of	1	
1605047-27A	Soil		0	0	#Num!	1	of	1	

REVIEWED BY
By Janice Whitt at 10:07:32 AM, 5/17/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/5/2016 2:00:00 PM**
Digestion: **Start: 5/5/2016 5:00:00 PM / Stop: 5/7/2016 9:00:00 AM**
Prep End Date: **5/7/2016 3:30:00 PM**

Prep Batch **74972** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker** Prep Factor Units: **mL/**

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605047-28A	Soil		0	0	#Num!	1 of 1	
1605047-29A	Soil		0	0	#Num!	1 of 1	
1605047-30A	Soil		0	0	#Num!	1 of 1	

REVIEWED BY
By Janice Whitt at 10:07:36 AM, 5/17/2016

MECHANICAL VOLUMETRIC PIPETTE VOLUME DAILY CHECK - DOD QSM 5.0

ANALYST:	CVD	**BALANCE #:**	26	
TEST DATE:	05/09/2016	**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**

PIPETTE ID: P-01	TEST VOLUME (mL)	TOTAL WT (g)	Volume of H_2O at °C	% TEST VOL (98-102%)	BIAS MEAN CRITERIA (± 2%)	PRECISION % RSD Calculated
1	5.00	5.0082	4.9982	99.96	PASS	RSD MUST BE ≤ 1% OF TEST VOLUME VALUE
2		5.0095	4.9995	99.99		
3		5.0106	5.0006	100.01		
AVERAGE (MEAN)		5.009	4.999	99.99		0.024
						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	0.2037	0.2033	101.65	PASS	RSD MUST BE ≤ 1% OF TEST VOLUME VALUE
2		0.2026	0.2022	101.10		
3		0.2031	0.2027	101.35		
AVERAGE (MEAN)		0.203	0.203	101.36		0.271
						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)						

5/9/16

Analyst / Date

REVIEWED BY
By Janice Whitt at 10:07:40 AM, 5/17/2016

Review and Approved / Date

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/9/2016 10:24:29 AM**
Digestion: **Start: 5/9/2016 11:58:00 AM / Stop: 5/9/2016 5:19:00 PM**
Prep End Date: **5/9/2016 5:21:08 PM**

Prep Batch **75009** Prep Code: **3050_IDOD** Technician: **Will Boston**

Prep Factor Units: **mL/g**

Equipment List
Hot Block #3
Thermometer #71
Balance #30
Pipette #P-01
Pipette#-P-09

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #			Cleanup
1605034-21A	Soil		1.03	50	48.544	1	of	1	
1605034-22A	Soil		1.04	50	48.077	1	of	1	
1605034-23A	Soil		1.13	50	44.248	1	of	1	
1605034-24A	Soil		1.1	50	45.455	1	of	1	
1605034-25A	Soil		1.12	50	44.643	1	of	1	
1605034-26A	Soil		1.11	50	45.045	1	of	1	
1605034-27A	Soil		1.19	50	42.017	1	of	1	
1605034-28A	Soil		1.17	50	42.735	1	of	1	
1605034-29A	Soil		1.01	50	49.505	1	of	1	
1605034-30A	Soil		1.03	50	48.544	1	of	1	
1605047-01A	Soil		1.13	50	44.248	1	of	1	
1605047-02A	Soil		1.07	50	46.729	1	of	1	
1605047-03A	Soil		1.13	50	44.248	2	of	3	
1605047-03A MS	Soil		1.18	50	42.373	2	of		
1605047-03A MSD	Soil		1.2	50	41.667	2	of		
1605047-03A PDS	Soil		1.13	50	44.248	2	of		
1605047-03A SD	Soil		1.13	50	44.248	2	of		
1605047-04A	Soil		1.14	50	43.860	1	of	1	
1605047-05A	Soil		1.16	50	43.103	1	of	1	
1605047-06A	Soil		1.02	50	49.020	1	of	1	
1605047-07A	Soil		1.01	50	49.505	1	of	1	
1605047-08A	Soil		1.03	50	48.544	1	of	1	
1605047-09A	Soil		1.19	50	42.017	1	of	1	
1605047-10A	Soil		1.17	50	42.735	1	of	1	
LCS-75009	Soil		1	50	50.000		of		
LCSD-75009	Soil		1	50	50.000		of		
MB-75009	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-160428-05	50 PPM Custom+Sn,Ti,B,Mo,Sr CAL	LCS/MS/MSD	1	07/27/2016
MET-SPIKE-160509-4	50 PPM Sb+Ag CAL	LCS/MS/MSD	1	08/07/2016

REVIEWED BY
By Janice Whitt at 10:07:47 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

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By Janice Whitt at 9:32:33 AM, 5/17/2016

Calibration Summary Report

Level 7 Cal

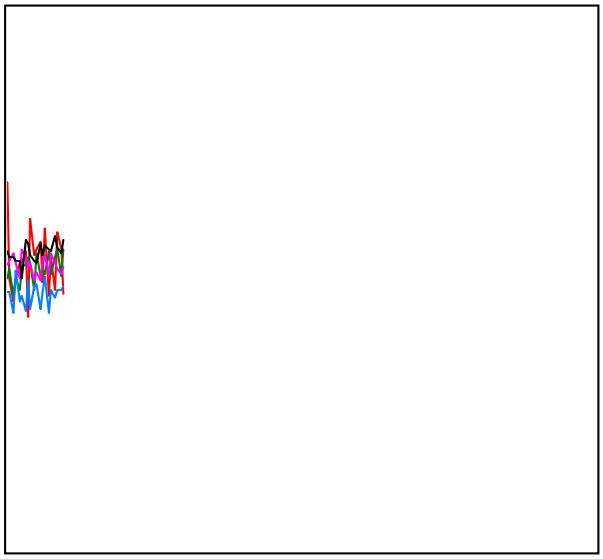
Ele	Conc	Calc	%Rec
As	500	494.73	99
Be	500	505.30	101
B	500	518.78	104
Na	10000	10141.06	101
Mg	10000	10196.11	102
Al	10000	10049.08	100
K	10000	10164.23	102
Ca	10000	9672.61	97
Ti	500	507.22	101
V	500	502.82	101
Cr	500	504.88	101
Mn	500	498.41	100
Fe	10000	10015.95	100
Co	500	501.56	100
Ni	500	502.25	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		

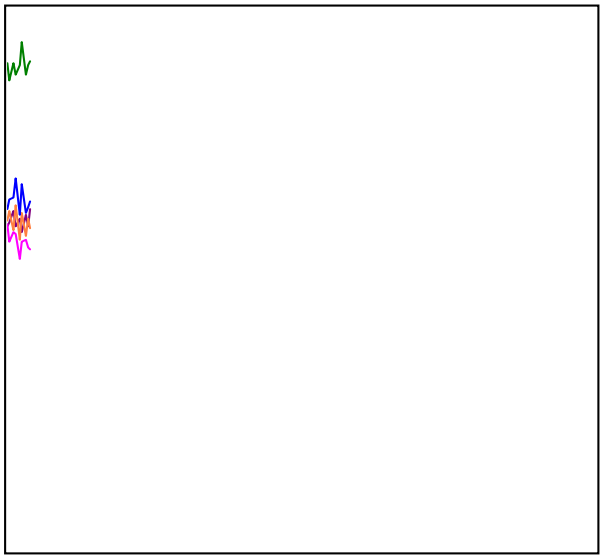
Cell Parameters

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

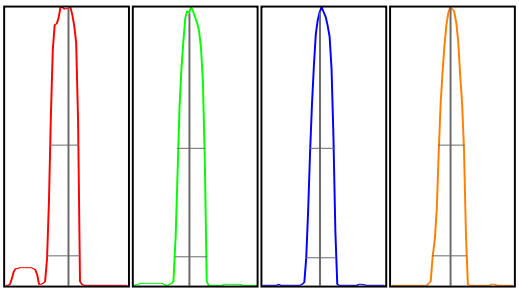
Batch Folder C:\Agilent\ICPMH\1\DATA\DHL TEMPLATE Li.b
Report Comment
Instrument Name ICPMS4 JP12361998

[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	

Sample Report

Date Acquired	5/16/16 1:18 PM	Sample Name	1605034-09A
Data Batch	160516.b	Comment	SAMPICPMS_TSDOD1
Data File Name	060_ARF.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	134.836	6298	1.64	2000	>RL
9	Be	45	3.289	205	3.47	2000	>RL
11	B	45	175.056	3574	5.23	2000	>RL
23	Na	45	6535.801	4837561	3.67	25000	>RL
24	Mg	45	16837.313	6096389	0.80	25000	>RL
27	Al	45	73374.553	9489111	2.05	10000	OUTCAL
39	K	45	17339.361	6380468	2.49	25000	>RL
44	Ca	45	60377.355	1256718	0.78	25000	OUTCAL
47	Ti	45	169.937	23709	1.79	2000	>RL
51	V	45	120.871	579621	0.52	2000	>RL
52	Cr	45	83.870	482145	0.64	2000	>RL
55	Mn	45	139.325	429445	0.91	2000	>RL
56	Fe	45	98301.091	482636532	0.86	10000	OUTCAL
59	Co	72	19.364	176037	1.04	2000	>RL
60	Ni	72	36.951	92926	2.23	2000	>RL
63	Cu	72	15.482	110462	2.10	2000	>RL
66	Zn	72	213.668	240033	0.38	2000	>RL
75	As	72	22.092	21127	0.42	2000	>RL
78	Se	72	4.849	330	5.95	2000	>RL
88	Sr	115	658.053	2661100	1.02	2000	>RL
95	Mo	115	0.766	2894	4.53	2000	
107	Ag	115	0.035	502	25.97	500	
111	Cd	115	0.100	178	31.89	2000	
118	Sn	115	5.391	19825	2.33	2000	>RL
121	Sb	115	0.183	1173	10.94	500	
137	Ba	115	81.464	137631	1.50	2000	>RL
205	Tl	209	0.422	10515	3.37	2000	
208	Pb	209	42.158	1382708	1.01	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	958097	0.26	989663	96.81	70	120	
72	Ge	705137	0.11	739879	95.30	70	120	
115	In	6276723	0.36	6565136	95.61	70	120	
209	Bi	15079397	0.73	15222533	99.06	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	

Sample Report

Date Acquired	5/16/16 1:22 PM	Sample Name	1605034-01A
Data Batch	160516.b	Comment	SAMPICPMS_TSDOD1
Data File Name	062SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	98.839	4525	2.14	2000	>RL
9	Be	45	3.166	193	8.84	2000	>RL
11	B	45	127.757	2591	5.17	2000	>RL
23	Na	45	2534.084	1867314	1.27	25000	>RL
24	Mg	45	15055.583	5337293	0.89	25000	>RL
27	Al	45	70321.605	8903888	0.24	10000	OUTCAL
39	K	45	14999.586	5410972	2.15	25000	>RL
44	Ca	45	153760.110	3133059	0.71	25000	OUTCAL
47	Ti	45	231.270	31588	1.12	2000	>RL
51	V	45	124.469	584282	0.43	2000	>RL
52	Cr	45	74.871	421598	0.54	2000	>RL
55	Mn	45	619.963	1867885	0.53	2000	>RL
56	Fe	45	91121.502	438009983	1.06	10000	OUTCAL
59	Co	72	30.220	272053	0.79	2000	>RL
60	Ni	72	48.765	121346	1.87	2000	>RL
63	Cu	72	17.910	126035	1.65	2000	>RL
66	Zn	72	226.534	252055	1.05	2000	>RL
75	As	72	27.719	26218	0.63	2000	>RL
78	Se	72	7.668	476	4.19	2000	>RL
88	Sr	115	923.375	3730525	0.46	2000	>RL
95	Mo	115	2.367	8843	0.36	2000	>RL
107	Ag	115	0.087	1113	5.46	500	
111	Cd	115	0.253	436	16.37	2000	
118	Sn	115	5.015	18507	1.83	2000	>RL
121	Sb	115	2.954	15992	1.07	500	>RL
137	Ba	115	377.882	637727	0.61	2000	>RL
205	Tl	209	0.668	16511	2.33	2000	
208	Pb	209	191.688	6292269	0.64	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	938047	0.77	989663	94.78	70	120	
72	Ge	698442	0.63	739879	94.40	70	120	
115	In	6274127	2.91	6565136	95.57	70	120	
209	Bi	15133569	1.79	15222533	99.42	70	120	

Sample Report

Date Acquired	5/16/16 1:24 PM	Sample Name	1605034-02A
Data Batch	160516.b	Comment	SAMPICPMS_TSDOD1
Data File Name	063SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	113.910	5131	2.61	2000	>RL
9	Be	45	3.656	219	8.08	2000	>RL
11	B	45	128.075	2558	4.49	2000	>RL
23	Na	45	2682.998	1943752	0.98	25000	>RL
24	Mg	45	15358.572	5361228	2.01	25000	>RL
27	Al	45	66139.420	8246356	2.14	10000	OUTCAL
39	K	45	14274.185	5072372	1.47	25000	>RL
44	Ca	45	223974.360	4493539	0.67	25000	OUTCAL
47	Ti	45	220.155	29608	0.59	2000	>RL
51	V	45	115.099	532204	1.82	2000	>RL
52	Cr	45	71.813	398254	0.94	2000	>RL
55	Mn	45	943.587	2798929	0.85	2000	>RL
56	Fe	45	98520.104	466317226	1.01	10000	OUTCAL
59	Co	72	41.833	369190	0.47	2000	>RL
60	Ni	72	52.577	128245	1.31	2000	>RL
63	Cu	72	12.846	89584	0.96	2000	>RL
66	Zn	72	250.281	273009	1.91	2000	>RL
75	As	72	22.766	21137	1.38	2000	>RL
78	Se	72	6.091	385	7.18	2000	>RL
88	Sr	115	990.132	4008883	0.65	2000	>RL
95	Mo	115	2.076	7778	2.90	2000	>RL
107	Ag	115	0.042	584	6.80	500	
111	Cd	115	0.253	437	8.60	2000	
118	Sn	115	4.724	17535	1.29	2000	>RL
121	Sb	115	0.263	1603	5.94	500	
137	Ba	115	177.354	299965	1.11	2000	>RL
205	Tl	209	0.792	18964	0.09	2000	
208	Pb	209	34.378	1099944	1.04	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	923627	0.50	989663	93.33	70	120	
72	Ge	684814	0.89	739879	92.56	70	120	
115	In	6284554	0.42	6565136	95.73	70	120	
209	Bi	14700454	2.20	15222533	96.57	70	120	

Sample Report

Date Acquired	5/16/16 1:26 PM	Sample Name	1605034-03A
Data Batch	160516.b	Comment	SAMPICPMS_TSDOD1
Data File Name	064SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	158.188	6994	1.02	2000	>RL
9	Be	45	3.503	206	4.66	2000	>RL
11	B	45	137.339	2685	1.24	2000	>RL
23	Na	45	2784.734	1979891	0.25	25000	>RL
24	Mg	45	18569.646	6367278	2.14	25000	>RL
27	Al	45	63865.769	7822046	1.36	10000	OUTCAL
39	K	45	13210.099	4614656	0.42	25000	>RL
44	Ca	45	180475.434	3556943	0.65	25000	OUTCAL
47	Ti	45	212.512	28076	0.46	2000	>RL
51	V	45	109.954	499506	0.76	2000	>RL
52	Cr	45	70.645	384885	0.64	2000	>RL
55	Mn	45	2359.832	6875070	0.67	2000	OUTCAL
56	Fe	45	96461.468	448487769	0.75	10000	OUTCAL
59	Co	72	85.328	745928	0.57	2000	>RL
60	Ni	72	101.605	245143	1.23	2000	>RL
63	Cu	72	13.883	95648	1.57	2000	>RL
66	Zn	72	275.919	298141	0.85	2000	>RL
75	As	72	22.382	20590	1.24	2000	>RL
78	Se	72	6.532	404	6.69	2000	>RL
88	Sr	115	2865.703	11373213	1.86	2000	OUTCAL
95	Mo	115	3.934	14405	1.72	2000	>RL
107	Ag	115	0.047	627	2.44	500	
111	Cd	115	0.323	544	6.16	2000	
118	Sn	115	4.725	17192	1.73	2000	>RL
121	Sb	115	0.468	2648	4.11	500	
137	Ba	115	158.541	262836	0.58	2000	>RL
205	Tl	209	0.670	16071	2.25	2000	
208	Pb	209	68.302	2180125	0.60	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	907315	0.56	989663	91.68	70	120	
72	Ge	678427	0.71	739879	91.69	70	120	
115	In	6161933	2.60	6565136	93.86	70	120	
209	Bi	14694994	1.32	15222533	96.53	70	120	

Sample Report

Date Acquired	5/16/16 1:28 PM	Sample Name	1605034-04A
Data Batch	160516.b	Comment	SAMPICPMS_TSDOD1
Data File Name	065SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	132.283	6058	0.71	2000	>RL
9	Be	45	3.417	208	9.31	2000	>RL
11	B	45	181.429	3627	3.89	2000	>RL
23	Na	45	6579.917	4774551	0.26	25000	>RL
24	Mg	45	16722.408	5936352	0.53	25000	>RL
27	Al	45	74186.355	9408711	3.83	10000	OUTCAL
39	K	45	16513.757	5961234	2.78	25000	>RL
44	Ca	45	62307.423	1271591	1.66	25000	OUTCAL
47	Ti	45	192.060	26272	1.53	2000	>RL
51	V	45	125.694	590869	0.85	2000	>RL
52	Cr	45	85.352	481052	1.59	2000	>RL
55	Mn	45	518.394	1564358	1.33	2000	>RL
56	Fe	45	100011.044	481446096	1.29	10000	OUTCAL
59	Co	72	25.191	226396	1.23	2000	>RL
60	Ni	72	50.510	125454	1.61	2000	>RL
63	Cu	72	15.477	109192	1.33	2000	>RL
66	Zn	72	248.176	275614	0.83	2000	>RL
75	As	72	23.627	22329	0.33	2000	>RL
78	Se	72	5.595	366	7.09	2000	>RL
88	Sr	115	692.119	2766640	1.24	2000	>RL
95	Mo	115	0.909	3387	3.22	2000	
107	Ag	115	0.034	488	7.62	500	
111	Cd	115	0.068	123	27.03	2000	
118	Sn	115	5.367	19508	0.18	2000	>RL
121	Sb	115	0.127	864	8.94	500	
137	Ba	115	82.397	137603	0.87	2000	>RL
205	Tl	209	0.411	9817	5.73	2000	
208	Pb	209	40.512	1273285	0.90	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	939393	1.15	989663	94.92	70	120	
72	Ge	697220	1.11	739879	94.23	70	120	
115	In	6206118	2.46	6565136	94.53	70	120	
209	Bi	14447438	0.38	15222533	94.91	70	120	

Sample Report

Date Acquired	5/16/16 1:30 PM	Sample Name	1605034-05A
Data Batch	160516.b	Comment	SAMPICPMS_TSDOD1
Data File Name	066SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	104.983	4696	1.23	2000	>RL
9	Be	45	3.445	205	5.99	2000	>RL
11	B	45	178.034	3476	2.85	2000	>RL
23	Na	45	7712.030	5453783	3.51	25000	>RL
24	Mg	45	28502.253	9875163	1.73	25000	OUTCAL
27	Al	45	66059.479	8175398	2.35	10000	OUTCAL
39	K	45	15550.620	5481022	0.75	25000	>RL
44	Ca	45	97477.863	1941463	0.54	25000	OUTCAL
47	Ti	45	191.025	25503	1.31	2000	>RL
51	V	45	111.235	510640	0.36	2000	>RL
52	Cr	45	75.828	417335	0.08	2000	>RL
55	Mn	45	2197.154	6468569	2.30	2000	OUTCAL
56	Fe	45	86820.432	407916739	2.19	10000	OUTCAL
59	Co	72	34.599	302807	1.03	2000	>RL
60	Ni	72	76.058	183770	0.87	2000	>RL
63	Cu	72	13.006	89892	1.01	2000	>RL
66	Zn	72	286.422	309749	1.29	2000	>RL
75	As	72	23.134	21296	1.60	2000	>RL
78	Se	72	7.533	455	3.81	2000	>RL
88	Sr	115	300.221	1187806	0.61	2000	>RL
95	Mo	115	1.297	4764	2.42	2000	
107	Ag	115	0.035	488	13.40	500	
111	Cd	115	0.654	1089	5.49	2000	>RL
118	Sn	115	5.193	18727	0.92	2000	>RL
121	Sb	115	0.184	1154	7.97	500	
137	Ba	115	103.509	171107	1.26	2000	>RL
205	Tl	209	0.761	18026	1.69	2000	
208	Pb	209	43.499	1375602	0.53	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	916869	0.33	989663	92.64	70	120	
72	Ge	679023	0.50	739879	91.77	70	120	
115	In	6144237	2.78	6565136	93.59	70	120	
209	Bi	14540738	1.36	15222533	95.52	70	120	

Sample Report

Date Acquired	5/16/16 1:32 PM	Sample Name	1605034-06A
Data Batch	160516.b	Comment	SAMPICPMS_TSDOD1
Data File Name	067SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	95.680	4150	1.67	2000	>RL
9	Be	45	3.497	202	15.38	2000	>RL
11	B	45	110.745	2147	9.29	2000	>RL
23	Na	45	757.113	561974	1.32	25000	>RL
24	Mg	45	14562.873	4890892	1.16	25000	>RL
27	Al	45	67750.510	8127009	1.55	10000	OUTCAL
39	K	45	14479.206	4949761	0.28	25000	>RL
44	Ca	45	148705.441	2870649	0.29	25000	OUTCAL
47	Ti	45	303.840	39316	0.95	2000	>RL
51	V	45	121.116	538710	0.29	2000	>RL
52	Cr	45	71.809	383163	0.21	2000	>RL
55	Mn	45	843.292	2406904	0.82	2000	>RL
56	Fe	45	78822.437	358969977	1.64	10000	OUTCAL
59	Co	72	35.639	304499	0.73	2000	>RL
60	Ni	72	54.636	128994	0.26	2000	>RL
63	Cu	72	22.828	151574	0.63	2000	>RL
66	Zn	72	255.996	270317	0.31	2000	>RL
75	As	72	23.758	21350	0.96	2000	>RL
78	Se	72	5.989	367	2.57	2000	>RL
88	Sr	115	763.611	3008636	0.21	2000	>RL
95	Mo	115	2.183	7955	3.33	2000	>RL
107	Ag	115	0.094	1162	5.46	500	
111	Cd	115	0.438	729	5.64	2000	>RL
118	Sn	115	4.770	17215	2.74	2000	>RL
121	Sb	115	2.272	12040	1.81	500	>RL
137	Ba	115	497.575	818915	0.24	2000	>RL
205	Tl	209	0.648	15239	1.67	2000	
208	Pb	209	147.906	4620967	0.35	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	888689	0.36	989663	89.80	70	120	
72	Ge	662954	0.67	739879	89.60	70	120	
115	In	6115723	0.65	6565136	93.15	70	120	
209	Bi	14400017	1.10	15222533	94.60	70	120	

Sample Report

Date Acquired	5/16/16 1:34 PM	Sample Name	1605034-07A
Data Batch	160516.b	Comment	SAMPICPMS_TSDOD1
Data File Name	068SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	117.366	5043	1.83	2000	>RL
9	Be	45	3.655	209	8.30	2000	>RL
11	B	45	129.670	2468	7.48	2000	>RL
23	Na	45	1694.619	1188440	1.40	25000	>RL
24	Mg	45	15340.713	5107523	2.42	25000	>RL
27	Al	45	71567.995	8511040	1.72	10000	OUTCAL
39	K	45	14458.255	4899765	0.81	25000	>RL
44	Ca	45	201277.305	3851762	1.43	25000	OUTCAL
47	Ti	45	254.292	32622	2.31	2000	>RL
51	V	45	122.913	541944	1.44	2000	>RL
52	Cr	45	85.476	451802	1.65	2000	>RL
55	Mn	45	646.378	1829016	1.21	2000	>RL
56	Fe	45	90449.026	408329050	1.73	10000	OUTCAL
59	Co	72	36.703	308151	1.25	2000	>RL
60	Ni	72	59.029	136917	0.81	2000	>RL
63	Cu	72	15.670	103255	1.92	2000	>RL
66	Zn	72	246.826	256127	1.31	2000	>RL
75	As	72	25.130	22182	0.78	2000	>RL
78	Se	72	5.760	350	5.92	2000	>RL
88	Sr	115	1556.806	5951849	1.11	2000	>RL
95	Mo	115	1.934	6844	1.86	2000	
107	Ag	115	0.073	892	1.41	500	
111	Cd	115	0.243	397	11.31	2000	
118	Sn	115	4.924	17212	2.29	2000	>RL
121	Sb	115	2.065	10632	1.81	500	>RL
137	Ba	115	331.165	528870	0.91	2000	>RL
205	Tl	209	0.505	11623	0.59	2000	
208	Pb	209	381.281	11577343	0.58	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	880971	0.83	989663	89.02	70	120	
72	Ge	651449	1.26	739879	88.05	70	120	
115	In	5934297	0.90	6565136	90.39	70	120	
209	Bi	14002415	0.74	15222533	91.98	70	120	

Sample Report

Date Acquired	5/16/16 1:36 PM	Sample Name	1605034-08A
Data Batch	160516.b	Comment	SAMPICPMS_TSDOD1
Data File Name	069SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	132.983	5737	1.03	2000	>RL
9	Be	45	3.307	190	5.93	2000	>RL
11	B	45	142.386	2710	6.59	2000	>RL
23	Na	45	2524.241	1754723	0.52	25000	>RL
24	Mg	45	15792.447	5280494	0.87	25000	>RL
27	Al	45	68015.635	8122939	1.03	10000	OUTCAL
39	K	45	13658.629	4652027	1.40	25000	>RL
44	Ca	45	207236.903	3983566	1.51	25000	OUTCAL
47	Ti	45	216.264	27871	3.03	2000	>RL
51	V	45	117.714	521443	1.89	2000	>RL
52	Cr	45	74.307	394723	0.87	2000	>RL
55	Mn	45	516.952	1469488	1.42	2000	>RL
56	Fe	45	87065.868	394802411	0.74	10000	OUTCAL
59	Co	72	33.346	279715	0.47	2000	>RL
60	Ni	72	42.805	99290	1.22	2000	>RL
63	Cu	72	14.940	98510	0.91	2000	>RL
66	Zn	72	237.540	246278	0.64	2000	>RL
75	As	72	21.742	19192	1.54	2000	>RL
78	Se	72	5.341	329	8.29	2000	>RL
88	Sr	115	1323.186	5061749	0.79	2000	>RL
95	Mo	115	1.853	6563	1.60	2000	
107	Ag	115	0.052	662	9.01	500	
111	Cd	115	0.116	194	6.93	2000	
118	Sn	115	4.850	16980	1.13	2000	>RL
121	Sb	115	0.391	2167	4.19	500	
137	Ba	115	135.986	217317	0.67	2000	>RL
205	Tl	209	0.440	10034	0.77	2000	
208	Pb	209	48.780	1468705	1.03	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	884933	1.54	989663	89.42	70	120	
72	Ge	650931	1.48	739879	87.98	70	120	
115	In	5938049	0.96	6565136	90.45	70	120	
209	Bi	13852485	2.45	15222533	91.00	70	120	

Sample Report

Date Acquired	5/16/16 1:38 PM	Sample Name	1605034-10A
Data Batch	160516.b	Comment	SAMPICPMS_TSDOD1
Data File Name	070SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	120.872	5274	1.75	2000	>RL
9	Be	45	3.586	208	16.99	2000	>RL
11	B	45	174.567	3329	3.69	2000	>RL
23	Na	45	8558.533	5901149	1.43	25000	>RL
24	Mg	45	18972.742	6416262	3.39	25000	>RL
27	Al	45	67680.484	8174560	1.96	10000	OUTCAL
39	K	45	15323.062	5271295	0.87	25000	>RL
44	Ca	45	90552.184	1760026	1.11	25000	OUTCAL
47	Ti	45	168.265	21923	3.33	2000	>RL
51	V	45	115.929	519233	0.13	2000	>RL
52	Cr	45	78.320	420586	0.79	2000	>RL
55	Mn	45	1727.205	4962161	0.30	2000	>RL
56	Fe	45	114019.156	522774379	0.21	10000	OUTCAL
59	Co	72	58.296	495439	0.81	2000	>RL
60	Ni	72	83.758	196513	0.20	2000	>RL
63	Cu	72	14.760	98644	0.33	2000	>RL
66	Zn	72	325.936	342309	1.29	2000	>RL
75	As	72	27.110	24213	0.45	2000	>RL
78	Se	72	9.656	548	3.22	2000	>RL
88	Sr	115	341.384	1309509	0.94	2000	>RL
95	Mo	115	2.115	7505	3.10	2000	>RL
107	Ag	115	0.040	528	6.20	500	
111	Cd	115	0.381	618	4.87	2000	
118	Sn	115	4.986	17470	1.58	2000	>RL
121	Sb	115	0.233	1369	8.06	500	
137	Ba	115	99.757	159859	1.00	2000	>RL
205	Tl	209	0.596	13433	1.05	2000	
208	Pb	209	51.089	1530097	1.29	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	894747	0.87	989663	90.41	70	120	
72	Ge	659506	1.05	739879	89.14	70	120	
115	In	5955151	1.62	6565136	90.71	70	120	
209	Bi	13777646	1.55	15222533	90.51	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	

Sample Report

Date Acquired	5/16/16 2:00 PM	Sample Name	1605034-11A
Data Batch	160516.b	Comment	SAMPICPMS_TSDOD1
Data File Name	078SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	109.629	4742	0.82	2000	>RL
9	Be	45	4.451	256	6.48	2000	>RL
11	B	45	121.700	2340	1.97	2000	>RL
23	Na	45	1930.272	1355917	0.56	25000	>RL
24	Mg	45	16246.694	5444176	2.19	25000	>RL
27	Al	45	73668.918	8817545	1.73	10000	OUTCAL
39	K	45	15927.209	5428280	1.38	25000	>RL
44	Ca	45	124839.463	2404696	1.00	25000	OUTCAL
47	Ti	45	284.353	36715	1.05	2000	>RL
51	V	45	132.924	589720	0.93	2000	>RL
52	Cr	45	76.064	404877	1.22	2000	>RL
55	Mn	45	1060.460	3019877	1.29	2000	>RL
56	Fe	45	99264.948	451067591	0.65	10000	OUTCAL
59	Co	72	58.627	497203	0.28	2000	>RL
60	Ni	72	79.428	185987	0.49	2000	>RL
63	Cu	72	18.840	124753	0.56	2000	>RL
66	Zn	72	325.821	341458	0.86	2000	>RL
75	As	72	31.186	27776	1.04	2000	>RL
78	Se	72	9.301	529	6.57	2000	>RL
88	Sr	115	631.475	2370512	0.69	2000	>RL
95	Mo	115	2.447	8490	1.42	2000	>RL
107	Ag	115	0.071	858	5.90	500	
111	Cd	115	0.370	588	14.36	2000	
118	Sn	115	4.830	16598	2.15	2000	>RL
121	Sb	115	2.085	10539	2.98	500	>RL
137	Ba	115	480.597	753599	0.59	2000	>RL
205	Tl	209	0.749	16917	0.22	2000	
208	Pb	209	199.441	5992497	0.18	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	886744	0.39	989663	89.60	70	120	
72	Ge	658112	0.38	739879	88.95	70	120	
115	In	5826639	0.16	6565136	88.75	70	120	
209	Bi	13851120	0.62	15222533	90.99	70	120	

Sample Report

Date Acquired	5/16/16 2:02 PM	Sample Name	1605034-12A
Data Batch	160516.b	Comment	SAMPICPMS_TSDOD1
Data File Name	079SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	127.557	5426	1.97	2000	>RL
9	Be	45	3.729	211	4.10	2000	>RL
11	B	45	130.294	2456	4.11	2000	>RL
23	Na	45	1963.764	1356104	0.99	25000	>RL
24	Mg	45	15457.038	5095188	2.04	25000	>RL
27	Al	45	66130.387	7786764	0.66	10000	OUTCAL
39	K	45	14822.574	4972664	0.47	25000	>RL
44	Ca	45	243972.510	4622657	0.29	25000	OUTCAL
47	Ti	45	182.628	23196	1.26	2000	>RL
51	V	45	114.292	499103	0.97	2000	>RL
52	Cr	45	73.886	386915	0.59	2000	>RL
55	Mn	45	625.420	1752332	1.01	2000	>RL
56	Fe	45	97517.218	435904027	0.53	10000	OUTCAL
59	Co	72	41.147	345299	0.77	2000	>RL
60	Ni	72	50.405	116918	0.29	2000	>RL
63	Cu	72	12.325	81859	0.48	2000	>RL
66	Zn	72	253.163	262573	0.81	2000	>RL
75	As	72	22.628	19979	0.33	2000	>RL
78	Se	72	5.648	344	4.30	2000	>RL
88	Sr	115	1042.771	3926374	0.21	2000	>RL
95	Mo	115	2.015	7018	2.68	2000	>RL
107	Ag	115	0.039	513	6.78	500	
111	Cd	115	0.156	254	13.76	2000	
118	Sn	115	4.801	16555	0.93	2000	>RL
121	Sb	115	0.160	982	6.71	500	
137	Ba	115	123.941	194964	0.40	2000	>RL
205	Tl	209	0.413	9372	1.85	2000	
208	Pb	209	32.553	973884	0.42	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	872299	0.43	989663	88.14	70	120	
72	Ge	651170	0.73	739879	88.01	70	120	
115	In	5844988	1.17	6565136	89.03	70	120	
209	Bi	13745902	2.66	15222533	90.30	70	120	

Sample Report

Date Acquired	5/16/16 2:04 PM	Sample Name	1605034-13A
Data Batch	160516.b	Comment	SAMPICPMS_TSDOD1
Data File Name	080SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	121.146	5325	0.90	2000	>RL
9	Be	45	2.746	161	4.35	2000	>RL
11	B	45	143.913	2788	3.80	2000	>RL
23	Na	45	3286.241	2312327	1.05	25000	>RL
24	Mg	45	15701.690	5348229	0.31	25000	>RL
27	Al	45	59676.560	7260582	2.39	10000	OUTCAL
39	K	45	14299.673	4958372	0.71	25000	>RL
44	Ca	45	137863.145	2699103	0.57	25000	OUTCAL
47	Ti	45	178.981	23490	0.51	2000	>RL
51	V	45	110.576	499016	1.29	2000	>RL
52	Cr	45	73.276	396509	0.74	2000	>RL
55	Mn	45	1541.669	4461965	0.97	2000	>RL
56	Fe	45	109225.692	504475998	1.87	10000	OUTCAL
59	Co	72	27.493	240431	1.18	2000	>RL
60	Ni	72	48.799	117947	0.83	2000	>RL
63	Cu	72	13.292	91718	0.79	2000	>RL
66	Zn	72	209.768	226728	1.56	2000	>RL
75	As	72	22.170	20398	0.45	2000	>RL
78	Se	72	4.454	297	4.19	2000	>RL
88	Sr	115	1622.950	6374679	1.99	2000	>RL
95	Mo	115	2.749	9974	2.99	2000	>RL
107	Ag	115	0.034	473	6.02	500	
111	Cd	115	0.102	177	8.23	2000	
118	Sn	115	4.895	17586	1.91	2000	>RL
121	Sb	115	0.144	939	10.81	500	
137	Ba	115	153.870	252508	0.66	2000	>RL
205	Tl	209	0.493	11696	1.54	2000	
208	Pb	209	38.004	1194023	0.43	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	901296	0.19	989663	91.07	70	120	
72	Ge	678430	0.25	739879	91.69	70	120	
115	In	6097984	0.98	6565136	92.88	70	120	
209	Bi	14438523	0.59	15222533	94.85	70	120	

Sample Report

Date Acquired	5/16/16 2:06 PM	Sample Name	1605034-14A
Data Batch	160516.b	Comment	SAMPICPMS_TSDOD1
Data File Name	081SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	127.738	6052	2.40	2000	>RL
9	Be	45	3.666	231	11.54	2000	>RL
11	B	45	184.680	3816	0.79	2000	>RL
23	Na	45	8312.434	6225997	1.10	25000	>RL
24	Mg	45	17058.713	6264550	2.78	25000	>RL
27	Al	45	73950.142	9699120	1.50	10000	OUTCAL
39	K	45	16597.319	6196365	0.54	25000	>RL
44	Ca	45	43611.760	920682	0.39	25000	OUTCAL
47	Ti	45	163.675	23159	1.39	2000	>RL
51	V	45	134.227	652535	0.81	2000	>RL
52	Cr	45	84.881	494867	1.35	2000	>RL
55	Mn	45	564.919	1763290	0.96	2000	>RL
56	Fe	45	125420.591	624534802	1.00	10000	OUTCAL
59	Co	72	30.570	279528	1.60	2000	>RL
60	Ni	72	48.416	122386	2.42	2000	>RL
63	Cu	72	17.599	125867	2.13	2000	>RL
66	Zn	72	281.092	317612	1.57	2000	>RL
75	As	72	32.580	31273	1.20	2000	>RL
78	Se	72	10.013	608	2.02	2000	>RL
88	Sr	115	2224.047	9165276	2.61	2000	OUTCAL
95	Mo	115	1.652	6309	2.96	2000	
107	Ag	115	0.030	457	15.17	500	
111	Cd	115	0.077	142	38.54	2000	
118	Sn	115	5.294	19861	1.99	2000	>RL
121	Sb	115	0.215	1372	4.76	500	
137	Ba	115	89.104	153426	0.66	2000	>RL
205	Tl	209	0.464	11217	2.39	2000	
208	Pb	209	52.442	1674857	0.46	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	971693	0.53	989663	98.18	70	120	
72	Ge	709459	1.64	739879	95.89	70	120	
115	In	6397283	0.76	6565136	97.44	70	120	
209	Bi	14693241	1.24	15222533	96.52	70	120	

Sample Report

Date Acquired	5/16/16 2:08 PM	Sample Name	1605034-15A
Data Batch	160516.b	Comment	SAMPICPMS_TSDOD1
Data File Name	082SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	89.223	4238	2.29	2000	>RL
9	Be	45	3.375	213	19.74	2000	>RL
11	B	45	151.397	3159	3.34	2000	>RL
23	Na	45	6190.014	4655384	1.01	25000	>RL
24	Mg	45	18131.561	6666769	0.16	25000	>RL
27	Al	45	53310.980	7001811	0.66	10000	OUTCAL
39	K	45	15730.329	5883288	0.99	25000	>RL
44	Ca	45	32617.699	689531	0.68	25000	OUTCAL
47	Ti	45	200.436	28396	0.49	2000	>RL
51	V	45	91.275	445073	0.70	2000	>RL
52	Cr	45	66.556	388948	0.89	2000	>RL
55	Mn	45	1025.902	3205578	0.91	2000	>RL
56	Fe	45	83127.325	414482428	0.93	10000	OUTCAL
59	Co	72	43.153	399658	0.47	2000	>RL
60	Ni	72	56.331	144165	0.98	2000	>RL
63	Cu	72	9.359	69453	0.61	2000	>RL
66	Zn	72	221.325	253392	0.59	2000	>RL
75	As	72	19.992	19498	0.64	2000	>RL
78	Se	72	6.257	413	3.82	2000	>RL
88	Sr	115	231.021	961342	0.46	2000	>RL
95	Mo	115	1.220	4713	4.66	2000	
107	Ag	115	0.030	462	0.83	500	
111	Cd	115	0.135	244	11.11	2000	
118	Sn	115	4.506	17241	0.96	2000	>RL
121	Sb	115	0.180	1192	7.84	500	
137	Ba	115	80.416	139792	0.28	2000	>RL
205	Tl	209	0.357	8802	2.27	2000	
208	Pb	209	33.911	1097166	1.06	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	972984	0.74	989663	98.31	70	120	
72	Ge	718674	0.92	739879	97.13	70	120	
115	In	6459240	1.67	6565136	98.39	70	120	
209	Bi	14866882	2.87	15222533	97.66	70	120	

Sample Report

Date Acquired	5/16/16 2:10 PM	Sample Name	1605034-16A
Data Batch	160516.b	Comment	SAMPICPMS_TSDOD1
Data File Name	083SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	117.942	5170	1.23	2000	>RL
9	Be	45	3.566	208	7.18	2000	>RL
11	B	45	145.056	2801	0.72	2000	>RL
23	Na	45	1778.818	1270263	0.52	25000	>RL
24	Mg	45	17611.222	5981872	0.99	25000	>RL
27	Al	45	79998.864	9705526	0.57	10000	OUTCAL
39	K	45	16529.889	5708215	2.14	25000	>RL
44	Ca	45	178618.956	3487254	0.44	25000	OUTCAL
47	Ti	45	262.481	34354	2.78	2000	>RL
51	V	45	139.416	626813	0.05	2000	>RL
52	Cr	45	84.845	457522	0.76	2000	>RL
55	Mn	45	1172.258	3383553	0.63	2000	>RL
56	Fe	45	91983.004	423678250	1.40	10000	OUTCAL
59	Co	72	33.346	289059	0.28	2000	>RL
60	Ni	72	54.656	130915	0.50	2000	>RL
63	Cu	72	20.540	138702	0.02	2000	>RL
66	Zn	72	253.711	271788	1.09	2000	>RL
75	As	72	21.943	20017	0.60	2000	>RL
78	Se	72	5.526	349	8.07	2000	>RL
88	Sr	115	610.850	2412076	0.44	2000	>RL
95	Mo	115	2.163	7901	2.96	2000	>RL
107	Ag	115	0.056	732	8.71	500	
111	Cd	115	0.267	449	5.47	2000	
118	Sn	115	4.913	17743	0.73	2000	>RL
121	Sb	115	0.744	4082	3.15	500	
137	Ba	115	477.427	787514	0.48	2000	>RL
205	Tl	209	0.547	12774	2.18	2000	
208	Pb	209	47.832	1479809	0.19	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	898795	0.44	989663	90.82	70	120	
72	Ge	672594	0.74	739879	90.91	70	120	
115	In	6130661	1.83	6565136	93.38	70	120	
209	Bi	14231658	1.74	15222533	93.49	70	120	

Sample Report

Date Acquired	5/16/16 2:12 PM	Sample Name	1605034-17A
Data Batch	160516.b	Comment	SAMPICPMS_TSDOD1
Data File Name	084SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	117.872	4970	2.14	2000	>RL
9	Be	45	2.680	151	10.20	2000	>RL
11	B	45	129.651	2422	3.20	2000	>RL
23	Na	45	3727.686	2509561	1.60	25000	>RL
24	Mg	45	13986.339	4569725	2.29	25000	>RL
27	Al	45	63401.148	7398629	2.20	10000	OUTCAL
39	K	45	11910.424	3968678	1.61	25000	>RL
44	Ca	45	278326.802	5226324	1.32	25000	OUTCAL
47	Ti	45	192.931	24282	4.42	2000	>RL
51	V	45	110.079	476463	0.63	2000	>RL
52	Cr	45	67.853	352292	0.99	2000	>RL
55	Mn	45	222.324	617838	0.94	2000	>RL
56	Fe	45	71054.311	314756654	2.09	10000	OUTCAL
59	Co	72	24.408	201508	0.75	2000	>RL
60	Ni	72	33.915	77493	2.14	2000	>RL
63	Cu	72	11.802	77232	1.47	2000	>RL
66	Zn	72	184.850	188645	0.97	2000	>RL
75	As	72	18.123	15766	0.98	2000	>RL
78	Se	72	4.075	262	6.50	2000	>RL
88	Sr	115	1113.244	4223368	1.27	2000	>RL
95	Mo	115	1.491	5246	2.97	2000	
107	Ag	115	0.042	551	13.74	500	
111	Cd	115	0.091	152	34.92	2000	
118	Sn	115	4.626	16111	2.27	2000	>RL
121	Sb	115	0.108	726	5.29	500	
137	Ba	115	104.999	166419	0.87	2000	>RL
205	Tl	209	0.353	8236	2.84	2000	
208	Pb	209	26.711	818898	1.32	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	864468	0.91	989663	87.35	70	120	
72	Ge	640461	0.38	739879	86.56	70	120	
115	In	5889077	0.69	6565136	89.70	70	120	
209	Bi	14067709	2.15	15222533	92.41	70	120	

Sample Report

Date Acquired	5/16/16 2:14 PM	Sample Name	1605034-18A
Data Batch	160516.b	Comment	SAMPICPMS_TSDOD1
Data File Name	085SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	123.686	5237	1.07	2000	>RL
9	Be	45	3.182	179	9.92	2000	>RL
11	B	45	166.954	3096	4.47	2000	>RL
23	Na	45	5495.102	3693689	0.26	25000	>RL
24	Mg	45	15626.119	5127388	0.74	25000	>RL
27	Al	45	59391.521	6961574	0.64	10000	OUTCAL
39	K	45	14924.338	4983959	0.99	25000	>RL
44	Ca	45	166803.720	3146332	0.85	25000	OUTCAL
47	Ti	45	200.598	25364	0.92	2000	>RL
51	V	45	103.501	450122	0.72	2000	>RL
52	Cr	45	69.764	363761	0.51	2000	>RL
55	Mn	45	700.192	1952662	0.75	2000	>RL
56	Fe	45	88002.474	391601691	0.74	10000	OUTCAL
59	Co	72	40.986	342894	1.29	2000	>RL
60	Ni	72	56.708	131090	0.29	2000	>RL
63	Cu	72	10.691	71211	0.33	2000	>RL
66	Zn	72	232.651	240597	0.80	2000	>RL
75	As	72	21.387	18836	1.87	2000	>RL
78	Se	72	5.579	340	9.41	2000	>RL
88	Sr	115	1108.253	4145652	0.51	2000	>RL
95	Mo	115	2.436	8423	0.20	2000	>RL
107	Ag	115	0.031	424	6.35	500	
111	Cd	115	0.076	128	9.16	2000	
118	Sn	115	4.600	15803	1.72	2000	>RL
121	Sb	115	0.158	962	3.82	500	
137	Ba	115	174.616	272870	0.89	2000	>RL
205	Tl	209	0.390	9021	1.47	2000	
208	Pb	209	29.820	907444	0.80	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	868397	1.25	989663	87.75	70	120	
72	Ge	649207	1.13	739879	87.75	70	120	
115	In	5806522	0.73	6565136	88.44	70	120	
209	Bi	13969789	0.63	15222533	91.77	70	120	

Sample Report

Date Acquired	5/16/16 2:16 PM	Sample Name	1605034-19A
Data Batch	160516.b	Comment	SAMPICPMS_TSDOD1
Data File Name	086SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	125.031	5499	0.66	2000	>RL
9	Be	45	3.760	220	5.06	2000	>RL
11	B	45	205.192	3919	1.62	2000	>RL
23	Na	45	7281.713	5068226	0.74	25000	>RL
24	Mg	45	19207.705	6546575	1.06	25000	>RL
27	Al	45	72287.395	8801355	1.55	10000	OUTCAL
39	K	45	18714.740	6480276	2.86	25000	>RL
44	Ca	45	50262.002	984910	1.44	25000	OUTCAL
47	Ti	45	225.818	29660	1.94	2000	>RL
51	V	45	118.708	535903	0.52	2000	>RL
52	Cr	45	90.378	488956	0.97	2000	>RL
55	Mn	45	282.090	817748	1.53	2000	>RL
56	Fe	45	105126.544	485995785	3.24	10000	OUTCAL
59	Co	72	29.890	257959	1.09	2000	>RL
60	Ni	72	47.659	113685	0.29	2000	>RL
63	Cu	72	11.285	77339	0.63	2000	>RL
66	Zn	72	260.765	278095	1.25	2000	>RL
75	As	72	22.190	20152	2.37	2000	>RL
78	Se	72	6.914	418	0.41	2000	>RL
88	Sr	115	455.659	1753826	1.60	2000	>RL
95	Mo	115	1.015	3637	2.97	2000	
107	Ag	115	0.032	447	12.95	500	
111	Cd	115	0.096	163	17.79	2000	
118	Sn	115	5.033	17685	0.21	2000	>RL
121	Sb	115	0.096	678	12.29	500	
137	Ba	115	76.007	122219	0.43	2000	>RL
205	Tl	209	0.418	9840	1.77	2000	
208	Pb	209	29.067	902127	0.44	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	902016	1.61	989663	91.14	70	120	
72	Ge	669628	1.87	739879	90.51	70	120	
115	In	5973897	0.46	6565136	90.99	70	120	
209	Bi	14245666	0.52	15222533	93.58	70	120	

Sample Report

Date Acquired	5/16/16 2:18 PM	Sample Name	1605034-20A
Data Batch	160516.b	Comment	SAMPICPMS_TSDOD1
Data File Name	087SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	115.005	5190	0.09	2000	>RL
9	Be	45	4.256	255	11.89	2000	>RL
11	B	45	176.313	3476	6.62	2000	>RL
23	Na	45	6631.939	4740107	1.91	25000	>RL
24	Mg	45	16903.019	5910433	1.21	25000	>RL
27	Al	45	65609.434	8194230	1.70	10000	OUTCAL
39	K	45	18016.286	6400651	0.98	25000	>RL
44	Ca	45	52269.173	1050635	0.55	25000	OUTCAL
47	Ti	45	206.425	27810	0.51	2000	>RL
51	V	45	115.691	535849	1.13	2000	>RL
52	Cr	45	77.814	432136	1.92	2000	>RL
55	Mn	45	454.613	1351287	1.11	2000	>RL
56	Fe	45	105683.089	501103838	2.72	10000	OUTCAL
59	Co	72	34.869	308161	0.85	2000	>RL
60	Ni	72	52.888	129161	2.08	2000	>RL
63	Cu	72	12.025	84180	1.55	2000	>RL
66	Zn	72	268.000	292697	1.24	2000	>RL
75	As	72	27.379	25425	0.92	2000	>RL
78	Se	72	6.920	428	6.36	2000	>RL
88	Sr	115	437.975	1696956	1.24	2000	>RL
95	Mo	115	1.229	4424	2.25	2000	
107	Ag	115	0.032	446	4.98	500	
111	Cd	115	0.126	212	30.87	2000	
118	Sn	115	5.070	17925	1.21	2000	>RL
121	Sb	115	0.174	1079	6.66	500	
137	Ba	115	125.570	203242	0.98	2000	>RL
205	Tl	209	0.437	10183	2.26	2000	
208	Pb	209	35.924	1105231	0.56	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	925237	0.86	989663	93.49	70	120	
72	Ge	685746	1.63	739879	92.68	70	120	
115	In	6013632	0.27	6565136	91.60	70	120	
209	Bi	14138453	2.02	15222533	92.88	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	

Sample Report

Date Acquired	5/16/16 2:44 PM	Sample Name	1605034-21A
Data Batch	160516.b	Comment	SAMPICPMS_TSDOD1
Data File Name	098SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	121.533	5418	2.27	2000	>RL
9	Be	45	3.837	227	5.57	2000	>RL
11	B	45	142.094	2794	1.38	2000	>RL
23	Na	45	2485.774	1785744	0.45	25000	>RL
24	Mg	45	17999.306	6217168	1.24	25000	>RL
27	Al	45	81045.300	9997380	2.93	10000	OUTCAL
39	K	45	16570.052	5818613	1.83	25000	>RL
44	Ca	45	130872.085	2598557	0.09	25000	OUTCAL
47	Ti	45	188.779	25129	2.43	2000	>RL
51	V	45	141.993	649226	0.41	2000	>RL
52	Cr	45	83.041	455456	0.53	2000	>RL
55	Mn	45	635.162	1864855	0.63	2000	>RL
56	Fe	45	96659.888	452775040	0.20	10000	OUTCAL
59	Co	72	34.702	302077	0.88	2000	>RL
60	Ni	72	51.584	124096	1.14	2000	>RL
63	Cu	72	20.960	142067	1.36	2000	>RL
66	Zn	72	258.449	278034	0.64	2000	>RL
75	As	72	27.952	25565	0.66	2000	>RL
78	Se	72	5.898	370	3.31	2000	>RL
88	Sr	115	613.385	2363367	0.77	2000	>RL
95	Mo	115	2.435	8673	2.52	2000	>RL
107	Ag	115	0.048	626	7.25	500	
111	Cd	115	0.295	483	7.77	2000	
118	Sn	115	5.081	17863	2.62	2000	>RL
121	Sb	115	0.704	3778	2.18	500	
137	Ba	115	749.576	1206411	0.53	2000	>RL
205	Tl	209	0.594	13706	3.01	2000	
208	Pb	209	52.734	1615255	0.08	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	914148	1.22	989663	92.37	70	120	
72	Ge	675398	0.33	739879	91.28	70	120	
115	In	5980765	0.63	6565136	91.10	70	120	
209	Bi	14092932	1.40	15222533	92.58	70	120	

Sample Report

Date Acquired	5/16/16 2:46 PM	Sample Name	1605034-22A
Data Batch	160516.b	Comment	SAMPICPMS_TSDOD1
Data File Name	099SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	103.092	4396	1.63	2000	>RL
9	Be	45	2.435	139	7.11	2000	>RL
11	B	45	130.215	2459	8.99	2000	>RL
23	Na	45	4704.796	3189763	0.60	25000	>RL
24	Mg	45	12274.205	4054106	1.02	25000	>RL
27	Al	45	56114.065	6619815	2.62	10000	OUTCAL
39	K	45	10567.248	3564731	1.41	25000	>RL
44	Ca	45	280438.990	5323961	2.71	25000	OUTCAL
47	Ti	45	189.637	24134	2.61	2000	>RL
51	V	45	96.796	423841	1.70	2000	>RL
52	Cr	45	58.781	308781	1.79	2000	>RL
55	Mn	45	542.232	1522239	0.44	2000	>RL
56	Fe	45	64394.410	288411153	1.90	10000	OUTCAL
59	Co	72	26.014	220618	1.13	2000	>RL
60	Ni	72	37.815	88731	1.85	2000	>RL
63	Cu	72	10.963	73933	0.99	2000	>RL
66	Zn	72	186.942	196016	1.62	2000	>RL
75	As	72	17.237	15413	2.23	2000	>RL
78	Se	72	3.848	259	7.22	2000	>RL
88	Sr	115	1964.828	7608663	1.12	2000	>RL
95	Mo	115	1.567	5624	2.21	2000	
107	Ag	115	0.083	1007	67.80	500	
111	Cd	115	0.096	164	8.44	2000	
118	Sn	115	4.522	16106	2.30	2000	>RL
121	Sb	115	0.110	750	11.39	500	
137	Ba	115	91.786	148496	0.28	2000	>RL
205	Tl	209	0.357	8378	2.89	2000	
208	Pb	209	27.512	848057	0.92	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	873959	0.28	989663	88.31	70	120	
72	Ge	658025	1.44	739879	88.94	70	120	
115	In	6013491	2.49	6565136	91.60	70	120	
209	Bi	14147263	2.17	15222533	92.94	70	120	

Sample Report

Date Acquired	5/16/16 2:48 PM	Sample Name	1605034-23A
Data Batch	160516.b	Comment	SAMPICPMS_TSDOD1
Data File Name	100SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	127.676	5362	1.20	2000	>RL
9	Be	45	3.753	210	6.70	2000	>RL
11	B	45	180.526	3310	5.51	2000	>RL
23	Na	45	6171.214	4109287	0.66	25000	>RL
24	Mg	45	16617.322	5410257	3.97	25000	>RL
27	Al	45	62875.118	7310334	1.36	10000	OUTCAL
39	K	45	16577.651	5486061	1.11	25000	>RL
44	Ca	45	173203.506	3240652	0.63	25000	OUTCAL
47	Ti	45	195.211	24486	1.83	2000	>RL
51	V	45	107.868	465266	0.29	2000	>RL
52	Cr	45	73.519	380185	0.45	2000	>RL
55	Mn	45	1180.871	3266446	0.38	2000	>RL
56	Fe	45	97485.949	430323876	1.29	10000	OUTCAL
59	Co	72	33.795	282273	0.51	2000	>RL
60	Ni	72	63.386	146232	0.57	2000	>RL
63	Cu	72	10.195	67943	1.77	2000	>RL
66	Zn	72	251.936	260057	0.54	2000	>RL
75	As	72	22.874	20099	0.81	2000	>RL
78	Se	72	7.085	413	7.21	2000	>RL
88	Sr	115	1175.607	4429286	0.52	2000	>RL
95	Mo	115	3.135	10907	2.09	2000	>RL
107	Ag	115	0.039	509	6.36	500	
111	Cd	115	0.097	161	13.14	2000	
118	Sn	115	4.832	16670	1.40	2000	>RL
121	Sb	115	0.140	882	4.81	500	
137	Ba	115	82.904	130515	0.34	2000	>RL
205	Tl	209	0.492	11202	2.13	2000	
208	Pb	209	31.685	956025	1.12	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	861376	0.77	989663	87.04	70	120	
72	Ge	648050	0.50	739879	87.59	70	120	
115	In	5851827	2.86	6565136	89.13	70	120	
209	Bi	13855131	1.03	15222533	91.02	70	120	

Sample Report

Date Acquired	5/16/16 2:50 PM	Sample Name	1605034-24A
Data Batch	160516.b	Comment	SAMPICPMS_TSDOD1
Data File Name	101SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	149.483	6521	0.13	2000	>RL
9	Be	45	3.939	229	7.34	2000	>RL
11	B	45	200.870	3812	5.33	2000	>RL
23	Na	45	7499.545	5179256	1.38	25000	>RL
24	Mg	45	19756.525	6683034	0.85	25000	>RL
27	Al	45	76372.320	9228250	1.38	10000	OUTCAL
39	K	45	19586.745	6727921	1.39	25000	>RL
44	Ca	45	63765.385	1239979	0.87	25000	OUTCAL
47	Ti	45	187.739	24470	1.54	2000	>RL
51	V	45	124.201	556382	1.20	2000	>RL
52	Cr	45	89.072	478275	1.38	2000	>RL
55	Mn	45	283.022	814194	0.57	2000	>RL
56	Fe	45	113581.808	521036566	2.70	10000	OUTCAL
59	Co	72	32.903	280939	0.80	2000	>RL
60	Ni	72	50.013	118026	0.88	2000	>RL
63	Cu	72	11.754	79576	0.34	2000	>RL
66	Zn	72	290.675	306672	1.41	2000	>RL
75	As	72	24.222	21748	0.60	2000	>RL
78	Se	72	7.525	444	1.00	2000	>RL
88	Sr	115	774.241	2939068	1.16	2000	>RL
95	Mo	115	0.903	3195	0.69	2000	
107	Ag	115	0.039	518	18.04	500	
111	Cd	115	0.118	196	33.50	2000	
118	Sn	115	5.252	18157	2.06	2000	>RL
121	Sb	115	0.125	814	7.46	500	
137	Ba	115	62.394	98963	0.19	2000	>RL
205	Tl	209	0.453	10489	3.13	2000	
208	Pb	209	31.690	969473	0.42	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	895129	0.37	989663	90.45	70	120	
72	Ge	662448	0.09	739879	89.53	70	120	
115	In	5892542	1.11	6565136	89.76	70	120	
209	Bi	14048566	0.98	15222533	92.29	70	120	

Sample Report

Date Acquired	5/16/16 2:52 PM	Sample Name	1605034-25A
Data Batch	160516.b	Comment	SAMPICPMS_TSDOD1
Data File Name	102SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	125.001	5510	0.62	2000	>RL
9	Be	45	4.204	246	9.52	2000	>RL
11	B	45	178.199	3430	2.46	2000	>RL
23	Na	45	6637.169	4634540	0.40	25000	>RL
24	Mg	45	17466.842	5967151	0.78	25000	>RL
27	Al	45	66044.673	8059164	0.85	10000	OUTCAL
39	K	45	18130.828	6292697	1.71	25000	>RL
44	Ca	45	57111.358	1121581	0.12	25000	OUTCAL
47	Ti	45	153.637	20223	1.50	2000	>RL
51	V	45	106.592	482543	0.58	2000	>RL
52	Cr	45	75.510	409737	0.74	2000	>RL
55	Mn	45	628.945	1826169	0.61	2000	>RL
56	Fe	45	93559.714	433408223	1.17	10000	OUTCAL
59	Co	72	52.837	456582	1.23	2000	>RL
60	Ni	72	68.047	162408	0.93	2000	>RL
63	Cu	72	11.111	76320	0.70	2000	>RL
66	Zn	72	280.598	299672	0.45	2000	>RL
75	As	72	25.447	23119	1.22	2000	>RL
78	Se	72	8.047	476	8.98	2000	>RL
88	Sr	115	241.684	926504	0.97	2000	>RL
95	Mo	115	1.225	4364	3.65	2000	
107	Ag	115	0.038	508	15.87	500	
111	Cd	115	0.102	172	24.51	2000	
118	Sn	115	4.848	17007	3.41	2000	>RL
121	Sb	115	0.150	948	3.79	500	
137	Ba	115	88.957	142459	0.96	2000	>RL
205	Tl	209	0.442	9924	5.09	2000	
208	Pb	209	35.195	1043011	0.46	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	903980	0.42	989663	91.34	70	120	
72	Ge	670572	0.50	739879	90.63	70	120	
115	In	5949677	0.45	6565136	90.63	70	120	
209	Bi	13614936	0.72	15222533	89.44	70	120	

Sample Report

Date Acquired	5/16/16 2:54 PM	Sample Name	1605034-26A
Data Batch	160516.b	Comment	SAMPICPMS_TSDOD1
Data File Name	103SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	116.737	4927	0.92	2000	>RL
9	Be	45	4.035	226	10.48	2000	>RL
11	B	45	126.904	2377	7.05	2000	>RL
23	Na	45	1510.754	1045791	0.44	25000	>RL
24	Mg	45	17784.952	5817239	3.50	25000	>RL
27	Al	45	78780.295	9201404	2.46	10000	OUTCAL
39	K	45	17189.626	5714389	0.29	25000	>RL
44	Ca	45	126530.730	2378849	0.91	25000	OUTCAL
47	Ti	45	190.776	24043	0.77	2000	>RL
51	V	45	155.372	672353	0.53	2000	>RL
52	Cr	45	81.570	423596	0.84	2000	>RL
55	Mn	45	976.856	2715041	0.35	2000	>RL
56	Fe	45	111584.412	494855198	0.55	10000	OUTCAL
59	Co	72	40.384	335824	0.47	2000	>RL
60	Ni	72	62.831	144325	0.09	2000	>RL
63	Cu	72	32.885	211127	1.28	2000	>RL
66	Zn	72	322.740	331626	0.80	2000	>RL
75	As	72	31.317	27348	1.51	2000	>RL
78	Se	72	7.574	435	5.19	2000	>RL
88	Sr	115	520.390	1898167	1.43	2000	>RL
95	Mo	115	2.649	8927	3.46	2000	>RL
107	Ag	115	0.075	876	3.24	500	
111	Cd	115	0.528	812	4.76	2000	>RL
118	Sn	115	5.262	17478	2.34	2000	>RL
121	Sb	115	1.437	7114	1.98	500	
137	Ba	115	1255.052	1912070	0.65	2000	>RL
205	Tl	209	0.633	14056	1.14	2000	
208	Pb	209	72.553	2141214	0.76	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	865533	1.33	989663	87.46	70	120	
72	Ge	645241	0.55	739879	87.21	70	120	
115	In	5661780	1.48	6565136	86.24	70	120	
209	Bi	13589419	1.93	15222533	89.27	70	120	

Sample Report

Date Acquired	5/16/16 2:56 PM	Sample Name	1605034-27A
Data Batch	160516.b	Comment	SAMPICPMS_TSDOD1
Data File Name	104SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	103.571	4159	1.41	2000	>RL
9	Be	45	2.998	160	7.23	2000	>RL
11	B	45	131.675	2340	5.52	2000	>RL
23	Na	45	3364.726	2160899	0.99	25000	>RL
24	Mg	45	12949.296	4027898	0.83	25000	>RL
27	Al	45	57703.770	6410755	1.34	10000	OUTCAL
39	K	45	12069.003	3828176	1.06	25000	>RL
44	Ca	45	268394.959	4798374	0.58	25000	OUTCAL
47	Ti	45	198.522	23792	1.26	2000	>RL
51	V	45	108.267	446223	1.48	2000	>RL
52	Cr	45	67.710	334722	1.42	2000	>RL
55	Mn	45	787.326	2081311	1.47	2000	>RL
56	Fe	45	99675.718	420416108	2.00	10000	OUTCAL
59	Co	72	51.392	408792	1.69	2000	>RL
60	Ni	72	47.691	104877	0.80	2000	>RL
63	Cu	72	13.629	85482	0.65	2000	>RL
66	Zn	72	211.482	207964	1.52	2000	>RL
75	As	72	23.542	19697	0.72	2000	>RL
78	Se	72	5.332	311	1.27	2000	>RL
88	Sr	115	2056.840	7410115	1.87	2000	OUTCAL
95	Mo	115	2.582	8597	2.82	2000	>RL
107	Ag	115	0.043	534	3.55	500	
111	Cd	115	0.127	199	13.02	2000	
118	Sn	115	4.530	15005	4.79	2000	>RL
121	Sb	115	0.267	1448	3.80	500	
137	Ba	115	236.928	356560	0.86	2000	>RL
205	Tl	209	0.431	9501	0.33	2000	
208	Pb	209	36.593	1064027	1.31	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	823080	0.65	989663	83.17	70	120	
72	Ge	617215	0.67	739879	83.42	70	120	
115	In	5593275	2.25	6565136	85.20	70	120	
209	Bi	13361363	1.06	15222533	87.77	70	120	

Sample Report

Date Acquired	5/16/16 2:58 PM	Sample Name	1605034-28A
Data Batch	160516.b	Comment	SAMPICPMS_TSDOD1
Data File Name	105SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	149.211	6055	0.88	2000	>RL
9	Be	45	4.013	217	3.14	2000	>RL
11	B	45	180.204	3194	1.78	2000	>RL
23	Na	45	5429.255	3500154	0.56	25000	>RL
24	Mg	45	17313.919	5448182	0.15	25000	>RL
27	Al	45	78704.624	8847187	2.17	10000	OUTCAL
39	K	45	15949.360	5104348	0.78	25000	>RL
44	Ca	45	233955.070	4231580	0.57	25000	OUTCAL
47	Ti	45	188.935	22910	1.73	2000	>RL
51	V	45	135.259	563414	0.65	2000	>RL
52	Cr	45	87.583	437489	0.20	2000	>RL
55	Mn	45	546.941	1462874	0.53	2000	>RL
56	Fe	45	95213.773	406257068	0.47	10000	OUTCAL
59	Co	72	57.993	462440	0.79	2000	>RL
60	Ni	72	56.968	125536	0.97	2000	>RL
63	Cu	72	17.412	108643	0.83	2000	>RL
66	Zn	72	279.014	274976	0.08	2000	>RL
75	As	72	27.944	23416	0.77	2000	>RL
78	Se	72	8.791	474	5.86	2000	>RL
88	Sr	115	1299.317	4645543	1.05	2000	>RL
95	Mo	115	2.792	9219	1.69	2000	>RL
107	Ag	115	0.034	438	14.15	500	
111	Cd	115	0.106	167	8.72	2000	
118	Sn	115	5.416	17603	1.25	2000	>RL
121	Sb	115	0.236	1289	3.96	500	
137	Ba	115	127.513	190440	0.49	2000	>RL
205	Tl	209	0.471	10293	0.73	2000	
208	Pb	209	47.930	1384365	0.24	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	832706	1.06	989663	84.14	70	120	
72	Ge	618872	1.50	739879	83.65	70	120	
115	In	5550484	2.01	6565136	84.54	70	120	
209	Bi	13285643	1.60	15222533	87.28	70	120	

Sample Report

Date Acquired	5/16/16 3:00 PM	Sample Name	1605034-29A
Data Batch	160516.b	Comment	SAMPICPMS_TSDOD1
Data File Name	106SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	108.465	4517	0.17	2000	>RL
9	Be	45	3.670	203	4.65	2000	>RL
11	B	45	177.867	3234	1.76	2000	>RL
23	Na	45	6159.784	4065141	0.54	25000	>RL
24	Mg	45	27967.452	9022138	1.95	25000	OUTCAL
27	Al	45	64856.799	7473662	3.23	10000	OUTCAL
39	K	45	17253.104	5657797	1.29	25000	>RL
44	Ca	45	78022.061	1447030	1.62	25000	OUTCAL
47	Ti	45	180.011	22380	2.31	2000	>RL
51	V	45	113.129	483520	1.33	2000	>RL
52	Cr	45	77.530	397277	1.47	2000	>RL
55	Mn	45	1812.639	4969292	1.58	2000	>RL
56	Fe	45	101765.096	445235422	1.98	10000	OUTCAL
59	Co	72	32.348	265800	0.91	2000	>RL
60	Ni	72	63.140	143306	1.62	2000	>RL
63	Cu	72	11.762	76619	0.68	2000	>RL
66	Zn	72	252.525	256440	1.41	2000	>RL
75	As	72	24.186	20900	1.82	2000	>RL
78	Se	72	7.188	411	6.88	2000	>RL
88	Sr	115	692.847	2482727	0.62	2000	>RL
95	Mo	115	1.671	5548	1.86	2000	
107	Ag	115	0.031	400	24.55	500	
111	Cd	115	0.238	364	22.30	2000	
118	Sn	115	4.934	16169	3.86	2000	>RL
121	Sb	115	0.142	846	5.92	500	
137	Ba	115	153.194	229335	1.41	2000	>RL
205	Tl	209	0.634	14066	2.92	2000	
208	Pb	209	39.929	1179218	0.32	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	853774	1.18	989663	86.27	70	120	
72	Ge	637564	1.46	739879	86.17	70	120	
115	In	5562709	1.76	6565136	84.73	70	120	
209	Bi	13574540	0.56	15222533	89.17	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	

Sample Report

Date Acquired	5/16/16 3:16 PM	Sample Name	1605034-30A
Data Batch	160516.b	Comment	SAMPICPMS_TSDOD1
Data File Name	114SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	122.173	5184	1.99	2000	>RL
9	Be	45	4.038	228	11.05	2000	>RL
11	B	45	187.940	3476	6.19	2000	>RL
23	Na	45	6246.566	4200929	0.88	25000	>RL
24	Mg	45	30507.531	10031330	2.81	25000	OUTCAL
27	Al	45	68293.479	8020546	1.59	10000	OUTCAL
39	K	45	19752.934	6594520	0.85	25000	>RL
44	Ca	45	68500.816	1294748	1.01	25000	OUTCAL
47	Ti	45	187.251	23723	1.31	2000	>RL
51	V	45	111.225	484507	0.04	2000	>RL
52	Cr	45	82.402	430186	0.26	2000	>RL
55	Mn	45	1323.941	3699188	0.97	2000	>RL
56	Fe	45	102608.103	457532213	2.42	10000	OUTCAL
59	Co	72	36.912	309451	1.15	2000	>RL
60	Ni	72	51.653	119682	0.93	2000	>RL
63	Cu	72	10.478	70003	0.98	2000	>RL
66	Zn	72	260.997	270422	1.23	2000	>RL
75	As	72	22.855	20156	0.19	2000	>RL
78	Se	72	7.793	449	4.15	2000	>RL
88	Sr	115	221.982	818015	1.21	2000	>RL
95	Mo	115	1.055	3614	2.69	2000	
107	Ag	115	0.050	622	8.58	500	
111	Cd	115	0.325	508	12.56	2000	
118	Sn	115	5.140	17264	1.91	2000	>RL
121	Sb	115	0.134	830	4.63	500	
137	Ba	115	85.509	131640	1.14	2000	>RL
205	Tl	209	0.600	13440	1.49	2000	
208	Pb	209	31.343	934906	0.50	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	870083	0.98	989663	87.92	70	120	
72	Ge	650502	1.23	739879	87.92	70	120	
115	In	5721152	2.73	6565136	87.14	70	120	
209	Bi	13703342	2.75	15222533	90.02	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	

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	

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	[illegible]	[illegible]	[illegible]	[illegible]

/

M

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Web: www.dhlanalytical.com
E-Mail: login@dhlanalytical.com

№ 71101

CHAIN-OF-CUSTODY

CLIENT: ARCADIS
ADDRESS: 8725 Rosehill, Suite 350 Lenexa, KS 66215
PHONE: 913-645-2203 FAX/E-MAIL: alex.walter@arcadis.com
DATA REPORTED TO: alex Walter
ADDITIONAL REPORT COPIES TO: Erika.Denkenberger@arcadis.com

DATE: May 4, 2016 PAGE 1 OF 1
PO #: 04285081.0000.00044 DHL WORK ORDER #: 16005047
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 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 ☐ 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 Sample I.D.	DHL Lab #	Date	Time	Matrix	Container Type	# of Containers	HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESERVED	BTEX	TPH 1005	GRO	VOC 8260	SVOC 8270	8270 PEST	8270 O-P PEST	8321 HERB	METALS 6020	RCRA	PH	CHLORIDE	TCLP-SVOC	TCLP-METALS	RCI	TDS	FIELD NOTES
SGR-DU064(0-2)-A	01	5-4-16	1039	S	Bag	1				X					X					X								
SGR-DU064(2-4)-A	02	5-4-16	1040	S	Bag	1				X					X					X								
SGR-DU064(4-6)-A	03	5-4-16	1041	S	Bag	1				X					X					X								
SGR-DU064(6-8)-A	04	5-4-16	1042	S	Bag	1				X					X					X								
SGR-DU064(8-10)-A	05	5-4-16	1045	S	Bag	1				X					X					X								
SGR-DU064(0-2)-B	06	5-4-16	1047	S	Bag	1				X					X					X								
SGR-DU064(2-4)-B	07	5-4-16	1048	S	Bag	1				X					X					X								
SGR-DU064(4-6)-B	08	5-4-16	1058	S	Bag	1				X					X					X								
SGR-DU064(6-8)-B	09	5-4-16	1059	S	Bag	1				X					X					X								
SGR-DU064(8-10)-B	10	5-4-16	1101	S	Bag	1				X					X					X								
SGR-DU064(0-2)-C	11	5-4-16	1109	S	Bag	1				X					X					X								
SGR-DU064(2-4)-C	12	5-4-16	1111	S	Bag	1				X					X					X								
SGR-DU064(4-6)-C	13	5-4-16	1113	S	Bag	1				X					X					X								
SGR-DU064(6-8)-C	14	5-4-16	1114	S	Bag	1				X					X					X								
SGR-DU064(8-10)-C	15	5-4-16	1115	S	Bag	1				X					X					X								

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[signature]	5-4-16 / 1800	Fed ex
Fed ex	5/5/16 1000	[signature]

☐ DHL DISPOSAL @ $5.00 each ☐ Return

TURN AROUND TIME
RUSH ☐ CALL FIRST
1 DAY ☐ CALL FIRST
2 DAY ☐
NORMAL ☒
OTHER ☐ _____

LABORATORY USE ONLY: 0.3, 3.4, 2.6
RECEIVING TEMP: 0.5, 2.4 THERM #: 73
CUSTODY SEALS: ☐ BROKEN ☒ INTACT ☐ NOT USED
CARRIER: ☐ LONE STAR ☒ FEDEX ☐ UPS ☐ OTHER
☐ COURIER DELIVERY
☐ HAND DELIVERED

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Web: www.dhlanalytical.com
E-Mail: login@dhlanalytical.com

№ 71106

CHAIN-OF-CUSTODY

CLIENT: ARCADIS
ADDRESS: 8725 Rosehill, Suite 350, Lenexa, KS 66215
PHONE: 913-645-3203 FAX/E-MAIL: alex.walker@arcadis.com
DATA REPORTED TO: Alex Walker
ADDITIONAL REPORT COPIES TO: Erika.Denkenberger@arcadis.com

DATE: May 4, 2016 PAGE 2 OF 4
PO #: 04285081.0000.00044 DHL WORK ORDER #: 1605047
PROJECT LOCATION OR NAME: Lenexa 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 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	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-DU069(0-2)-A	16	5-4-16	1504	S	Bag	1				X					X					X									
SGR-DU069(2-4)-A	17	5-4-16	1506	S	Bag	1				X					X					X									
SGR-DU069(4-6)-A	18	5-4-16	1508	S	Bag	1				X					X					X									
SGR-DU069(6-8)-A	19	5-4-16	1511	S	Bag	1				X					X					X									
SGR-DU069(8-10)-A	20	5-4-16	1513	S	Bag	1				X					X					X									
SGR-DU069(0-2)-B	21	5-4-16	1516	S	Bag	1				X					X					X									
SGR-DU069(2-4)-B	22	5-4-16	1518	S	Bag	1				X					X					X									
SGR-DU069(4-6)-B	23	5-4-16	1520	S	Bag	1				X					X					X									
SGR-DU069(6-8)-B	24	5-4-16	1521	S	Bag	1				X					X					X									
SGR-DU069(8-10)-B	25	5-4-16	1523	S	Bag	1				X					X					X									
SGR-DU069(0-2)-C	26	5-4-16	1526	S	Bag	1				X					X					X									
SGR-DU069(2-4)-C	27	5-4-16	1527	S	Bag	1				X					X					X									
SGR-DU069(4-6)-C	28	5-4-16	1529	S	Bag	1				X					X					X									
SGR-DU069(6-8)-C	29	5-4-16	1532	S	Bag	1				X					X					X									
SGR-DU069(8-10)-C	30	5-4-16	1534	S	Bag	1				X					X					X									

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RELINQUISHED BY: (Signature) Fed ex DATE/TIME 5/5/16 1000 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: 02.34.21
RECEIVING TEMP: 0.5, 0.4 THERM #: 7
CUSTODY SEALS: ☐ BROKEN ☑ INTACT ☐ NOT USED
CARRIER: ☐ LONE STAR ☑ FEDEX ☐ UPS ☐ OTHER
☐ COURIER DELIVERY
☐ HAND DELIVERED

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Web: www.dhlanalytical.com
E-Mail: login@dhlanalytical.com

№ 71105

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 4, 2016 PAGE 3 OF 4
PO #: 04285081.0000.00044 DHL WORK ORDER #: 1605047
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 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 ☐ Pb 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	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
EB01(20160504)	31	5-4-16	0800	W	Glass/Poly	2		X		X						X					X								
EB02(20160504)	32	5-4-16	1300	W	Glass/Poly	2		X		X						X					X								
SGR-DU066-STRAT 1	33	5-4-16	1327	S	4oz Glass	1				X						X					X								
SGR-DU066-STRAT 2	34	5-4-16	1331	S	4oz Glass	1				X						X					X								
SGR-DU066-STRAT 3	35	5-4-16	1334	S	4oz Glass	1				X						X					X								
SGR-DU066-STRAT 4	36	5-4-16	1337	S	4oz Glass	1				X						X					X								
SGR-DU066-STRAT 5	37	5-4-16	1340	S	4oz Glass	1				X						X					X								
EB03(20160504)	38	5-4-16	1611	W	Glass/Poly	2		X		X						X					X								
ROW-1 (0-0.5)	39	5-4-16	1445	S	4oz Glass	1				X						X					X								
ROW-1 (0.5-2.0)	40	5-4-16	1450	S	4oz Glass	1				X						X					X								
ROW-1 (2.0-4.0)	41	5-4-16	1455	S	4oz Glass	1				X						X					X								
ROW-2 (0-0.5)	42	5-4-16	1520	S	4oz Glass	1				X						X					X								
ROW-2 (0.5-2.0)	43	5-4-16	1525	S	4oz Glass	1				X						X					X								
ROW-2 (2.0-4.0	44	5-4-16	1530	S	4oz Glass	1				X						X					X								
Laredo Frag	45	5-4-16	1431	O	Ziplock	1				X						X					X								

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RELINQUISHED BY: (Signature) FedEx DATE/TIME 5/5/16 1000 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: 0.5, 0.4, 2.3, 3.4, 2.4 THERM #: 78
CUSTODY SEALS: ☐ BROKEN ☒ INTACT ☐ NOT USED
CARRIER: ☐ LONE STAR ☒ FEDEX ☐ UPS ☐ OTHER
☐ COURIER DELIVERY
☐ HAND DELIVERED

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E-Mail: login@dhlanalytical.com

№ 71107

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 4, 2016 PAGE 4 OF 4
PO #: 04285081.0000.00044 DHL WORK ORDER #: 1605047
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 ☐ [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
Fastco Frag	44	4-28-16	1130	O	Ziplock	1				X							X					X									

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
[signature]	5-4-16 / 1800	[signature]
[signature]	5/5/16 1000	[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: 0.7, 2.4, 0.3, 3.4, 4.6 THERM #: 78
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: 5/5/2016

Work Order Number **1605047** | Received by **JB**

Checklist completed by: Signature 5/5/2016 Date | Reviewed by Initials 5/5/2016 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 ☐	2.1 °C
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH<2,acceptable upon receipt?	Yes ☐	No ☐	NA ☑ LOT #
	Adjusted?		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.

Date: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(0-2)-A
Project:	Laredo SGR	**Lab ID:**	1605047-01
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 10:39 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	168	0.0885	0.265	0.133		mg/Kg-dry	5	05/16/16 03:18 PM
IS: Bismuth	90.4	0	30-120	0		%REC	5	05/16/16 03:18 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.467	0.0997	0.199	0.150		mg/Kg-dry	20	05/13/16 02:23 AM
Acenaphthylene	0.150	0.0997	0.199	0.150	U	mg/Kg-dry	20	05/13/16 02:23 AM
Anthracene	0.892	0.0997	0.199	0.150		mg/Kg-dry	20	05/13/16 02:23 AM
Benzo[a]anthracene	8.61	0.0997	0.199	0.150		mg/Kg-dry	20	05/13/16 02:23 AM
Benzo[a]pyrene	12.6	0.0997	0.199	0.150		mg/Kg-dry	20	05/13/16 02:23 AM
Benzo[b]fluoranthene	11.0	0.0997	0.199	0.150		mg/Kg-dry	20	05/13/16 02:23 AM
Benzo[e]pyrene	9.17	0.0997	0.199	0.150		mg/Kg-dry	20	05/13/16 02:23 AM
Benzo[g,h,i]perylene	10.2	0.0997	0.199	0.150		mg/Kg-dry	20	05/13/16 02:23 AM
Benzo[j]fluoranthene	5.99	0.0997	0.199	0.150	N	mg/Kg-dry	20	05/13/16 02:23 AM
Benzo[k]fluoranthene	5.71	0.0997	0.199	0.150		mg/Kg-dry	20	05/13/16 02:23 AM
Chrysene	10.9	0.0997	0.199	0.150		mg/Kg-dry	20	05/13/16 02:23 AM
Dibenz[a,h]anthracene	2.25	0.0997	0.199	0.150		mg/Kg-dry	20	05/13/16 02:23 AM
Fluoranthene	12.8	0.0997	0.199	0.150		mg/Kg-dry	20	05/13/16 02:23 AM
Fluorene	0.172	0.0997	0.199	0.150	J	mg/Kg-dry	20	05/13/16 02:23 AM
Indeno[1,2,3-cd]pyrene	8.34	0.0997	0.199	0.150		mg/Kg-dry	20	05/13/16 02:23 AM
Phenanthrene	4.62	0.0997	0.199	0.150		mg/Kg-dry	20	05/13/16 02:23 AM
Pyrene	11.4	0.0997	0.199	0.150		mg/Kg-dry	20	05/13/16 02:23 AM
IS: Acenaphthene-d10	76.1	0	50-200	0		%REC	20	05/13/16 02:23 AM
IS: Chrysene-d12	82.3	0	50-200	0		%REC	20	05/13/16 02:23 AM
IS: Naphthalene-d8	122	0	50-200	0		%REC	20	05/13/16 02:23 AM
IS: Perylene-d12	84.2	0	50-200	0		%REC	20	05/13/16 02:23 AM
IS: Phenanthrene-d10	80.5	0	50-200	0		%REC	20	05/13/16 02:23 AM
Surr: 2-Fluorobiphenyl	84.9	0	46-115	0		%REC	20	05/13/16 02:23 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(0-2)-A
Project:	Laredo SGR	**Lab ID:**	1605047-01
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 10:39 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	74.2	0	58-133	0		%REC	20	05/13/16 02:23 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(2-4)-A
Project:	Laredo SGR	**Lab ID:**	1605047-02
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 10:40 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	14.5	0.0935	0.280	0.140		mg/Kg-dry	5	05/16/16 03:20 PM
IS: Bismuth	89.3	0	30-120	0		%REC	5	05/16/16 03:20 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0656	0.0500	0.0999	0.0749	J	mg/Kg-dry	10	05/12/16 05:10 PM
Acenaphthylene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 05:10 PM
Anthracene	0.111	0.0500	0.0999	0.0749		mg/Kg-dry	10	05/12/16 05:10 PM
Benzo[a]anthracene	1.12	0.0500	0.0999	0.0749		mg/Kg-dry	10	05/12/16 05:10 PM
Benzo[a]pyrene	1.46	0.0500	0.0999	0.0749		mg/Kg-dry	10	05/12/16 05:10 PM
Benzo[b]fluoranthene	1.30	0.0500	0.0999	0.0749		mg/Kg-dry	10	05/12/16 05:10 PM
Benzo[e]pyrene	1.10	0.0500	0.0999	0.0749		mg/Kg-dry	10	05/12/16 05:10 PM
Benzo[g,h,i]perylene	1.09	0.0500	0.0999	0.0749		mg/Kg-dry	10	05/12/16 05:10 PM
Benzo[j]fluoranthene	0.705	0.0500	0.0999	0.0749	N	mg/Kg-dry	10	05/12/16 05:10 PM
Benzo[k]fluoranthene	0.685	0.0500	0.0999	0.0749		mg/Kg-dry	10	05/12/16 05:10 PM
Chrysene	1.38	0.0500	0.0999	0.0749		mg/Kg-dry	10	05/12/16 05:10 PM
Dibenz[a,h]anthracene	0.241	0.0500	0.0999	0.0749		mg/Kg-dry	10	05/12/16 05:10 PM
Fluoranthene	1.73	0.0500	0.0999	0.0749		mg/Kg-dry	10	05/12/16 05:10 PM
Fluorene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 05:10 PM
Indeno[1,2,3-cd]pyrene	0.896	0.0500	0.0999	0.0749		mg/Kg-dry	10	05/12/16 05:10 PM
Phenanthrene	0.542	0.0500	0.0999	0.0749		mg/Kg-dry	10	05/12/16 05:10 PM
Pyrene	1.54	0.0500	0.0999	0.0749		mg/Kg-dry	10	05/12/16 05:10 PM
IS: Acenaphthene-d10	78.5	0	50-200	0		%REC	10	05/12/16 05:10 PM
IS: Chrysene-d12	83.6	0	50-200	0		%REC	10	05/12/16 05:10 PM
IS: Naphthalene-d8	121	0	50-200	0		%REC	10	05/12/16 05:10 PM
IS: Perylene-d12	84.5	0	50-200	0		%REC	10	05/12/16 05:10 PM
IS: Phenanthrene-d10	78.9	0	50-200	0		%REC	10	05/12/16 05:10 PM
Surr: 2-Fluorobiphenyl	83.0	0	46-115	0		%REC	10	05/12/16 05:10 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(2-4)-A
Project:	Laredo SGR	**Lab ID:**	1605047-02
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 10:40 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	72.4	0	58-133	0		%REC	10	05/12/16 05:10 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(4-6)-A
Project:	Laredo SGR	**Lab ID:**	1605047-03
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 10:41 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	5.19	0.0885	0.265	0.133		mg/Kg-dry	5	05/16/16 02:40 PM
IS: Bismuth	90.7	0	30-120	0		%REC	5	05/16/16 02:40 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/12/16 09:03 PM
Acenaphthylene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/12/16 09:03 PM
Anthracene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/12/16 09:03 PM
Benzo[a]anthracene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/12/16 09:03 PM
Benzo[a]pyrene	0.0519	0.0498	0.0995	0.0746	J	mg/Kg-dry	10	05/12/16 09:03 PM
Benzo[b]fluoranthene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/12/16 09:03 PM
Benzo[e]pyrene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/12/16 09:03 PM
Benzo[g,h,i]perylene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/12/16 09:03 PM
Benzo[j]fluoranthene	0.0746	0.0498	0.0995	0.0746	NU	mg/Kg-dry	10	05/12/16 09:03 PM
Benzo[k]fluoranthene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/12/16 09:03 PM
Chrysene	0.0510	0.0498	0.0995	0.0746	J	mg/Kg-dry	10	05/12/16 09:03 PM
Dibenz[a,h]anthracene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/12/16 09:03 PM
Fluoranthene	0.0599	0.0498	0.0995	0.0746	J	mg/Kg-dry	10	05/12/16 09:03 PM
Fluorene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/12/16 09:03 PM
Indeno[1,2,3-cd]pyrene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/12/16 09:03 PM
Phenanthrene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/12/16 09:03 PM
Pyrene	0.0545	0.0498	0.0995	0.0746	J	mg/Kg-dry	10	05/12/16 09:03 PM
IS: Acenaphthene-d10	81.1	0	50-200	0		%REC	10	05/12/16 09:03 PM
IS: Chrysene-d12	86.1	0	50-200	0		%REC	10	05/12/16 09:03 PM
IS: Naphthalene-d8	123	0	50-200	0		%REC	10	05/12/16 09:03 PM
IS: Perylene-d12	86.8	0	50-200	0		%REC	10	05/12/16 09:03 PM
IS: Phenanthrene-d10	81.2	0	50-200	0		%REC	10	05/12/16 09:03 PM
Surr: 2-Fluorobiphenyl	82.2	0	46-115	0		%REC	10	05/12/16 09:03 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(4-6)-A
Project:	Laredo SGR	**Lab ID:**	1605047-03
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 10:41 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	73.4	0	58-133	0		%REC	10	05/12/16 09:03 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(6-8)-A
Project:	Laredo SGR	**Lab ID:**	1605047-04
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 10:42 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	5.74	0.0877	0.263	0.132		mg/Kg-dry	5	05/16/16 03:22 PM
IS: Bismuth	91.0	0	30-120	0		%REC	5	05/16/16 03:22 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0720	0.0480	0.0961	0.0720	U	mg/Kg-dry	10	05/12/16 09:43 PM
Acenaphthylene	0.0720	0.0480	0.0961	0.0720	U	mg/Kg-dry	10	05/12/16 09:43 PM
Anthracene	0.0720	0.0480	0.0961	0.0720	U	mg/Kg-dry	10	05/12/16 09:43 PM
Benzo[a]anthracene	0.0720	0.0480	0.0961	0.0720	U	mg/Kg-dry	10	05/12/16 09:43 PM
Benzo[a]pyrene	0.0720	0.0480	0.0961	0.0720	U	mg/Kg-dry	10	05/12/16 09:43 PM
Benzo[b]fluoranthene	0.0720	0.0480	0.0961	0.0720	U	mg/Kg-dry	10	05/12/16 09:43 PM
Benzo[e]pyrene	0.0720	0.0480	0.0961	0.0720	U	mg/Kg-dry	10	05/12/16 09:43 PM
Benzo[g,h,i]perylene	0.0720	0.0480	0.0961	0.0720	U	mg/Kg-dry	10	05/12/16 09:43 PM
Benzo[j]fluoranthene	0.0720	0.0480	0.0961	0.0720	NU	mg/Kg-dry	10	05/12/16 09:43 PM
Benzo[k]fluoranthene	0.0720	0.0480	0.0961	0.0720	U	mg/Kg-dry	10	05/12/16 09:43 PM
Chrysene	0.0720	0.0480	0.0961	0.0720	U	mg/Kg-dry	10	05/12/16 09:43 PM
Dibenz[a,h]anthracene	0.0720	0.0480	0.0961	0.0720	U	mg/Kg-dry	10	05/12/16 09:43 PM
Fluoranthene	0.0720	0.0480	0.0961	0.0720	U	mg/Kg-dry	10	05/12/16 09:43 PM
Fluorene	0.0720	0.0480	0.0961	0.0720	U	mg/Kg-dry	10	05/12/16 09:43 PM
Indeno[1,2,3-cd]pyrene	0.0720	0.0480	0.0961	0.0720	U	mg/Kg-dry	10	05/12/16 09:43 PM
Phenanthrene	0.0720	0.0480	0.0961	0.0720	U	mg/Kg-dry	10	05/12/16 09:43 PM
Pyrene	0.0720	0.0480	0.0961	0.0720	U	mg/Kg-dry	10	05/12/16 09:43 PM
IS: Acenaphthene-d10	77.8	0	50-200	0		%REC	10	05/12/16 09:43 PM
IS: Chrysene-d12	82.8	0	50-200	0		%REC	10	05/12/16 09:43 PM
IS: Naphthalene-d8	121	0	50-200	0		%REC	10	05/12/16 09:43 PM
IS: Perylene-d12	86.1	0	50-200	0		%REC	10	05/12/16 09:43 PM
IS: Phenanthrene-d10	82.7	0	50-200	0		%REC	10	05/12/16 09:43 PM
Surr: 2-Fluorobiphenyl	82.8	0	46-115	0		%REC	10	05/12/16 09:43 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(6-8)-A
Project:	Laredo SGR	**Lab ID:**	1605047-04
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 10:42 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	72.9	0	58-133	0		%REC	10	05/12/16 09:43 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(8-10)-A
Project:	Laredo SGR	**Lab ID:**	1605047-05
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 10:45 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	5.88	0.0862	0.259	0.129		mg/Kg-dry	5	05/16/16 03:24 PM
IS: Bismuth	93.1	0	30-120	0		%REC	5	05/16/16 03:24 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 10:24 PM
Acenaphthylene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 10:24 PM
Anthracene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 10:24 PM
Benzo[a]anthracene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 10:24 PM
Benzo[a]pyrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 10:24 PM
Benzo[b]fluoranthene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 10:24 PM
Benzo[e]pyrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 10:24 PM
Benzo[g,h,i]perylene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 10:24 PM
Benzo[j]fluoranthene	0.0749	0.0500	0.0999	0.0749	NU	mg/Kg-dry	10	05/12/16 10:24 PM
Benzo[k]fluoranthene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 10:24 PM
Chrysene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 10:24 PM
Dibenz[a,h]anthracene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 10:24 PM
Fluoranthene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 10:24 PM
Fluorene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 10:24 PM
Indeno[1,2,3-cd]pyrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 10:24 PM
Phenanthrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 10:24 PM
Pyrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 10:24 PM
IS: Acenaphthene-d10	78.0	0	50-200	0		%REC	10	05/12/16 10:24 PM
IS: Chrysene-d12	84.0	0	50-200	0		%REC	10	05/12/16 10:24 PM
IS: Naphthalene-d8	122	0	50-200	0		%REC	10	05/12/16 10:24 PM
IS: Perylene-d12	87.7	0	50-200	0		%REC	10	05/12/16 10:24 PM
IS: Phenanthrene-d10	81.2	0	50-200	0		%REC	10	05/12/16 10:24 PM
Surr: 2-Fluorobiphenyl	77.1	0	46-115	0		%REC	10	05/12/16 10:24 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(8-10)-A
Project:	Laredo SGR	**Lab ID:**	1605047-05
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 10:45 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	68.2	0	58-133	0		%REC	10	05/12/16 10:24 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(0-2)-B
Project:	Laredo SGR	**Lab ID:**	1605047-06
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 10:47 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	131	0.0980	0.294	0.147		mg/Kg-dry	5	05/16/16 03:26 PM
IS: Bismuth	95.7	0	30-120	0		%REC	5	05/16/16 03:26 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.463	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/13/16 01:43 AM
Acenaphthylene	0.0736	0.0491	0.0981	0.0736	U	mg/Kg-dry	10	05/13/16 01:43 AM
Anthracene	1.42	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/13/16 01:43 AM
Benzo[a]anthracene	9.11	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/13/16 01:43 AM
Benzo[a]pyrene	11.5	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/13/16 01:43 AM
Benzo[b]fluoranthene	10.3	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/13/16 01:43 AM
Benzo[e]pyrene	8.26	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/13/16 01:43 AM
Benzo[g,h,i]perylene	8.75	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/13/16 01:43 AM
Benzo[j]fluoranthene	5.62	0.0491	0.0981	0.0736	N	mg/Kg-dry	10	05/13/16 01:43 AM
Benzo[k]fluoranthene	5.45	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/13/16 01:43 AM
Chrysene	10.8	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/13/16 01:43 AM
Dibenz[a,h]anthracene	1.99	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/13/16 01:43 AM
Fluoranthene	15.8	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/13/16 01:43 AM
Fluorene	0.233	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/13/16 01:43 AM
Indeno[1,2,3-cd]pyrene	7.28	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/13/16 01:43 AM
Phenanthrene	6.87	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/13/16 01:43 AM
Pyrene	13.2	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/13/16 01:43 AM
IS: Acenaphthene-d10	79.2	0	50-200	0		%REC	10	05/13/16 01:43 AM
IS: Chrysene-d12	83.7	0	50-200	0		%REC	10	05/13/16 01:43 AM
IS: Naphthalene-d8	122	0	50-200	0		%REC	10	05/13/16 01:43 AM
IS: Perylene-d12	84.8	0	50-200	0		%REC	10	05/13/16 01:43 AM
IS: Phenanthrene-d10	80.2	0	50-200	0		%REC	10	05/13/16 01:43 AM
Surr: 2-Fluorobiphenyl	82.8	0	46-115	0		%REC	10	05/13/16 01:43 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(0-2)-B
Project:	Laredo SGR	**Lab ID:**	1605047-06
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 10:47 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	74.8	0	58-133	0		%REC	10	05/13/16 01:43 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(2-4)-B
Project:	Laredo SGR	**Lab ID:**	1605047-07
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 10:48 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	27.0	0.0990	0.297	0.149		mg/Kg-dry	5	05/16/16 03:28 PM
IS: Bismuth	93.1	0	30-120	0		%REC	5	05/16/16 03:28 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 11:04 PM
Acenaphthylene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 11:04 PM
Anthracene	0.0737	0.0495	0.0990	0.0743	J	mg/Kg-dry	10	05/12/16 11:04 PM
Benzo[a]anthracene	0.609	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/12/16 11:04 PM
Benzo[a]pyrene	0.850	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/12/16 11:04 PM
Benzo[b]fluoranthene	0.780	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/12/16 11:04 PM
Benzo[e]pyrene	0.666	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/12/16 11:04 PM
Benzo[g,h,i]perylene	0.719	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/12/16 11:04 PM
Benzo[j]fluoranthene	0.408	0.0495	0.0990	0.0743	N	mg/Kg-dry	10	05/12/16 11:04 PM
Benzo[k]fluoranthene	0.400	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/12/16 11:04 PM
Chrysene	0.785	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/12/16 11:04 PM
Dibenz[a,h]anthracene	0.149	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/12/16 11:04 PM
Fluoranthene	1.01	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/12/16 11:04 PM
Fluorene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 11:04 PM
Indeno[1,2,3-cd]pyrene	0.578	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/12/16 11:04 PM
Phenanthrene	0.378	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/12/16 11:04 PM
Pyrene	0.905	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/12/16 11:04 PM
IS: Acenaphthene-d10	77.3	0	50-200	0		%REC	10	05/12/16 11:04 PM
IS: Chrysene-d12	81.1	0	50-200	0		%REC	10	05/12/16 11:04 PM
IS: Naphthalene-d8	115	0	50-200	0		%REC	10	05/12/16 11:04 PM
IS: Perylene-d12	83.4	0	50-200	0		%REC	10	05/12/16 11:04 PM
IS: Phenanthrene-d10	75.1	0	50-200	0		%REC	10	05/12/16 11:04 PM
Surr: 2-Fluorobiphenyl	78.8	0	46-115	0		%REC	10	05/12/16 11:04 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(2-4)-B
Project:	Laredo SGR	**Lab ID:**	1605047-07
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 10:48 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	74.3	0	58-133	0		%REC	10	05/12/16 11:04 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(4-6)-B
Project:	Laredo SGR	**Lab ID:**	1605047-08
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 10:58 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	6.51	0.0971	0.291	0.146		mg/Kg-dry	5	05/16/16 03:30 PM
IS: Bismuth	91.2	0	30-120	0		%REC	5	05/16/16 03:30 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/12/16 11:44 PM
Acenaphthylene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/12/16 11:44 PM
Anthracene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/12/16 11:44 PM
Benzo[a]anthracene	0.107	0.0497	0.0993	0.0745		mg/Kg-dry	10	05/12/16 11:44 PM
Benzo[a]pyrene	0.174	0.0497	0.0993	0.0745		mg/Kg-dry	10	05/12/16 11:44 PM
Benzo[b]fluoranthene	0.148	0.0497	0.0993	0.0745		mg/Kg-dry	10	05/12/16 11:44 PM
Benzo[e]pyrene	0.125	0.0497	0.0993	0.0745		mg/Kg-dry	10	05/12/16 11:44 PM
Benzo[g,h,i]perylene	0.150	0.0497	0.0993	0.0745		mg/Kg-dry	10	05/12/16 11:44 PM
Benzo[j]fluoranthene	0.0770	0.0497	0.0993	0.0745	JN	mg/Kg-dry	10	05/12/16 11:44 PM
Benzo[k]fluoranthene	0.0797	0.0497	0.0993	0.0745	J	mg/Kg-dry	10	05/12/16 11:44 PM
Chrysene	0.134	0.0497	0.0993	0.0745		mg/Kg-dry	10	05/12/16 11:44 PM
Dibenz[a,h]anthracene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/12/16 11:44 PM
Fluoranthene	0.143	0.0497	0.0993	0.0745		mg/Kg-dry	10	05/12/16 11:44 PM
Fluorene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/12/16 11:44 PM
Indeno[1,2,3-cd]pyrene	0.123	0.0497	0.0993	0.0745		mg/Kg-dry	10	05/12/16 11:44 PM
Phenanthrene	0.0680	0.0497	0.0993	0.0745	J	mg/Kg-dry	10	05/12/16 11:44 PM
Pyrene	0.127	0.0497	0.0993	0.0745		mg/Kg-dry	10	05/12/16 11:44 PM
IS: Acenaphthene-d10	79.6	0	50-200	0		%REC	10	05/12/16 11:44 PM
IS: Chrysene-d12	84.1	0	50-200	0		%REC	10	05/12/16 11:44 PM
IS: Naphthalene-d8	122	0	50-200	0		%REC	10	05/12/16 11:44 PM
IS: Perylene-d12	87.0	0	50-200	0		%REC	10	05/12/16 11:44 PM
IS: Phenanthrene-d10	83.5	0	50-200	0		%REC	10	05/12/16 11:44 PM
Surr: 2-Fluorobiphenyl	75.5	0	46-115	0		%REC	10	05/12/16 11:44 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(4-6)-B
Project:	Laredo SGR	**Lab ID:**	1605047-08
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 10:58 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	66.8	0	58-133	0		%REC	10	05/12/16 11:44 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(6-8)-B
Project:	Laredo SGR	**Lab ID:**	1605047-09
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 10:59 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	5.41	0.0840	0.252	0.126		mg/Kg-dry	5	05/16/16 03:33 PM
IS: Bismuth	90.2	0	30-120	0		%REC	5	05/16/16 03:33 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0710	0.0473	0.0947	0.0710	U	mg/Kg-dry	10	05/13/16 12:23 AM
Acenaphthylene	0.0710	0.0473	0.0947	0.0710	U	mg/Kg-dry	10	05/13/16 12:23 AM
Anthracene	0.0710	0.0473	0.0947	0.0710	U	mg/Kg-dry	10	05/13/16 12:23 AM
Benzo[a]anthracene	0.0710	0.0473	0.0947	0.0710	U	mg/Kg-dry	10	05/13/16 12:23 AM
Benzo[a]pyrene	0.0710	0.0473	0.0947	0.0710	U	mg/Kg-dry	10	05/13/16 12:23 AM
Benzo[b]fluoranthene	0.0710	0.0473	0.0947	0.0710	U	mg/Kg-dry	10	05/13/16 12:23 AM
Benzo[e]pyrene	0.0710	0.0473	0.0947	0.0710	U	mg/Kg-dry	10	05/13/16 12:23 AM
Benzo[g,h,i]perylene	0.0710	0.0473	0.0947	0.0710	U	mg/Kg-dry	10	05/13/16 12:23 AM
Benzo[j]fluoranthene	0.0710	0.0473	0.0947	0.0710	NU	mg/Kg-dry	10	05/13/16 12:23 AM
Benzo[k]fluoranthene	0.0710	0.0473	0.0947	0.0710	U	mg/Kg-dry	10	05/13/16 12:23 AM
Chrysene	0.0710	0.0473	0.0947	0.0710	U	mg/Kg-dry	10	05/13/16 12:23 AM
Dibenz[a,h]anthracene	0.0710	0.0473	0.0947	0.0710	U	mg/Kg-dry	10	05/13/16 12:23 AM
Fluoranthene	0.0710	0.0473	0.0947	0.0710	U	mg/Kg-dry	10	05/13/16 12:23 AM
Fluorene	0.0710	0.0473	0.0947	0.0710	U	mg/Kg-dry	10	05/13/16 12:23 AM
Indeno[1,2,3-cd]pyrene	0.0710	0.0473	0.0947	0.0710	U	mg/Kg-dry	10	05/13/16 12:23 AM
Phenanthrene	0.0710	0.0473	0.0947	0.0710	U	mg/Kg-dry	10	05/13/16 12:23 AM
Pyrene	0.0710	0.0473	0.0947	0.0710	U	mg/Kg-dry	10	05/13/16 12:23 AM
IS: Acenaphthene-d10	78.3	0	50-200	0		%REC	10	05/13/16 12:23 AM
IS: Chrysene-d12	81.2	0	50-200	0		%REC	10	05/13/16 12:23 AM
IS: Naphthalene-d8	120	0	50-200	0		%REC	10	05/13/16 12:23 AM
IS: Perylene-d12	85.2	0	50-200	0		%REC	10	05/13/16 12:23 AM
IS: Phenanthrene-d10	81.6	0	50-200	0		%REC	10	05/13/16 12:23 AM
Surr: 2-Fluorobiphenyl	73.8	0	46-115	0		%REC	10	05/13/16 12:23 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(6-8)-B
Project:	Laredo SGR	**Lab ID:**	1605047-09
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 10:59 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	65.7	0	58-133	0		%REC	10	05/13/16 12:23 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(8-10)-B
Project:	Laredo SGR	**Lab ID:**	1605047-10
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 11:01 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	5.32	0.0855	0.256	0.128		mg/Kg-dry	5	05/16/16 03:34 PM
IS: Bismuth	90.7	0	30-120	0		%REC	5	05/16/16 03:34 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/13/16 01:03 AM
Acenaphthylene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/13/16 01:03 AM
Anthracene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/13/16 01:03 AM
Benzo[a]anthracene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/13/16 01:03 AM
Benzo[a]pyrene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/13/16 01:03 AM
Benzo[b]fluoranthene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/13/16 01:03 AM
Benzo[e]pyrene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/13/16 01:03 AM
Benzo[g,h,i]perylene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/13/16 01:03 AM
Benzo[j]fluoranthene	0.0741	0.0494	0.0988	0.0741	NU	mg/Kg-dry	10	05/13/16 01:03 AM
Benzo[k]fluoranthene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/13/16 01:03 AM
Chrysene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/13/16 01:03 AM
Dibenz[a,h]anthracene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/13/16 01:03 AM
Fluoranthene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/13/16 01:03 AM
Fluorene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/13/16 01:03 AM
Indeno[1,2,3-cd]pyrene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/13/16 01:03 AM
Phenanthrene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/13/16 01:03 AM
Pyrene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/13/16 01:03 AM
IS: Acenaphthene-d10	78.8	0	50-200	0		%REC	10	05/13/16 01:03 AM
IS: Chrysene-d12	82.5	0	50-200	0		%REC	10	05/13/16 01:03 AM
IS: Naphthalene-d8	119	0	50-200	0		%REC	10	05/13/16 01:03 AM
IS: Perylene-d12	85.1	0	50-200	0		%REC	10	05/13/16 01:03 AM
IS: Phenanthrene-d10	83.7	0	50-200	0		%REC	10	05/13/16 01:03 AM
Surr: 2-Fluorobiphenyl	72.3	0	46-115	0		%REC	10	05/13/16 01:03 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(8-10)-B
Project:	Laredo SGR	**Lab ID:**	1605047-10
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 11:01 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	65.0	0	58-133	0		%REC	10	05/13/16 01:03 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(0-2)-C
Project:	Laredo SGR	**Lab ID:**	1605047-11
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 11:09 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	143	0.0862	0.259	0.129		mg/Kg-dry	5	05/11/16 07:32 PM
IS: Bismuth	88.9	0	30-120	0		%REC	5	05/11/16 07:32 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.116	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:22 PM
Acenaphthylene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/12/16 03:22 PM
Anthracene	0.317	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:22 PM
Benzo[a]anthracene	2.48	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:22 PM
Benzo[a]pyrene	3.22	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:22 PM
Benzo[b]fluoranthene	2.89	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:22 PM
Benzo[e]pyrene	2.29	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:22 PM
Benzo[g,h,i]perylene	2.40	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:22 PM
Benzo[j]fluoranthene	1.58	0.0496	0.0992	0.0744	N	mg/Kg-dry	10	05/12/16 03:22 PM
Benzo[k]fluoranthene	1.54	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:22 PM
Chrysene	3.05	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:22 PM
Dibenz[a,h]anthracene	0.394	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:22 PM
Fluoranthene	4.09	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:22 PM
Fluorene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/12/16 03:22 PM
Indeno[1,2,3-cd]pyrene	1.99	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:22 PM
Phenanthrene	1.71	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:22 PM
Pyrene	3.56	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:22 PM
IS: Acenaphthene-d10	108	0	50-200	0		%REC	10	05/12/16 03:22 PM
IS: Chrysene-d12	96.9	0	50-200	0		%REC	10	05/12/16 03:22 PM
IS: Naphthalene-d8	101	0	50-200	0		%REC	10	05/12/16 03:22 PM
IS: Perylene-d12	98.0	0	50-200	0		%REC	10	05/12/16 03:22 PM
IS: Phenanthrene-d10	99.8	0	50-200	0		%REC	10	05/12/16 03:22 PM
Surr: 2-Fluorobiphenyl	72.3	0	46-115	0		%REC	10	05/12/16 03:22 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(0-2)-C
Project:	Laredo SGR	**Lab ID:**	1605047-11
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 11:09 AM
Lab Order:	1605047	**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	05/12/16 03:22 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(2-4)-C
Project:	Laredo SGR	**Lab ID:**	1605047-12
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 11:11 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	103	0.0926	0.278	0.139		mg/Kg-dry	5	05/11/16 07:33 PM
IS: Bismuth	87.3	0	30-120	0		%REC	5	05/11/16 07:33 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.105	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:59 PM
Acenaphthylene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/12/16 03:59 PM
Anthracene	0.418	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:59 PM
Benzo[a]anthracene	2.70	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:59 PM
Benzo[a]pyrene	3.05	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:59 PM
Benzo[b]fluoranthene	2.81	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:59 PM
Benzo[e]pyrene	2.14	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:59 PM
Benzo[g,h,i]perylene	2.12	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:59 PM
Benzo[j]fluoranthene	1.54	0.0496	0.0992	0.0744	N	mg/Kg-dry	10	05/12/16 03:59 PM
Benzo[k]fluoranthene	1.50	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:59 PM
Chrysene	3.20	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:59 PM
Dibenz[a,h]anthracene	0.358	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:59 PM
Fluoranthene	4.71	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:59 PM
Fluorene	0.0560	0.0496	0.0992	0.0744	J	mg/Kg-dry	10	05/12/16 03:59 PM
Indeno[1,2,3-cd]pyrene	1.80	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:59 PM
Phenanthrene	2.18	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:59 PM
Pyrene	3.97	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:59 PM
IS: Acenaphthene-d10	114	0	50-200	0		%REC	10	05/12/16 03:59 PM
IS: Chrysene-d12	98.5	0	50-200	0		%REC	10	05/12/16 03:59 PM
IS: Naphthalene-d8	101	0	50-200	0		%REC	10	05/12/16 03:59 PM
IS: Perylene-d12	101	0	50-200	0		%REC	10	05/12/16 03:59 PM
IS: Phenanthrene-d10	104	0	50-200	0		%REC	10	05/12/16 03:59 PM
Surr: 2-Fluorobiphenyl	82.5	0	46-115	0		%REC	10	05/12/16 03:59 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(2-4)-C
Project:	Laredo SGR	**Lab ID:**	1605047-12
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 11:11 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	77.1	0	58-133	0		%REC	10	05/12/16 03:59 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(4-6)-C
Project:	Laredo SGR	**Lab ID:**	1605047-13
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 11:13 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	5.55	0.0917	0.275	0.138		mg/Kg-dry	5	05/11/16 07:35 PM
IS: Bismuth	87.5	0	30-120	0		%REC	5	05/11/16 07:35 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0723	0.0482	0.0964	0.0723	U	mg/Kg-dry	10	05/12/16 04:36 PM
Acenaphthylene	0.0723	0.0482	0.0964	0.0723	U	mg/Kg-dry	10	05/12/16 04:36 PM
Anthracene	0.0723	0.0482	0.0964	0.0723	U	mg/Kg-dry	10	05/12/16 04:36 PM
Benzo[a]anthracene	0.0723	0.0482	0.0964	0.0723	U	mg/Kg-dry	10	05/12/16 04:36 PM
Benzo[a]pyrene	0.0723	0.0482	0.0964	0.0723	U	mg/Kg-dry	10	05/12/16 04:36 PM
Benzo[b]fluoranthene	0.0723	0.0482	0.0964	0.0723	U	mg/Kg-dry	10	05/12/16 04:36 PM
Benzo[e]pyrene	0.0723	0.0482	0.0964	0.0723	U	mg/Kg-dry	10	05/12/16 04:36 PM
Benzo[g,h,i]perylene	0.0723	0.0482	0.0964	0.0723	U	mg/Kg-dry	10	05/12/16 04:36 PM
Benzo[j]fluoranthene	0.0723	0.0482	0.0964	0.0723	NU	mg/Kg-dry	10	05/12/16 04:36 PM
Benzo[k]fluoranthene	0.0723	0.0482	0.0964	0.0723	U	mg/Kg-dry	10	05/12/16 04:36 PM
Chrysene	0.0543	0.0482	0.0964	0.0723	J	mg/Kg-dry	10	05/12/16 04:36 PM
Dibenz[a,h]anthracene	0.0723	0.0482	0.0964	0.0723	U	mg/Kg-dry	10	05/12/16 04:36 PM
Fluoranthene	0.0973	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/12/16 04:36 PM
Fluorene	0.0723	0.0482	0.0964	0.0723	U	mg/Kg-dry	10	05/12/16 04:36 PM
Indeno[1,2,3-cd]pyrene	0.0723	0.0482	0.0964	0.0723	U	mg/Kg-dry	10	05/12/16 04:36 PM
Phenanthrene	0.0549	0.0482	0.0964	0.0723	J	mg/Kg-dry	10	05/12/16 04:36 PM
Pyrene	0.0798	0.0482	0.0964	0.0723	J	mg/Kg-dry	10	05/12/16 04:36 PM
IS: Acenaphthene-d10	108	0	50-200	0		%REC	10	05/12/16 04:36 PM
IS: Chrysene-d12	95.7	0	50-200	0		%REC	10	05/12/16 04:36 PM
IS: Naphthalene-d8	96.5	0	50-200	0		%REC	10	05/12/16 04:36 PM
IS: Perylene-d12	96.2	0	50-200	0		%REC	10	05/12/16 04:36 PM
IS: Phenanthrene-d10	97.9	0	50-200	0		%REC	10	05/12/16 04:36 PM
Surr: 2-Fluorobiphenyl	82.6	0	46-115	0		%REC	10	05/12/16 04:36 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(4-6)-C
Project:	Laredo SGR	**Lab ID:**	1605047-13
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 11:13 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	75.8	0	58-133	0		%REC	10	05/12/16 04:36 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(6-8)-C
Project:	Laredo SGR	**Lab ID:**	1605047-14
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 11:14 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	5.94	0.0952	0.286	0.143		mg/Kg-dry	5	05/11/16 07:37 PM
IS: Bismuth	88.2	0	30-120	0		%REC	5	05/11/16 07:37 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0706	0.0470	0.0941	0.0706	U	mg/Kg-dry	10	05/12/16 05:13 PM
Acenaphthylene	0.0706	0.0470	0.0941	0.0706	U	mg/Kg-dry	10	05/12/16 05:13 PM
Anthracene	0.0706	0.0470	0.0941	0.0706	U	mg/Kg-dry	10	05/12/16 05:13 PM
Benzo[a]anthracene	0.0706	0.0470	0.0941	0.0706	U	mg/Kg-dry	10	05/12/16 05:13 PM
Benzo[a]pyrene	0.0706	0.0470	0.0941	0.0706	U	mg/Kg-dry	10	05/12/16 05:13 PM
Benzo[b]fluoranthene	0.0706	0.0470	0.0941	0.0706	U	mg/Kg-dry	10	05/12/16 05:13 PM
Benzo[e]pyrene	0.0706	0.0470	0.0941	0.0706	U	mg/Kg-dry	10	05/12/16 05:13 PM
Benzo[g,h,i]perylene	0.0706	0.0470	0.0941	0.0706	U	mg/Kg-dry	10	05/12/16 05:13 PM
Benzo[j]fluoranthene	0.0706	0.0470	0.0941	0.0706	NU	mg/Kg-dry	10	05/12/16 05:13 PM
Benzo[k]fluoranthene	0.0706	0.0470	0.0941	0.0706	U	mg/Kg-dry	10	05/12/16 05:13 PM
Chrysene	0.0706	0.0470	0.0941	0.0706	U	mg/Kg-dry	10	05/12/16 05:13 PM
Dibenz[a,h]anthracene	0.0706	0.0470	0.0941	0.0706	U	mg/Kg-dry	10	05/12/16 05:13 PM
Fluoranthene	0.0706	0.0470	0.0941	0.0706	U	mg/Kg-dry	10	05/12/16 05:13 PM
Fluorene	0.0706	0.0470	0.0941	0.0706	U	mg/Kg-dry	10	05/12/16 05:13 PM
Indeno[1,2,3-cd]pyrene	0.0706	0.0470	0.0941	0.0706	U	mg/Kg-dry	10	05/12/16 05:13 PM
Phenanthrene	0.0706	0.0470	0.0941	0.0706	U	mg/Kg-dry	10	05/12/16 05:13 PM
Pyrene	0.0706	0.0470	0.0941	0.0706	U	mg/Kg-dry	10	05/12/16 05:13 PM
IS: Acenaphthene-d10	110	0	50-200	0		%REC	10	05/12/16 05:13 PM
IS: Chrysene-d12	97.4	0	50-200	0		%REC	10	05/12/16 05:13 PM
IS: Naphthalene-d8	98.3	0	50-200	0		%REC	10	05/12/16 05:13 PM
IS: Perylene-d12	98.6	0	50-200	0		%REC	10	05/12/16 05:13 PM
IS: Phenanthrene-d10	100	0	50-200	0		%REC	10	05/12/16 05:13 PM
Surr: 2-Fluorobiphenyl	78.0	0	46-115	0		%REC	10	05/12/16 05:13 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(6-8)-C
Project:	Laredo SGR	**Lab ID:**	1605047-14
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 11:14 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	70.1	0	58-133	0		%REC	10	05/12/16 05:13 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(8-10)-C
Project:	Laredo SGR	**Lab ID:**	1605047-15
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 11:15 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	5.26	0.0885	0.265	0.133		mg/Kg-dry	5	05/11/16 07:39 PM
IS: Bismuth	87.4	0	30-120	0		%REC	5	05/11/16 07:39 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 05:50 PM
Acenaphthylene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 05:50 PM
Anthracene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 05:50 PM
Benzo[a]anthracene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 05:50 PM
Benzo[a]pyrene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 05:50 PM
Benzo[b]fluoranthene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 05:50 PM
Benzo[e]pyrene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 05:50 PM
Benzo[g,h,i]perylene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 05:50 PM
Benzo[j]fluoranthene	0.0737	0.0491	0.0982	0.0737	NU	mg/Kg-dry	10	05/12/16 05:50 PM
Benzo[k]fluoranthene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 05:50 PM
Chrysene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 05:50 PM
Dibenz[a,h]anthracene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 05:50 PM
Fluoranthene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 05:50 PM
Fluorene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 05:50 PM
Indeno[1,2,3-cd]pyrene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 05:50 PM
Phenanthrene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 05:50 PM
Pyrene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 05:50 PM
IS: Acenaphthene-d10	115	0	50-200	0		%REC	10	05/12/16 05:50 PM
IS: Chrysene-d12	97.3	0	50-200	0		%REC	10	05/12/16 05:50 PM
IS: Naphthalene-d8	101	0	50-200	0		%REC	10	05/12/16 05:50 PM
IS: Perylene-d12	100	0	50-200	0		%REC	10	05/12/16 05:50 PM
IS: Phenanthrene-d10	101	0	50-200	0		%REC	10	05/12/16 05:50 PM
Surr: 2-Fluorobiphenyl	84.9	0	46-115	0		%REC	10	05/12/16 05:50 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(8-10)-C
Project:	Laredo SGR	**Lab ID:**	1605047-15
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 11:15 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	76.5	0	58-133	0		%REC	10	05/12/16 05:50 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(0-2)-A
Project:	Laredo SGR	**Lab ID:**	1605047-16
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:04 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	18.1	0.0962	0.288	0.144		mg/Kg-dry	5	05/11/16 07:41 PM
IS: Bismuth	87.0	0	30-120	0		%REC	5	05/11/16 07:41 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0739	0.0493	0.0985	0.0739	U	mg/Kg-dry	10	05/12/16 06:27 PM
Acenaphthylene	0.0739	0.0493	0.0985	0.0739	U	mg/Kg-dry	10	05/12/16 06:27 PM
Anthracene	0.0739	0.0493	0.0985	0.0739	U	mg/Kg-dry	10	05/12/16 06:27 PM
Benzo[a]anthracene	0.0564	0.0493	0.0985	0.0739	J	mg/Kg-dry	10	05/12/16 06:27 PM
Benzo[a]pyrene	0.0772	0.0493	0.0985	0.0739	J	mg/Kg-dry	10	05/12/16 06:27 PM
Benzo[b]fluoranthene	0.0756	0.0493	0.0985	0.0739	J	mg/Kg-dry	10	05/12/16 06:27 PM
Benzo[e]pyrene	0.0631	0.0493	0.0985	0.0739	J	mg/Kg-dry	10	05/12/16 06:27 PM
Benzo[g,h,i]perylene	0.0671	0.0493	0.0985	0.0739	J	mg/Kg-dry	10	05/12/16 06:27 PM
Benzo[j]fluoranthene	0.0739	0.0493	0.0985	0.0739	NU	mg/Kg-dry	10	05/12/16 06:27 PM
Benzo[k]fluoranthene	0.0739	0.0493	0.0985	0.0739	U	mg/Kg-dry	10	05/12/16 06:27 PM
Chrysene	0.0776	0.0493	0.0985	0.0739	J	mg/Kg-dry	10	05/12/16 06:27 PM
Dibenz[a,h]anthracene	0.0739	0.0493	0.0985	0.0739	U	mg/Kg-dry	10	05/12/16 06:27 PM
Fluoranthene	0.0918	0.0493	0.0985	0.0739	J	mg/Kg-dry	10	05/12/16 06:27 PM
Fluorene	0.0739	0.0493	0.0985	0.0739	U	mg/Kg-dry	10	05/12/16 06:27 PM
Indeno[1,2,3-cd]pyrene	0.0529	0.0493	0.0985	0.0739	J	mg/Kg-dry	10	05/12/16 06:27 PM
Phenanthrene	0.0739	0.0493	0.0985	0.0739	U	mg/Kg-dry	10	05/12/16 06:27 PM
Pyrene	0.0832	0.0493	0.0985	0.0739	J	mg/Kg-dry	10	05/12/16 06:27 PM
IS: Acenaphthene-d10	113	0	50-200	0		%REC	10	05/12/16 06:27 PM
IS: Chrysene-d12	96.5	0	50-200	0		%REC	10	05/12/16 06:27 PM
IS: Naphthalene-d8	99.5	0	50-200	0		%REC	10	05/12/16 06:27 PM
IS: Perylene-d12	98.9	0	50-200	0		%REC	10	05/12/16 06:27 PM
IS: Phenanthrene-d10	100	0	50-200	0		%REC	10	05/12/16 06:27 PM
Surr: 2-Fluorobiphenyl	87.7	0	46-115	0		%REC	10	05/12/16 06:27 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(0-2)-A
Project:	Laredo SGR	**Lab ID:**	1605047-16
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:04 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	77.9	0	58-133	0		%REC	10	05/12/16 06:27 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(2-4)-A
Project:	Laredo SGR	**Lab ID:**	1605047-17
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:06 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	6.49	0.0862	0.259	0.129		mg/Kg-dry	5	05/11/16 07:43 PM
IS: Bismuth	86.6	0	30-120	0		%REC	5	05/11/16 07:43 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/12/16 07:04 PM
Acenaphthylene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/12/16 07:04 PM
Anthracene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/12/16 07:04 PM
Benzo[a]anthracene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/12/16 07:04 PM
Benzo[a]pyrene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/12/16 07:04 PM
Benzo[b]fluoranthene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/12/16 07:04 PM
Benzo[e]pyrene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/12/16 07:04 PM
Benzo[g,h,i]perylene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/12/16 07:04 PM
Benzo[j]fluoranthene	0.0732	0.0488	0.0977	0.0732	NU	mg/Kg-dry	10	05/12/16 07:04 PM
Benzo[k]fluoranthene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/12/16 07:04 PM
Chrysene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/12/16 07:04 PM
Dibenz[a,h]anthracene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/12/16 07:04 PM
Fluoranthene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/12/16 07:04 PM
Fluorene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/12/16 07:04 PM
Indeno[1,2,3-cd]pyrene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/12/16 07:04 PM
Phenanthrene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/12/16 07:04 PM
Pyrene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/12/16 07:04 PM
IS: Acenaphthene-d10	111	0	50-200	0		%REC	10	05/12/16 07:04 PM
IS: Chrysene-d12	94.5	0	50-200	0		%REC	10	05/12/16 07:04 PM
IS: Naphthalene-d8	95.4	0	50-200	0		%REC	10	05/12/16 07:04 PM
IS: Perylene-d12	96.4	0	50-200	0		%REC	10	05/12/16 07:04 PM
IS: Phenanthrene-d10	98.2	0	50-200	0		%REC	10	05/12/16 07:04 PM
Surr: 2-Fluorobiphenyl	91.2	0	46-115	0		%REC	10	05/12/16 07:04 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(2-4)-A
Project:	Laredo SGR	**Lab ID:**	1605047-17
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:06 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	82.4	0	58-133	0		%REC	10	05/12/16 07:04 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(4-6)-A
Project:	Laredo SGR	**Lab ID:**	1605047-18
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:08 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	5.52	0.0901	0.270	0.135		mg/Kg-dry	5	05/11/16 07:45 PM
IS: Bismuth	88.0	0	30-120	0		%REC	5	05/11/16 07:45 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0730	0.0486	0.0973	0.0730	U	mg/Kg-dry	10	05/12/16 07:41 PM
Acenaphthylene	0.0730	0.0486	0.0973	0.0730	U	mg/Kg-dry	10	05/12/16 07:41 PM
Anthracene	0.0730	0.0486	0.0973	0.0730	U	mg/Kg-dry	10	05/12/16 07:41 PM
Benzo[a]anthracene	0.0730	0.0486	0.0973	0.0730	U	mg/Kg-dry	10	05/12/16 07:41 PM
Benzo[a]pyrene	0.0730	0.0486	0.0973	0.0730	U	mg/Kg-dry	10	05/12/16 07:41 PM
Benzo[b]fluoranthene	0.0730	0.0486	0.0973	0.0730	U	mg/Kg-dry	10	05/12/16 07:41 PM
Benzo[e]pyrene	0.0730	0.0486	0.0973	0.0730	U	mg/Kg-dry	10	05/12/16 07:41 PM
Benzo[g,h,i]perylene	0.0730	0.0486	0.0973	0.0730	U	mg/Kg-dry	10	05/12/16 07:41 PM
Benzo[j]fluoranthene	0.0730	0.0486	0.0973	0.0730	NU	mg/Kg-dry	10	05/12/16 07:41 PM
Benzo[k]fluoranthene	0.0730	0.0486	0.0973	0.0730	U	mg/Kg-dry	10	05/12/16 07:41 PM
Chrysene	0.0730	0.0486	0.0973	0.0730	U	mg/Kg-dry	10	05/12/16 07:41 PM
Dibenz[a,h]anthracene	0.0730	0.0486	0.0973	0.0730	U	mg/Kg-dry	10	05/12/16 07:41 PM
Fluoranthene	0.0730	0.0486	0.0973	0.0730	U	mg/Kg-dry	10	05/12/16 07:41 PM
Fluorene	0.0730	0.0486	0.0973	0.0730	U	mg/Kg-dry	10	05/12/16 07:41 PM
Indeno[1,2,3-cd]pyrene	0.0730	0.0486	0.0973	0.0730	U	mg/Kg-dry	10	05/12/16 07:41 PM
Phenanthrene	0.0730	0.0486	0.0973	0.0730	U	mg/Kg-dry	10	05/12/16 07:41 PM
Pyrene	0.0730	0.0486	0.0973	0.0730	U	mg/Kg-dry	10	05/12/16 07:41 PM
IS: Acenaphthene-d10	112	0	50-200	0		%REC	10	05/12/16 07:41 PM
IS: Chrysene-d12	98.0	0	50-200	0		%REC	10	05/12/16 07:41 PM
IS: Naphthalene-d8	99.9	0	50-200	0		%REC	10	05/12/16 07:41 PM
IS: Perylene-d12	99.6	0	50-200	0		%REC	10	05/12/16 07:41 PM
IS: Phenanthrene-d10	99.6	0	50-200	0		%REC	10	05/12/16 07:41 PM
Surr: 2-Fluorobiphenyl	79.5	0	46-115	0		%REC	10	05/12/16 07:41 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(4-6)-A
Project:	Laredo SGR	**Lab ID:**	1605047-18
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:08 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	73.5	0	58-133	0		%REC	10	05/12/16 07:41 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(6-8)-A
Project:	Laredo SGR	**Lab ID:**	1605047-19
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:11 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	5.99	0.0971	0.291	0.146		mg/Kg-dry	5	05/11/16 07:47 PM
IS: Bismuth	88.9	0	30-120	0		%REC	5	05/11/16 07:47 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0731	0.0487	0.0975	0.0731	U	mg/Kg-dry	10	05/12/16 08:18 PM
Acenaphthylene	0.0731	0.0487	0.0975	0.0731	U	mg/Kg-dry	10	05/12/16 08:18 PM
Anthracene	0.0731	0.0487	0.0975	0.0731	U	mg/Kg-dry	10	05/12/16 08:18 PM
Benzo[a]anthracene	0.0731	0.0487	0.0975	0.0731	U	mg/Kg-dry	10	05/12/16 08:18 PM
Benzo[a]pyrene	0.0731	0.0487	0.0975	0.0731	U	mg/Kg-dry	10	05/12/16 08:18 PM
Benzo[b]fluoranthene	0.0731	0.0487	0.0975	0.0731	U	mg/Kg-dry	10	05/12/16 08:18 PM
Benzo[e]pyrene	0.0731	0.0487	0.0975	0.0731	U	mg/Kg-dry	10	05/12/16 08:18 PM
Benzo[g,h,i]perylene	0.0731	0.0487	0.0975	0.0731	U	mg/Kg-dry	10	05/12/16 08:18 PM
Benzo[j]fluoranthene	0.0731	0.0487	0.0975	0.0731	NU	mg/Kg-dry	10	05/12/16 08:18 PM
Benzo[k]fluoranthene	0.0731	0.0487	0.0975	0.0731	U	mg/Kg-dry	10	05/12/16 08:18 PM
Chrysene	0.0731	0.0487	0.0975	0.0731	U	mg/Kg-dry	10	05/12/16 08:18 PM
Dibenz[a,h]anthracene	0.0731	0.0487	0.0975	0.0731	U	mg/Kg-dry	10	05/12/16 08:18 PM
Fluoranthene	0.0731	0.0487	0.0975	0.0731	U	mg/Kg-dry	10	05/12/16 08:18 PM
Fluorene	0.0731	0.0487	0.0975	0.0731	U	mg/Kg-dry	10	05/12/16 08:18 PM
Indeno[1,2,3-cd]pyrene	0.0731	0.0487	0.0975	0.0731	U	mg/Kg-dry	10	05/12/16 08:18 PM
Phenanthrene	0.0731	0.0487	0.0975	0.0731	U	mg/Kg-dry	10	05/12/16 08:18 PM
Pyrene	0.0731	0.0487	0.0975	0.0731	U	mg/Kg-dry	10	05/12/16 08:18 PM
IS: Acenaphthene-d10	113	0	50-200	0		%REC	10	05/12/16 08:18 PM
IS: Chrysene-d12	98.9	0	50-200	0		%REC	10	05/12/16 08:18 PM
IS: Naphthalene-d8	99.2	0	50-200	0		%REC	10	05/12/16 08:18 PM
IS: Perylene-d12	100	0	50-200	0		%REC	10	05/12/16 08:18 PM
IS: Phenanthrene-d10	99.7	0	50-200	0		%REC	10	05/12/16 08:18 PM
Surr: 2-Fluorobiphenyl	85.7	0	46-115	0		%REC	10	05/12/16 08:18 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(6-8)-A
Project:	Laredo SGR	**Lab ID:**	1605047-19
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:11 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	78.5	0	58-133	0		%REC	10	05/12/16 08:18 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(8-10)-A
Project:	Laredo SGR	**Lab ID:**	1605047-20
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:13 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	6.23	0.0952	0.286	0.143		mg/Kg-dry	5	05/11/16 08:03 PM
IS: Bismuth	86.7	0	30-120	0		%REC	5	05/11/16 08:03 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/12/16 08:55 PM
Acenaphthylene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/12/16 08:55 PM
Anthracene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/12/16 08:55 PM
Benzo[a]anthracene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/12/16 08:55 PM
Benzo[a]pyrene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/12/16 08:55 PM
Benzo[b]fluoranthene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/12/16 08:55 PM
Benzo[e]pyrene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/12/16 08:55 PM
Benzo[g,h,i]perylene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/12/16 08:55 PM
Benzo[j]fluoranthene	0.0747	0.0498	0.0996	0.0747	NU	mg/Kg-dry	10	05/12/16 08:55 PM
Benzo[k]fluoranthene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/12/16 08:55 PM
Chrysene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/12/16 08:55 PM
Dibenz[a,h]anthracene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/12/16 08:55 PM
Fluoranthene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/12/16 08:55 PM
Fluorene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/12/16 08:55 PM
Indeno[1,2,3-cd]pyrene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/12/16 08:55 PM
Phenanthrene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/12/16 08:55 PM
Pyrene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/12/16 08:55 PM
IS: Acenaphthene-d10	111	0	50-200	0		%REC	10	05/12/16 08:55 PM
IS: Chrysene-d12	95.9	0	50-200	0		%REC	10	05/12/16 08:55 PM
IS: Naphthalene-d8	96.9	0	50-200	0		%REC	10	05/12/16 08:55 PM
IS: Perylene-d12	97.3	0	50-200	0		%REC	10	05/12/16 08:55 PM
IS: Phenanthrene-d10	98.2	0	50-200	0		%REC	10	05/12/16 08:55 PM
Surr: 2-Fluorobiphenyl	91.1	0	46-115	0		%REC	10	05/12/16 08:55 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(8-10)-A
Project:	Laredo SGR	**Lab ID:**	1605047-20
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:13 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	80.2	0	58-133	0		%REC	10	05/12/16 08:55 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(0-2)-B
Project:	Laredo SGR	**Lab ID:**	1605047-21
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:16 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	12.1	0.0917	0.275	0.138		mg/Kg-dry	5	05/11/16 08:05 PM
IS: Bismuth	86.1	0	30-120	0		%REC	5	05/11/16 08:05 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0748	0.0499	0.0997	0.0748	U	mg/Kg-dry	10	05/12/16 09:32 PM
Acenaphthylene	0.0748	0.0499	0.0997	0.0748	U	mg/Kg-dry	10	05/12/16 09:32 PM
Anthracene	0.0748	0.0499	0.0997	0.0748	U	mg/Kg-dry	10	05/12/16 09:32 PM
Benzo[a]anthracene	0.0748	0.0499	0.0997	0.0748	U	mg/Kg-dry	10	05/12/16 09:32 PM
Benzo[a]pyrene	0.0748	0.0499	0.0997	0.0748	U	mg/Kg-dry	10	05/12/16 09:32 PM
Benzo[b]fluoranthene	0.0748	0.0499	0.0997	0.0748	U	mg/Kg-dry	10	05/12/16 09:32 PM
Benzo[e]pyrene	0.0748	0.0499	0.0997	0.0748	U	mg/Kg-dry	10	05/12/16 09:32 PM
Benzo[g,h,i]perylene	0.0748	0.0499	0.0997	0.0748	U	mg/Kg-dry	10	05/12/16 09:32 PM
Benzo[j]fluoranthene	0.0748	0.0499	0.0997	0.0748	NU	mg/Kg-dry	10	05/12/16 09:32 PM
Benzo[k]fluoranthene	0.0748	0.0499	0.0997	0.0748	U	mg/Kg-dry	10	05/12/16 09:32 PM
Chrysene	0.0536	0.0499	0.0997	0.0748	J	mg/Kg-dry	10	05/12/16 09:32 PM
Dibenz[a,h]anthracene	0.0748	0.0499	0.0997	0.0748	U	mg/Kg-dry	10	05/12/16 09:32 PM
Fluoranthene	0.0643	0.0499	0.0997	0.0748	J	mg/Kg-dry	10	05/12/16 09:32 PM
Fluorene	0.0748	0.0499	0.0997	0.0748	U	mg/Kg-dry	10	05/12/16 09:32 PM
Indeno[1,2,3-cd]pyrene	0.0748	0.0499	0.0997	0.0748	U	mg/Kg-dry	10	05/12/16 09:32 PM
Phenanthrene	0.0748	0.0499	0.0997	0.0748	U	mg/Kg-dry	10	05/12/16 09:32 PM
Pyrene	0.0577	0.0499	0.0997	0.0748	J	mg/Kg-dry	10	05/12/16 09:32 PM
IS: Acenaphthene-d10	107	0	50-200	0		%REC	10	05/12/16 09:32 PM
IS: Chrysene-d12	92.8	0	50-200	0		%REC	10	05/12/16 09:32 PM
IS: Naphthalene-d8	93.6	0	50-200	0		%REC	10	05/12/16 09:32 PM
IS: Perylene-d12	95.4	0	50-200	0		%REC	10	05/12/16 09:32 PM
IS: Phenanthrene-d10	96.7	0	50-200	0		%REC	10	05/12/16 09:32 PM
Surr: 2-Fluorobiphenyl	90.7	0	46-115	0		%REC	10	05/12/16 09:32 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(0-2)-B
Project:	Laredo SGR	**Lab ID:**	1605047-21
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:16 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	79.4	0	58-133	0		%REC	10	05/12/16 09:32 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(2-4)-B
Project:	Laredo SGR	**Lab ID:**	1605047-22
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:18 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	5.91	0.0847	0.254	0.127		mg/Kg-dry	5	05/11/16 08:07 PM
IS: Bismuth	85.7	0	30-120	0		%REC	5	05/11/16 08:07 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 10:09 PM
Acenaphthylene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 10:09 PM
Anthracene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 10:09 PM
Benzo[a]anthracene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 10:09 PM
Benzo[a]pyrene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 10:09 PM
Benzo[b]fluoranthene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 10:09 PM
Benzo[e]pyrene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 10:09 PM
Benzo[g,h,i]perylene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 10:09 PM
Benzo[j]fluoranthene	0.0743	0.0495	0.0990	0.0743	NU	mg/Kg-dry	10	05/12/16 10:09 PM
Benzo[k]fluoranthene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 10:09 PM
Chrysene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 10:09 PM
Dibenz[a,h]anthracene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 10:09 PM
Fluoranthene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 10:09 PM
Fluorene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 10:09 PM
Indeno[1,2,3-cd]pyrene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 10:09 PM
Phenanthrene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 10:09 PM
Pyrene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 10:09 PM
IS: Acenaphthene-d10	115	0	50-200	0		%REC	10	05/12/16 10:09 PM
IS: Chrysene-d12	101	0	50-200	0		%REC	10	05/12/16 10:09 PM
IS: Naphthalene-d8	101	0	50-200	0		%REC	10	05/12/16 10:09 PM
IS: Perylene-d12	102	0	50-200	0		%REC	10	05/12/16 10:09 PM
IS: Phenanthrene-d10	103	0	50-200	0		%REC	10	05/12/16 10:09 PM
Surr: 2-Fluorobiphenyl	81.1	0	46-115	0		%REC	10	05/12/16 10:09 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(2-4)-B
Project:	Laredo SGR	**Lab ID:**	1605047-22
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:18 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	75.9	0	58-133	0		%REC	10	05/12/16 10:09 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(4-6)-B
Project:	Laredo SGR	**Lab ID:**	1605047-23
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:20 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	7.21	0.0935	0.280	0.140		mg/Kg-dry	5	05/11/16 08:09 PM
IS: Bismuth	86.6	0	30-120	0		%REC	5	05/11/16 08:09 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/12/16 10:46 PM
Acenaphthylene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/12/16 10:46 PM
Anthracene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/12/16 10:46 PM
Benzo[a]anthracene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/12/16 10:46 PM
Benzo[a]pyrene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/12/16 10:46 PM
Benzo[b]fluoranthene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/12/16 10:46 PM
Benzo[e]pyrene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/12/16 10:46 PM
Benzo[g,h,i]perylene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/12/16 10:46 PM
Benzo[j]fluoranthene	0.0738	0.0492	0.0984	0.0738	NU	mg/Kg-dry	10	05/12/16 10:46 PM
Benzo[k]fluoranthene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/12/16 10:46 PM
Chrysene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/12/16 10:46 PM
Dibenz[a,h]anthracene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/12/16 10:46 PM
Fluoranthene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/12/16 10:46 PM
Fluorene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/12/16 10:46 PM
Indeno[1,2,3-cd]pyrene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/12/16 10:46 PM
Phenanthrene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/12/16 10:46 PM
Pyrene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/12/16 10:46 PM
IS: Acenaphthene-d10	110	0	50-200	0		%REC	10	05/12/16 10:46 PM
IS: Chrysene-d12	94.9	0	50-200	0		%REC	10	05/12/16 10:46 PM
IS: Naphthalene-d8	95.8	0	50-200	0		%REC	10	05/12/16 10:46 PM
IS: Perylene-d12	96.7	0	50-200	0		%REC	10	05/12/16 10:46 PM
IS: Phenanthrene-d10	97.8	0	50-200	0		%REC	10	05/12/16 10:46 PM
Surr: 2-Fluorobiphenyl	88.3	0	46-115	0		%REC	10	05/12/16 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(4-6)-B
Project:	Laredo SGR	**Lab ID:**	1605047-23
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:20 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	75.9	0	58-133	0		%REC	10	05/12/16 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(6-8)-B
Project:	Laredo SGR	**Lab ID:**	1605047-24
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:21 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	7.88	0.0885	0.265	0.133		mg/Kg-dry	5	05/11/16 07:27 PM
IS: Bismuth	89.0	0	30-120	0		%REC	5	05/11/16 07:27 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0734	0.0489	0.0978	0.0734	U	mg/Kg-dry	10	05/12/16 11:23 PM
Acenaphthylene	0.0734	0.0489	0.0978	0.0734	U	mg/Kg-dry	10	05/12/16 11:23 PM
Anthracene	0.0734	0.0489	0.0978	0.0734	U	mg/Kg-dry	10	05/12/16 11:23 PM
Benzo[a]anthracene	0.0734	0.0489	0.0978	0.0734	U	mg/Kg-dry	10	05/12/16 11:23 PM
Benzo[a]pyrene	0.0734	0.0489	0.0978	0.0734	U	mg/Kg-dry	10	05/12/16 11:23 PM
Benzo[b]fluoranthene	0.0734	0.0489	0.0978	0.0734	U	mg/Kg-dry	10	05/12/16 11:23 PM
Benzo[e]pyrene	0.0734	0.0489	0.0978	0.0734	U	mg/Kg-dry	10	05/12/16 11:23 PM
Benzo[g,h,i]perylene	0.0734	0.0489	0.0978	0.0734	U	mg/Kg-dry	10	05/12/16 11:23 PM
Benzo[j]fluoranthene	0.0734	0.0489	0.0978	0.0734	NU	mg/Kg-dry	10	05/12/16 11:23 PM
Benzo[k]fluoranthene	0.0734	0.0489	0.0978	0.0734	U	mg/Kg-dry	10	05/12/16 11:23 PM
Chrysene	0.0734	0.0489	0.0978	0.0734	U	mg/Kg-dry	10	05/12/16 11:23 PM
Dibenz[a,h]anthracene	0.0734	0.0489	0.0978	0.0734	U	mg/Kg-dry	10	05/12/16 11:23 PM
Fluoranthene	0.0734	0.0489	0.0978	0.0734	U	mg/Kg-dry	10	05/12/16 11:23 PM
Fluorene	0.0734	0.0489	0.0978	0.0734	U	mg/Kg-dry	10	05/12/16 11:23 PM
Indeno[1,2,3-cd]pyrene	0.0734	0.0489	0.0978	0.0734	U	mg/Kg-dry	10	05/12/16 11:23 PM
Phenanthrene	0.0734	0.0489	0.0978	0.0734	U	mg/Kg-dry	10	05/12/16 11:23 PM
Pyrene	0.0734	0.0489	0.0978	0.0734	U	mg/Kg-dry	10	05/12/16 11:23 PM
IS: Acenaphthene-d10	108	0	50-200	0		%REC	10	05/12/16 11:23 PM
IS: Chrysene-d12	92.7	0	50-200	0		%REC	10	05/12/16 11:23 PM
IS: Naphthalene-d8	94.5	0	50-200	0		%REC	10	05/12/16 11:23 PM
IS: Perylene-d12	94.3	0	50-200	0		%REC	10	05/12/16 11:23 PM
IS: Phenanthrene-d10	97.6	0	50-200	0		%REC	10	05/12/16 11:23 PM
Surr: 2-Fluorobiphenyl	83.2	0	46-115	0		%REC	10	05/12/16 11:23 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(6-8)-B
Project:	Laredo SGR	**Lab ID:**	1605047-24
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:21 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	74.5	0	58-133	0		%REC	10	05/12/16 11:23 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(8-10)-B
Project:	Laredo SGR	**Lab ID:**	1605047-25
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:23 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	5.63	0.0909	0.273	0.136		mg/Kg-dry	5	05/11/16 08:11 PM
IS: Bismuth	88.4	0	30-120	0		%REC	5	05/11/16 08:11 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/13/16 03:40 AM
Acenaphthylene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/13/16 03:40 AM
Anthracene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/13/16 03:40 AM
Benzo[a]anthracene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/13/16 03:40 AM
Benzo[a]pyrene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/13/16 03:40 AM
Benzo[b]fluoranthene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/13/16 03:40 AM
Benzo[e]pyrene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/13/16 03:40 AM
Benzo[g,h,i]perylene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/13/16 03:40 AM
Benzo[j]fluoranthene	0.0740	0.0494	0.0987	0.0740	NU	mg/Kg-dry	10	05/13/16 03:40 AM
Benzo[k]fluoranthene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/13/16 03:40 AM
Chrysene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/13/16 03:40 AM
Dibenz[a,h]anthracene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/13/16 03:40 AM
Fluoranthene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/13/16 03:40 AM
Fluorene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/13/16 03:40 AM
Indeno[1,2,3-cd]pyrene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/13/16 03:40 AM
Phenanthrene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/13/16 03:40 AM
Pyrene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/13/16 03:40 AM
IS: Acenaphthene-d10	111	0	50-200	0		%REC	10	05/13/16 03:40 AM
IS: Chrysene-d12	94.0	0	50-200	0		%REC	10	05/13/16 03:40 AM
IS: Naphthalene-d8	96.7	0	50-200	0		%REC	10	05/13/16 03:40 AM
IS: Perylene-d12	95.5	0	50-200	0		%REC	10	05/13/16 03:40 AM
IS: Phenanthrene-d10	97.1	0	50-200	0		%REC	10	05/13/16 03:40 AM
Surr: 2-Fluorobiphenyl	80.7	0	46-115	0		%REC	10	05/13/16 03:40 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(8-10)-B
Project:	Laredo SGR	**Lab ID:**	1605047-25
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:23 PM
Lab Order:	1605047	**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	05/13/16 03:40 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(0-2)-C
Project:	Laredo SGR	**Lab ID:**	1605047-26
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:26 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	13.8	0.0840	0.252	0.126		mg/Kg-dry	5	05/11/16 08:13 PM
IS: Bismuth	87.8	0	30-120	0		%REC	5	05/11/16 08:13 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/11/16 10:35 AM
Acenaphthylene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/11/16 10:35 AM
Anthracene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/11/16 10:35 AM
Benzo[a]anthracene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/11/16 10:35 AM
Benzo[a]pyrene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/11/16 10:35 AM
Benzo[b]fluoranthene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/11/16 10:35 AM
Benzo[e]pyrene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/11/16 10:35 AM
Benzo[g,h,i]perylene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/11/16 10:35 AM
Benzo[j]fluoranthene	0.0744	0.0496	0.0992	0.0744	NU	mg/Kg-dry	10	05/11/16 10:35 AM
Benzo[k]fluoranthene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/11/16 10:35 AM
Chrysene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/11/16 10:35 AM
Dibenz[a,h]anthracene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/11/16 10:35 AM
Fluoranthene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/11/16 10:35 AM
Fluorene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/11/16 10:35 AM
Indeno[1,2,3-cd]pyrene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/11/16 10:35 AM
Phenanthrene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/11/16 10:35 AM
Pyrene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/11/16 10:35 AM
IS: Acenaphthene-d10	76.6	0	50-200	0		%REC	10	05/11/16 10:35 AM
IS: Chrysene-d12	86.5	0	50-200	0		%REC	10	05/11/16 10:35 AM
IS: Naphthalene-d8	120	0	50-200	0		%REC	10	05/11/16 10:35 AM
IS: Perylene-d12	89.2	0	50-200	0		%REC	10	05/11/16 10:35 AM
IS: Phenanthrene-d10	83.3	0	50-200	0		%REC	10	05/11/16 10:35 AM
Surr: 2-Fluorobiphenyl	68.6	0	46-115	0		%REC	10	05/11/16 10:35 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(0-2)-C
Project:	Laredo SGR	**Lab ID:**	1605047-26
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:26 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	61.7	0	58-133	0		%REC	10	05/11/16 10:35 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(2-4)-C
Project:	Laredo SGR	**Lab ID:**	1605047-27
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:27 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	4.97	0.0847	0.254	0.127		mg/Kg-dry	5	05/11/16 08:15 PM
IS: Bismuth	88.5	0	30-120	0		%REC	5	05/11/16 08:15 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/11/16 11:15 AM
Acenaphthylene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/11/16 11:15 AM
Anthracene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/11/16 11:15 AM
Benzo[a]anthracene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/11/16 11:15 AM
Benzo[a]pyrene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/11/16 11:15 AM
Benzo[b]fluoranthene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/11/16 11:15 AM
Benzo[e]pyrene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/11/16 11:15 AM
Benzo[g,h,i]perylene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/11/16 11:15 AM
Benzo[j]fluoranthene	0.0746	0.0498	0.0995	0.0746	NU	mg/Kg-dry	10	05/11/16 11:15 AM
Benzo[k]fluoranthene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/11/16 11:15 AM
Chrysene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/11/16 11:15 AM
Dibenz[a,h]anthracene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/11/16 11:15 AM
Fluoranthene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/11/16 11:15 AM
Fluorene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/11/16 11:15 AM
Indeno[1,2,3-cd]pyrene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/11/16 11:15 AM
Phenanthrene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/11/16 11:15 AM
Pyrene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/11/16 11:15 AM
IS: Acenaphthene-d10	74.2	0	50-200	0		%REC	10	05/11/16 11:15 AM
IS: Chrysene-d12	83.9	0	50-200	0		%REC	10	05/11/16 11:15 AM
IS: Naphthalene-d8	121	0	50-200	0		%REC	10	05/11/16 11:15 AM
IS: Perylene-d12	84.0	0	50-200	0		%REC	10	05/11/16 11:15 AM
IS: Phenanthrene-d10	82.6	0	50-200	0		%REC	10	05/11/16 11:15 AM
Surr: 2-Fluorobiphenyl	81.2	0	46-115	0		%REC	10	05/11/16 11:15 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(2-4)-C
Project:	Laredo SGR	**Lab ID:**	1605047-27
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:27 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	73.9	0	58-133	0		%REC	10	05/11/16 11:15 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(4-6)-C
Project:	Laredo SGR	**Lab ID:**	1605047-28
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:29 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	6.01	0.0909	0.273	0.136		mg/Kg-dry	5	05/11/16 08:17 PM
IS: Bismuth	87.4	0	30-120	0		%REC	5	05/11/16 08:17 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 11:55 AM
Acenaphthylene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 11:55 AM
Anthracene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 11:55 AM
Benzo[a]anthracene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 11:55 AM
Benzo[a]pyrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 11:55 AM
Benzo[b]fluoranthene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 11:55 AM
Benzo[e]pyrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 11:55 AM
Benzo[g,h,i]perylene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 11:55 AM
Benzo[j]fluoranthene	0.0749	0.0500	0.0999	0.0749	NU	mg/Kg-dry	10	05/11/16 11:55 AM
Benzo[k]fluoranthene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 11:55 AM
Chrysene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 11:55 AM
Dibenz[a,h]anthracene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 11:55 AM
Fluoranthene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 11:55 AM
Fluorene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 11:55 AM
Indeno[1,2,3-cd]pyrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 11:55 AM
Phenanthrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 11:55 AM
Pyrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 11:55 AM
IS: Acenaphthene-d10	74.0	0	50-200	0		%REC	10	05/11/16 11:55 AM
IS: Chrysene-d12	81.4	0	50-200	0		%REC	10	05/11/16 11:55 AM
IS: Naphthalene-d8	112	0	50-200	0		%REC	10	05/11/16 11:55 AM
IS: Perylene-d12	83.3	0	50-200	0		%REC	10	05/11/16 11:55 AM
IS: Phenanthrene-d10	79.1	0	50-200	0		%REC	10	05/11/16 11:55 AM
Surr: 2-Fluorobiphenyl	85.7	0	46-115	0		%REC	10	05/11/16 11:55 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(4-6)-C
Project:	Laredo SGR	**Lab ID:**	1605047-28
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:29 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	76.1	0	58-133	0		%REC	10	05/11/16 11:55 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(6-8)-C
Project:	Laredo SGR	**Lab ID:**	1605047-29
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:32 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	7.61	0.0943	0.283	0.142		mg/Kg-dry	5	05/11/16 08:19 PM
IS: Bismuth	86.7	0	30-120	0		%REC	5	05/11/16 08:19 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/11/16 12:35 PM
Acenaphthylene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/11/16 12:35 PM
Anthracene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/11/16 12:35 PM
Benzo[a]anthracene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/11/16 12:35 PM
Benzo[a]pyrene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/11/16 12:35 PM
Benzo[b]fluoranthene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/11/16 12:35 PM
Benzo[e]pyrene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/11/16 12:35 PM
Benzo[g,h,i]perylene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/11/16 12:35 PM
Benzo[j]fluoranthene	0.0747	0.0498	0.0996	0.0747	NU	mg/Kg-dry	10	05/11/16 12:35 PM
Benzo[k]fluoranthene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/11/16 12:35 PM
Chrysene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/11/16 12:35 PM
Dibenz[a,h]anthracene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/11/16 12:35 PM
Fluoranthene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/11/16 12:35 PM
Fluorene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/11/16 12:35 PM
Indeno[1,2,3-cd]pyrene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/11/16 12:35 PM
Phenanthrene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/11/16 12:35 PM
Pyrene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/11/16 12:35 PM
IS: Acenaphthene-d10	75.2	0	50-200	0		%REC	10	05/11/16 12:35 PM
IS: Chrysene-d12	86.4	0	50-200	0		%REC	10	05/11/16 12:35 PM
IS: Naphthalene-d8	123	0	50-200	0		%REC	10	05/11/16 12:35 PM
IS: Perylene-d12	87.9	0	50-200	0		%REC	10	05/11/16 12:35 PM
IS: Phenanthrene-d10	86.5	0	50-200	0		%REC	10	05/11/16 12:35 PM
Surr: 2-Fluorobiphenyl	80.1	0	46-115	0		%REC	10	05/11/16 12:35 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(6-8)-C
Project:	Laredo SGR	**Lab ID:**	1605047-29
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:32 PM
Lab Order:	1605047	**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	05/11/16 12:35 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(8-10)-C
Project:	Laredo SGR	**Lab ID:**	1605047-30
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:34 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	6.39	0.0926	0.278	0.139		mg/Kg-dry	5	05/11/16 08:21 PM
IS: Bismuth	85.6	0	30-120	0		%REC	5	05/11/16 08:21 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/11/16 01:14 PM
Acenaphthylene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/11/16 01:14 PM
Anthracene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/11/16 01:14 PM
Benzo[a]anthracene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/11/16 01:14 PM
Benzo[a]pyrene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/11/16 01:14 PM
Benzo[b]fluoranthene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/11/16 01:14 PM
Benzo[e]pyrene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/11/16 01:14 PM
Benzo[g,h,i]perylene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/11/16 01:14 PM
Benzo[j]fluoranthene	0.0741	0.0494	0.0988	0.0741	NU	mg/Kg-dry	10	05/11/16 01:14 PM
Benzo[k]fluoranthene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/11/16 01:14 PM
Chrysene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/11/16 01:14 PM
Dibenz[a,h]anthracene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/11/16 01:14 PM
Fluoranthene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/11/16 01:14 PM
Fluorene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/11/16 01:14 PM
Indeno[1,2,3-cd]pyrene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/11/16 01:14 PM
Phenanthrene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/11/16 01:14 PM
Pyrene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/11/16 01:14 PM
IS: Acenaphthene-d10	73.9	0	50-200	0		%REC	10	05/11/16 01:14 PM
IS: Chrysene-d12	83.5	0	50-200	0		%REC	10	05/11/16 01:14 PM
IS: Naphthalene-d8	121	0	50-200	0		%REC	10	05/11/16 01:14 PM
IS: Perylene-d12	85.7	0	50-200	0		%REC	10	05/11/16 01:14 PM
IS: Phenanthrene-d10	84.2	0	50-200	0		%REC	10	05/11/16 01:14 PM
Surr: 2-Fluorobiphenyl	83.4	0	46-115	0		%REC	10	05/11/16 01:14 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(8-10)-C
Project:	Laredo SGR	**Lab ID:**	1605047-30
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:34 PM
Lab Order:	1605047	**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	05/11/16 01:14 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	EB01(20160504)
Project:	Laredo SGR	**Lab ID:**	1605047-31
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 08:00 AM
Lab Order:	1605047	**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 01:34 PM
IS: Bismuth	98.0	0	30-120	0		%REC	1	05/20/16 01:34 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0000610	0.0000381	0.0000763	0.0000610	U JL	mg/L	1	05/09/16 09:08 PM
Acenaphthylene	0.0000610	0.0000381	0.0000763	0.0000610	U	mg/L	1	05/09/16 09:08 PM
Anthracene	0.0000610	0.0000381	0.0000763	0.0000610	U	mg/L	1	05/09/16 09:08 PM
Benzo[a]anthracene	0.0000610	0.0000381	0.0000763	0.0000610	U	mg/L	1	05/09/16 09:08 PM
Benzo[a]pyrene	0.0000610	0.0000381	0.0000763	0.0000610	U	mg/L	1	05/09/16 09:08 PM
Benzo[b]fluoranthene	0.0000610	0.0000381	0.0000763	0.0000610	U	mg/L	1	05/09/16 09:08 PM
Benzo[e]pyrene	0.0000610	0.0000381	0.0000763	0.0000610	U	mg/L	1	05/09/16 09:08 PM
Benzo[g,h,i]perylene	0.0000610	0.0000381	0.0000763	0.0000610	U	mg/L	1	05/09/16 09:08 PM
Benzo[j]fluoranthene	0.0000610	0.0000381	0.0000763	0.0000610	NU	mg/L	1	05/09/16 09:08 PM
Benzo[k]fluoranthene	0.0000610	0.0000381	0.0000763	0.0000610	U	mg/L	1	05/09/16 09:08 PM
Chrysene	0.0000610	0.0000381	0.0000763	0.0000610	U	mg/L	1	05/09/16 09:08 PM
Dibenz[a,h]anthracene	0.0000610	0.0000381	0.0000763	0.0000610	U	mg/L	1	05/09/16 09:08 PM
Fluoranthene	0.0000610	0.0000381	0.0000763	0.0000610	U	mg/L	1	05/09/16 09:08 PM
Fluorene	0.0000610	0.0000381	0.0000763	0.0000610	U	mg/L	1	05/09/16 09:08 PM
Indeno[1,2,3-cd]pyrene	0.0000610	0.0000381	0.0000763	0.0000610	U	mg/L	1	05/09/16 09:08 PM
Phenanthrene	0.0000610	0.0000381	0.0000763	0.0000610	U	mg/L	1	05/09/16 09:08 PM
Pyrene	0.0000610	0.0000381	0.0000763	0.0000610	U	mg/L	1	05/09/16 09:08 PM
IS: Acenaphthene-d10	72.3	0	50-200	0		%REC	1	05/09/16 09:08 PM
IS: Chrysene-d12	83.4	0	50-200	0		%REC	1	05/09/16 09:08 PM
IS: Naphthalene-d8	106	0	50-200	0		%REC	1	05/09/16 09:08 PM
IS: Perylene-d12	83.5	0	50-200	0		%REC	1	05/09/16 09:08 PM
IS: Phenanthrene-d10	82.7	0	50-200	0		%REC	1	05/09/16 09:08 PM
Surr: 2-Fluorobiphenyl	67.4	0	53-106	0		%REC	1	05/09/16 09:08 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	EB01(20160504)
Project:	Laredo SGR	**Lab ID:**	1605047-31
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 08:00 AM
Lab Order:	1605047	**Matrix:**	EQUIP BLANK

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	55.7	0	58-132	0	S	%REC	1	05/09/16 09:08 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	EB02(20160504)
Project:	Laredo SGR	**Lab ID:**	1605047-32
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 01:00 PM
Lab Order:	1605047	**Matrix:**	EQUIP BLANK

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER			**SW6020A**					Analyst: **RO**
Lead	0.000632	0.000300	0.00100	0.000900	J	mg/L	1	05/20/16 01:36 PM
IS: Bismuth	98.3	0	30-120	0		%REC	1	05/20/16 01:36 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0000625	0.0000391	0.0000781	0.0000625	U	mg/L	1	05/09/16 09:48 PM
Acenaphthylene	0.0000625	0.0000391	0.0000781	0.0000625	U	mg/L	1	05/09/16 09:48 PM
Anthracene	0.0000625	0.0000391	0.0000781	0.0000625	U	mg/L	1	05/09/16 09:48 PM
Benzo[a]anthracene	0.0000625	0.0000391	0.0000781	0.0000625	U	mg/L	1	05/09/16 09:48 PM
Benzo[a]pyrene	0.0000625	0.0000391	0.0000781	0.0000625	U	mg/L	1	05/09/16 09:48 PM
Benzo[b]fluoranthene	0.0000625	0.0000391	0.0000781	0.0000625	U	mg/L	1	05/09/16 09:48 PM
Benzo[e]pyrene	0.0000625	0.0000391	0.0000781	0.0000625	U	mg/L	1	05/09/16 09:48 PM
Benzo[g,h,i]perylene	0.0000625	0.0000391	0.0000781	0.0000625	U	mg/L	1	05/09/16 09:48 PM
Benzo[j]fluoranthene	0.0000625	0.0000391	0.0000781	0.0000625	NU	mg/L	1	05/09/16 09:48 PM
Benzo[k]fluoranthene	0.0000625	0.0000391	0.0000781	0.0000625	U	mg/L	1	05/09/16 09:48 PM
Chrysene	0.0000625	0.0000391	0.0000781	0.0000625	U	mg/L	1	05/09/16 09:48 PM
Dibenz[a,h]anthracene	0.0000625	0.0000391	0.0000781	0.0000625	U	mg/L	1	05/09/16 09:48 PM
Fluoranthene	0.0000442	0.0000391	0.0000781	0.0000625	J	mg/L	1	05/09/16 09:48 PM
Fluorene	0.0000625	0.0000391	0.0000781	0.0000625	U	mg/L	1	05/09/16 09:48 PM
Indeno[1,2,3-cd]pyrene	0.0000625	0.0000391	0.0000781	0.0000625	U	mg/L	1	05/09/16 09:48 PM
Phenanthrene	0.0000625	0.0000391	0.0000781	0.0000625	U	mg/L	1	05/09/16 09:48 PM
Pyrene	0.0000625	0.0000391	0.0000781	0.0000625	U	mg/L	1	05/09/16 09:48 PM
IS: Acenaphthene-d10	74.2	0	50-200	0		%REC	1	05/09/16 09:48 PM
IS: Chrysene-d12	85.5	0	50-200	0		%REC	1	05/09/16 09:48 PM
IS: Naphthalene-d8	124	0	50-200	0		%REC	1	05/09/16 09:48 PM
IS: Perylene-d12	86.2	0	50-200	0		%REC	1	05/09/16 09:48 PM
IS: Phenanthrene-d10	85.6	0	50-200	0		%REC	1	05/09/16 09:48 PM
Surr: 2-Fluorobiphenyl	66.5	0	53-106	0		%REC	1	05/09/16 09:48 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	EB02(20160504)
Project:	Laredo SGR	**Lab ID:**	1605047-32
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 01:00 PM
Lab Order:	1605047	**Matrix:**	EQUIP BLANK

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	58.6	0	58-132	0		%REC	1	05/09/16 09:48 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU066-STRAT1
Project:	Laredo SGR	**Lab ID:**	1605047-33
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 01:27 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	67.2	0.123	0.368	0.184		mg/Kg-dry	5	05/11/16 06:20 PM
IS: Bismuth	93.8	0	30-120	0		%REC	5	05/11/16 06:20 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0959	0.0640	0.128	0.0959	U JL	mg/Kg-dry	10	05/11/16 01:54 PM
Acenaphthylene	0.0959	0.0640	0.128	0.0959	U	mg/Kg-dry	10	05/11/16 01:54 PM
Anthracene	0.0959	0.0640	0.128	0.0959	U	mg/Kg-dry	10	05/11/16 01:54 PM
Benzo[a]anthracene	0.546	0.0640	0.128	0.0959	JL	mg/Kg-dry	10	05/11/16 01:54 PM
Benzo[a]pyrene	0.733	0.0640	0.128	0.0959		mg/Kg-dry	10	05/11/16 01:54 PM
Benzo[b]fluoranthene	0.702	0.0640	0.128	0.0959		mg/Kg-dry	10	05/11/16 01:54 PM
Benzo[e]pyrene	0.593	0.0640	0.128	0.0959		mg/Kg-dry	10	05/11/16 01:54 PM
Benzo[g,h,i]perylene	0.638	0.0640	0.128	0.0959		mg/Kg-dry	10	05/11/16 01:54 PM
Benzo[j]fluoranthene	0.373	0.0640	0.128	0.0959	N	mg/Kg-dry	10	05/11/16 01:54 PM
Benzo[k]fluoranthene	0.357	0.0640	0.128	0.0959		mg/Kg-dry	10	05/11/16 01:54 PM
Chrysene	0.710	0.0640	0.128	0.0959		mg/Kg-dry	10	05/11/16 01:54 PM
Dibenz[a,h]anthracene	0.129	0.0640	0.128	0.0959		mg/Kg-dry	10	05/11/16 01:54 PM
Fluoranthene	0.931	0.0640	0.128	0.0959		mg/Kg-dry	10	05/11/16 01:54 PM
Fluorene	0.0959	0.0640	0.128	0.0959	U JL	mg/Kg-dry	10	05/11/16 01:54 PM
Indeno[1,2,3-cd]pyrene	0.518	0.0640	0.128	0.0959	JL	mg/Kg-dry	10	05/11/16 01:54 PM
Phenanthrene	0.312	0.0640	0.128	0.0959		mg/Kg-dry	10	05/11/16 01:54 PM
Pyrene	0.820	0.0640	0.128	0.0959		mg/Kg-dry	10	05/11/16 01:54 PM
IS: Acenaphthene-d10	76.1	0	50-200	0		%REC	10	05/11/16 01:54 PM
IS: Chrysene-d12	85.6	0	50-200	0		%REC	10	05/11/16 01:54 PM
IS: Naphthalene-d8	122	0	50-200	0		%REC	10	05/11/16 01:54 PM
IS: Perylene-d12	88.5	0	50-200	0		%REC	10	05/11/16 01:54 PM
IS: Phenanthrene-d10	85.2	0	50-200	0		%REC	10	05/11/16 01:54 PM
Surr: 2-Fluorobiphenyl	60.8	0	46-115	0		%REC	10	05/11/16 01:54 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU066-STRAT1
Project:	Laredo SGR	**Lab ID:**	1605047-33
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 01:27 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	55.5	0	58-133	0	S	%REC	10	05/11/16 01:54 PM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	22.4	0	0	0		WT%	1	05/10/16 08:40 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU066-STRAT2
Project:	Laredo SGR	**Lab ID:**	1605047-34
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 01:31 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	32.6	0.112	0.336	0.168		mg/Kg-dry	5	05/11/16 06:22 PM
IS: Bismuth	93.9	0	30-120	0		%REC	5	05/11/16 06:22 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0871	0.0581	0.116	0.0871	U	mg/Kg-dry	10	05/11/16 02:34 PM
Acenaphthylene	0.0871	0.0581	0.116	0.0871	U	mg/Kg-dry	10	05/11/16 02:34 PM
Anthracene	0.130	0.0581	0.116	0.0871	JH	mg/Kg-dry	10	05/11/16 02:34 PM
Benzo[a]anthracene	0.958	0.0581	0.116	0.0871		mg/Kg-dry	10	05/11/16 02:34 PM
Benzo[a]pyrene	1.29	0.0581	0.116	0.0871		mg/Kg-dry	10	05/11/16 02:34 PM
Benzo[b]fluoranthene	1.19	0.0581	0.116	0.0871		mg/Kg-dry	10	05/11/16 02:34 PM
Benzo[e]pyrene	1.00	0.0581	0.116	0.0871		mg/Kg-dry	10	05/11/16 02:34 PM
Benzo[g,h,i]perylene	1.05	0.0581	0.116	0.0871		mg/Kg-dry	10	05/11/16 02:34 PM
Benzo[j]fluoranthene	0.641	0.0581	0.116	0.0871	N	mg/Kg-dry	10	05/11/16 02:34 PM
Benzo[k]fluoranthene	0.620	0.0581	0.116	0.0871		mg/Kg-dry	10	05/11/16 02:34 PM
Chrysene	1.21	0.0581	0.116	0.0871		mg/Kg-dry	10	05/11/16 02:34 PM
Dibenz[a,h]anthracene	0.220	0.0581	0.116	0.0871		mg/Kg-dry	10	05/11/16 02:34 PM
Fluoranthene	1.79	0.0581	0.116	0.0871		mg/Kg-dry	10	05/11/16 02:34 PM
Fluorene	0.0871	0.0581	0.116	0.0871	U	mg/Kg-dry	10	05/11/16 02:34 PM
Indeno[1,2,3-cd]pyrene	0.872	0.0581	0.116	0.0871	JH	mg/Kg-dry	10	05/11/16 02:34 PM
Phenanthrene	0.638	0.0581	0.116	0.0871		mg/Kg-dry	10	05/11/16 02:34 PM
Pyrene	1.53	0.0581	0.116	0.0871		mg/Kg-dry	10	05/11/16 02:34 PM
IS: Acenaphthene-d10	85.6	0	50-200	0		%REC	10	05/11/16 02:34 PM
IS: Chrysene-d12	90.2	0	50-200	0		%REC	10	05/11/16 02:34 PM
IS: Naphthalene-d8	123	0	50-200	0		%REC	10	05/11/16 02:34 PM
IS: Perylene-d12	91.5	0	50-200	0		%REC	10	05/11/16 02:34 PM
IS: Phenanthrene-d10	86.9	0	50-200	0		%REC	10	05/11/16 02:34 PM
Surr: 2-Fluorobiphenyl	83.6	0	46-115	0		%REC	10	05/11/16 02:34 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU066-STRAT2
Project:	Laredo SGR	**Lab ID:**	1605047-34
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 01:31 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	74.6	0	58-133	0		%REC	10	05/11/16 02:34 PM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	16.6	0	0	0		WT%	1	05/10/16 08:40 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU066-STRAT3
Project:	Laredo SGR	**Lab ID:**	1605047-35
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 01:34 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	31.7	0.123	0.369	0.185		mg/Kg-dry	5	05/11/16 06:24 PM
IS: Bismuth	94.0	0	30-120	0		%REC	5	05/11/16 06:24 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0945	0.0630	0.126	0.0945	U	mg/Kg-dry	10	05/11/16 03:13 PM
Acenaphthylene	0.0945	0.0630	0.126	0.0945	U	mg/Kg-dry	10	05/11/16 03:13 PM
Anthracene	0.0945	0.0630	0.126	0.0945	U	mg/Kg-dry	10	05/11/16 03:13 PM
Benzo[a]anthracene	0.438	0.0630	0.126	0.0945		mg/Kg-dry	10	05/11/16 03:13 PM
Benzo[a]pyrene	0.552	0.0630	0.126	0.0945		mg/Kg-dry	10	05/11/16 03:13 PM
Benzo[b]fluoranthene	0.528	0.0630	0.126	0.0945		mg/Kg-dry	10	05/11/16 03:13 PM
Benzo[e]pyrene	0.445	0.0630	0.126	0.0945		mg/Kg-dry	10	05/11/16 03:13 PM
Benzo[g,h,i]perylene	0.462	0.0630	0.126	0.0945		mg/Kg-dry	10	05/11/16 03:13 PM
Benzo[j]fluoranthene	0.283	0.0630	0.126	0.0945	N	mg/Kg-dry	10	05/11/16 03:13 PM
Benzo[k]fluoranthene	0.277	0.0630	0.126	0.0945		mg/Kg-dry	10	05/11/16 03:13 PM
Chrysene	0.550	0.0630	0.126	0.0945		mg/Kg-dry	10	05/11/16 03:13 PM
Dibenz[a,h]anthracene	0.0979	0.0630	0.126	0.0945	J	mg/Kg-dry	10	05/11/16 03:13 PM
Fluoranthene	0.779	0.0630	0.126	0.0945		mg/Kg-dry	10	05/11/16 03:13 PM
Fluorene	0.0945	0.0630	0.126	0.0945	U	mg/Kg-dry	10	05/11/16 03:13 PM
Indeno[1,2,3-cd]pyrene	0.378	0.0630	0.126	0.0945		mg/Kg-dry	10	05/11/16 03:13 PM
Phenanthrene	0.290	0.0630	0.126	0.0945		mg/Kg-dry	10	05/11/16 03:13 PM
Pyrene	0.668	0.0630	0.126	0.0945		mg/Kg-dry	10	05/11/16 03:13 PM
IS: Acenaphthene-d10	75.0	0	50-200	0		%REC	10	05/11/16 03:13 PM
IS: Chrysene-d12	86.6	0	50-200	0		%REC	10	05/11/16 03:13 PM
IS: Naphthalene-d8	121	0	50-200	0		%REC	10	05/11/16 03:13 PM
IS: Perylene-d12	88.6	0	50-200	0		%REC	10	05/11/16 03:13 PM
IS: Phenanthrene-d10	86.9	0	50-200	0		%REC	10	05/11/16 03:13 PM
Surr: 2-Fluorobiphenyl	81.3	0	46-115	0		%REC	10	05/11/16 03:13 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU066-STRAT3
Project:	Laredo SGR	**Lab ID:**	1605047-35
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 01:34 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	70.5	0	58-133	0		%REC	10	05/11/16 03:13 PM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	21.1	0	0	0		WT%	1	05/10/16 08:40 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU066-STRAT4
Project:	Laredo SGR	**Lab ID:**	1605047-36
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 01:37 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	34.0	0.100	0.300	0.150		mg/Kg-dry	5	05/11/16 06:26 PM
IS: Bismuth	94.4	0	30-120	0		%REC	5	05/11/16 06:26 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0828	0.0552	0.110	0.0828	U	mg/Kg-dry	10	05/11/16 03:53 PM
Acenaphthylene	0.0828	0.0552	0.110	0.0828	U	mg/Kg-dry	10	05/11/16 03:53 PM
Anthracene	0.0828	0.0552	0.110	0.0828	U	mg/Kg-dry	10	05/11/16 03:53 PM
Benzo[a]anthracene	0.356	0.0552	0.110	0.0828		mg/Kg-dry	10	05/11/16 03:53 PM
Benzo[a]pyrene	0.456	0.0552	0.110	0.0828		mg/Kg-dry	10	05/11/16 03:53 PM
Benzo[b]fluoranthene	0.448	0.0552	0.110	0.0828		mg/Kg-dry	10	05/11/16 03:53 PM
Benzo[e]pyrene	0.375	0.0552	0.110	0.0828		mg/Kg-dry	10	05/11/16 03:53 PM
Benzo[g,h,i]perylene	0.375	0.0552	0.110	0.0828		mg/Kg-dry	10	05/11/16 03:53 PM
Benzo[j]fluoranthene	0.235	0.0552	0.110	0.0828	N	mg/Kg-dry	10	05/11/16 03:53 PM
Benzo[k]fluoranthene	0.231	0.0552	0.110	0.0828		mg/Kg-dry	10	05/11/16 03:53 PM
Chrysene	0.454	0.0552	0.110	0.0828		mg/Kg-dry	10	05/11/16 03:53 PM
Dibenz[a,h]anthracene	0.0818	0.0552	0.110	0.0828	J	mg/Kg-dry	10	05/11/16 03:53 PM
Fluoranthene	0.652	0.0552	0.110	0.0828		mg/Kg-dry	10	05/11/16 03:53 PM
Fluorene	0.0828	0.0552	0.110	0.0828	U	mg/Kg-dry	10	05/11/16 03:53 PM
Indeno[1,2,3-cd]pyrene	0.315	0.0552	0.110	0.0828		mg/Kg-dry	10	05/11/16 03:53 PM
Phenanthrene	0.230	0.0552	0.110	0.0828		mg/Kg-dry	10	05/11/16 03:53 PM
Pyrene	0.562	0.0552	0.110	0.0828		mg/Kg-dry	10	05/11/16 03:53 PM
IS: Acenaphthene-d10	83.6	0	50-200	0		%REC	10	05/11/16 03:53 PM
IS: Chrysene-d12	88.7	0	50-200	0		%REC	10	05/11/16 03:53 PM
IS: Naphthalene-d8	118	0	50-200	0		%REC	10	05/11/16 03:53 PM
IS: Perylene-d12	89.9	0	50-200	0		%REC	10	05/11/16 03:53 PM
IS: Phenanthrene-d10	81.4	0	50-200	0		%REC	10	05/11/16 03:53 PM
Surr: 2-Fluorobiphenyl	76.0	0	46-115	0		%REC	10	05/11/16 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU066-STRAT4
Project:	Laredo SGR	**Lab ID:**	1605047-36
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 01:37 PM
Lab Order:	1605047	**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	05/11/16 03:53 PM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	10.8	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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU066-STRAT5
Project:	Laredo SGR	**Lab ID:**	1605047-37
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 01:40 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	23.8	0.105	0.314	0.157		mg/Kg-dry	5	05/11/16 06:28 PM
IS: Bismuth	95.3	0	30-120	0		%REC	5	05/11/16 06:28 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0642	0.0562	0.112	0.0843	J	mg/Kg-dry	10	05/11/16 04:33 PM
Acenaphthylene	0.0843	0.0562	0.112	0.0843	U	mg/Kg-dry	10	05/11/16 04:33 PM
Anthracene	0.197	0.0562	0.112	0.0843		mg/Kg-dry	10	05/11/16 04:33 PM
Benzo[a]anthracene	1.47	0.0562	0.112	0.0843		mg/Kg-dry	10	05/11/16 04:33 PM
Benzo[a]pyrene	1.81	0.0562	0.112	0.0843		mg/Kg-dry	10	05/11/16 04:33 PM
Benzo[b]fluoranthene	1.69	0.0562	0.112	0.0843		mg/Kg-dry	10	05/11/16 04:33 PM
Benzo[e]pyrene	1.38	0.0562	0.112	0.0843		mg/Kg-dry	10	05/11/16 04:33 PM
Benzo[g,h,i]perylene	1.45	0.0562	0.112	0.0843		mg/Kg-dry	10	05/11/16 04:33 PM
Benzo[j]fluoranthene	0.923	0.0562	0.112	0.0843	N	mg/Kg-dry	10	05/11/16 04:33 PM
Benzo[k]fluoranthene	0.872	0.0562	0.112	0.0843		mg/Kg-dry	10	05/11/16 04:33 PM
Chrysene	1.77	0.0562	0.112	0.0843		mg/Kg-dry	10	05/11/16 04:33 PM
Dibenz[a,h]anthracene	0.324	0.0562	0.112	0.0843		mg/Kg-dry	10	05/11/16 04:33 PM
Fluoranthene	2.74	0.0562	0.112	0.0843		mg/Kg-dry	10	05/11/16 04:33 PM
Fluorene	0.0843	0.0562	0.112	0.0843	U	mg/Kg-dry	10	05/11/16 04:33 PM
Indeno[1,2,3-cd]pyrene	1.23	0.0562	0.112	0.0843		mg/Kg-dry	10	05/11/16 04:33 PM
Phenanthrene	1.04	0.0562	0.112	0.0843		mg/Kg-dry	10	05/11/16 04:33 PM
Pyrene	2.31	0.0562	0.112	0.0843		mg/Kg-dry	10	05/11/16 04:33 PM
IS: Acenaphthene-d10	82.0	0	50-200	0		%REC	10	05/11/16 04:33 PM
IS: Chrysene-d12	85.9	0	50-200	0		%REC	10	05/11/16 04:33 PM
IS: Naphthalene-d8	117	0	50-200	0		%REC	10	05/11/16 04:33 PM
IS: Perylene-d12	87.3	0	50-200	0		%REC	10	05/11/16 04:33 PM
IS: Phenanthrene-d10	80.2	0	50-200	0		%REC	10	05/11/16 04:33 PM
Surr: 2-Fluorobiphenyl	80.8	0	46-115	0		%REC	10	05/11/16 04:33 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU066-STRAT5
Project:	Laredo SGR	**Lab ID:**	1605047-37
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 01:40 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	73.2	0	58-133	0		%REC	10	05/11/16 04:33 PM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	11.4	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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	EB03(20160504)
Project:	Laredo SGR	**Lab ID:**	1605047-38
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 04:11 PM
Lab Order:	1605047	**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 01:38 PM
IS: Bismuth	99.6	0	30-120	0		%REC	1	05/20/16 01:38 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0000624	0.0000390	0.0000781	0.0000624	U	mg/L	1	05/09/16 10:27 PM
Acenaphthylene	0.0000624	0.0000390	0.0000781	0.0000624	U	mg/L	1	05/09/16 10:27 PM
Anthracene	0.0000624	0.0000390	0.0000781	0.0000624	U	mg/L	1	05/09/16 10:27 PM
Benzo[a]anthracene	0.0000624	0.0000390	0.0000781	0.0000624	U	mg/L	1	05/09/16 10:27 PM
Benzo[a]pyrene	0.0000624	0.0000390	0.0000781	0.0000624	U	mg/L	1	05/09/16 10:27 PM
Benzo[b]fluoranthene	0.0000624	0.0000390	0.0000781	0.0000624	U	mg/L	1	05/09/16 10:27 PM
Benzo[e]pyrene	0.0000624	0.0000390	0.0000781	0.0000624	U	mg/L	1	05/09/16 10:27 PM
Benzo[g,h,i]perylene	0.0000624	0.0000390	0.0000781	0.0000624	U	mg/L	1	05/09/16 10:27 PM
Benzo[j]fluoranthene	0.0000624	0.0000390	0.0000781	0.0000624	NU	mg/L	1	05/09/16 10:27 PM
Benzo[k]fluoranthene	0.0000624	0.0000390	0.0000781	0.0000624	U	mg/L	1	05/09/16 10:27 PM
Chrysene	0.0000624	0.0000390	0.0000781	0.0000624	U	mg/L	1	05/09/16 10:27 PM
Dibenz[a,h]anthracene	0.0000624	0.0000390	0.0000781	0.0000624	U	mg/L	1	05/09/16 10:27 PM
Fluoranthene	0.0000624	0.0000390	0.0000781	0.0000624	U	mg/L	1	05/09/16 10:27 PM
Fluorene	0.0000624	0.0000390	0.0000781	0.0000624	U	mg/L	1	05/09/16 10:27 PM
Indeno[1,2,3-cd]pyrene	0.0000624	0.0000390	0.0000781	0.0000624	U	mg/L	1	05/09/16 10:27 PM
Phenanthrene	0.0000624	0.0000390	0.0000781	0.0000624	U	mg/L	1	05/09/16 10:27 PM
Pyrene	0.0000624	0.0000390	0.0000781	0.0000624	U	mg/L	1	05/09/16 10:27 PM
IS: Acenaphthene-d10	68.8	0	50-200	0		%REC	1	05/09/16 10:27 PM
IS: Chrysene-d12	77.1	0	50-200	0		%REC	1	05/09/16 10:27 PM
IS: Naphthalene-d8	110	0	50-200	0		%REC	1	05/09/16 10:27 PM
IS: Perylene-d12	77.2	0	50-200	0		%REC	1	05/09/16 10:27 PM
IS: Phenanthrene-d10	78.2	0	50-200	0		%REC	1	05/09/16 10:27 PM
Surr: 2-Fluorobiphenyl	70.2	0	53-106	0		%REC	1	05/09/16 10:27 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	EB03(20160504)
Project:	Laredo SGR	**Lab ID:**	1605047-38
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 04:11 PM
Lab Order:	1605047	**Matrix:**	EQUIP BLANK

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	68.4	0	58-132	0		%REC	1	05/09/16 10:27 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	ROW-1(0-0.5)
Project:	Laredo SGR	**Lab ID:**	1605047-39
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 02:45 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	44.3	0.120	0.361	0.180		mg/Kg-dry	5	05/11/16 06:30 PM
IS: Bismuth	95.4	0	30-120	0		%REC	5	05/11/16 06:30 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.105	0.0702	0.140	0.105	U	mg/Kg-dry	10	05/11/16 05:12 PM
Acenaphthylene	0.105	0.0702	0.140	0.105	U	mg/Kg-dry	10	05/11/16 05:12 PM
Anthracene	0.105	0.0702	0.140	0.105	U	mg/Kg-dry	10	05/11/16 05:12 PM
Benzo[a]anthracene	0.372	0.0702	0.140	0.105		mg/Kg-dry	10	05/11/16 05:12 PM
Benzo[a]pyrene	0.493	0.0702	0.140	0.105		mg/Kg-dry	10	05/11/16 05:12 PM
Benzo[b]fluoranthene	0.461	0.0702	0.140	0.105		mg/Kg-dry	10	05/11/16 05:12 PM
Benzo[e]pyrene	0.384	0.0702	0.140	0.105		mg/Kg-dry	10	05/11/16 05:12 PM
Benzo[g,h,i]perylene	0.407	0.0702	0.140	0.105		mg/Kg-dry	10	05/11/16 05:12 PM
Benzo[j]fluoranthene	0.249	0.0702	0.140	0.105	N	mg/Kg-dry	10	05/11/16 05:12 PM
Benzo[k]fluoranthene	0.244	0.0702	0.140	0.105		mg/Kg-dry	10	05/11/16 05:12 PM
Chrysene	0.471	0.0702	0.140	0.105		mg/Kg-dry	10	05/11/16 05:12 PM
Dibenz[a,h]anthracene	0.0949	0.0702	0.140	0.105	J	mg/Kg-dry	10	05/11/16 05:12 PM
Fluoranthene	0.712	0.0702	0.140	0.105		mg/Kg-dry	10	05/11/16 05:12 PM
Fluorene	0.105	0.0702	0.140	0.105	U	mg/Kg-dry	10	05/11/16 05:12 PM
Indeno[1,2,3-cd]pyrene	0.330	0.0702	0.140	0.105		mg/Kg-dry	10	05/11/16 05:12 PM
Phenanthrene	0.247	0.0702	0.140	0.105		mg/Kg-dry	10	05/11/16 05:12 PM
Pyrene	0.610	0.0702	0.140	0.105		mg/Kg-dry	10	05/11/16 05:12 PM
IS: Acenaphthene-d10	67.0	0	50-200	0		%REC	10	05/11/16 05:12 PM
IS: Chrysene-d12	73.9	0	50-200	0		%REC	10	05/11/16 05:12 PM
IS: Naphthalene-d8	109	0	50-200	0		%REC	10	05/11/16 05:12 PM
IS: Perylene-d12	75.3	0	50-200	0		%REC	10	05/11/16 05:12 PM
IS: Phenanthrene-d10	71.1	0	50-200	0		%REC	10	05/11/16 05:12 PM
Surr: 2-Fluorobiphenyl	90.0	0	46-115	0		%REC	10	05/11/16 05:12 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	ROW-1(0-0.5)
Project:	Laredo SGR	**Lab ID:**	1605047-39
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 02:45 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	78.8	0	58-133	0		%REC	10	05/11/16 05:12 PM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	30.1	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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	ROW-2(0-0.5)
Project:	Laredo SGR	**Lab ID:**	1605047-42
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:20 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	10.3	0.106	0.319	0.160		mg/Kg-dry	5	05/11/16 06:31 PM
IS: Bismuth	92.7	0	30-120	0		%REC	5	05/11/16 06:31 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0834	0.0556	0.111	0.0834	U	mg/Kg-dry	10	05/11/16 09:08 PM
Acenaphthylene	0.0834	0.0556	0.111	0.0834	U	mg/Kg-dry	10	05/11/16 09:08 PM
Anthracene	0.0834	0.0556	0.111	0.0834	U	mg/Kg-dry	10	05/11/16 09:08 PM
Benzo[a]anthracene	0.0834	0.0556	0.111	0.0834	U	mg/Kg-dry	10	05/11/16 09:08 PM
Benzo[a]pyrene	0.0834	0.0556	0.111	0.0834	U	mg/Kg-dry	10	05/11/16 09:08 PM
Benzo[b]fluoranthene	0.0834	0.0556	0.111	0.0834	U	mg/Kg-dry	10	05/11/16 09:08 PM
Benzo[e]pyrene	0.0834	0.0556	0.111	0.0834	U	mg/Kg-dry	10	05/11/16 09:08 PM
Benzo[g,h,i]perylene	0.0834	0.0556	0.111	0.0834	U	mg/Kg-dry	10	05/11/16 09:08 PM
Benzo[j]fluoranthene	0.0834	0.0556	0.111	0.0834	NU	mg/Kg-dry	10	05/11/16 09:08 PM
Benzo[k]fluoranthene	0.0834	0.0556	0.111	0.0834	U	mg/Kg-dry	10	05/11/16 09:08 PM
Chrysene	0.0834	0.0556	0.111	0.0834	U	mg/Kg-dry	10	05/11/16 09:08 PM
Dibenz[a,h]anthracene	0.0834	0.0556	0.111	0.0834	U	mg/Kg-dry	10	05/11/16 09:08 PM
Fluoranthene	0.0834	0.0556	0.111	0.0834	U	mg/Kg-dry	10	05/11/16 09:08 PM
Fluorene	0.0834	0.0556	0.111	0.0834	U	mg/Kg-dry	10	05/11/16 09:08 PM
Indeno[1,2,3-cd]pyrene	0.0834	0.0556	0.111	0.0834	U	mg/Kg-dry	10	05/11/16 09:08 PM
Phenanthrene	0.0834	0.0556	0.111	0.0834	U	mg/Kg-dry	10	05/11/16 09:08 PM
Pyrene	0.0834	0.0556	0.111	0.0834	U	mg/Kg-dry	10	05/11/16 09:08 PM
IS: Acenaphthene-d10	70.4	0	50-200	0		%REC	10	05/11/16 09:08 PM
IS: Chrysene-d12	78.6	0	50-200	0		%REC	10	05/11/16 09:08 PM
IS: Naphthalene-d8	113	0	50-200	0		%REC	10	05/11/16 09:08 PM
IS: Perylene-d12	81.3	0	50-200	0		%REC	10	05/11/16 09:08 PM
IS: Phenanthrene-d10	78.5	0	50-200	0		%REC	10	05/11/16 09:08 PM
Surr: 2-Fluorobiphenyl	87.0	0	46-115	0		%REC	10	05/11/16 09:08 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	ROW-2(0-0.5)
Project:	Laredo SGR	**Lab ID:**	1605047-42
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:20 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	78.1	0	58-133	0		%REC	10	05/11/16 09:08 PM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	11.3	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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	Laredo Frag
Project:	Laredo SGR	**Lab ID:**	1605047-45
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 02:31 PM
Lab Order:	1605047	**Matrix:**	SOLID

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	34.2	2.29	6.86	3.43		mg/Kg-dry	50	05/11/16 06:33 PM
IS: Bismuth	99.8	0	30-120	0		%REC	50	05/11/16 06:33 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	92.9	47.0	94.0	70.5	J	mg/Kg-dry	1000	05/13/16 06:07 AM
Acenaphthylene	70.5	47.0	94.0	70.5	U J	mg/Kg-dry	1000	05/13/16 06:07 AM
Anthracene	287	47.0	94.0	70.5	J	mg/Kg-dry	1000	05/13/16 06:07 AM
Benzo[a]anthracene	1360	47.0	94.0	70.5		mg/Kg-dry	1000	05/13/16 06:07 AM
Benzo[a]pyrene	1500	47.0	94.0	70.5		mg/Kg-dry	1000	05/13/16 06:07 AM
Benzo[b]fluoranthene	1330	47.0	94.0	70.5		mg/Kg-dry	1000	05/13/16 06:07 AM
Benzo[e]pyrene	987	47.0	94.0	70.5		mg/Kg-dry	1000	05/13/16 06:07 AM
Benzo[g,h,i]perylene	961	47.0	94.0	70.5		mg/Kg-dry	1000	05/13/16 06:07 AM
Benzo[j]fluoranthene	724	47.0	94.0	70.5	N	mg/Kg-dry	1000	05/13/16 06:07 AM
Benzo[k]fluoranthene	705	47.0	94.0	70.5		mg/Kg-dry	1000	05/13/16 06:07 AM
Chrysene	1610	47.0	94.0	70.5		mg/Kg-dry	1000	05/13/16 06:07 AM
Dibenz[a,h]anthracene	234	47.0	94.0	70.5		mg/Kg-dry	1000	05/13/16 06:07 AM
Fluoranthene	2390	47.0	94.0	70.5		mg/Kg-dry	1000	05/13/16 06:07 AM
Fluorene	63.9	47.0	94.0	70.5	J	mg/Kg-dry	1000	05/13/16 06:07 AM
Indeno[1,2,3-cd]pyrene	835	47.0	94.0	70.5	J	mg/Kg-dry	1000	05/13/16 06:07 AM
Phenanthrene	1300	47.0	94.0	70.5		mg/Kg-dry	1000	05/13/16 06:07 AM
Pyrene	1980	47.0	94.0	70.5		mg/Kg-dry	1000	05/13/16 06:07 AM
IS: Acenaphthene-d10	120	0	50-200	0		%REC	1000	05/13/16 06:07 AM
IS: Chrysene-d12	90.8	0	50-200	0		%REC	1000	05/13/16 06:07 AM
IS: Naphthalene-d8	94.8	0	50-200	0		%REC	1000	05/13/16 06:07 AM
IS: Perylene-d12	94.3	0	50-200	0		%REC	1000	05/13/16 06:07 AM
IS: Phenanthrene-d10	106	0	50-200	0		%REC	1000	05/13/16 06:07 AM
Surr: 2-Fluorobiphenyl	73.0	0	46-115	0		%REC	1000	05/13/16 06:07 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	Laredo Frag
Project:	Laredo SGR	**Lab ID:**	1605047-45
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 02:31 PM
Lab Order:	1605047	**Matrix:**	SOLID

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	138	0	58-133	0	S	%REC	1000	05/13/16 06:07 AM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	0.623	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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	Foster Frag
Project:	Laredo SGR	**Lab ID:**	1605047-46
Project No:	04285081.0000.00044	**Collection Date:**	04/28/16 11:30 AM
Lab Order:	1605047	**Matrix:**	SOLID

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	74.5	2.29	6.86	3.43		mg/Kg-dry	50	05/11/16 06:35 PM
IS: Bismuth	101	0	30-120	0		%REC	50	05/11/16 06:35 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	200	48.4	96.8	72.6	J	mg/Kg-dry	1000	05/13/16 06:44 AM
Acenaphthylene	72.6	48.4	96.8	72.6	U J	mg/Kg-dry	1000	05/13/16 06:44 AM
Anthracene	123	48.4	96.8	72.6	J	mg/Kg-dry	1000	05/13/16 06:44 AM
Benzo[a]anthracene	2850	48.4	96.8	72.6		mg/Kg-dry	1000	05/13/16 06:44 AM
Benzo[a]pyrene	4430	48.4	96.8	72.6		mg/Kg-dry	1000	05/13/16 06:44 AM
Benzo[b]fluoranthene	3930	48.4	96.8	72.6		mg/Kg-dry	1000	05/13/16 06:44 AM
Benzo[e]pyrene	3040	48.4	96.8	72.6		mg/Kg-dry	1000	05/13/16 06:44 AM
Benzo[g,h,i]perylene	3400	48.4	96.8	72.6		mg/Kg-dry	1000	05/13/16 06:44 AM
Benzo[j]fluoranthene	1970	48.4	96.8	72.6	N	mg/Kg-dry	1000	05/13/16 06:44 AM
Benzo[k]fluoranthene	1980	48.4	96.8	72.6		mg/Kg-dry	1000	05/13/16 06:44 AM
Chrysene	3720	48.4	96.8	72.6		mg/Kg-dry	1000	05/13/16 06:44 AM
Dibenz[a,h]anthracene	698	48.4	96.8	72.6		mg/Kg-dry	1000	05/13/16 06:44 AM
Fluoranthene	3590	48.4	96.8	72.6		mg/Kg-dry	1000	05/13/16 06:44 AM
Fluorene	72.6	48.4	96.8	72.6	U J	mg/Kg-dry	1000	05/13/16 06:44 AM
Indeno[1,2,3-cd]pyrene	2810	48.4	96.8	72.6	J	mg/Kg-dry	1000	05/13/16 06:44 AM
Phenanthrene	672	48.4	96.8	72.6		mg/Kg-dry	1000	05/13/16 06:44 AM
Pyrene	3450	48.4	96.8	72.6		mg/Kg-dry	1000	05/13/16 06:44 AM
IS: Acenaphthene-d10	117	0	50-200	0		%REC	1000	05/13/16 06:44 AM
IS: Chrysene-d12	88.2	0	50-200	0		%REC	1000	05/13/16 06:44 AM
IS: Naphthalene-d8	93.0	0	50-200	0		%REC	1000	05/13/16 06:44 AM
IS: Perylene-d12	92.5	0	50-200	0		%REC	1000	05/13/16 06:44 AM
IS: Phenanthrene-d10	102	0	50-200	0		%REC	1000	05/13/16 06:44 AM
Surr: 2-Fluorobiphenyl	91.0	0	46-115	0		%REC	1000	05/13/16 06:44 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	Foster Frag
Project:	Laredo SGR	**Lab ID:**	1605047-46
Project No:	04285081.0000.00044	**Collection Date:**	04/28/16 11:30 AM
Lab Order:	1605047	**Matrix:**	SOLID

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	150	0	58-133	0	S	%REC	1000	05/13/16 06:44 AM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	0.616	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		

May 26, 2016

Alex Walter
Arcadis
8725 Rosehill #350
Lenexa, Kansas 66215
TEL: (913) 492-0900
FAX (913) 492-0902

Order No.: 1605047

RE: Laredo SGR

Dear Alex Walter:

DHL Analytical, Inc. received 46 sample(s) on 5/5/2016 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

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Pmoist Raw Data 811

DHL ANALYTICAL
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Phone (512) 388-8222 ■ FAX (512) 388-8229
Web: www.dhlanalytical.com
E-Mail: login@dhlanalytical.com

№ 71101

CHAIN-OF-CUSTODY

CLIENT: ARCADIS
ADDRESS: 8725 Rosehill, Suite 350 Lenexa, KS 66215
PHONE: 913-645-2203 FAX/E-MAIL: alex.walter@arcadis.com
DATA REPORTED TO: alex Walter
ADDITIONAL REPORT COPIES TO: Erika.Denkenberger@arcadis.com

DATE: May 4, 2016 PAGE 1 OF 1
PO #: 04285081.0000.00044 DHL WORK ORDER #: 16005047
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 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 ☐ 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 Sample I.D.	DHL Lab #	Date	Time	Matrix	Container Type	# of Containers	HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESERVED	BTEX	TPH 1005	GRO	VOC 8260	SVOC 8270	8270 PEST	8270 O-P PEST	8321 HERB	METALS 6020	RCRA	PH	CHLORIDE	TCLP-SVOC	TCLP-METALS	RCI	TDS	FIELD NOTES
SGR-DU064(0-2)-A	01	5-4-16	1039	S	Bag	1				X					X					X								
SGR-DU064(2-4)-A	02	5-4-16	1040	S	Bag	1				X					X					X								
SGR-DU064(4-6)-A	03	5-4-16	1041	S	Bag	1				X					X					X								
SGR-DU064(6-8)-A	04	5-4-16	1042	S	Bag	1				X					X					X								
SGR-DU064(8-10)-A	05	5-4-16	1045	S	Bag	1				X					X					X								
SGR-DU064(0-2)-B	06	5-4-16	1047	S	Bag	1				X					X					X								
SGR-DU064(2-4)-B	07	5-4-16	1048	S	Bag	1				X					X					X								
SGR-DU064(4-6)-B	08	5-4-16	1058	S	Bag	1				X					X					X								
SGR-DU064(6-8)-B	09	5-4-16	1059	S	Bag	1				X					X					X								
SGR-DU064(8-10)-B	10	5-4-16	1101	S	Bag	1				X					X					X								
SGR-DU064(0-2)-C	11	5-4-16	1109	S	Bag	1				X					X					X								
SGR-DU064(2-4)-C	12	5-4-16	1111	S	Bag	1				X					X					X								
SGR-DU064(4-6)-C	13	5-4-16	1113	S	Bag	1				X					X					X								
SGR-DU064(6-8)-C	14	5-4-16	1114	S	Bag	1				X					X					X								
SGR-DU064(8-10)-C	15	5-4-16	1115	S	Bag	1				X					X					X								

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[signature]	5-4-16 / 1800	Fed ex
Fed ex	5/5/16 1000	[signature]

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TURN AROUND TIME
RUSH ☐ CALL FIRST
1 DAY ☐ CALL FIRST
2 DAY ☐
NORMAL ☒
OTHER ☐ _____

LABORATORY USE ONLY: 0.3, 3.4, 2.6
RECEIVING TEMP: 0.5, 2.4 THERM #: 73
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

№ 71106

CHAIN-OF-CUSTODY

CLIENT: ARCADIS
ADDRESS: 8725 Rosehill, Suite 350, Lenexa, KS 66215
PHONE: 913-645-3203 FAX/E-MAIL: alex.walker@arcadis.com
DATA REPORTED TO: Alex Walker
ADDITIONAL REPORT COPIES TO: Erika.Denkenberger@arcadis.com

DATE: May 4, 2016 PAGE 2 OF 4
PO #: 04285081.0000.00044 DHL WORK ORDER #: 1605047
PROJECT LOCATION OR NAME: Lenexa 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 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	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-DU069(0-2)-A	16	5-4-16	1504	S	Bag	1				X					X					X									
SGR-DU069(2-4)-A	17	5-4-16	1506	S	Bag	1				X					X					X									
SGR-DU069(4-6)-A	18	5-4-16	1508	S	Bag	1				X					X					X									
SGR-DU069(6-8)-A	19	5-4-16	1511	S	Bag	1				X					X					X									
SGR-DU069(8-10)-A	20	5-4-16	1513	S	Bag	1				X					X					X									
SGR-DU069(0-2)-B	21	5-4-16	1516	S	Bag	1				X					X					X									
SGR-DU069(2-4)-B	22	5-4-16	1518	S	Bag	1				X					X					X									
SGR-DU069(4-6)-B	23	5-4-16	1520	S	Bag	1				X					X					X									
SGR-DU069(6-8)-B	24	5-4-16	1521	S	Bag	1				X					X					X									
SGR-DU069(8-10)-B	25	5-4-16	1523	S	Bag	1				X					X					X									
SGR-DU069(0-2)-C	26	5-4-16	1526	S	Bag	1				X					X					X									
SGR-DU069(2-4)-C	27	5-4-16	1527	S	Bag	1				X					X					X									
SGR-DU069(4-6)-C	28	5-4-16	1529	S	Bag	1				X					X					X									
SGR-DU069(6-8)-C	29	5-4-16	1532	S	Bag	1				X					X					X									
SGR-DU069(8-10)-C	30	5-4-16	1534	S	Bag	1				X					X					X									

RELINQUISHED BY: (Signature) DATE/TIME 5-4-16/1800 RECEIVED BY: (Signature) Fed ex
RELINQUISHED BY: (Signature) Fed ex DATE/TIME 5/5/16 1000 RECEIVED BY: (Signature)
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TURN AROUND TIME
RUSH ☐ CALL FIRST
1 DAY ☐ CALL FIRST
2 DAY ☐
NORMAL ☑
OTHER ☐

LABORATORY USE ONLY: 02.34.21
RECEIVING TEMP: 0.5, 0.4 THERM #: 7
CUSTODY SEALS: ☐ BROKEN ☑ INTACT ☐ NOT USED
CARRIER: ☐ LONE STAR ☑ FEDEX ☐ UPS ☐ OTHER
☐ COURIER DELIVERY
☐ HAND DELIVERED

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Web: www.dhlanalytical.com
E-Mail: login@dhlanalytical.com

№ 71105

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 4, 2016 PAGE 3 OF 4
PO #: 04285081.0000.00044 DHL WORK ORDER #: 1605047
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 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 ☐ Pb 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	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
EB01(20160504)	31	5-4-16	0800	W	Glass/Poly	2		X		X						X					X								
EB02(20160504)	32	5-4-16	1300	W	Glass/Poly	2		X		X						X					X								
SGR-DU066-STRAT 1	33	5-4-16	1327	S	4oz Glass	1				X						X					X								
SGR-DU066-STRAT 2	34	5-4-16	1331	S	4oz Glass	1				X						X					X								
SGR-DU066-STRAT 3	35	5-4-16	1334	S	4oz Glass	1				X						X					X								
SGR-DU066-STRAT 4	36	5-4-16	1337	S	4oz Glass	1				X						X					X								
SGR-DU066-STRAT 5	37	5-4-16	1340	S	4oz Glass	1				X						X					X								
EB03(20160504)	38	5-4-16	1611	W	Glass/Poly	2		X		X						X					X								
ROW-1 (0-0.5)	39	5-4-16	1445	S	4oz Glass	1				X						X					X								
ROW-1 (0.5-2.0)	40	5-4-16	1450	S	4oz Glass	1				X						X					X								
ROW-1 (2.0-4.0)	41	5-4-16	1455	S	4oz Glass	1				X						X					X								
ROW-2 (0-0.5)	42	5-4-16	1520	S	4oz Glass	1				X						X					X								
ROW-2 (0.5-2.0)	43	5-4-16	1525	S	4oz Glass	1				X						X					X								
ROW-2 (2.0-4.0	44	5-4-16	1530	S	4oz Glass	1				X						X					X								
Laredo Frag	45	5-4-16	1431	O	Ziplock	1				X						X					X								

RELINQUISHED BY: (Signature) DATE/TIME 5-4-16 / 1800 RECEIVED BY: (Signature) FedEx
RELINQUISHED BY: (Signature) FedEx DATE/TIME 5/5/16 1000 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: 0.5, 0.4, 2.3, 3.4, 2.4 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

№ 71107

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 4, 2016 PAGE 4 OF 4
PO #: 04285081.0000.00044 DHL WORK ORDER #: 1605047
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 ☐ [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
Fastco Frag	44	4-28-16	1130	O	Ziplock	1				X							X					X									

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
[signature]	5-4-16 / 1800	[signature]
[signature]	5/5/16 1000	[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: 0.7, 2.4, 0.3, 3.4, 4.6 THERM #: 78
CUSTODY SEALS: ☐ BROKEN ☑ INTACT ☐ NOT USED
CARRIER: ☐ LONE STAR ☑ FEDEX ☐ UPS ☐ OTHER
☐ COURIER DELIVERY
☐ HAND DELIVERED

ORIGIN ID:LRDA (915) 433-1761
ARCADIS

401 E MAIN DR STE 400

EL PASO, TX 79901
UNITED STATES US

SHIP DATE: 04MAY16
ACTWGT: 69.50 LB
CAD: [illegible]4464/SSFE1705
DIMS
BILL

TO SAMPLE MNGR
DHL ANALUTICAL
2300 DOUBLE CREEK DR.

ROUND ROCK TX 78664
(512) 388-8222 REF:
INV:
PO: DEPT:

FedEx Express

E

REL# 3785346

1 of 5

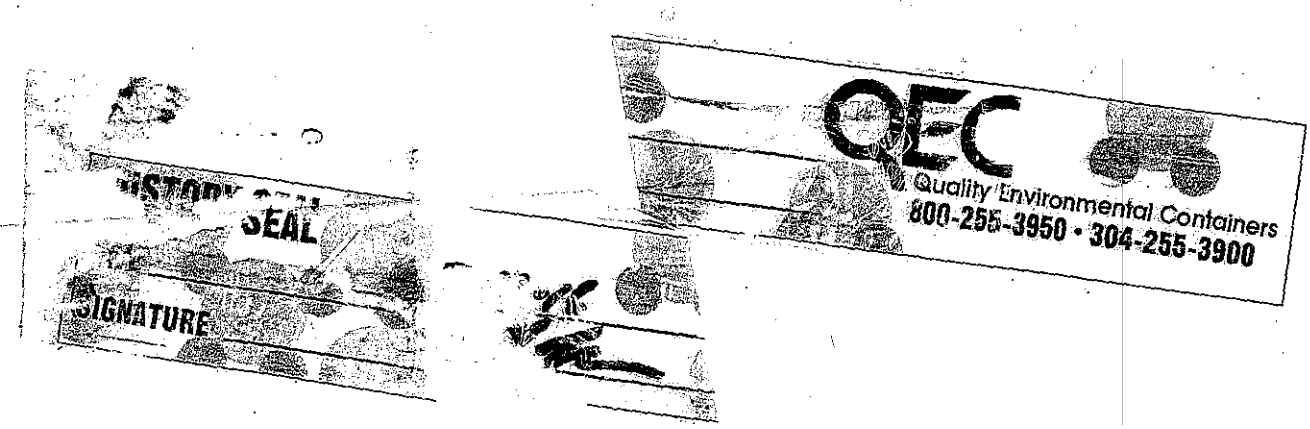
THU - 05 MAY 10:30A
PRIORITY OVERNIGHT

TRK# 0201 7829 9178 0781

MASTER

44 BSMA

78664
TX-US AUS



ORIGIN ID:LRDA (915) 433-1761
ARCADIS
401 E MAIN DR STE 400
EL PASO, TX 79901
UNITED STATES US

SHIP DATE: 04MAY16
ACTWGT
CAD: 0
DIMS:
BILL T RT 512

Part # 1
10:3

TO SAMPLE MNGR
DHL ANALUTICAL
2300 DOUBLE CREEK DR.

ROUND ROCK TX 78664
(512) 388-8222 REF:
INV:
PO: DEPT:

FZ

FedEx Express
REL# 3785346

5 of 5
MPS# 0263 7829 9178 0829
Mstr# 7829 9178 0781 0201

THU - 05 MAY 10:30A
PRIORITY OVERNIGHT

44 BSMA

78664
TX-US AUS

CUSTODY
DATE
SIGNATURE

QEC
Quality Environmental Containers
800-255-3950 · 304-255-3900

ORIGIN ID:LRDA (915) 433-1761
ARCADIS

401 E MAIN DR STE 400

EL PASO, TX 79901
UNITED STATES US

SHIP DATE: 04MAY16
ACTWGT: 62.90 LB
CAD: 006994464/SSFE1703
DIMS: 23x14x13 IN

BILL THIRD PARTY

Part # 156297V-435 HITZ EXP 03/17

TO SAMPLE MNGR
DHL ANALUTICAL
2300 DOUBLE CREEK DR.

ROUND ROCK TX 78664

(512) 388-8222 REF:
INV:
PO: DEPT:

FedEx Express

E

REL# 3785346

2 of 5

MPS# 0263 7829 9178 0792

Mstr# 7829 9178 0781 0201

THU - 05 MAY 10:30A
PRIORITY OVERNIGHT

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TX-US AUS

QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

CUSTODY SEAL
DATE 5-4-16
SIGNATURE

ORIGIN ID:LRDA (915) 433-1761
ARCADIS
401 E MAIN DR STE 400
EL PASO, TX 79901
UNITED STATES US

SHIP DATE: 04MAY16
ACTWGT: 59.00 LB
CAD: 006994464/SSFE1703
DIMS: 23x14x13 IN
BILL THIRD PARTY

TO SAMPLE MNGR
DHL ANALUTICAL
2300 DOUBLE CREEK DR.

ROUND ROCK TX 78664
(512) 388-8222 REF:
INV:
PO: DEPT:

FedEx Express

REL# 3785346

4 of 5

MPS# 0263 7829 9178 0818

Mstr# 7829 9178 0781 0201

THU - 05 MAY 10:30A
PRIORITY OVERNIGHT

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CUSTOD Y SEAL
DATE

QEC
Quality Environmental
800-255-3950

ORIGIN ID:LRDA (915) 433-1761
ARCADIS

401 E MAIN DR STE 400

EL PASO, TX 79901
UNITED STATES US

SHIP DATE: 04MAY16
ACTWGT: 69.90 LB
CAD: 006994464/SSFE1703
DIMS: 23x14x13 IN

BILL THIRD PARTY

Part # 156297V-435 RITE EXP 03/17

TO SAMPLE MNGR
DHL ANALUTICAL
2300 DOUBLE CREEK DR.

ROUND ROCK TX 78664
(512) 388-8222 REF:
INV:
PO: DEPT:

FedEx Express

REL# 3785346

3 of 5

MPS# 0263 7829 9178 0807

Mstr# 7829 9178 0781 0201

THU - 05 MAY 10:30A
PRIORITY OVERNIGHT

44 BSMA

78664
TX-US AUS

QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

CUSTODY SEAL
DATE 5-4-16
SIGNATURE

DHL Analytical, Inc.

Sample Receipt Checklist

Client Name Arcadis | Date Received: 5/5/2016

Work Order Number **1605047** | Received by **JB**

Checklist completed by: Signature 5/5/2016 Date | Reviewed by Initials 5/5/2016 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 ☐	2.1 °C
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH<2,acceptable upon receipt?	Yes ☐	No ☐	NA ☑ LOT #
	Adjusted?		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:** 5/26/2016
Reviewer Name: Angie O'Donnell	**Laboratory Work Order:** 1605047
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			**R4-02**
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:** 5/26/2016

Reviewer Name: Angie O'Donnell | **Laboratory Work Order:** 1605047

#[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			**S2-01**
		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

05/26/16

Date

CLIENT: Arcadis
Project: Laredo SGR
Lab Order: 1605047

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 5/5/2016. A total of 46 samples were received and 42 were analyzed. The samples arrived in good condition and was properly packaged. Additional analysis was not requested per the client's request on 5/17/2016.

Exception Report R4-02

For PAH Analysis, the recovery of surrogate 4-Terphenyl-d14 for four sample was below the method control limits. These are flagged accordingly in the Analytical Data Report. The remaining surrogate for these samples was within method control limits. 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 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. No further corrective action was taken.

For PAH Analysis, for soil batch 75057, the recoveries/RPDs of up to fifteen compounds for the Matrix Spike Duplicate (1605047-34 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/MS. 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 all of the surface and subsurface samples in this project, 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 # 1605047-01 through-30) processed to pass #10 sieve (2mm) and the remaining samples analyzed were discreet soil samples collected in 4 ounce soil containers and ISM process not used, as per project specs. There were two clay fragment samples which were processed as discreet samples as per client.

Exception Report S2-01

For PAH Analysis, performed on 5/13/2016, the Matrix Spike Duplicate (1605047-24 MSD) was performed 20 minutes outside of the method specified 12 hour window. The subsequent DFTPP and ICV were within method control limits and showed that proper instrument conditions were met. The recovery of the MSD was within method control limits. 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.

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 and the Sample Summary was sent on 5/5/2016. 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 5/13/2016 - from J. DuPont to the Arcadis Kansas Laredo email group regarding request to dilute based on color of extract
email communications 5/13/2016 - from J. DuPont to L. Mott of Arcadis regarding recoveries of

surrogates, recoveries/RPD of MS/MSD and MSD analyzed outside of the tune window. The client accepted the corrective action for the quality exceedances.

DHL Analytical, Inc.

Date: *26-May-16*

CLIENT: Arcadis
Project: Laredo SGR
Lab Order: 1605047

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
1605047-01	SGR-DU064(0-2)-A		05/04/16 10:39 AM	5/5/2016
1605047-02	SGR-DU064(2-4)-A		05/04/16 10:40 AM	5/5/2016
1605047-03	SGR-DU064(4-6)-A		05/04/16 10:41 AM	5/5/2016
1605047-04	SGR-DU064(6-8)-A		05/04/16 10:42 AM	5/5/2016
1605047-05	SGR-DU064(8-10)-A		05/04/16 10:45 AM	5/5/2016
1605047-06	SGR-DU064(0-2)-B		05/04/16 10:47 AM	5/5/2016
1605047-07	SGR-DU064(2-4)-B		05/04/16 10:48 AM	5/5/2016
1605047-08	SGR-DU064(4-6)-B		05/04/16 10:58 AM	5/5/2016
1605047-09	SGR-DU064(6-8)-B		05/04/16 10:59 AM	5/5/2016
1605047-10	SGR-DU064(8-10)-B		05/04/16 11:01 AM	5/5/2016
1605047-11	SGR-DU064(0-2)-C		05/04/16 11:09 AM	5/5/2016
1605047-12	SGR-DU064(2-4)-C		05/04/16 11:11 AM	5/5/2016
1605047-13	SGR-DU064(4-6)-C		05/04/16 11:13 AM	5/5/2016
1605047-14	SGR-DU064(6-8)-C		05/04/16 11:14 AM	5/5/2016
1605047-15	SGR-DU064(8-10)-C		05/04/16 11:15 AM	5/5/2016
1605047-16	SGR-DU069(0-2)-A		05/04/16 03:04 PM	5/5/2016
1605047-17	SGR-DU069(2-4)-A		05/04/16 03:06 PM	5/5/2016
1605047-18	SGR-DU069(4-6)-A		05/04/16 03:08 PM	5/5/2016
1605047-19	SGR-DU069(6-8)-A		05/04/16 03:11 PM	5/5/2016
1605047-20	SGR-DU069(8-10)-A		05/04/16 03:13 PM	5/5/2016
1605047-21	SGR-DU069(0-2)-B		05/04/16 03:16 PM	5/5/2016
1605047-22	SGR-DU069(2-4)-B		05/04/16 03:18 PM	5/5/2016
1605047-23	SGR-DU069(4-6)-B		05/04/16 03:20 PM	5/5/2016
1605047-24	SGR-DU069(6-8)-B		05/04/16 03:21 PM	5/5/2016
1605047-25	SGR-DU069(8-10)-B		05/04/16 03:23 PM	5/5/2016
1605047-26	SGR-DU069(0-2)-C		05/04/16 03:26 PM	5/5/2016
1605047-27	SGR-DU069(2-4)-C		05/04/16 03:27 PM	5/5/2016
1605047-28	SGR-DU069(4-6)-C		05/04/16 03:29 PM	5/5/2016
1605047-29	SGR-DU069(6-8)-C		05/04/16 03:32 PM	5/5/2016
1605047-30	SGR-DU069(8-10)-C		05/04/16 03:34 PM	5/5/2016
1605047-31	EB01(20160504)		05/04/16 08:00 AM	5/5/2016
1605047-32	EB02(20160504)		05/04/16 01:00 PM	5/5/2016
1605047-33	SGR-DU066-STRAT1		05/04/16 01:27 PM	5/5/2016
1605047-34	SGR-DU066-STRAT2		05/04/16 01:31 PM	5/5/2016
1605047-35	SGR-DU066-STRAT3		05/04/16 01:34 PM	5/5/2016
1605047-36	SGR-DU066-STRAT4		05/04/16 01:37 PM	5/5/2016
1605047-37	SGR-DU066-STRAT5		05/04/16 01:40 PM	5/5/2016
1605047-38	EB03(20160504)		05/04/16 04:11 PM	5/5/2016
1605047-39	ROW-1(0-0.5)		05/04/16 02:45 PM	5/5/2016
1605047-40	ROW-1(0.5-2.0)		05/04/16 02:50 PM	5/5/2016
1605047-41	ROW-1(2.0-4.0)		05/04/16 02:55 PM	5/5/2016
1605047-42	ROW-2(0-0.5)		05/04/16 03:20 PM	5/5/2016

CLIENT: Arcadis
Project: Laredo SGR
Lab Order: 1605047

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
1605047-43	ROW-2(0.5-2.0)		05/04/16 03:25 PM	5/5/2016
1605047-44	ROW-2(2.0-4.0)		05/04/16 03:30 PM	5/5/2016
1605047-45	Laredo Frag		05/04/16 02:31 PM	5/5/2016
1605047-46	Foster Frag		04/28/16 11:30 AM	5/5/2016

DHL Analytical, Inc.

26-May-16

Lab Order: 1605047
Client: Arcadis
Project: Laredo SGR

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1605047-01A	SGR-DU064(0-2)-A	05/04/16 10:39 AM	Soil	SW3550C	Soil Prep Sonication: PAH	05/09/16 10:10 AM	75007
	SGR-DU064(0-2)-A	05/04/16 10:39 AM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/09/16 10:24 AM	75009
1605047-02A	SGR-DU064(2-4)-A	05/04/16 10:40 AM	Soil	SW3550C	Soil Prep Sonication: PAH	05/09/16 10:10 AM	75007
	SGR-DU064(2-4)-A	05/04/16 10:40 AM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/09/16 10:24 AM	75009
1605047-03A	SGR-DU064(4-6)-A	05/04/16 10:41 AM	Soil	SW3550C	Soil Prep Sonication: PAH	05/09/16 10:10 AM	75007
	SGR-DU064(4-6)-A	05/04/16 10:41 AM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/09/16 10:24 AM	75009
1605047-04A	SGR-DU064(6-8)-A	05/04/16 10:42 AM	Soil	SW3550C	Soil Prep Sonication: PAH	05/09/16 10:10 AM	75007
	SGR-DU064(6-8)-A	05/04/16 10:42 AM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/09/16 10:24 AM	75009
1605047-05A	SGR-DU064(8-10)-A	05/04/16 10:45 AM	Soil	SW3550C	Soil Prep Sonication: PAH	05/09/16 10:10 AM	75007
	SGR-DU064(8-10)-A	05/04/16 10:45 AM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/09/16 10:24 AM	75009
1605047-06A	SGR-DU064(0-2)-B	05/04/16 10:47 AM	Soil	SW3550C	Soil Prep Sonication: PAH	05/09/16 10:10 AM	75007
	SGR-DU064(0-2)-B	05/04/16 10:47 AM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/09/16 10:24 AM	75009
1605047-07A	SGR-DU064(2-4)-B	05/04/16 10:48 AM	Soil	SW3550C	Soil Prep Sonication: PAH	05/09/16 10:10 AM	75007
	SGR-DU064(2-4)-B	05/04/16 10:48 AM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/09/16 10:24 AM	75009
1605047-08A	SGR-DU064(4-6)-B	05/04/16 10:58 AM	Soil	SW3550C	Soil Prep Sonication: PAH	05/09/16 10:10 AM	75007
	SGR-DU064(4-6)-B	05/04/16 10:58 AM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/09/16 10:24 AM	75009
1605047-09A	SGR-DU064(6-8)-B	05/04/16 10:59 AM	Soil	SW3550C	Soil Prep Sonication: PAH	05/09/16 10:10 AM	75007
	SGR-DU064(6-8)-B	05/04/16 10:59 AM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/09/16 10:24 AM	75009
1605047-10A	SGR-DU064(8-10)-B	05/04/16 11:01 AM	Soil	SW3550C	Soil Prep Sonication: PAH	05/09/16 10:10 AM	75007
	SGR-DU064(8-10)-B	05/04/16 11:01 AM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/09/16 10:24 AM	75009
1605047-11A	SGR-DU064(0-2)-C	05/04/16 11:09 AM	Soil	SW3550C	Soil Prep Sonication: PAH	05/10/16 09:19 AM	75021
	SGR-DU064(0-2)-C	05/04/16 11:09 AM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/10/16 08:30 AM	75019
1605047-12A	SGR-DU064(2-4)-C	05/04/16 11:11 AM	Soil	SW3550C	Soil Prep Sonication: PAH	05/10/16 09:19 AM	75021
	SGR-DU064(2-4)-C	05/04/16 11:11 AM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/10/16 08:30 AM	75019
1605047-13A	SGR-DU064(4-6)-C	05/04/16 11:13 AM	Soil	SW3550C	Soil Prep Sonication: PAH	05/10/16 09:19 AM	75021
	SGR-DU064(4-6)-C	05/04/16 11:13 AM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/10/16 08:30 AM	75019
1605047-14A	SGR-DU064(6-8)-C	05/04/16 11:14 AM	Soil	SW3550C	Soil Prep Sonication: PAH	05/10/16 09:19 AM	75021
	SGR-DU064(6-8)-C	05/04/16 11:14 AM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/10/16 08:30 AM	75019

Lab Order: 1605047
Client: Arcadis
Project: Laredo SGR

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1605047-15A	SGR-DU064(8-10)-C	05/04/16 11:15 AM	Soil	SW3550C	Soil Prep Sonication: PAH	05/10/16 09:19 AM	75021
	SGR-DU064(8-10)-C	05/04/16 11:15 AM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/10/16 08:30 AM	75019
1605047-16A	SGR-DU069(0-2)-A	05/04/16 03:04 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/10/16 09:19 AM	75021
	SGR-DU069(0-2)-A	05/04/16 03:04 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/10/16 08:30 AM	75019
1605047-17A	SGR-DU069(2-4)-A	05/04/16 03:06 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/10/16 09:19 AM	75021
	SGR-DU069(2-4)-A	05/04/16 03:06 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/10/16 08:30 AM	75019
1605047-18A	SGR-DU069(4-6)-A	05/04/16 03:08 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/10/16 09:19 AM	75021
	SGR-DU069(4-6)-A	05/04/16 03:08 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/10/16 08:30 AM	75019
1605047-19A	SGR-DU069(6-8)-A	05/04/16 03:11 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/10/16 09:19 AM	75021
	SGR-DU069(6-8)-A	05/04/16 03:11 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/10/16 08:30 AM	75019
1605047-20A	SGR-DU069(8-10)-A	05/04/16 03:13 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/10/16 09:19 AM	75021
	SGR-DU069(8-10)-A	05/04/16 03:13 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/10/16 08:30 AM	75019
1605047-21A	SGR-DU069(0-2)-B	05/04/16 03:16 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/10/16 09:19 AM	75021
	SGR-DU069(0-2)-B	05/04/16 03:16 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/10/16 08:30 AM	75019
1605047-22A	SGR-DU069(2-4)-B	05/04/16 03:18 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/10/16 09:19 AM	75021
	SGR-DU069(2-4)-B	05/04/16 03:18 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/10/16 08:30 AM	75019
1605047-23A	SGR-DU069(4-6)-B	05/04/16 03:20 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/10/16 09:19 AM	75021
	SGR-DU069(4-6)-B	05/04/16 03:20 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/10/16 08:30 AM	75019
1605047-24A	SGR-DU069(6-8)-B	05/04/16 03:21 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/09/16 02:16 PM	75021
	SGR-DU069(6-8)-B	05/04/16 03:21 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/10/16 08:30 AM	75019
1605047-25A	SGR-DU069(8-10)-B	05/04/16 03:23 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/10/16 09:19 AM	75021
	SGR-DU069(8-10)-B	05/04/16 03:23 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/10/16 08:30 AM	75019
1605047-26A	SGR-DU069(0-2)-C	05/04/16 03:26 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/10/16 09:17 AM	75057
	SGR-DU069(0-2)-C	05/04/16 03:26 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/10/16 08:30 AM	75019
1605047-27A	SGR-DU069(2-4)-C	05/04/16 03:27 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/10/16 09:17 AM	75057
	SGR-DU069(2-4)-C	05/04/16 03:27 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/10/16 08:30 AM	75019
1605047-28A	SGR-DU069(4-6)-C	05/04/16 03:29 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/10/16 09:17 AM	75057
	SGR-DU069(4-6)-C	05/04/16 03:29 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/10/16 08:30 AM	75019

Lab Order: 1605047
Client: Arcadis
Project: Laredo SGR

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1605047-29A	SGR-DU069(6-8)-C	05/04/16 03:32 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/10/16 09:17 AM	75057
	SGR-DU069(6-8)-C	05/04/16 03:32 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/10/16 08:30 AM	75019
1605047-30A	SGR-DU069(8-10)-C	05/04/16 03:34 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/10/16 09:17 AM	75057
	SGR-DU069(8-10)-C	05/04/16 03:34 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/10/16 08:30 AM	75019
1605047-31A	EB01(20160504)	05/04/16 08:00 AM	Equip Blank	SW3005A	Aq Prep Metals : ICP-MS	05/19/16 08:30 AM	75180
1605047-31B	EB01(20160504)	05/04/16 08:00 AM	Equip Blank	SW3510C	Aq Prep Sep Funnel: PAH	05/06/16 02:10 PM	74985
1605047-32A	EB02(20160504)	05/04/16 01:00 PM	Equip Blank	SW3005A	Aq Prep Metals : ICP-MS	05/19/16 08:30 AM	75180
1605047-32B	EB02(20160504)	05/04/16 01:00 PM	Equip Blank	SW3510C	Aq Prep Sep Funnel: PAH	05/06/16 02:10 PM	74985
1605047-33A	SGR-DU066-STRAT1	05/04/16 01:27 PM	Soil	D2216	Moisture Preparation	05/09/16 01:24 PM	74986
	SGR-DU066-STRAT1	05/04/16 01:27 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/10/16 09:17 AM	75057
1605047-34A	SGR-DU066-STRAT2	05/04/16 01:31 PM	Soil	D2216	Moisture Preparation	05/09/16 01:24 PM	74986
	SGR-DU066-STRAT2	05/04/16 01:31 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/10/16 09:17 AM	75057
1605047-35A	SGR-DU066-STRAT3	05/04/16 01:34 PM	Soil	D2216	Moisture Preparation	05/09/16 01:24 PM	74986
	SGR-DU066-STRAT3	05/04/16 01:34 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/10/16 09:17 AM	75057
1605047-36A	SGR-DU066-STRAT4	05/04/16 01:37 PM	Soil	D2216	Moisture Preparation	05/10/16 12:16 PM	75073
	SGR-DU066-STRAT4	05/04/16 01:37 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/10/16 09:17 AM	75057
	SGR-DU066-STRAT4	05/04/16 01:37 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/10/16 10:30 AM	75056
1605047-37A	SGR-DU066-STRAT5	05/04/16 01:40 PM	Soil	D2216	Moisture Preparation	05/10/16 12:16 PM	75073
	SGR-DU066-STRAT5	05/04/16 01:40 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/10/16 09:17 AM	75057
	SGR-DU066-STRAT5	05/04/16 01:40 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/10/16 10:30 AM	75056
1605047-38A	EB03(20160504)	05/04/16 04:11 PM	Equip Blank	SW3005A	Aq Prep Metals : ICP-MS	05/19/16 08:30 AM	75180
1605047-38B	EB03(20160504)	05/04/16 04:11 PM	Equip Blank	SW3510C	Aq Prep Sep Funnel: PAH	05/06/16 02:10 PM	74985
1605047-39A	ROW-1(0-0.5)	05/04/16 02:45 PM	Soil	D2216	Moisture Preparation	05/10/16 12:16 PM	75073
	ROW-1(0-0.5)	05/04/16 02:45 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/10/16 09:17 AM	75057
	ROW-1(0-0.5)	05/04/16 02:45 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/10/16 10:30 AM	75056
1605047-42A	ROW-2(0-0.5)	05/04/16 03:20 PM	Soil	D2216	Moisture Preparation	05/10/16 12:16 PM	75073
	ROW-2(0-0.5)	05/04/16 03:20 PM	Soil	SW3550C	Soil Prep Sonication: PAH	05/10/16 09:17 AM	75057
	ROW-2(0-0.5)	05/04/16 03:20 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/10/16 10:30 AM	75056

Lab Order: 1605047
Client: Arcadis
Project: Laredo SGR

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1605047-45A	Laredo Frag	05/04/16 02:31 PM	Solid	D2216	Moisture Preparation	05/10/16 12:16 PM	75073
	Laredo Frag	05/04/16 02:31 PM	Solid	SW3550C	Soil Prep Sonication: PAH	05/09/16 02:16 PM	75021
	Laredo Frag	05/04/16 02:31 PM	Solid	SW3050B	Soil Prep Total Metals: ICP-MS	05/10/16 10:30 AM	75056
1605047-46A	Foster Frag	04/28/16 11:30 AM	Solid	D2216	Moisture Preparation	05/10/16 12:16 PM	75073
	Foster Frag	04/28/16 11:30 AM	Solid	SW3550C	Soil Prep Sonication: PAH	05/09/16 02:16 PM	75021
	Foster Frag	04/28/16 11:30 AM	Solid	SW3050B	Soil Prep Total Metals: ICP-MS	05/10/16 10:30 AM	75056

Lab Order: 1605047
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
1605047-01A	SGR-DU064(0-2)-A	5/4/2016 10:39:00 AM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/5/2016 2:00:00 PM	74972
1605047-02A	SGR-DU064(2-4)-A	5/4/2016 10:40:00 AM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/5/2016 2:00:00 PM	74972
1605047-03A	SGR-DU064(4-6)-A	5/4/2016 10:41:00 AM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/5/2016 2:00:00 PM	74972
1605047-04A	SGR-DU064(6-8)-A	5/4/2016 10:42:00 AM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/5/2016 2:00:00 PM	74972
1605047-05A	SGR-DU064(8-10)-A	5/4/2016 10:45:00 AM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/5/2016 2:00:00 PM	74972
1605047-06A	SGR-DU064(0-2)-B	5/4/2016 10:47:00 AM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/5/2016 2:00:00 PM	74972
1605047-07A	SGR-DU064(2-4)-B	5/4/2016 10:48:00 AM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/5/2016 2:00:00 PM	74972
1605047-08A	SGR-DU064(4-6)-B	5/4/2016 10:58:00 AM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/5/2016 2:00:00 PM	74972
1605047-09A	SGR-DU064(6-8)-B	5/4/2016 10:59:00 AM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/5/2016 2:00:00 PM	74972
1605047-10A	SGR-DU064(8-10)-B	5/4/2016 11:01:00 AM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/5/2016 2:00:00 PM	74972
1605047-11A	SGR-DU064(0-2)-C	5/4/2016 11:09:00 AM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/5/2016 2:00:00 PM	74972
1605047-12A	SGR-DU064(2-4)-C	5/4/2016 11:11:00 AM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/5/2016 2:00:00 PM	74972
1605047-13A	SGR-DU064(4-6)-C	5/4/2016 11:13:00 AM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/5/2016 2:00:00 PM	74972
1605047-14A	SGR-DU064(6-8)-C	5/4/2016 11:14:00 AM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/5/2016 2:00:00 PM	74972
1605047-15A	SGR-DU064(8-10)-C	5/4/2016 11:15:00 AM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/5/2016 2:00:00 PM	74972
1605047-16A	SGR-DU069(0-2)-A	5/4/2016 3:04:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/5/2016 2:00:00 PM	74972
1605047-17A	SGR-DU069(2-4)-A	5/4/2016 3:06:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/5/2016 2:00:00 PM	74972
1605047-18A	SGR-DU069(4-6)-A	5/4/2016 3:08:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/5/2016 2:00:00 PM	74972
1605047-19A	SGR-DU069(6-8)-A	5/4/2016 3:11:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/5/2016 2:00:00 PM	74972
1605047-20A	SGR-DU069(8-10)-A	5/4/2016 3:13:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/5/2016 2:00:00 PM	74972
1605047-21A	SGR-DU069(0-2)-B	5/4/2016 3:16:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/5/2016 2:00:00 PM	74972
1605047-22A	SGR-DU069(2-4)-B	5/4/2016 3:18:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/5/2016 2:00:00 PM	74972
1605047-23A	SGR-DU069(4-6)-B	5/4/2016 3:20:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/5/2016 2:00:00 PM	74972
1605047-24A	SGR-DU069(6-8)-B	5/4/2016 3:21:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/5/2016 2:00:00 PM	74972
1605047-25A	SGR-DU069(8-10)-B	5/4/2016 3:23:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/5/2016 2:00:00 PM	74972
1605047-26A	SGR-DU069(0-2)-C	5/4/2016 3:26:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/5/2016 2:00:00 PM	74972
1605047-27A	SGR-DU069(2-4)-C	5/4/2016 3:27:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/5/2016 2:00:00 PM	74972
1605047-28A	SGR-DU069(4-6)-C	5/4/2016 3:29:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/5/2016 2:00:00 PM	74972

Lab Order: 1605047
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
1605047-29A	SGR-DU069(6-8)-C	5/4/2016 3:32:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/5/2016 2:00:00 PM	74972
1605047-30A	SGR-DU069(8-10)-C	5/4/2016 3:34:00 PM	Soil	ISM-2	Incremental Sample Prep 2mm Sieve	5/5/2016 2:00:00 PM	74972

Lab Order: 1605047
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
1605047-01A	SGR-DU064(0-2)-A	Soil	SW8270D-LL	PAHs: GC/MS	75007	20	05/13/16 02:23 AM	GCMS6_160512A
	SGR-DU064(0-2)-A	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75009	5	05/16/16 03:18 PM	ICP-MS4_160516B
1605047-02A	SGR-DU064(2-4)-A	Soil	SW8270D-LL	PAHs: GC/MS	75007	10	05/12/16 05:10 PM	GCMS6_160512A
	SGR-DU064(2-4)-A	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75009	5	05/16/16 03:20 PM	ICP-MS4_160516B
1605047-03A	SGR-DU064(4-6)-A	Soil	SW8270D-LL	PAHs: GC/MS	75007	10	05/12/16 09:03 PM	GCMS6_160512A
	SGR-DU064(4-6)-A	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75009	5	05/16/16 02:40 PM	ICP-MS4_160516B
1605047-04A	SGR-DU064(6-8)-A	Soil	SW8270D-LL	PAHs: GC/MS	75007	10	05/12/16 09:43 PM	GCMS6_160512A
	SGR-DU064(6-8)-A	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75009	5	05/16/16 03:22 PM	ICP-MS4_160516B
1605047-05A	SGR-DU064(8-10)-A	Soil	SW8270D-LL	PAHs: GC/MS	75007	10	05/12/16 10:24 PM	GCMS6_160512A
	SGR-DU064(8-10)-A	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75009	5	05/16/16 03:24 PM	ICP-MS4_160516B
1605047-06A	SGR-DU064(0-2)-B	Soil	SW8270D-LL	PAHs: GC/MS	75007	10	05/13/16 01:43 AM	GCMS6_160512A
	SGR-DU064(0-2)-B	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75009	5	05/16/16 03:26 PM	ICP-MS4_160516B
1605047-07A	SGR-DU064(2-4)-B	Soil	SW8270D-LL	PAHs: GC/MS	75007	10	05/12/16 11:04 PM	GCMS6_160512A
	SGR-DU064(2-4)-B	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75009	5	05/16/16 03:28 PM	ICP-MS4_160516B
1605047-08A	SGR-DU064(4-6)-B	Soil	SW8270D-LL	PAHs: GC/MS	75007	10	05/12/16 11:44 PM	GCMS6_160512A
	SGR-DU064(4-6)-B	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75009	5	05/16/16 03:30 PM	ICP-MS4_160516B
1605047-09A	SGR-DU064(6-8)-B	Soil	SW8270D-LL	PAHs: GC/MS	75007	10	05/13/16 12:23 AM	GCMS6_160512A
	SGR-DU064(6-8)-B	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75009	5	05/16/16 03:33 PM	ICP-MS4_160516B
1605047-10A	SGR-DU064(8-10)-B	Soil	SW8270D-LL	PAHs: GC/MS	75007	10	05/13/16 01:03 AM	GCMS6_160512A
	SGR-DU064(8-10)-B	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75009	5	05/16/16 03:34 PM	ICP-MS4_160516B
1605047-11A	SGR-DU064(0-2)-C	Soil	SW8270D-LL	PAHs: GC/MS	75021	10	05/12/16 03:22 PM	GCMS8_160512A
	SGR-DU064(0-2)-C	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75019	5	05/11/16 07:32 PM	ICP-MS4_160511C
1605047-12A	SGR-DU064(2-4)-C	Soil	SW8270D-LL	PAHs: GC/MS	75021	10	05/12/16 03:59 PM	GCMS8_160512A
	SGR-DU064(2-4)-C	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75019	5	05/11/16 07:33 PM	ICP-MS4_160511C
1605047-13A	SGR-DU064(4-6)-C	Soil	SW8270D-LL	PAHs: GC/MS	75021	10	05/12/16 04:36 PM	GCMS8_160512A
	SGR-DU064(4-6)-C	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75019	5	05/11/16 07:35 PM	ICP-MS4_160511C
1605047-14A	SGR-DU064(6-8)-C	Soil	SW8270D-LL	PAHs: GC/MS	75021	10	05/12/16 05:13 PM	GCMS8_160512A
	SGR-DU064(6-8)-C	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75019	5	05/11/16 07:37 PM	ICP-MS4_160511C

Lab Order: 1605047
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
1605047-15A	SGR-DU064(8-10)-C	Soil	SW8270D-LL	PAHs: GC/MS	75021	10	05/12/16 05:50 PM	GCMS8_160512A
	SGR-DU064(8-10)-C	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75019	5	05/11/16 07:39 PM	ICP-MS4_160511C
1605047-16A	SGR-DU069(0-2)-A	Soil	SW8270D-LL	PAHs: GC/MS	75021	10	05/12/16 06:27 PM	GCMS8_160512A
	SGR-DU069(0-2)-A	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75019	5	05/11/16 07:41 PM	ICP-MS4_160511C
1605047-17A	SGR-DU069(2-4)-A	Soil	SW8270D-LL	PAHs: GC/MS	75021	10	05/12/16 07:04 PM	GCMS8_160512A
	SGR-DU069(2-4)-A	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75019	5	05/11/16 07:43 PM	ICP-MS4_160511C
1605047-18A	SGR-DU069(4-6)-A	Soil	SW8270D-LL	PAHs: GC/MS	75021	10	05/12/16 07:41 PM	GCMS8_160512A
	SGR-DU069(4-6)-A	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75019	5	05/11/16 07:45 PM	ICP-MS4_160511C
1605047-19A	SGR-DU069(6-8)-A	Soil	SW8270D-LL	PAHs: GC/MS	75021	10	05/12/16 08:18 PM	GCMS8_160512A
	SGR-DU069(6-8)-A	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75019	5	05/11/16 07:47 PM	ICP-MS4_160511C
1605047-20A	SGR-DU069(8-10)-A	Soil	SW8270D-LL	PAHs: GC/MS	75021	10	05/12/16 08:55 PM	GCMS8_160512A
	SGR-DU069(8-10)-A	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75019	5	05/11/16 08:03 PM	ICP-MS4_160511C
1605047-21A	SGR-DU069(0-2)-B	Soil	SW8270D-LL	PAHs: GC/MS	75021	10	05/12/16 09:32 PM	GCMS8_160512A
	SGR-DU069(0-2)-B	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75019	5	05/11/16 08:05 PM	ICP-MS4_160511C
1605047-22A	SGR-DU069(2-4)-B	Soil	SW8270D-LL	PAHs: GC/MS	75021	10	05/12/16 10:09 PM	GCMS8_160512A
	SGR-DU069(2-4)-B	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75019	5	05/11/16 08:07 PM	ICP-MS4_160511C
1605047-23A	SGR-DU069(4-6)-B	Soil	SW8270D-LL	PAHs: GC/MS	75021	10	05/12/16 10:46 PM	GCMS8_160512A
	SGR-DU069(4-6)-B	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75019	5	05/11/16 08:09 PM	ICP-MS4_160511C
1605047-24A	SGR-DU069(6-8)-B	Soil	SW8270D-LL	PAHs: GC/MS	75021	10	05/12/16 11:23 PM	GCMS8_160512A
	SGR-DU069(6-8)-B	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75019	5	05/11/16 07:27 PM	ICP-MS4_160511C
1605047-25A	SGR-DU069(8-10)-B	Soil	SW8270D-LL	PAHs: GC/MS	75021	10	05/13/16 03:40 AM	GCMS8_160512A
	SGR-DU069(8-10)-B	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75019	5	05/11/16 08:11 PM	ICP-MS4_160511C
1605047-26A	SGR-DU069(0-2)-C	Soil	SW8270D-LL	PAHs: GC/MS	75057	10	05/11/16 10:35 AM	GCMS6_160511A
	SGR-DU069(0-2)-C	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75019	5	05/11/16 08:13 PM	ICP-MS4_160511C
1605047-27A	SGR-DU069(2-4)-C	Soil	SW8270D-LL	PAHs: GC/MS	75057	10	05/11/16 11:15 AM	GCMS6_160511A
	SGR-DU069(2-4)-C	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75019	5	05/11/16 08:15 PM	ICP-MS4_160511C
1605047-28A	SGR-DU069(4-6)-C	Soil	SW8270D-LL	PAHs: GC/MS	75057	10	05/11/16 11:55 AM	GCMS6_160511A
	SGR-DU069(4-6)-C	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75019	5	05/11/16 08:17 PM	ICP-MS4_160511C

Lab Order: 1605047
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
1605047-29A	SGR-DU069(6-8)-C	Soil	SW8270D-LL	PAHs: GC/MS	75057	10	05/11/16 12:35 PM	GCMS6_160511A
	SGR-DU069(6-8)-C	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75019	5	05/11/16 08:19 PM	ICP-MS4_160511C
1605047-30A	SGR-DU069(8-10)-C	Soil	SW8270D-LL	PAHs: GC/MS	75057	10	05/11/16 01:14 PM	GCMS6_160511A
	SGR-DU069(8-10)-C	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75019	5	05/11/16 08:21 PM	ICP-MS4_160511C
1605047-31A	EB01(20160504)	Equip Blank	SW6020A	Trace Metals: ICP-MS - Water	75180	1	05/20/16 01:34 PM	ICP-MS4_160520C
1605047-31B	EB01(20160504)	Equip Blank	SW8270D-LL	PAHs: GC/MS	74985	1	05/09/16 09:08 PM	GCMS6_160509B
1605047-32A	EB02(20160504)	Equip Blank	SW6020A	Trace Metals: ICP-MS - Water	75180	1	05/20/16 01:36 PM	ICP-MS4_160520C
1605047-32B	EB02(20160504)	Equip Blank	SW8270D-LL	PAHs: GC/MS	74985	1	05/09/16 09:48 PM	GCMS6_160509B
1605047-33A	SGR-DU066-STRAT1	Soil	SW8270D-LL	PAHs: GC/MS	75057	10	05/11/16 01:54 PM	GCMS6_160511A
	SGR-DU066-STRAT1	Soil	D2216	Percent Moisture	74986	1	05/10/16 08:40 AM	PMOIST_160509A
	SGR-DU066-STRAT1	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75056	5	05/11/16 06:20 PM	ICP-MS4_160511C
1605047-34A	SGR-DU066-STRAT2	Soil	SW8270D-LL	PAHs: GC/MS	75057	10	05/11/16 02:34 PM	GCMS6_160511A
	SGR-DU066-STRAT2	Soil	D2216	Percent Moisture	74986	1	05/10/16 08:40 AM	PMOIST_160509A
	SGR-DU066-STRAT2	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75056	5	05/11/16 06:22 PM	ICP-MS4_160511C
1605047-35A	SGR-DU066-STRAT3	Soil	SW8270D-LL	PAHs: GC/MS	75057	10	05/11/16 03:13 PM	GCMS6_160511A
	SGR-DU066-STRAT3	Soil	D2216	Percent Moisture	74986	1	05/10/16 08:40 AM	PMOIST_160509A
	SGR-DU066-STRAT3	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75056	5	05/11/16 06:24 PM	ICP-MS4_160511C
1605047-36A	SGR-DU066-STRAT4	Soil	SW8270D-LL	PAHs: GC/MS	75057	10	05/11/16 03:53 PM	GCMS6_160511A
	SGR-DU066-STRAT4	Soil	D2216	Percent Moisture	75073	1	05/11/16 09:30 AM	PMOIST_160510A
	SGR-DU066-STRAT4	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75056	5	05/11/16 06:26 PM	ICP-MS4_160511C
1605047-37A	SGR-DU066-STRAT5	Soil	SW8270D-LL	PAHs: GC/MS	75057	10	05/11/16 04:33 PM	GCMS6_160511A
	SGR-DU066-STRAT5	Soil	D2216	Percent Moisture	75073	1	05/11/16 09:30 AM	PMOIST_160510A
	SGR-DU066-STRAT5	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75056	5	05/11/16 06:28 PM	ICP-MS4_160511C
1605047-38A	EB03(20160504)	Equip Blank	SW6020A	Trace Metals: ICP-MS - Water	75180	1	05/20/16 01:38 PM	ICP-MS4_160520C
1605047-38B	EB03(20160504)	Equip Blank	SW8270D-LL	PAHs: GC/MS	74985	1	05/09/16 10:27 PM	GCMS6_160509B
1605047-39A	ROW-1(0-0.5)	Soil	SW8270D-LL	PAHs: GC/MS	75057	10	05/11/16 05:12 PM	GCMS6_160511A
	ROW-1(0-0.5)	Soil	D2216	Percent Moisture	75073	1	05/11/16 09:30 AM	PMOIST_160510A
	ROW-1(0-0.5)	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75056	5	05/11/16 06:30 PM	ICP-MS4_160511C

Lab Order: 1605047
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
1605047-42A	ROW-2(0-0.5)	Soil	SW8270D-LL	PAHs: GC/MS	75057	10	05/11/16 09:08 PM	GCMS6_160511A
	ROW-2(0-0.5)	Soil	D2216	Percent Moisture	75073	1	05/11/16 09:30 AM	PMOIST_160510A
	ROW-2(0-0.5)	Soil	SW6020A	Trace Metals: ICP-MS - Solid	75056	5	05/11/16 06:31 PM	ICP-MS4_160511C
1605047-45A	Laredo Frag	Solid	SW8270D-LL	PAHs: GC/MS	75021	1000	05/13/16 06:07 AM	GCMS8_160512A
	Laredo Frag	Solid	D2216	Percent Moisture	75073	1	05/11/16 09:30 AM	PMOIST_160510A
	Laredo Frag	Solid	SW6020A	Trace Metals: ICP-MS - Solid	75056	50	05/11/16 06:33 PM	ICP-MS4_160511C
1605047-46A	Foster Frag	Solid	SW8270D-LL	PAHs: GC/MS	75021	1000	05/13/16 06:44 AM	GCMS8_160512A
	Foster Frag	Solid	D2216	Percent Moisture	75073	1	05/11/16 09:30 AM	PMOIST_160510A
	Foster Frag	Solid	SW6020A	Trace Metals: ICP-MS - Solid	75056	50	05/11/16 06:35 PM	ICP-MS4_160511C

DHL Analytical, Inc.

Date: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(0-2)-A
Project:	Laredo SGR	**Lab ID:**	1605047-01
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 10:39 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	168	0.0885	0.265	0.133		mg/Kg-dry	5	05/16/16 03:18 PM
IS: Bismuth	90.4	0	30-120	0		%REC	5	05/16/16 03:18 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.467	0.0997	0.199	0.150		mg/Kg-dry	20	05/13/16 02:23 AM
Acenaphthylene	0.150	0.0997	0.199	0.150	U	mg/Kg-dry	20	05/13/16 02:23 AM
Anthracene	0.892	0.0997	0.199	0.150		mg/Kg-dry	20	05/13/16 02:23 AM
Benzo[a]anthracene	8.61	0.0997	0.199	0.150		mg/Kg-dry	20	05/13/16 02:23 AM
Benzo[a]pyrene	12.6	0.0997	0.199	0.150		mg/Kg-dry	20	05/13/16 02:23 AM
Benzo[b]fluoranthene	11.0	0.0997	0.199	0.150		mg/Kg-dry	20	05/13/16 02:23 AM
Benzo[e]pyrene	9.17	0.0997	0.199	0.150		mg/Kg-dry	20	05/13/16 02:23 AM
Benzo[g,h,i]perylene	10.2	0.0997	0.199	0.150		mg/Kg-dry	20	05/13/16 02:23 AM
Benzo[j]fluoranthene	5.99	0.0997	0.199	0.150	N	mg/Kg-dry	20	05/13/16 02:23 AM
Benzo[k]fluoranthene	5.71	0.0997	0.199	0.150		mg/Kg-dry	20	05/13/16 02:23 AM
Chrysene	10.9	0.0997	0.199	0.150		mg/Kg-dry	20	05/13/16 02:23 AM
Dibenz[a,h]anthracene	2.25	0.0997	0.199	0.150		mg/Kg-dry	20	05/13/16 02:23 AM
Fluoranthene	12.8	0.0997	0.199	0.150		mg/Kg-dry	20	05/13/16 02:23 AM
Fluorene	0.172	0.0997	0.199	0.150	J	mg/Kg-dry	20	05/13/16 02:23 AM
Indeno[1,2,3-cd]pyrene	8.34	0.0997	0.199	0.150		mg/Kg-dry	20	05/13/16 02:23 AM
Phenanthrene	4.62	0.0997	0.199	0.150		mg/Kg-dry	20	05/13/16 02:23 AM
Pyrene	11.4	0.0997	0.199	0.150		mg/Kg-dry	20	05/13/16 02:23 AM
IS: Acenaphthene-d10	76.1	0	50-200	0		%REC	20	05/13/16 02:23 AM
IS: Chrysene-d12	82.3	0	50-200	0		%REC	20	05/13/16 02:23 AM
IS: Naphthalene-d8	122	0	50-200	0		%REC	20	05/13/16 02:23 AM
IS: Perylene-d12	84.2	0	50-200	0		%REC	20	05/13/16 02:23 AM
IS: Phenanthrene-d10	80.5	0	50-200	0		%REC	20	05/13/16 02:23 AM
Surr: 2-Fluorobiphenyl	84.9	0	46-115	0		%REC	20	05/13/16 02:23 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(0-2)-A
Project:	Laredo SGR	**Lab ID:**	1605047-01
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 10:39 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	74.2	0	58-133	0		%REC	20	05/13/16 02:23 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(2-4)-A
Project:	Laredo SGR	**Lab ID:**	1605047-02
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 10:40 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	14.5	0.0935	0.280	0.140		mg/Kg-dry	5	05/16/16 03:20 PM
IS: Bismuth	89.3	0	30-120	0		%REC	5	05/16/16 03:20 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0656	0.0500	0.0999	0.0749	J	mg/Kg-dry	10	05/12/16 05:10 PM
Acenaphthylene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 05:10 PM
Anthracene	0.111	0.0500	0.0999	0.0749		mg/Kg-dry	10	05/12/16 05:10 PM
Benzo[a]anthracene	1.12	0.0500	0.0999	0.0749		mg/Kg-dry	10	05/12/16 05:10 PM
Benzo[a]pyrene	1.46	0.0500	0.0999	0.0749		mg/Kg-dry	10	05/12/16 05:10 PM
Benzo[b]fluoranthene	1.30	0.0500	0.0999	0.0749		mg/Kg-dry	10	05/12/16 05:10 PM
Benzo[e]pyrene	1.10	0.0500	0.0999	0.0749		mg/Kg-dry	10	05/12/16 05:10 PM
Benzo[g,h,i]perylene	1.09	0.0500	0.0999	0.0749		mg/Kg-dry	10	05/12/16 05:10 PM
Benzo[j]fluoranthene	0.705	0.0500	0.0999	0.0749	N	mg/Kg-dry	10	05/12/16 05:10 PM
Benzo[k]fluoranthene	0.685	0.0500	0.0999	0.0749		mg/Kg-dry	10	05/12/16 05:10 PM
Chrysene	1.38	0.0500	0.0999	0.0749		mg/Kg-dry	10	05/12/16 05:10 PM
Dibenz[a,h]anthracene	0.241	0.0500	0.0999	0.0749		mg/Kg-dry	10	05/12/16 05:10 PM
Fluoranthene	1.73	0.0500	0.0999	0.0749		mg/Kg-dry	10	05/12/16 05:10 PM
Fluorene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 05:10 PM
Indeno[1,2,3-cd]pyrene	0.896	0.0500	0.0999	0.0749		mg/Kg-dry	10	05/12/16 05:10 PM
Phenanthrene	0.542	0.0500	0.0999	0.0749		mg/Kg-dry	10	05/12/16 05:10 PM
Pyrene	1.54	0.0500	0.0999	0.0749		mg/Kg-dry	10	05/12/16 05:10 PM
IS: Acenaphthene-d10	78.5	0	50-200	0		%REC	10	05/12/16 05:10 PM
IS: Chrysene-d12	83.6	0	50-200	0		%REC	10	05/12/16 05:10 PM
IS: Naphthalene-d8	121	0	50-200	0		%REC	10	05/12/16 05:10 PM
IS: Perylene-d12	84.5	0	50-200	0		%REC	10	05/12/16 05:10 PM
IS: Phenanthrene-d10	78.9	0	50-200	0		%REC	10	05/12/16 05:10 PM
Surr: 2-Fluorobiphenyl	83.0	0	46-115	0		%REC	10	05/12/16 05:10 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(2-4)-A
Project:	Laredo SGR	**Lab ID:**	1605047-02
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 10:40 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	72.4	0	58-133	0		%REC	10	05/12/16 05:10 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(4-6)-A
Project:	Laredo SGR	**Lab ID:**	1605047-03
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 10:41 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	5.19	0.0885	0.265	0.133		mg/Kg-dry	5	05/16/16 02:40 PM
IS: Bismuth	90.7	0	30-120	0		%REC	5	05/16/16 02:40 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/12/16 09:03 PM
Acenaphthylene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/12/16 09:03 PM
Anthracene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/12/16 09:03 PM
Benzo[a]anthracene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/12/16 09:03 PM
Benzo[a]pyrene	0.0519	0.0498	0.0995	0.0746	J	mg/Kg-dry	10	05/12/16 09:03 PM
Benzo[b]fluoranthene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/12/16 09:03 PM
Benzo[e]pyrene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/12/16 09:03 PM
Benzo[g,h,i]perylene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/12/16 09:03 PM
Benzo[j]fluoranthene	0.0746	0.0498	0.0995	0.0746	NU	mg/Kg-dry	10	05/12/16 09:03 PM
Benzo[k]fluoranthene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/12/16 09:03 PM
Chrysene	0.0510	0.0498	0.0995	0.0746	J	mg/Kg-dry	10	05/12/16 09:03 PM
Dibenz[a,h]anthracene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/12/16 09:03 PM
Fluoranthene	0.0599	0.0498	0.0995	0.0746	J	mg/Kg-dry	10	05/12/16 09:03 PM
Fluorene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/12/16 09:03 PM
Indeno[1,2,3-cd]pyrene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/12/16 09:03 PM
Phenanthrene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/12/16 09:03 PM
Pyrene	0.0545	0.0498	0.0995	0.0746	J	mg/Kg-dry	10	05/12/16 09:03 PM
IS: Acenaphthene-d10	81.1	0	50-200	0		%REC	10	05/12/16 09:03 PM
IS: Chrysene-d12	86.1	0	50-200	0		%REC	10	05/12/16 09:03 PM
IS: Naphthalene-d8	123	0	50-200	0		%REC	10	05/12/16 09:03 PM
IS: Perylene-d12	86.8	0	50-200	0		%REC	10	05/12/16 09:03 PM
IS: Phenanthrene-d10	81.2	0	50-200	0		%REC	10	05/12/16 09:03 PM
Surr: 2-Fluorobiphenyl	82.2	0	46-115	0		%REC	10	05/12/16 09:03 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(4-6)-A
Project:	Laredo SGR	**Lab ID:**	1605047-03
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 10:41 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	73.4	0	58-133	0		%REC	10	05/12/16 09:03 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(6-8)-A
Project:	Laredo SGR	**Lab ID:**	1605047-04
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 10:42 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	5.74	0.0877	0.263	0.132		mg/Kg-dry	5	05/16/16 03:22 PM
IS: Bismuth	91.0	0	30-120	0		%REC	5	05/16/16 03:22 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0720	0.0480	0.0961	0.0720	U	mg/Kg-dry	10	05/12/16 09:43 PM
Acenaphthylene	0.0720	0.0480	0.0961	0.0720	U	mg/Kg-dry	10	05/12/16 09:43 PM
Anthracene	0.0720	0.0480	0.0961	0.0720	U	mg/Kg-dry	10	05/12/16 09:43 PM
Benzo[a]anthracene	0.0720	0.0480	0.0961	0.0720	U	mg/Kg-dry	10	05/12/16 09:43 PM
Benzo[a]pyrene	0.0720	0.0480	0.0961	0.0720	U	mg/Kg-dry	10	05/12/16 09:43 PM
Benzo[b]fluoranthene	0.0720	0.0480	0.0961	0.0720	U	mg/Kg-dry	10	05/12/16 09:43 PM
Benzo[e]pyrene	0.0720	0.0480	0.0961	0.0720	U	mg/Kg-dry	10	05/12/16 09:43 PM
Benzo[g,h,i]perylene	0.0720	0.0480	0.0961	0.0720	U	mg/Kg-dry	10	05/12/16 09:43 PM
Benzo[j]fluoranthene	0.0720	0.0480	0.0961	0.0720	NU	mg/Kg-dry	10	05/12/16 09:43 PM
Benzo[k]fluoranthene	0.0720	0.0480	0.0961	0.0720	U	mg/Kg-dry	10	05/12/16 09:43 PM
Chrysene	0.0720	0.0480	0.0961	0.0720	U	mg/Kg-dry	10	05/12/16 09:43 PM
Dibenz[a,h]anthracene	0.0720	0.0480	0.0961	0.0720	U	mg/Kg-dry	10	05/12/16 09:43 PM
Fluoranthene	0.0720	0.0480	0.0961	0.0720	U	mg/Kg-dry	10	05/12/16 09:43 PM
Fluorene	0.0720	0.0480	0.0961	0.0720	U	mg/Kg-dry	10	05/12/16 09:43 PM
Indeno[1,2,3-cd]pyrene	0.0720	0.0480	0.0961	0.0720	U	mg/Kg-dry	10	05/12/16 09:43 PM
Phenanthrene	0.0720	0.0480	0.0961	0.0720	U	mg/Kg-dry	10	05/12/16 09:43 PM
Pyrene	0.0720	0.0480	0.0961	0.0720	U	mg/Kg-dry	10	05/12/16 09:43 PM
IS: Acenaphthene-d10	77.8	0	50-200	0		%REC	10	05/12/16 09:43 PM
IS: Chrysene-d12	82.8	0	50-200	0		%REC	10	05/12/16 09:43 PM
IS: Naphthalene-d8	121	0	50-200	0		%REC	10	05/12/16 09:43 PM
IS: Perylene-d12	86.1	0	50-200	0		%REC	10	05/12/16 09:43 PM
IS: Phenanthrene-d10	82.7	0	50-200	0		%REC	10	05/12/16 09:43 PM
Surr: 2-Fluorobiphenyl	82.8	0	46-115	0		%REC	10	05/12/16 09:43 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(6-8)-A
Project:	Laredo SGR	**Lab ID:**	1605047-04
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 10:42 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	72.9	0	58-133	0		%REC	10	05/12/16 09:43 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(8-10)-A
Project:	Laredo SGR	**Lab ID:**	1605047-05
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 10:45 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	5.88	0.0862	0.259	0.129		mg/Kg-dry	5	05/16/16 03:24 PM
IS: Bismuth	93.1	0	30-120	0		%REC	5	05/16/16 03:24 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 10:24 PM
Acenaphthylene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 10:24 PM
Anthracene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 10:24 PM
Benzo[a]anthracene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 10:24 PM
Benzo[a]pyrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 10:24 PM
Benzo[b]fluoranthene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 10:24 PM
Benzo[e]pyrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 10:24 PM
Benzo[g,h,i]perylene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 10:24 PM
Benzo[j]fluoranthene	0.0749	0.0500	0.0999	0.0749	NU	mg/Kg-dry	10	05/12/16 10:24 PM
Benzo[k]fluoranthene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 10:24 PM
Chrysene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 10:24 PM
Dibenz[a,h]anthracene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 10:24 PM
Fluoranthene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 10:24 PM
Fluorene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 10:24 PM
Indeno[1,2,3-cd]pyrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 10:24 PM
Phenanthrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 10:24 PM
Pyrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/12/16 10:24 PM
IS: Acenaphthene-d10	78.0	0	50-200	0		%REC	10	05/12/16 10:24 PM
IS: Chrysene-d12	84.0	0	50-200	0		%REC	10	05/12/16 10:24 PM
IS: Naphthalene-d8	122	0	50-200	0		%REC	10	05/12/16 10:24 PM
IS: Perylene-d12	87.7	0	50-200	0		%REC	10	05/12/16 10:24 PM
IS: Phenanthrene-d10	81.2	0	50-200	0		%REC	10	05/12/16 10:24 PM
Surr: 2-Fluorobiphenyl	77.1	0	46-115	0		%REC	10	05/12/16 10:24 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(8-10)-A
Project:	Laredo SGR	**Lab ID:**	1605047-05
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 10:45 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	68.2	0	58-133	0		%REC	10	05/12/16 10:24 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(0-2)-B
Project:	Laredo SGR	**Lab ID:**	1605047-06
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 10:47 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	131	0.0980	0.294	0.147		mg/Kg-dry	5	05/16/16 03:26 PM
IS: Bismuth	95.7	0	30-120	0		%REC	5	05/16/16 03:26 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.463	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/13/16 01:43 AM
Acenaphthylene	0.0736	0.0491	0.0981	0.0736	U	mg/Kg-dry	10	05/13/16 01:43 AM
Anthracene	1.42	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/13/16 01:43 AM
Benzo[a]anthracene	9.11	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/13/16 01:43 AM
Benzo[a]pyrene	11.5	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/13/16 01:43 AM
Benzo[b]fluoranthene	10.3	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/13/16 01:43 AM
Benzo[e]pyrene	8.26	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/13/16 01:43 AM
Benzo[g,h,i]perylene	8.75	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/13/16 01:43 AM
Benzo[j]fluoranthene	5.62	0.0491	0.0981	0.0736	N	mg/Kg-dry	10	05/13/16 01:43 AM
Benzo[k]fluoranthene	5.45	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/13/16 01:43 AM
Chrysene	10.8	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/13/16 01:43 AM
Dibenz[a,h]anthracene	1.99	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/13/16 01:43 AM
Fluoranthene	15.8	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/13/16 01:43 AM
Fluorene	0.233	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/13/16 01:43 AM
Indeno[1,2,3-cd]pyrene	7.28	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/13/16 01:43 AM
Phenanthrene	6.87	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/13/16 01:43 AM
Pyrene	13.2	0.0491	0.0981	0.0736		mg/Kg-dry	10	05/13/16 01:43 AM
IS: Acenaphthene-d10	79.2	0	50-200	0		%REC	10	05/13/16 01:43 AM
IS: Chrysene-d12	83.7	0	50-200	0		%REC	10	05/13/16 01:43 AM
IS: Naphthalene-d8	122	0	50-200	0		%REC	10	05/13/16 01:43 AM
IS: Perylene-d12	84.8	0	50-200	0		%REC	10	05/13/16 01:43 AM
IS: Phenanthrene-d10	80.2	0	50-200	0		%REC	10	05/13/16 01:43 AM
Surr: 2-Fluorobiphenyl	82.8	0	46-115	0		%REC	10	05/13/16 01:43 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(0-2)-B
Project:	Laredo SGR	**Lab ID:**	1605047-06
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 10:47 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	74.8	0	58-133	0		%REC	10	05/13/16 01:43 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(2-4)-B
Project:	Laredo SGR	**Lab ID:**	1605047-07
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 10:48 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	27.0	0.0990	0.297	0.149		mg/Kg-dry	5	05/16/16 03:28 PM
IS: Bismuth	93.1	0	30-120	0		%REC	5	05/16/16 03:28 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 11:04 PM
Acenaphthylene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 11:04 PM
Anthracene	0.0737	0.0495	0.0990	0.0743	J	mg/Kg-dry	10	05/12/16 11:04 PM
Benzo[a]anthracene	0.609	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/12/16 11:04 PM
Benzo[a]pyrene	0.850	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/12/16 11:04 PM
Benzo[b]fluoranthene	0.780	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/12/16 11:04 PM
Benzo[e]pyrene	0.666	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/12/16 11:04 PM
Benzo[g,h,i]perylene	0.719	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/12/16 11:04 PM
Benzo[j]fluoranthene	0.408	0.0495	0.0990	0.0743	N	mg/Kg-dry	10	05/12/16 11:04 PM
Benzo[k]fluoranthene	0.400	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/12/16 11:04 PM
Chrysene	0.785	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/12/16 11:04 PM
Dibenz[a,h]anthracene	0.149	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/12/16 11:04 PM
Fluoranthene	1.01	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/12/16 11:04 PM
Fluorene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 11:04 PM
Indeno[1,2,3-cd]pyrene	0.578	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/12/16 11:04 PM
Phenanthrene	0.378	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/12/16 11:04 PM
Pyrene	0.905	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/12/16 11:04 PM
IS: Acenaphthene-d10	77.3	0	50-200	0		%REC	10	05/12/16 11:04 PM
IS: Chrysene-d12	81.1	0	50-200	0		%REC	10	05/12/16 11:04 PM
IS: Naphthalene-d8	115	0	50-200	0		%REC	10	05/12/16 11:04 PM
IS: Perylene-d12	83.4	0	50-200	0		%REC	10	05/12/16 11:04 PM
IS: Phenanthrene-d10	75.1	0	50-200	0		%REC	10	05/12/16 11:04 PM
Surr: 2-Fluorobiphenyl	78.8	0	46-115	0		%REC	10	05/12/16 11:04 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(2-4)-B
Project:	Laredo SGR	**Lab ID:**	1605047-07
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 10:48 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	74.3	0	58-133	0		%REC	10	05/12/16 11:04 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(4-6)-B
Project:	Laredo SGR	**Lab ID:**	1605047-08
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 10:58 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	6.51	0.0971	0.291	0.146		mg/Kg-dry	5	05/16/16 03:30 PM
IS: Bismuth	91.2	0	30-120	0		%REC	5	05/16/16 03:30 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/12/16 11:44 PM
Acenaphthylene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/12/16 11:44 PM
Anthracene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/12/16 11:44 PM
Benzo[a]anthracene	0.107	0.0497	0.0993	0.0745		mg/Kg-dry	10	05/12/16 11:44 PM
Benzo[a]pyrene	0.174	0.0497	0.0993	0.0745		mg/Kg-dry	10	05/12/16 11:44 PM
Benzo[b]fluoranthene	0.148	0.0497	0.0993	0.0745		mg/Kg-dry	10	05/12/16 11:44 PM
Benzo[e]pyrene	0.125	0.0497	0.0993	0.0745		mg/Kg-dry	10	05/12/16 11:44 PM
Benzo[g,h,i]perylene	0.150	0.0497	0.0993	0.0745		mg/Kg-dry	10	05/12/16 11:44 PM
Benzo[j]fluoranthene	0.0770	0.0497	0.0993	0.0745	JN	mg/Kg-dry	10	05/12/16 11:44 PM
Benzo[k]fluoranthene	0.0797	0.0497	0.0993	0.0745	J	mg/Kg-dry	10	05/12/16 11:44 PM
Chrysene	0.134	0.0497	0.0993	0.0745		mg/Kg-dry	10	05/12/16 11:44 PM
Dibenz[a,h]anthracene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/12/16 11:44 PM
Fluoranthene	0.143	0.0497	0.0993	0.0745		mg/Kg-dry	10	05/12/16 11:44 PM
Fluorene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/12/16 11:44 PM
Indeno[1,2,3-cd]pyrene	0.123	0.0497	0.0993	0.0745		mg/Kg-dry	10	05/12/16 11:44 PM
Phenanthrene	0.0680	0.0497	0.0993	0.0745	J	mg/Kg-dry	10	05/12/16 11:44 PM
Pyrene	0.127	0.0497	0.0993	0.0745		mg/Kg-dry	10	05/12/16 11:44 PM
IS: Acenaphthene-d10	79.6	0	50-200	0		%REC	10	05/12/16 11:44 PM
IS: Chrysene-d12	84.1	0	50-200	0		%REC	10	05/12/16 11:44 PM
IS: Naphthalene-d8	122	0	50-200	0		%REC	10	05/12/16 11:44 PM
IS: Perylene-d12	87.0	0	50-200	0		%REC	10	05/12/16 11:44 PM
IS: Phenanthrene-d10	83.5	0	50-200	0		%REC	10	05/12/16 11:44 PM
Surr: 2-Fluorobiphenyl	75.5	0	46-115	0		%REC	10	05/12/16 11:44 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(4-6)-B
Project:	Laredo SGR	**Lab ID:**	1605047-08
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 10:58 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	66.8	0	58-133	0		%REC	10	05/12/16 11:44 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(6-8)-B
Project:	Laredo SGR	**Lab ID:**	1605047-09
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 10:59 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	5.41	0.0840	0.252	0.126		mg/Kg-dry	5	05/16/16 03:33 PM
IS: Bismuth	90.2	0	30-120	0		%REC	5	05/16/16 03:33 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0710	0.0473	0.0947	0.0710	U	mg/Kg-dry	10	05/13/16 12:23 AM
Acenaphthylene	0.0710	0.0473	0.0947	0.0710	U	mg/Kg-dry	10	05/13/16 12:23 AM
Anthracene	0.0710	0.0473	0.0947	0.0710	U	mg/Kg-dry	10	05/13/16 12:23 AM
Benzo[a]anthracene	0.0710	0.0473	0.0947	0.0710	U	mg/Kg-dry	10	05/13/16 12:23 AM
Benzo[a]pyrene	0.0710	0.0473	0.0947	0.0710	U	mg/Kg-dry	10	05/13/16 12:23 AM
Benzo[b]fluoranthene	0.0710	0.0473	0.0947	0.0710	U	mg/Kg-dry	10	05/13/16 12:23 AM
Benzo[e]pyrene	0.0710	0.0473	0.0947	0.0710	U	mg/Kg-dry	10	05/13/16 12:23 AM
Benzo[g,h,i]perylene	0.0710	0.0473	0.0947	0.0710	U	mg/Kg-dry	10	05/13/16 12:23 AM
Benzo[j]fluoranthene	0.0710	0.0473	0.0947	0.0710	NU	mg/Kg-dry	10	05/13/16 12:23 AM
Benzo[k]fluoranthene	0.0710	0.0473	0.0947	0.0710	U	mg/Kg-dry	10	05/13/16 12:23 AM
Chrysene	0.0710	0.0473	0.0947	0.0710	U	mg/Kg-dry	10	05/13/16 12:23 AM
Dibenz[a,h]anthracene	0.0710	0.0473	0.0947	0.0710	U	mg/Kg-dry	10	05/13/16 12:23 AM
Fluoranthene	0.0710	0.0473	0.0947	0.0710	U	mg/Kg-dry	10	05/13/16 12:23 AM
Fluorene	0.0710	0.0473	0.0947	0.0710	U	mg/Kg-dry	10	05/13/16 12:23 AM
Indeno[1,2,3-cd]pyrene	0.0710	0.0473	0.0947	0.0710	U	mg/Kg-dry	10	05/13/16 12:23 AM
Phenanthrene	0.0710	0.0473	0.0947	0.0710	U	mg/Kg-dry	10	05/13/16 12:23 AM
Pyrene	0.0710	0.0473	0.0947	0.0710	U	mg/Kg-dry	10	05/13/16 12:23 AM
IS: Acenaphthene-d10	78.3	0	50-200	0		%REC	10	05/13/16 12:23 AM
IS: Chrysene-d12	81.2	0	50-200	0		%REC	10	05/13/16 12:23 AM
IS: Naphthalene-d8	120	0	50-200	0		%REC	10	05/13/16 12:23 AM
IS: Perylene-d12	85.2	0	50-200	0		%REC	10	05/13/16 12:23 AM
IS: Phenanthrene-d10	81.6	0	50-200	0		%REC	10	05/13/16 12:23 AM
Surr: 2-Fluorobiphenyl	73.8	0	46-115	0		%REC	10	05/13/16 12:23 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(6-8)-B
Project:	Laredo SGR	**Lab ID:**	1605047-09
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 10:59 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	65.7	0	58-133	0		%REC	10	05/13/16 12:23 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(8-10)-B
Project:	Laredo SGR	**Lab ID:**	1605047-10
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 11:01 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	5.32	0.0855	0.256	0.128		mg/Kg-dry	5	05/16/16 03:34 PM
IS: Bismuth	90.7	0	30-120	0		%REC	5	05/16/16 03:34 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/13/16 01:03 AM
Acenaphthylene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/13/16 01:03 AM
Anthracene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/13/16 01:03 AM
Benzo[a]anthracene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/13/16 01:03 AM
Benzo[a]pyrene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/13/16 01:03 AM
Benzo[b]fluoranthene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/13/16 01:03 AM
Benzo[e]pyrene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/13/16 01:03 AM
Benzo[g,h,i]perylene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/13/16 01:03 AM
Benzo[j]fluoranthene	0.0741	0.0494	0.0988	0.0741	NU	mg/Kg-dry	10	05/13/16 01:03 AM
Benzo[k]fluoranthene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/13/16 01:03 AM
Chrysene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/13/16 01:03 AM
Dibenz[a,h]anthracene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/13/16 01:03 AM
Fluoranthene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/13/16 01:03 AM
Fluorene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/13/16 01:03 AM
Indeno[1,2,3-cd]pyrene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/13/16 01:03 AM
Phenanthrene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/13/16 01:03 AM
Pyrene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/13/16 01:03 AM
IS: Acenaphthene-d10	78.8	0	50-200	0		%REC	10	05/13/16 01:03 AM
IS: Chrysene-d12	82.5	0	50-200	0		%REC	10	05/13/16 01:03 AM
IS: Naphthalene-d8	119	0	50-200	0		%REC	10	05/13/16 01:03 AM
IS: Perylene-d12	85.1	0	50-200	0		%REC	10	05/13/16 01:03 AM
IS: Phenanthrene-d10	83.7	0	50-200	0		%REC	10	05/13/16 01:03 AM
Surr: 2-Fluorobiphenyl	72.3	0	46-115	0		%REC	10	05/13/16 01:03 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(8-10)-B
Project:	Laredo SGR	**Lab ID:**	1605047-10
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 11:01 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	65.0	0	58-133	0		%REC	10	05/13/16 01:03 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(0-2)-C
Project:	Laredo SGR	**Lab ID:**	1605047-11
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 11:09 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	143	0.0862	0.259	0.129		mg/Kg-dry	5	05/11/16 07:32 PM
IS: Bismuth	88.9	0	30-120	0		%REC	5	05/11/16 07:32 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.116	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:22 PM
Acenaphthylene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/12/16 03:22 PM
Anthracene	0.317	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:22 PM
Benzo[a]anthracene	2.48	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:22 PM
Benzo[a]pyrene	3.22	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:22 PM
Benzo[b]fluoranthene	2.89	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:22 PM
Benzo[e]pyrene	2.29	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:22 PM
Benzo[g,h,i]perylene	2.40	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:22 PM
Benzo[j]fluoranthene	1.58	0.0496	0.0992	0.0744	N	mg/Kg-dry	10	05/12/16 03:22 PM
Benzo[k]fluoranthene	1.54	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:22 PM
Chrysene	3.05	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:22 PM
Dibenz[a,h]anthracene	0.394	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:22 PM
Fluoranthene	4.09	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:22 PM
Fluorene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/12/16 03:22 PM
Indeno[1,2,3-cd]pyrene	1.99	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:22 PM
Phenanthrene	1.71	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:22 PM
Pyrene	3.56	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:22 PM
IS: Acenaphthene-d10	108	0	50-200	0		%REC	10	05/12/16 03:22 PM
IS: Chrysene-d12	96.9	0	50-200	0		%REC	10	05/12/16 03:22 PM
IS: Naphthalene-d8	101	0	50-200	0		%REC	10	05/12/16 03:22 PM
IS: Perylene-d12	98.0	0	50-200	0		%REC	10	05/12/16 03:22 PM
IS: Phenanthrene-d10	99.8	0	50-200	0		%REC	10	05/12/16 03:22 PM
Surr: 2-Fluorobiphenyl	72.3	0	46-115	0		%REC	10	05/12/16 03:22 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(0-2)-C
Project:	Laredo SGR	**Lab ID:**	1605047-11
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 11:09 AM
Lab Order:	1605047	**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	05/12/16 03:22 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(2-4)-C
Project:	Laredo SGR	**Lab ID:**	1605047-12
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 11:11 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	103	0.0926	0.278	0.139		mg/Kg-dry	5	05/11/16 07:33 PM
IS: Bismuth	87.3	0	30-120	0		%REC	5	05/11/16 07:33 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.105	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:59 PM
Acenaphthylene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/12/16 03:59 PM
Anthracene	0.418	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:59 PM
Benzo[a]anthracene	2.70	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:59 PM
Benzo[a]pyrene	3.05	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:59 PM
Benzo[b]fluoranthene	2.81	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:59 PM
Benzo[e]pyrene	2.14	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:59 PM
Benzo[g,h,i]perylene	2.12	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:59 PM
Benzo[j]fluoranthene	1.54	0.0496	0.0992	0.0744	N	mg/Kg-dry	10	05/12/16 03:59 PM
Benzo[k]fluoranthene	1.50	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:59 PM
Chrysene	3.20	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:59 PM
Dibenz[a,h]anthracene	0.358	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:59 PM
Fluoranthene	4.71	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:59 PM
Fluorene	0.0560	0.0496	0.0992	0.0744	J	mg/Kg-dry	10	05/12/16 03:59 PM
Indeno[1,2,3-cd]pyrene	1.80	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:59 PM
Phenanthrene	2.18	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:59 PM
Pyrene	3.97	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/12/16 03:59 PM
IS: Acenaphthene-d10	114	0	50-200	0		%REC	10	05/12/16 03:59 PM
IS: Chrysene-d12	98.5	0	50-200	0		%REC	10	05/12/16 03:59 PM
IS: Naphthalene-d8	101	0	50-200	0		%REC	10	05/12/16 03:59 PM
IS: Perylene-d12	101	0	50-200	0		%REC	10	05/12/16 03:59 PM
IS: Phenanthrene-d10	104	0	50-200	0		%REC	10	05/12/16 03:59 PM
Surr: 2-Fluorobiphenyl	82.5	0	46-115	0		%REC	10	05/12/16 03:59 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(2-4)-C
Project:	Laredo SGR	**Lab ID:**	1605047-12
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 11:11 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	77.1	0	58-133	0		%REC	10	05/12/16 03:59 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(4-6)-C
Project:	Laredo SGR	**Lab ID:**	1605047-13
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 11:13 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	5.55	0.0917	0.275	0.138		mg/Kg-dry	5	05/11/16 07:35 PM
IS: Bismuth	87.5	0	30-120	0		%REC	5	05/11/16 07:35 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0723	0.0482	0.0964	0.0723	U	mg/Kg-dry	10	05/12/16 04:36 PM
Acenaphthylene	0.0723	0.0482	0.0964	0.0723	U	mg/Kg-dry	10	05/12/16 04:36 PM
Anthracene	0.0723	0.0482	0.0964	0.0723	U	mg/Kg-dry	10	05/12/16 04:36 PM
Benzo[a]anthracene	0.0723	0.0482	0.0964	0.0723	U	mg/Kg-dry	10	05/12/16 04:36 PM
Benzo[a]pyrene	0.0723	0.0482	0.0964	0.0723	U	mg/Kg-dry	10	05/12/16 04:36 PM
Benzo[b]fluoranthene	0.0723	0.0482	0.0964	0.0723	U	mg/Kg-dry	10	05/12/16 04:36 PM
Benzo[e]pyrene	0.0723	0.0482	0.0964	0.0723	U	mg/Kg-dry	10	05/12/16 04:36 PM
Benzo[g,h,i]perylene	0.0723	0.0482	0.0964	0.0723	U	mg/Kg-dry	10	05/12/16 04:36 PM
Benzo[j]fluoranthene	0.0723	0.0482	0.0964	0.0723	NU	mg/Kg-dry	10	05/12/16 04:36 PM
Benzo[k]fluoranthene	0.0723	0.0482	0.0964	0.0723	U	mg/Kg-dry	10	05/12/16 04:36 PM
Chrysene	0.0543	0.0482	0.0964	0.0723	J	mg/Kg-dry	10	05/12/16 04:36 PM
Dibenz[a,h]anthracene	0.0723	0.0482	0.0964	0.0723	U	mg/Kg-dry	10	05/12/16 04:36 PM
Fluoranthene	0.0973	0.0482	0.0964	0.0723		mg/Kg-dry	10	05/12/16 04:36 PM
Fluorene	0.0723	0.0482	0.0964	0.0723	U	mg/Kg-dry	10	05/12/16 04:36 PM
Indeno[1,2,3-cd]pyrene	0.0723	0.0482	0.0964	0.0723	U	mg/Kg-dry	10	05/12/16 04:36 PM
Phenanthrene	0.0549	0.0482	0.0964	0.0723	J	mg/Kg-dry	10	05/12/16 04:36 PM
Pyrene	0.0798	0.0482	0.0964	0.0723	J	mg/Kg-dry	10	05/12/16 04:36 PM
IS: Acenaphthene-d10	108	0	50-200	0		%REC	10	05/12/16 04:36 PM
IS: Chrysene-d12	95.7	0	50-200	0		%REC	10	05/12/16 04:36 PM
IS: Naphthalene-d8	96.5	0	50-200	0		%REC	10	05/12/16 04:36 PM
IS: Perylene-d12	96.2	0	50-200	0		%REC	10	05/12/16 04:36 PM
IS: Phenanthrene-d10	97.9	0	50-200	0		%REC	10	05/12/16 04:36 PM
Surr: 2-Fluorobiphenyl	82.6	0	46-115	0		%REC	10	05/12/16 04:36 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(4-6)-C
Project:	Laredo SGR	**Lab ID:**	1605047-13
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 11:13 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	75.8	0	58-133	0		%REC	10	05/12/16 04:36 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(6-8)-C
Project:	Laredo SGR	**Lab ID:**	1605047-14
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 11:14 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	5.94	0.0952	0.286	0.143		mg/Kg-dry	5	05/11/16 07:37 PM
IS: Bismuth	88.2	0	30-120	0		%REC	5	05/11/16 07:37 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0706	0.0470	0.0941	0.0706	U	mg/Kg-dry	10	05/12/16 05:13 PM
Acenaphthylene	0.0706	0.0470	0.0941	0.0706	U	mg/Kg-dry	10	05/12/16 05:13 PM
Anthracene	0.0706	0.0470	0.0941	0.0706	U	mg/Kg-dry	10	05/12/16 05:13 PM
Benzo[a]anthracene	0.0706	0.0470	0.0941	0.0706	U	mg/Kg-dry	10	05/12/16 05:13 PM
Benzo[a]pyrene	0.0706	0.0470	0.0941	0.0706	U	mg/Kg-dry	10	05/12/16 05:13 PM
Benzo[b]fluoranthene	0.0706	0.0470	0.0941	0.0706	U	mg/Kg-dry	10	05/12/16 05:13 PM
Benzo[e]pyrene	0.0706	0.0470	0.0941	0.0706	U	mg/Kg-dry	10	05/12/16 05:13 PM
Benzo[g,h,i]perylene	0.0706	0.0470	0.0941	0.0706	U	mg/Kg-dry	10	05/12/16 05:13 PM
Benzo[j]fluoranthene	0.0706	0.0470	0.0941	0.0706	NU	mg/Kg-dry	10	05/12/16 05:13 PM
Benzo[k]fluoranthene	0.0706	0.0470	0.0941	0.0706	U	mg/Kg-dry	10	05/12/16 05:13 PM
Chrysene	0.0706	0.0470	0.0941	0.0706	U	mg/Kg-dry	10	05/12/16 05:13 PM
Dibenz[a,h]anthracene	0.0706	0.0470	0.0941	0.0706	U	mg/Kg-dry	10	05/12/16 05:13 PM
Fluoranthene	0.0706	0.0470	0.0941	0.0706	U	mg/Kg-dry	10	05/12/16 05:13 PM
Fluorene	0.0706	0.0470	0.0941	0.0706	U	mg/Kg-dry	10	05/12/16 05:13 PM
Indeno[1,2,3-cd]pyrene	0.0706	0.0470	0.0941	0.0706	U	mg/Kg-dry	10	05/12/16 05:13 PM
Phenanthrene	0.0706	0.0470	0.0941	0.0706	U	mg/Kg-dry	10	05/12/16 05:13 PM
Pyrene	0.0706	0.0470	0.0941	0.0706	U	mg/Kg-dry	10	05/12/16 05:13 PM
IS: Acenaphthene-d10	110	0	50-200	0		%REC	10	05/12/16 05:13 PM
IS: Chrysene-d12	97.4	0	50-200	0		%REC	10	05/12/16 05:13 PM
IS: Naphthalene-d8	98.3	0	50-200	0		%REC	10	05/12/16 05:13 PM
IS: Perylene-d12	98.6	0	50-200	0		%REC	10	05/12/16 05:13 PM
IS: Phenanthrene-d10	100	0	50-200	0		%REC	10	05/12/16 05:13 PM
Surr: 2-Fluorobiphenyl	78.0	0	46-115	0		%REC	10	05/12/16 05:13 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(6-8)-C
Project:	Laredo SGR	**Lab ID:**	1605047-14
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 11:14 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	70.1	0	58-133	0		%REC	10	05/12/16 05:13 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(8-10)-C
Project:	Laredo SGR	**Lab ID:**	1605047-15
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 11:15 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	5.26	0.0885	0.265	0.133		mg/Kg-dry	5	05/11/16 07:39 PM
IS: Bismuth	87.4	0	30-120	0		%REC	5	05/11/16 07:39 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 05:50 PM
Acenaphthylene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 05:50 PM
Anthracene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 05:50 PM
Benzo[a]anthracene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 05:50 PM
Benzo[a]pyrene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 05:50 PM
Benzo[b]fluoranthene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 05:50 PM
Benzo[e]pyrene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 05:50 PM
Benzo[g,h,i]perylene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 05:50 PM
Benzo[j]fluoranthene	0.0737	0.0491	0.0982	0.0737	NU	mg/Kg-dry	10	05/12/16 05:50 PM
Benzo[k]fluoranthene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 05:50 PM
Chrysene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 05:50 PM
Dibenz[a,h]anthracene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 05:50 PM
Fluoranthene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 05:50 PM
Fluorene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 05:50 PM
Indeno[1,2,3-cd]pyrene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 05:50 PM
Phenanthrene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 05:50 PM
Pyrene	0.0737	0.0491	0.0982	0.0737	U	mg/Kg-dry	10	05/12/16 05:50 PM
IS: Acenaphthene-d10	115	0	50-200	0		%REC	10	05/12/16 05:50 PM
IS: Chrysene-d12	97.3	0	50-200	0		%REC	10	05/12/16 05:50 PM
IS: Naphthalene-d8	101	0	50-200	0		%REC	10	05/12/16 05:50 PM
IS: Perylene-d12	100	0	50-200	0		%REC	10	05/12/16 05:50 PM
IS: Phenanthrene-d10	101	0	50-200	0		%REC	10	05/12/16 05:50 PM
Surr: 2-Fluorobiphenyl	84.9	0	46-115	0		%REC	10	05/12/16 05:50 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU064(8-10)-C
Project:	Laredo SGR	**Lab ID:**	1605047-15
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 11:15 AM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	76.5	0	58-133	0		%REC	10	05/12/16 05:50 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(0-2)-A
Project:	Laredo SGR	**Lab ID:**	1605047-16
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:04 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	18.1	0.0962	0.288	0.144		mg/Kg-dry	5	05/11/16 07:41 PM
IS: Bismuth	87.0	0	30-120	0		%REC	5	05/11/16 07:41 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0739	0.0493	0.0985	0.0739	U	mg/Kg-dry	10	05/12/16 06:27 PM
Acenaphthylene	0.0739	0.0493	0.0985	0.0739	U	mg/Kg-dry	10	05/12/16 06:27 PM
Anthracene	0.0739	0.0493	0.0985	0.0739	U	mg/Kg-dry	10	05/12/16 06:27 PM
Benzo[a]anthracene	0.0564	0.0493	0.0985	0.0739	J	mg/Kg-dry	10	05/12/16 06:27 PM
Benzo[a]pyrene	0.0772	0.0493	0.0985	0.0739	J	mg/Kg-dry	10	05/12/16 06:27 PM
Benzo[b]fluoranthene	0.0756	0.0493	0.0985	0.0739	J	mg/Kg-dry	10	05/12/16 06:27 PM
Benzo[e]pyrene	0.0631	0.0493	0.0985	0.0739	J	mg/Kg-dry	10	05/12/16 06:27 PM
Benzo[g,h,i]perylene	0.0671	0.0493	0.0985	0.0739	J	mg/Kg-dry	10	05/12/16 06:27 PM
Benzo[j]fluoranthene	0.0739	0.0493	0.0985	0.0739	NU	mg/Kg-dry	10	05/12/16 06:27 PM
Benzo[k]fluoranthene	0.0739	0.0493	0.0985	0.0739	U	mg/Kg-dry	10	05/12/16 06:27 PM
Chrysene	0.0776	0.0493	0.0985	0.0739	J	mg/Kg-dry	10	05/12/16 06:27 PM
Dibenz[a,h]anthracene	0.0739	0.0493	0.0985	0.0739	U	mg/Kg-dry	10	05/12/16 06:27 PM
Fluoranthene	0.0918	0.0493	0.0985	0.0739	J	mg/Kg-dry	10	05/12/16 06:27 PM
Fluorene	0.0739	0.0493	0.0985	0.0739	U	mg/Kg-dry	10	05/12/16 06:27 PM
Indeno[1,2,3-cd]pyrene	0.0529	0.0493	0.0985	0.0739	J	mg/Kg-dry	10	05/12/16 06:27 PM
Phenanthrene	0.0739	0.0493	0.0985	0.0739	U	mg/Kg-dry	10	05/12/16 06:27 PM
Pyrene	0.0832	0.0493	0.0985	0.0739	J	mg/Kg-dry	10	05/12/16 06:27 PM
IS: Acenaphthene-d10	113	0	50-200	0		%REC	10	05/12/16 06:27 PM
IS: Chrysene-d12	96.5	0	50-200	0		%REC	10	05/12/16 06:27 PM
IS: Naphthalene-d8	99.5	0	50-200	0		%REC	10	05/12/16 06:27 PM
IS: Perylene-d12	98.9	0	50-200	0		%REC	10	05/12/16 06:27 PM
IS: Phenanthrene-d10	100	0	50-200	0		%REC	10	05/12/16 06:27 PM
Surr: 2-Fluorobiphenyl	87.7	0	46-115	0		%REC	10	05/12/16 06:27 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(0-2)-A
Project:	Laredo SGR	**Lab ID:**	1605047-16
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:04 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	77.9	0	58-133	0		%REC	10	05/12/16 06:27 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(2-4)-A
Project:	Laredo SGR	**Lab ID:**	1605047-17
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:06 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	6.49	0.0862	0.259	0.129		mg/Kg-dry	5	05/11/16 07:43 PM
IS: Bismuth	86.6	0	30-120	0		%REC	5	05/11/16 07:43 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/12/16 07:04 PM
Acenaphthylene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/12/16 07:04 PM
Anthracene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/12/16 07:04 PM
Benzo[a]anthracene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/12/16 07:04 PM
Benzo[a]pyrene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/12/16 07:04 PM
Benzo[b]fluoranthene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/12/16 07:04 PM
Benzo[e]pyrene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/12/16 07:04 PM
Benzo[g,h,i]perylene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/12/16 07:04 PM
Benzo[j]fluoranthene	0.0732	0.0488	0.0977	0.0732	NU	mg/Kg-dry	10	05/12/16 07:04 PM
Benzo[k]fluoranthene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/12/16 07:04 PM
Chrysene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/12/16 07:04 PM
Dibenz[a,h]anthracene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/12/16 07:04 PM
Fluoranthene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/12/16 07:04 PM
Fluorene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/12/16 07:04 PM
Indeno[1,2,3-cd]pyrene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/12/16 07:04 PM
Phenanthrene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/12/16 07:04 PM
Pyrene	0.0732	0.0488	0.0977	0.0732	U	mg/Kg-dry	10	05/12/16 07:04 PM
IS: Acenaphthene-d10	111	0	50-200	0		%REC	10	05/12/16 07:04 PM
IS: Chrysene-d12	94.5	0	50-200	0		%REC	10	05/12/16 07:04 PM
IS: Naphthalene-d8	95.4	0	50-200	0		%REC	10	05/12/16 07:04 PM
IS: Perylene-d12	96.4	0	50-200	0		%REC	10	05/12/16 07:04 PM
IS: Phenanthrene-d10	98.2	0	50-200	0		%REC	10	05/12/16 07:04 PM
Surr: 2-Fluorobiphenyl	91.2	0	46-115	0		%REC	10	05/12/16 07:04 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(2-4)-A
Project:	Laredo SGR	**Lab ID:**	1605047-17
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:06 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	82.4	0	58-133	0		%REC	10	05/12/16 07:04 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(4-6)-A
Project:	Laredo SGR	**Lab ID:**	1605047-18
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:08 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	5.52	0.0901	0.270	0.135		mg/Kg-dry	5	05/11/16 07:45 PM
IS: Bismuth	88.0	0	30-120	0		%REC	5	05/11/16 07:45 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0730	0.0486	0.0973	0.0730	U	mg/Kg-dry	10	05/12/16 07:41 PM
Acenaphthylene	0.0730	0.0486	0.0973	0.0730	U	mg/Kg-dry	10	05/12/16 07:41 PM
Anthracene	0.0730	0.0486	0.0973	0.0730	U	mg/Kg-dry	10	05/12/16 07:41 PM
Benzo[a]anthracene	0.0730	0.0486	0.0973	0.0730	U	mg/Kg-dry	10	05/12/16 07:41 PM
Benzo[a]pyrene	0.0730	0.0486	0.0973	0.0730	U	mg/Kg-dry	10	05/12/16 07:41 PM
Benzo[b]fluoranthene	0.0730	0.0486	0.0973	0.0730	U	mg/Kg-dry	10	05/12/16 07:41 PM
Benzo[e]pyrene	0.0730	0.0486	0.0973	0.0730	U	mg/Kg-dry	10	05/12/16 07:41 PM
Benzo[g,h,i]perylene	0.0730	0.0486	0.0973	0.0730	U	mg/Kg-dry	10	05/12/16 07:41 PM
Benzo[j]fluoranthene	0.0730	0.0486	0.0973	0.0730	NU	mg/Kg-dry	10	05/12/16 07:41 PM
Benzo[k]fluoranthene	0.0730	0.0486	0.0973	0.0730	U	mg/Kg-dry	10	05/12/16 07:41 PM
Chrysene	0.0730	0.0486	0.0973	0.0730	U	mg/Kg-dry	10	05/12/16 07:41 PM
Dibenz[a,h]anthracene	0.0730	0.0486	0.0973	0.0730	U	mg/Kg-dry	10	05/12/16 07:41 PM
Fluoranthene	0.0730	0.0486	0.0973	0.0730	U	mg/Kg-dry	10	05/12/16 07:41 PM
Fluorene	0.0730	0.0486	0.0973	0.0730	U	mg/Kg-dry	10	05/12/16 07:41 PM
Indeno[1,2,3-cd]pyrene	0.0730	0.0486	0.0973	0.0730	U	mg/Kg-dry	10	05/12/16 07:41 PM
Phenanthrene	0.0730	0.0486	0.0973	0.0730	U	mg/Kg-dry	10	05/12/16 07:41 PM
Pyrene	0.0730	0.0486	0.0973	0.0730	U	mg/Kg-dry	10	05/12/16 07:41 PM
IS: Acenaphthene-d10	112	0	50-200	0		%REC	10	05/12/16 07:41 PM
IS: Chrysene-d12	98.0	0	50-200	0		%REC	10	05/12/16 07:41 PM
IS: Naphthalene-d8	99.9	0	50-200	0		%REC	10	05/12/16 07:41 PM
IS: Perylene-d12	99.6	0	50-200	0		%REC	10	05/12/16 07:41 PM
IS: Phenanthrene-d10	99.6	0	50-200	0		%REC	10	05/12/16 07:41 PM
Surr: 2-Fluorobiphenyl	79.5	0	46-115	0		%REC	10	05/12/16 07:41 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(4-6)-A
Project:	Laredo SGR	**Lab ID:**	1605047-18
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:08 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	73.5	0	58-133	0		%REC	10	05/12/16 07:41 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(6-8)-A
Project:	Laredo SGR	**Lab ID:**	1605047-19
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:11 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	5.99	0.0971	0.291	0.146		mg/Kg-dry	5	05/11/16 07:47 PM
IS: Bismuth	88.9	0	30-120	0		%REC	5	05/11/16 07:47 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0731	0.0487	0.0975	0.0731	U	mg/Kg-dry	10	05/12/16 08:18 PM
Acenaphthylene	0.0731	0.0487	0.0975	0.0731	U	mg/Kg-dry	10	05/12/16 08:18 PM
Anthracene	0.0731	0.0487	0.0975	0.0731	U	mg/Kg-dry	10	05/12/16 08:18 PM
Benzo[a]anthracene	0.0731	0.0487	0.0975	0.0731	U	mg/Kg-dry	10	05/12/16 08:18 PM
Benzo[a]pyrene	0.0731	0.0487	0.0975	0.0731	U	mg/Kg-dry	10	05/12/16 08:18 PM
Benzo[b]fluoranthene	0.0731	0.0487	0.0975	0.0731	U	mg/Kg-dry	10	05/12/16 08:18 PM
Benzo[e]pyrene	0.0731	0.0487	0.0975	0.0731	U	mg/Kg-dry	10	05/12/16 08:18 PM
Benzo[g,h,i]perylene	0.0731	0.0487	0.0975	0.0731	U	mg/Kg-dry	10	05/12/16 08:18 PM
Benzo[j]fluoranthene	0.0731	0.0487	0.0975	0.0731	NU	mg/Kg-dry	10	05/12/16 08:18 PM
Benzo[k]fluoranthene	0.0731	0.0487	0.0975	0.0731	U	mg/Kg-dry	10	05/12/16 08:18 PM
Chrysene	0.0731	0.0487	0.0975	0.0731	U	mg/Kg-dry	10	05/12/16 08:18 PM
Dibenz[a,h]anthracene	0.0731	0.0487	0.0975	0.0731	U	mg/Kg-dry	10	05/12/16 08:18 PM
Fluoranthene	0.0731	0.0487	0.0975	0.0731	U	mg/Kg-dry	10	05/12/16 08:18 PM
Fluorene	0.0731	0.0487	0.0975	0.0731	U	mg/Kg-dry	10	05/12/16 08:18 PM
Indeno[1,2,3-cd]pyrene	0.0731	0.0487	0.0975	0.0731	U	mg/Kg-dry	10	05/12/16 08:18 PM
Phenanthrene	0.0731	0.0487	0.0975	0.0731	U	mg/Kg-dry	10	05/12/16 08:18 PM
Pyrene	0.0731	0.0487	0.0975	0.0731	U	mg/Kg-dry	10	05/12/16 08:18 PM
IS: Acenaphthene-d10	113	0	50-200	0		%REC	10	05/12/16 08:18 PM
IS: Chrysene-d12	98.9	0	50-200	0		%REC	10	05/12/16 08:18 PM
IS: Naphthalene-d8	99.2	0	50-200	0		%REC	10	05/12/16 08:18 PM
IS: Perylene-d12	100	0	50-200	0		%REC	10	05/12/16 08:18 PM
IS: Phenanthrene-d10	99.7	0	50-200	0		%REC	10	05/12/16 08:18 PM
Surr: 2-Fluorobiphenyl	85.7	0	46-115	0		%REC	10	05/12/16 08:18 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(6-8)-A
Project:	Laredo SGR	**Lab ID:**	1605047-19
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:11 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	78.5	0	58-133	0		%REC	10	05/12/16 08:18 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(8-10)-A
Project:	Laredo SGR	**Lab ID:**	1605047-20
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:13 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	6.23	0.0952	0.286	0.143		mg/Kg-dry	5	05/11/16 08:03 PM
IS: Bismuth	86.7	0	30-120	0		%REC	5	05/11/16 08:03 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/12/16 08:55 PM
Acenaphthylene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/12/16 08:55 PM
Anthracene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/12/16 08:55 PM
Benzo[a]anthracene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/12/16 08:55 PM
Benzo[a]pyrene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/12/16 08:55 PM
Benzo[b]fluoranthene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/12/16 08:55 PM
Benzo[e]pyrene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/12/16 08:55 PM
Benzo[g,h,i]perylene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/12/16 08:55 PM
Benzo[j]fluoranthene	0.0747	0.0498	0.0996	0.0747	NU	mg/Kg-dry	10	05/12/16 08:55 PM
Benzo[k]fluoranthene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/12/16 08:55 PM
Chrysene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/12/16 08:55 PM
Dibenz[a,h]anthracene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/12/16 08:55 PM
Fluoranthene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/12/16 08:55 PM
Fluorene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/12/16 08:55 PM
Indeno[1,2,3-cd]pyrene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/12/16 08:55 PM
Phenanthrene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/12/16 08:55 PM
Pyrene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/12/16 08:55 PM
IS: Acenaphthene-d10	111	0	50-200	0		%REC	10	05/12/16 08:55 PM
IS: Chrysene-d12	95.9	0	50-200	0		%REC	10	05/12/16 08:55 PM
IS: Naphthalene-d8	96.9	0	50-200	0		%REC	10	05/12/16 08:55 PM
IS: Perylene-d12	97.3	0	50-200	0		%REC	10	05/12/16 08:55 PM
IS: Phenanthrene-d10	98.2	0	50-200	0		%REC	10	05/12/16 08:55 PM
Surr: 2-Fluorobiphenyl	91.1	0	46-115	0		%REC	10	05/12/16 08:55 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(8-10)-A
Project:	Laredo SGR	**Lab ID:**	1605047-20
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:13 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	80.2	0	58-133	0		%REC	10	05/12/16 08:55 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(0-2)-B
Project:	Laredo SGR	**Lab ID:**	1605047-21
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:16 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	12.1	0.0917	0.275	0.138		mg/Kg-dry	5	05/11/16 08:05 PM
IS: Bismuth	86.1	0	30-120	0		%REC	5	05/11/16 08:05 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0748	0.0499	0.0997	0.0748	U	mg/Kg-dry	10	05/12/16 09:32 PM
Acenaphthylene	0.0748	0.0499	0.0997	0.0748	U	mg/Kg-dry	10	05/12/16 09:32 PM
Anthracene	0.0748	0.0499	0.0997	0.0748	U	mg/Kg-dry	10	05/12/16 09:32 PM
Benzo[a]anthracene	0.0748	0.0499	0.0997	0.0748	U	mg/Kg-dry	10	05/12/16 09:32 PM
Benzo[a]pyrene	0.0748	0.0499	0.0997	0.0748	U	mg/Kg-dry	10	05/12/16 09:32 PM
Benzo[b]fluoranthene	0.0748	0.0499	0.0997	0.0748	U	mg/Kg-dry	10	05/12/16 09:32 PM
Benzo[e]pyrene	0.0748	0.0499	0.0997	0.0748	U	mg/Kg-dry	10	05/12/16 09:32 PM
Benzo[g,h,i]perylene	0.0748	0.0499	0.0997	0.0748	U	mg/Kg-dry	10	05/12/16 09:32 PM
Benzo[j]fluoranthene	0.0748	0.0499	0.0997	0.0748	NU	mg/Kg-dry	10	05/12/16 09:32 PM
Benzo[k]fluoranthene	0.0748	0.0499	0.0997	0.0748	U	mg/Kg-dry	10	05/12/16 09:32 PM
Chrysene	0.0536	0.0499	0.0997	0.0748	J	mg/Kg-dry	10	05/12/16 09:32 PM
Dibenz[a,h]anthracene	0.0748	0.0499	0.0997	0.0748	U	mg/Kg-dry	10	05/12/16 09:32 PM
Fluoranthene	0.0643	0.0499	0.0997	0.0748	J	mg/Kg-dry	10	05/12/16 09:32 PM
Fluorene	0.0748	0.0499	0.0997	0.0748	U	mg/Kg-dry	10	05/12/16 09:32 PM
Indeno[1,2,3-cd]pyrene	0.0748	0.0499	0.0997	0.0748	U	mg/Kg-dry	10	05/12/16 09:32 PM
Phenanthrene	0.0748	0.0499	0.0997	0.0748	U	mg/Kg-dry	10	05/12/16 09:32 PM
Pyrene	0.0577	0.0499	0.0997	0.0748	J	mg/Kg-dry	10	05/12/16 09:32 PM
IS: Acenaphthene-d10	107	0	50-200	0		%REC	10	05/12/16 09:32 PM
IS: Chrysene-d12	92.8	0	50-200	0		%REC	10	05/12/16 09:32 PM
IS: Naphthalene-d8	93.6	0	50-200	0		%REC	10	05/12/16 09:32 PM
IS: Perylene-d12	95.4	0	50-200	0		%REC	10	05/12/16 09:32 PM
IS: Phenanthrene-d10	96.7	0	50-200	0		%REC	10	05/12/16 09:32 PM
Surr: 2-Fluorobiphenyl	90.7	0	46-115	0		%REC	10	05/12/16 09:32 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(0-2)-B
Project:	Laredo SGR	**Lab ID:**	1605047-21
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:16 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	79.4	0	58-133	0		%REC	10	05/12/16 09:32 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(2-4)-B
Project:	Laredo SGR	**Lab ID:**	1605047-22
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:18 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	5.91	0.0847	0.254	0.127		mg/Kg-dry	5	05/11/16 08:07 PM
IS: Bismuth	85.7	0	30-120	0		%REC	5	05/11/16 08:07 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 10:09 PM
Acenaphthylene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 10:09 PM
Anthracene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 10:09 PM
Benzo[a]anthracene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 10:09 PM
Benzo[a]pyrene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 10:09 PM
Benzo[b]fluoranthene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 10:09 PM
Benzo[e]pyrene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 10:09 PM
Benzo[g,h,i]perylene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 10:09 PM
Benzo[j]fluoranthene	0.0743	0.0495	0.0990	0.0743	NU	mg/Kg-dry	10	05/12/16 10:09 PM
Benzo[k]fluoranthene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 10:09 PM
Chrysene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 10:09 PM
Dibenz[a,h]anthracene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 10:09 PM
Fluoranthene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 10:09 PM
Fluorene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 10:09 PM
Indeno[1,2,3-cd]pyrene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 10:09 PM
Phenanthrene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 10:09 PM
Pyrene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/12/16 10:09 PM
IS: Acenaphthene-d10	115	0	50-200	0		%REC	10	05/12/16 10:09 PM
IS: Chrysene-d12	101	0	50-200	0		%REC	10	05/12/16 10:09 PM
IS: Naphthalene-d8	101	0	50-200	0		%REC	10	05/12/16 10:09 PM
IS: Perylene-d12	102	0	50-200	0		%REC	10	05/12/16 10:09 PM
IS: Phenanthrene-d10	103	0	50-200	0		%REC	10	05/12/16 10:09 PM
Surr: 2-Fluorobiphenyl	81.1	0	46-115	0		%REC	10	05/12/16 10:09 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(2-4)-B
Project:	Laredo SGR	**Lab ID:**	1605047-22
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:18 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	75.9	0	58-133	0		%REC	10	05/12/16 10:09 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(4-6)-B
Project:	Laredo SGR	**Lab ID:**	1605047-23
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:20 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	7.21	0.0935	0.280	0.140		mg/Kg-dry	5	05/11/16 08:09 PM
IS: Bismuth	86.6	0	30-120	0		%REC	5	05/11/16 08:09 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/12/16 10:46 PM
Acenaphthylene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/12/16 10:46 PM
Anthracene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/12/16 10:46 PM
Benzo[a]anthracene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/12/16 10:46 PM
Benzo[a]pyrene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/12/16 10:46 PM
Benzo[b]fluoranthene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/12/16 10:46 PM
Benzo[e]pyrene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/12/16 10:46 PM
Benzo[g,h,i]perylene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/12/16 10:46 PM
Benzo[j]fluoranthene	0.0738	0.0492	0.0984	0.0738	NU	mg/Kg-dry	10	05/12/16 10:46 PM
Benzo[k]fluoranthene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/12/16 10:46 PM
Chrysene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/12/16 10:46 PM
Dibenz[a,h]anthracene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/12/16 10:46 PM
Fluoranthene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/12/16 10:46 PM
Fluorene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/12/16 10:46 PM
Indeno[1,2,3-cd]pyrene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/12/16 10:46 PM
Phenanthrene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/12/16 10:46 PM
Pyrene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/12/16 10:46 PM
IS: Acenaphthene-d10	110	0	50-200	0		%REC	10	05/12/16 10:46 PM
IS: Chrysene-d12	94.9	0	50-200	0		%REC	10	05/12/16 10:46 PM
IS: Naphthalene-d8	95.8	0	50-200	0		%REC	10	05/12/16 10:46 PM
IS: Perylene-d12	96.7	0	50-200	0		%REC	10	05/12/16 10:46 PM
IS: Phenanthrene-d10	97.8	0	50-200	0		%REC	10	05/12/16 10:46 PM
Surr: 2-Fluorobiphenyl	88.3	0	46-115	0		%REC	10	05/12/16 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(4-6)-B
Project:	Laredo SGR	**Lab ID:**	1605047-23
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:20 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	75.9	0	58-133	0		%REC	10	05/12/16 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(6-8)-B
Project:	Laredo SGR	**Lab ID:**	1605047-24
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:21 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	7.88	0.0885	0.265	0.133		mg/Kg-dry	5	05/11/16 07:27 PM
IS: Bismuth	89.0	0	30-120	0		%REC	5	05/11/16 07:27 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0734	0.0489	0.0978	0.0734	U	mg/Kg-dry	10	05/12/16 11:23 PM
Acenaphthylene	0.0734	0.0489	0.0978	0.0734	U	mg/Kg-dry	10	05/12/16 11:23 PM
Anthracene	0.0734	0.0489	0.0978	0.0734	U	mg/Kg-dry	10	05/12/16 11:23 PM
Benzo[a]anthracene	0.0734	0.0489	0.0978	0.0734	U	mg/Kg-dry	10	05/12/16 11:23 PM
Benzo[a]pyrene	0.0734	0.0489	0.0978	0.0734	U	mg/Kg-dry	10	05/12/16 11:23 PM
Benzo[b]fluoranthene	0.0734	0.0489	0.0978	0.0734	U	mg/Kg-dry	10	05/12/16 11:23 PM
Benzo[e]pyrene	0.0734	0.0489	0.0978	0.0734	U	mg/Kg-dry	10	05/12/16 11:23 PM
Benzo[g,h,i]perylene	0.0734	0.0489	0.0978	0.0734	U	mg/Kg-dry	10	05/12/16 11:23 PM
Benzo[j]fluoranthene	0.0734	0.0489	0.0978	0.0734	NU	mg/Kg-dry	10	05/12/16 11:23 PM
Benzo[k]fluoranthene	0.0734	0.0489	0.0978	0.0734	U	mg/Kg-dry	10	05/12/16 11:23 PM
Chrysene	0.0734	0.0489	0.0978	0.0734	U	mg/Kg-dry	10	05/12/16 11:23 PM
Dibenz[a,h]anthracene	0.0734	0.0489	0.0978	0.0734	U	mg/Kg-dry	10	05/12/16 11:23 PM
Fluoranthene	0.0734	0.0489	0.0978	0.0734	U	mg/Kg-dry	10	05/12/16 11:23 PM
Fluorene	0.0734	0.0489	0.0978	0.0734	U	mg/Kg-dry	10	05/12/16 11:23 PM
Indeno[1,2,3-cd]pyrene	0.0734	0.0489	0.0978	0.0734	U	mg/Kg-dry	10	05/12/16 11:23 PM
Phenanthrene	0.0734	0.0489	0.0978	0.0734	U	mg/Kg-dry	10	05/12/16 11:23 PM
Pyrene	0.0734	0.0489	0.0978	0.0734	U	mg/Kg-dry	10	05/12/16 11:23 PM
IS: Acenaphthene-d10	108	0	50-200	0		%REC	10	05/12/16 11:23 PM
IS: Chrysene-d12	92.7	0	50-200	0		%REC	10	05/12/16 11:23 PM
IS: Naphthalene-d8	94.5	0	50-200	0		%REC	10	05/12/16 11:23 PM
IS: Perylene-d12	94.3	0	50-200	0		%REC	10	05/12/16 11:23 PM
IS: Phenanthrene-d10	97.6	0	50-200	0		%REC	10	05/12/16 11:23 PM
Surr: 2-Fluorobiphenyl	83.2	0	46-115	0		%REC	10	05/12/16 11:23 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(6-8)-B
Project:	Laredo SGR	**Lab ID:**	1605047-24
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:21 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	74.5	0	58-133	0		%REC	10	05/12/16 11:23 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(8-10)-B
Project:	Laredo SGR	**Lab ID:**	1605047-25
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:23 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	5.63	0.0909	0.273	0.136		mg/Kg-dry	5	05/11/16 08:11 PM
IS: Bismuth	88.4	0	30-120	0		%REC	5	05/11/16 08:11 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/13/16 03:40 AM
Acenaphthylene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/13/16 03:40 AM
Anthracene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/13/16 03:40 AM
Benzo[a]anthracene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/13/16 03:40 AM
Benzo[a]pyrene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/13/16 03:40 AM
Benzo[b]fluoranthene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/13/16 03:40 AM
Benzo[e]pyrene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/13/16 03:40 AM
Benzo[g,h,i]perylene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/13/16 03:40 AM
Benzo[j]fluoranthene	0.0740	0.0494	0.0987	0.0740	NU	mg/Kg-dry	10	05/13/16 03:40 AM
Benzo[k]fluoranthene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/13/16 03:40 AM
Chrysene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/13/16 03:40 AM
Dibenz[a,h]anthracene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/13/16 03:40 AM
Fluoranthene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/13/16 03:40 AM
Fluorene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/13/16 03:40 AM
Indeno[1,2,3-cd]pyrene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/13/16 03:40 AM
Phenanthrene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/13/16 03:40 AM
Pyrene	0.0740	0.0494	0.0987	0.0740	U	mg/Kg-dry	10	05/13/16 03:40 AM
IS: Acenaphthene-d10	111	0	50-200	0		%REC	10	05/13/16 03:40 AM
IS: Chrysene-d12	94.0	0	50-200	0		%REC	10	05/13/16 03:40 AM
IS: Naphthalene-d8	96.7	0	50-200	0		%REC	10	05/13/16 03:40 AM
IS: Perylene-d12	95.5	0	50-200	0		%REC	10	05/13/16 03:40 AM
IS: Phenanthrene-d10	97.1	0	50-200	0		%REC	10	05/13/16 03:40 AM
Surr: 2-Fluorobiphenyl	80.7	0	46-115	0		%REC	10	05/13/16 03:40 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(8-10)-B
Project:	Laredo SGR	**Lab ID:**	1605047-25
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:23 PM
Lab Order:	1605047	**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	05/13/16 03:40 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(0-2)-C
Project:	Laredo SGR	**Lab ID:**	1605047-26
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:26 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	13.8	0.0840	0.252	0.126		mg/Kg-dry	5	05/11/16 08:13 PM
IS: Bismuth	87.8	0	30-120	0		%REC	5	05/11/16 08:13 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/11/16 10:35 AM
Acenaphthylene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/11/16 10:35 AM
Anthracene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/11/16 10:35 AM
Benzo[a]anthracene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/11/16 10:35 AM
Benzo[a]pyrene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/11/16 10:35 AM
Benzo[b]fluoranthene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/11/16 10:35 AM
Benzo[e]pyrene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/11/16 10:35 AM
Benzo[g,h,i]perylene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/11/16 10:35 AM
Benzo[j]fluoranthene	0.0744	0.0496	0.0992	0.0744	NU	mg/Kg-dry	10	05/11/16 10:35 AM
Benzo[k]fluoranthene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/11/16 10:35 AM
Chrysene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/11/16 10:35 AM
Dibenz[a,h]anthracene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/11/16 10:35 AM
Fluoranthene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/11/16 10:35 AM
Fluorene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/11/16 10:35 AM
Indeno[1,2,3-cd]pyrene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/11/16 10:35 AM
Phenanthrene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/11/16 10:35 AM
Pyrene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/11/16 10:35 AM
IS: Acenaphthene-d10	76.6	0	50-200	0		%REC	10	05/11/16 10:35 AM
IS: Chrysene-d12	86.5	0	50-200	0		%REC	10	05/11/16 10:35 AM
IS: Naphthalene-d8	120	0	50-200	0		%REC	10	05/11/16 10:35 AM
IS: Perylene-d12	89.2	0	50-200	0		%REC	10	05/11/16 10:35 AM
IS: Phenanthrene-d10	83.3	0	50-200	0		%REC	10	05/11/16 10:35 AM
Surr: 2-Fluorobiphenyl	68.6	0	46-115	0		%REC	10	05/11/16 10:35 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(0-2)-C
Project:	Laredo SGR	**Lab ID:**	1605047-26
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:26 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	61.7	0	58-133	0		%REC	10	05/11/16 10:35 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(2-4)-C
Project:	Laredo SGR	**Lab ID:**	1605047-27
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:27 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	4.97	0.0847	0.254	0.127		mg/Kg-dry	5	05/11/16 08:15 PM
IS: Bismuth	88.5	0	30-120	0		%REC	5	05/11/16 08:15 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/11/16 11:15 AM
Acenaphthylene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/11/16 11:15 AM
Anthracene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/11/16 11:15 AM
Benzo[a]anthracene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/11/16 11:15 AM
Benzo[a]pyrene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/11/16 11:15 AM
Benzo[b]fluoranthene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/11/16 11:15 AM
Benzo[e]pyrene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/11/16 11:15 AM
Benzo[g,h,i]perylene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/11/16 11:15 AM
Benzo[j]fluoranthene	0.0746	0.0498	0.0995	0.0746	NU	mg/Kg-dry	10	05/11/16 11:15 AM
Benzo[k]fluoranthene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/11/16 11:15 AM
Chrysene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/11/16 11:15 AM
Dibenz[a,h]anthracene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/11/16 11:15 AM
Fluoranthene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/11/16 11:15 AM
Fluorene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/11/16 11:15 AM
Indeno[1,2,3-cd]pyrene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/11/16 11:15 AM
Phenanthrene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/11/16 11:15 AM
Pyrene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/11/16 11:15 AM
IS: Acenaphthene-d10	74.2	0	50-200	0		%REC	10	05/11/16 11:15 AM
IS: Chrysene-d12	83.9	0	50-200	0		%REC	10	05/11/16 11:15 AM
IS: Naphthalene-d8	121	0	50-200	0		%REC	10	05/11/16 11:15 AM
IS: Perylene-d12	84.0	0	50-200	0		%REC	10	05/11/16 11:15 AM
IS: Phenanthrene-d10	82.6	0	50-200	0		%REC	10	05/11/16 11:15 AM
Surr: 2-Fluorobiphenyl	81.2	0	46-115	0		%REC	10	05/11/16 11:15 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(2-4)-C
Project:	Laredo SGR	**Lab ID:**	1605047-27
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:27 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	73.9	0	58-133	0		%REC	10	05/11/16 11:15 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(4-6)-C
Project:	Laredo SGR	**Lab ID:**	1605047-28
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:29 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	6.01	0.0909	0.273	0.136		mg/Kg-dry	5	05/11/16 08:17 PM
IS: Bismuth	87.4	0	30-120	0		%REC	5	05/11/16 08:17 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 11:55 AM
Acenaphthylene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 11:55 AM
Anthracene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 11:55 AM
Benzo[a]anthracene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 11:55 AM
Benzo[a]pyrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 11:55 AM
Benzo[b]fluoranthene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 11:55 AM
Benzo[e]pyrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 11:55 AM
Benzo[g,h,i]perylene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 11:55 AM
Benzo[j]fluoranthene	0.0749	0.0500	0.0999	0.0749	NU	mg/Kg-dry	10	05/11/16 11:55 AM
Benzo[k]fluoranthene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 11:55 AM
Chrysene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 11:55 AM
Dibenz[a,h]anthracene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 11:55 AM
Fluoranthene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 11:55 AM
Fluorene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 11:55 AM
Indeno[1,2,3-cd]pyrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 11:55 AM
Phenanthrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 11:55 AM
Pyrene	0.0749	0.0500	0.0999	0.0749	U	mg/Kg-dry	10	05/11/16 11:55 AM
IS: Acenaphthene-d10	74.0	0	50-200	0		%REC	10	05/11/16 11:55 AM
IS: Chrysene-d12	81.4	0	50-200	0		%REC	10	05/11/16 11:55 AM
IS: Naphthalene-d8	112	0	50-200	0		%REC	10	05/11/16 11:55 AM
IS: Perylene-d12	83.3	0	50-200	0		%REC	10	05/11/16 11:55 AM
IS: Phenanthrene-d10	79.1	0	50-200	0		%REC	10	05/11/16 11:55 AM
Surr: 2-Fluorobiphenyl	85.7	0	46-115	0		%REC	10	05/11/16 11:55 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(4-6)-C
Project:	Laredo SGR	**Lab ID:**	1605047-28
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:29 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	76.1	0	58-133	0		%REC	10	05/11/16 11:55 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(6-8)-C
Project:	Laredo SGR	**Lab ID:**	1605047-29
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:32 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	7.61	0.0943	0.283	0.142		mg/Kg-dry	5	05/11/16 08:19 PM
IS: Bismuth	86.7	0	30-120	0		%REC	5	05/11/16 08:19 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/11/16 12:35 PM
Acenaphthylene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/11/16 12:35 PM
Anthracene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/11/16 12:35 PM
Benzo[a]anthracene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/11/16 12:35 PM
Benzo[a]pyrene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/11/16 12:35 PM
Benzo[b]fluoranthene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/11/16 12:35 PM
Benzo[e]pyrene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/11/16 12:35 PM
Benzo[g,h,i]perylene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/11/16 12:35 PM
Benzo[j]fluoranthene	0.0747	0.0498	0.0996	0.0747	NU	mg/Kg-dry	10	05/11/16 12:35 PM
Benzo[k]fluoranthene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/11/16 12:35 PM
Chrysene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/11/16 12:35 PM
Dibenz[a,h]anthracene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/11/16 12:35 PM
Fluoranthene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/11/16 12:35 PM
Fluorene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/11/16 12:35 PM
Indeno[1,2,3-cd]pyrene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/11/16 12:35 PM
Phenanthrene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/11/16 12:35 PM
Pyrene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/11/16 12:35 PM
IS: Acenaphthene-d10	75.2	0	50-200	0		%REC	10	05/11/16 12:35 PM
IS: Chrysene-d12	86.4	0	50-200	0		%REC	10	05/11/16 12:35 PM
IS: Naphthalene-d8	123	0	50-200	0		%REC	10	05/11/16 12:35 PM
IS: Perylene-d12	87.9	0	50-200	0		%REC	10	05/11/16 12:35 PM
IS: Phenanthrene-d10	86.5	0	50-200	0		%REC	10	05/11/16 12:35 PM
Surr: 2-Fluorobiphenyl	80.1	0	46-115	0		%REC	10	05/11/16 12:35 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(6-8)-C
Project:	Laredo SGR	**Lab ID:**	1605047-29
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:32 PM
Lab Order:	1605047	**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	05/11/16 12:35 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(8-10)-C
Project:	Laredo SGR	**Lab ID:**	1605047-30
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:34 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	6.39	0.0926	0.278	0.139		mg/Kg-dry	5	05/11/16 08:21 PM
IS: Bismuth	85.6	0	30-120	0		%REC	5	05/11/16 08:21 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/11/16 01:14 PM
Acenaphthylene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/11/16 01:14 PM
Anthracene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/11/16 01:14 PM
Benzo[a]anthracene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/11/16 01:14 PM
Benzo[a]pyrene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/11/16 01:14 PM
Benzo[b]fluoranthene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/11/16 01:14 PM
Benzo[e]pyrene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/11/16 01:14 PM
Benzo[g,h,i]perylene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/11/16 01:14 PM
Benzo[j]fluoranthene	0.0741	0.0494	0.0988	0.0741	NU	mg/Kg-dry	10	05/11/16 01:14 PM
Benzo[k]fluoranthene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/11/16 01:14 PM
Chrysene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/11/16 01:14 PM
Dibenz[a,h]anthracene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/11/16 01:14 PM
Fluoranthene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/11/16 01:14 PM
Fluorene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/11/16 01:14 PM
Indeno[1,2,3-cd]pyrene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/11/16 01:14 PM
Phenanthrene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/11/16 01:14 PM
Pyrene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/11/16 01:14 PM
IS: Acenaphthene-d10	73.9	0	50-200	0		%REC	10	05/11/16 01:14 PM
IS: Chrysene-d12	83.5	0	50-200	0		%REC	10	05/11/16 01:14 PM
IS: Naphthalene-d8	121	0	50-200	0		%REC	10	05/11/16 01:14 PM
IS: Perylene-d12	85.7	0	50-200	0		%REC	10	05/11/16 01:14 PM
IS: Phenanthrene-d10	84.2	0	50-200	0		%REC	10	05/11/16 01:14 PM
Surr: 2-Fluorobiphenyl	83.4	0	46-115	0		%REC	10	05/11/16 01:14 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU069(8-10)-C
Project:	Laredo SGR	**Lab ID:**	1605047-30
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:34 PM
Lab Order:	1605047	**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	05/11/16 01:14 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	EB01(20160504)
Project:	Laredo SGR	**Lab ID:**	1605047-31
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 08:00 AM
Lab Order:	1605047	**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 01:34 PM
IS: Bismuth	98.0	0	30-120	0		%REC	1	05/20/16 01:34 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0000610	0.0000381	0.0000763	0.0000610	U	mg/L	1	05/09/16 09:08 PM
Acenaphthylene	0.0000610	0.0000381	0.0000763	0.0000610	U	mg/L	1	05/09/16 09:08 PM
Anthracene	0.0000610	0.0000381	0.0000763	0.0000610	U	mg/L	1	05/09/16 09:08 PM
Benzo[a]anthracene	0.0000610	0.0000381	0.0000763	0.0000610	U	mg/L	1	05/09/16 09:08 PM
Benzo[a]pyrene	0.0000610	0.0000381	0.0000763	0.0000610	U	mg/L	1	05/09/16 09:08 PM
Benzo[b]fluoranthene	0.0000610	0.0000381	0.0000763	0.0000610	U	mg/L	1	05/09/16 09:08 PM
Benzo[e]pyrene	0.0000610	0.0000381	0.0000763	0.0000610	U	mg/L	1	05/09/16 09:08 PM
Benzo[g,h,i]perylene	0.0000610	0.0000381	0.0000763	0.0000610	U	mg/L	1	05/09/16 09:08 PM
Benzo[j]fluoranthene	0.0000610	0.0000381	0.0000763	0.0000610	NU	mg/L	1	05/09/16 09:08 PM
Benzo[k]fluoranthene	0.0000610	0.0000381	0.0000763	0.0000610	U	mg/L	1	05/09/16 09:08 PM
Chrysene	0.0000610	0.0000381	0.0000763	0.0000610	U	mg/L	1	05/09/16 09:08 PM
Dibenz[a,h]anthracene	0.0000610	0.0000381	0.0000763	0.0000610	U	mg/L	1	05/09/16 09:08 PM
Fluoranthene	0.0000610	0.0000381	0.0000763	0.0000610	U	mg/L	1	05/09/16 09:08 PM
Fluorene	0.0000610	0.0000381	0.0000763	0.0000610	U	mg/L	1	05/09/16 09:08 PM
Indeno[1,2,3-cd]pyrene	0.0000610	0.0000381	0.0000763	0.0000610	U	mg/L	1	05/09/16 09:08 PM
Phenanthrene	0.0000610	0.0000381	0.0000763	0.0000610	U	mg/L	1	05/09/16 09:08 PM
Pyrene	0.0000610	0.0000381	0.0000763	0.0000610	U	mg/L	1	05/09/16 09:08 PM
IS: Acenaphthene-d10	72.3	0	50-200	0		%REC	1	05/09/16 09:08 PM
IS: Chrysene-d12	83.4	0	50-200	0		%REC	1	05/09/16 09:08 PM
IS: Naphthalene-d8	106	0	50-200	0		%REC	1	05/09/16 09:08 PM
IS: Perylene-d12	83.5	0	50-200	0		%REC	1	05/09/16 09:08 PM
IS: Phenanthrene-d10	82.7	0	50-200	0		%REC	1	05/09/16 09:08 PM
Surr: 2-Fluorobiphenyl	67.4	0	53-106	0		%REC	1	05/09/16 09:08 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	EB01(20160504)
Project:	Laredo SGR	**Lab ID:**	1605047-31
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 08:00 AM
Lab Order:	1605047	**Matrix:**	EQUIP BLANK

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	55.7	0	58-132	0	S	%REC	1	05/09/16 09:08 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	EB02(20160504)
Project:	Laredo SGR	**Lab ID:**	1605047-32
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 01:00 PM
Lab Order:	1605047	**Matrix:**	EQUIP BLANK

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER			**SW6020A**					Analyst: **RO**
Lead	0.000632	0.000300	0.00100	0.000900	J	mg/L	1	05/20/16 01:36 PM
IS: Bismuth	98.3	0	30-120	0		%REC	1	05/20/16 01:36 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0000625	0.0000391	0.0000781	0.0000625	U	mg/L	1	05/09/16 09:48 PM
Acenaphthylene	0.0000625	0.0000391	0.0000781	0.0000625	U	mg/L	1	05/09/16 09:48 PM
Anthracene	0.0000625	0.0000391	0.0000781	0.0000625	U	mg/L	1	05/09/16 09:48 PM
Benzo[a]anthracene	0.0000625	0.0000391	0.0000781	0.0000625	U	mg/L	1	05/09/16 09:48 PM
Benzo[a]pyrene	0.0000625	0.0000391	0.0000781	0.0000625	U	mg/L	1	05/09/16 09:48 PM
Benzo[b]fluoranthene	0.0000625	0.0000391	0.0000781	0.0000625	U	mg/L	1	05/09/16 09:48 PM
Benzo[e]pyrene	0.0000625	0.0000391	0.0000781	0.0000625	U	mg/L	1	05/09/16 09:48 PM
Benzo[g,h,i]perylene	0.0000625	0.0000391	0.0000781	0.0000625	U	mg/L	1	05/09/16 09:48 PM
Benzo[j]fluoranthene	0.0000625	0.0000391	0.0000781	0.0000625	NU	mg/L	1	05/09/16 09:48 PM
Benzo[k]fluoranthene	0.0000625	0.0000391	0.0000781	0.0000625	U	mg/L	1	05/09/16 09:48 PM
Chrysene	0.0000625	0.0000391	0.0000781	0.0000625	U	mg/L	1	05/09/16 09:48 PM
Dibenz[a,h]anthracene	0.0000625	0.0000391	0.0000781	0.0000625	U	mg/L	1	05/09/16 09:48 PM
Fluoranthene	0.0000442	0.0000391	0.0000781	0.0000625	J	mg/L	1	05/09/16 09:48 PM
Fluorene	0.0000625	0.0000391	0.0000781	0.0000625	U	mg/L	1	05/09/16 09:48 PM
Indeno[1,2,3-cd]pyrene	0.0000625	0.0000391	0.0000781	0.0000625	U	mg/L	1	05/09/16 09:48 PM
Phenanthrene	0.0000625	0.0000391	0.0000781	0.0000625	U	mg/L	1	05/09/16 09:48 PM
Pyrene	0.0000625	0.0000391	0.0000781	0.0000625	U	mg/L	1	05/09/16 09:48 PM
IS: Acenaphthene-d10	74.2	0	50-200	0		%REC	1	05/09/16 09:48 PM
IS: Chrysene-d12	85.5	0	50-200	0		%REC	1	05/09/16 09:48 PM
IS: Naphthalene-d8	124	0	50-200	0		%REC	1	05/09/16 09:48 PM
IS: Perylene-d12	86.2	0	50-200	0		%REC	1	05/09/16 09:48 PM
IS: Phenanthrene-d10	85.6	0	50-200	0		%REC	1	05/09/16 09:48 PM
Surr: 2-Fluorobiphenyl	66.5	0	53-106	0		%REC	1	05/09/16 09:48 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	EB02(20160504)
Project:	Laredo SGR	**Lab ID:**	1605047-32
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 01:00 PM
Lab Order:	1605047	**Matrix:**	EQUIP BLANK

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	58.6	0	58-132	0		%REC	1	05/09/16 09:48 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU066-STRAT1
Project:	Laredo SGR	**Lab ID:**	1605047-33
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 01:27 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	67.2	0.123	0.368	0.184		mg/Kg-dry	5	05/11/16 06:20 PM
IS: Bismuth	93.8	0	30-120	0		%REC	5	05/11/16 06:20 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0959	0.0640	0.128	0.0959	U	mg/Kg-dry	10	05/11/16 01:54 PM
Acenaphthylene	0.0959	0.0640	0.128	0.0959	U	mg/Kg-dry	10	05/11/16 01:54 PM
Anthracene	0.0959	0.0640	0.128	0.0959	U	mg/Kg-dry	10	05/11/16 01:54 PM
Benzo[a]anthracene	0.546	0.0640	0.128	0.0959		mg/Kg-dry	10	05/11/16 01:54 PM
Benzo[a]pyrene	0.733	0.0640	0.128	0.0959		mg/Kg-dry	10	05/11/16 01:54 PM
Benzo[b]fluoranthene	0.702	0.0640	0.128	0.0959		mg/Kg-dry	10	05/11/16 01:54 PM
Benzo[e]pyrene	0.593	0.0640	0.128	0.0959		mg/Kg-dry	10	05/11/16 01:54 PM
Benzo[g,h,i]perylene	0.638	0.0640	0.128	0.0959		mg/Kg-dry	10	05/11/16 01:54 PM
Benzo[j]fluoranthene	0.373	0.0640	0.128	0.0959	N	mg/Kg-dry	10	05/11/16 01:54 PM
Benzo[k]fluoranthene	0.357	0.0640	0.128	0.0959		mg/Kg-dry	10	05/11/16 01:54 PM
Chrysene	0.710	0.0640	0.128	0.0959		mg/Kg-dry	10	05/11/16 01:54 PM
Dibenz[a,h]anthracene	0.129	0.0640	0.128	0.0959		mg/Kg-dry	10	05/11/16 01:54 PM
Fluoranthene	0.931	0.0640	0.128	0.0959		mg/Kg-dry	10	05/11/16 01:54 PM
Fluorene	0.0959	0.0640	0.128	0.0959	U	mg/Kg-dry	10	05/11/16 01:54 PM
Indeno[1,2,3-cd]pyrene	0.518	0.0640	0.128	0.0959		mg/Kg-dry	10	05/11/16 01:54 PM
Phenanthrene	0.312	0.0640	0.128	0.0959		mg/Kg-dry	10	05/11/16 01:54 PM
Pyrene	0.820	0.0640	0.128	0.0959		mg/Kg-dry	10	05/11/16 01:54 PM
IS: Acenaphthene-d10	76.1	0	50-200	0		%REC	10	05/11/16 01:54 PM
IS: Chrysene-d12	85.6	0	50-200	0		%REC	10	05/11/16 01:54 PM
IS: Naphthalene-d8	122	0	50-200	0		%REC	10	05/11/16 01:54 PM
IS: Perylene-d12	88.5	0	50-200	0		%REC	10	05/11/16 01:54 PM
IS: Phenanthrene-d10	85.2	0	50-200	0		%REC	10	05/11/16 01:54 PM
Surr: 2-Fluorobiphenyl	60.8	0	46-115	0		%REC	10	05/11/16 01:54 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU066-STRAT1
Project:	Laredo SGR	**Lab ID:**	1605047-33
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 01:27 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	55.5	0	58-133	0	S	%REC	10	05/11/16 01:54 PM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	22.4	0	0	0		WT%	1	05/10/16 08:40 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU066-STRAT2
Project:	Laredo SGR	**Lab ID:**	1605047-34
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 01:31 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	32.6	0.112	0.336	0.168		mg/Kg-dry	5	05/11/16 06:22 PM
IS: Bismuth	93.9	0	30-120	0		%REC	5	05/11/16 06:22 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0871	0.0581	0.116	0.0871	U	mg/Kg-dry	10	05/11/16 02:34 PM
Acenaphthylene	0.0871	0.0581	0.116	0.0871	U	mg/Kg-dry	10	05/11/16 02:34 PM
Anthracene	0.130	0.0581	0.116	0.0871		mg/Kg-dry	10	05/11/16 02:34 PM
Benzo[a]anthracene	0.958	0.0581	0.116	0.0871		mg/Kg-dry	10	05/11/16 02:34 PM
Benzo[a]pyrene	1.29	0.0581	0.116	0.0871		mg/Kg-dry	10	05/11/16 02:34 PM
Benzo[b]fluoranthene	1.19	0.0581	0.116	0.0871		mg/Kg-dry	10	05/11/16 02:34 PM
Benzo[e]pyrene	1.00	0.0581	0.116	0.0871		mg/Kg-dry	10	05/11/16 02:34 PM
Benzo[g,h,i]perylene	1.05	0.0581	0.116	0.0871		mg/Kg-dry	10	05/11/16 02:34 PM
Benzo[j]fluoranthene	0.641	0.0581	0.116	0.0871	N	mg/Kg-dry	10	05/11/16 02:34 PM
Benzo[k]fluoranthene	0.620	0.0581	0.116	0.0871		mg/Kg-dry	10	05/11/16 02:34 PM
Chrysene	1.21	0.0581	0.116	0.0871		mg/Kg-dry	10	05/11/16 02:34 PM
Dibenz[a,h]anthracene	0.220	0.0581	0.116	0.0871		mg/Kg-dry	10	05/11/16 02:34 PM
Fluoranthene	1.79	0.0581	0.116	0.0871		mg/Kg-dry	10	05/11/16 02:34 PM
Fluorene	0.0871	0.0581	0.116	0.0871	U	mg/Kg-dry	10	05/11/16 02:34 PM
Indeno[1,2,3-cd]pyrene	0.872	0.0581	0.116	0.0871		mg/Kg-dry	10	05/11/16 02:34 PM
Phenanthrene	0.638	0.0581	0.116	0.0871		mg/Kg-dry	10	05/11/16 02:34 PM
Pyrene	1.53	0.0581	0.116	0.0871		mg/Kg-dry	10	05/11/16 02:34 PM
IS: Acenaphthene-d10	85.6	0	50-200	0		%REC	10	05/11/16 02:34 PM
IS: Chrysene-d12	90.2	0	50-200	0		%REC	10	05/11/16 02:34 PM
IS: Naphthalene-d8	123	0	50-200	0		%REC	10	05/11/16 02:34 PM
IS: Perylene-d12	91.5	0	50-200	0		%REC	10	05/11/16 02:34 PM
IS: Phenanthrene-d10	86.9	0	50-200	0		%REC	10	05/11/16 02:34 PM
Surr: 2-Fluorobiphenyl	83.6	0	46-115	0		%REC	10	05/11/16 02:34 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU066-STRAT2
Project:	Laredo SGR	**Lab ID:**	1605047-34
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 01:31 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	74.6	0	58-133	0		%REC	10	05/11/16 02:34 PM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	16.6	0	0	0		WT%	1	05/10/16 08:40 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU066-STRAT3
Project:	Laredo SGR	**Lab ID:**	1605047-35
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 01:34 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	31.7	0.123	0.369	0.185		mg/Kg-dry	5	05/11/16 06:24 PM
IS: Bismuth	94.0	0	30-120	0		%REC	5	05/11/16 06:24 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0945	0.0630	0.126	0.0945	U	mg/Kg-dry	10	05/11/16 03:13 PM
Acenaphthylene	0.0945	0.0630	0.126	0.0945	U	mg/Kg-dry	10	05/11/16 03:13 PM
Anthracene	0.0945	0.0630	0.126	0.0945	U	mg/Kg-dry	10	05/11/16 03:13 PM
Benzo[a]anthracene	0.438	0.0630	0.126	0.0945		mg/Kg-dry	10	05/11/16 03:13 PM
Benzo[a]pyrene	0.552	0.0630	0.126	0.0945		mg/Kg-dry	10	05/11/16 03:13 PM
Benzo[b]fluoranthene	0.528	0.0630	0.126	0.0945		mg/Kg-dry	10	05/11/16 03:13 PM
Benzo[e]pyrene	0.445	0.0630	0.126	0.0945		mg/Kg-dry	10	05/11/16 03:13 PM
Benzo[g,h,i]perylene	0.462	0.0630	0.126	0.0945		mg/Kg-dry	10	05/11/16 03:13 PM
Benzo[j]fluoranthene	0.283	0.0630	0.126	0.0945	N	mg/Kg-dry	10	05/11/16 03:13 PM
Benzo[k]fluoranthene	0.277	0.0630	0.126	0.0945		mg/Kg-dry	10	05/11/16 03:13 PM
Chrysene	0.550	0.0630	0.126	0.0945		mg/Kg-dry	10	05/11/16 03:13 PM
Dibenz[a,h]anthracene	0.0979	0.0630	0.126	0.0945	J	mg/Kg-dry	10	05/11/16 03:13 PM
Fluoranthene	0.779	0.0630	0.126	0.0945		mg/Kg-dry	10	05/11/16 03:13 PM
Fluorene	0.0945	0.0630	0.126	0.0945	U	mg/Kg-dry	10	05/11/16 03:13 PM
Indeno[1,2,3-cd]pyrene	0.378	0.0630	0.126	0.0945		mg/Kg-dry	10	05/11/16 03:13 PM
Phenanthrene	0.290	0.0630	0.126	0.0945		mg/Kg-dry	10	05/11/16 03:13 PM
Pyrene	0.668	0.0630	0.126	0.0945		mg/Kg-dry	10	05/11/16 03:13 PM
IS: Acenaphthene-d10	75.0	0	50-200	0		%REC	10	05/11/16 03:13 PM
IS: Chrysene-d12	86.6	0	50-200	0		%REC	10	05/11/16 03:13 PM
IS: Naphthalene-d8	121	0	50-200	0		%REC	10	05/11/16 03:13 PM
IS: Perylene-d12	88.6	0	50-200	0		%REC	10	05/11/16 03:13 PM
IS: Phenanthrene-d10	86.9	0	50-200	0		%REC	10	05/11/16 03:13 PM
Surr: 2-Fluorobiphenyl	81.3	0	46-115	0		%REC	10	05/11/16 03:13 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU066-STRAT3
Project:	Laredo SGR	**Lab ID:**	1605047-35
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 01:34 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	70.5	0	58-133	0		%REC	10	05/11/16 03:13 PM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	21.1	0	0	0		WT%	1	05/10/16 08:40 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU066-STRAT4
Project:	Laredo SGR	**Lab ID:**	1605047-36
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 01:37 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	34.0	0.100	0.300	0.150		mg/Kg-dry	5	05/11/16 06:26 PM
IS: Bismuth	94.4	0	30-120	0		%REC	5	05/11/16 06:26 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0828	0.0552	0.110	0.0828	U	mg/Kg-dry	10	05/11/16 03:53 PM
Acenaphthylene	0.0828	0.0552	0.110	0.0828	U	mg/Kg-dry	10	05/11/16 03:53 PM
Anthracene	0.0828	0.0552	0.110	0.0828	U	mg/Kg-dry	10	05/11/16 03:53 PM
Benzo[a]anthracene	0.356	0.0552	0.110	0.0828		mg/Kg-dry	10	05/11/16 03:53 PM
Benzo[a]pyrene	0.456	0.0552	0.110	0.0828		mg/Kg-dry	10	05/11/16 03:53 PM
Benzo[b]fluoranthene	0.448	0.0552	0.110	0.0828		mg/Kg-dry	10	05/11/16 03:53 PM
Benzo[e]pyrene	0.375	0.0552	0.110	0.0828		mg/Kg-dry	10	05/11/16 03:53 PM
Benzo[g,h,i]perylene	0.375	0.0552	0.110	0.0828		mg/Kg-dry	10	05/11/16 03:53 PM
Benzo[j]fluoranthene	0.235	0.0552	0.110	0.0828	N	mg/Kg-dry	10	05/11/16 03:53 PM
Benzo[k]fluoranthene	0.231	0.0552	0.110	0.0828		mg/Kg-dry	10	05/11/16 03:53 PM
Chrysene	0.454	0.0552	0.110	0.0828		mg/Kg-dry	10	05/11/16 03:53 PM
Dibenz[a,h]anthracene	0.0818	0.0552	0.110	0.0828	J	mg/Kg-dry	10	05/11/16 03:53 PM
Fluoranthene	0.652	0.0552	0.110	0.0828		mg/Kg-dry	10	05/11/16 03:53 PM
Fluorene	0.0828	0.0552	0.110	0.0828	U	mg/Kg-dry	10	05/11/16 03:53 PM
Indeno[1,2,3-cd]pyrene	0.315	0.0552	0.110	0.0828		mg/Kg-dry	10	05/11/16 03:53 PM
Phenanthrene	0.230	0.0552	0.110	0.0828		mg/Kg-dry	10	05/11/16 03:53 PM
Pyrene	0.562	0.0552	0.110	0.0828		mg/Kg-dry	10	05/11/16 03:53 PM
IS: Acenaphthene-d10	83.6	0	50-200	0		%REC	10	05/11/16 03:53 PM
IS: Chrysene-d12	88.7	0	50-200	0		%REC	10	05/11/16 03:53 PM
IS: Naphthalene-d8	118	0	50-200	0		%REC	10	05/11/16 03:53 PM
IS: Perylene-d12	89.9	0	50-200	0		%REC	10	05/11/16 03:53 PM
IS: Phenanthrene-d10	81.4	0	50-200	0		%REC	10	05/11/16 03:53 PM
Surr: 2-Fluorobiphenyl	76.0	0	46-115	0		%REC	10	05/11/16 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU066-STRAT4
Project:	Laredo SGR	**Lab ID:**	1605047-36
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 01:37 PM
Lab Order:	1605047	**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	05/11/16 03:53 PM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	10.8	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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU066-STRAT5
Project:	Laredo SGR	**Lab ID:**	1605047-37
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 01:40 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	23.8	0.105	0.314	0.157		mg/Kg-dry	5	05/11/16 06:28 PM
IS: Bismuth	95.3	0	30-120	0		%REC	5	05/11/16 06:28 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0642	0.0562	0.112	0.0843	J	mg/Kg-dry	10	05/11/16 04:33 PM
Acenaphthylene	0.0843	0.0562	0.112	0.0843	U	mg/Kg-dry	10	05/11/16 04:33 PM
Anthracene	0.197	0.0562	0.112	0.0843		mg/Kg-dry	10	05/11/16 04:33 PM
Benzo[a]anthracene	1.47	0.0562	0.112	0.0843		mg/Kg-dry	10	05/11/16 04:33 PM
Benzo[a]pyrene	1.81	0.0562	0.112	0.0843		mg/Kg-dry	10	05/11/16 04:33 PM
Benzo[b]fluoranthene	1.69	0.0562	0.112	0.0843		mg/Kg-dry	10	05/11/16 04:33 PM
Benzo[e]pyrene	1.38	0.0562	0.112	0.0843		mg/Kg-dry	10	05/11/16 04:33 PM
Benzo[g,h,i]perylene	1.45	0.0562	0.112	0.0843		mg/Kg-dry	10	05/11/16 04:33 PM
Benzo[j]fluoranthene	0.923	0.0562	0.112	0.0843	N	mg/Kg-dry	10	05/11/16 04:33 PM
Benzo[k]fluoranthene	0.872	0.0562	0.112	0.0843		mg/Kg-dry	10	05/11/16 04:33 PM
Chrysene	1.77	0.0562	0.112	0.0843		mg/Kg-dry	10	05/11/16 04:33 PM
Dibenz[a,h]anthracene	0.324	0.0562	0.112	0.0843		mg/Kg-dry	10	05/11/16 04:33 PM
Fluoranthene	2.74	0.0562	0.112	0.0843		mg/Kg-dry	10	05/11/16 04:33 PM
Fluorene	0.0843	0.0562	0.112	0.0843	U	mg/Kg-dry	10	05/11/16 04:33 PM
Indeno[1,2,3-cd]pyrene	1.23	0.0562	0.112	0.0843		mg/Kg-dry	10	05/11/16 04:33 PM
Phenanthrene	1.04	0.0562	0.112	0.0843		mg/Kg-dry	10	05/11/16 04:33 PM
Pyrene	2.31	0.0562	0.112	0.0843		mg/Kg-dry	10	05/11/16 04:33 PM
IS: Acenaphthene-d10	82.0	0	50-200	0		%REC	10	05/11/16 04:33 PM
IS: Chrysene-d12	85.9	0	50-200	0		%REC	10	05/11/16 04:33 PM
IS: Naphthalene-d8	117	0	50-200	0		%REC	10	05/11/16 04:33 PM
IS: Perylene-d12	87.3	0	50-200	0		%REC	10	05/11/16 04:33 PM
IS: Phenanthrene-d10	80.2	0	50-200	0		%REC	10	05/11/16 04:33 PM
Surr: 2-Fluorobiphenyl	80.8	0	46-115	0		%REC	10	05/11/16 04:33 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU066-STRAT5
Project:	Laredo SGR	**Lab ID:**	1605047-37
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 01:40 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	73.2	0	58-133	0		%REC	10	05/11/16 04:33 PM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	11.4	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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	EB03(20160504)
Project:	Laredo SGR	**Lab ID:**	1605047-38
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 04:11 PM
Lab Order:	1605047	**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 01:38 PM
IS: Bismuth	99.6	0	30-120	0		%REC	1	05/20/16 01:38 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0000624	0.0000390	0.0000781	0.0000624	U	mg/L	1	05/09/16 10:27 PM
Acenaphthylene	0.0000624	0.0000390	0.0000781	0.0000624	U	mg/L	1	05/09/16 10:27 PM
Anthracene	0.0000624	0.0000390	0.0000781	0.0000624	U	mg/L	1	05/09/16 10:27 PM
Benzo[a]anthracene	0.0000624	0.0000390	0.0000781	0.0000624	U	mg/L	1	05/09/16 10:27 PM
Benzo[a]pyrene	0.0000624	0.0000390	0.0000781	0.0000624	U	mg/L	1	05/09/16 10:27 PM
Benzo[b]fluoranthene	0.0000624	0.0000390	0.0000781	0.0000624	U	mg/L	1	05/09/16 10:27 PM
Benzo[e]pyrene	0.0000624	0.0000390	0.0000781	0.0000624	U	mg/L	1	05/09/16 10:27 PM
Benzo[g,h,i]perylene	0.0000624	0.0000390	0.0000781	0.0000624	U	mg/L	1	05/09/16 10:27 PM
Benzo[j]fluoranthene	0.0000624	0.0000390	0.0000781	0.0000624	NU	mg/L	1	05/09/16 10:27 PM
Benzo[k]fluoranthene	0.0000624	0.0000390	0.0000781	0.0000624	U	mg/L	1	05/09/16 10:27 PM
Chrysene	0.0000624	0.0000390	0.0000781	0.0000624	U	mg/L	1	05/09/16 10:27 PM
Dibenz[a,h]anthracene	0.0000624	0.0000390	0.0000781	0.0000624	U	mg/L	1	05/09/16 10:27 PM
Fluoranthene	0.0000624	0.0000390	0.0000781	0.0000624	U	mg/L	1	05/09/16 10:27 PM
Fluorene	0.0000624	0.0000390	0.0000781	0.0000624	U	mg/L	1	05/09/16 10:27 PM
Indeno[1,2,3-cd]pyrene	0.0000624	0.0000390	0.0000781	0.0000624	U	mg/L	1	05/09/16 10:27 PM
Phenanthrene	0.0000624	0.0000390	0.0000781	0.0000624	U	mg/L	1	05/09/16 10:27 PM
Pyrene	0.0000624	0.0000390	0.0000781	0.0000624	U	mg/L	1	05/09/16 10:27 PM
IS: Acenaphthene-d10	68.8	0	50-200	0		%REC	1	05/09/16 10:27 PM
IS: Chrysene-d12	77.1	0	50-200	0		%REC	1	05/09/16 10:27 PM
IS: Naphthalene-d8	110	0	50-200	0		%REC	1	05/09/16 10:27 PM
IS: Perylene-d12	77.2	0	50-200	0		%REC	1	05/09/16 10:27 PM
IS: Phenanthrene-d10	78.2	0	50-200	0		%REC	1	05/09/16 10:27 PM
Surr: 2-Fluorobiphenyl	70.2	0	53-106	0		%REC	1	05/09/16 10:27 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	EB03(20160504)
Project:	Laredo SGR	**Lab ID:**	1605047-38
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 04:11 PM
Lab Order:	1605047	**Matrix:**	EQUIP BLANK

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	68.4	0	58-132	0		%REC	1	05/09/16 10:27 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	ROW-1(0-0.5)
Project:	Laredo SGR	**Lab ID:**	1605047-39
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 02:45 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	44.3	0.120	0.361	0.180		mg/Kg-dry	5	05/11/16 06:30 PM
IS: Bismuth	95.4	0	30-120	0		%REC	5	05/11/16 06:30 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.105	0.0702	0.140	0.105	U	mg/Kg-dry	10	05/11/16 05:12 PM
Acenaphthylene	0.105	0.0702	0.140	0.105	U	mg/Kg-dry	10	05/11/16 05:12 PM
Anthracene	0.105	0.0702	0.140	0.105	U	mg/Kg-dry	10	05/11/16 05:12 PM
Benzo[a]anthracene	0.372	0.0702	0.140	0.105		mg/Kg-dry	10	05/11/16 05:12 PM
Benzo[a]pyrene	0.493	0.0702	0.140	0.105		mg/Kg-dry	10	05/11/16 05:12 PM
Benzo[b]fluoranthene	0.461	0.0702	0.140	0.105		mg/Kg-dry	10	05/11/16 05:12 PM
Benzo[e]pyrene	0.384	0.0702	0.140	0.105		mg/Kg-dry	10	05/11/16 05:12 PM
Benzo[g,h,i]perylene	0.407	0.0702	0.140	0.105		mg/Kg-dry	10	05/11/16 05:12 PM
Benzo[j]fluoranthene	0.249	0.0702	0.140	0.105	N	mg/Kg-dry	10	05/11/16 05:12 PM
Benzo[k]fluoranthene	0.244	0.0702	0.140	0.105		mg/Kg-dry	10	05/11/16 05:12 PM
Chrysene	0.471	0.0702	0.140	0.105		mg/Kg-dry	10	05/11/16 05:12 PM
Dibenz[a,h]anthracene	0.0949	0.0702	0.140	0.105	J	mg/Kg-dry	10	05/11/16 05:12 PM
Fluoranthene	0.712	0.0702	0.140	0.105		mg/Kg-dry	10	05/11/16 05:12 PM
Fluorene	0.105	0.0702	0.140	0.105	U	mg/Kg-dry	10	05/11/16 05:12 PM
Indeno[1,2,3-cd]pyrene	0.330	0.0702	0.140	0.105		mg/Kg-dry	10	05/11/16 05:12 PM
Phenanthrene	0.247	0.0702	0.140	0.105		mg/Kg-dry	10	05/11/16 05:12 PM
Pyrene	0.610	0.0702	0.140	0.105		mg/Kg-dry	10	05/11/16 05:12 PM
IS: Acenaphthene-d10	67.0	0	50-200	0		%REC	10	05/11/16 05:12 PM
IS: Chrysene-d12	73.9	0	50-200	0		%REC	10	05/11/16 05:12 PM
IS: Naphthalene-d8	109	0	50-200	0		%REC	10	05/11/16 05:12 PM
IS: Perylene-d12	75.3	0	50-200	0		%REC	10	05/11/16 05:12 PM
IS: Phenanthrene-d10	71.1	0	50-200	0		%REC	10	05/11/16 05:12 PM
Surr: 2-Fluorobiphenyl	90.0	0	46-115	0		%REC	10	05/11/16 05:12 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	ROW-1(0-0.5)
Project:	Laredo SGR	**Lab ID:**	1605047-39
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 02:45 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	78.8	0	58-133	0		%REC	10	05/11/16 05:12 PM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	30.1	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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	ROW-2(0-0.5)
Project:	Laredo SGR	**Lab ID:**	1605047-42
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:20 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	10.3	0.106	0.319	0.160		mg/Kg-dry	5	05/11/16 06:31 PM
IS: Bismuth	92.7	0	30-120	0		%REC	5	05/11/16 06:31 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0834	0.0556	0.111	0.0834	U	mg/Kg-dry	10	05/11/16 09:08 PM
Acenaphthylene	0.0834	0.0556	0.111	0.0834	U	mg/Kg-dry	10	05/11/16 09:08 PM
Anthracene	0.0834	0.0556	0.111	0.0834	U	mg/Kg-dry	10	05/11/16 09:08 PM
Benzo[a]anthracene	0.0834	0.0556	0.111	0.0834	U	mg/Kg-dry	10	05/11/16 09:08 PM
Benzo[a]pyrene	0.0834	0.0556	0.111	0.0834	U	mg/Kg-dry	10	05/11/16 09:08 PM
Benzo[b]fluoranthene	0.0834	0.0556	0.111	0.0834	U	mg/Kg-dry	10	05/11/16 09:08 PM
Benzo[e]pyrene	0.0834	0.0556	0.111	0.0834	U	mg/Kg-dry	10	05/11/16 09:08 PM
Benzo[g,h,i]perylene	0.0834	0.0556	0.111	0.0834	U	mg/Kg-dry	10	05/11/16 09:08 PM
Benzo[j]fluoranthene	0.0834	0.0556	0.111	0.0834	NU	mg/Kg-dry	10	05/11/16 09:08 PM
Benzo[k]fluoranthene	0.0834	0.0556	0.111	0.0834	U	mg/Kg-dry	10	05/11/16 09:08 PM
Chrysene	0.0834	0.0556	0.111	0.0834	U	mg/Kg-dry	10	05/11/16 09:08 PM
Dibenz[a,h]anthracene	0.0834	0.0556	0.111	0.0834	U	mg/Kg-dry	10	05/11/16 09:08 PM
Fluoranthene	0.0834	0.0556	0.111	0.0834	U	mg/Kg-dry	10	05/11/16 09:08 PM
Fluorene	0.0834	0.0556	0.111	0.0834	U	mg/Kg-dry	10	05/11/16 09:08 PM
Indeno[1,2,3-cd]pyrene	0.0834	0.0556	0.111	0.0834	U	mg/Kg-dry	10	05/11/16 09:08 PM
Phenanthrene	0.0834	0.0556	0.111	0.0834	U	mg/Kg-dry	10	05/11/16 09:08 PM
Pyrene	0.0834	0.0556	0.111	0.0834	U	mg/Kg-dry	10	05/11/16 09:08 PM
IS: Acenaphthene-d10	70.4	0	50-200	0		%REC	10	05/11/16 09:08 PM
IS: Chrysene-d12	78.6	0	50-200	0		%REC	10	05/11/16 09:08 PM
IS: Naphthalene-d8	113	0	50-200	0		%REC	10	05/11/16 09:08 PM
IS: Perylene-d12	81.3	0	50-200	0		%REC	10	05/11/16 09:08 PM
IS: Phenanthrene-d10	78.5	0	50-200	0		%REC	10	05/11/16 09:08 PM
Surr: 2-Fluorobiphenyl	87.0	0	46-115	0		%REC	10	05/11/16 09:08 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	ROW-2(0-0.5)
Project:	Laredo SGR	**Lab ID:**	1605047-42
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 03:20 PM
Lab Order:	1605047	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	78.1	0	58-133	0		%REC	10	05/11/16 09:08 PM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	11.3	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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	Laredo Frag
Project:	Laredo SGR	**Lab ID:**	1605047-45
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 02:31 PM
Lab Order:	1605047	**Matrix:**	SOLID

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	34.2	2.29	6.86	3.43		mg/Kg-dry	50	05/11/16 06:33 PM
IS: Bismuth	99.8	0	30-120	0		%REC	50	05/11/16 06:33 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	92.9	47.0	94.0	70.5	J	mg/Kg-dry	1000	05/13/16 06:07 AM
Acenaphthylene	70.5	47.0	94.0	70.5	U	mg/Kg-dry	1000	05/13/16 06:07 AM
Anthracene	287	47.0	94.0	70.5		mg/Kg-dry	1000	05/13/16 06:07 AM
Benzo[a]anthracene	1360	47.0	94.0	70.5		mg/Kg-dry	1000	05/13/16 06:07 AM
Benzo[a]pyrene	1500	47.0	94.0	70.5		mg/Kg-dry	1000	05/13/16 06:07 AM
Benzo[b]fluoranthene	1330	47.0	94.0	70.5		mg/Kg-dry	1000	05/13/16 06:07 AM
Benzo[e]pyrene	987	47.0	94.0	70.5		mg/Kg-dry	1000	05/13/16 06:07 AM
Benzo[g,h,i]perylene	961	47.0	94.0	70.5		mg/Kg-dry	1000	05/13/16 06:07 AM
Benzo[j]fluoranthene	724	47.0	94.0	70.5	N	mg/Kg-dry	1000	05/13/16 06:07 AM
Benzo[k]fluoranthene	705	47.0	94.0	70.5		mg/Kg-dry	1000	05/13/16 06:07 AM
Chrysene	1610	47.0	94.0	70.5		mg/Kg-dry	1000	05/13/16 06:07 AM
Dibenz[a,h]anthracene	234	47.0	94.0	70.5		mg/Kg-dry	1000	05/13/16 06:07 AM
Fluoranthene	2390	47.0	94.0	70.5		mg/Kg-dry	1000	05/13/16 06:07 AM
Fluorene	63.9	47.0	94.0	70.5	J	mg/Kg-dry	1000	05/13/16 06:07 AM
Indeno[1,2,3-cd]pyrene	835	47.0	94.0	70.5		mg/Kg-dry	1000	05/13/16 06:07 AM
Phenanthrene	1300	47.0	94.0	70.5		mg/Kg-dry	1000	05/13/16 06:07 AM
Pyrene	1980	47.0	94.0	70.5		mg/Kg-dry	1000	05/13/16 06:07 AM
IS: Acenaphthene-d10	120	0	50-200	0		%REC	1000	05/13/16 06:07 AM
IS: Chrysene-d12	90.8	0	50-200	0		%REC	1000	05/13/16 06:07 AM
IS: Naphthalene-d8	94.8	0	50-200	0		%REC	1000	05/13/16 06:07 AM
IS: Perylene-d12	94.3	0	50-200	0		%REC	1000	05/13/16 06:07 AM
IS: Phenanthrene-d10	106	0	50-200	0		%REC	1000	05/13/16 06:07 AM
Surr: 2-Fluorobiphenyl	73.0	0	46-115	0		%REC	1000	05/13/16 06:07 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	Laredo Frag
Project:	Laredo SGR	**Lab ID:**	1605047-45
Project No:	04285081.0000.00044	**Collection Date:**	05/04/16 02:31 PM
Lab Order:	1605047	**Matrix:**	SOLID

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	138	0	58-133	0	S	%REC	1000	05/13/16 06:07 AM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	0.623	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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	Foster Frag
Project:	Laredo SGR	**Lab ID:**	1605047-46
Project No:	04285081.0000.00044	**Collection Date:**	04/28/16 11:30 AM
Lab Order:	1605047	**Matrix:**	SOLID

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	74.5	2.29	6.86	3.43		mg/Kg-dry	50	05/11/16 06:35 PM
IS: Bismuth	101	0	30-120	0		%REC	50	05/11/16 06:35 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	200	48.4	96.8	72.6		mg/Kg-dry	1000	05/13/16 06:44 AM
Acenaphthylene	72.6	48.4	96.8	72.6	U	mg/Kg-dry	1000	05/13/16 06:44 AM
Anthracene	123	48.4	96.8	72.6		mg/Kg-dry	1000	05/13/16 06:44 AM
Benzo[a]anthracene	2850	48.4	96.8	72.6		mg/Kg-dry	1000	05/13/16 06:44 AM
Benzo[a]pyrene	4430	48.4	96.8	72.6		mg/Kg-dry	1000	05/13/16 06:44 AM
Benzo[b]fluoranthene	3930	48.4	96.8	72.6		mg/Kg-dry	1000	05/13/16 06:44 AM
Benzo[e]pyrene	3040	48.4	96.8	72.6		mg/Kg-dry	1000	05/13/16 06:44 AM
Benzo[g,h,i]perylene	3400	48.4	96.8	72.6		mg/Kg-dry	1000	05/13/16 06:44 AM
Benzo[j]fluoranthene	1970	48.4	96.8	72.6	N	mg/Kg-dry	1000	05/13/16 06:44 AM
Benzo[k]fluoranthene	1980	48.4	96.8	72.6		mg/Kg-dry	1000	05/13/16 06:44 AM
Chrysene	3720	48.4	96.8	72.6		mg/Kg-dry	1000	05/13/16 06:44 AM
Dibenz[a,h]anthracene	698	48.4	96.8	72.6		mg/Kg-dry	1000	05/13/16 06:44 AM
Fluoranthene	3590	48.4	96.8	72.6		mg/Kg-dry	1000	05/13/16 06:44 AM
Fluorene	72.6	48.4	96.8	72.6	U	mg/Kg-dry	1000	05/13/16 06:44 AM
Indeno[1,2,3-cd]pyrene	2810	48.4	96.8	72.6		mg/Kg-dry	1000	05/13/16 06:44 AM
Phenanthrene	672	48.4	96.8	72.6		mg/Kg-dry	1000	05/13/16 06:44 AM
Pyrene	3450	48.4	96.8	72.6		mg/Kg-dry	1000	05/13/16 06:44 AM
IS: Acenaphthene-d10	117	0	50-200	0		%REC	1000	05/13/16 06:44 AM
IS: Chrysene-d12	88.2	0	50-200	0		%REC	1000	05/13/16 06:44 AM
IS: Naphthalene-d8	93.0	0	50-200	0		%REC	1000	05/13/16 06:44 AM
IS: Perylene-d12	92.5	0	50-200	0		%REC	1000	05/13/16 06:44 AM
IS: Phenanthrene-d10	102	0	50-200	0		%REC	1000	05/13/16 06:44 AM
Surr: 2-Fluorobiphenyl	91.0	0	46-115	0		%REC	1000	05/13/16 06:44 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	Foster Frag
Project:	Laredo SGR	**Lab ID:**	1605047-46
Project No:	04285081.0000.00044	**Collection Date:**	04/28/16 11:30 AM
Lab Order:	1605047	**Matrix:**	SOLID

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	150	0	58-133	0	S	%REC	1000	05/13/16 06:44 AM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	0.616	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: *26-May-16*

CLIENT: Arcadis
Work Order: 1605047
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160426B

Sample ID	**DCS1-74774**	Batch ID:	**74774**	TestNo:	**SW6020A**	Units:	**mg/Kg**
SampType:	**DCS**	Run ID:	**ICP-MS4_160426B**	Analysis Date:	**4/26/2016 12:28:00 PM**	Prep Date:	**4/25/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.263	0.300	0.2500	0	105	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: 1605047
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: 1605047
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: **ICP-MS4_160511C**

The QC data in batch 75019 applies to the following samples: 1605047-11A, 1605047-12A, 1605047-13A, 1605047-14A, 1605047-15A, 1605047-16A, 1605047-17A, 1605047-18A, 1605047-19A, 1605047-20A, 1605047-21A, 1605047-22A, 1605047-23A, 1605047-24A, 1605047-25A, 1605047-26A, 1605047-27A, 1605047-28A, 1605047-29A, 1605047-30A

Sample ID **MB-75019** Batch ID: **75019** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **MBLK** Run ID: **ICP-MS4_160511C** Analysis Date: **5/11/2016 7:19:00 PM** Prep Date: **5/10/2016**

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		89.8	30	120			

Sample ID **LCS-75019** Batch ID: **75019** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **LCS** Run ID: **ICP-MS4_160511C** Analysis Date: **5/11/2016 7:21:00 PM** Prep Date: **5/10/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	51.1	0.300	50.00	0	102	84	118			
IS: Bismuth	50.0		200.0		86.4	30	120			

Sample ID **LCSD-75019** Batch ID: **75019** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **LCSD** Run ID: **ICP-MS4_160511C** Analysis Date: **5/11/2016 7:23:00 PM** Prep Date: **5/10/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	51.3	0.300	50.00	0	103	84	118	0.509	20	
IS: Bismuth	50.0		200.0		88.5	30	120	0	0	

Sample ID **1605047-24A SD** Batch ID: **75019** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **SD** Run ID: **ICP-MS4_160511C** Analysis Date: **5/11/2016 7:29:00 PM** Prep Date: **5/10/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	7.89	1.33	0	7.876				0.140	10	
IS: Bismuth	221		177.0		93.0	30	120	0	0	

Sample ID **1605047-24A PDS** Batch ID: **75019** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **PDS** Run ID: **ICP-MS4_160511C** Analysis Date: **5/11/2016 7:49:00 PM** Prep Date: **5/10/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	51.8	0.265	44.25	7.876	99.2	80	120			
IS: Bismuth	44.2		885.0		87.5	30	120			

Sample ID **1605047-24A MS** Batch ID: **75019** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **MS** Run ID: **ICP-MS4_160511C** Analysis Date: **5/11/2016 7:51:00 PM** Prep Date: **5/10/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	53.7	0.278	46.30	7.876	99.1	84	118			
IS: Bismuth	46.3		185.2		87.9	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: 1605047
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: **ICP-MS4_160511C**

Sample ID	**1605047-24A MSD**	Batch ID:	**75019**	TestNo:	**SW6020A**	Units:	**mg/Kg-dry**
SampType:	**MSD**	Run ID:	**ICP-MS4_160511C**	Analysis Date:	**5/11/2016 7:53:00 PM**	Prep Date:	**5/10/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	53.3	0.273	45.45	7.876	99.9	84	118	0.865	20	
IS: Bismuth	45.5		181.8		88.1	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: 1605047
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: **ICP-MS4_160511C**

The QC data in batch 75056 applies to the following samples: 1605047-33A, 1605047-34A, 1605047-35A, 1605047-36A, 1605047-37A, 1605047-39A, 1605047-42A, 1605047-45A, 1605047-46A

Sample ID **MB-75056** Batch ID: **75056** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **MBLK** Run ID: **ICP-MS4_160511C** Analysis Date: **5/11/2016 6:08:00 PM** Prep Date: **5/10/2016**

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		99.7	30	120			

Sample ID **LCS-75056** Batch ID: **75056** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **LCS** Run ID: **ICP-MS4_160511C** Analysis Date: **5/11/2016 6:10:00 PM** Prep Date: **5/10/2016**

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			
IS: Bismuth	50.0		200.0		96.8	30	120			

Sample ID **LCSD-75056** Batch ID: **75056** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **LCSD** Run ID: **ICP-MS4_160511C** Analysis Date: **5/11/2016 6:12:00 PM** Prep Date: **5/10/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	50.2	0.300	50.00	0	100	84	118	4.23	20	
IS: Bismuth	50.0		200.0		95.2	30	120	0	0	

Sample ID **1605071-09A SD** Batch ID: **75056** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **SD** Run ID: **ICP-MS4_160511C** Analysis Date: **5/11/2016 6:18:00 PM** Prep Date: **5/10/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	6.65	1.44	0	6.808				2.39	10	
IS: Bismuth	240		192.3		97.1	30	120	0	0	

Sample ID **1605071-09A PDS** Batch ID: **75056** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **PDS** Run ID: **ICP-MS4_160511C** Analysis Date: **5/11/2016 6:37:00 PM** Prep Date: **5/10/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	54.4	0.288	48.08	6.808	99.0	80	120			
IS: Bismuth	48.1		961.5		89.4	30	120			

Sample ID **1605071-09A MS** Batch ID: **75056** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **MS** Run ID: **ICP-MS4_160511C** Analysis Date: **5/11/2016 6:39:00 PM** Prep Date: **5/10/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	53.8	0.288	48.08	6.808	97.7	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: 1605047
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: **ICP-MS4_160511C**

Sample ID	**1605071-09A MSD**	Batch ID:	**75056**	TestNo:	**SW6020A**	Units:	**mg/Kg-dry**
SampType:	**MSD**	Run ID:	**ICP-MS4_160511C**	Analysis Date:	**5/11/2016 6:41:00 PM**	Prep Date:	**5/10/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	53.7	0.288	48.08	6.808	97.6	84	118	0.116	20	
IS: Bismuth	48.1		192.3		89.4	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: 1605047
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: **ICP-MS4_160511C**

Sample ID	**ICV2-160511**	Batch ID:	**R85761**	TestNo:	**SW6020A**	Units:	**mg/L**
SampType:	**ICV**	Run ID:	**ICP-MS4_160511C**	Analysis Date:	**5/11/2016 5:55:00 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		95.8	30	120			

Sample ID	**ILCVL2-160511**	Batch ID:	**R85761**	TestNo:	**SW6020A**	Units:	**mg/L**
SampType:	**LCVL**	Run ID:	**ICP-MS4_160511C**	Analysis Date:	**5/11/2016 6:00:00 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		97.1	30	120			

Sample ID	**CCV1-160511**	Batch ID:	**R85761**	TestNo:	**SW6020A**	Units:	**mg/L**
SampType:	**CCV**	Run ID:	**ICP-MS4_160511C**	Analysis Date:	**5/11/2016 6:43:00 PM**	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.202	0.00100	0.200	0	101	90	110			
IS: Bismuth	0.200		0.200		93.6	30	120			

Sample ID	**LCVL1-160511**	Batch ID:	**R85761**	TestNo:	**SW6020A**	Units:	**mg/L**
SampType:	**LCVL**	Run ID:	**ICP-MS4_160511C**	Analysis Date:	**5/11/2016 6:47:00 PM**	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		96.5	30	120			

Sample ID	**CCV2-160511**	Batch ID:	**R85761**	TestNo:	**SW6020A**	Units:	**mg/L**
SampType:	**CCV**	Run ID:	**ICP-MS4_160511C**	Analysis Date:	**5/11/2016 7:11:00 PM**	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.198	0.00100	0.200	0	99.1	90	110			
IS: Bismuth	0.200		0.200		88.9	30	120			

Sample ID	**LCVL2-160511**	Batch ID:	**R85761**	TestNo:	**SW6020A**	Units:	**mg/L**
SampType:	**LCVL**	Run ID:	**ICP-MS4_160511C**	Analysis Date:	**5/11/2016 7:15:00 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		88.8	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: 1605047
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: **ICP-MS4_160511C**

Sample ID	**CCV3-160511**	Batch ID:	**R85761**	TestNo:	**SW6020A**	Units:	**mg/L**
SampType:	**CCV**	Run ID:	**ICP-MS4_160511C**	Analysis Date:	**5/11/2016 7:55:00 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		90.6	30	120			

Sample ID	**LCVL3-160511**	Batch ID:	**R85761**	TestNo:	**SW6020A**	Units:	**mg/L**
SampType:	**LCVL**	Run ID:	**ICP-MS4_160511C**	Analysis Date:	**5/11/2016 7:59:00 PM**	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00105	0.00100	0.00100	0	105	80	120			
IS: Bismuth	0.200		0.200		89.4	30	120			

Sample ID	**CCV4-160511**	Batch ID:	**R85761**	TestNo:	**SW6020A**	Units:	**mg/L**
SampType:	**CCV**	Run ID:	**ICP-MS4_160511C**	Analysis Date:	**5/11/2016 8:23:00 PM**	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.193	0.00100	0.200	0	96.7	90	110			
IS: Bismuth	0.200		0.200		85.3	30	120			

Sample ID	**LCVL4-160511**	Batch ID:	**R85761**	TestNo:	**SW6020A**	Units:	**mg/L**
SampType:	**LCVL**	Run ID:	**ICP-MS4_160511C**	Analysis Date:	**5/11/2016 8:27:00 PM**	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.000915	0.00100	0.00100	0	91.5	80	120			
IS: Bismuth	0.200		0.200		86.7	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: 1605047
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160516B

The QC data in batch 75009 applies to the following samples: 1605047-01A, 1605047-02A, 1605047-03A, 1605047-04A, 1605047-05A, 1605047-06A, 1605047-07A, 1605047-08A, 1605047-09A, 1605047-10A

Sample ID **MB-75009** Batch ID: **75009** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **MBLK** Run ID: **ICP-MS4_160516B** Analysis Date: **5/16/2016 2:32:00 PM** Prep Date: **5/9/2016**

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		97.9	30	120			

Sample ID **LCS-75009** Batch ID: **75009** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **LCS** Run ID: **ICP-MS4_160516B** Analysis Date: **5/16/2016 2:34:00 PM** Prep Date: **5/9/2016**

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			
IS: Bismuth	50.0		200.0		94.5	30	120			

Sample ID **LCSD-75009** Batch ID: **75009** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **LCSD** Run ID: **ICP-MS4_160516B** Analysis Date: **5/16/2016 2:36:00 PM** Prep Date: **5/9/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	51.1	0.300	50.00	0	102	84	118	3.03	20	
IS: Bismuth	50.0		200.0		93.2	30	120	0	0	

Sample ID **1605047-03A SD** Batch ID: **75009** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **SD** Run ID: **ICP-MS4_160516B** Analysis Date: **5/16/2016 2:42:00 PM** Prep Date: **5/9/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	5.12	1.33	0	5.194				1.49	10	
IS: Bismuth	221		177.0		96.4	30	120	0	0	

Sample ID **1605047-03A PDS** Batch ID: **75009** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **PDS** Run ID: **ICP-MS4_160516B** Analysis Date: **5/16/2016 3:02:00 PM** Prep Date: **5/9/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	50.5	0.265	44.25	5.194	102	80	120			
IS: Bismuth	44.2		885.0		89.5	30	120			

Sample ID **1605047-03A MS** Batch ID: **75009** TestNo: **SW6020A** Units: **mg/Kg-dry**
SampType: **MS** Run ID: **ICP-MS4_160516B** Analysis Date: **5/16/2016 3:04:00 PM** Prep Date: **5/9/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	47.5	0.254	42.37	5.194	99.9	84	118			
IS: Bismuth	42.4		169.5		90.5	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: 1605047
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160516B

Sample ID	**1605047-03A MSD**	Batch ID:	**75009**	TestNo:	**SW6020A**	Units:	**mg/Kg-dry**
SampType:	**MSD**	Run ID:	**ICP-MS4_160516B**	Analysis Date:	**5/16/2016 3:06:00 PM**	Prep Date:	**5/9/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	47.7	0.250	41.67	5.194	102	84	118	0.406	20	
IS: Bismuth	41.7		166.7		90.7	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: 1605047
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	**CCV2-160516**	Batch ID:	**R85839**	TestNo:	**SW6020A**	Units:	**mg/L**
SampType:	**CCV**	Run ID:	**ICP-MS4_160516B**	Analysis Date:	**5/16/2016 2:20:00 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		94.6	30	120			

Sample ID	**LCVL2-160516**	Batch ID:	**R85839**	TestNo:	**SW6020A**	Units:	**mg/L**
SampType:	**LCVL**	Run ID:	**ICP-MS4_160516B**	Analysis Date:	**5/16/2016 2:25:00 PM**	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.000937	0.00100	0.00100	0	93.7	80	120			
IS: Bismuth	0.200		0.200		100	30	120			

Sample ID	**CCV3-160516**	Batch ID:	**R85839**	TestNo:	**SW6020A**	Units:	**mg/L**
SampType:	**CCV**	Run ID:	**ICP-MS4_160516B**	Analysis Date:	**5/16/2016 3:08:00 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		94.5	30	120			

Sample ID	**LCVL3-160516**	Batch ID:	**R85839**	TestNo:	**SW6020A**	Units:	**mg/L**
SampType:	**LCVL**	Run ID:	**ICP-MS4_160516B**	Analysis Date:	**5/16/2016 3:12:00 PM**	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.000994	0.00100	0.00100	0	99.4	80	120			
IS: Bismuth	0.200		0.200		93.0	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: 1605047
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160516B

Sample ID	**CCV4-160516**	Batch ID:	**R85839**	TestNo:	**SW6020A**	Units:	**mg/L**
SampType:	**CCV**	Run ID:	**ICP-MS4_160516B**	Analysis Date:	**5/16/2016 3:36:00 PM**	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.203	0.00100	0.200	0	102	90	110			
IS: Bismuth	0.200		0.200		91.5	30	120			

Sample ID	**LCVL4-160516**	Batch ID:	**R85839**	TestNo:	**SW6020A**	Units:	**mg/L**
SampType:	**LCVL**	Run ID:	**ICP-MS4_160516B**	Analysis Date:	**5/16/2016 3:41:00 PM**	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.000968	0.00100	0.00100	0	96.8	80	120			
IS: Bismuth	0.200		0.200		94.1	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: 1605047
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: **ICP-MS4_160520C**

The QC data in batch 75180 applies to the following samples: 1605047-31A, 1605047-32A, 1605047-38A

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: 1605047
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: 1605047
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: 1605047
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: 1605047
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: **GCMS6_160509B**

The QC data in batch 74985 applies to the following samples: 1605047-31B, 1605047-32B, 1605047-38B

Sample ID **LCS-74985** Batch ID: **74985** TestNo: **SW8270D-LL** Units: **mg/L**
SampType: **LCS** Run ID: **GCMS6_160509B** Analysis Date: **5/9/2016 5:06:00 PM** Prep Date: **5/6/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.00312	0.0000500	0.00400	0	78.1	48	114			
Acenaphthylene	0.00338	0.0000500	0.00400	0	84.5	35	121			
Anthracene	0.00379	0.0000500	0.00400	0	94.7	53	119			
Benzo[a]anthracene	0.00443	0.0000500	0.00400	0	111	59	120			
Benzo[a]pyrene	0.00428	0.0000500	0.00400	0	107	53	120			
Benzo[b]fluoranthene	0.00437	0.0000500	0.00400	0	109	53	126			
Benzo[e]pyrene	0.00421	0.0000500	0.00400	0	105	40	140			
Benzo[g,h,i]perylene	0.00409	0.0000500	0.00400	0	102	44	128			
Benzo[j]fluoranthene	0.00420	0.0000500	0.00400	0	105	45	124			N
Benzo[k]fluoranthene	0.00439	0.0000500	0.00400	0	110	54	125			
Chrysene	0.00426	0.0000500	0.00400	0	107	57	120			
Dibenz[a,h]anthracene	0.00413	0.0000500	0.00400	0	103	44	131			
Fluoranthene	0.00437	0.0000500	0.00400	0	109	58	120			
Fluorene	0.00373	0.0000500	0.00400	0	93.3	50	118			
Indeno[1,2,3-cd]pyrene	0.00398	0.0000500	0.00400	0	99.6	48	130			
Phenanthrene	0.00373	0.0000500	0.00400	0	93.3	53	115			
Pyrene	0.00411	0.0000500	0.00400	0	103	53	121			
IS: Acenaphthene-d10	0.00800		0.00800		74.1	50	200			
IS: Chrysene-d12	0.00800		0.00800		90.4	50	200			
IS: Naphthalene-d8	0.00800		0.00800		122	50	200			
IS: Perylene-d12	0.00800		0.00800		88.7	50	200			
IS: Phenanthrene-d10	0.00800		0.00800		90.5	50	200			
Surr: 2-Fluorobiphenyl	4.59		8.000		57.4	53	106			
Surr: 4-Terphenyl-d14	5.05		8.000		63.1	58	132			

Sample ID **DCS-74985** Batch ID: **74985** TestNo: **SW8270D-LL** Units: **mg/L**
SampType: **DCS** Run ID: **GCMS6_160509B** Analysis Date: **5/9/2016 7:07:00 PM** Prep Date: **5/6/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.0000380	0.0000500	0.0000400	0	95.0	20	170			
Acenaphthylene	0.0000400	0.0000500	0.0000400	0	100	20	170			
Anthracene	0.0000402	0.0000500	0.0000400	0	100	20	170			
Benzo[a]anthracene	0.0000413	0.0000500	0.0000400	0	103	20	170			
Benzo[a]pyrene	0.0000380	0.0000500	0.0000400	0	95.0	20	170			
Benzo[b]fluoranthene	0.0000400	0.0000500	0.0000400	0	100	20	170			
Benzo[e]pyrene	0.0000386	0.0000500	0.0000400	0	96.6	20	170			
Benzo[g,h,i]perylene	0.0000354	0.0000500	0.0000400	0	88.5	20	170			
Benzo[j]fluoranthene	0.0000389	0.0000500	0.0000400	0	97.2	20	170			N
Benzo[k]fluoranthene	0.0000393	0.0000500	0.0000400	0	98.3	20	170			
Chrysene	0.0000398	0.0000500	0.0000400	0	99.5	20	170			

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: 1605047
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: **GCMS6_160509B**

Sample ID **DCS-74985**	Batch ID: **74985**	TestNo: **SW8270D-LL**	Units: **mg/L**
SampType: **DCS**	Run ID: **GCMS6_160509B**	Analysis Date: **5/9/2016 7:07:00 PM**	Prep Date: **5/6/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Dibenz[a,h]anthracene	0.0000333	0.0000500	0.0000400	0	83.2	20	170			
Fluoranthene	0.0000453	0.0000500	0.0000400	0	113	20	170			
Fluorene	0.0000429	0.0000500	0.0000400	0	107	20	170			
Indeno[1,2,3-cd]pyrene	0.0000336	0.0000500	0.0000400	0	84.1	20	170			
Phenanthrene	0.0000397	0.0000500	0.0000400	0	99.2	20	170			
Pyrene	0.0000403	0.0000500	0.0000400	0	101	20	170			

Sample ID **MB-74985**	Batch ID: **74985**	TestNo: **SW8270D-LL**	Units: **mg/L**
SampType: **MBLK**	Run ID: **GCMS6_160509B**	Analysis Date: **5/9/2016 8:28:00 PM**	Prep Date: **5/6/2016**

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
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		76.5	50	200			
IS: Chrysene-d12	0.00800		0.00800		90.7	50	200			
IS: Naphthalene-d8	0.00800		0.00800		119	50	200			
IS: Perylene-d12	0.00800		0.00800		89.2	50	200			
IS: Phenanthrene-d10	0.00800		0.00800		88.4	50	200			
Surr: 2-Fluorobiphenyl	5.34		8.000		66.8	53	106			
Surr: 4-Terphenyl-d14	5.38		8.000		67.3	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: 1605047
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: **GCMS6_160509B**

Sample ID **ICV-160509** Batch ID: **R85694** TestNo: **SW8270D-LL** Units: **mg/L**
SampType: **ICV** Run ID: **GCMS6_160509B** Analysis Date: **5/9/2016 4:26:00 PM** Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.95	0.0000500	2.00	0	97.3	80	120			
Acenaphthylene	2.07	0.0000500	2.00	0	103	80	120			
Anthracene	1.90	0.0000500	2.00	0	94.8	80	120			
Benzo[a]anthracene	1.98	0.0000500	2.00	0	98.9	80	120			
Benzo[a]pyrene	1.96	0.0000500	2.00	0	98.2	80	120			
Benzo[b]fluoranthene	2.01	0.0000500	2.00	0	101	80	120			
Benzo[e]pyrene	1.94	0.0000500	2.00	0	96.9	80	120			
Benzo[g,h,i]perylene	1.85	0.0000500	2.00	0	92.7	80	120			
Benzo[j]fluoranthene	1.97	0.0000500	2.00	0	98.4	80	120			N
Benzo[k]fluoranthene	1.98	0.0000500	2.00	0	99.1	80	120			
Chrysene	1.90	0.0000500	2.00	0	94.8	80	120			
Dibenz[a,h]anthracene	1.85	0.0000500	2.00	0	92.6	80	120			
Fluoranthene	1.99	0.0000500	2.00	0	99.3	80	120			
Fluorene	1.99	0.0000500	2.00	0	99.3	80	120			
Indeno[1,2,3-cd]pyrene	1.82	0.0000500	2.00	0	90.8	80	120			
Phenanthrene	1.88	0.0000500	2.00	0	94.2	80	120			
Pyrene	1.94	0.0000500	2.00	0	97.0	80	120			
IS: Acenaphthene-d10	4.00		4.00		94.2	50	200			
IS: Chrysene-d12	4.00		4.00		98.8	50	200			
IS: Naphthalene-d8	4.00		4.00		138	50	200			
IS: Perylene-d12	4.00		4.00		94.1	50	200			
IS: Phenanthrene-d10	4.00		4.00		96.3	50	200			
Surr: 2-Fluorobiphenyl	2020		2000		101	65	120			
Surr: 4-Terphenyl-d14	1880		2000		94.1	65	120			

Sample ID **CCV1-160509** Batch ID: **R85694** TestNo: **SW8270D-LL** Units: **mg/L**
SampType: **CCV** Run ID: **GCMS6_160509B** Analysis Date: **5/10/2016 12:26:00 AM** Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.01	0.0000500	1.00	0	101	50	150			
Acenaphthylene	1.08	0.0000500	1.00	0	108	50	150			
Anthracene	1.03	0.0000500	1.00	0	103	50	150			
Benzo[a]anthracene	0.999	0.0000500	1.00	0	99.9	50	150			
Benzo[a]pyrene	0.980	0.0000500	1.00	0	98.0	50	150			
Benzo[b]fluoranthene	0.978	0.0000500	1.00	0	97.8	50	150			
Benzo[e]pyrene	0.966	0.0000500	1.00	0	96.6	50	150			
Benzo[g,h,i]perylene	0.921	0.0000500	1.00	0	92.1	50	150			
Benzo[j]fluoranthene	0.979	0.0000500	1.00	0	97.9	50	150			N
Benzo[k]fluoranthene	1.00	0.0000500	1.00	0	100	50	150			
Chrysene	0.957	0.0000500	1.00	0	95.7	50	150			
Dibenz[a,h]anthracene	0.916	0.0000500	1.00	0	91.6	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: 1605047
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: **GCMS6_160509B**

Sample ID	**CCV1-160509**	Batch ID:	**R85694**	TestNo:	**SW8270D-LL**	Units:	**mg/L**
SampType:	**CCV**	Run ID:	**GCMS6_160509B**	Analysis Date:	**5/10/2016 12:26:00 AM**	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoranthene	1.03	0.0000500	1.00	0	103	50	150			
Fluorene	1.09	0.0000500	1.00	0	109	50	150			
Indeno[1,2,3-cd]pyrene	0.905	0.0000500	1.00	0	90.5	50	150			
Phenanthrene	0.982	0.0000500	1.00	0	98.2	50	150			
Pyrene	1.00	0.0000500	1.00	0	100	50	150			
IS: Acenaphthene-d10	4.00		4.00		76.2	50	200			
IS: Chrysene-d12	4.00		4.00		88.4	50	200			
IS: Naphthalene-d8	4.00		4.00		122	50	200			
IS: Perylene-d12	4.00		4.00		87.7	50	200			
IS: Phenanthrene-d10	4.00		4.00		87.6	50	200			
Surr: 2-Fluorobiphenyl	1060		1000		106	50	150			
Surr: 4-Terphenyl-d14	961		1000		96.1	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: 1605047
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS6_160511A

The QC data in batch 75057 applies to the following samples: 1605047-26A, 1605047-27A, 1605047-28A, 1605047-29A, 1605047-30A, 1605047-33A, 1605047-34A, 1605047-35A, 1605047-36A, 1605047-37A, 1605047-39A, 1605047-42A

Sample ID **LCS-75057** Batch ID: **75057** TestNo: **SW8270D-LL** Units: **mg/Kg-dry**
SampType: **LCS** Run ID: **GCMS6_160511A** Analysis Date: **5/11/2016 9:15:00 AM** Prep Date: **5/10/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.753	0.0100	1.000	0	75.3	44	111			
Acenaphthylene	0.793	0.0100	1.000	0	79.3	39	116			
Anthracene	0.836	0.0100	1.000	0	83.6	50	114			
Benzo[a]anthracene	0.809	0.0100	1.000	0	80.9	54	122			
Benzo[a]pyrene	0.763	0.0100	1.000	0	76.3	50	125			
Benzo[b]fluoranthene	0.784	0.0100	1.000	0	78.4	53	128			
Benzo[e]pyrene	0.803	0.0100	1.000	0	80.3	43	140			
Benzo[g,h,i]perylene	0.830	0.0100	1.000	0	83.0	49	127			
Benzo[j]fluoranthene	0.806	0.0100	1.000	0	80.6	45	125			N
Benzo[k]fluoranthene	0.805	0.0100	1.000	0	80.5	56	123			
Chrysene	0.787	0.0100	1.000	0	78.7	57	118			
Dibenz[a,h]anthracene	0.836	0.0100	1.000	0	83.6	50	129			
Fluoranthene	0.884	0.0100	1.000	0	88.4	55	119			
Fluorene	0.853	0.0100	1.000	0	85.3	47	114			
Indeno[1,2,3-cd]pyrene	0.819	0.0100	1.000	0	81.9	49	130			
Phenanthrene	0.787	0.0100	1.000	0	78.7	49	113			
Pyrene	0.857	0.0100	1.000	0	85.7	55	117			
IS: Acenaphthene-d10	4.00		4.000		65.9	50	200			
IS: Chrysene-d12	4.00		4.000		88.4	50	200			
IS: Naphthalene-d8	4.00		4.000		116	50	200			
IS: Perylene-d12	4.00		4.000		91.3	50	200			
IS: Phenanthrene-d10	4.00		4.000		81.9	50	200			
Surr: 2-Fluorobiphenyl	0.786		1.000		78.6	46	115			
Surr: 4-Terphenyl-d14	0.768		1.000		76.8	58	133			

Sample ID **MB-75057** Batch ID: **75057** TestNo: **SW8270D-LL** Units: **mg/Kg-dry**
SampType: **MBLK** Run ID: **GCMS6_160511A** Analysis Date: **5/11/2016 9:55:00 AM** Prep Date: **5/10/2016**

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: 1605047
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: **GCMS6_160511A**

Sample ID **MB-75057**	Batch ID: **75057**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **MBLK**	Run ID: **GCMS6_160511A**	Analysis Date: **5/11/2016 9:55:00 AM**	Prep Date: **5/10/2016**

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		58.7	50	200			
IS: Chrysene-d12	4.00		4.000		78.1	50	200			
IS: Naphthalene-d8	4.00		4.000		108	50	200			
IS: Perylene-d12	4.00		4.000		84.1	50	200			
IS: Phenanthrene-d10	4.00		4.000		70.1	50	200			
Surr: 2-Fluorobiphenyl	0.872		1.000		87.2	46	115			
Surr: 4-Terphenyl-d14	0.829		1.000		82.9	58	133			

Sample ID **1605047-34AMS**	Batch ID: **75057**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **MS**	Run ID: **GCMS6_160511A**	Analysis Date: **5/11/2016 5:52:00 PM**	Prep Date: **5/10/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.955	0.115	1.151	0	83.0	44	111			
Acenaphthylene	0.961	0.115	1.151	0	83.5	39	116			
Anthracene	1.11	0.115	1.151	0.1304	84.7	50	114			
Benzo[a]anthracene	1.88	0.115	1.151	0.9582	79.9	54	122			
Benzo[a]pyrene	2.14	0.115	1.151	1.295	73.8	50	125			
Benzo[b]fluoranthene	2.06	0.115	1.151	1.193	75.5	53	128			
Benzo[e]pyrene	1.91	0.115	1.151	1.004	78.8	43	140			
Benzo[g,h,i]perylene	1.89	0.115	1.151	1.049	73.5	49	127			
Benzo[j]fluoranthene	1.57	0.115	1.151	0.6413	81.0	45	125			N
Benzo[k]fluoranthene	1.57	0.115	1.151	0.6203	82.6	56	123			
Chrysene	2.09	0.115	1.151	1.207	76.5	57	118			
Dibenz[a,h]anthracene	1.10	0.115	1.151	0.2200	76.2	50	129			
Fluoranthene	2.50	0.115	1.151	1.787	62.2	55	119			
Fluorene	1.03	0.115	1.151	0	89.8	47	114			
Indeno[1,2,3-cd]pyrene	1.68	0.115	1.151	0.8719	70.0	49	130			
Phenanthrene	1.48	0.115	1.151	0.6377	73.3	49	113			
Pyrene	2.29	0.115	1.151	1.529	66.4	55	117			
IS: Acenaphthene-d10	46.1		4.606		73.9	50	200			
IS: Chrysene-d12	46.1		4.606		82.6	50	200			
IS: Naphthalene-d8	46.1		4.606		120	50	200			
IS: Perylene-d12	46.1		4.606		84.6	50	200			
IS: Phenanthrene-d10	46.1		4.606		83.8	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: 1605047
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: **GCMS6_160511A**

Sample ID **1605047-34AMS**	Batch ID: **75057**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **MS**	Run ID: **GCMS6_160511A**	Analysis Date: **5/11/2016 5:52:00 PM**	Prep Date: **5/10/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorobiphenyl	0.972		1.151		84.4	46	115			
Surr: 4-Terphenyl-d14	0.846		1.151		73.5	58	133			

Sample ID **1605047-34AMSD**	Batch ID: **75057**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **MSD**	Run ID: **GCMS6_160511A**	Analysis Date: **5/11/2016 6:32:00 PM**	Prep Date: **5/10/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.23	0.113	1.129	0	109	44	111	25.1	20	R
Acenaphthylene	0.989	0.113	1.129	0	87.6	39	116	2.84	20	
Anthracene	1.49	0.113	1.129	0.1304	121	50	114	29.7	20	SR
Benzo[a]anthracene	6.67	0.113	1.129	0.9582	506	54	122	112	20	SR
Benzo[a]pyrene	7.06	0.113	1.129	1.295	511	50	125	107	20	SR
Benzo[b]fluoranthene	6.46	0.113	1.129	1.193	466	53	128	103	20	SR
Benzo[e]pyrene	5.30	0.113	1.129	1.004	381	43	140	94.0	20	SR
Benzo[g,h,i]perylene	4.62	0.113	1.129	1.049	316	49	127	83.7	20	SR
Benzo[j]fluoranthene	4.14	0.113	1.129	0.6413	310	45	125	89.8	20	SRN
Benzo[k]fluoranthene	4.03	0.113	1.129	0.6203	302	56	123	87.7	20	SR
Chrysene	7.58	0.113	1.129	1.207	565	57	118	114	20	SR
Dibenz[a,h]anthracene	1.86	0.113	1.129	0.2200	146	50	129	51.8	20	SR
Fluoranthene	9.80	0.113	1.129	1.787	710	55	119	119	20	SR
Fluorene	1.15	0.113	1.129	0	102	47	114	10.4	20	
Indeno[1,2,3-cd]pyrene	4.18	0.113	1.129	0.8719	293	49	130	85.5	20	SR
Phenanthrene	3.34	0.113	1.129	0.6377	240	49	113	77.2	20	SR
Pyrene	8.78	0.113	1.129	1.529	643	55	117	117	20	SR
IS: Acenaphthene-d10	45.1		4.514		69.8	50	200	0	0	
IS: Chrysene-d12	45.1		4.514		82.0	50	200	0	0	
IS: Naphthalene-d8	45.1		4.514		115	50	200	0	0	
IS: Perylene-d12	45.1		4.514		84.6	50	200	0	0	
IS: Phenanthrene-d10	45.1		4.514		81.3	50	200	0	0	
Surr: 2-Fluorobiphenyl	0.993		1.129		88.0	46	115	0	0	
Surr: 4-Terphenyl-d14	0.893		1.129		79.1	58	133	0	0	

Sample ID **SBLK-160511**	Batch ID: **75057**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **SBLK**	Run ID: **GCMS6_160511A**	Analysis Date: **5/11/2016 8:28:00 PM**	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: 1605047
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: **GCMS6_160511A**

Sample ID	**SBLK-160511**	Batch ID:	**75057**	TestNo:	**SW8270D-LL**	Units:	**mg/Kg-dry**
SampType:	**SBLK**	Run ID:	**GCMS6_160511A**	Analysis Date:	**5/11/2016 8:28:00 PM**	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	0.000640		0							
Surr: 4-Terphenyl-d14	0.000820		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: 1605047
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: **GCMS6_160511A**

Sample ID **ICV-160511** Batch ID: **R85767** TestNo: **SW8270D-LL** Units: **mg/Kg-dry**
SampType: **ICV** Run ID: **GCMS6_160511A** Analysis Date: **5/11/2016 8:35:00 AM** Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.98	0.0100	2.000	0	99.0	80	120			
Acenaphthylene	2.07	0.0100	2.000	0	104	80	120			
Anthracene	1.91	0.0100	2.000	0	95.6	80	120			
Benzo[a]anthracene	1.95	0.0100	2.000	0	97.3	80	120			
Benzo[a]pyrene	1.90	0.0100	2.000	0	95.1	80	120			
Benzo[b]fluoranthene	1.90	0.0100	2.000	0	94.9	80	120			
Benzo[e]pyrene	1.86	0.0100	2.000	0	93.0	80	120			
Benzo[g,h,i]perylene	2.00	0.0100	2.000	0	99.9	80	120			
Benzo[j]fluoranthene	1.90	0.0100	2.000	0	95.1	80	120			N
Benzo[k]fluoranthene	1.87	0.0100	2.000	0	93.5	80	120			
Chrysene	1.87	0.0100	2.000	0	93.4	80	120			
Dibenz[a,h]anthracene	2.00	0.0100	2.000	0	100	80	120			
Fluoranthene	1.96	0.0100	2.000	0	98.2	80	120			
Fluorene	2.02	0.0100	2.000	0	101	80	120			
Indeno[1,2,3-cd]pyrene	1.97	0.0100	2.000	0	98.5	80	120			
Phenanthrene	1.89	0.0100	2.000	0	94.7	80	120			
Pyrene	1.92	0.0100	2.000	0	96.2	80	120			
IS: Acenaphthene-d10	4.00		4.000		87.8	50	200			
IS: Chrysene-d12	4.00		4.000		91.2	50	200			
IS: Naphthalene-d8	4.00		4.000		109	50	200			
IS: Perylene-d12	4.00		4.000		92.9	50	200			
IS: Phenanthrene-d10	4.00		4.000		85.9	50	200			
Surr: 2-Fluorobiphenyl	2.01		2.000		100	65	120			
Surr: 4-Terphenyl-d14	1.86		2.000		93.1	65	120			

Sample ID **ICV2-160511** Batch ID: **R85767** TestNo: **SW8270D-LL** Units: **mg/Kg-dry**
SampType: **ICV** Run ID: **GCMS6_160511A** Analysis Date: **5/11/2016 7:48:00 PM** Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.96	0.0100	2.000	0	98.2	80	120			
Acenaphthylene	2.08	0.0100	2.000	0	104	80	120			
Anthracene	1.89	0.0100	2.000	0	94.6	80	120			
Benzo[a]anthracene	1.95	0.0100	2.000	0	97.5	80	120			
Benzo[a]pyrene	1.92	0.0100	2.000	0	95.9	80	120			
Benzo[b]fluoranthene	1.88	0.0100	2.000	0	93.9	80	120			
Benzo[e]pyrene	1.87	0.0100	2.000	0	93.3	80	120			
Benzo[g,h,i]perylene	1.91	0.0100	2.000	0	95.6	80	120			
Benzo[j]fluoranthene	1.90	0.0100	2.000	0	95.0	80	120			N
Benzo[k]fluoranthene	1.89	0.0100	2.000	0	94.5	80	120			
Chrysene	1.88	0.0100	2.000	0	93.9	80	120			
Dibenz[a,h]anthracene	1.95	0.0100	2.000	0	97.4	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: 1605047
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS6_160511A

Sample ID **ICV2-160511**	Batch ID: **R85767**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **ICV**	Run ID: **GCMS6_160511A**	Analysis Date: **5/11/2016 7:48:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoranthene	1.93	0.0100	2.000	0	96.3	80	120			
Fluorene	2.11	0.0100	2.000	0	106	80	120			
Indeno[1,2,3-cd]pyrene	1.91	0.0100	2.000	0	95.6	80	120			
Phenanthrene	1.90	0.0100	2.000	0	95.0	80	120			
Pyrene	1.87	0.0100	2.000	0	93.4	80	120			
IS: Acenaphthene-d10	4.00		4.000		80.1	50	200			
IS: Chrysene-d12	4.00		4.000		89.2	50	200			
IS: Naphthalene-d8	4.00		4.000		128	50	200			
IS: Perylene-d12	4.00		4.000		91.6	50	200			
IS: Phenanthrene-d10	4.00		4.000		89.8	50	200			
Surr: 2-Fluorobiphenyl	2.00		2.000		100	65	120			
Surr: 4-Terphenyl-d14	1.81		2.000		90.7	65	120			

Sample ID **CCV-160511**	Batch ID: **R85767**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **CCV**	Run ID: **GCMS6_160511A**	Analysis Date: **5/12/2016 12:27:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.00	0.0100	1.000	0	100	50	150			
Acenaphthylene	1.07	0.0100	1.000	0	107	50	150			
Anthracene	1.01	0.0100	1.000	0	101	50	150			
Benzo[a]anthracene	0.992	0.0100	1.000	0	99.2	50	150			
Benzo[a]pyrene	0.963	0.0100	1.000	0	96.3	50	150			
Benzo[b]fluoranthene	0.970	0.0100	1.000	0	97.0	50	150			
Benzo[e]pyrene	0.946	0.0100	1.000	0	94.6	50	150			
Benzo[g,h,i]perylene	0.975	0.0100	1.000	0	97.5	50	150			
Benzo[j]fluoranthene	0.969	0.0100	1.000	0	96.9	50	150			N
Benzo[k]fluoranthene	0.985	0.0100	1.000	0	98.5	50	150			
Chrysene	0.955	0.0100	1.000	0	95.5	50	150			
Dibenz[a,h]anthracene	0.985	0.0100	1.000	0	98.5	50	150			
Fluoranthene	1.06	0.0100	1.000	0	106	50	150			
Fluorene	1.01	0.0100	1.000	0	101	50	150			
Indeno[1,2,3-cd]pyrene	0.971	0.0100	1.000	0	97.1	50	150			
Phenanthrene	0.977	0.0100	1.000	0	97.7	50	150			
Pyrene	1.04	0.0100	1.000	0	104	50	150			
IS: Acenaphthene-d10	4.00		4.000		79.4	50	200			
IS: Chrysene-d12	4.00		4.000		86.4	50	200			
IS: Naphthalene-d8	4.00		4.000		121	50	200			
IS: Perylene-d12	4.00		4.000		86.3	50	200			
IS: Phenanthrene-d10	4.00		4.000		80.1	50	200			
Surr: 2-Fluorobiphenyl	1.07		1.000		107	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: 1605047
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS6_160512A

The QC data in batch 75007 applies to the following samples: 1605047-01A, 1605047-02A, 1605047-03A, 1605047-04A, 1605047-05A, 1605047-06A, 1605047-07A, 1605047-08A, 1605047-09A, 1605047-10A

Sample ID **LCS-75007** Batch ID: **75007** TestNo: **SW8270D-LL** Units: **mg/Kg-dry**
SampType: **LCS** Run ID: **GCMS6_160512A** Analysis Date: **5/12/2016 9:12:00 AM** Prep Date: **5/9/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.806	0.0100	1.000	0	80.6	44	111			
Acenaphthylene	0.851	0.0100	1.000	0	85.1	39	116			
Anthracene	0.880	0.0100	1.000	0	88.0	50	114			
Benzo[a]anthracene	0.865	0.0100	1.000	0	86.5	54	122			
Benzo[a]pyrene	0.800	0.0100	1.000	0	80.0	50	125			
Benzo[b]fluoranthene	0.837	0.0100	1.000	0	83.7	53	128			
Benzo[e]pyrene	0.848	0.0100	1.000	0	84.8	43	140			
Benzo[g,h,i]perylene	0.848	0.0100	1.000	0	84.8	49	127			
Benzo[j]fluoranthene	0.847	0.0100	1.000	0	84.7	45	125			N
Benzo[k]fluoranthene	0.849	0.0100	1.000	0	84.9	56	123			
Chrysene	0.843	0.0100	1.000	0	84.3	57	118			
Dibenz[a,h]anthracene	0.844	0.0100	1.000	0	84.4	50	129			
Fluoranthene	0.919	0.0100	1.000	0	91.9	55	119			
Fluorene	0.924	0.0100	1.000	0	92.4	47	114			
Indeno[1,2,3-cd]pyrene	0.827	0.0100	1.000	0	82.7	49	130			
Phenanthrene	0.838	0.0100	1.000	0	83.8	49	113			
Pyrene	0.888	0.0100	1.000	0	88.8	55	117			
IS: Acenaphthene-d10	4.00		4.000		55.8	50	200			
IS: Chrysene-d12	4.00		4.000		76.3	50	200			
IS: Naphthalene-d8	4.00		4.000		98.2	50	200			
IS: Perylene-d12	4.00		4.000		82.5	50	200			
IS: Phenanthrene-d10	4.00		4.000		71.0	50	200			
Surr: 2-Fluorobiphenyl	0.836		1.000		83.6	46	115			
Surr: 4-Terphenyl-d14	0.784		1.000		78.4	58	133			

Sample ID **MB-75007** Batch ID: **75007** TestNo: **SW8270D-LL** Units: **mg/Kg-dry**
SampType: **MBLK** Run ID: **GCMS6_160512A** Analysis Date: **5/12/2016 9:51:00 AM** Prep Date: **5/9/2016**

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: 1605047
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: **GCMS6_160512A**

Sample ID **MB-75007**	Batch ID: **75007**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **MBLK**	Run ID: **GCMS6_160512A**	Analysis Date: **5/12/2016 9:51:00 AM**	Prep Date: **5/9/2016**

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		63.0	50	200			
IS: Chrysene-d12	4.00		4.000		81.5	50	200			
IS: Naphthalene-d8	4.00		4.000		103	50	200			
IS: Perylene-d12	4.00		4.000		88.3	50	200			
IS: Phenanthrene-d10	4.00		4.000		76.9	50	200			
Surr: 2-Fluorobiphenyl	0.782		1.000		78.2	46	115			
Surr: 4-Terphenyl-d14	0.730		1.000		73.0	58	133			

Sample ID **1605047-03AMS**	Batch ID: **75007**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **MS**	Run ID: **GCMS6_160512A**	Analysis Date: **5/12/2016 5:49:00 PM**	Prep Date: **5/9/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.817	0.0996	0.9960	0	82.0	44	111			
Acenaphthylene	0.818	0.0996	0.9960	0	82.1	39	116			
Anthracene	0.854	0.0996	0.9960	0	85.7	50	114			
Benzo[a]anthracene	0.841	0.0996	0.9960	0	84.5	54	122			
Benzo[a]pyrene	0.832	0.0996	0.9960	0.05194	78.3	50	125			
Benzo[b]fluoranthene	0.849	0.0996	0.9960	0	85.2	53	128			
Benzo[e]pyrene	0.860	0.0996	0.9960	0	86.3	43	140			
Benzo[g,h,i]perylene	0.925	0.0996	0.9960	0	92.9	49	127			
Benzo[j]fluoranthene	0.833	0.0996	0.9960	0	83.7	45	125			N
Benzo[k]fluoranthene	0.828	0.0996	0.9960	0	83.1	56	123			
Chrysene	0.852	0.0996	0.9960	0.05104	80.4	57	118			
Dibenz[a,h]anthracene	0.849	0.0996	0.9960	0	85.2	50	129			
Fluoranthene	0.882	0.0996	0.9960	0.05990	82.6	55	119			
Fluorene	0.882	0.0996	0.9960	0	88.6	47	114			
Indeno[1,2,3-cd]pyrene	0.885	0.0996	0.9960	0	88.8	49	130			
Phenanthrene	0.872	0.0996	0.9960	0	87.5	49	113			
Pyrene	0.858	0.0996	0.9960	0.05453	80.7	55	117			
IS: Acenaphthene-d10	39.8		3.984		75.5	50	200			
IS: Chrysene-d12	39.8		3.984		81.6	50	200			
IS: Naphthalene-d8	39.8		3.984		118	50	200			
IS: Perylene-d12	39.8		3.984		83.7	50	200			
IS: Phenanthrene-d10	39.8		3.984		81.8	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: 1605047
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: **GCMS6_160512A**

Sample ID **1605047-03AMS** Batch ID: **75007** TestNo: **SW8270D-LL** Units: **mg/Kg-dry**
SampType: **MS** Run ID: **GCMS6_160512A** Analysis Date: **5/12/2016 5:49:00 PM** Prep Date: **5/9/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorobiphenyl	0.833		0.9960		83.7	46	115			
Surr: 4-Terphenyl-d14	0.715		0.9960		71.8	58	133			

Sample ID **1605047-03AMSD** Batch ID: **75007** TestNo: **SW8270D-LL** Units: **mg/Kg-dry**
SampType: **MSD** Run ID: **GCMS6_160512A** Analysis Date: **5/12/2016 6:29:00 PM** Prep Date: **5/9/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.784	0.0995	0.9950	0	78.8	44	111	4.09	20	
Acenaphthylene	0.804	0.0995	0.9950	0	80.8	39	116	1.73	20	
Anthracene	0.843	0.0995	0.9950	0	84.7	50	114	1.27	20	
Benzo[a]anthracene	0.809	0.0995	0.9950	0	81.3	54	122	3.89	20	
Benzo[a]pyrene	0.745	0.0995	0.9950	0.05194	69.7	50	125	10.9	20	
Benzo[b]fluoranthene	0.799	0.0995	0.9950	0	80.3	53	128	6.07	20	
Benzo[e]pyrene	0.815	0.0995	0.9950	0	81.9	43	140	5.37	20	
Benzo[g,h,i]perylene	0.866	0.0995	0.9950	0	87.0	49	127	6.64	20	
Benzo[j]fluoranthene	0.802	0.0995	0.9950	0	80.6	45	125	3.84	20	N
Benzo[k]fluoranthene	0.794	0.0995	0.9950	0	79.8	56	123	4.14	20	
Chrysene	0.825	0.0995	0.9950	0.05104	77.8	57	118	3.25	20	
Dibenz[a,h]anthracene	0.823	0.0995	0.9950	0	82.7	50	129	3.09	20	
Fluoranthene	0.876	0.0995	0.9950	0.05990	82.1	55	119	0.677	20	
Fluorene	0.825	0.0995	0.9950	0	82.9	47	114	6.75	20	
Indeno[1,2,3-cd]pyrene	0.829	0.0995	0.9950	0	83.3	49	130	6.54	20	
Phenanthrene	0.857	0.0995	0.9950	0	86.2	49	113	1.67	20	
Pyrene	0.858	0.0995	0.9950	0.05453	80.7	55	117	0.087	20	
IS: Acenaphthene-d10	39.8		3.980		82.4	50	200	0	0	
IS: Chrysene-d12	39.8		3.980		85.4	50	200	0	0	
IS: Naphthalene-d8	39.8		3.980		125	50	200	0	0	
IS: Perylene-d12	39.8		3.980		86.5	50	200	0	0	
IS: Phenanthrene-d10	39.8		3.980		83.6	50	200	0	0	
Surr: 2-Fluorobiphenyl	0.810		0.9950		81.4	46	115	0	0	
Surr: 4-Terphenyl-d14	0.733		0.9950		73.7	58	133	0	0	

Sample ID **SB-160512** Batch ID: **75007** TestNo: **SW8270D-LL** Units: **mg/Kg-dry**
SampType: **SBLK** Run ID: **GCMS6_160512A** Analysis Date: **5/12/2016 8:24:00 PM** 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: 1605047
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: **GCMS6_160512A**

Sample ID	**SB-160512**	Batch ID:	**75007**	TestNo:	**SW8270D-LL**	Units:	**mg/Kg-dry**
SampType:	**SBLK**	Run ID:	**GCMS6_160512A**	Analysis Date:	**5/12/2016 8:24:00 PM**	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: 1605047
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: **GCMS6_160512A**

Sample ID **ICV-160512** Batch ID: **R85792** TestNo: **SW8270D-LL** Units: **mg/Kg-dry**
SampType: **ICV** Run ID: **GCMS6_160512A** Analysis Date: **5/12/2016 8:31:00 AM** Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.97	0.0100	2.000	0	98.3	80	120			
Acenaphthylene	2.08	0.0100	2.000	0	104	80	120			
Anthracene	1.91	0.0100	2.000	0	95.7	80	120			
Benzo[a]anthracene	1.95	0.0100	2.000	0	97.4	80	120			
Benzo[a]pyrene	1.91	0.0100	2.000	0	95.6	80	120			
Benzo[b]fluoranthene	1.88	0.0100	2.000	0	93.8	80	120			
Benzo[e]pyrene	1.87	0.0100	2.000	0	93.5	80	120			
Benzo[g,h,i]perylene	1.93	0.0100	2.000	0	96.4	80	120			
Benzo[j]fluoranthene	1.89	0.0100	2.000	0	94.6	80	120			N
Benzo[k]fluoranthene	1.94	0.0100	2.000	0	97.2	80	120			
Chrysene	1.87	0.0100	2.000	0	93.3	80	120			
Dibenz[a,h]anthracene	1.95	0.0100	2.000	0	97.5	80	120			
Fluoranthene	1.92	0.0100	2.000	0	95.9	80	120			
Fluorene	2.12	0.0100	2.000	0	106	80	120			
Indeno[1,2,3-cd]pyrene	1.91	0.0100	2.000	0	95.7	80	120			
Phenanthrene	1.88	0.0100	2.000	0	94.0	80	120			
Pyrene	1.85	0.0100	2.000	0	92.6	80	120			
IS: Acenaphthene-d10	4.00		4.000		80.9	50	200			
IS: Chrysene-d12	4.00		4.000		89.1	50	200			
IS: Naphthalene-d8	4.00		4.000		133	50	200			
IS: Perylene-d12	4.00		4.000		91.0	50	200			
IS: Phenanthrene-d10	4.00		4.000		90.7	50	200			
Surr: 2-Fluorobiphenyl	2.01		2.000		101	65	120			
Surr: 4-Terphenyl-d14	1.80		2.000		90.2	65	120			

Sample ID **ICV2-160512** Batch ID: **R85792** TestNo: **SW8270D-LL** Units: **mg/Kg-dry**
SampType: **ICV** Run ID: **GCMS6_160512A** Analysis Date: **5/12/2016 7:44:00 PM** Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.98	0.0100	2.000	0	98.9	80	120			
Acenaphthylene	2.09	0.0100	2.000	0	105	80	120			
Anthracene	1.89	0.0100	2.000	0	94.3	80	120			
Benzo[a]anthracene	1.94	0.0100	2.000	0	97.1	80	120			
Benzo[a]pyrene	1.90	0.0100	2.000	0	94.9	80	120			
Benzo[b]fluoranthene	1.88	0.0100	2.000	0	94.1	80	120			
Benzo[e]pyrene	1.86	0.0100	2.000	0	93.0	80	120			
Benzo[g,h,i]perylene	1.97	0.0100	2.000	0	98.4	80	120			
Benzo[j]fluoranthene	1.91	0.0100	2.000	0	95.3	80	120			N
Benzo[k]fluoranthene	1.95	0.0100	2.000	0	97.4	80	120			
Chrysene	1.87	0.0100	2.000	0	93.4	80	120			
Dibenz[a,h]anthracene	1.99	0.0100	2.000	0	99.3	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: 1605047
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: **GCMS6_160512A**

Sample ID **ICV2-160512**	Batch ID: **R85792**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **ICV**	Run ID: **GCMS6_160512A**	Analysis Date: **5/12/2016 7:44:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoranthene	1.98	0.0100	2.000	0	99.1	80	120			
Fluorene	2.02	0.0100	2.000	0	101	80	120			
Indeno[1,2,3-cd]pyrene	1.95	0.0100	2.000	0	97.6	80	120			
Phenanthrene	1.91	0.0100	2.000	0	95.5	80	120			
Pyrene	1.93	0.0100	2.000	0	96.6	80	120			
IS: Acenaphthene-d10	4.00		4.000		86.4	50	200			
IS: Chrysene-d12	4.00		4.000		90.3	50	200			
IS: Naphthalene-d8	4.00		4.000		126	50	200			
IS: Perylene-d12	4.00		4.000		90.3	50	200			
IS: Phenanthrene-d10	4.00		4.000		88.7	50	200			
Surr: 2-Fluorobiphenyl	2.07		2.000		103	65	120			
Surr: 4-Terphenyl-d14	1.89		2.000		94.5	65	120			

Sample ID **CCV1-160512**	Batch ID: **R85792**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **CCV**	Run ID: **GCMS6_160512A**	Analysis Date: **5/13/2016 3:03:00 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	1.07	0.0100	1.000	0	107	50	150			
Anthracene	0.990	0.0100	1.000	0	99.0	50	150			
Benzo[a]anthracene	0.997	0.0100	1.000	0	99.7	50	150			
Benzo[a]pyrene	0.964	0.0100	1.000	0	96.4	50	150			
Benzo[b]fluoranthene	0.971	0.0100	1.000	0	97.1	50	150			
Benzo[e]pyrene	0.954	0.0100	1.000	0	95.4	50	150			
Benzo[g,h,i]perylene	1.02	0.0100	1.000	0	102	50	150			
Benzo[j]fluoranthene	0.973	0.0100	1.000	0	97.3	50	150			N
Benzo[k]fluoranthene	0.994	0.0100	1.000	0	99.4	50	150			
Chrysene	0.957	0.0100	1.000	0	95.7	50	150			
Dibenz[a,h]anthracene	1.00	0.0100	1.000	0	100	50	150			
Fluoranthene	1.06	0.0100	1.000	0	106	50	150			
Fluorene	1.01	0.0100	1.000	0	101	50	150			
Indeno[1,2,3-cd]pyrene	0.996	0.0100	1.000	0	99.6	50	150			
Phenanthrene	0.982	0.0100	1.000	0	98.2	50	150			
Pyrene	1.02	0.0100	1.000	0	102	50	150			
IS: Acenaphthene-d10	4.00		4.000		77.4	50	200			
IS: Chrysene-d12	4.00		4.000		83.6	50	200			
IS: Naphthalene-d8	4.00		4.000		124	50	200			
IS: Perylene-d12	4.00		4.000		82.9	50	200			
IS: Phenanthrene-d10	4.00		4.000		79.0	50	200			
Surr: 2-Fluorobiphenyl	1.08		1.000		108	50	150			
Surr: 4-Terphenyl-d14	1.00		1.000		100	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: 1605047
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: 1605047
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: **GCMS8_160512A**

The QC data in batch 75021 applies to the following samples: 1605047-11A, 1605047-12A, 1605047-13A, 1605047-14A, 1605047-15A, 1605047-16A, 1605047-17A, 1605047-18A, 1605047-19A, 1605047-20A, 1605047-21A, 1605047-22A, 1605047-23A, 1605047-24A, 1605047-25A, 1605047-45A, 1605047-46A

Sample ID **LCS-75021** Batch ID: **75021** TestNo: **SW8270D-LL** Units: **mg/Kg-dry**
SampType: **LCS** Run ID: **GCMS8_160512A** Analysis Date: **5/12/2016 2:09:00 PM** Prep Date: **5/9/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.824	0.0100	1.000	0	82.4	44	111			
Acenaphthylene	0.837	0.0100	1.000	0	83.7	39	116			
Anthracene	0.800	0.0100	1.000	0	80.0	50	114			
Benzo[a]anthracene	0.864	0.0100	1.000	0	86.4	54	122			
Benzo[a]pyrene	0.824	0.0100	1.000	0	82.4	50	125			
Benzo[b]fluoranthene	0.854	0.0100	1.000	0	85.4	53	128			
Benzo[e]pyrene	0.839	0.0100	1.000	0	83.9	43	140			
Benzo[g,h,i]perylene	0.858	0.0100	1.000	0	85.8	49	127			
Benzo[j]fluoranthene	0.905	0.0100	1.000	0	90.5	45	125			N
Benzo[k]fluoranthene	0.952	0.0100	1.000	0	95.2	56	123			
Chrysene	0.874	0.0100	1.000	0	87.4	57	118			
Dibenz[a,h]anthracene	0.865	0.0100	1.000	0	86.5	50	129			
Fluoranthene	0.921	0.0100	1.000	0	92.1	55	119			
Fluorene	0.766	0.0100	1.000	0	76.6	47	114			
Indeno[1,2,3-cd]pyrene	0.870	0.0100	1.000	0	87.0	49	130			
Phenanthrene	0.852	0.0100	1.000	0	85.2	49	113			
Pyrene	0.926	0.0100	1.000	0	92.6	55	117			
IS: Acenaphthene-d10	4.00		4.000		92.8	50	200			
IS: Chrysene-d12	4.00		4.000		98.1	50	200			
IS: Naphthalene-d8	4.00		4.000		91.4	50	200			
IS: Perylene-d12	4.00		4.000		99.8	50	200			
IS: Phenanthrene-d10	4.00		4.000		81.9	50	200			
Surr: 2-Fluorobiphenyl	0.826		1.000		82.6	46	115			
Surr: 4-Terphenyl-d14	0.750		1.000		75.0	58	133			

Sample ID **MB-75021** Batch ID: **75021** TestNo: **SW8270D-LL** Units: **mg/Kg-dry**
SampType: **MBLK** Run ID: **GCMS8_160512A** Analysis Date: **5/12/2016 2:45:00 PM** Prep Date: **5/9/2016**

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: 1605047
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS8_160512A

Sample ID **MB-75021**	Batch ID: **75021**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **MBLK**	Run ID: **GCMS8_160512A**	Analysis Date: **5/12/2016 2:45:00 PM**	Prep Date: **5/9/2016**

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		99.7	50	200			
IS: Chrysene-d12	4.00		4.000		107	50	200			
IS: Naphthalene-d8	4.00		4.000		96.3	50	200			
IS: Perylene-d12	4.00		4.000		108	50	200			
IS: Phenanthrene-d10	4.00		4.000		85.4	50	200			
Surr: 2-Fluorobiphenyl	0.781		1.000		78.1	46	115			
Surr: 4-Terphenyl-d14	0.710		1.000		71.0	58	133			

Sample ID **1605047-24AMS**	Batch ID: **75021**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **MS**	Run ID: **GCMS8_160512A**	Analysis Date: **5/13/2016**	Prep Date: **5/9/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.785	0.0998	0.9980	0	78.7	44	111			
Acenaphthylene	0.784	0.0998	0.9980	0	78.6	39	116			
Anthracene	0.779	0.0998	0.9980	0	78.1	50	114			
Benzo[a]anthracene	0.768	0.0998	0.9980	0	76.9	54	122			
Benzo[a]pyrene	0.683	0.0998	0.9980	0	68.5	50	125			
Benzo[b]fluoranthene	0.716	0.0998	0.9980	0	71.8	53	128			
Benzo[e]pyrene	0.748	0.0998	0.9980	0	75.0	43	140			
Benzo[g,h,i]perylene	0.761	0.0998	0.9980	0	76.2	49	127			
Benzo[j]fluoranthene	0.750	0.0998	0.9980	0	75.1	45	125			N
Benzo[k]fluoranthene	0.733	0.0998	0.9980	0	73.4	56	123			
Chrysene	0.810	0.0998	0.9980	0	81.2	57	118			
Dibenz[a,h]anthracene	0.716	0.0998	0.9980	0	71.8	50	129			
Fluoranthene	0.813	0.0998	0.9980	0	81.5	55	119			
Fluorene	0.795	0.0998	0.9980	0	79.7	47	114			
Indeno[1,2,3-cd]pyrene	0.741	0.0998	0.9980	0	74.2	49	130			
Phenanthrene	0.850	0.0998	0.9980	0	85.2	49	113			
Pyrene	0.797	0.0998	0.9980	0	79.9	55	117			
IS: Acenaphthene-d10	39.9		3.992		107	50	200			
IS: Chrysene-d12	39.9		3.992		92.3	50	200			
IS: Naphthalene-d8	39.9		3.992		96.2	50	200			
IS: Perylene-d12	39.9		3.992		93.8	50	200			
IS: Phenanthrene-d10	39.9		3.992		95.5	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: 1605047
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: **GCMS8_160512A**

Sample ID **1605047-24AMS**	Batch ID: **75021**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **MS**	Run ID: **GCMS8_160512A**	Analysis Date: **5/13/2016**	Prep Date: **5/9/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorobiphenyl	0.793		0.9980		79.4	46	115			
Surr: 4-Terphenyl-d14	0.739		0.9980		74.0	58	133			

Sample ID **1605047-24AMSD**	Batch ID: **75021**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **MSD**	Run ID: **GCMS8_160512A**	Analysis Date: **5/13/2016 12:36:00 AM**	Prep Date: **5/9/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.779	0.0997	0.9970	0	78.1	44	111	0.840	20	
Acenaphthylene	0.781	0.0997	0.9970	0	78.3	39	116	0.444	20	
Anthracene	0.768	0.0997	0.9970	0	77.0	50	114	1.52	20	
Benzo[a]anthracene	0.750	0.0997	0.9970	0	75.2	54	122	2.33	20	
Benzo[a]pyrene	0.669	0.0997	0.9970	0	67.1	50	125	2.11	20	
Benzo[b]fluoranthene	0.694	0.0997	0.9970	0	69.6	53	128	3.15	20	
Benzo[e]pyrene	0.732	0.0997	0.9970	0	73.4	43	140	2.20	20	
Benzo[g,h,i]perylene	0.744	0.0997	0.9970	0	74.6	49	127	2.22	20	
Benzo[j]fluoranthene	0.746	0.0997	0.9970	0	74.9	45	125	0.406	20	N
Benzo[k]fluoranthene	0.719	0.0997	0.9970	0	72.1	56	123	1.87	20	
Chrysene	0.794	0.0997	0.9970	0	79.6	57	118	2.10	20	
Dibenz[a,h]anthracene	0.695	0.0997	0.9970	0	69.7	50	129	3.05	20	
Fluoranthene	0.791	0.0997	0.9970	0	79.4	55	119	2.74	20	
Fluorene	0.789	0.0997	0.9970	0	79.1	47	114	0.818	20	
Indeno[1,2,3-cd]pyrene	0.730	0.0997	0.9970	0	73.2	49	130	1.52	20	
Phenanthrene	0.846	0.0997	0.9970	0	84.8	49	113	0.547	20	
Pyrene	0.781	0.0997	0.9970	0	78.4	55	117	2.00	20	
IS: Acenaphthene-d10	39.9		3.988		114	50	200	0	0	
IS: Chrysene-d12	39.9		3.988		96.8	50	200	0	0	
IS: Naphthalene-d8	39.9		3.988		99.2	50	200	0	0	
IS: Perylene-d12	39.9		3.988		98.6	50	200	0	0	
IS: Phenanthrene-d10	39.9		3.988		101	50	200	0	0	
Surr: 2-Fluorobiphenyl	0.810		0.9970		81.2	46	115	0	0	
Surr: 4-Terphenyl-d14	0.728		0.9970		73.0	58	133	0	0	

Sample ID **SB-160512**	Batch ID: **75021**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **SBLK**	Run ID: **GCMS8_160512A**	Analysis Date: **5/13/2016 3:03:00 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: 1605047
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: **GCMS8_160512A**

Sample ID	**SB-160512**	Batch ID:	**75021**	TestNo:	**SW8270D-LL**	Units:	**mg/Kg-dry**
SampType:	**SBLK**	Run ID:	**GCMS8_160512A**	Analysis Date:	**5/13/2016 3:03:00 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: 1605047
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: **GCMS8_160512A**

Sample ID **ICV-160512** Batch ID: **R85793** TestNo: **SW8270D-LL** Units: **mg/Kg-dry**
SampType: **ICV** Run ID: **GCMS8_160512A** Analysis Date: **5/12/2016 12:53:00 PM** Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	2.02	0.0100	2.000	0	101	80	120			
Acenaphthylene	2.03	0.0100	2.000	0	102	80	120			
Anthracene	1.86	0.0100	2.000	0	93.2	80	120			
Benzo[a]anthracene	1.97	0.0100	2.000	0	98.7	80	120			
Benzo[a]pyrene	2.00	0.0100	2.000	0	99.8	80	120			
Benzo[b]fluoranthene	2.01	0.0100	2.000	0	100	80	120			
Benzo[e]pyrene	1.97	0.0100	2.000	0	98.5	80	120			
Benzo[g,h,i]perylene	2.00	0.0100	2.000	0	99.8	80	120			
Benzo[j]fluoranthene	2.11	0.0100	2.000	0	106	80	120			N
Benzo[k]fluoranthene	2.15	0.0100	2.000	0	107	80	120			
Chrysene	1.97	0.0100	2.000	0	98.7	80	120			
Dibenz[a,h]anthracene	2.06	0.0100	2.000	0	103	80	120			
Fluoranthene	1.81	0.0100	2.000	0	90.4	80	120			
Fluorene	2.03	0.0100	2.000	0	102	80	120			
Indeno[1,2,3-cd]pyrene	2.04	0.0100	2.000	0	102	80	120			
Phenanthrene	1.95	0.0100	2.000	0	97.5	80	120			
Pyrene	1.81	0.0100	2.000	0	90.3	80	120			
IS: Acenaphthene-d10	4.00		4.000		99.6	50	200			
IS: Chrysene-d12	4.00		4.000		94.1	50	200			
IS: Naphthalene-d8	4.00		4.000		94.6	50	200			
IS: Perylene-d12	4.00		4.000		95.3	50	200			
IS: Phenanthrene-d10	4.00		4.000		98.1	50	200			
Surr: 2-Fluorobiphenyl	2.20		2.000		110	65	120			
Surr: 4-Terphenyl-d14	1.93		2.000		96.3	65	120			

Sample ID **ICV2-160512** Batch ID: **R85793** TestNo: **SW8270D-LL** Units: **mg/Kg-dry**
SampType: **ICV** Run ID: **GCMS8_160512A** Analysis Date: **5/13/2016 1:50:00 AM** Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	2.02	0.0100	2.000	0	101	80	120			
Acenaphthylene	2.04	0.0100	2.000	0	102	80	120			
Anthracene	1.85	0.0100	2.000	0	92.4	80	120			
Benzo[a]anthracene	1.96	0.0100	2.000	0	97.9	80	120			
Benzo[a]pyrene	1.99	0.0100	2.000	0	99.7	80	120			
Benzo[b]fluoranthene	1.96	0.0100	2.000	0	97.9	80	120			
Benzo[e]pyrene	1.97	0.0100	2.000	0	98.4	80	120			
Benzo[g,h,i]perylene	2.03	0.0100	2.000	0	102	80	120			
Benzo[j]fluoranthene	2.12	0.0100	2.000	0	106	80	120			N
Benzo[k]fluoranthene	2.21	0.0100	2.000	0	110	80	120			
Chrysene	1.97	0.0100	2.000	0	98.3	80	120			
Dibenz[a,h]anthracene	2.07	0.0100	2.000	0	104	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: 1605047
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS8_160512A

Sample ID **ICV2-160512**	Batch ID: **R85793**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **ICV**	Run ID: **GCMS8_160512A**	Analysis Date: **5/13/2016 1:50:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoranthene	1.76	0.0100	2.000	0	87.8	80	120			
Fluorene	2.05	0.0100	2.000	0	102	80	120			
Indeno[1,2,3-cd]pyrene	2.06	0.0100	2.000	0	103	80	120			
Phenanthrene	1.95	0.0100	2.000	0	97.6	80	120			
Pyrene	1.74	0.0100	2.000	0	87.0	80	120			
IS: Acenaphthene-d10	4.00		4.000		96.5	50	200			
IS: Chrysene-d12	4.00		4.000		87.3	50	200			
IS: Naphthalene-d8	4.00		4.000		89.2	50	200			
IS: Perylene-d12	4.00		4.000		88.1	50	200			
IS: Phenanthrene-d10	4.00		4.000		95.0	50	200			
Surr: 2-Fluorobiphenyl	2.22		2.000		111	65	120			
Surr: 4-Terphenyl-d14	1.93		2.000		96.7	65	120			

Sample ID **CCV1-150512**	Batch ID: **R85793**	TestNo: **SW8270D-LL**	Units: **mg/Kg-dry**
SampType: **CCV**	Run ID: **GCMS8_160512A**	Analysis Date: **5/13/2016 7:21:00 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	1.03	0.0100	1.000	0	103	50	150			
Anthracene	0.962	0.0100	1.000	0	96.2	50	150			
Benzo[a]anthracene	0.990	0.0100	1.000	0	99.0	50	150			
Benzo[a]pyrene	0.988	0.0100	1.000	0	98.8	50	150			
Benzo[b]fluoranthene	0.976	0.0100	1.000	0	97.6	50	150			
Benzo[e]pyrene	0.976	0.0100	1.000	0	97.6	50	150			
Benzo[g,h,i]perylene	1.03	0.0100	1.000	0	103	50	150			
Benzo[j]fluoranthene	1.04	0.0100	1.000	0	104	50	150			N
Benzo[k]fluoranthene	1.09	0.0100	1.000	0	109	50	150			
Chrysene	0.984	0.0100	1.000	0	98.4	50	150			
Dibenz[a,h]anthracene	1.06	0.0100	1.000	0	106	50	150			
Fluoranthene	0.874	0.0100	1.000	0	87.4	50	150			
Fluorene	1.05	0.0100	1.000	0	105	50	150			
Indeno[1,2,3-cd]pyrene	1.05	0.0100	1.000	0	105	50	150			
Phenanthrene	0.998	0.0100	1.000	0	99.8	50	150			
Pyrene	0.856	0.0100	1.000	0	85.6	50	150			
IS: Acenaphthene-d10	4.00		4.000		107	50	200			
IS: Chrysene-d12	4.00		4.000		87.5	50	200			
IS: Naphthalene-d8	4.00		4.000		90.9	50	200			
IS: Perylene-d12	4.00		4.000		90.5	50	200			
IS: Phenanthrene-d10	4.00		4.000		100	50	200			
Surr: 2-Fluorobiphenyl	1.18		1.000		118	50	150			
Surr: 4-Terphenyl-d14	1.00		1.000		100	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: 1605047
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: PMOIST_160509A

The QC data in batch 74986 applies to the following samples: 1605047-33A, 1605047-34A, 1605047-35A

Sample ID	**1605047-35A DUP**	Batch ID:	**74986**	TestNo:	**D2216**	Units:	**WT%**
SampType:	**DUP**	Run ID:	**PMOIST_160509A**	Analysis Date:	**5/10/2016 8:40:00 AM**	Prep Date:	**5/9/2016**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Percent Moisture	20.2	0	0	21.10				4.46	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: 1605047
Project: Laredo SGR

ANALYTICAL QC SUMMARY REPORT

RunID: PMOIST_160510A

The QC data in batch 75073 applies to the following samples: 1605047-36A, 1605047-37A, 1605047-39A, 1605047-42A, 1605047-45A, 1605047-46A

Sample ID	**1605071-34A-DUP**	Batch ID:	**75073**	TestNo:	**D2216**	Units:	**WT%**
SampType:	**DUP**	Run ID:	**PMOIST_160510A**	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	8.62	0	0	8.674				0.571	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

DHL Analytical, Inc.

Date: *26-May-16*

CLIENT: Arcadis
Work Order: 1605047
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
1605047

GCMS6_160509B
For

DHL Work Order
1605047

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

Project Number(s): SEE RUN LOG.	**Run ID: GCMS6_160509B**
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) - $R^2 \geq 0.990$	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	___ 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:

Analyst: Karyn Lane Date: 5/10/2016 11:40

Second-Level Review: Janice Whitt Date: 5/11/2016

REVIEWED BY
By Janice Whitt at 4:08:26 PM, 5/11/2016

DHL Analytical, Inc.

Run ID: **GCMS6_160509B** **Run No.:** 85694

Analytical Run Date: 5/9/2016 **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-160509	1	PAH_LL_WDOD1	TUNE	R85694	5/9/2016 3:49:00 PM		
ICV-160509	1	PAH_LL_WDOD1	ICV	R85694	5/9/2016 4:26:00 PM		
LCS-74985	1	PAH_LL_WDOD1	LCS	74985	5/9/2016 5:06:00 PM		Equipment rinses - no LCSD or MS/MSD required.
LQV1-74985	1	PAH_LL_WDOD1	LQV1	74985	5/9/2016 6:27:00 PM		WATER DCS SUFFICIENT FOR ALL TEST CODES.
DCS-74985	1	PAH_LL_WDOD1	DCS	74985	5/9/2016 7:07:00 PM		
MB-74985	1	PAH_LL_WDOD1	MBLK	74985	5/9/2016 8:28:00 PM		
1605047-31B	1	PAH_LL_WDOD1	SAMP	74985	5/9/2016 9:08:00 PM		Surrogate 4-Terphenyl-d14 low.
1605047-32B	1	PAH_LL_WDOD1	SAMP	74985	5/9/2016 9:48:00 PM		
1605047-38B	1	PAH_LL_WDOD1	SAMP	74985	5/9/2016 10:27:00 PM		
1605071-28B	1	PAH_LL_WDOD1	SAMP	74985	5/9/2016 11:07:00 PM		Surrogate 4-Terphenyl-d14 low.
1605071-29B	1	PAH_LL_WDOD1	SAMP	74985	5/9/2016 11:47:00 PM		
CCV1-160509	1	PAH_LL_WDOD1	CCV	R85694	5/10/2016 12:26:00 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

Sequence Name: C:\HPCHEM\1\SEQUENCE\160509.S
Comment:
Operator:
Data Path: C:\HPCHEM\1\DATA\160509\
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	16050901	PP160421	SBLK
2	Sample	2	16050902	DFTPPPAH	DFTPP-160509
3	Sample	3	16050903	PP160421	ICV-160509
4	Sample	4	16050904	PP160421	LCS-74984
5	Sample	5	16050905	PP160421	LCSD-74984
6	Sample	6	16050906	PP160421	LCS3-74984
7	Sample	7	16050907	PP160421	LCS4-74984
8	Sample	8	16050908	PP160421	MB74984
9	Sample	9	16050909	PP160421	MB-74984
10	Sample	10	16050910	PP160421	1605054-01A
11	Sample	11	16050911	PP160421	LQV-74985
12	Sample	1	16050912	DFTPPPAH	DFTPP-160509
13	Sample	2	16050913	PP160421	ICV-160509
14	Sample	3	16050914	PP160421	LCS-74985
15	Sample	4	16050915	PP160421	LCSD-74985
16	Sample	5	16050916	PP160421	LQV-74985
17	Sample	6	16050917	PP160421	DCS-74985
18	Sample	7	16050918	PP160421	SBLK
19	Sample	8	16050919	PP160421	MB-74985
20	Sample	9	16050920	PP160421	1605047-31B
21	Sample	10	16050921	PP160421	1605047-32B
22	Sample	11	16050922	PP160421	1605047-38B
23	Sample	12	16050923	PP160421	1605071-28B
24	Sample	13	16050924	PP160421	1605071-29B
25	Sample	14	16050925	PP160421	CCV1-160509
26	Sample	15	16050926	PP160421	SBLK
27	Sample	16	16050927	PP160421	1605054-01A

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/6/2016 2:10:35 PM**
Digestion:
Prep End Date: 5/6/16 4:01 PM

Prep Batch **74985** Prep Code: **3510_PAHDOD** Technician: **ADMIN**

Prep Factor Units: mL/mL

Equipment List
Turbo-Vap #1,2
Balance # 25, 29

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup	
1605047-31B	Aqueous	6	500	1	0.002	1 of 1	541.0- 213.3	327.7
1605047-32B	Aqueous	6	500	1	0.002	1 of 1	533.3-213.4	319.9
1605047-38B	Aqueous	6	500	1	0.002	1 of 1	533.2- 212.9	320.3
1605071-28B	Equip Blank	6	500	1	0.002	1 of 1	539.7- 213.2	326.5
1605071-29B	Equip Blank	6	500	1	0.002	1 of 1	539.3- 213.9	325.4
LCS-74985	Aqueous	6	500	1	0.002	of		
MB-74985	Aqueous	6	500	1	0.002	of		

DCS
LQV
LCSD

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
10213	Whatman 41 Filter	1	filter	03/20/2026

Spk ID	Spike Name	SampType	Amt (mL or g)	Exp. Date
PAHPREP160317	200 PPM PAH Spike Mix	LCS	0.01	05/09/2016
SVPREP160415-A	40 PPM Surrogate Standard	ALL	0.1	07/15/2016

REVIEWED BY
By Janice Whitt at 3:57:15 PM, 5/11/2016

5/6/16

RL 5/6/16

5/6/16

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/6/2016 2:10:35 PM**
Digestion:
Prep End Date: **5/6/2016 4:01:00 PM**

Prep Batch **74985** Prep Code: **3510_PAHDOD** Technician: **Alex Robbins**

Prep Factor Units: **mL/mL**

Equipment List

Turbo-Vap #1,2,3
Balance # 25, 29

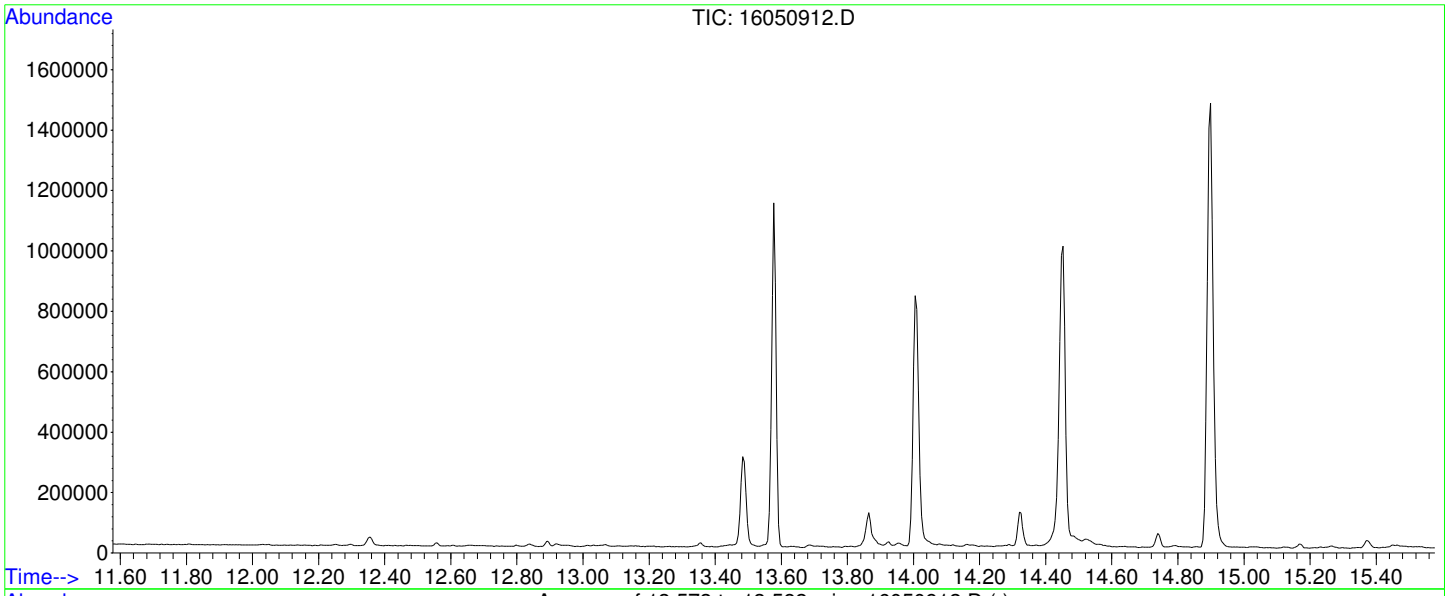
Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605047-31B	Aqueous	6	327.7	1	0.003	1 of 1	
1605047-32B	Aqueous	6	319.9	1	0.003	1 of 1	
1605047-38B	Aqueous	6	320.3	1	0.003	1 of 1	
1605071-28B	Equip Blank	6	326.5	1	0.003	1 of 1	
1605071-29B	Equip Blank	6	325.4	1	0.003	1 of 1	
DCS-74985	Aqueous	6	500	1	0.002	of	
Spiked with 10 uL of PAHPREP160429-1							
LCS-74985	Aqueous	6	500	1	0.002	of	
LQV1-74985	Aqueous	6	500	1	0.002	of	
Spiked with 20 uL of PAHPREP160429-1							
MB-74985	Aqueous	6	500	1	0.002	of	

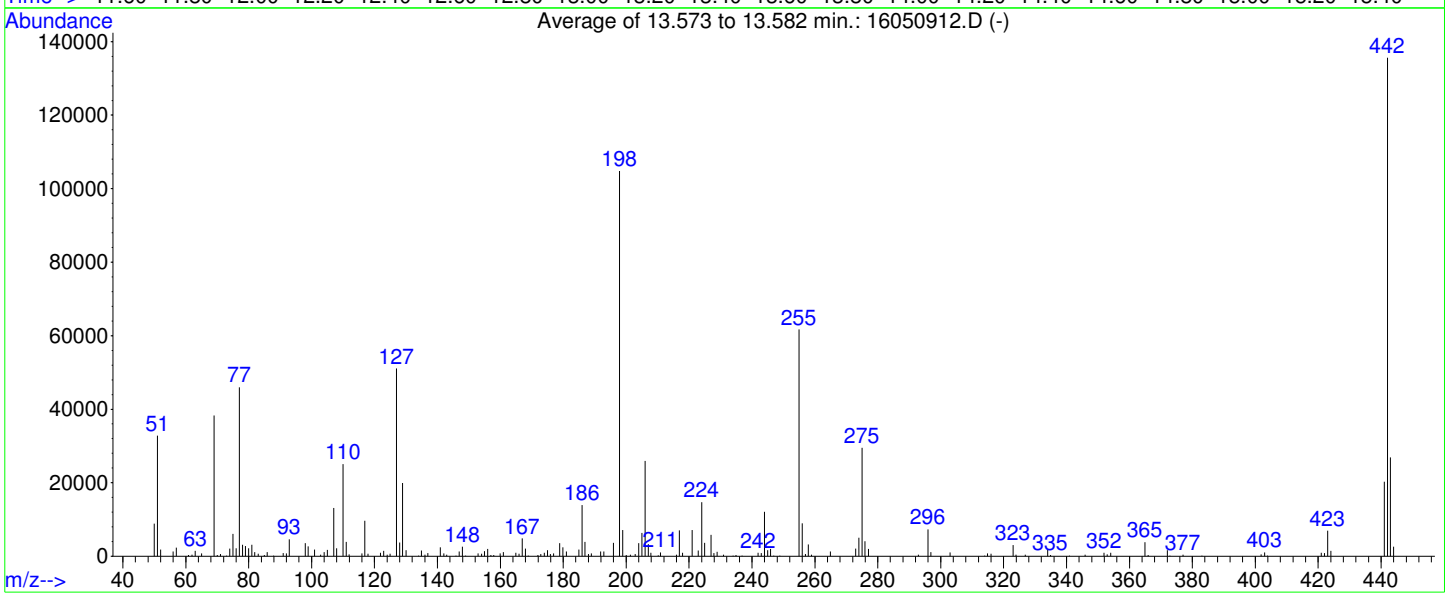
Number	Reagent Name	Amt	Units	Exp. Da
7509	pH paper 0-14	1	paper	10/15/2025
9927	Purified Sodium Sulfate	10	g	07/04/2016
10169	Methylene Chloride	120	ml	03/15/2026
10213	Whatman 41 Filter	1	filter	03/20/2026

Spk ID	Spike Name	SampType	Amt (mL or g)	Exp. Date
PAHPREP160317	200 PPM PAH Spike Mix	LCS/LCSD	0.01	05/09/2016
SVPREP160415-A	40 PPM Surrogate Standard	ALL	0.1	07/15/2016

REVIEWED BY
By Janice Whitt at 3:57:16 PM, 5/11/2016

Data File : C:\HPCHEM\1\DATA\160509\16050912.D Vial: 1
Acq On : 9 May 2016 3:49 pm Operator:
Sample : DFTPP-160509 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 1591, 1592, 1593; Background Corrected with Scan 1585

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	31.3	32842	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	36.6	38346	PASS
70	69	0.00	2	1.0	371	PASS
127	198	10	80	48.7	51093	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	104808	PASS
199	198	5	9	6.8	7106	PASS
275	198	10	60	28.2	29528	PASS
365	198	1	200	3.6	3809	PASS
441	442	0.01	24	14.9	20255	PASS
442	198	50	400	129.4	135632	PASS
443	442	15	24	19.8	26888	PASS

REVIEWED BY
By Janice Whitt at 3:57:43 PM, 5/11/2016

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160509\16050913.D Vial: 2
Acq On : 9 May 2016 4:26 pm Operator:
Sample : ICV-160509 Inst : GC/MS #6
Misc : ICV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 10 8:42 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.89	136	1603641	4000.00 ug/kg	138
5) Acenaphthene-d10	13.30	164	1083951	4000.00 ug/kg	94
11) Phenanthrene-d10	15.39	188	1967760	4000.00 ug/kg	96
17) Chrysene-d12	21.15	240	2243303	4000.00 ug/kg	99
20) Perylene-d12	26.31	264	1938881	4000.00 ug/kg	94

System Monitoring Compounds

7) 2-Fluorobiphenyl	12.22	172	637419	2015.89 ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	50.40%	
16) 4-Terphenyl-d14	17.89	244	957728	1881.24 ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	47.03%	

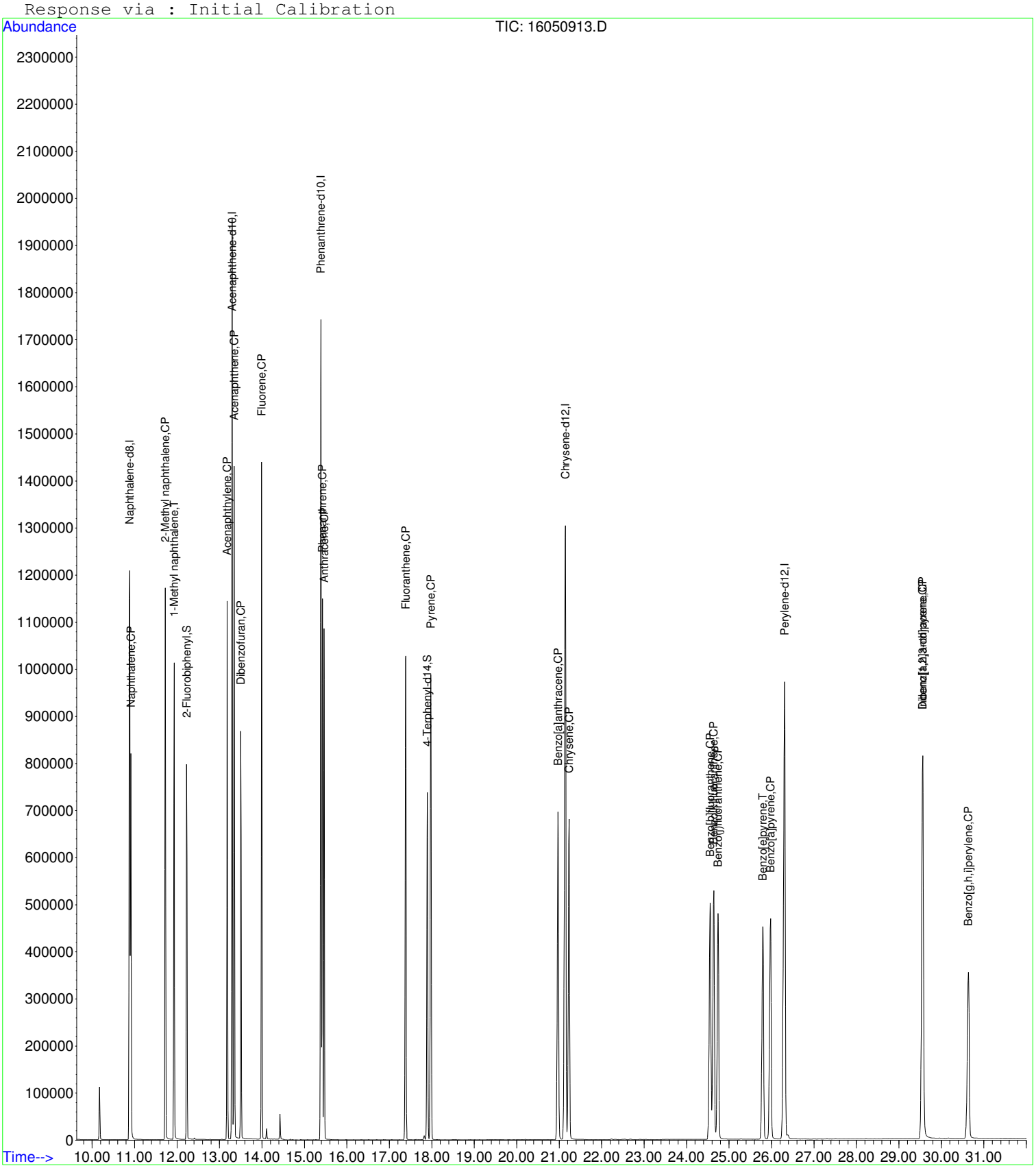
Target Compounds					Qvalue
2) Naphthalene	10.91	128	759171	1892.58 ug/kg	99
3) 2-Methyl naphthalene	11.72	142	579126	1634.43 ug/kg	99
4) 1-Methyl naphthalene	11.93	142	524506	1616.27 ug/kg	99
6) Dibenzofuran	13.50	168	781335	1923.27 ug/kg	99
8) Acenaphthylene	13.18	152	964907	2067.01 ug/kg	100
9) Acenaphthene	13.35	154	563790	1945.81 ug/kg	98
10) Fluorene	13.99	166	699123	1986.80 ug/kg	100
12) Phenanthrene	15.42	178	974822	1883.76 ug/kg	100
13) Anthracene	15.46	178	929116	1896.90 ug/kg	100
14) Fluoranthene	17.39	202	1063984	1986.85 ug/kg	99
15) Pyrene	17.98	202	1078937	1939.55 ug/kg	100
18) Benzo[a]anthracene	20.97	228	1039047	1977.06 ug/kg	100
19) Chrysene	21.23	228	963232	1896.92 ug/kg	99
21) Benzo[b]fluoranthene	24.56	252	1028680	2012.98 ug/kg	100
22) Benzo[k]fluoranthene	24.64	252	950134	1981.98 ug/kg	99
23) Benzo(j)fluoranthene	24.74	252	840438	1968.09 ug/kg	100
24) Benzo[e]pyrene	25.80	252	886593	1937.28 ug/kg	99
25) Benzo[a]pyrene	25.98	252	918052	1963.06 ug/kg	100
26) Dibenz[a,h]anthracene	29.56	278	789149	1852.84 ug/kg	100
27) Indeno[1,2,3-cd]pyrene	29.56	276	922200	1815.00 ug/kg	97
28) Benzo[g,h,i]perylene	30.64	276	734566	1854.01 ug/kg	99

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160509\16050913.D Vial: 2
Acq On : 9 May 2016 4:26 pm Operator:
Sample : ICV-160509 Inst : GC/MS #6
Misc : ICV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 10 8:42 2016 Quant Results File: PP160421.RES

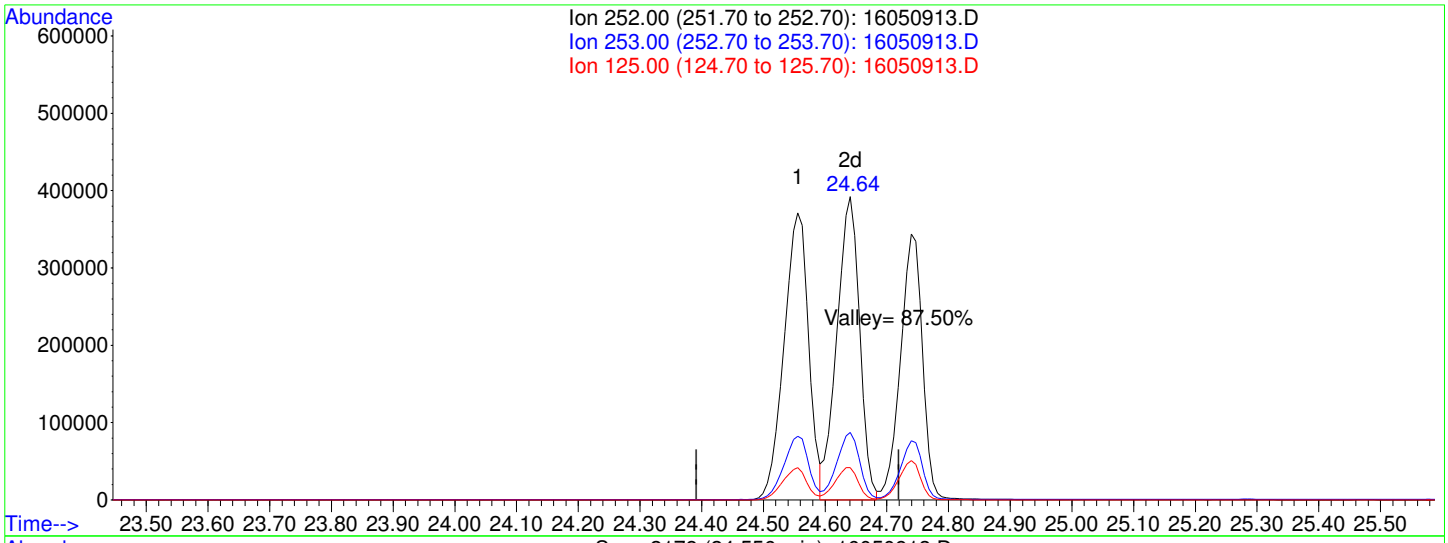
Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri Apr 22 11:43:43 2016
Response via : Initial Calibration

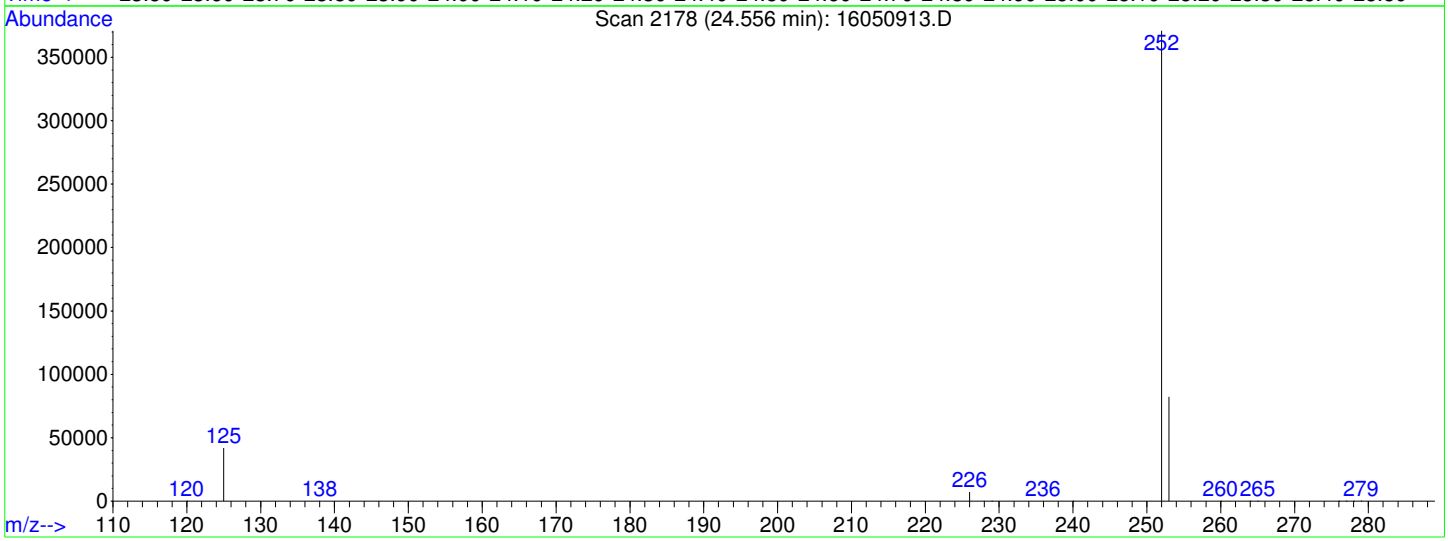


Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\160509\16050913.D Vial: 2
Acq On : 9 May 2016 4:26 pm Operator:
Sample : ICV-160509 Inst : GC/MS #6
Misc : ICV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 9 16:58 2016 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri Apr 22 11:43:43 2016
Response via : Multiple Level Calibration





TIC: 16050913.D

(21) Benzo[b]fluoranthene (CP)

24.56min 2012.98ug/kg

response 1028680

Ion	Exp%	Act%
252.00	100	100
253.00	22.20	22.05
125.00	11.00	11.29
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160509\16050914.D Vial: 3
Acq On : 9 May 2016 5:06 pm Operator:
Sample : LCS-74985 Inst : GC/MS #6
Misc : LCS Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 10 8:43 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.89	136	1409447	4000.00 ug/kg	122
5) Acenaphthene-d10	13.30	164	853478	4000.00 ug/kg	74
11) Phenanthrene-d10	15.38	188	1848722	4000.00 ug/kg	91
17) Chrysene-d12	21.14	240	2054517	4000.00 ug/kg	90
20) Perylene-d12	26.31	264	1827934	4000.00 ug/kg	89

System Monitoring Compounds					
7) 2-Fluorobiphenyl	12.22	172	571170	2294.16 ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	57.35%	
16) 4-Terphenyl-d14	17.89	244	1207428	2524.43 ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	63.11%	

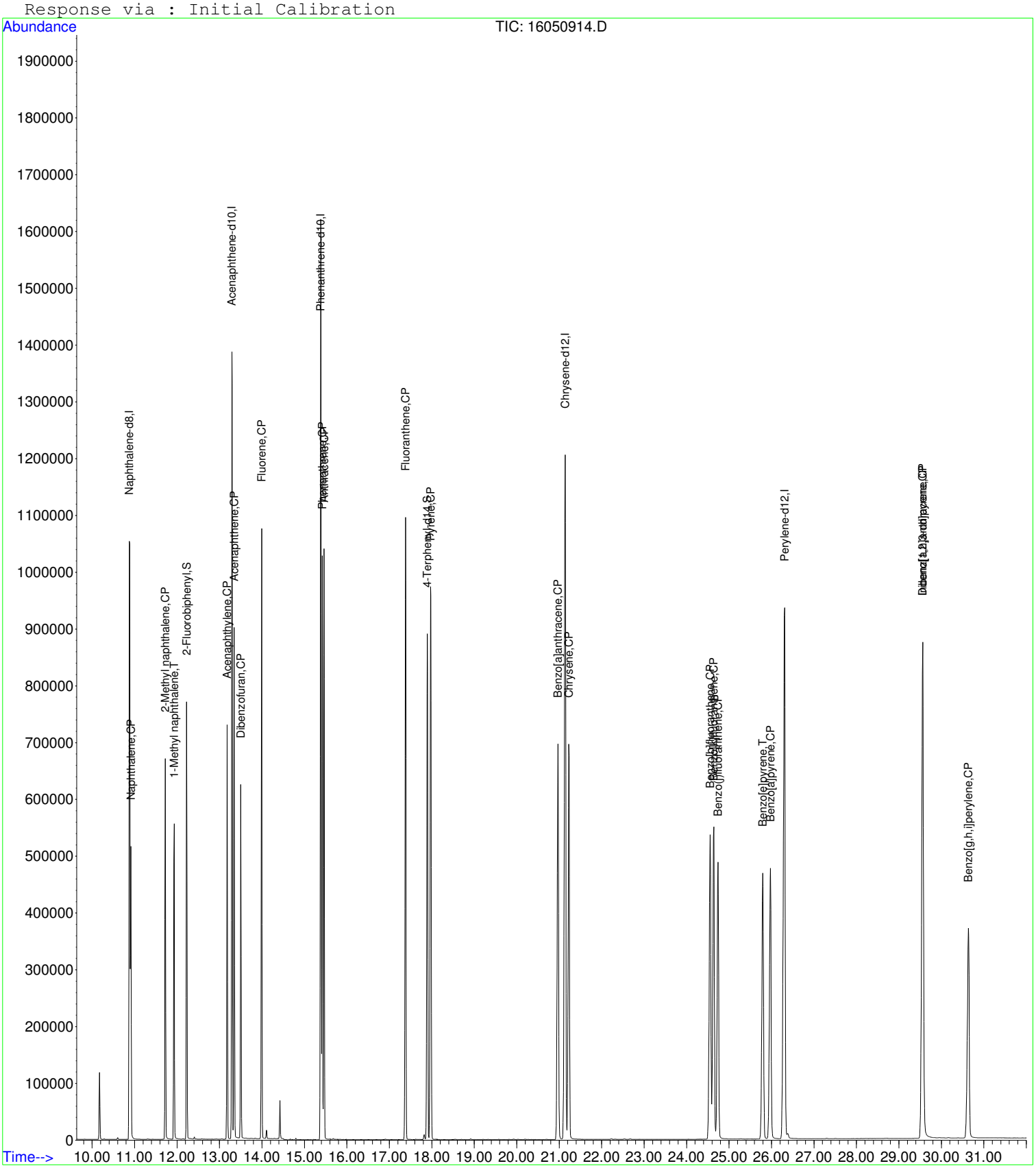
Target Compounds					Qvalue
2) Naphthalene	10.91	128	475616	1349.05 ug/kg	100
3) 2-Methyl naphthalene	11.72	142	332060	1066.28 ug/kg	100
4) 1-Methyl naphthalene	11.93	142	307234	1077.19 ug/kg	99
6) Dibenzofuran	13.50	168	525660	1643.33 ug/kg	100
8) Acenaphthylene	13.18	152	621498	1690.88 ug/kg	99
9) Acenaphthene	13.35	154	356405	1562.23 ug/kg	100
10) Fluorene	13.99	166	516914	1865.68 ug/kg	99
12) Phenanthrene	15.42	178	906855	1865.25 ug/kg	99
13) Anthracene	15.46	178	871646	1894.15 ug/kg	100
14) Fluoranthene	17.38	202	1099350	2185.08 ug/kg	100
15) Pyrene	17.97	202	1074326	2055.61 ug/kg	100
18) Benzo[a]anthracene	20.97	228	1066190	2215.12 ug/kg	99
19) Chrysene	21.23	228	990627	2130.13 ug/kg	100
21) Benzo[b]fluoranthene	24.56	252	1052775	2185.18 ug/kg	100
22) Benzo[k]fluoranthene	24.64	252	991403	2193.59 ug/kg	99
23) Benzo(j)fluoranthene	24.74	252	845921	2101.16 ug/kg	100
24) Benzo[e]pyrene	25.79	252	908728	2106.16 ug/kg	100
25) Benzo[a]pyrene	25.98	252	943840	2140.70 ug/kg	99
26) Dibenz[a,h]anthracene	29.56	278	828239	2062.65 ug/kg	100
27) Indeno[1,2,3-cd]pyrene	29.56	276	954034	1991.62 ug/kg	97
28) Benzo[g,h,i]perylene	30.64	276	764262	2046.04 ug/kg	100

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160509\16050914.D Vial: 3
Acq On : 9 May 2016 5:06 pm Operator:
Sample : LCS-74985 Inst : GC/MS #6
Misc : LCS Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 10 8:43 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\160509\16050916.D Vial: 5
Acq On : 9 May 2016 6:27 pm Operator:
Sample : LQV-74985 Inst : GC/MS #6
Misc : LQV1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 10 8:43 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.88	136	1442730	4000.00 ug/kg	124
5) Acenaphthene-d10	13.29	164	856779	4000.00 ug/kg	74
11) Phenanthrene-d10	15.38	188	1731661	4000.00 ug/kg	85
17) Chrysene-d12	21.13	240	1988639	4000.00 ug/kg	88
20) Perylene-d12	26.30	264	1761545	4000.00 ug/kg	86

System Monitoring Compounds

7) 2-Fluorobiphenyl	12.23	172	768832	3076.20 ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	76.90%	
16) 4-Terphenyl-d14	17.89	244	1263461	2820.16 ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	70.50%	

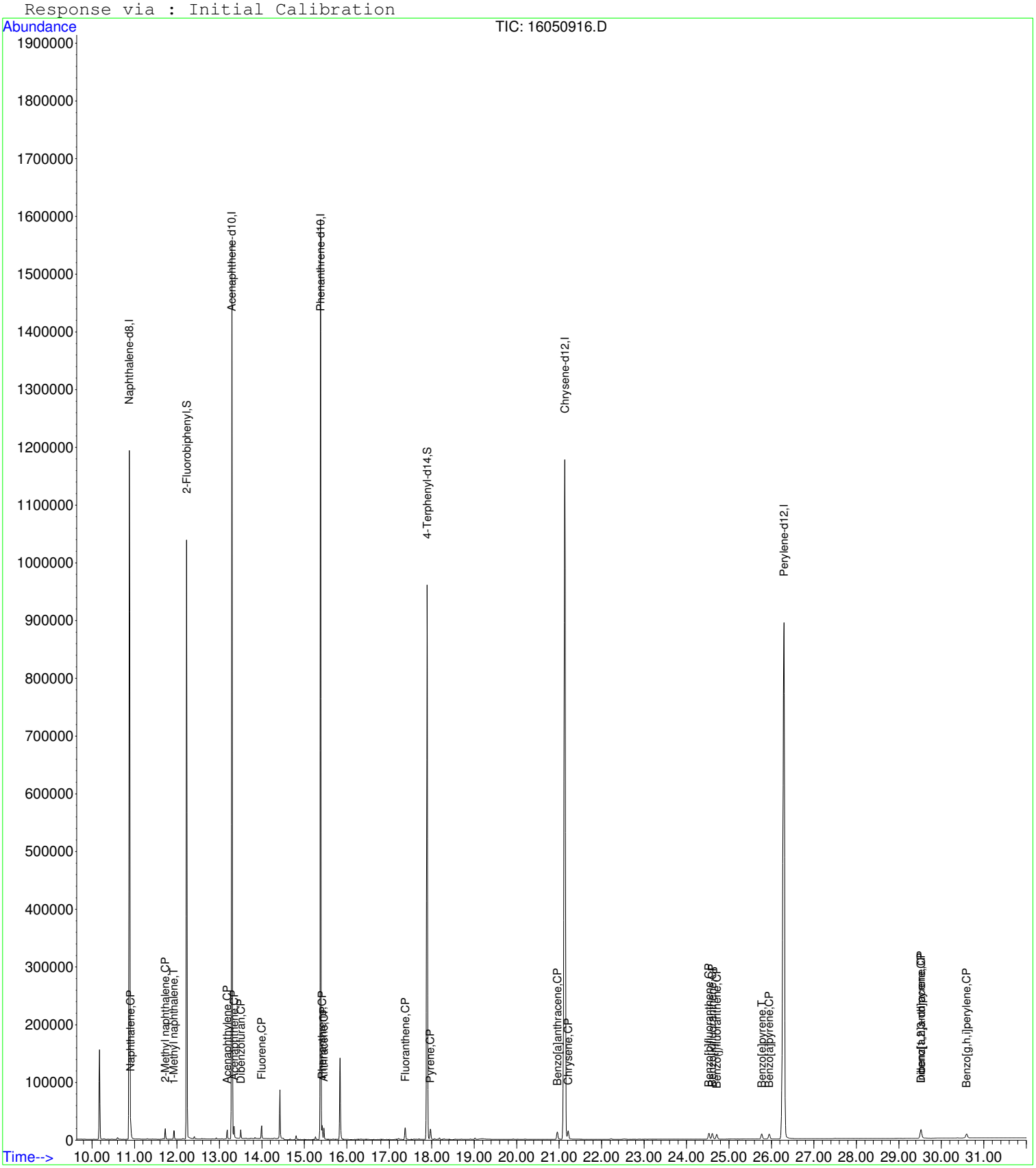
Target Compounds					Qvalue
2) Naphthalene	10.91	128	15924	44.13 ug/kg	100
3) 2-Methyl naphthalene	11.73	142	9587	30.07 ug/kg	99
4) 1-Methyl naphthalene	11.94	142	8539	29.25 ug/kg	98
6) Dibenzofuran	13.50	168	12712	39.59 ug/kg	97
8) Acenaphthylene	13.18	152	16236	44.00 ug/kg	98
9) Acenaphthene	13.35	154	8690	37.94 ug/kg	96
10) Fluorene	13.99	166	11784	42.37 ug/kg	98
12) Phenanthrene	15.42	178	17211	37.79 ug/kg	99
13) Anthracene	15.46	178	17184	39.87 ug/kg	100
14) Fluoranthene	17.38	202	20488	43.48 ug/kg	99
15) Pyrene	17.97	202	19556	39.95 ug/kg	98
18) Benzo[a]anthracene	20.96	228	19020	40.83 ug/kg	99
19) Chrysene	21.21	228	17610	39.12 ug/kg	95
21) Benzo[b]fluoranthene	24.53	252	19075	41.08 ug/kg	98
22) Benzo[k]fluoranthene	24.61	252	17673	40.58 ug/kg	100
23) Benzo(j)fluoranthene	24.71	252	14894	38.39 ug/kg	99
24) Benzo[e]pyrene	25.77	252	16374	39.38 ug/kg	98
25) Benzo[a]pyrene	25.95	252	16843	39.64 ug/kg	98
26) Dibenz[a,h]anthracene	29.52	278	14597	37.72 ug/kg	100
27) Indeno[1,2,3-cd]pyrene	29.52	276	17056	36.95 ug/kg	95
28) Benzo[g,h,i]perylene	30.59	276	14205	39.46 ug/kg	100

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160509\16050916.D Vial: 5
Acq On : 9 May 2016 6:27 pm Operator:
Sample : LQV-74985 Inst : GC/MS #6
Misc : LQV1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 10 8:43 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\160509\16050917.D Vial: 6
Acq On : 9 May 2016 7:07 pm Operator:
Sample : DCS-74985 Inst : GC/MS #6
Misc : DCS Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 10 8:43 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.88	136	1400874	4000.00	ug/kg	121
5) Acenaphthene-d10	13.29	164	828512	4000.00	ug/kg	72
11) Phenanthrene-d10	15.38	188	1682727	4000.00	ug/kg	82
17) Chrysene-d12	21.14	240	1912708	4000.00	ug/kg	84
20) Perylene-d12	26.30	264	1705347	4000.00	ug/kg	83

System Monitoring Compounds

7) 2-Fluorobiphenyl	12.23	172	747292	3092.02	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 77.30%			
16) 4-Terphenyl-d14	17.89	244	1221139	2804.95	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 70.12%			

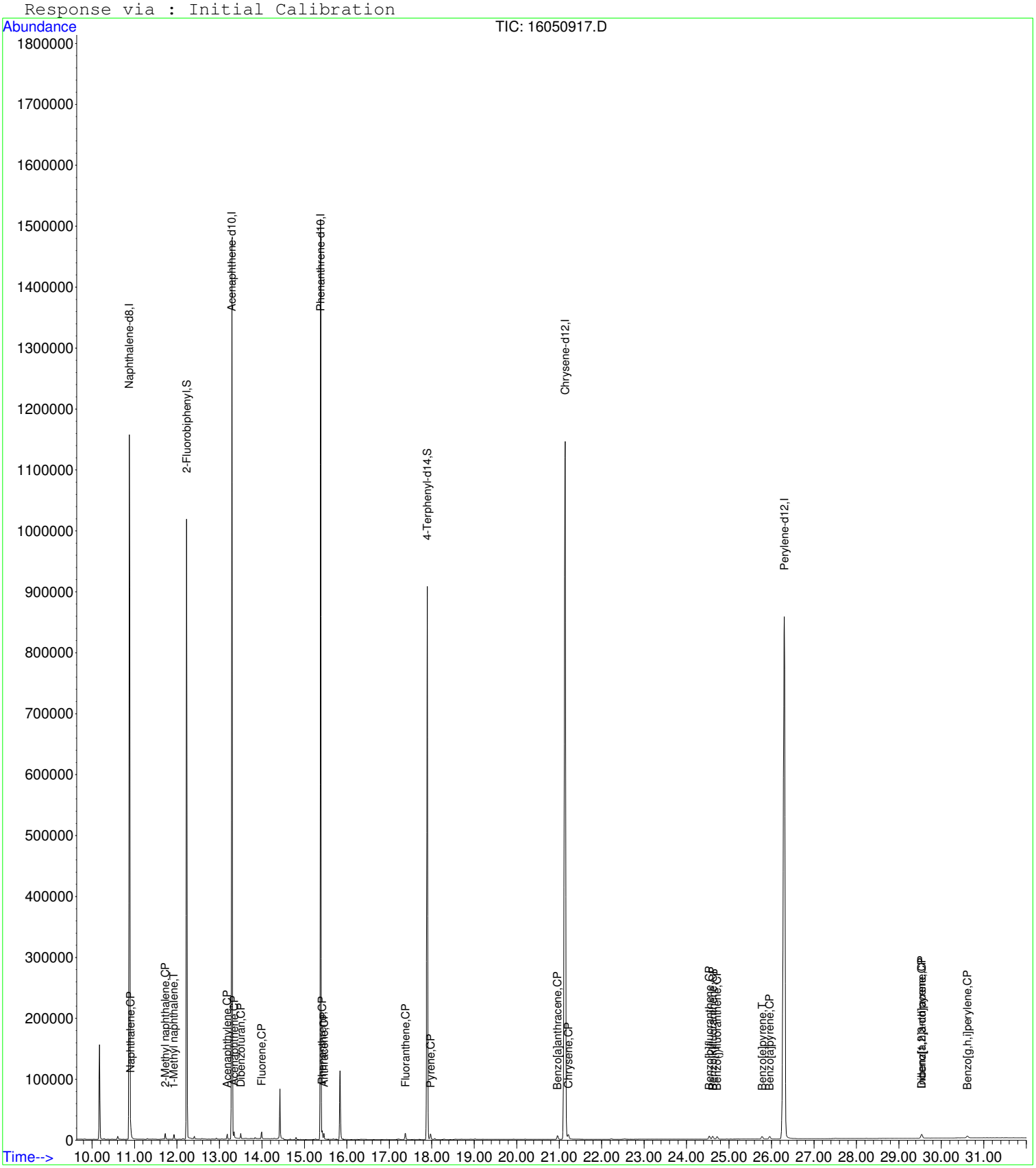
Target Compounds						Qvalue
2) Naphthalene	10.91	128	9744	27.81	ug/kg	98
3) 2-Methyl naphthalene	11.72	142	5080	16.41	ug/kg	99
4) 1-Methyl naphthalene	11.93	142	4514	15.92	ug/kg	97
6) Dibenzofuran	13.50	168	6462	20.81	ug/kg	96
8) Acenaphthylene	13.18	152	7133	19.99	ug/kg	98
9) Acenaphthene	13.35	154	4206	18.99	ug/kg	98
10) Fluorene	13.99	166	5775	21.47	ug/kg	99
12) Phenanthrene	15.42	178	8775	19.83	ug/kg	98
13) Anthracene	15.46	178	8411	20.08	ug/kg	100
14) Fluoranthene	17.38	202	10377	22.66	ug/kg	98
15) Pyrene	17.97	202	9578	20.13	ug/kg	99
18) Benzo[a]anthracene	20.96	228	9244	20.63	ug/kg	100
19) Chrysene	21.22	228	8616	19.90	ug/kg	100
21) Benzo[b]fluoranthene	24.54	252	8988	20.00	ug/kg	100
22) Benzo[k]fluoranthene	24.62	252	8289	19.66	ug/kg	97
23) Benzo(j)fluoranthene	24.72	252	7298	19.43	ug/kg	96
24) Benzo[e]pyrene	25.78	252	7772	19.31	ug/kg	97
25) Benzo[a]pyrene	25.96	252	7816	19.00	ug/kg	97
26) Dibenz[a,h]anthracene	29.53	278	6229	16.63	ug/kg	98
27) Indeno[1,2,3-cd]pyrene	29.54	276	7516	16.82	ug/kg	92
28) Benzo[g,h,i]perylene	30.62	276	6168	17.70	ug/kg	97

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160509\16050917.D Vial: 6
Acq On : 9 May 2016 7:07 pm Operator:
Sample : DCS-74985 Inst : GC/MS #6
Misc : DCS Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 10 8:43 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\160509\16050919.D Vial: 8
Acq On : 9 May 2016 8:28 pm Operator:
Sample : MB-74985 Inst : GC/MS #6
Misc : MBLK Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 10 8:43 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.88	136	1383430	4000.00 ug/kg	119
5) Acenaphthene-d10	13.29	164	880409	4000.00 ug/kg	76
11) Phenanthrene-d10	15.38	188	1805828	4000.00 ug/kg	88
17) Chrysene-d12	21.13	240	2060767	4000.00 ug/kg	91
20) Perylene-d12	26.30	264	1838293	4000.00 ug/kg	89

System Monitoring Compounds

7) 2-Fluorobiphenyl	12.23	172	685744	2670.11 ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	66.75%	
16) 4-Terphenyl-d14	17.89	244	1256880	2690.24 ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	67.26%	

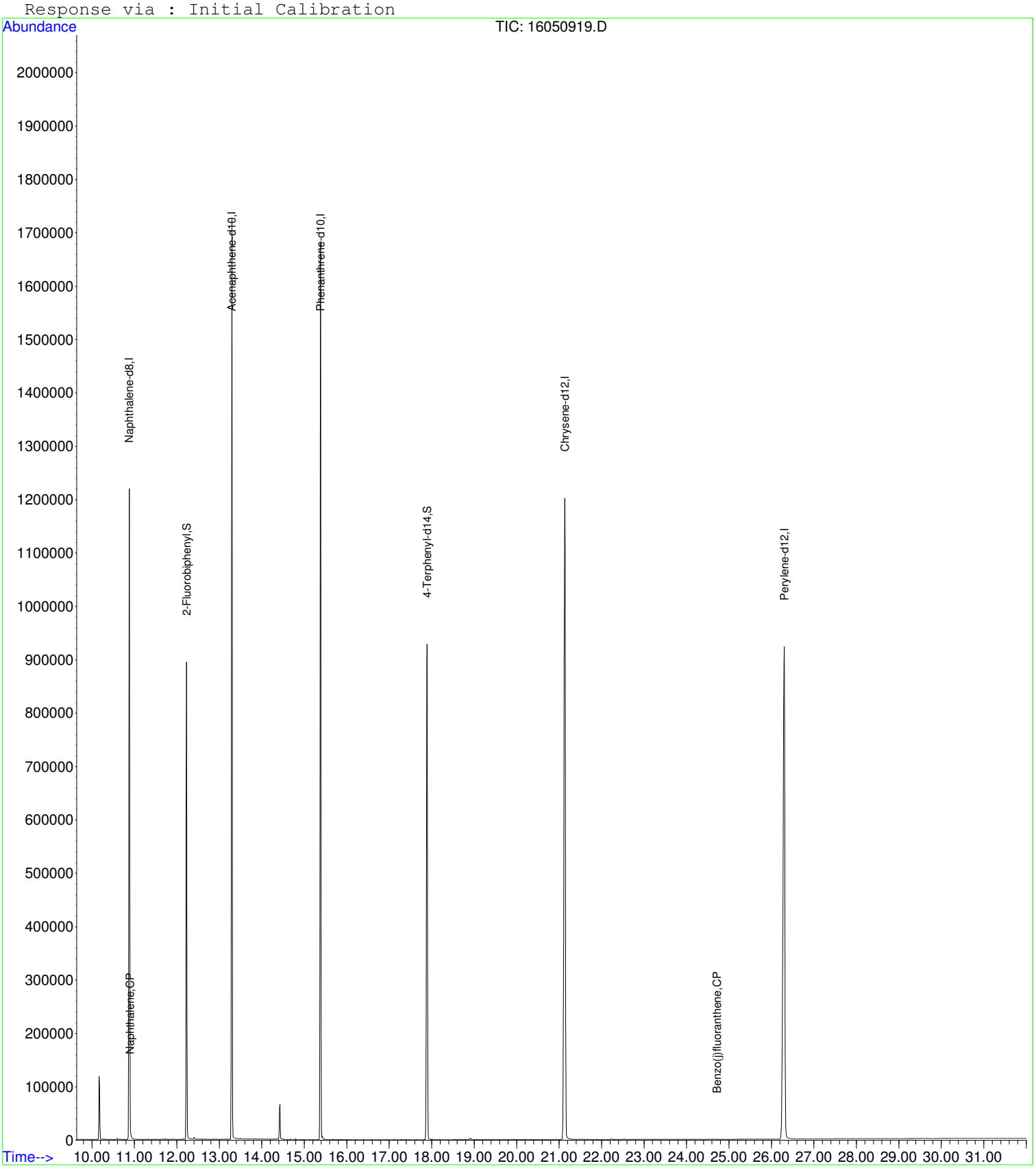
Target Compounds					Qvalue
2) Naphthalene	10.91	128	2958	8.55 ug/kg	92
23) Benzo(j)fluoranthene	24.71	252	178	0.44 ug/kg#	59

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160509\16050919.D Vial: 8
Acq On : 9 May 2016 8:28 pm Operator:
Sample : MB-74985 Inst : GC/MS #6
Misc : MBLK Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 10 8:43 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\160509\16050920.D Vial: 9
Acq On : 9 May 2016 9:08 pm Operator:
Sample : 1605047-31B Inst : GC/MS #6
Misc : SAMP Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 10 8:44 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.88	136	1231093	4000.00 ug/kg	106
5) Acenaphthene-d10	13.29	164	832259	4000.00 ug/kg	72
11) Phenanthrene-d10	15.38	188	1688638	4000.00 ug/kg	83
17) Chrysene-d12	21.13	240	1893405	4000.00 ug/kg	83
20) Perylene-d12	26.30	264	1719570	4000.00 ug/kg	83

System Monitoring Compounds

7) 2-Fluorobiphenyl	12.23	172	654940	2697.70 ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 67.44%		
16) 4-Terphenyl-d14	17.89	244	973248	2227.72 ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 55.69%		

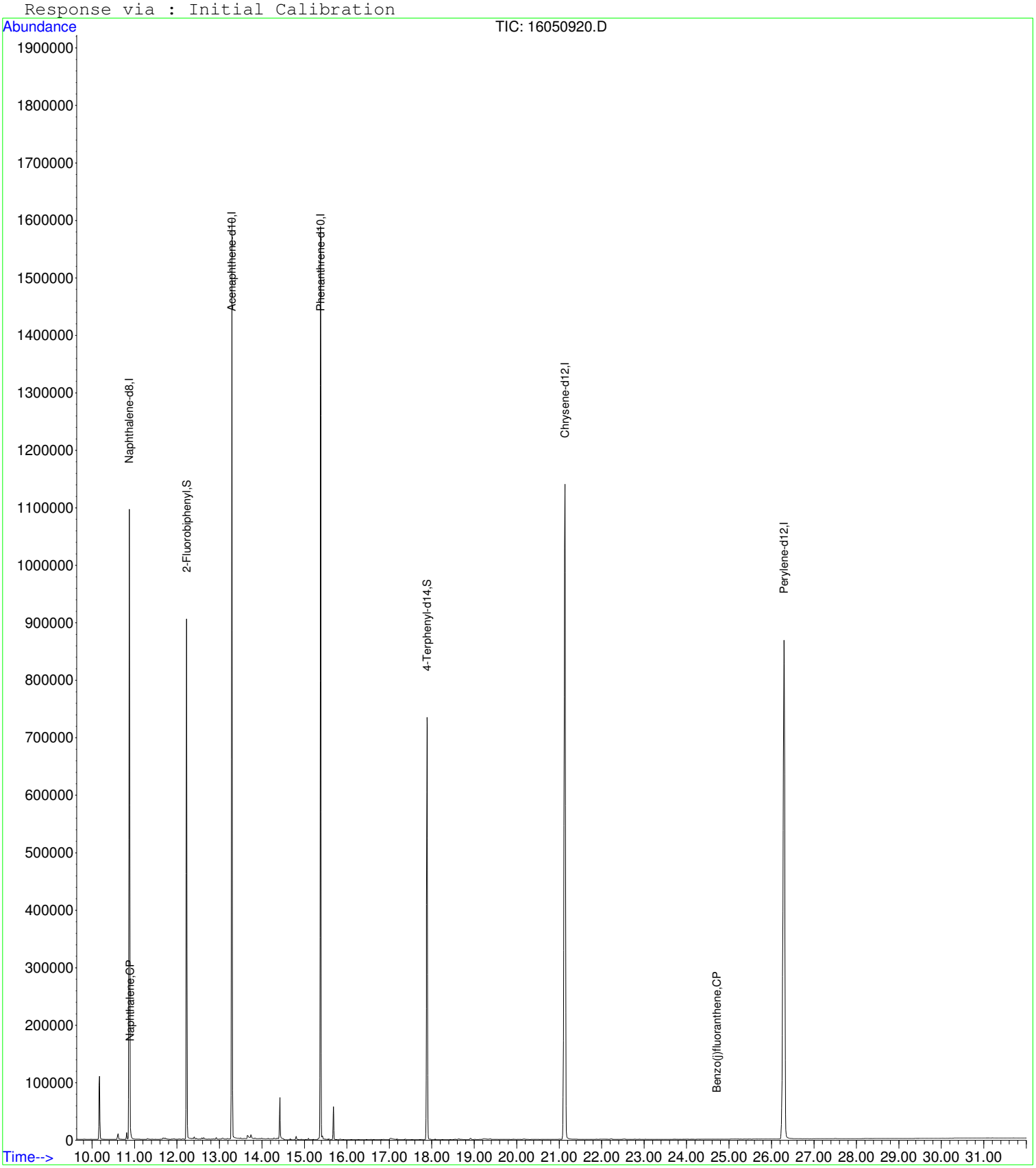
Target Compounds					Qvalue
2) Naphthalene	10.90	128	4228	13.73 ug/kg	95
23) Benzo(j)fluoranthene	24.71	252	70	0.18 ug/kg#	1

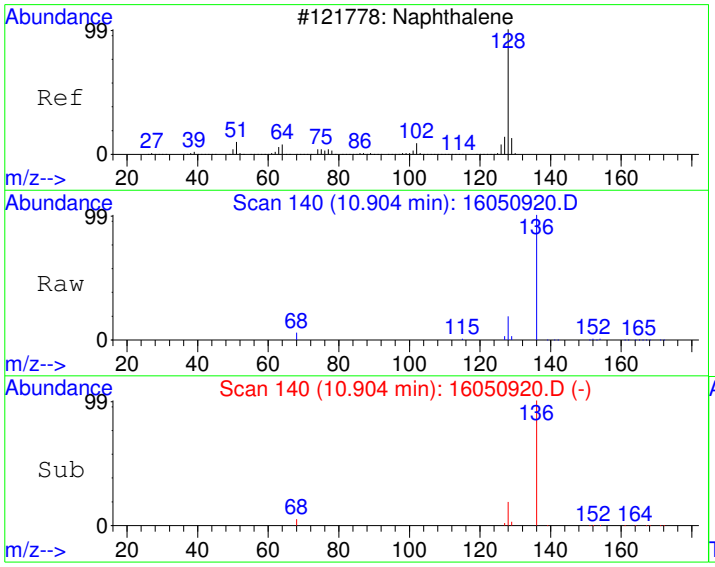
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160509\16050920.D Vial: 9
Acq On : 9 May 2016 9:08 pm Operator:
Sample : 1605047-31B Inst : GC/MS #6
Misc : SAMP Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 10 8:44 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

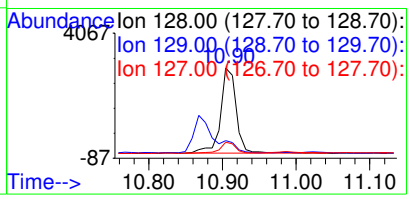


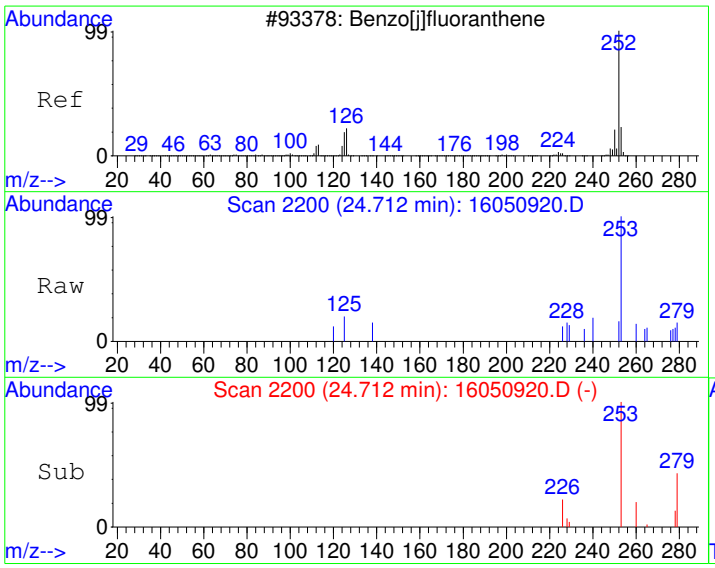


#2
Naphthalene
Concen: 13.73 ug/kg
RT: 10.90 min Scan# 140
Delta R.T. -0.01 min
Lab File: 16050920.D
Acq: 9 May 2016 9:08 pm

Tgt Ion:128 Resp: 4228

Ion	Ratio	Lower	Upper
128	100		
129	14.1	0.0	41.1
127	13.0	0.0	42.4

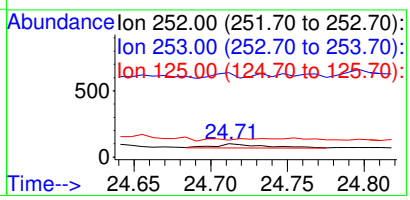




#23
Benzo(j)fluoranthene
Concen: 0.18 ug/kg
RT: 24.71 min Scan# 2200
Delta R.T. -0.03 min
Lab File: 16050920.D
Acq: 9 May 2016 9:08 pm

Tgt Ion:252 Resp: 70

Ion	Ratio	Lower	Upper
252	100		
253	123.3	2.1	42.1#
125	0.0	0.0	34.4



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160509\16050921.D Vial: 10
Acq On : 9 May 2016 9:48 pm Operator:
Sample : 1605047-32B Inst : GC/MS #6
Misc : SAMP Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 10 8:44 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.88	136	1439225	4000.00	ug/kg	124
5) Acenaphthene-d10	13.29	164	853839	4000.00	ug/kg	74
11) Phenanthrene-d10	15.38	188	1748350	4000.00	ug/kg	86
17) Chrysene-d12	21.13	240	1942056	4000.00	ug/kg	85
20) Perylene-d12	26.30	264	1774514	4000.00	ug/kg	86

System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.23	172	662420	2659.55	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 66.49%			
16) 4-Terphenyl-d14	17.89	244	1060448	2344.42	ug/kg	-0.01
Spiked Amount 4000.000	Range 40 - 140		Recovery = 58.61%			

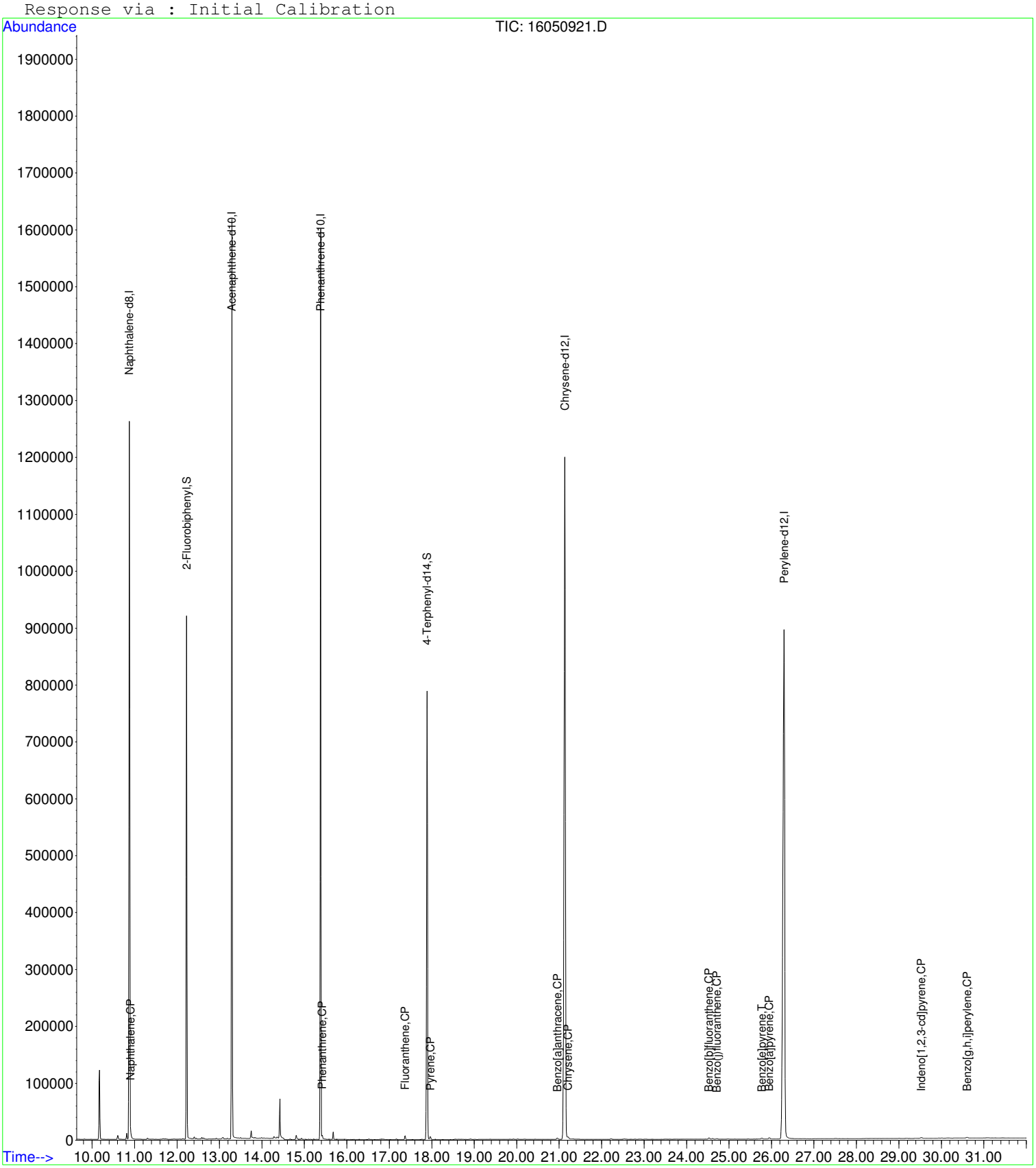
Target Compounds						Qvalue
2) Naphthalene	10.91	128	4121	11.45	ug/kg	97
12) Phenanthrene	15.41	178	2564	5.58	ug/kg	97
14) Fluoranthene	17.37	202	6723	14.13	ug/kg	99
15) Pyrene	17.97	202	5515	11.16	ug/kg	98
18) Benzo[a]anthracene	20.96	228	3846	8.45	ug/kg	100
19) Chrysene	21.21	228	4407	10.03	ug/kg	95
21) Benzo[b]fluoranthene	24.53	252	4158	8.89	ug/kg	99
23) Benzo(j)fluoranthene	24.72	252	1710	4.38	ug/kg	84
24) Benzo[e]pyrene	25.77	252	3311	7.90	ug/kg	98
25) Benzo[a]pyrene	25.95	252	4178	9.76	ug/kg	99
27) Indeno[1,2,3-cd]pyrene	29.53	276	2423	5.21	ug/kg	88
28) Benzo[g,h,i]perylene	30.61	276	2524	6.96	ug/kg	97

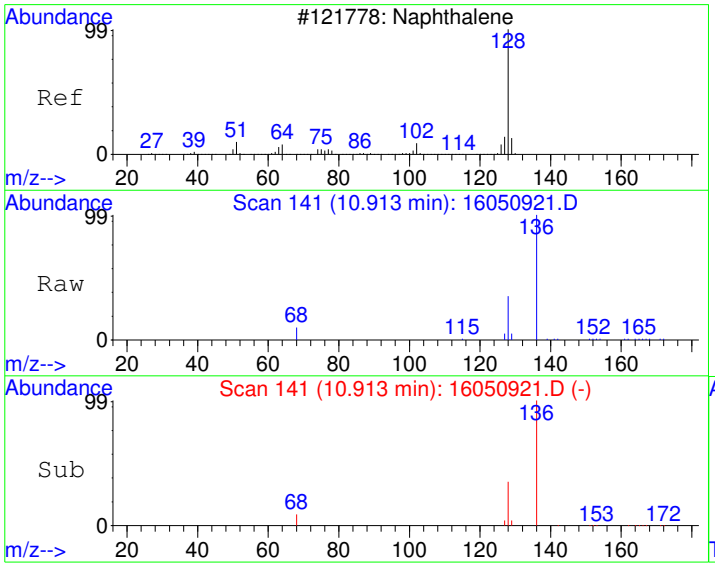
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160509\16050921.D Vial: 10
Acq On : 9 May 2016 9:48 pm Operator:
Sample : 1605047-32B Inst : GC/MS #6
Misc : SAMP Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 10 8:44 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

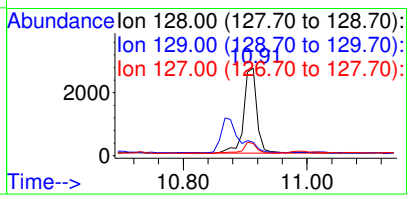


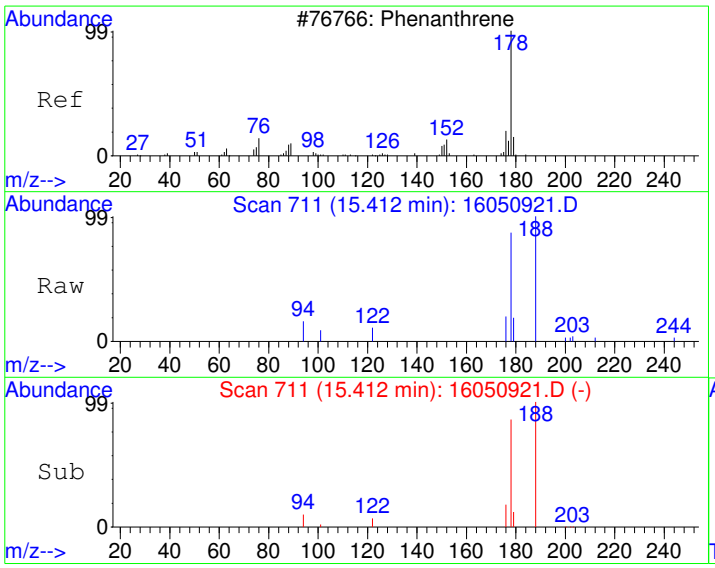


#2
Naphthalene
Concen: 11.45 ug/kg
RT: 10.91 min Scan# 141
Delta R.T. 0.00 min
Lab File: 16050921.D
Acq: 9 May 2016 9:48 pm

Tgt Ion:128 Resp: 4121

Ion	Ratio	Lower	Upper
128	100		
129	12.0	0.0	41.1
127	11.4	0.0	42.4

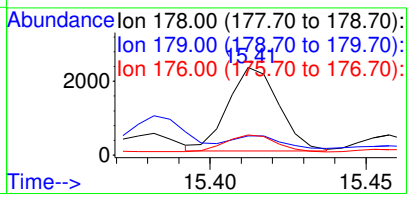


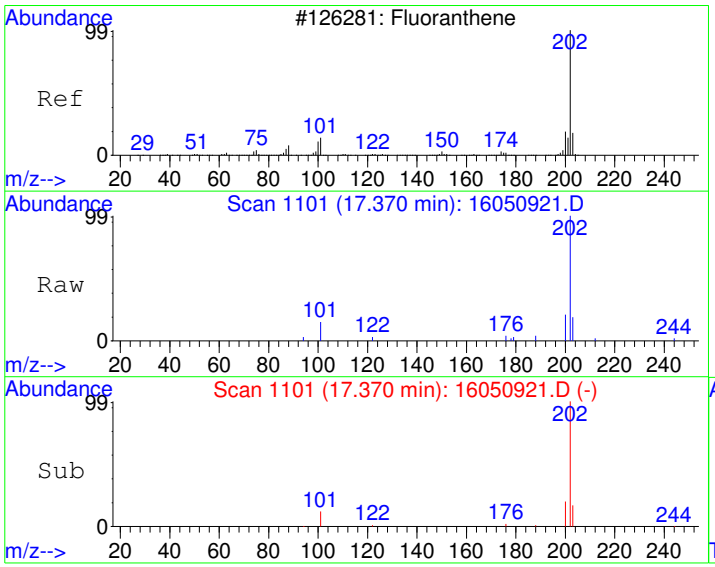


#12
Phenanthrene
Concen: 5.58 ug/kg
RT: 15.41 min Scan# 711
Delta R.T. -0.01 min
Lab File: 16050921.D
Acq: 9 May 2016 9:48 pm

Tgt Ion:178 Resp: 2564

Ion	Ratio	Lower	Upper
178	100		
179	15.3	0.0	45.9
176	20.5	0.0	48.5

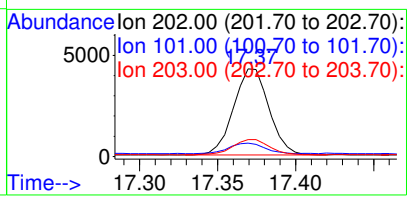


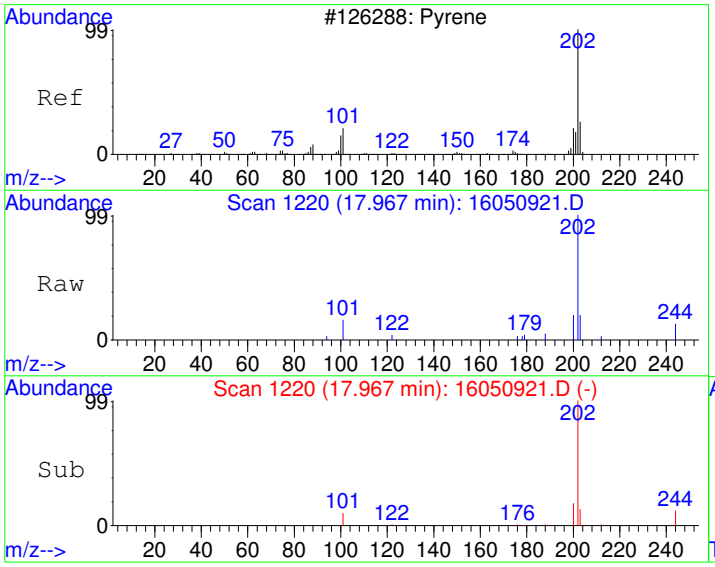


#14
Fluoranthene
Concen: 14.13 ug/kg
RT: 17.37 min Scan# 1101
Delta R.T. -0.01 min
Lab File: 16050921.D
Acq: 9 May 2016 9:48 pm

Tgt Ion:202 Resp: 6723

Ion	Ratio	Lower	Upper
202	100		
101	12.5	0.0	43.0
203	17.5	0.0	47.9

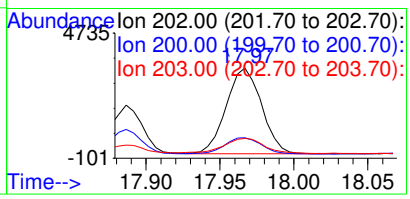


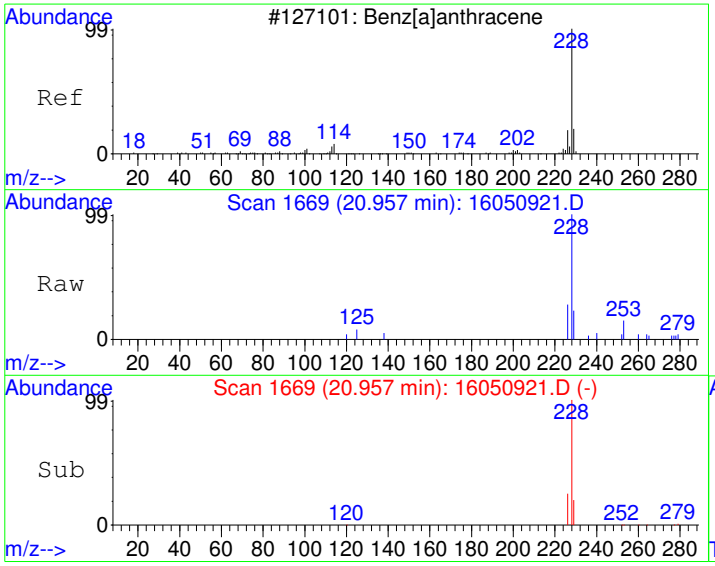


#15
Pyrene
Concen: 11.16 ug/kg
RT: 17.97 min Scan# 1220
Delta R.T. -0.01 min
Lab File: 16050921.D
Acq: 9 May 2016 9:48 pm

Tgt Ion:202 Resp: 5515

Ion	Ratio	Lower	Upper
202	100		
200	18.6	0.0	50.0
203	17.3	0.0	48.0

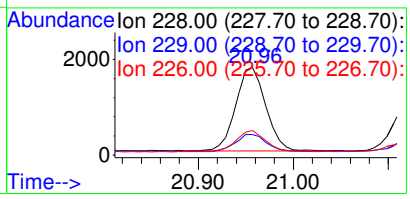


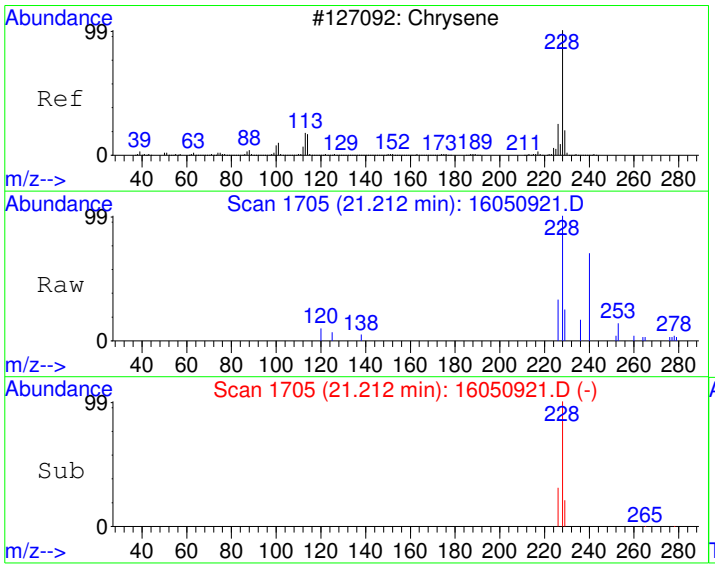


#18
Benzo[a]anthracene
Concen: 8.45 ug/kg
RT: 20.96 min Scan# 1669
Delta R.T. -0.02 min
Lab File: 16050921.D
Acq: 9 May 2016 9:48 pm

Tgt Ion:228 Resp: 3846

Ion	Ratio	Lower	Upper
228	100		
229	20.1	0.0	50.1
226	25.4	0.0	55.2

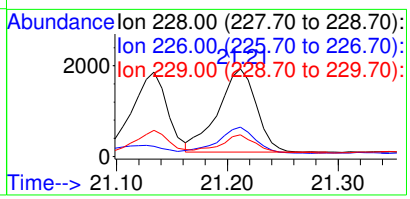


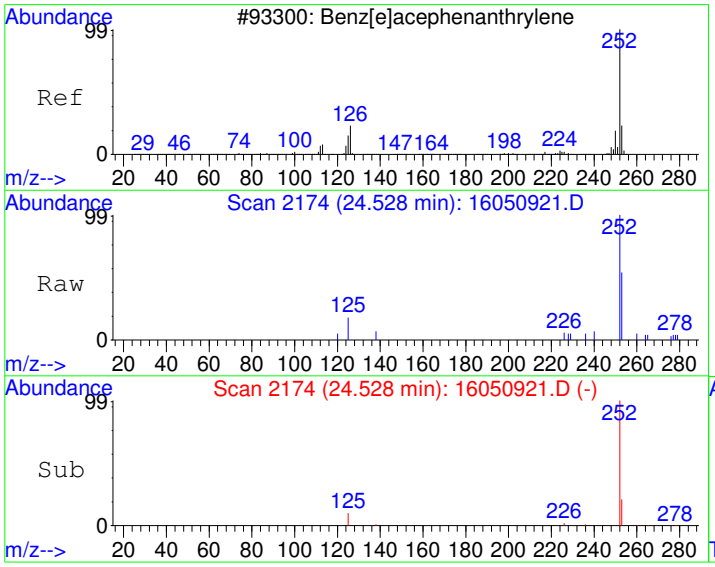


#19
Chrysene
Concen: 10.03 ug/kg
RT: 21.21 min Scan# 1705
Delta R.T. -0.02 min
Lab File: 16050921.D
Acq: 9 May 2016 9:48 pm

Tgt Ion:228 Resp: 4407

Ion	Ratio	Lower	Upper
228	100		
226	31.1	0.0	58.1
229	21.6	0.0	50.1

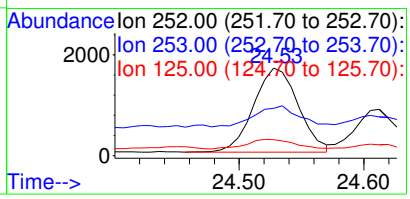


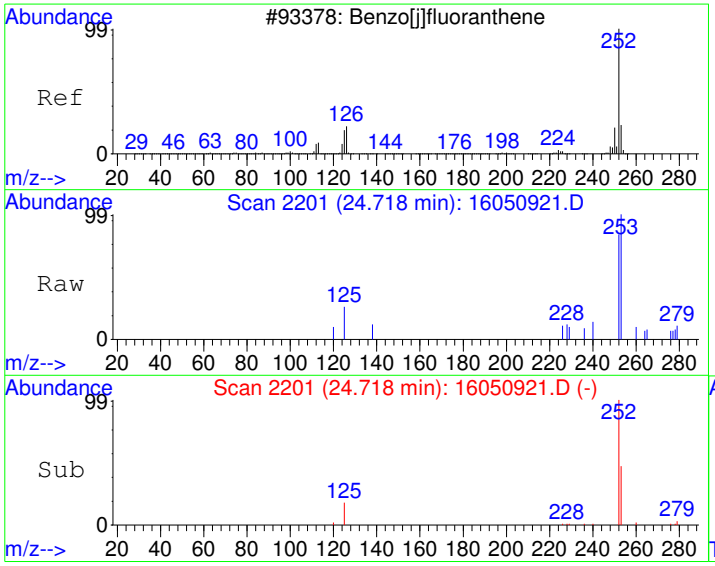


#21
Benzo[b]fluoranthene
Concen: 8.89 ug/kg
RT: 24.53 min Scan# 2174
Delta R.T. -0.03 min
Lab File: 16050921.D
Acq: 9 May 2016 9:48 pm

Tgt Ion:252 Resp: 4158

Ion	Ratio	Lower	Upper
252	100		
253	22.6	0.0	52.2
125	10.3	0.0	41.0

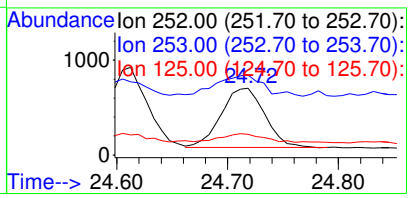


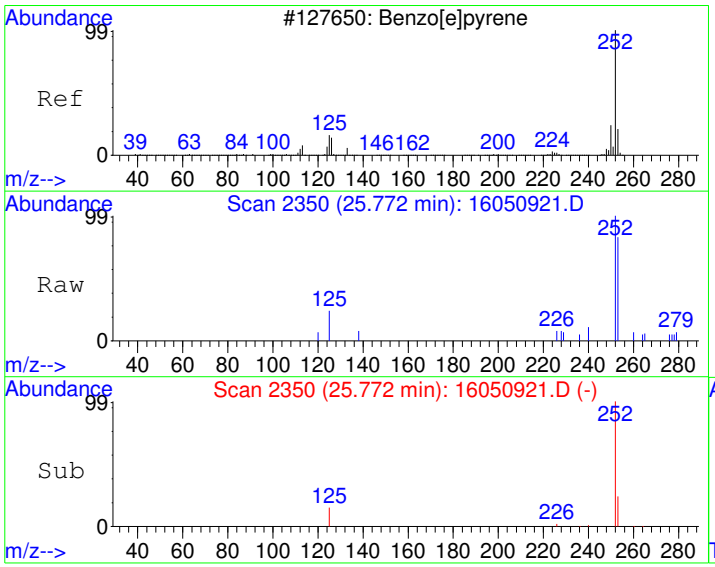


#23
Benzo(j)fluoranthene
Concen: 4.38 ug/kg
RT: 24.72 min Scan# 2201
Delta R.T. -0.03 min
Lab File: 16050921.D
Acq: 9 May 2016 9:48 pm

Tgt Ion:252 Resp: 1710

Ion	Ratio	Lower	Upper
252	100		
253	34.3	2.1	42.1
125	13.7	0.0	34.4

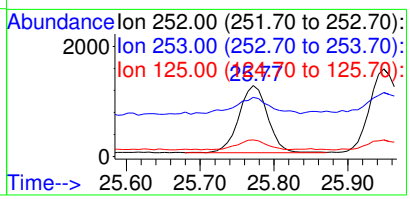


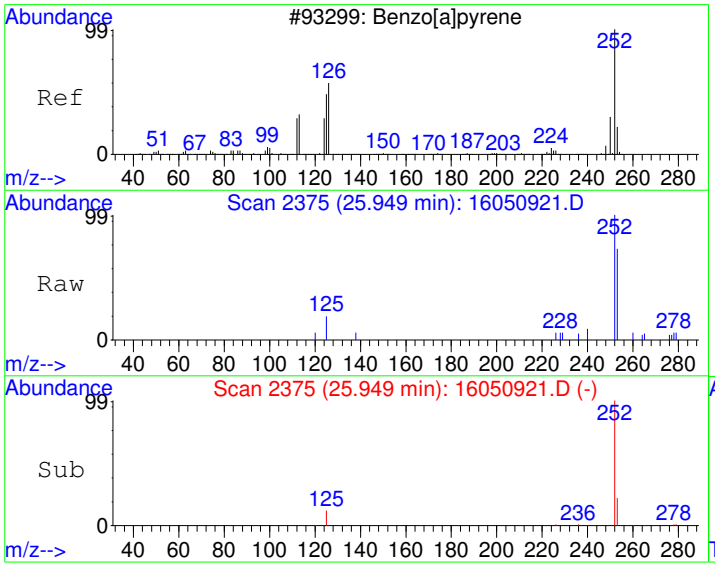


#24
Benzo[e]pyrene
Concen: 7.90 ug/kg
RT: 25.77 min Scan# 2350
Delta R.T. -0.03 min
Lab File: 16050921.D
Acq: 9 May 2016 9:48 pm

Tgt Ion:252 Resp: 3311

Ion	Ratio	Lower	Upper
252	100		
253	21.9	2.2	42.2
125	14.6	0.0	36.1

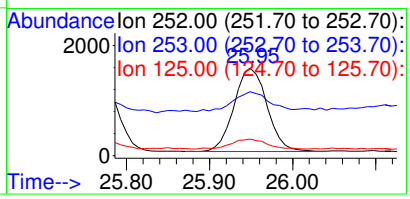


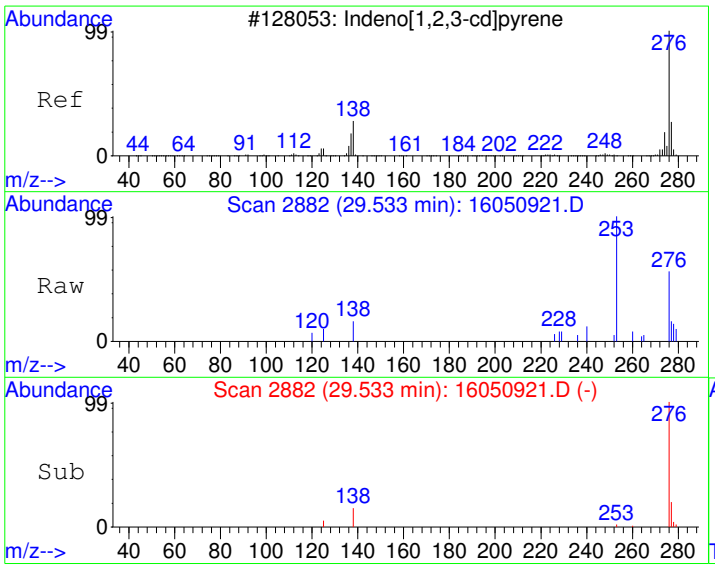


#25
Benzo[a]pyrene
Concen: 9.76 ug/kg
RT: 25.95 min Scan# 2375
Delta R.T. -0.04 min
Lab File: 16050921.D
Acq: 9 May 2016 9:48 pm

Tgt Ion:252 Resp: 4178

Ion	Ratio	Lower	Upper
252	100		
253	22.6	1.9	41.9
125	11.5	0.0	31.7

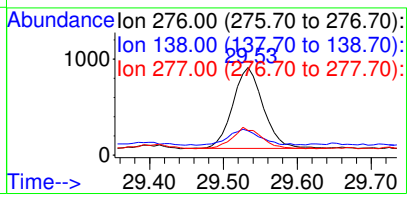


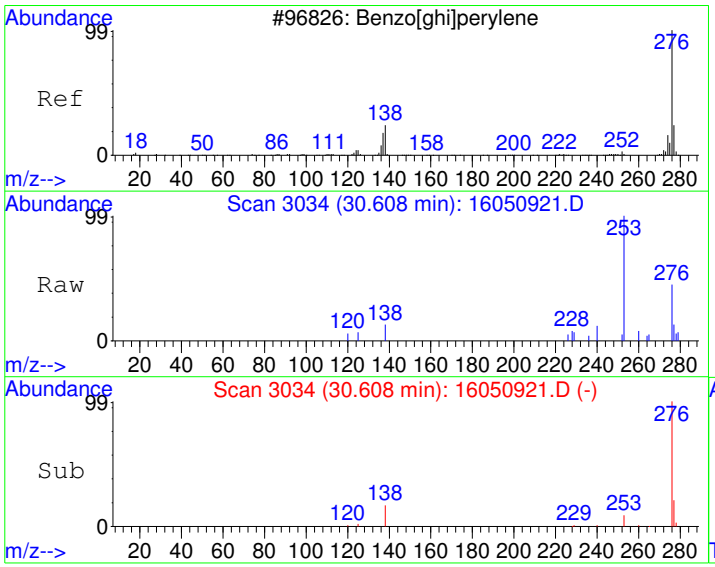


#27
Indeno[1,2,3-cd]pyrene
Concen: 5.21 ug/kg
RT: 29.53 min Scan# 2882
Delta R.T. -0.03 min
Lab File: 16050921.D
Acq: 9 May 2016 9:48 pm

Tgt Ion:276 Resp: 2423

Ion	Ratio	Lower	Upper
276	100		
138	17.8	6.7	46.7
277	22.3	5.8	45.8

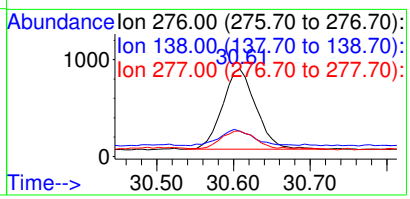




#28
Benzo[g,h,i]perylene
Concen: 6.96 ug/kg
RT: 30.61 min Scan# 3034
Delta R.T. -0.04 min
Lab File: 16050921.D
Acq: 9 May 2016 9:48 pm

Tgt Ion:276 Resp: 2524

Ion	Ratio	Lower	Upper
276	100		
138	17.5	0.0	39.1
277	22.5	4.0	44.0



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160509\16050922.D Vial: 11
Acq On : 9 May 2016 10:27 pm Operator:
Sample : 1605047-38B Inst : GC/MS #6
Misc : SAMP Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 10 8:44 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.88	136	1274627	4000.00 ug/kg	110
5) Acenaphthene-d10	13.29	164	792230	4000.00 ug/kg	69
11) Phenanthrene-d10	15.38	188	1596489	4000.00 ug/kg	78
17) Chrysene-d12	21.13	240	1752037	4000.00 ug/kg	77
20) Perylene-d12	26.29	264	1590436	4000.00 ug/kg	77

System Monitoring Compounds

7) 2-Fluorobiphenyl	12.22	172	649351	2809.83 ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 70.25%		
16) 4-Terphenyl-d14	17.89	244	1129837	2735.42 ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 68.39%		

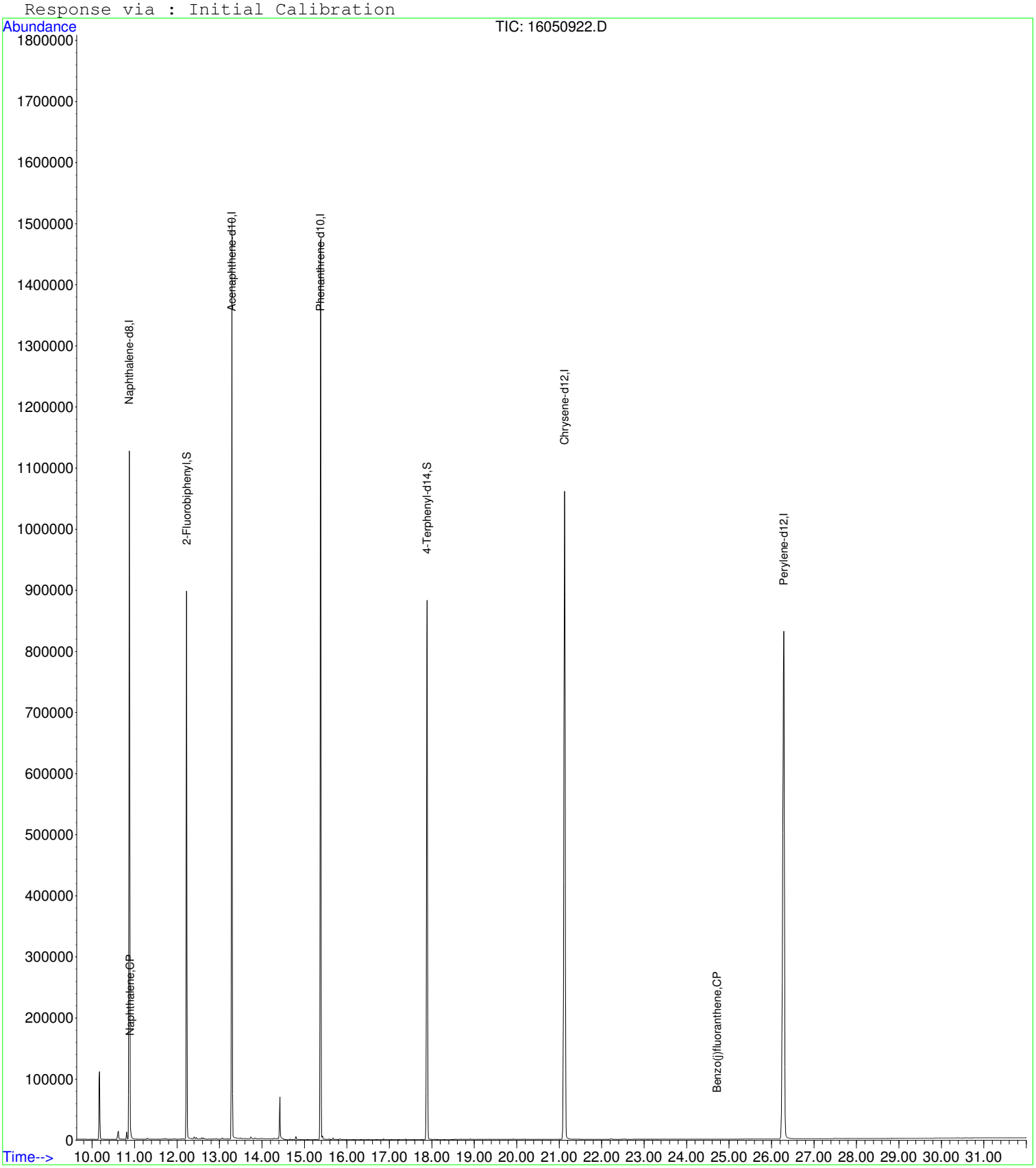
Target Compounds					Qvalue
2) Naphthalene	10.90	128	4022	12.61 ug/kg	96
23) Benzo(j)fluoranthene	24.72	252	76	0.22 ug/kg#	20

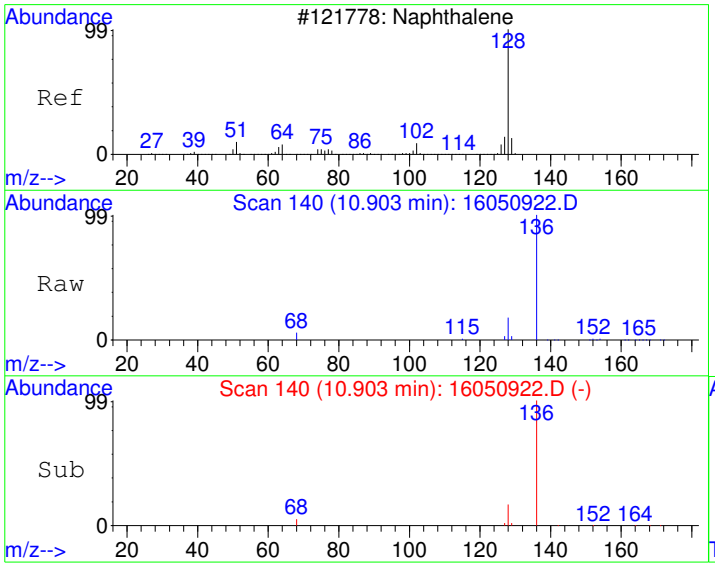
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160509\16050922.D Vial: 11
Acq On : 9 May 2016 10:27 pm Operator:
Sample : 1605047-38B Inst : GC/MS #6
Misc : SAMP Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 10 8:44 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

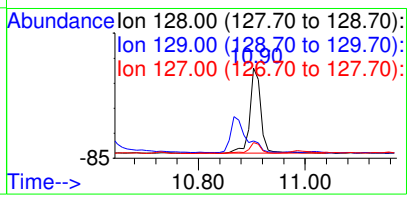


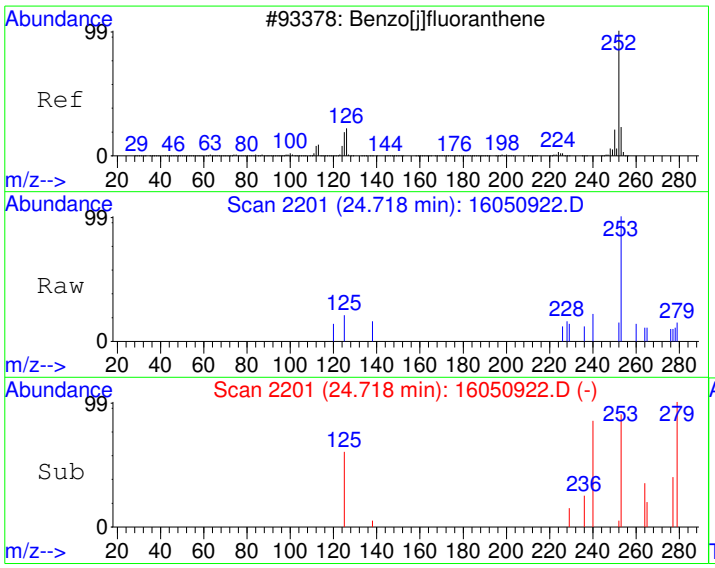


#2
Naphthalene
Concen: 12.61 ug/kg
RT: 10.90 min Scan# 140
Delta R.T. -0.01 min
Lab File: 16050922.D
Acq: 9 May 2016 10:27 pm

Tgt Ion:128 Resp: 4022

Ion	Ratio	Lower	Upper
128	100		
129	13.9	0.0	41.1
127	12.7	0.0	42.4

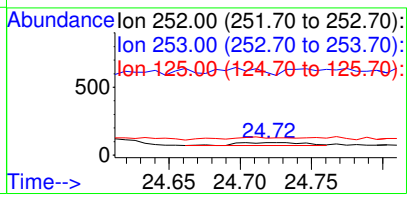




#23
Benzo(j)fluoranthene
Concen: 0.22 ug/kg
RT: 24.72 min Scan# 2201
Delta R.T. -0.03 min
Lab File: 16050922.D
Acq: 9 May 2016 10:27 pm

Tgt Ion:252 Resp: 76

Ion	Ratio	Lower	Upper
252	100		
253	0.0	2.1	42.1#
125	68.2	0.0	34.4#



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160509\16050925.D Vial: 14
Acq On : 10 May 2016 12:26 am Operator:
Sample : CCV1-160509 Inst : GC/MS #6
Misc : CCV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 10 8:43 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.88	136	1409311	4000.00	ug/kg	122
5) Acenaphthene-d10	13.29	164	877027	4000.00	ug/kg	76
11) Phenanthrene-d10	15.38	188	1788887	4000.00	ug/kg	88
17) Chrysene-d12	21.13	240	2007330	4000.00	ug/kg	88
20) Perylene-d12	26.29	264	1806762	4000.00	ug/kg	88

System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.22	172	270634	1057.84	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 26.45%#			
16) 4-Terphenyl-d14	17.88	244	444666	960.78	ug/kg	-0.01
Spiked Amount 4000.000	Range 40 - 140		Recovery = 24.02%#			

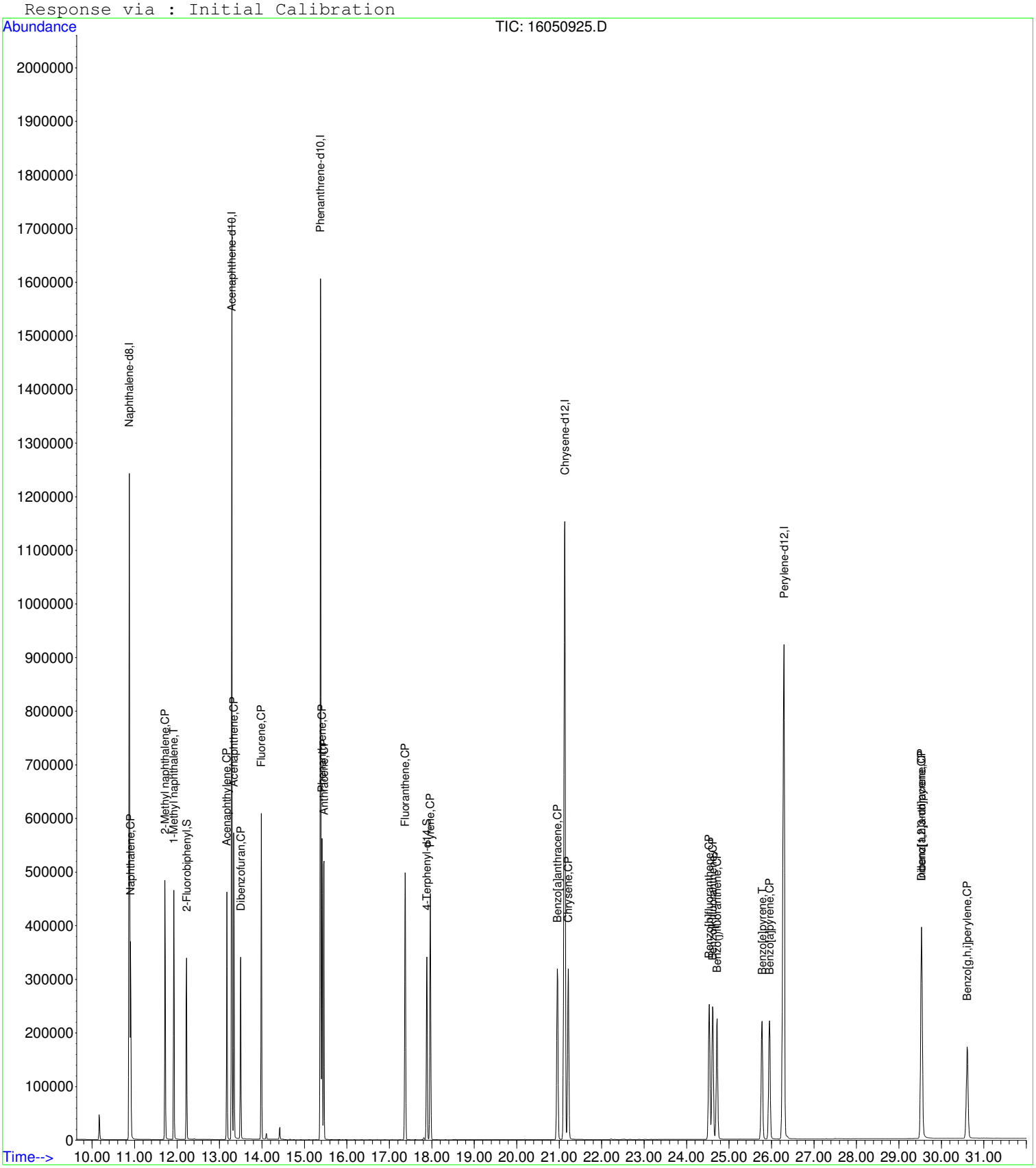
Target Compounds						Qvalue
2) Naphthalene	10.90	128	355724	1009.09	ug/kg	99
3) 2-Methyl naphthalene	11.71	142	253439	813.89	ug/kg	95
4) 1-Methyl naphthalene	11.92	142	226740	795.05	ug/kg	96
6) Dibenzofuran	13.50	168	340822	1036.88	ug/kg	100
8) Acenaphthylene	13.17	152	406351	1075.86	ug/kg	100
9) Acenaphthene	13.34	154	235672	1005.28	ug/kg	97
10) Fluorene	13.98	166	311002	1092.35	ug/kg	99
12) Phenanthrene	15.41	178	461784	981.58	ug/kg	100
13) Anthracene	15.46	178	457911	1028.36	ug/kg	99
14) Fluoranthene	17.37	202	499854	1026.75	ug/kg	99
15) Pyrene	17.96	202	505727	1000.02	ug/kg	99
18) Benzo[a]anthracene	20.96	228	469893	999.20	ug/kg	100
19) Chrysene	21.21	228	434895	957.13	ug/kg	100
21) Benzo[b]fluoranthene	24.53	252	465773	978.10	ug/kg	99
22) Benzo[k]fluoranthene	24.61	252	448116	1003.12	ug/kg	100
23) Benzo(j)fluoranthene	24.72	252	389753	979.44	ug/kg	100
24) Benzo[e]pyrene	25.78	252	411815	965.65	ug/kg	99
25) Benzo[a]pyrene	25.96	252	426956	979.72	ug/kg	99
26) Dibenz[a,h]anthracene	29.53	278	363445	915.73	ug/kg	99
27) Indeno[1,2,3-cd]pyrene	29.53	276	428694	905.42	ug/kg	97
28) Benzo[g,h,i]perylene	30.61	276	340026	920.97	ug/kg	100

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160509\16050925.D Vial: 14
Acq On : 10 May 2016 12:26 am Operator:
Sample : CCV1-160509 Inst : GC/MS #6
Misc : CCV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 10 8:43 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



GCMS6_160511A
For

DHL Work Order
1605047

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_160511A
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	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	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	
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: Don Winston Date: 5/12/2016

Second-Level Review: Janice Whitt Date: 5/13/2016

REVIEWED BY
By Janice Whitt at 10:09:07 AM, 5/13/2016

DHL Analytical, Inc.

Run ID: GCMS6_160511A **Run No.:** 85767

Analytical Run Date: 5/11/2016 **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-160511	1	PAH_LL_SDOD1	TUNE	R85767	5/11/2016 7:59:00 AM		
ICV-160511	1	PAH_LL_SDOD1	ICV	R85767	5/11/2016 8:35:00 AM		
LCS-75057	1	PAH_LL_SDOD1	LCS	75057	5/11/2016 9:15:00 AM		
MB-75057	1	PAH_LL_SDOD1	MBLK	75057	5/11/2016 9:55:00 AM		
1605047-26A	10	PAH_LL_SDOD1	SAMP	75057	5/11/2016 10:35:00 AM		All samples in this batch run at 10x - detection limit is sufficient and is approved by project managers.
1605047-27A	10	PAH_LL_SDOD1	SAMP	75057	5/11/2016 11:15:00 AM		
1605047-28A	10	PAH_LL_SDOD1	SAMP	75057	5/11/2016 11:55:00 AM		
1605047-29A	10	PAH_LL_SDOD1	SAMP	75057	5/11/2016 12:35:00 PM		
1605047-30A	10	PAH_LL_SDOD1	SAMP	75057	5/11/2016 1:14:00 PM		
1605047-33A	10	PAH_LL_SDOD1	SAMP	75057	5/11/2016 1:54:00 PM		Low recovery for surrogate 4-Terphenyl-d14.
1605047-34A	10	PAH_LL_SDOD1	SAMP	75057	5/11/2016 2:34:00 PM		
1605047-35A	10	PAH_LL_SDOD1	SAMP	75057	5/11/2016 3:13:00 PM		
1605047-36A	10	PAH_LL_SDOD1	SAMP	75057	5/11/2016 3:53:00 PM		
1605047-37A	10	PAH_LL_SDOD1	SAMP	75057	5/11/2016 4:33:00 PM		
1605047-39A	10	PAH_LL_SDOD1	SAMP	75057	5/11/2016 5:12:00 PM		
1605047-34AMS	10	PAH_LL_SDOD1	MS	75057	5/11/2016 5:52:00 PM		
1605047-34AMSD	10	PAH_LL_SDOD1	MSD	75057	5/11/2016 6:32:00 PM		High recovery for most analytes and %RPD with MS is outside limits due to matrix.
DFTPP2-160511	1	PAH_LL_SDOD1	TUNE	R85767	5/11/2016 7:11:00 PM		
ICV2-160511	1	PAH_LL_SDOD1	ICV	R85767	5/11/2016 7:48:00 PM		
SBLK-160511	1	PAH_LL_SDOD1	SBLK	75057	5/11/2016 8:28:00 PM		
1605047-42A	10	PAH_LL_SDOD1	SAMP	75057	5/11/2016 9:08:00 PM		
1605071-31A	10	PAH_LL_SDOD1	SAMP	75057	5/11/2016 9:48:00 PM		
1605071-33A	10	PAH_LL_SDOD1	SAMP	75057	5/11/2016 10:27:00 PM		
1605071-34A	10	PAH_LL_SDOD1	SAMP	75057	5/11/2016 11:07:00 PM		
1605071-37A	10	PAH_LL_SDOD1	SAMP	75057	5/11/2016 11:47:00 PM		
CCV-160511	1	PAH_LL_SDOD1	CCV	R85767	5/12/2016 12:27:00 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\160511.S
Comment:
Operator:
Data Path: C:\HPCHEM\1\DATA\160511\
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	16051101	DFTPPPAH	DFTPP-160511
2	Sample	2	16051102	PP160421	ICV-160511
3	Sample	3	16051103	PP160421	LCS-75057
4	Sample	4	16051104	PP160421	MB-75057
5	Sample	5	16051105	PP160421	1605047-26A
6	Sample	6	16051106	PP160421	1605047-27A
7	Sample	7	16051107	PP160421	1605047-28A
8	Sample	8	16051108	PP160421	1605047-29A
9	Sample	9	16051109	PP160421	1605047-30A
10	Sample	10	16051110	PP160421	1605047-33A
11	Sample	11	16051111	PP160421	1605047-34A
12	Sample	12	16051112	PP160421	1605047-35A
13	Sample	13	16051113	PP160421	1605047-36A
14	Sample	14	16051114	PP160421	1605047-37A
15	Sample	15	16051115	PP160421	1605047-39A
16	Sample	16	16051116	PP160421	1605047-34AMS
17	Sample	17	16051117	PP160421	1605047-34AMSD
18	Sample	18	16051118	DFTPPPAH	DFTPP2-160511
19	Sample	19	16051119	PP160421	ICV2-160511
20	Sample	20	16051120	PP160421	SBLK-160511
21	Sample	21	16051121	PP160421	1605047-42A
22	Sample	22	16051122	PP160421	1605071-31A
23	Sample	23	16051123	PP160421	1605071-33A
24	Sample	24	16051124	PP160421	1605071-34A
25	Sample	25	16051125	PP160421	1605071-37A
26	Sample	26	16051126	PP160421	CCV-160511

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/10/2016 9:17:34 AM**
Digestion:
Prep End Date: 5/10/16 2:36 PM

T-V #1,2,3
Balance #25
Sonicators #1,2,3,4

Prep Batch **75057** Prep Code: **3550_PAHDOD** Technician: **Duston Bezner** Prep Factor Units: **mL/g**

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605047-26A	Soil		10.08	10	0.992	1 of 1	
1605047-27A	Soil		10.05	10	0.995	1 of 1	
1605047-28A	Soil		10.01	10	1.000	1 of 1	
1605047-29A	Soil		10.04	10	1.000	1 of 1	
1605047-30A	Soil		10.12	10	1.000	1 of 1	
1605047-33A	Soil		10.08	10	1.000	1 of 1	
1605047-34A	Soil		10.32	10	1.000	1 of 1	
1605047-35A	Soil		10.06	10	1.000	1 of 1	
1605047-36A	Soil		10.15	10	1.000	1 of 1	
1605047-37A	Soil		10.04	10	1.000	1 of 1	
1605047-39A	Soil		10.20	10	1.000	1 of 1	
1605047-40A	Soil		10.42	10	1.000	1 of 1	
Extract and hold for PAH							
1605047-41A	Soil		10.17	10	1.000	1 of 1	
Extract and hold for PAH							
1605047-42A	Soil		10.14	10	1.000	1 of 1	
1605047-43A	Soil		10.03	10	1.000	1 of 1	
Extract and hold for PAH							
1605047-44A	Soil		10.24	10	1.000	1 of 1	
Extract and hold for PAH							
1605071-31A	Soil		10.76	10	1.000	1 of 1	
1605071-33A	Soil		10.45	10	1.000	1 of 1	
1605071-34A	Soil		10.14	10	1.000	1 of 1	
1605071-37A	Soil		10.30	10	1.000	1 of 1	
LCS-75057	Soil		10	10	1.000	of	
MB-75057	Soil		10	10	1.000	of	

1605047-34A MS 10.41
MSD 10.62

#9927 sodium sulfate
#10169 MeCl2
#10214 Whatman filter
#10343 1:1 MeCl2:Acetone

REVIEWED BY
By Janice Whitt at 9:29:38 AM, 5/13/2016

5/10/16 / AR 5/10/16

(0.05) PAHPREP160509 200ppm PAH mix LCS/MS/D
(0.25) SVPREP160415-1 40ppm surr. 3 ALL

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/5/2016 2:00:00 PM**
Digestion: **Start: 5/5/2016 5:00:00 PM / Stop: 5/7/2016 9:00:00 AM**
Prep End Date: **5/7/2016 3:30:00 PM**

Prep Batch **74972** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker**

Prep Factor Units: **mL/**

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605047-01A	Soil		0	0	#Num!	1 of 1	
1605047-02A	Soil		0	0	#Num!	1 of 1	
1605047-03A	Soil		0	0	#Num!	of 3	
Extra sample was subsampled for MS/MSD							
1605047-04A	Soil		0	0	#Num!	1 of 1	
1605047-05A	Soil		0	0	#Num!	1 of 1	
1605047-06A	Soil		0	0	#Num!	1 of 1	
1605047-07A	Soil		0	0	#Num!	1 of 1	
1605047-08A	Soil		0	0	#Num!	1 of 1	
1605047-09A	Soil		0	0	#Num!	1 of 1	
1605047-10A	Soil		0	0	#Num!	1 of 1	
1605047-11A	Soil		0	0	#Num!	1 of 1	
1605047-12A	Soil		0	0	#Num!	1 of 1	
1605047-13A	Soil		0	0	#Num!	1 of 1	
1605047-14A	Soil		0	0	#Num!	1 of 1	
1605047-15A	Soil		0	0	#Num!	1 of 1	
1605047-16A	Soil		0	0	#Num!	1 of 1	
1605047-17A	Soil		0	0	#Num!	1 of 1	
1605047-18A	Soil		0	0	#Num!	1 of 1	
1605047-19A	Soil		0	0	#Num!	1 of 1	
1605047-20A	Soil		0	0	#Num!	1 of 1	
1605047-21A	Soil		0	0	#Num!	1 of 1	
1605047-22A	Soil		0	0	#Num!	1 of 1	
1605047-23A	Soil		0	0	#Num!	1 of 1	
1605047-24A	Soil		0	0	#Num!	of 3	
Extra sample was subsamples for MS/MSD							
1605047-25A	Soil		0	0	#Num!	1 of 1	

REVIEWED BY
By Janice Whitt at 9:28:16 AM, 5/13/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/5/2016 2:00:00 PM**
Digestion: **Start: 5/5/2016 5:00:00 PM / Stop: 5/7/2016 9:00:00 AM**
Prep End Date: **5/7/2016 3:30:00 PM**

Prep Batch **74972** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker**

Prep Factor Units: **mL/**

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605047-26A	Soil		0	0	#Num!	1 of 1	
1605047-27A	Soil		0	0	#Num!	1 of 1	
1605047-28A	Soil		0	0	#Num!	1 of 1	
1605047-29A	Soil		0	0	#Num!	1 of 1	
1605047-30A	Soil		0	0	#Num!	1 of 1	

REVIEWED BY
By Janice Whitt at 9:28:19 AM, 5/13/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/10/2016 9:17:34 AM**
Digestion:
Prep End Date: **5/10/2016 2:36:00 PM**

Prep Batch **75057** 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
1605047-26A	Soil		10.08	10	0.992	1 of 1	
1605047-27A	Soil		10.05	10	0.995	1 of 1	
1605047-28A	Soil		10.01	10	0.999	1 of 1	
1605047-29A	Soil		10.04	10	0.996	1 of 1	
1605047-30A	Soil		10.12	10	0.988	1 of 1	
1605047-33A	Soil		10.08	10	0.992	1 of 1	
1605047-34A	Soil		10.32	10	0.969	1 of 1	
1605047-34AMS	Soil		10.41	10	0.961	of	
1605047-34AMSD	Soil		10.62	10	0.942	of	
1605047-35A	Soil		10.06	10	0.994	1 of 1	
1605047-36A	Soil		10.15	10	0.985	1 of 1	
1605047-37A	Soil		10.04	10	0.996	1 of 1	
1605047-39A	Soil		10.2	10	0.980	1 of 1	
1605047-40A	Soil		10.42	10	0.960	1 of 1	
	Extract and hold for PAH						
1605047-41A	Soil		10.17	10	0.983	1 of 1	
	Extract and hold for PAH						
1605047-42A	Soil		10.14	10	0.986	1 of 1	
1605047-43A	Soil		10.03	10	0.997	1 of 1	
	Extract and hold for PAH						
1605047-44A	Soil		10.24	10	0.977	1 of 1	
	Extract and hold for PAH						
1605071-31A	Soil		10.76	10	0.929	1 of 1	
1605071-33A	Soil		10.45	10	0.957	1 of 1	
1605071-34A	Soil		10.14	10	0.986	1 of 1	
1605071-37A	Soil		10.3	10	0.971	1 of 1	
LCS-75057	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
SVPREP160415-A	40 PPM Surrogate Standard	ALL	0.25	07/15/2016

REVIEWED BY
By Janice Whitt at 9:29:42 AM, 5/13/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/10/2016 9:17:34 AM**
Digestion:
Prep End Date: **5/10/2016 2:36:00 PM**

Prep Batch **75057** 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
MB-75057	Soil		10	10	1.000	of	

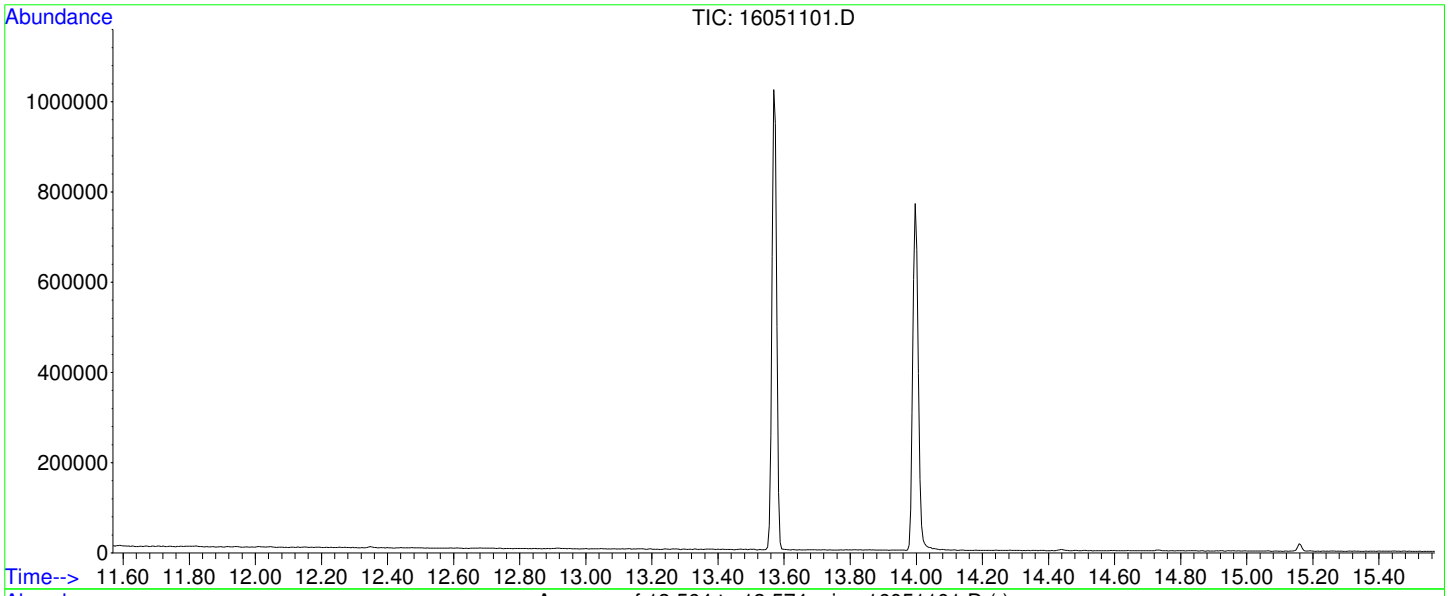
Number	Reagent Name	Amt	Units	Exp. Da
9927	purified sodium sulfate	10	g	07/04/2016
10169	Methylene Chloride	8	ml	03/15/2026
10214	Whatman 41 Filter	1	filter	03/30/2026
10343	1:1 MeCl2/Acetone	120	ml	05/09/2026

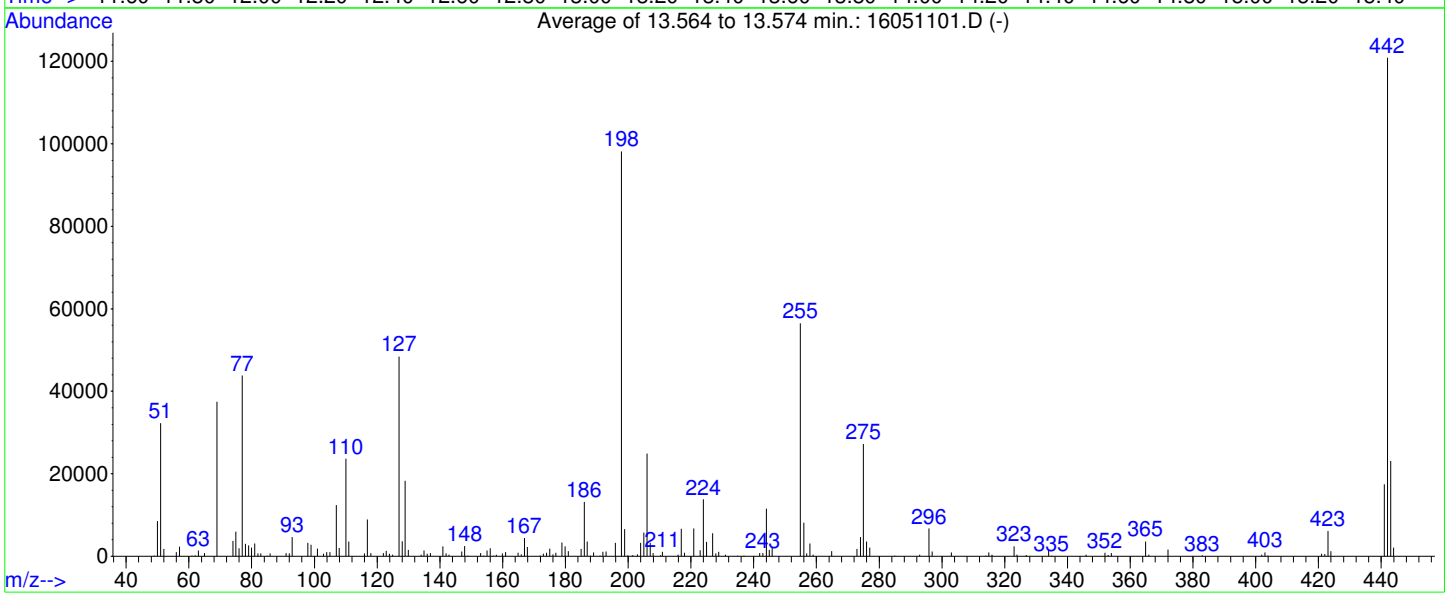
Spk ID	Spike Name	SampType	Amt (mL or g)	Exp. Date
PAHPREP160509	200 PPM PAH Spike Mix	LCS/MS/MSD	0.05	11/07/2016
SVPREP160415-A	40 PPM Surrogate Standard	ALL	0.25	07/15/2016

REVIEWED BY
By Janice Whitt at 9:29:48 AM, 5/13/2016

DFTPP

Data File : C:\HPCHEM\1\DATA\160511\16051101.D Vial: 1
Acq On : 11 May 2016 7:59 am Operator:
Sample : DFTPP-160511 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





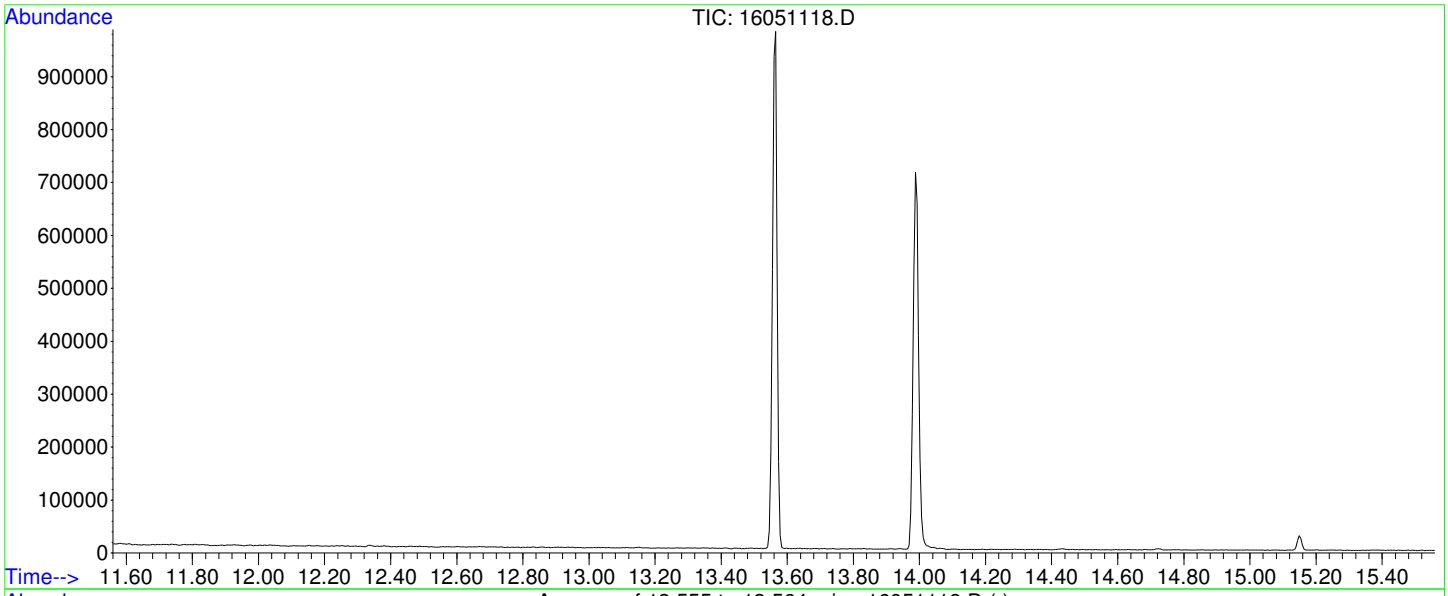
AutoFind: Scans 1590, 1591, 1592; Background Corrected with Scan 1584

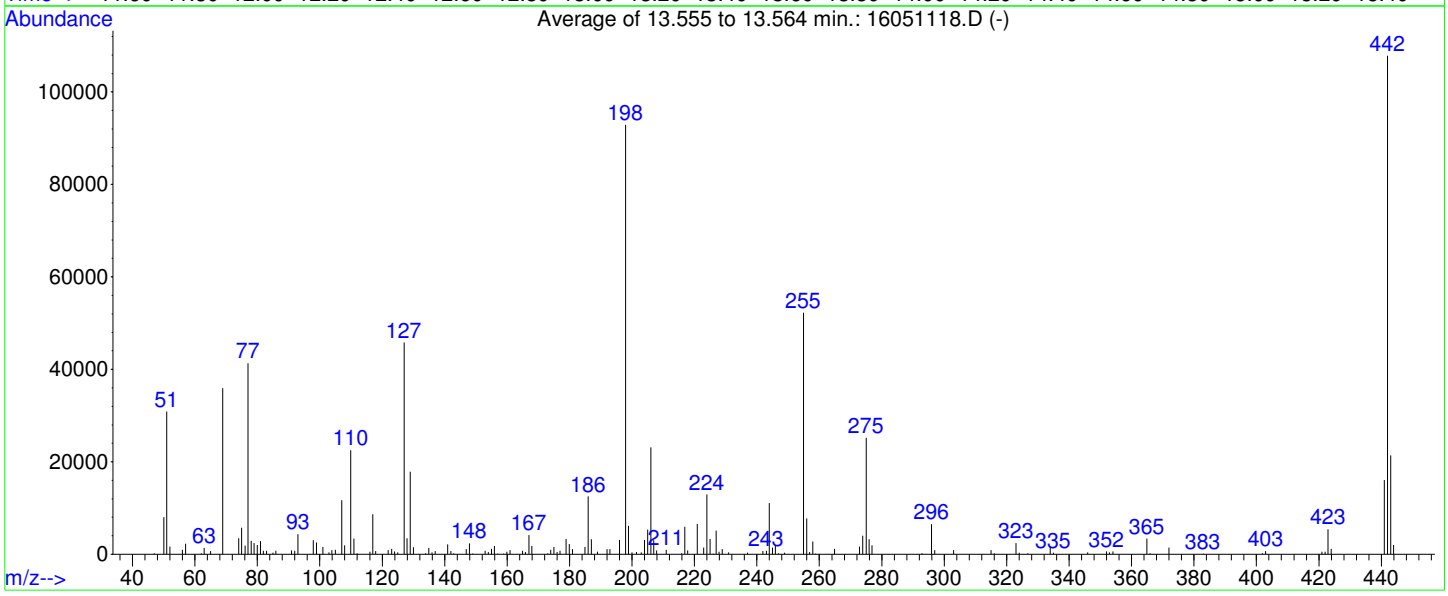
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	32.9	32311	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	38.2	37451	PASS
70	69	0.00	2	0.0	0	PASS
127	198	10	80	49.4	48451	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	98141	PASS
199	198	5	9	6.8	6633	PASS
275	198	10	60	27.8	27240	PASS
365	198	1	200	3.6	3578	PASS
441	442	0.01	24	14.4	17438	PASS
442	198	50	400	123.2	120875	PASS
443	442	15	24	19.1	23124	PASS

REVIEWED BY
By Janice Whitt at 9:29:53 AM, 5/13/2016

DFTPP

Data File : C:\HPCHEM\1\DATA\160511\16051118.D Vial: 18
Acq On : 11 May 2016 7:11 pm Operator:
Sample : DFTPP2-160511 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	33.2	30871	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	38.6	35907	PASS
70	69	0.00	2	0.0	0	PASS
127	198	10	80	49.3	45795	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	92907	PASS
199	198	5	9	6.7	6179	PASS
275	198	10	60	27.1	25176	PASS
365	198	1	200	3.6	3372	PASS
441	442	0.01	24	14.9	16074	PASS
442	198	50	400	116.1	107853	PASS
443	442	15	24	19.8	21401	PASS

REVIEWED BY
By Janice Whitt at 9:29:56 AM, 5/13/2016

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160511\16051102.D Vial: 2
Acq On : 11 May 2016 8:35 am Operator:
Sample : ICV-160511 Inst : GC/MS #6
Misc : ICV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 12 8:55 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.87	136	1259762	4000.00 ug/kg	109
5) Acenaphthene-d10	13.28	164	1011159	4000.00 ug/kg	88
11) Phenanthrene-d10	15.37	188	1753957	4000.00 ug/kg	86
17) Chrysene-d12	21.12	240	2071365	4000.00 ug/kg	91
20) Perylene-d12	26.27	264	1914268	4000.00 ug/kg	93

System Monitoring Compounds

7) 2-Fluorobiphenyl	12.22	172	592204	2007.72 ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 50.19%		
16) 4-Terphenyl-d14	17.87	244	844695	1861.47 ug/kg	-0.03
Spiked Amount 4000.000	Range 40 - 140		Recovery = 46.54%		

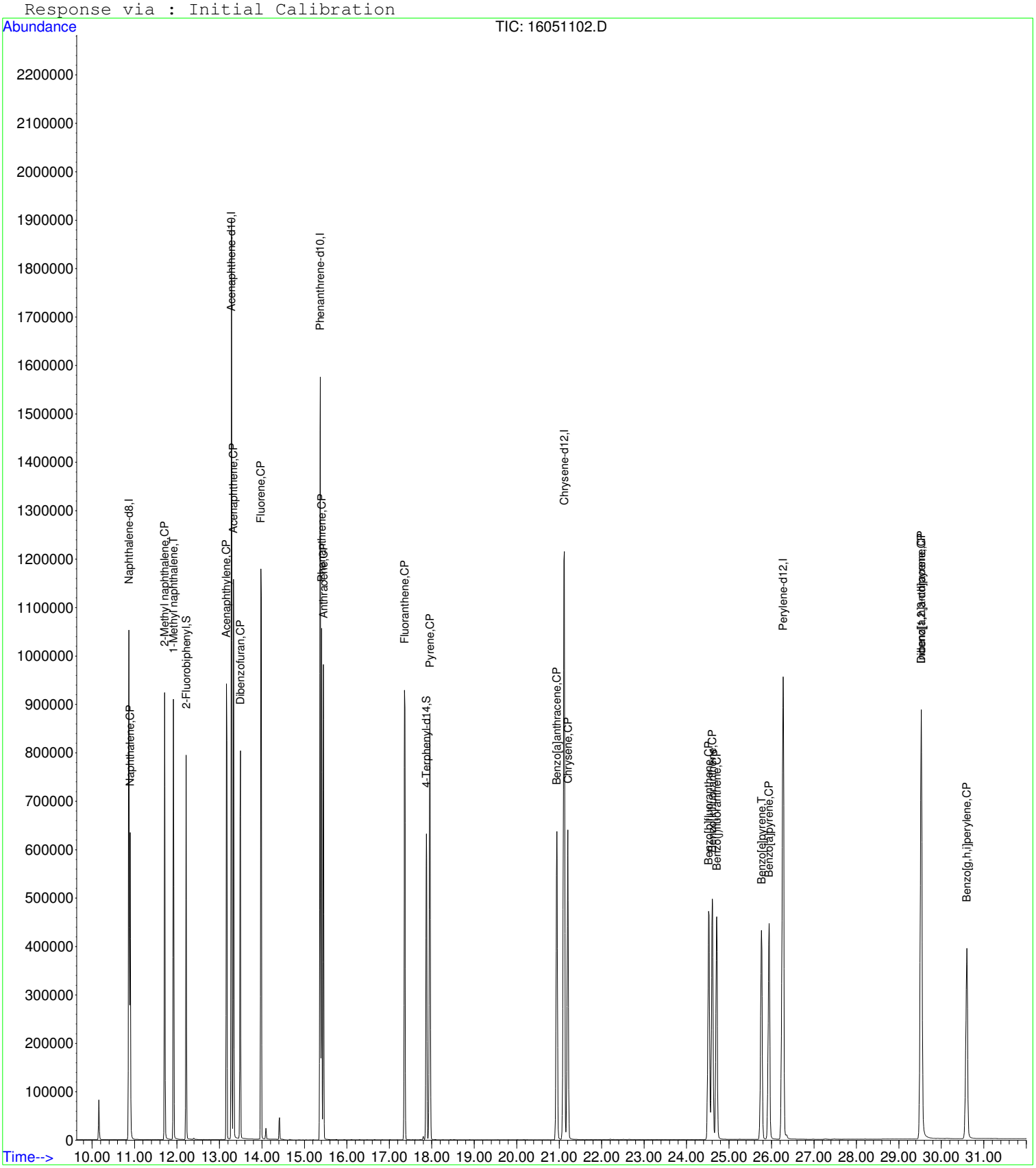
Target Compounds					Qvalue
2) Naphthalene	10.90	128	604613	1918.72 ug/kg	99
3) 2-Methyl naphthalene	11.71	142	505267	1815.24 ug/kg	94
4) 1-Methyl naphthalene	11.92	142	457575	1794.92 ug/kg	96
6) Dibenzofuran	13.49	168	740781	1954.71 ug/kg	99
8) Acenaphthylene	13.16	152	901557	2070.33 ug/kg	99
9) Acenaphthene	13.33	154	535115	1979.79 ug/kg	97
10) Fluorene	13.98	166	662420	2018.02 ug/kg	96
12) Phenanthrene	15.41	178	873581	1893.89 ug/kg	100
13) Anthracene	15.45	178	834864	1912.24 ug/kg	100
14) Fluoranthene	17.36	202	937464	1963.99 ug/kg	99
15) Pyrene	17.96	202	954113	1924.23 ug/kg	100
18) Benzo[a]anthracene	20.94	228	944372	1946.07 ug/kg	100
19) Chrysene	21.21	228	875574	1867.42 ug/kg	99
21) Benzo[b]fluoranthene	24.52	252	957717	1898.22 ug/kg	99
22) Benzo[k]fluoranthene	24.61	252	885076	1870.01 ug/kg	100
23) Benzo(j)fluoranthene	24.71	252	801718	1901.55 ug/kg	99
24) Benzo[e]pyrene	25.77	252	840067	1859.22 ug/kg	100
25) Benzo[a]pyrene	25.94	252	877748	1901.01 ug/kg	99
26) Dibenz[a,h]anthracene	29.53	278	841194	2000.43 ug/kg	100
27) Indeno[1,2,3-cd]pyrene	29.53	276	987843	1969.19 ug/kg	100
28) Benzo[g,h,i]perylene	30.60	276	781385	1997.54 ug/kg	99

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160511\16051102.D Vial: 2
Acq On : 11 May 2016 8:35 am Operator:
Sample : ICV-160511 Inst : GC/MS #6
Misc : ICV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 12 8:55 2016 Quant Results File: PP160421.RES

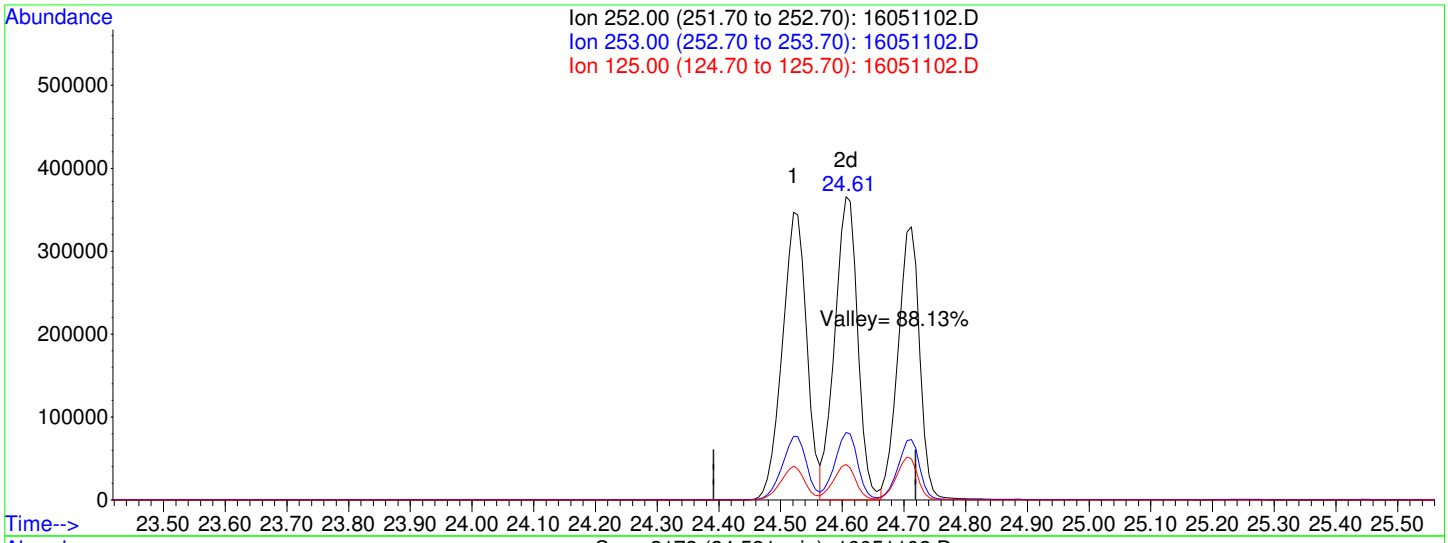
Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri Apr 22 11:43:43 2016
Response via : Initial Calibration

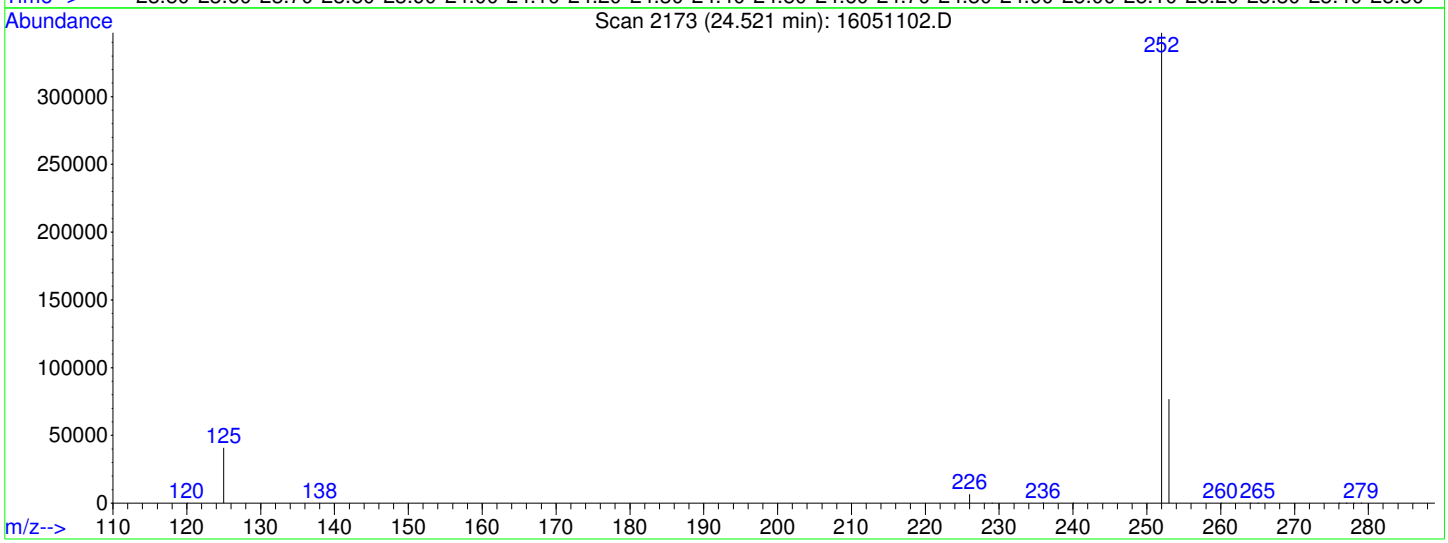


Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\160511\16051102.D Vial: 2
Acq On : 11 May 2016 8:35 am Operator:
Sample : ICV-160511 Inst : GC/MS #6
Misc : ICV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 11 9:08 2016 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri Apr 22 11:43:43 2016
Response via : Multiple Level Calibration





TIC: 16051102.D

(21) Benzo[b]fluoranthene (CP)

24.52min 1898.22ug/kg

response 957717

Ion	Exp%	Act%
252.00	100	100
253.00	22.20	22.03
125.00	11.00	11.79
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160511\16051103.D Vial: 3
Acq On : 11 May 2016 9:15 am Operator:
Sample : LCS-75057 Inst : GC/MS #6
Misc : LCS Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 12 8:55 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.87	136	1348817	4000.00 ug/kg	116
5) Acenaphthene-d10	13.28	164	758990	4000.00 ug/kg	66
11) Phenanthrene-d10	15.37	188	1672637	4000.00 ug/kg	82
17) Chrysene-d12	21.11	240	2007979	4000.00 ug/kg	88
20) Perylene-d12	26.27	264	1879906	4000.00 ug/kg	91

System Monitoring Compounds					
7) 2-Fluorobiphenyl	12.22	172	173951	785.67 ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 19.64%#		
16) 4-Terphenyl-d14	17.87	244	332159	767.57 ug/kg	-0.03
Spiked Amount 4000.000	Range 40 - 140		Recovery = 19.19%#		

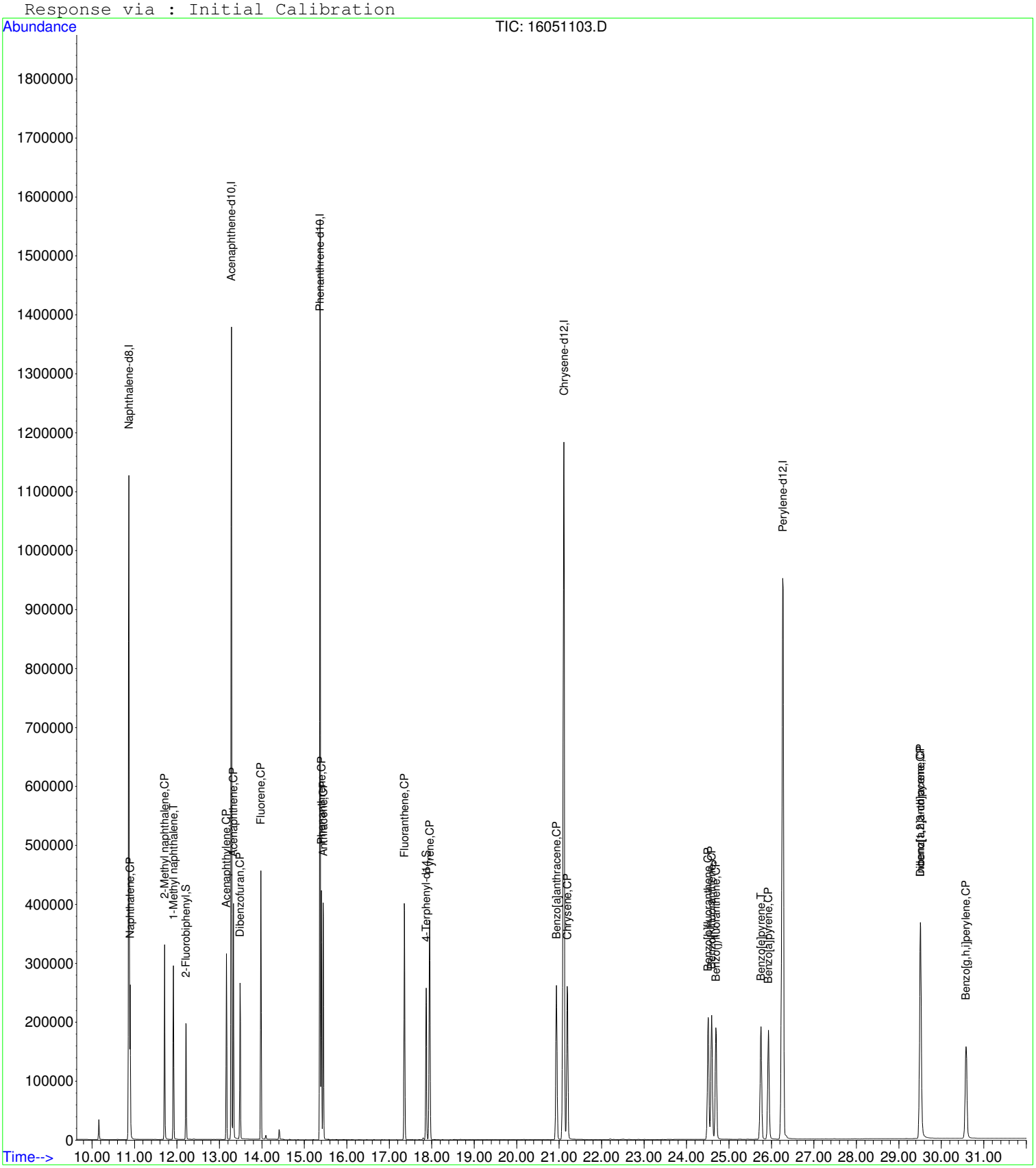
Target Compounds					Qvalue
2) Naphthalene	10.90	128	237654	704.39 ug/kg	100
3) 2-Methyl naphthalene	11.71	142	163096	547.26 ug/kg	97
4) 1-Methyl naphthalene	11.92	142	145689	533.76 ug/kg	97
6) Dibenzofuran	13.48	168	238157	837.22 ug/kg	100
8) Acenaphthylene	13.16	152	259143	792.81 ug/kg	99
9) Acenaphthene	13.33	154	152845	753.37 ug/kg	99
10) Fluorene	13.98	166	210178	853.03 ug/kg	100
12) Phenanthrene	15.40	178	345997	786.58 ug/kg	99
13) Anthracene	15.44	178	348142	836.18 ug/kg	99
14) Fluoranthene	17.35	202	402166	883.50 ug/kg	99
15) Pyrene	17.95	202	405350	857.25 ug/kg	99
18) Benzo[a]anthracene	20.94	228	380427	808.70 ug/kg	100
19) Chrysene	21.19	228	357789	787.18 ug/kg	100
21) Benzo[b]fluoranthene	24.51	252	388493	784.08 ug/kg	99
22) Benzo[k]fluoranthene	24.59	252	374077	804.80 ug/kg	100
23) Benzo(j)fluoranthene	24.69	252	333566	805.63 ug/kg	98
24) Benzo[e]pyrene	25.75	252	356324	803.02 ug/kg	99
25) Benzo[a]pyrene	25.93	252	345790	762.60 ug/kg	99
26) Dibenz[a,h]anthracene	29.51	278	345359	836.30 ug/kg	99
27) Indeno[1,2,3-cd]pyrene	29.51	276	403593	819.24 ug/kg	97
28) Benzo[g,h,i]perylene	30.58	276	318843	829.99 ug/kg	98

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160511\16051103.D Vial: 3
Acq On : 11 May 2016 9:15 am Operator:
Sample : LCS-75057 Inst : GC/MS #6
Misc : LCS Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 12 8:55 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\160511\16051104.D Vial: 4
Acq On : 11 May 2016 9:55 am Operator:
Sample : MB-75057 Inst : GC/MS #6
Misc : MBLK Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 12 8:55 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.87	136	1253049	4000.00	ug/kg	108
5) Acenaphthene-d10	13.28	164	675807	4000.00	ug/kg	59
11) Phenanthrene-d10	15.37	188	1432187	4000.00	ug/kg	70
17) Chrysene-d12	21.11	240	1774398	4000.00	ug/kg	78
20) Perylene-d12	26.27	264	1732816	4000.00	ug/kg	84

System Monitoring Compounds

7) 2-Fluorobiphenyl	12.22	172	171969	872.33	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 21.81%#			
16) 4-Terphenyl-d14	17.87	244	307142	828.92	ug/kg	-0.03
Spiked Amount 4000.000	Range 40 - 140		Recovery = 20.72%#			

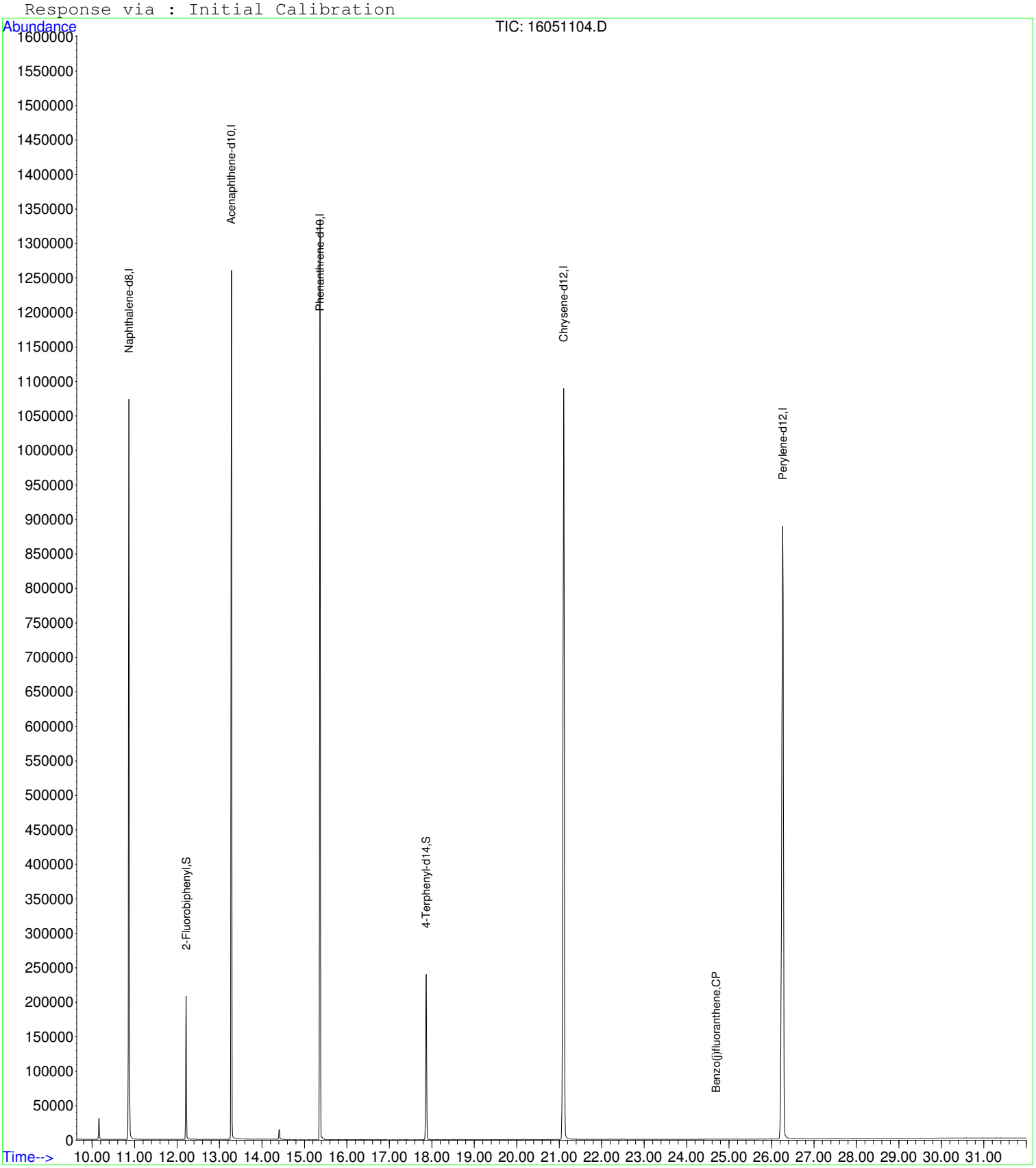
Target Compounds						Qvalue
23) Benzo(j)fluoranthene	24.69	252	286	0.75	ug/kg	90

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160511\16051104.D Vial: 4
Acq On : 11 May 2016 9:55 am Operator:
Sample : MB-75057 Inst : GC/MS #6
Misc : MBLK Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 12 8:55 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\160511\16051105.D Vial: 5
Acq On : 11 May 2016 10:35 am Operator:
Sample : 1605047-26A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 12 8:56 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.87	136	1389499	4000.00	ug/kg	120
5) Acenaphthene-d10	13.28	164	882127	4000.00	ug/kg	77
11) Phenanthrene-d10	15.37	188	1700929	4000.00	ug/kg	83
17) Chrysene-d12	21.11	240	1965180	4000.00	ug/kg	87
20) Perylene-d12	26.27	264	1836708	4000.00	ug/kg	89

System Monitoring Compounds

7) 2-Fluorobiphenyl	12.22	172	17651	68.59	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.71%#			
16) 4-Terphenyl-d14	17.87	244	27138	61.67	ug/kg	-0.03
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.54%#			

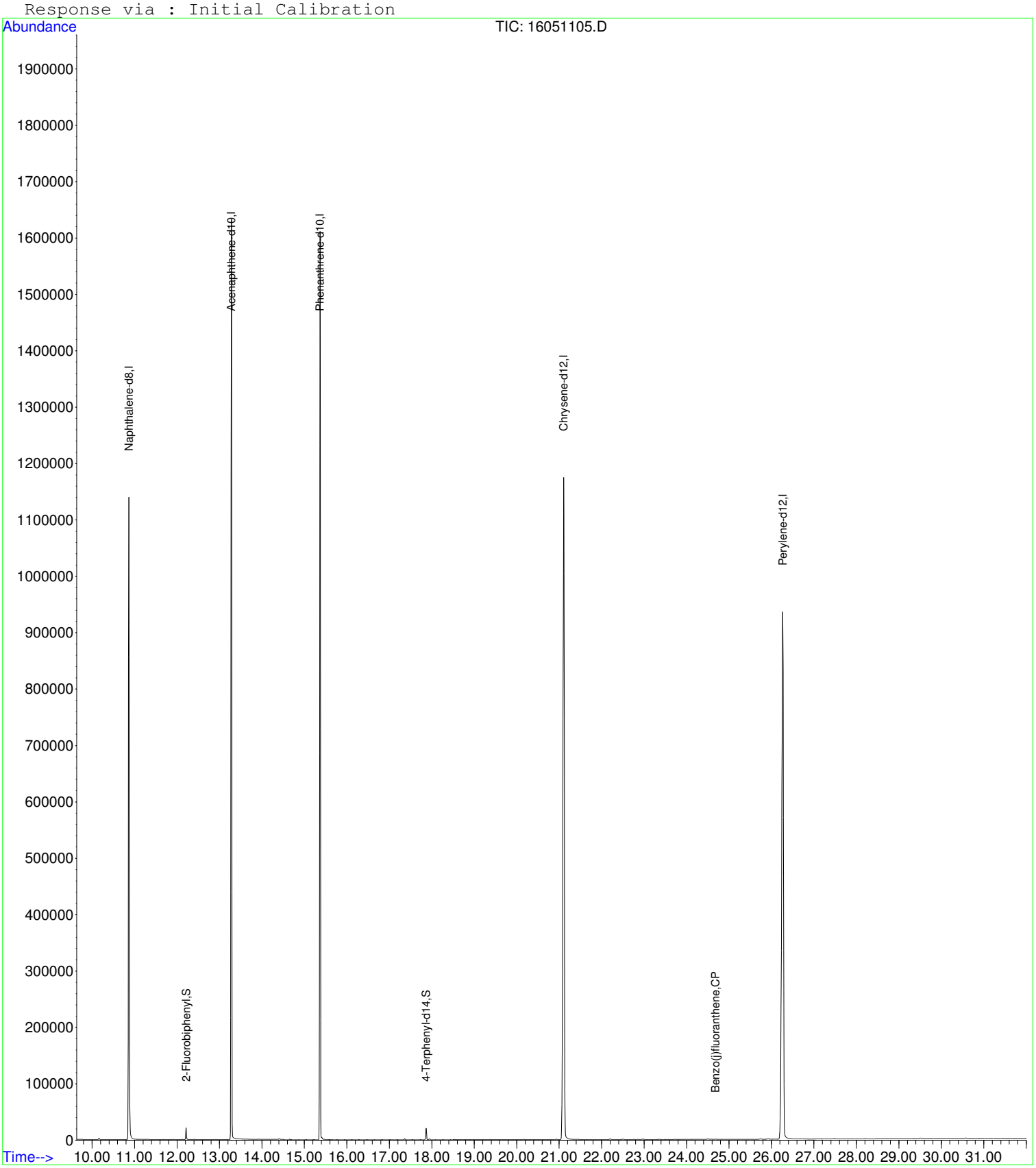
Target Compounds						Qvalue
23) Benzo(j)fluoranthene	24.68	252	814	2.01	ug/kg	92

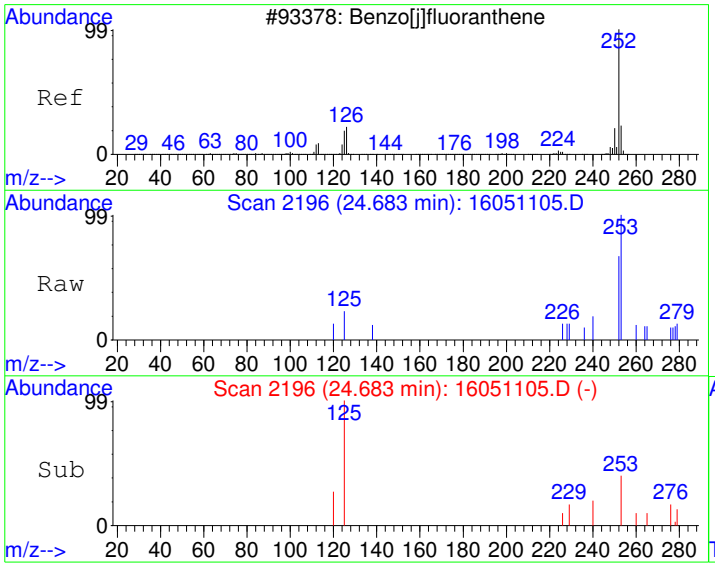
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160511\16051105.D Vial: 5
Acq On : 11 May 2016 10:35 am Operator:
Sample : 1605047-26A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 12 8:56 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

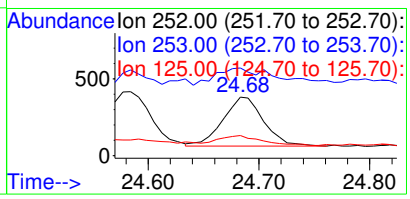




#23
Benzo(j)fluoranthene
Concen: 2.01 ug/kg
RT: 24.68 min Scan# 2196
Delta R.T. -0.06 min
Lab File: 16051105.D
Acq: 11 May 2016 10:35 am

Tgt Ion:252 Resp: 814

Ion	Ratio	Lower	Upper
252	100		
253	25.4	2.1	42.1
125	18.8	0.0	34.4



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160511\16051106.D Vial: 6
Acq On : 11 May 2016 11:15 am Operator:
Sample : 1605047-27A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 12 8:57 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1402602	4000.00 ug/kg	121
5) Acenaphthene-d10	13.28	164	854560	4000.00 ug/kg	74
11) Phenanthrene-d10	15.37	188	1687773	4000.00 ug/kg	83
17) Chrysene-d12	21.11	240	1904942	4000.00 ug/kg	84
20) Perylene-d12	26.26	264	1730793	4000.00 ug/kg	84

System Monitoring Compounds

7) 2-Fluorobiphenyl	12.21	172	20233	81.17 ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery =	2.03%#	
16) 4-Terphenyl-d14	17.86	244	32248	73.85 ug/kg	-0.04
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.85%#	

Target Compounds

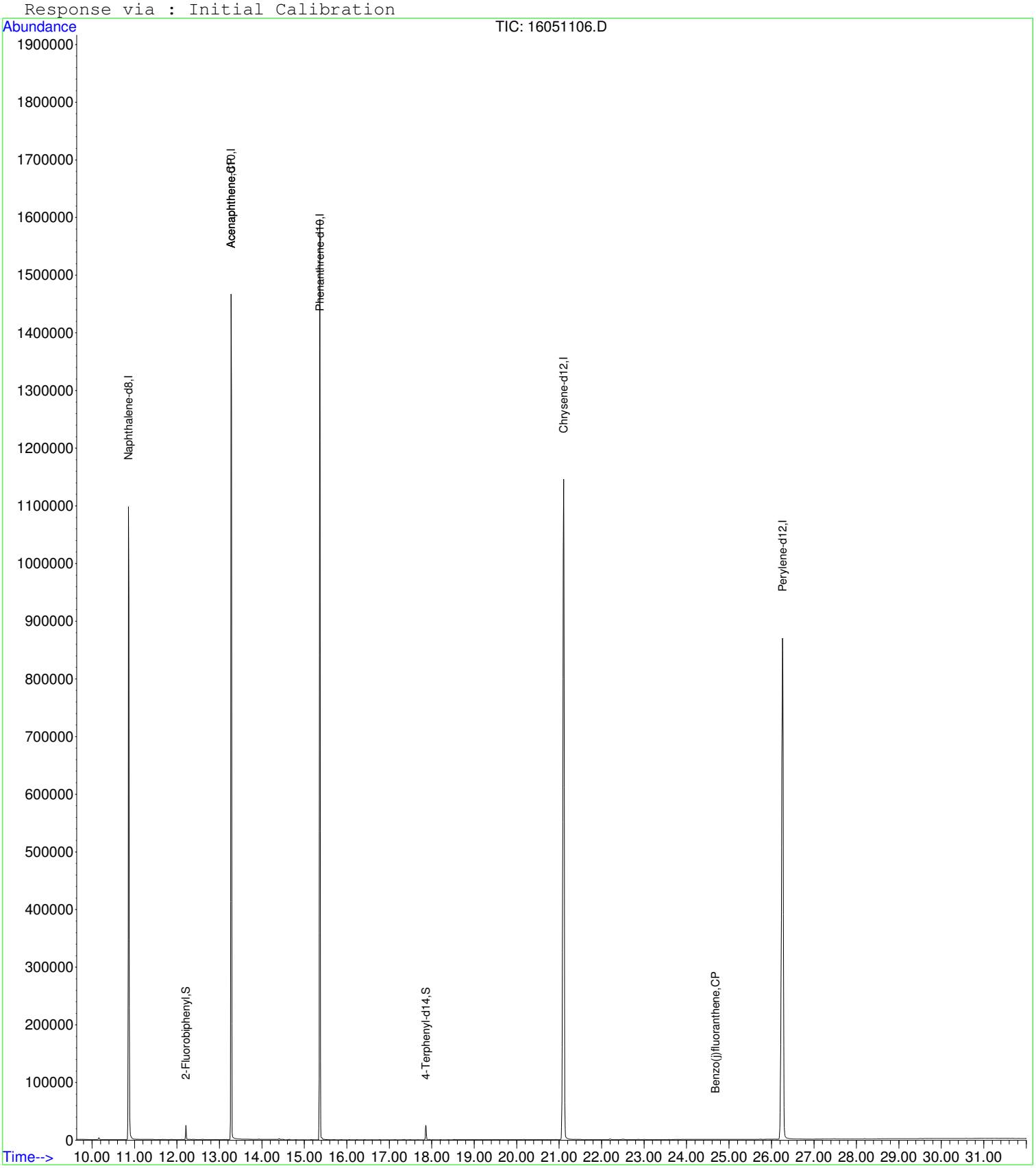
					Qvalue
9) Acenaphthene	13.28	154	2561	~~11.21 ug/kg#~~	9
23) Benzo(j)fluoranthene	24.68	252	198	0.52 ug/kg#	70

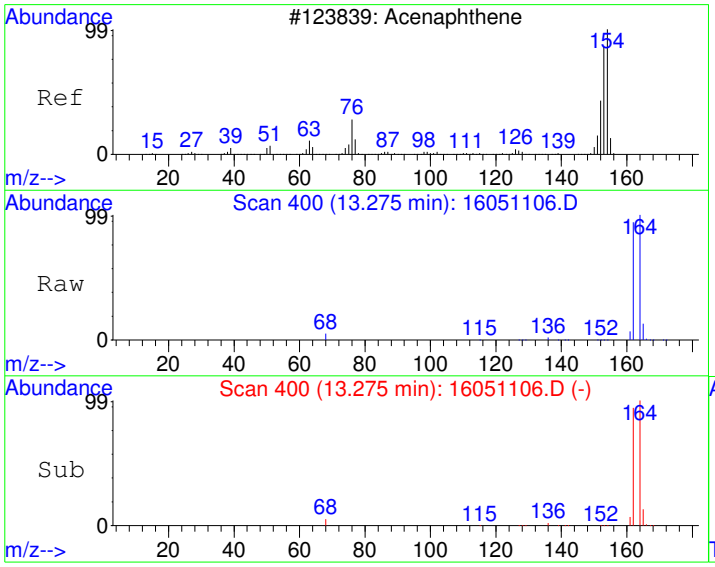
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160511\16051106.D Vial: 6
Acq On : 11 May 2016 11:15 am Operator:
Sample : 1605047-27A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 12 8:57 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

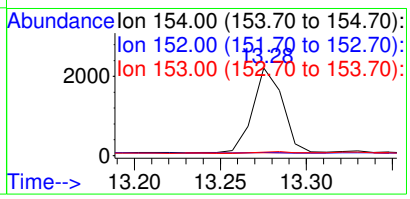


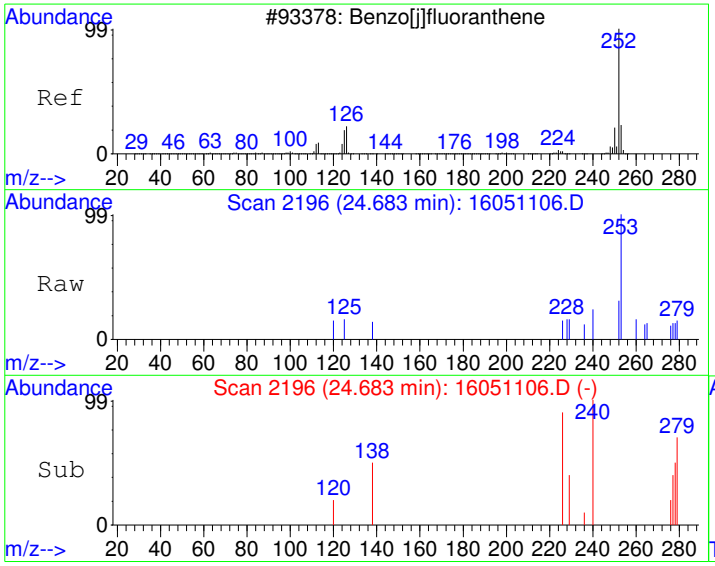


#9
Acenaphthene
Concen: 11.21 ug/kg
RT: 13.28 min Scan# 400
Delta R.T. -0.07 min
Lab File: 16051106.D
Acq: 11 May 2016 11:15 am

Tgt Ion:154 Resp: 2561

Ion	Ratio	Lower	Upper
154	100		
152	0.7	18.9	78.9#
153	1.1	75.2	135.2#

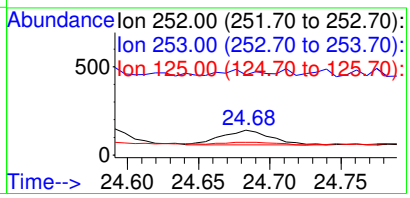




#23
Benzo(j)fluoranthene
Concen: 0.52 ug/kg
RT: 24.68 min Scan# 2196
Delta R.T. -0.06 min
Lab File: 16051106.D
Acq: 11 May 2016 11:15 am

Tgt Ion:252 Resp: 198

Ion	Ratio	Lower	Upper
252	100		
253	0.0	2.1	42.1#
125	16.9	0.0	34.4



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160511\16051107.D Vial: 7
Acq On : 11 May 2016 11:55 am Operator:
Sample : 1605047-28A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 12 8:57 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.87	136	1303093	4000.00 ug/kg	112
5) Acenaphthene-d10	13.28	164	851803	4000.00 ug/kg	74
11) Phenanthrene-d10	15.37	188	1614858	4000.00 ug/kg	79
17) Chrysene-d12	21.11	240	1848209	4000.00 ug/kg	81
20) Perylene-d12	26.27	264	1715648	4000.00 ug/kg	83

System Monitoring Compounds					
7) 2-Fluorobiphenyl	12.22	172	21288	85.67 ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.14%#		
16) 4-Terphenyl-d14	17.86	244	31780	76.07 ug/kg	-0.03
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.90%#		

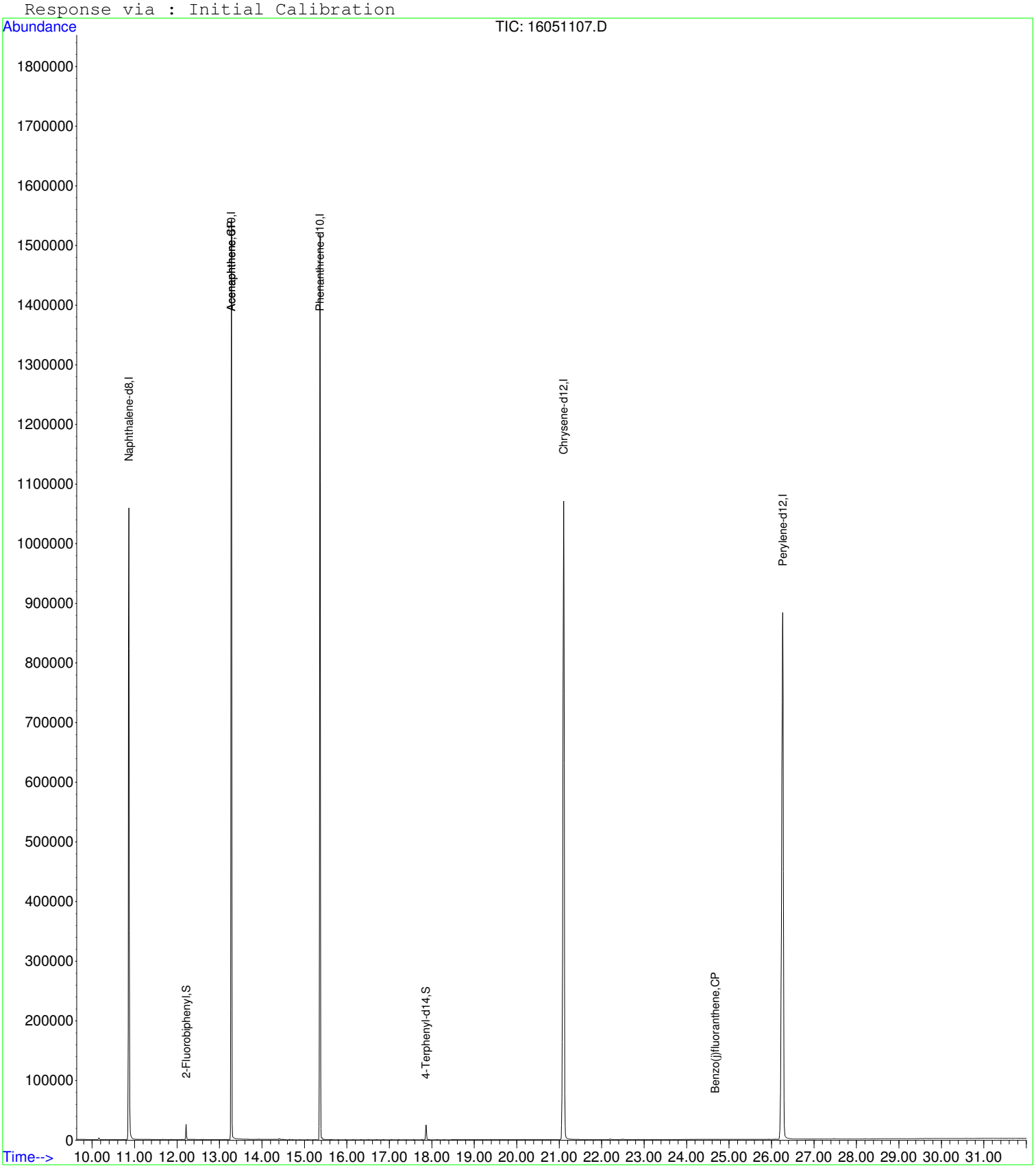
Target Compounds					Qvalue
9) Acenaphthene	13.28	154	2540	~~11.16 ug/kg#~~	9
23) Benzo(j)fluoranthene	24.68	252	85	0.22 ug/kg#	55

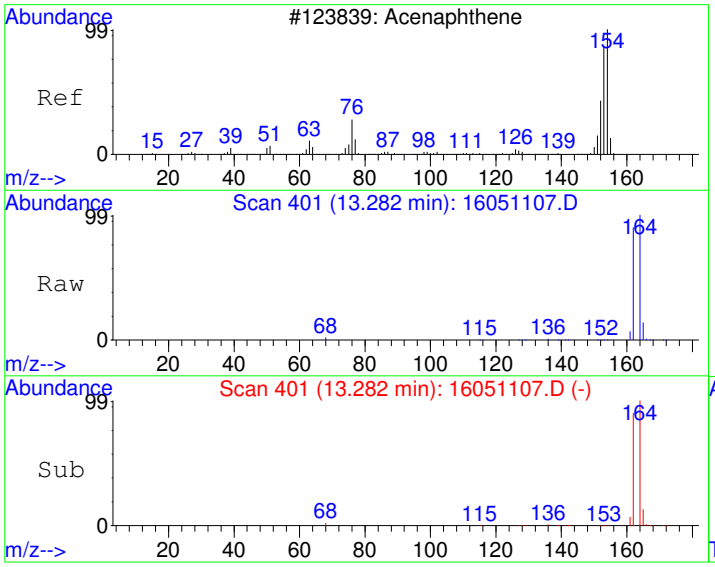
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160511\16051107.D Vial: 7
Acq On : 11 May 2016 11:55 am Operator:
Sample : 1605047-28A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 12 8:57 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

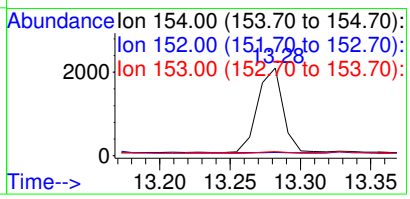


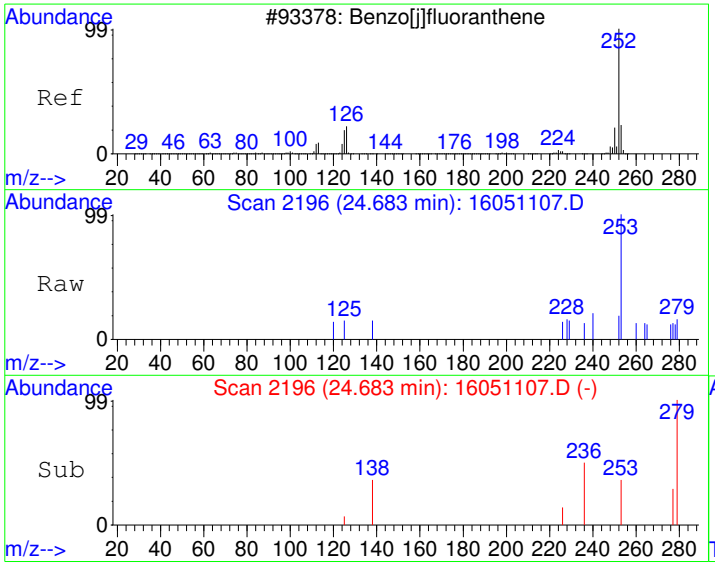


#9
Acenaphthene
Concen: 11.16 ug/kg
RT: 13.28 min Scan# 401
Delta R.T. -0.06 min
Lab File: 16051107.D
Acq: 11 May 2016 11:55 am

Tgt Ion:154 Resp: 2540

Ion	Ratio	Lower	Upper
154	100		
152	0.9	18.9	78.9#
153	2.2	75.2	135.2#

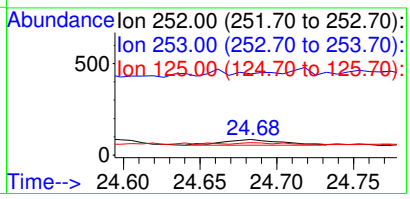




#23
Benzo(j)fluoranthene
Concen: 0.22 ug/kg
RT: 24.68 min Scan# 2196
Delta R.T. -0.06 min
Lab File: 16051107.D
Acq: 11 May 2016 11:55 am

Tgt Ion:252 Resp: 85

Ion	Ratio	Lower	Upper
252	100		
253	0.0	2.1	42.1#
125	32.3	0.0	34.4



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160511\16051108.D Vial: 8
Acq On : 11 May 2016 12:35 pm Operator:
Sample : 1605047-29A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 12 8:57 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.87	136	1431324	4000.00 ug/kg	123
5) Acenaphthene-d10	13.28	164	865765	4000.00 ug/kg	75
11) Phenanthrene-d10	15.37	188	1766781	4000.00 ug/kg	87
17) Chrysene-d12	21.11	240	1963090	4000.00 ug/kg	86
20) Perylene-d12	26.27	264	1810990	4000.00 ug/kg	88

System Monitoring Compounds					
7) 2-Fluorobiphenyl	12.22	172	20235	80.12 ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	2.00%#	
16) 4-Terphenyl-d14	17.86	244	31126	68.09 ug/kg	-0.04
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.70%#	

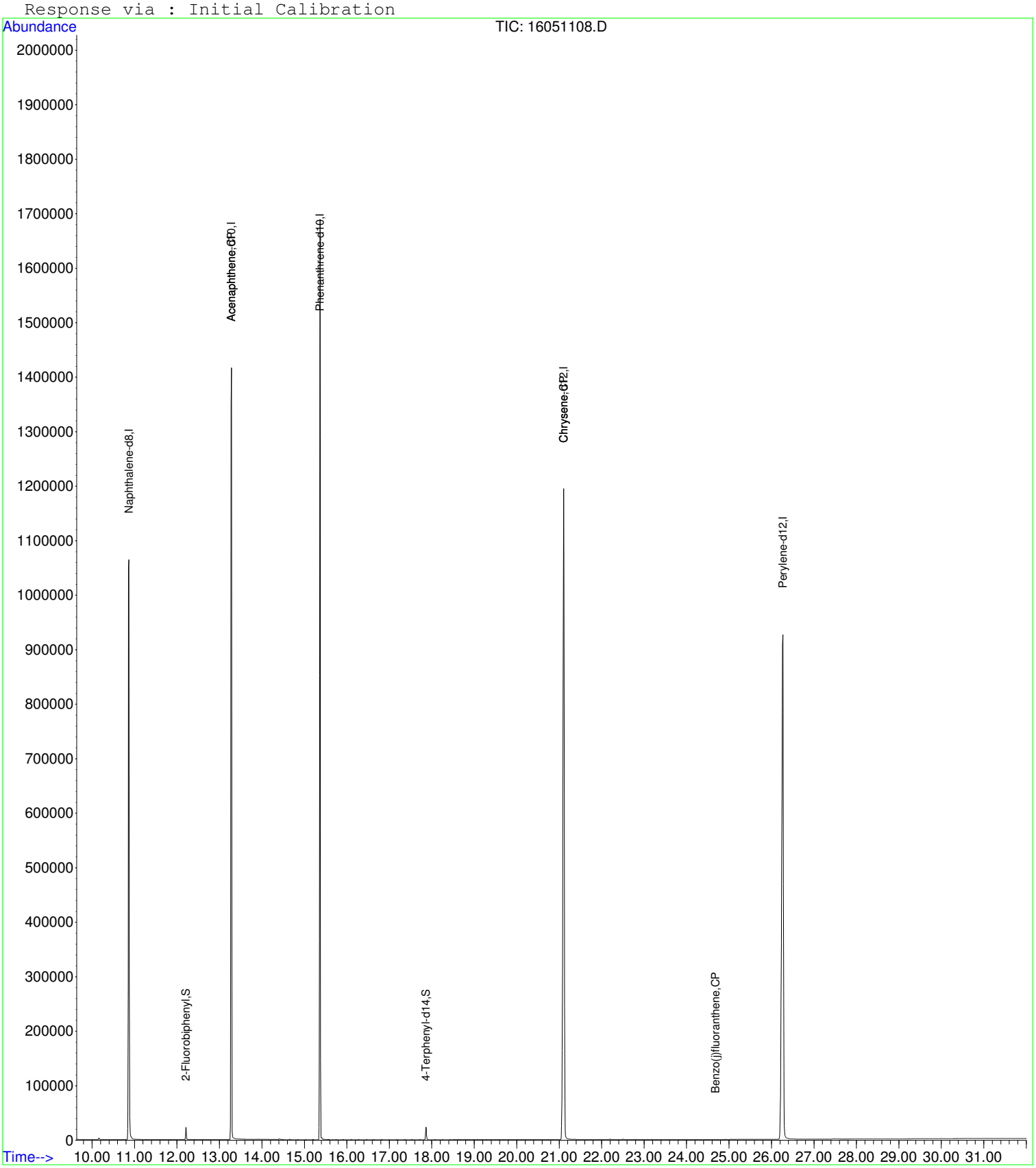
Target Compounds					Qvalue
9) Acenaphthene	13.27	154	2603	~~11.25 ug/kg#~~	9
19) Chrysene	21.11	228	3945	~~8.88 ug/kg~~	75
23) Benzo(j)fluoranthene	24.68	252	78	0.20 ug/kg#	58

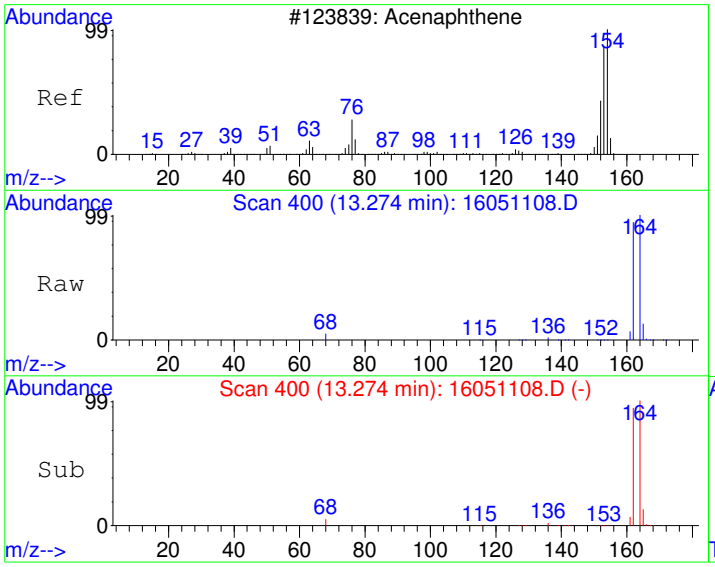
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160511\16051108.D Vial: 8
Acq On : 11 May 2016 12:35 pm Operator:
Sample : 1605047-29A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 12 8:57 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

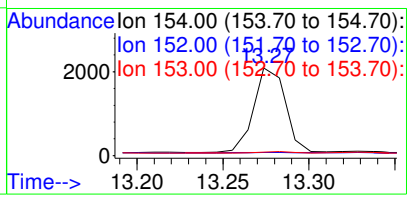


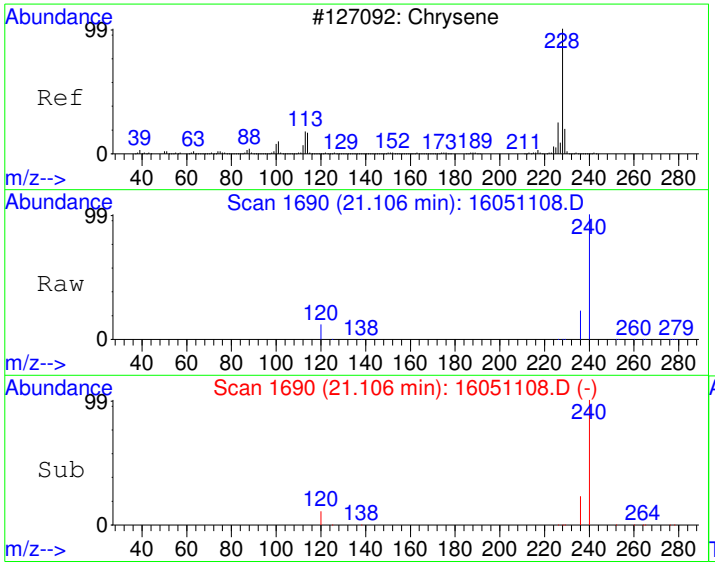


#9
Acenaphthene
Concen: 11.25 ug/kg
RT: 13.27 min Scan# 400
Delta R.T. -0.07 min
Lab File: 16051108.D
Acq: 11 May 2016 12:35 pm

Tgt Ion:154 Resp: 2603

Ion	Ratio	Lower	Upper
154	100		
152	0.6	18.9	78.9#
153	1.3	75.2	135.2#

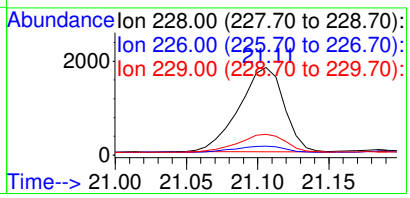


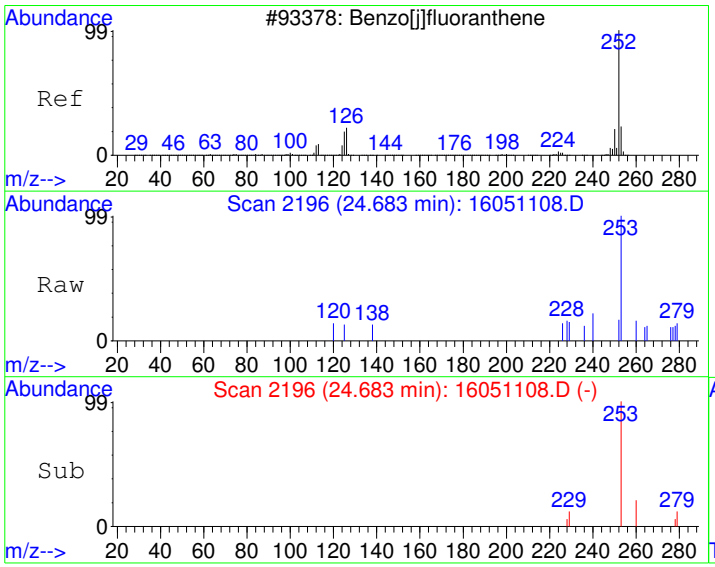


#19
Chrysene
Concen: 8.88 ug/kg
RT: 21.11 min Scan# 1690
Delta R.T. -0.13 min
Lab File: 16051108.D
Acq: 11 May 2016 12:35 pm

Tgt Ion:228 Resp: 3945

Ion	Ratio	Lower	Upper
228	100		
226	7.0	0.0	58.1
229	21.5	0.0	50.1

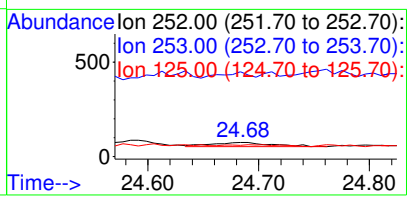




#23
Benzo(j)fluoranthene
Concen: 0.20 ug/kg
RT: 24.68 min Scan# 2196
Delta R.T. -0.06 min
Lab File: 16051108.D
Acq: 11 May 2016 12:35 pm

Tgt Ion:252 Resp: 78

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



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160511\16051109.D Vial: 9
Acq On : 11 May 2016 1:14 pm Operator:
Sample : 1605047-30A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 12 8:57 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.87	136	1406391	4000.00 ug/kg	121
5) Acenaphthene-d10	13.28	164	850690	4000.00 ug/kg	74
11) Phenanthrene-d10	15.37	188	1718959	4000.00 ug/kg	84
17) Chrysene-d12	21.11	240	1895634	4000.00 ug/kg	83
20) Perylene-d12	26.26	264	1765197	4000.00 ug/kg	86

System Monitoring Compounds					
7) 2-Fluorobiphenyl	12.22	172	20695	83.40 ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.09%#		
16) 4-Terphenyl-d14	17.87	244	31295	70.37 ug/kg	-0.03
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.76%#		

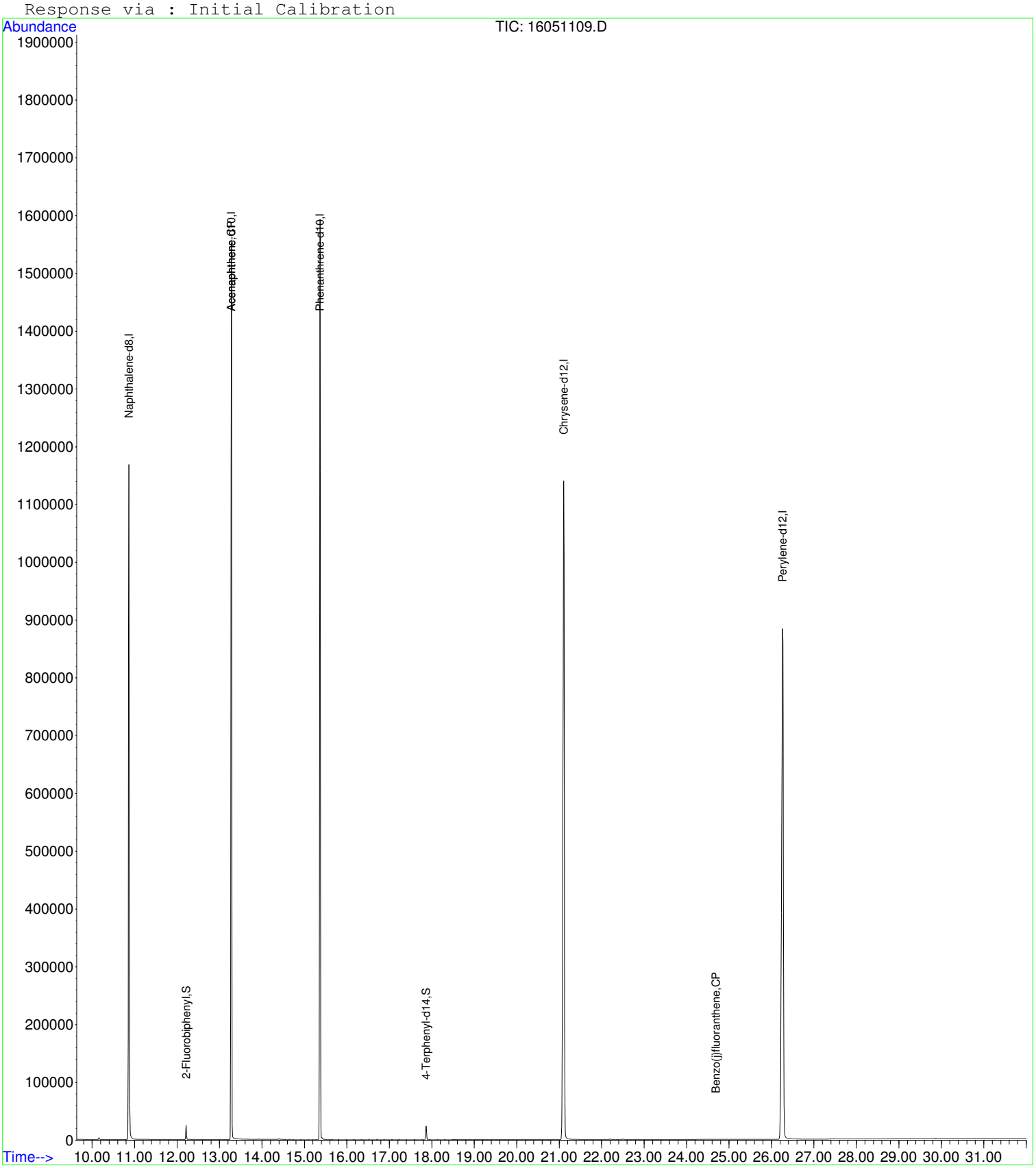
Target Compounds					Qvalue
9) Acenaphthene	13.28	154	2517	~~11.07 ug/kg#~~	9
23) Benzo(j)fluoranthene	24.69	252	67	0.17 ug/kg#	27

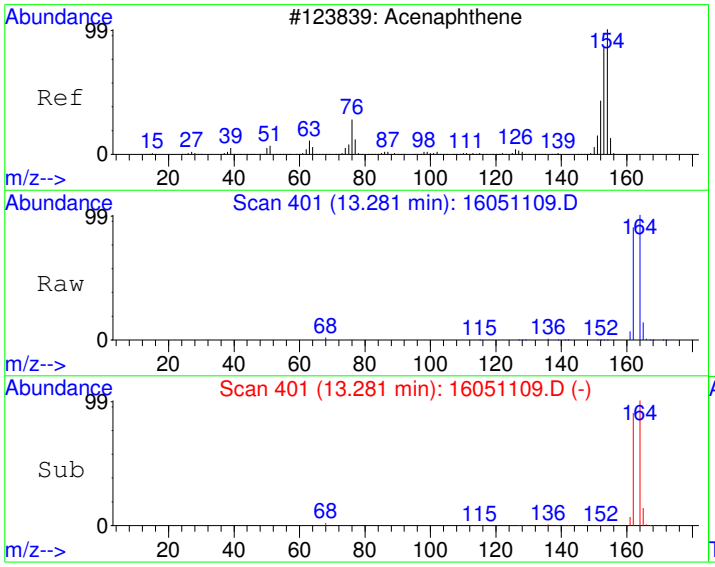
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160511\16051109.D Vial: 9
Acq On : 11 May 2016 1:14 pm Operator:
Sample : 1605047-30A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 12 8:57 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

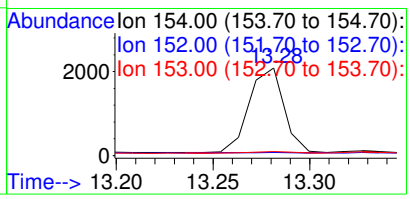


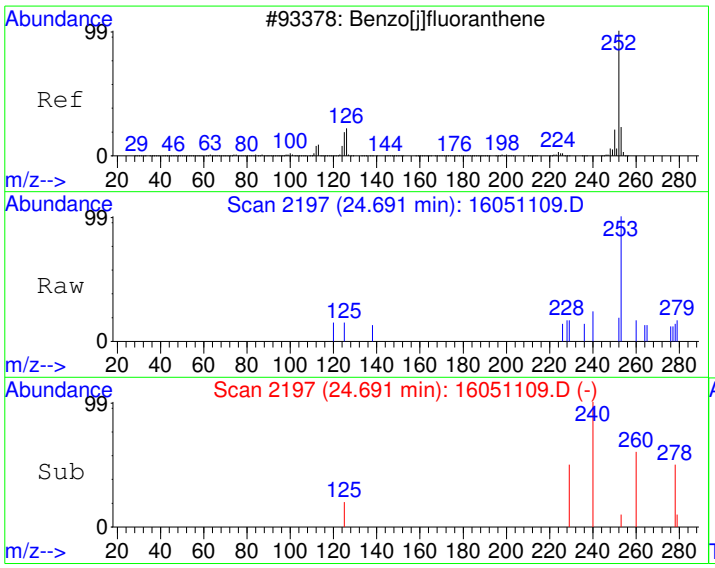


#9
Acenaphthene
Concen: 11.07 ug/kg
RT: 13.28 min Scan# 401
Delta R.T. -0.06 min
Lab File: 16051109.D
Acq: 11 May 2016 1:14 pm

Tgt Ion:154 Resp: 2517

Ion	Ratio	Lower	Upper
154	100		
152	0.8	18.9	78.9#
153	1.8	75.2	135.2#

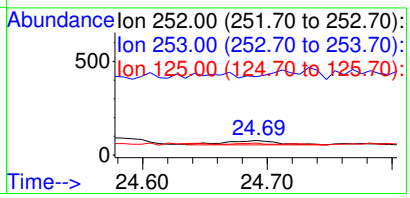




#23
Benzo(j)fluoranthene
Concen: 0.17 ug/kg
RT: 24.69 min Scan# 2197
Delta R.T. -0.06 min
Lab File: 16051109.D
Acq: 11 May 2016 1:14 pm

Tgt Ion:252 Resp: 67

Ion	Ratio	Lower	Upper
252	100		
253	62.5	2.1	42.1#
125	37.5	0.0	34.4#



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160511\16051110.D Vial: 10
Acq On : 11 May 2016 1:54 pm Operator:
Sample : 1605047-33A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 12 8:57 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.87	136	1408802	4000.00 ug/kg	122
5) Acenaphthene-d10	13.28	164	876243	4000.00 ug/kg	76
11) Phenanthrene-d10	15.37	188	1739082	4000.00 ug/kg	85
17) Chrysene-d12	21.11	240	1943686	4000.00 ug/kg	86
20) Perylene-d12	26.27	264	1822300	4000.00 ug/kg	88

System Monitoring Compounds					
7) 2-Fluorobiphenyl	12.22	172	15541	60.80 ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.52%#	
16) 4-Terphenyl-d14	17.87	244	24976	55.51 ug/kg	-0.03
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.39%#	

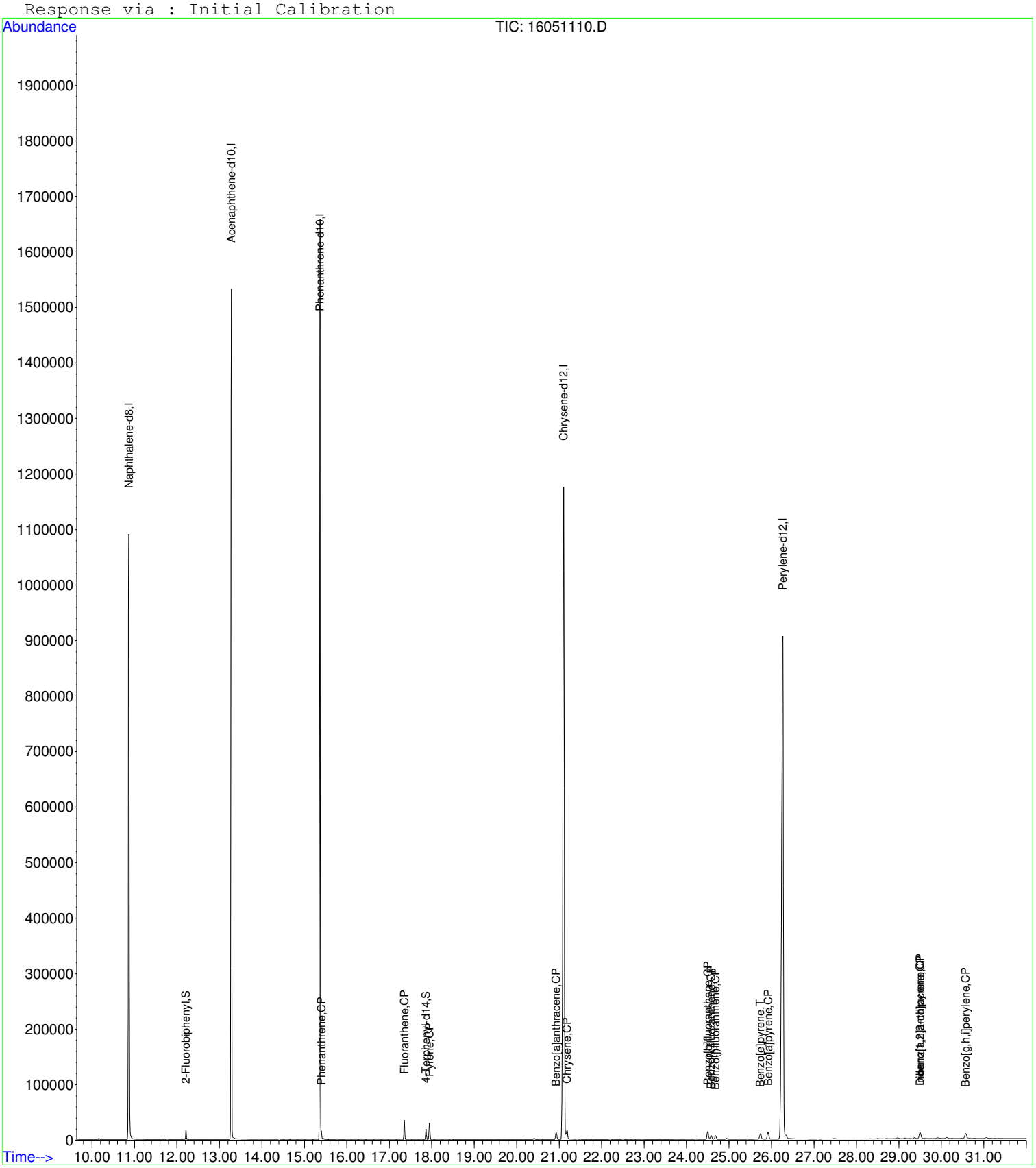
Target Compounds					Qvalue
12) Phenanthrene	15.40	178	11144	24.37 ug/kg	99
14) Fluoranthene	17.35	202	34435	72.76 ug/kg	99
15) Pyrene	17.95	202	31509	64.09 ug/kg	99
18) Benzo[a]anthracene	20.93	228	19453	42.72 ug/kg	99
19) Chrysene	21.18	228	24436	55.54 ug/kg	99
21) Benzo[b]fluoranthene	24.50	252	26340	54.84 ug/kg	100
22) Benzo[k]fluoranthene	24.58	252	12572	27.90 ug/kg	97
23) Benzo(j)fluoranthene	24.68	252	11708	29.17 ug/kg	93
24) Benzo[e]pyrene	25.74	252	19942	46.36 ug/kg	99
25) Benzo[a]pyrene	25.92	252	25182	57.29 ug/kg	98
26) Dibenz[a,h]anthracene	29.49	278	4043	10.10 ug/kg	93
27) Indeno[1,2,3-cd]pyrene	29.50	276	19328	40.47 ug/kg	92
28) Benzo[g,h,i]perylene	30.57	276	18580	49.90 ug/kg	100

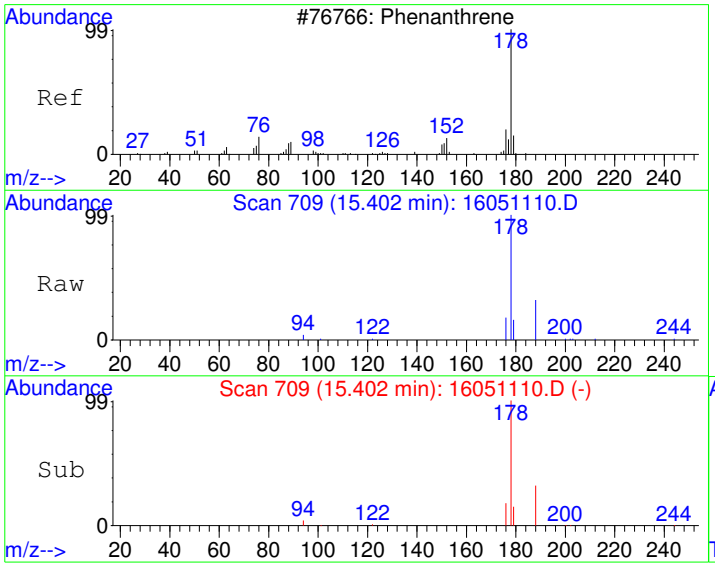
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160511\16051110.D Vial: 10
Acq On : 11 May 2016 1:54 pm Operator:
Sample : 1605047-33A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 12 8:57 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

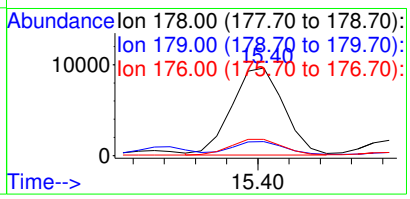


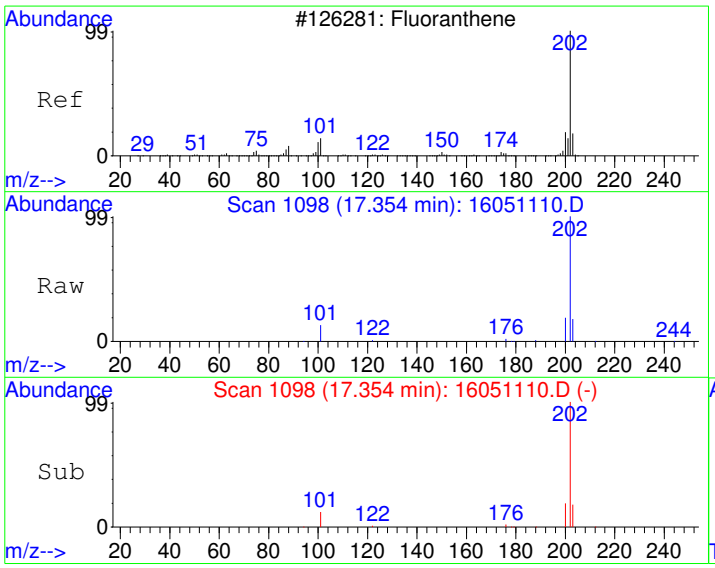


#12
Phenanthrene
Concen: 24.37 ug/kg
RT: 15.40 min Scan# 709
Delta R.T. -0.02 min
Lab File: 16051110.D
Acq: 11 May 2016 1:54 pm

Tgt Ion:178 Resp: 11144

Ion	Ratio	Lower	Upper
178	100		
179	15.2	0.0	45.9
176	18.2	0.0	48.5

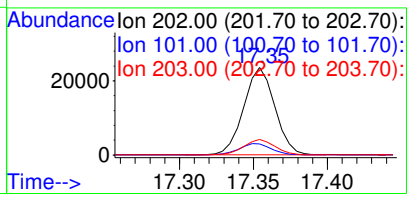


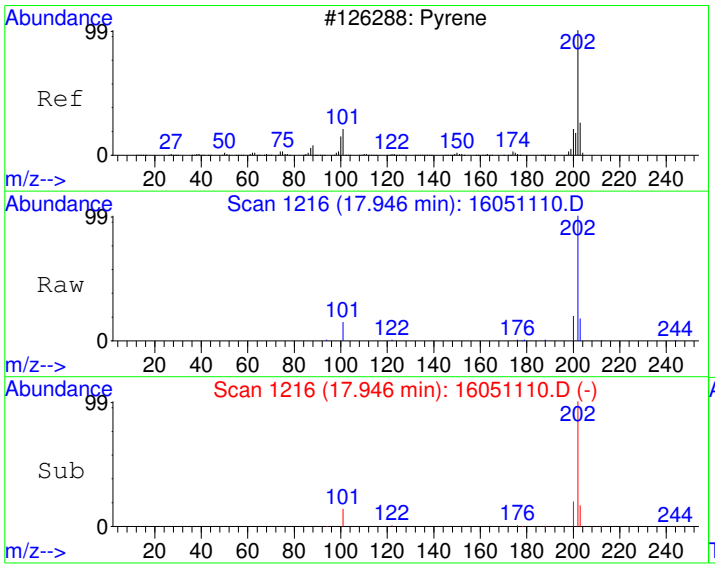


#14
Fluoranthene
Concen: 72.76 ug/kg
RT: 17.35 min Scan# 1098
Delta R.T. -0.03 min
Lab File: 16051110.D
Acq: 11 May 2016 1:54 pm

Tgt Ion:202 Resp: 34435

Ion	Ratio	Lower	Upper
202	100		
101	12.4	0.0	43.0
203	17.5	0.0	47.9

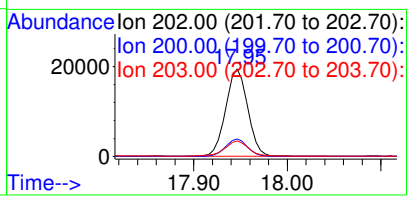


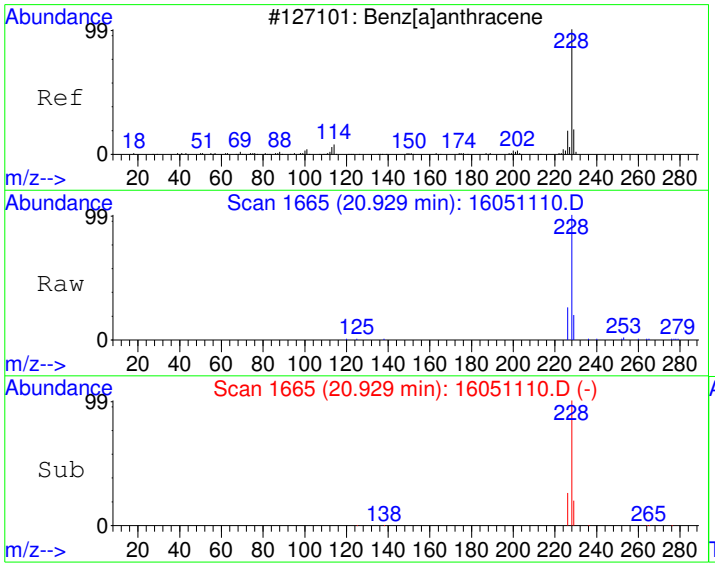


#15
Pyrene
Concen: 64.09 ug/kg
RT: 17.95 min Scan# 1216
Delta R.T. -0.03 min
Lab File: 16051110.D
Acq: 11 May 2016 1:54 pm

Tgt Ion:202 Resp: 31509

Ion	Ratio	Lower	Upper
202	100		
200	19.8	0.0	50.0
203	17.6	0.0	48.0

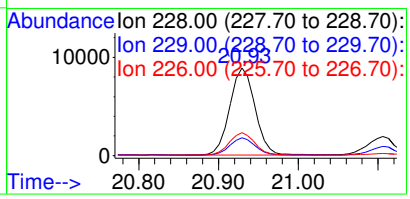


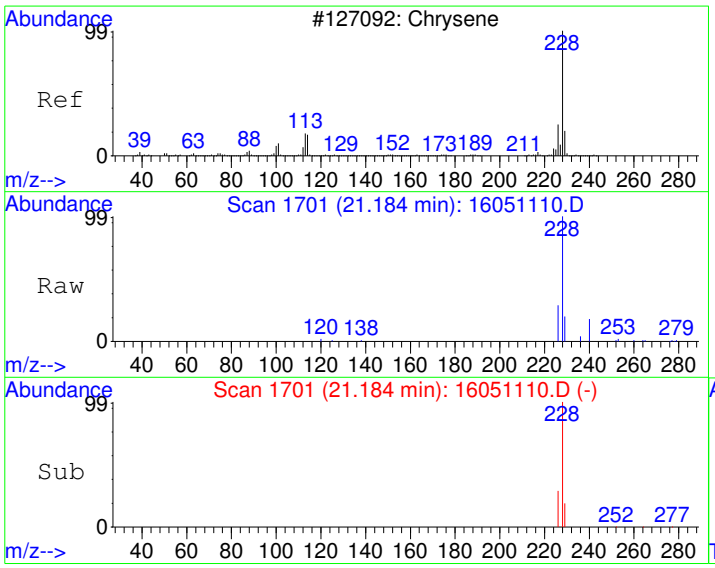


#18
Benzo[a]anthracene
Concen: 42.72 ug/kg
RT: 20.93 min Scan# 1665
Delta R.T. -0.05 min
Lab File: 16051110.D
Acq: 11 May 2016 1:54 pm

Tgt Ion:228 Resp: 19453

Ion	Ratio	Lower	Upper
228	100		
229	19.7	0.0	50.1
226	25.8	0.0	55.2

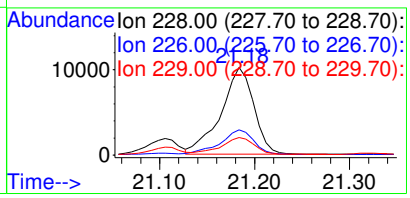


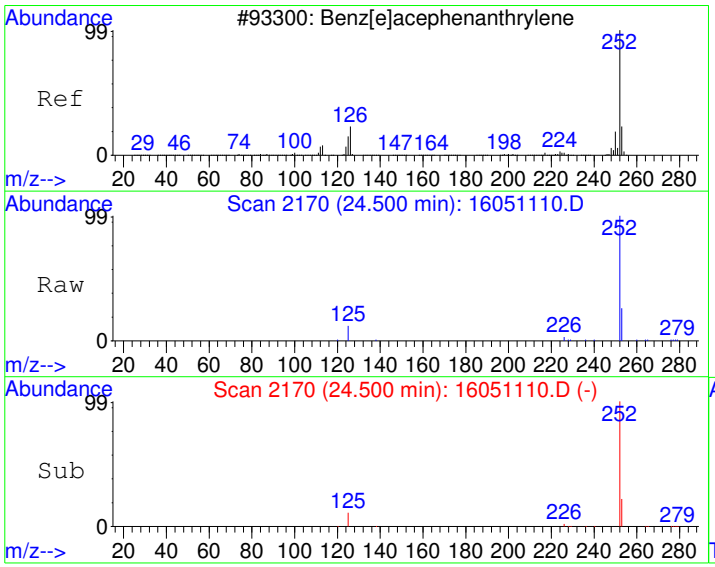


#19
Chrysene
Concen: 55.54 ug/kg
RT: 21.18 min Scan# 1701
Delta R.T. -0.05 min
Lab File: 16051110.D
Acq: 11 May 2016 1:54 pm

Tgt Ion:228 Resp: 24436

Ion	Ratio	Lower	Upper
228	100		
226	28.5	0.0	58.1
229	19.4	0.0	50.1

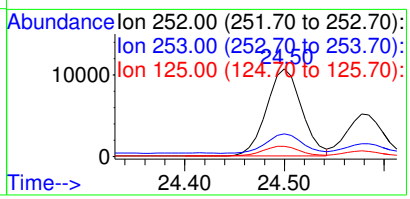


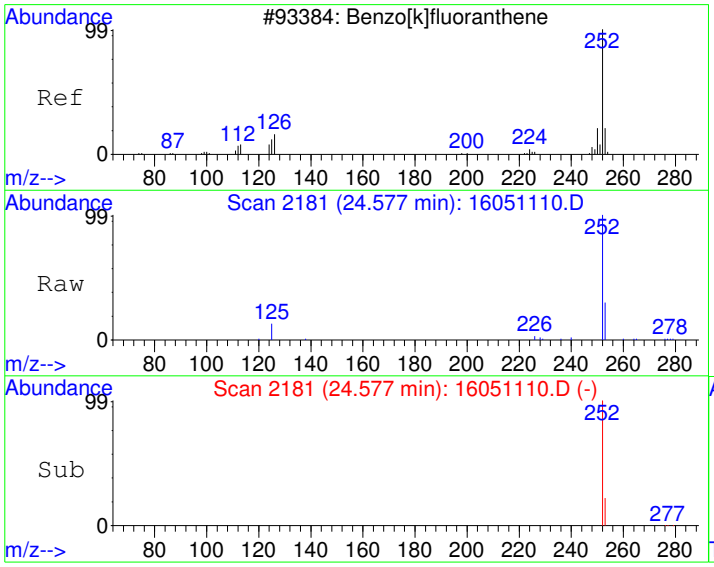


#21
Benzo[b]fluoranthene
Concen: 54.84 ug/kg
RT: 24.50 min Scan# 2170
Delta R.T. -0.06 min
Lab File: 16051110.D
Acq: 11 May 2016 1:54 pm

Tgt Ion:252 Resp: 26340

Ion	Ratio	Lower	Upper
252	100		
253	22.2	0.0	52.2
125	11.1	0.0	41.0

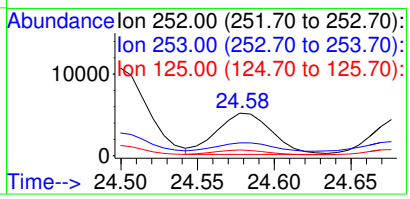


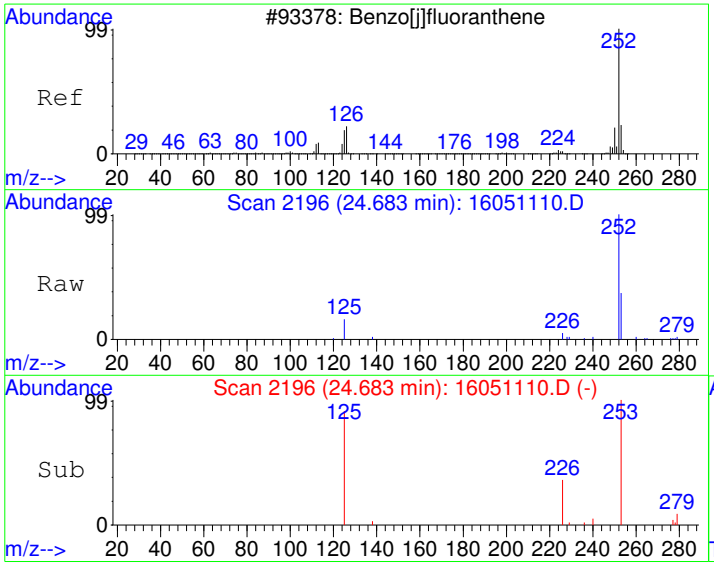


#22
Benzo[k]fluoranthene
Concen: 27.90 ug/kg
RT: 24.58 min Scan# 2181
Delta R.T. -0.06 min
Lab File: 16051110.D
Acq: 11 May 2016 1:54 pm

Tgt Ion:252 Resp: 12572

Ion	Ratio	Lower	Upper
252	100		
253	20.1	2.1	42.1
125	11.8	0.0	31.3

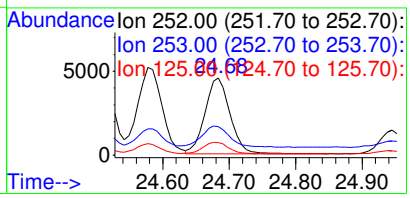


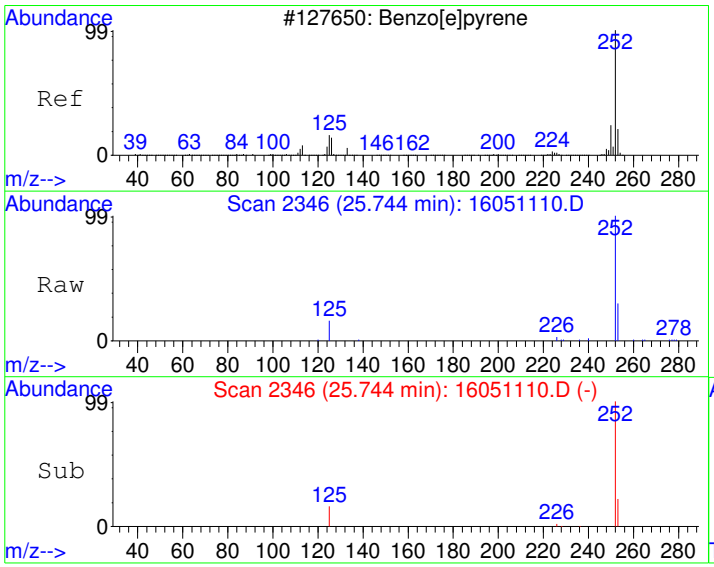


#23
Benzo(j)fluoranthene
Concen: 29.17 ug/kg
RT: 24.68 min Scan# 2196
Delta R.T. -0.06 min
Lab File: 16051110.D
Acq: 11 May 2016 1:54 pm

Tgt Ion:252 Resp: 11708

Ion	Ratio	Lower	Upper
252	100		
253	27.3	2.1	42.1
125	14.9	0.0	34.4

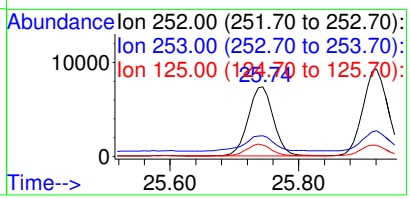


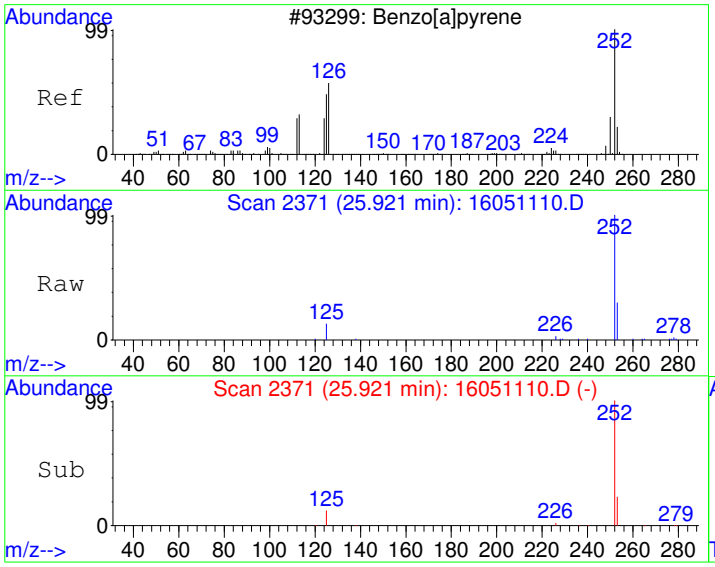


#24
Benzo[e]pyrene
Concen: 46.36 ug/kg
RT: 25.74 min Scan# 2346
Delta R.T. -0.06 min
Lab File: 16051110.D
Acq: 11 May 2016 1:54 pm

Tgt Ion:252 Resp: 19942

Ion	Ratio	Lower	Upper
252	100		
253	22.2	2.2	42.2
125	15.6	0.0	36.1

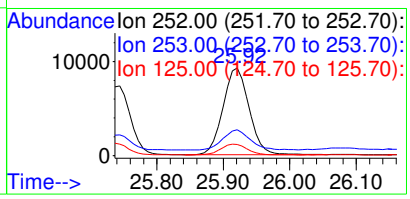


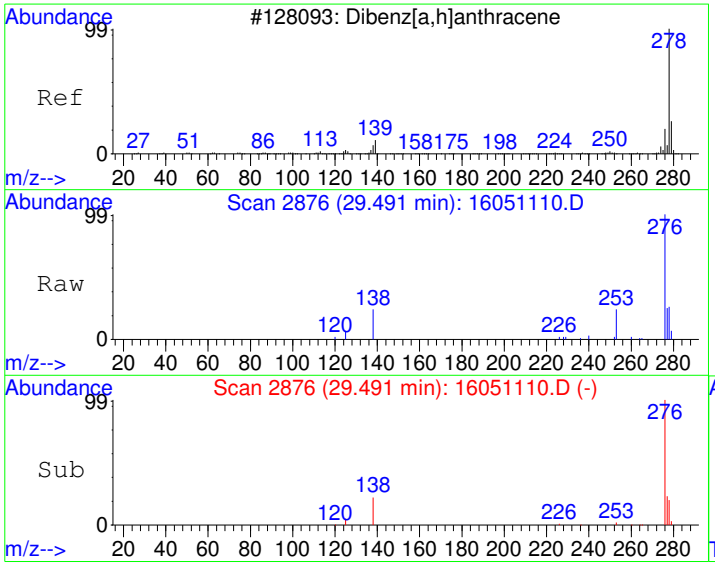


#25
Benzo[a]pyrene
Concen: 57.29 ug/kg
RT: 25.92 min Scan# 2371
Delta R.T. -0.06 min
Lab File: 16051110.D
Acq: 11 May 2016 1:54 pm

Tgt Ion:252 Resp: 25182

Ion	Ratio	Lower	Upper
252	100		
253	23.3	1.9	41.9
125	12.1	0.0	31.7

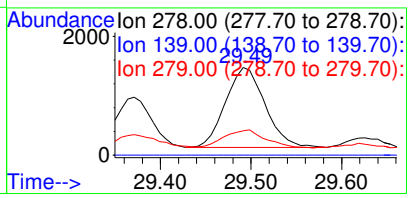


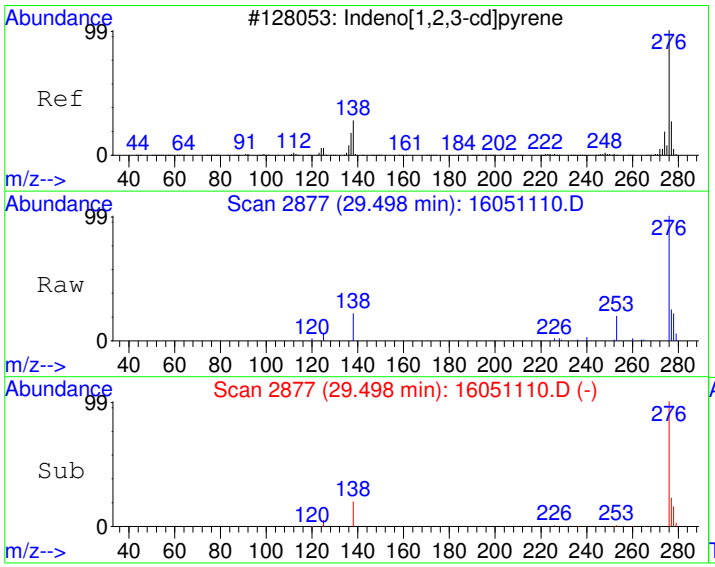


#26
Dibenz[a,h]anthracene
Concen: 10.10 ug/kg
RT: 29.49 min Scan# 2876
Delta R.T. -0.07 min
Lab File: 16051110.D
Acq: 11 May 2016 1:54 pm

Tgt Ion:278 Resp: 4043

Ion	Ratio	Lower	Upper
278	100		
139	0.0	0.0	20.0
279	21.0	4.2	44.2

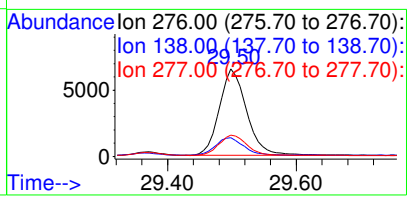


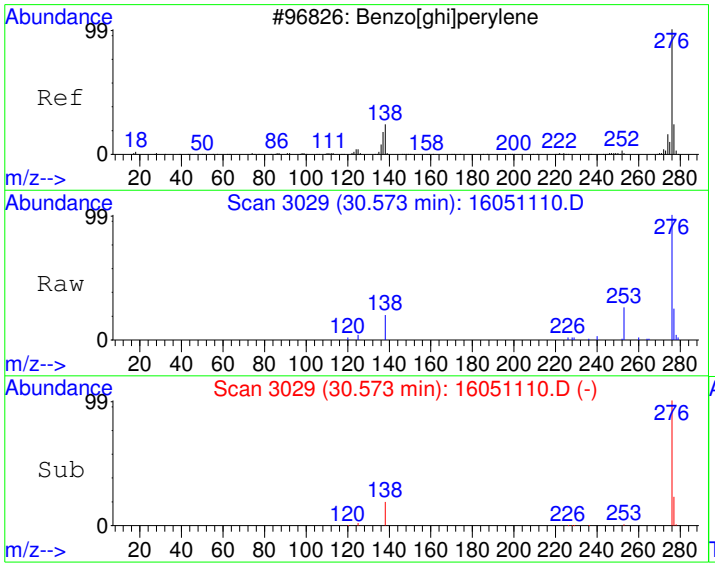


#27
Indeno[1,2,3-cd]pyrene
Concen: 40.47 ug/kg
RT: 29.50 min Scan# 2877
Delta R.T. -0.06 min
Lab File: 16051110.D
Acq: 11 May 2016 1:54 pm

Tgt Ion:276 Resp: 19328

Ion	Ratio	Lower	Upper
276	100		
138	20.4	6.7	46.7
277	23.6	5.8	45.8

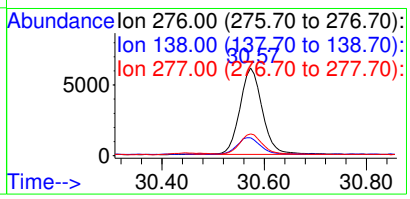




#28
Benzo[g,h,i]perylene
Concen: 49.90 ug/kg
RT: 30.57 min Scan# 3029
Delta R.T. -0.07 min
Lab File: 16051110.D
Acq: 11 May 2016 1:54 pm

Tgt Ion:276 Resp: 18580

Ion	Ratio	Lower	Upper
276	100		
138	19.0	0.0	39.1
277	24.0	4.0	44.0



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160511\16051111.D Vial: 11
Acq On : 11 May 2016 2:34 pm Operator:
Sample : 1605047-34A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 12 8:57 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1426384	4000.00 ug/kg	123
5) Acenaphthene-d10	13.28	164	985984	4000.00 ug/kg	86
11) Phenanthrene-d10	15.37	188	1775125	4000.00 ug/kg	87
17) Chrysene-d12	21.11	240	2048296	4000.00 ug/kg	90
20) Perylene-d12	26.27	264	1883792	4000.00 ug/kg	91

System Monitoring Compounds					
7) 2-Fluorobiphenyl	12.21	172	24056	83.64 ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.09%#		
16) 4-Terphenyl-d14	17.87	244	34248	74.57 ug/kg	-0.03
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.86%#		

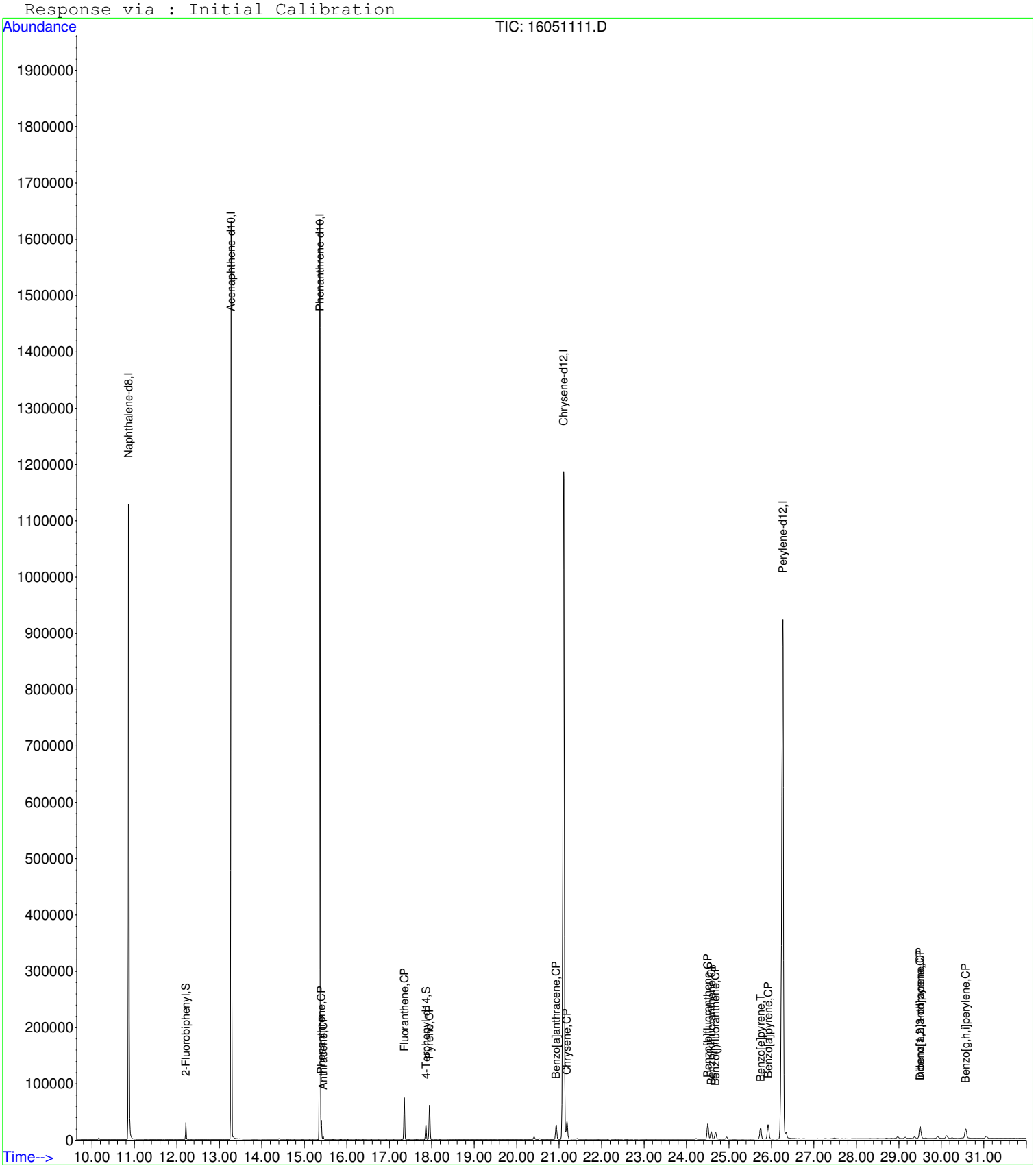
Target Compounds					Qvalue
12) Phenanthrene	15.40	178	25633	54.91 ug/kg	99
13) Anthracene	15.44	178	4961	11.23 ug/kg	98
14) Fluoranthene	17.35	202	74334	153.87 ug/kg	99
15) Pyrene	17.95	202	66059	131.64 ug/kg	99
18) Benzo[a]anthracene	20.93	228	39590	82.50 ug/kg	99
19) Chrysene	21.18	228	48188	103.93 ug/kg	100
21) Benzo[b]fluoranthene	24.50	252	51023	102.76 ug/kg	99
22) Benzo[k]fluoranthene	24.58	252	24878	53.41 ug/kg	99
23) Benzo(j)fluoranthene	24.68	252	22909	55.22 ug/kg	91
24) Benzo[e]pyrene	25.74	252	38450	86.47 ug/kg	99
25) Benzo[a]pyrene	25.92	252	50650	111.47 ug/kg	99
26) Dibenz[a,h]anthracene	29.50	278	7839	18.94 ug/kg	95
27) Indeno[1,2,3-cd]pyrene	29.50	276	37060	75.07 ug/kg	91
28) Benzo[g,h,i]perylene	30.57	276	34755	90.29 ug/kg	99

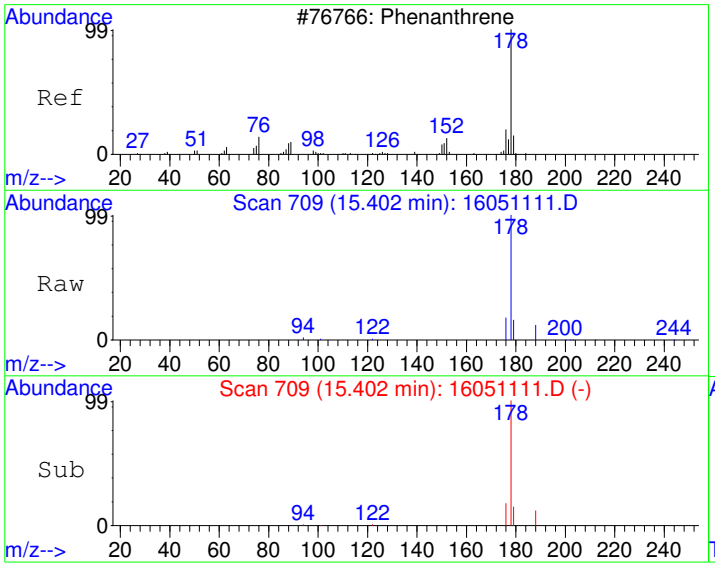
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160511\16051111.D Vial: 11
Acq On : 11 May 2016 2:34 pm Operator:
Sample : 1605047-34A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 12 8:57 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

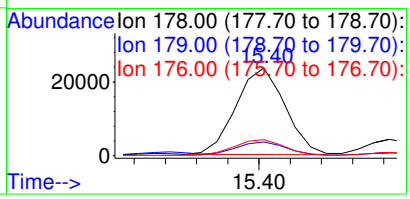


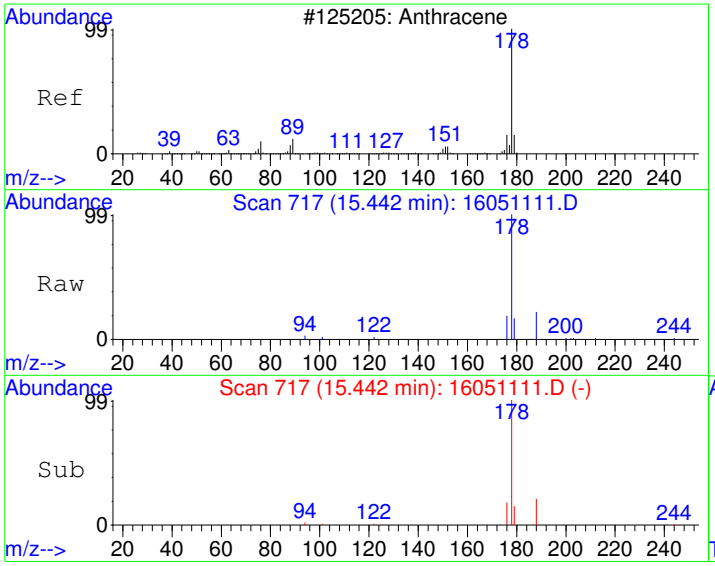


#12
Phenanthrene
Concen: 54.91 ug/kg
RT: 15.40 min Scan# 709
Delta R.T. -0.02 min
Lab File: 16051111.D
Acq: 11 May 2016 2:34 pm

Tgt Ion:178 Resp: 25633

Ion	Ratio	Lower	Upper
178	100		
179	15.3	0.0	45.9
176	18.2	0.0	48.5

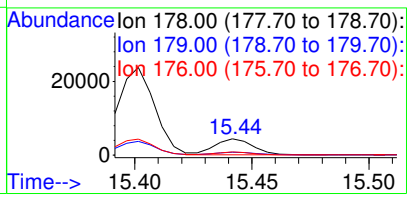


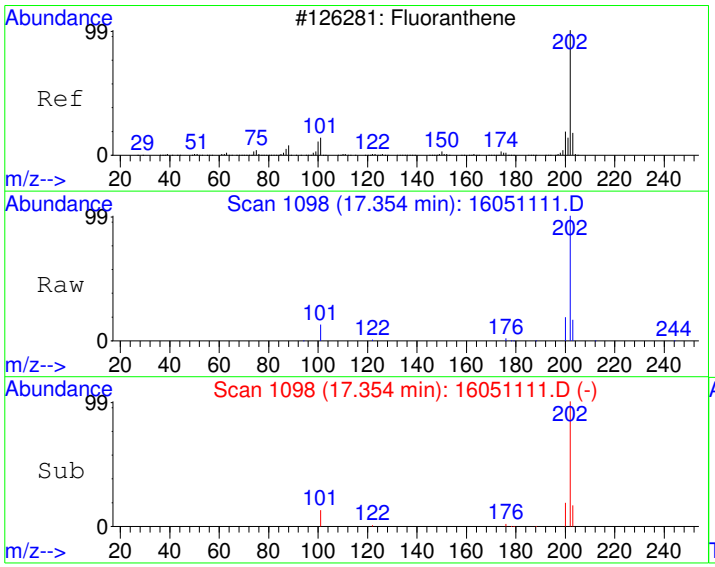


#13
Anthracene
Concen: 11.23 ug/kg
RT: 15.44 min Scan# 717
Delta R.T. -0.02 min
Lab File: 16051111.D
Acq: 11 May 2016 2:34 pm

Tgt Ion:178 Resp: 4961

Ion	Ratio	Lower	Upper
178	100		
179	15.1	0.0	45.9
176	17.6	0.0	48.2

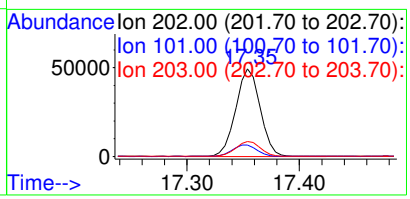


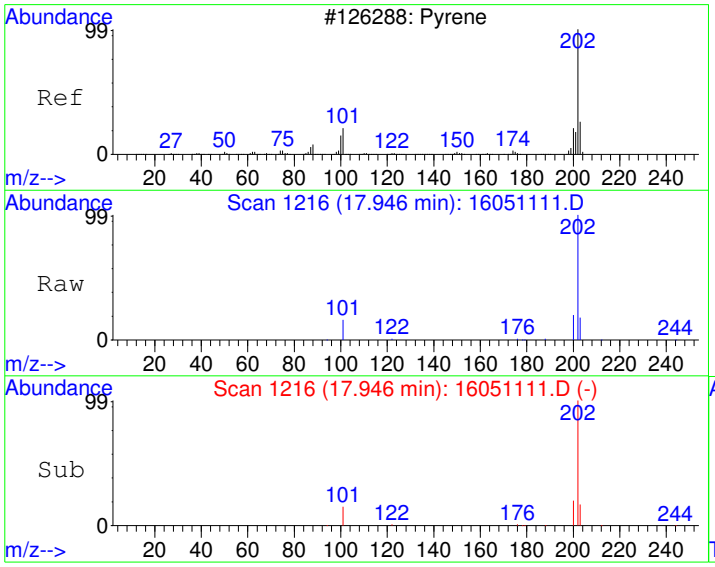


#14
Fluoranthene
Concen: 153.87 ug/kg
RT: 17.35 min Scan# 1098
Delta R.T. -0.03 min
Lab File: 16051111.D
Acq: 11 May 2016 2:34 pm

Tgt Ion:202 Resp: 74334

Ion	Ratio	Lower	Upper
202	100		
101	12.9	0.0	43.0
203	17.2	0.0	47.9

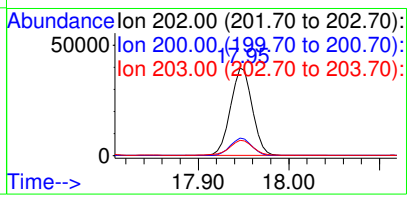


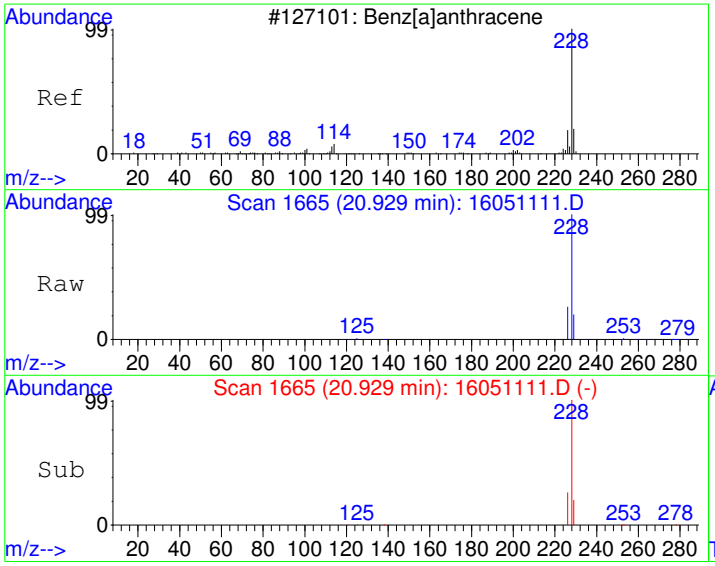


#15
Pyrene
Concen: 131.64 ug/kg
RT: 17.95 min Scan# 1216
Delta R.T. -0.03 min
Lab File: 16051111.D
Acq: 11 May 2016 2:34 pm

Tgt Ion:202 Resp: 66059

Ion	Ratio	Lower	Upper
202	100		
200	20.1	0.0	50.0
203	17.5	0.0	48.0

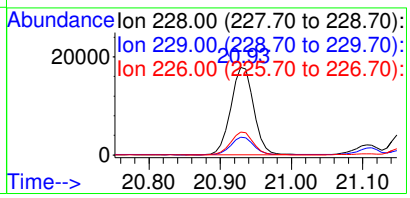


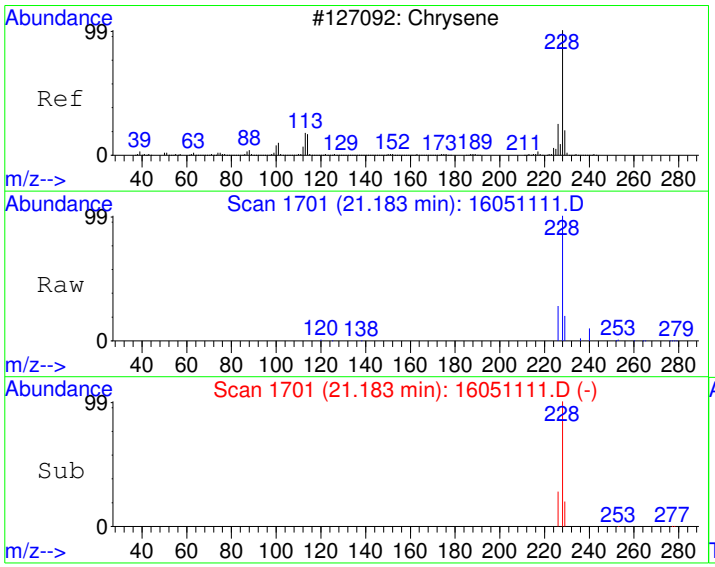


#18
Benzo[a]anthracene
Concen: 82.50 ug/kg
RT: 20.93 min Scan# 1665
Delta R.T. -0.05 min
Lab File: 16051111.D
Acq: 11 May 2016 2:34 pm

Tgt Ion:228 Resp: 39590

Ion	Ratio	Lower	Upper
228	100		
229	20.0	0.0	50.1
226	26.1	0.0	55.2

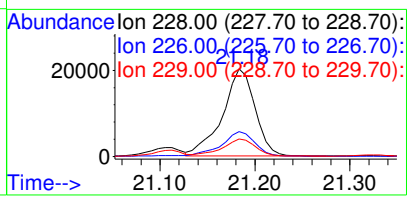


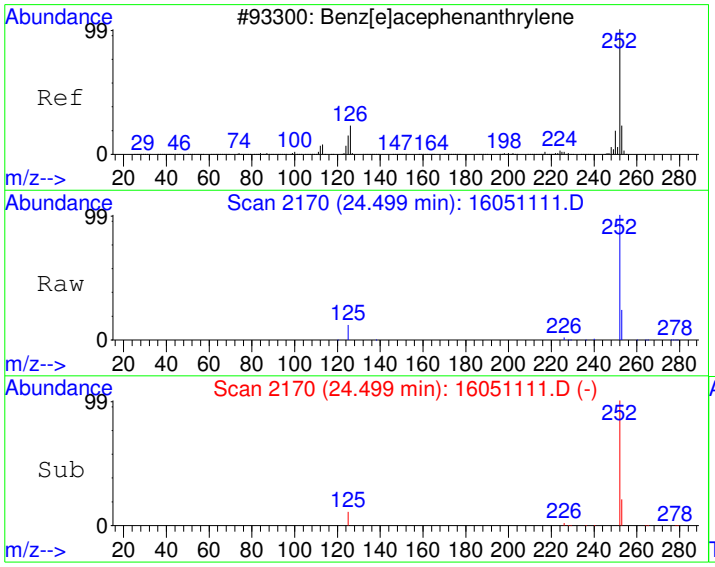


#19
Chrysene
Concen: 103.93 ug/kg
RT: 21.18 min Scan# 1701
Delta R.T. -0.05 min
Lab File: 16051111.D
Acq: 11 May 2016 2:34 pm

Tgt Ion:228 Resp: 48188

Ion	Ratio	Lower	Upper
228	100		
226	28.2	0.0	58.1
229	19.7	0.0	50.1

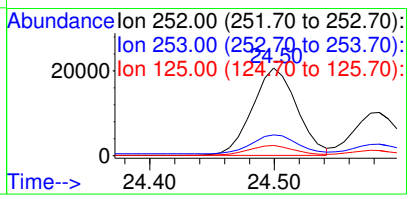


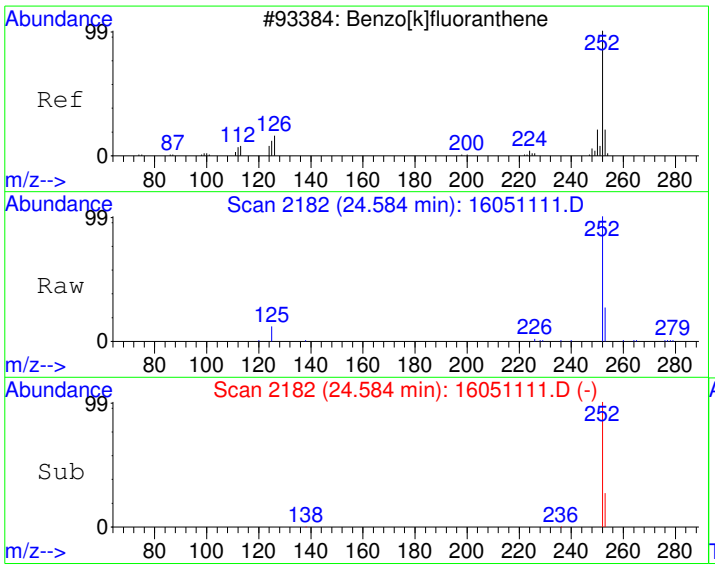


#21
Benzo[b]fluoranthene
Concen: 102.76 ug/kg
RT: 24.50 min Scan# 2170
Delta R.T. -0.06 min
Lab File: 16051111.D
Acq: 11 May 2016 2:34 pm

Tgt Ion:252 Resp: 51023

Ion	Ratio	Lower	Upper
252	100		
253	21.6	0.0	52.2
125	11.3	0.0	41.0

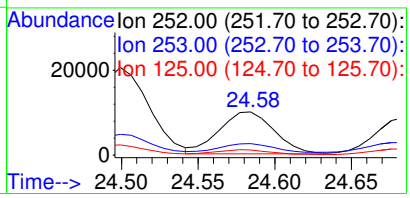


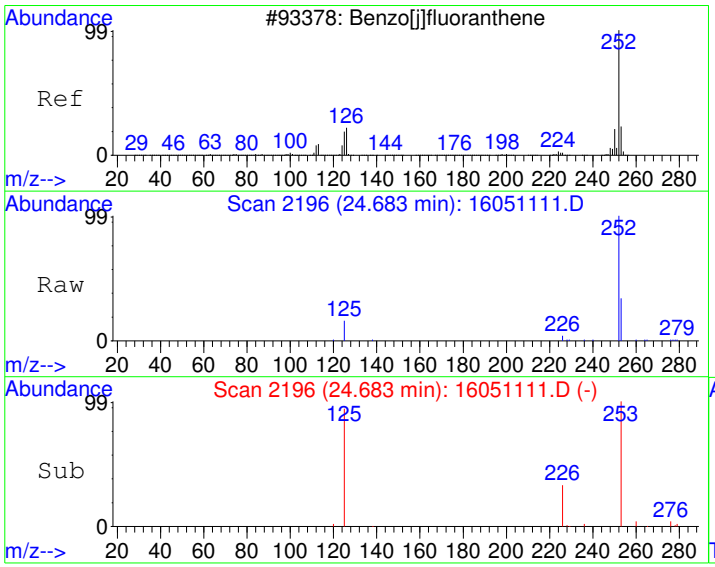


#22
Benzo[k]fluoranthene
Concen: 53.41 ug/kg
RT: 24.58 min Scan# 2182
Delta R.T. -0.06 min
Lab File: 16051111.D
Acq: 11 May 2016 2:34 pm

Tgt Ion:252 Resp: 24878

Ion	Ratio	Lower	Upper
252	100		
253	21.3	2.1	42.1
125	10.9	0.0	31.3

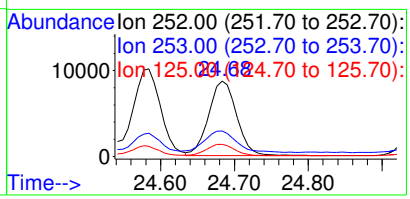


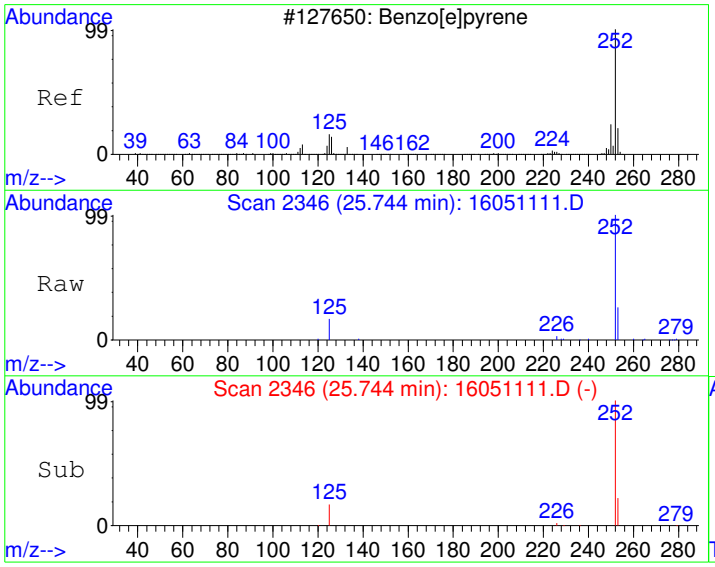


#23
Benzo(j)fluoranthene
Concen: 55.22 ug/kg
RT: 24.68 min Scan# 2196
Delta R.T. -0.06 min
Lab File: 16051111.D
Acq: 11 May 2016 2:34 pm

Tgt Ion:252 Resp: 22909

Ion	Ratio	Lower	Upper
252	100		
253	28.3	2.1	42.1
125	15.2	0.0	34.4

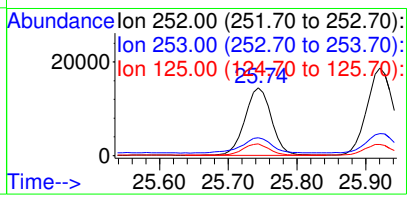


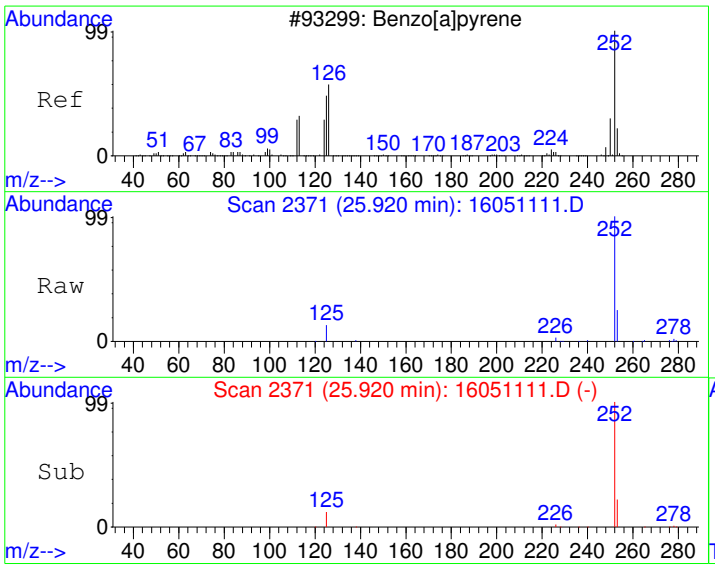


#24
Benzo[e]pyrene
Concen: 86.47 ug/kg
RT: 25.74 min Scan# 2346
Delta R.T. -0.06 min
Lab File: 16051111.D
Acq: 11 May 2016 2:34 pm

Tgt Ion:252 Resp: 38450

Ion	Ratio	Lower	Upper
252	100		
253	22.5	2.2	42.2
125	16.7	0.0	36.1

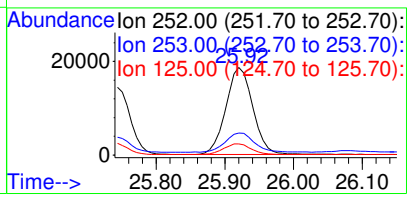


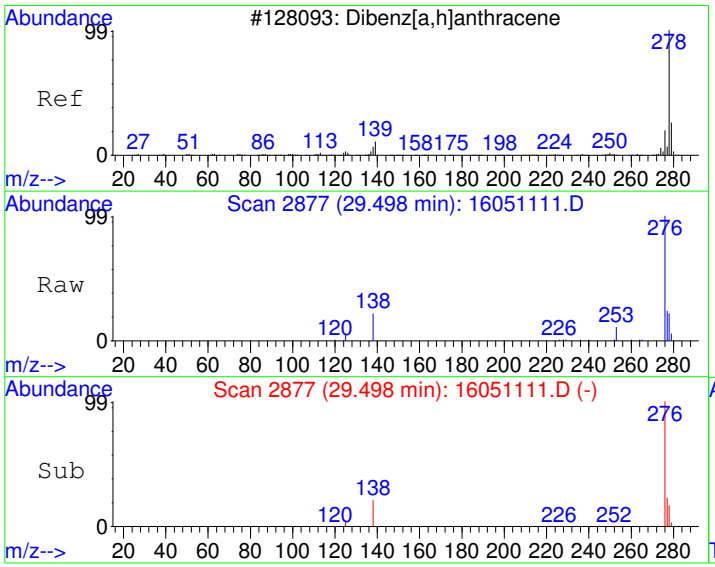


#25
Benzo[a]pyrene
Concen: 111.47 ug/kg
RT: 25.92 min Scan# 2371
Delta R.T. -0.06 min
Lab File: 16051111.D
Acq: 11 May 2016 2:34 pm

Tgt Ion:252 Resp: 50650

Ion	Ratio	Lower	Upper
252	100		
253	22.0	1.9	41.9
125	12.2	0.0	31.7

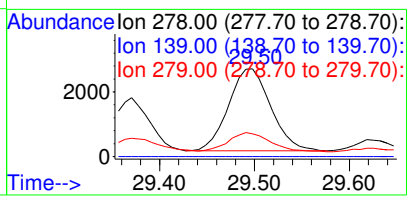


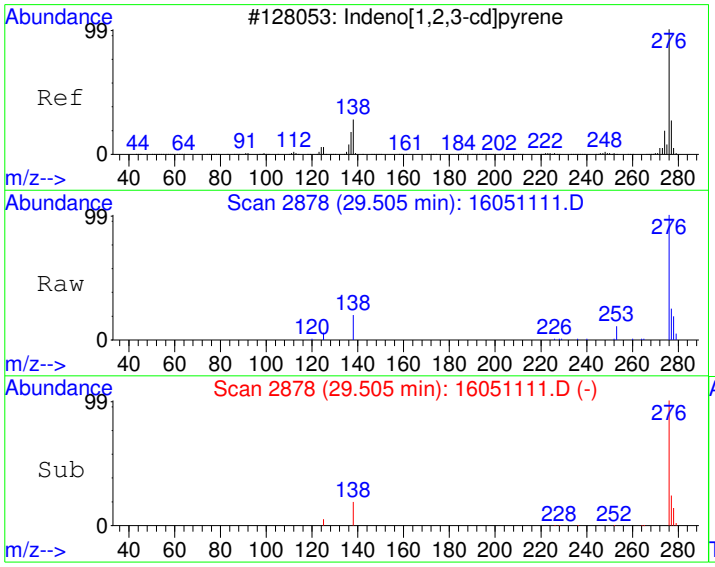


#26
Dibenz[a,h]anthracene
Concen: 18.94 ug/kg
RT: 29.50 min Scan# 2877
Delta R.T. -0.06 min
Lab File: 16051111.D
Acq: 11 May 2016 2:34 pm

Tgt Ion:278 Resp: 7839

Ion	Ratio	Lower	Upper
278	100		
139	0.0	0.0	20.0
279	21.9	4.2	44.2

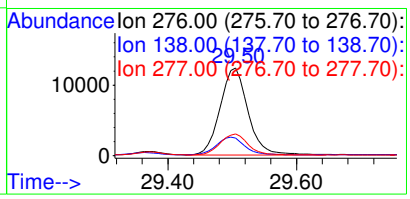


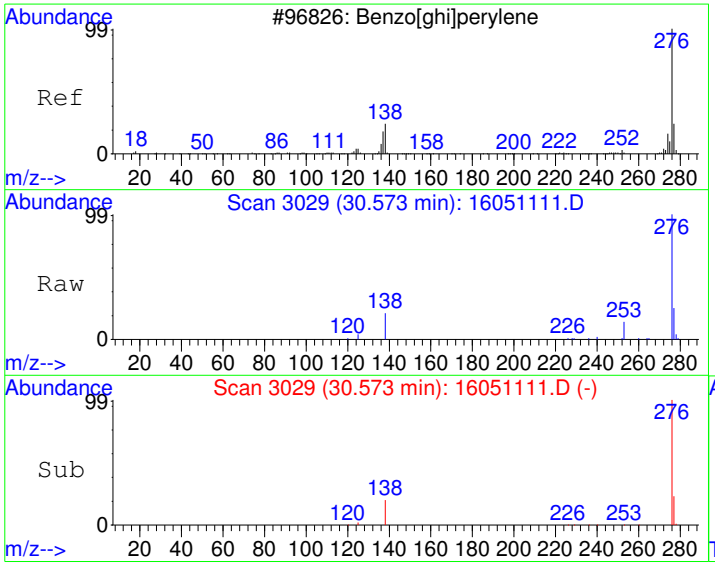


#27
Indeno[1,2,3-cd]pyrene
Concen: 75.07 ug/kg
RT: 29.50 min Scan# 2878
Delta R.T. -0.06 min
Lab File: 16051111.D
Acq: 11 May 2016 2:34 pm

Tgt Ion:276 Resp: 37060

Ion	Ratio	Lower	Upper
276	100		
138	19.4	6.7	46.7
277	24.1	5.8	45.8

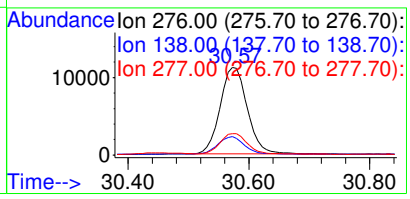




#28
Benzo[g,h,i]perylene
Concen: 90.29 ug/kg
RT: 30.57 min Scan# 3029
Delta R.T. -0.07 min
Lab File: 16051111.D
Acq: 11 May 2016 2:34 pm

Tgt Ion:276 Resp: 34755

Ion	Ratio	Lower	Upper
276	100		
138	20.3	0.0	39.1
277	24.0	4.0	44.0



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160511\16051112.D Vial: 12
Acq On : 11 May 2016 3:13 pm Operator:
Sample : 1605047-35A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 12 8:58 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.87	136	1402764	4000.00 ug/kg	121
5) Acenaphthene-d10	13.28	164	863614	4000.00 ug/kg	75
11) Phenanthrene-d10	15.37	188	1775730	4000.00 ug/kg	87
17) Chrysene-d12	21.11	240	1967994	4000.00 ug/kg	87
20) Perylene-d12	26.27	264	1825324	4000.00 ug/kg	89

System Monitoring Compounds					
7) 2-Fluorobiphenyl	12.22	172	20471	81.26 ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.03%#		
16) 4-Terphenyl-d14	17.87	244	32379	70.48 ug/kg	-0.03
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.76%#		

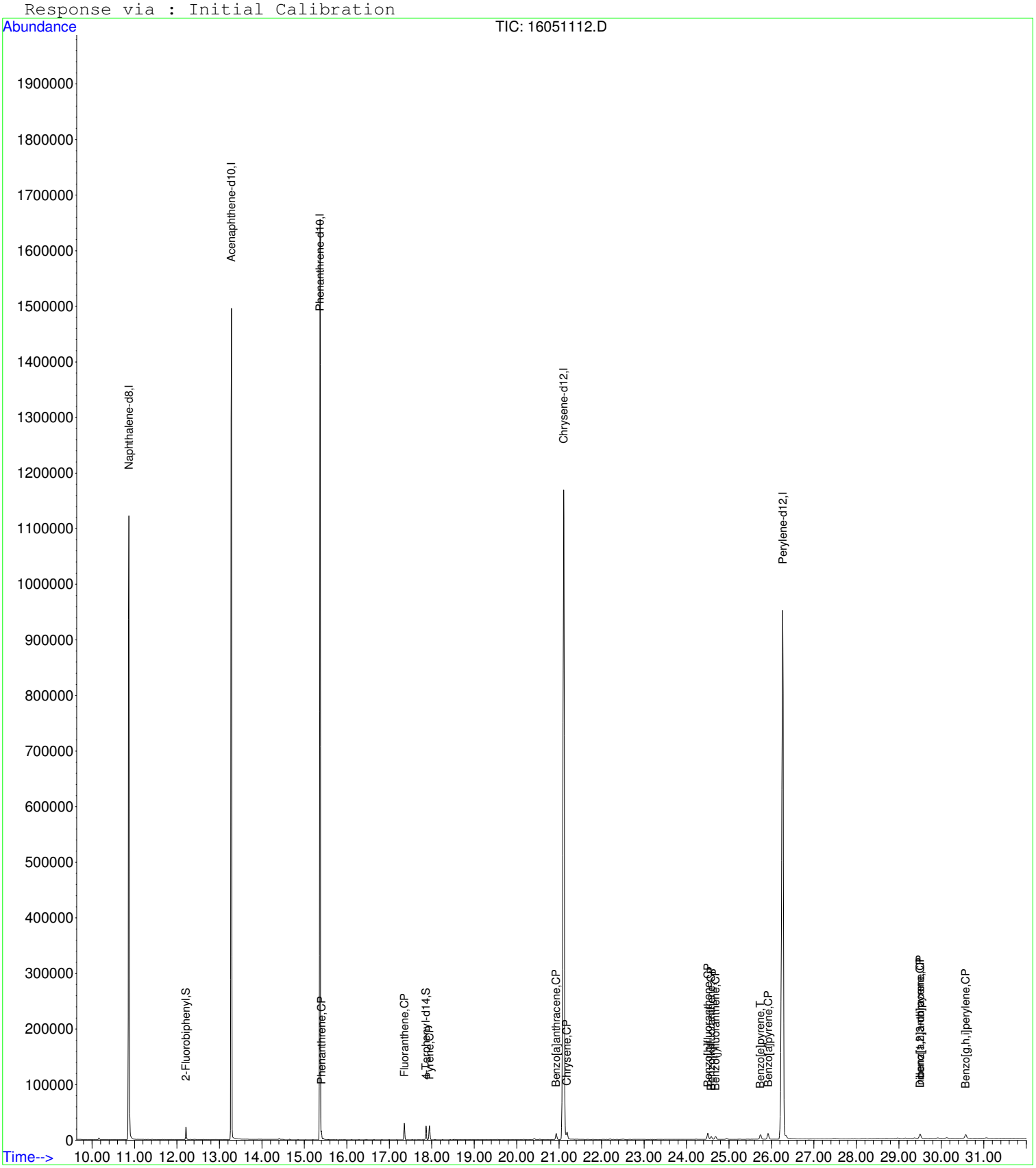
Target Compounds					Qvalue
12) Phenanthrene	15.40	178	10764	23.05 ug/kg	99
14) Fluoranthene	17.36	202	29891	61.85 ug/kg	100
15) Pyrene	17.95	202	26602	52.99 ug/kg	99
18) Benzo[a]anthracene	20.93	228	16025	34.76 ug/kg	99
19) Chrysene	21.18	228	19442	43.64 ug/kg	99
21) Benzo[b]fluoranthene	24.50	252	20173	41.93 ug/kg	99
22) Benzo[k]fluoranthene	24.58	252	9926	21.99 ug/kg	97
23) Benzo(j)fluoranthene	24.68	252	9038	22.48 ug/kg	90
24) Benzo[e]pyrene	25.74	252	15234	35.36 ug/kg	97
25) Benzo[a]pyrene	25.92	252	19294	43.82 ug/kg	99
26) Dibenz[a,h]anthracene	29.49	278	3114	7.77 ug/kg	96
27) Indeno[1,2,3-cd]pyrene	29.50	276	14335	29.97 ug/kg	91
28) Benzo[g,h,i]perylene	30.57	276	13688	36.70 ug/kg	99

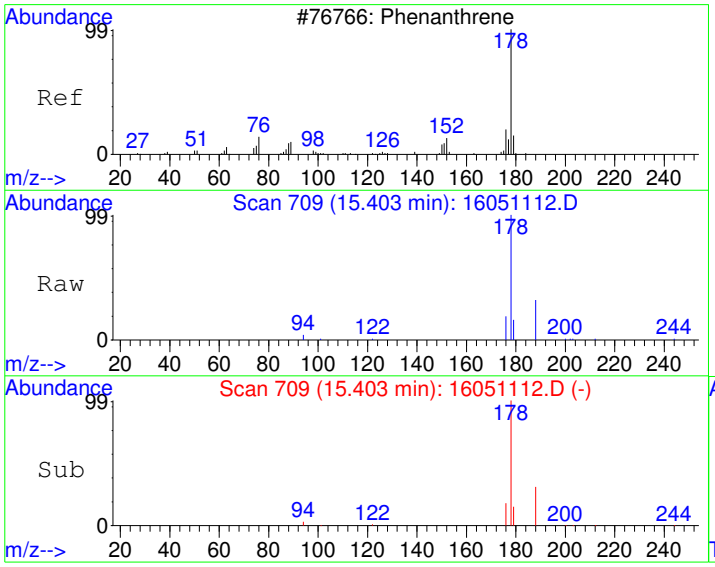
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160511\16051112.D Vial: 12
Acq On : 11 May 2016 3:13 pm Operator:
Sample : 1605047-35A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 12 8:58 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

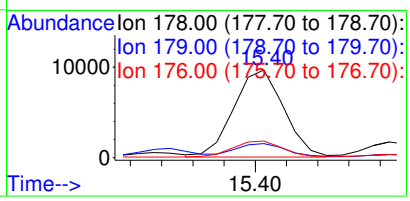


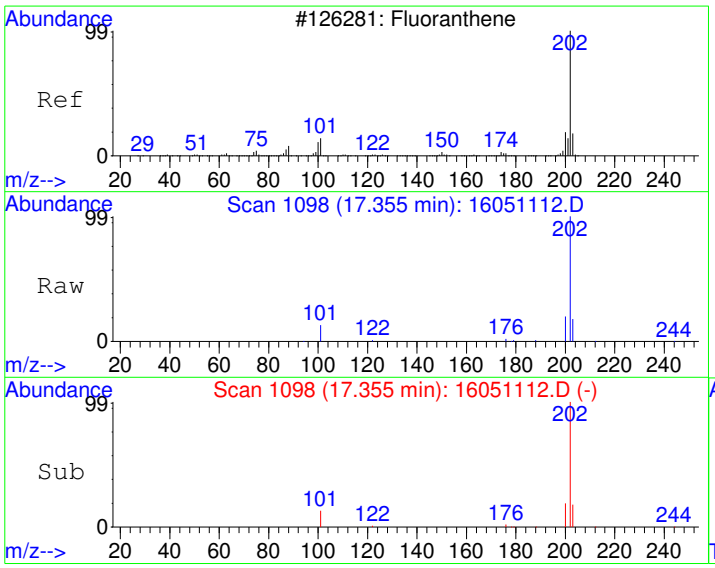


#12
Phenanthrene
Concen: 23.05 ug/kg
RT: 15.40 min Scan# 709
Delta R.T. -0.02 min
Lab File: 16051112.D
Acq: 11 May 2016 3:13 pm

Tgt Ion:178 Resp: 10764

Ion	Ratio	Lower	Upper
178	100		
179	15.2	0.0	45.9
176	18.7	0.0	48.5

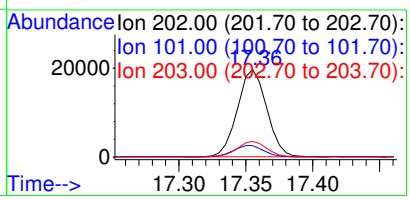


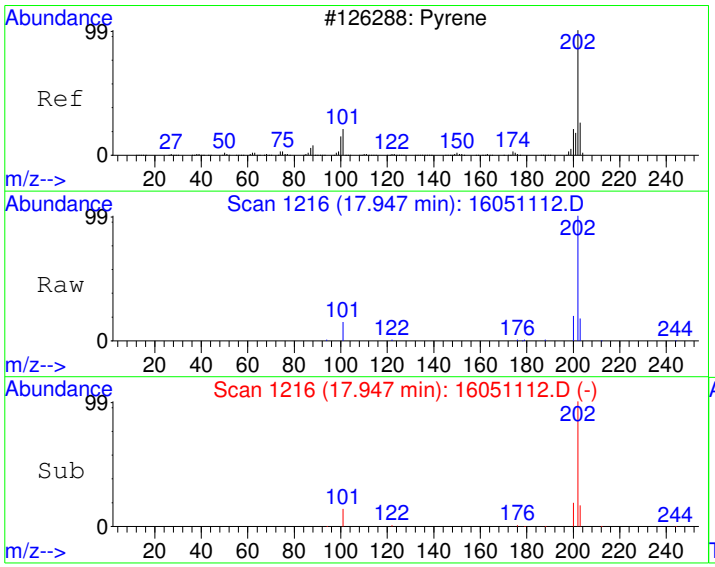


#14
Fluoranthene
Concen: 61.85 ug/kg
RT: 17.36 min Scan# 1098
Delta R.T. -0.02 min
Lab File: 16051112.D
Acq: 11 May 2016 3:13 pm

Tgt Ion:202 Resp: 29891

Ion	Ratio	Lower	Upper
202	100		
101	12.9	0.0	43.0
203	17.7	0.0	47.9

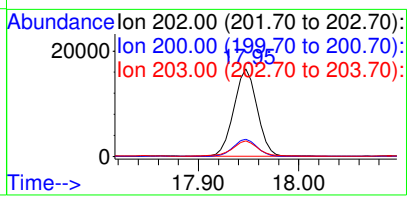


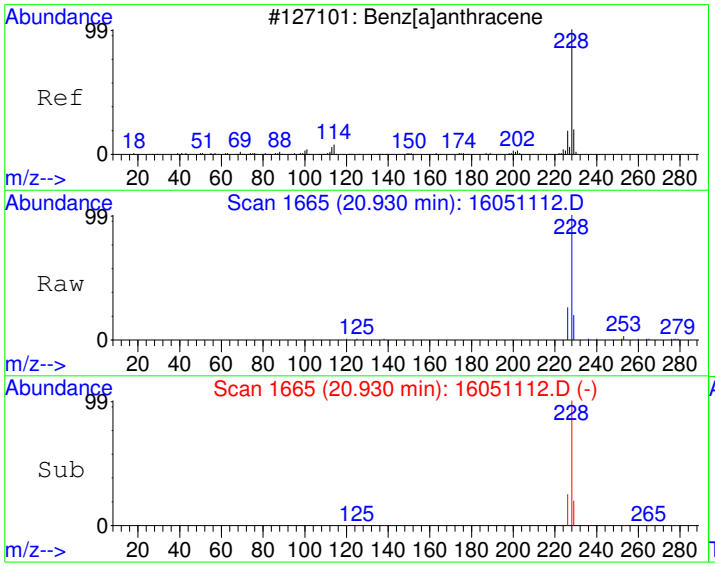


#15
Pyrene
Concen: 52.99 ug/kg
RT: 17.95 min Scan# 1216
Delta R.T. -0.03 min
Lab File: 16051112.D
Acq: 11 May 2016 3:13 pm

Tgt Ion:202 Resp: 26602

Ion	Ratio	Lower	Upper
202	100		
200	19.2	0.0	50.0
203	17.4	0.0	48.0

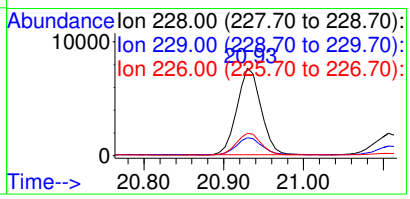


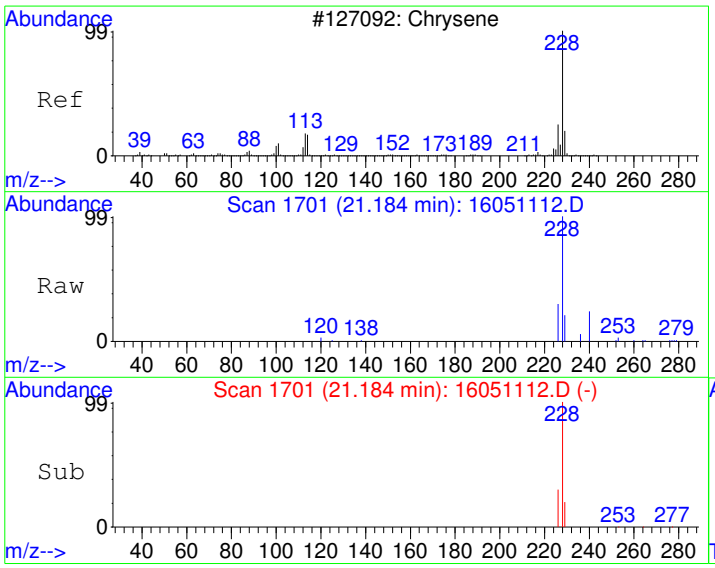


#18
Benzo[a]anthracene
Concen: 34.76 ug/kg
RT: 20.93 min Scan# 1665
Delta R.T. -0.05 min
Lab File: 16051112.D
Acq: 11 May 2016 3:13 pm

Tgt Ion:228 Resp: 16025

Ion	Ratio	Lower	Upper
228	100		
229	19.5	0.0	50.1
226	25.1	0.0	55.2

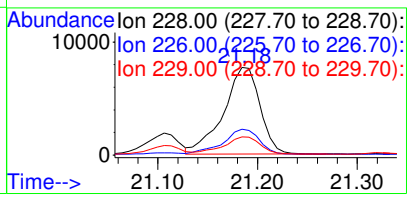


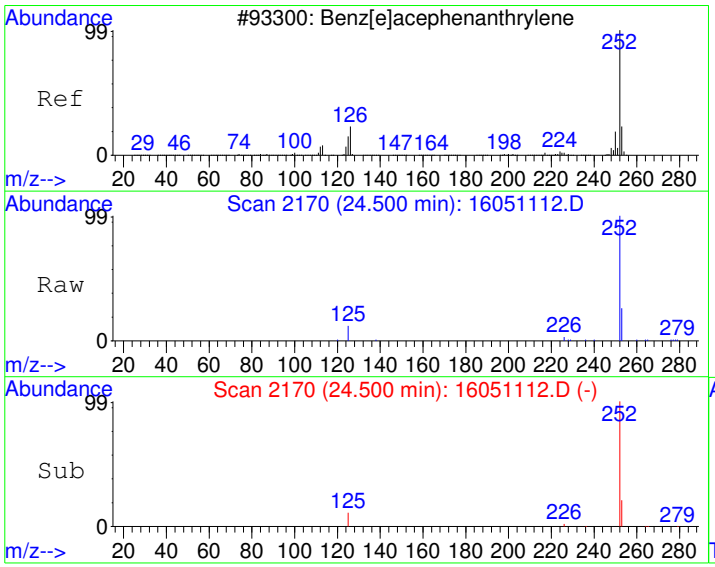


#19
Chrysene
Concen: 43.64 ug/kg
RT: 21.18 min Scan# 1701
Delta R.T. -0.05 min
Lab File: 16051112.D
Acq: 11 May 2016 3:13 pm

Tgt Ion:228 Resp: 19442

Ion	Ratio	Lower	Upper
228	100		
226	28.9	0.0	58.1
229	19.9	0.0	50.1

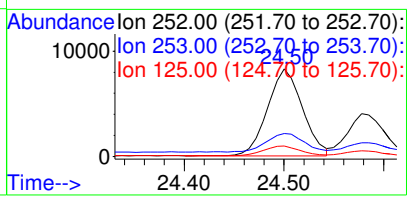


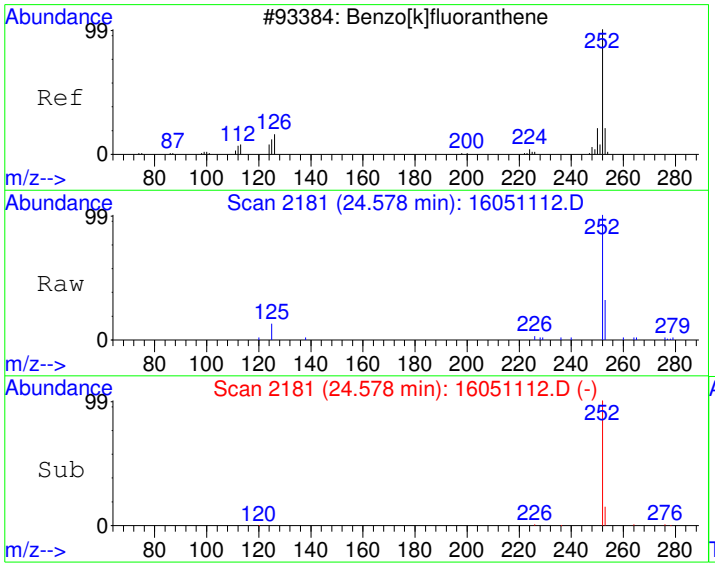


#21
Benzo[b]fluoranthene
Concen: 41.93 ug/kg
RT: 24.50 min Scan# 2170
Delta R.T. -0.06 min
Lab File: 16051112.D
Acq: 11 May 2016 3:13 pm

Tgt Ion:252 Resp: 20173

Ion	Ratio	Lower	Upper
252	100		
253	21.3	0.0	52.2
125	10.9	0.0	41.0

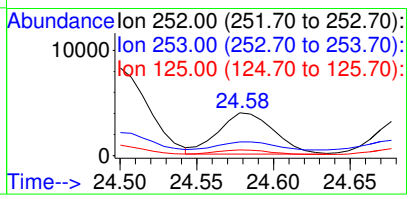


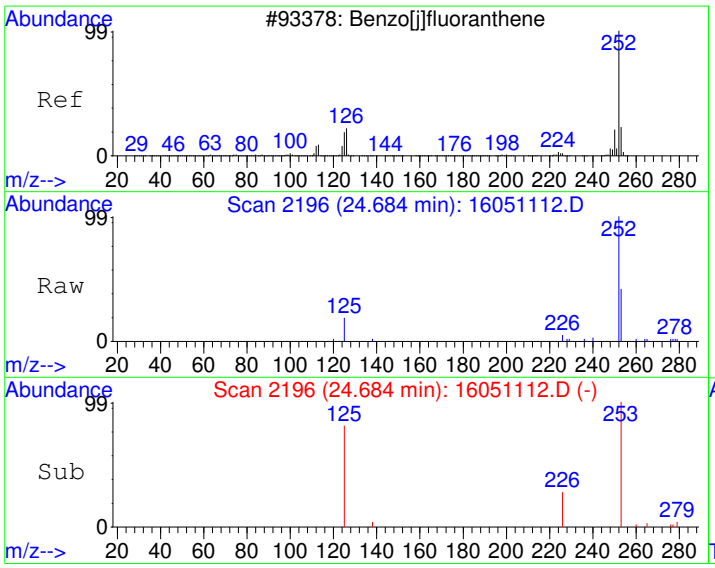


#22
Benzo[k]fluoranthene
Concen: 21.99 ug/kg
RT: 24.58 min Scan# 2181
Delta R.T. -0.06 min
Lab File: 16051112.D
Acq: 11 May 2016 3:13 pm

Tgt Ion:252 Resp: 9926

Ion	Ratio	Lower	Upper
252	100		
253	19.9	2.1	42.1
125	11.1	0.0	31.3

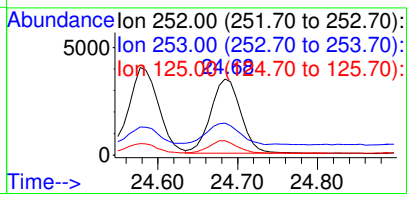


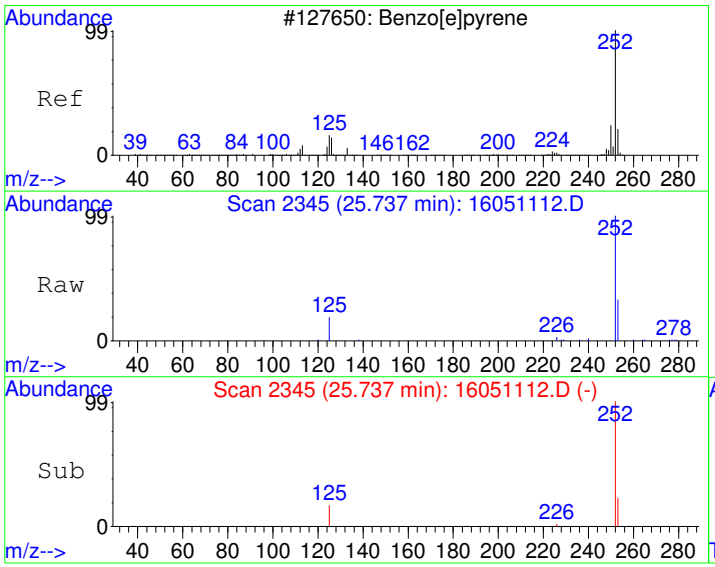


#23
Benzo(j)fluoranthene
Concen: 22.48 ug/kg
RT: 24.68 min Scan# 2196
Delta R.T. -0.06 min
Lab File: 16051112.D
Acq: 11 May 2016 3:13 pm

Tgt Ion:252 Resp: 9038

Ion	Ratio	Lower	Upper
252	100		
253	28.2	2.1	42.1
125	16.4	0.0	34.4

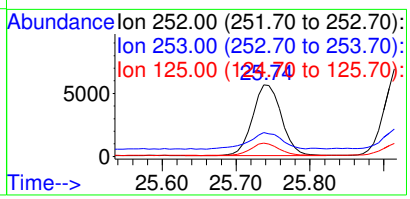


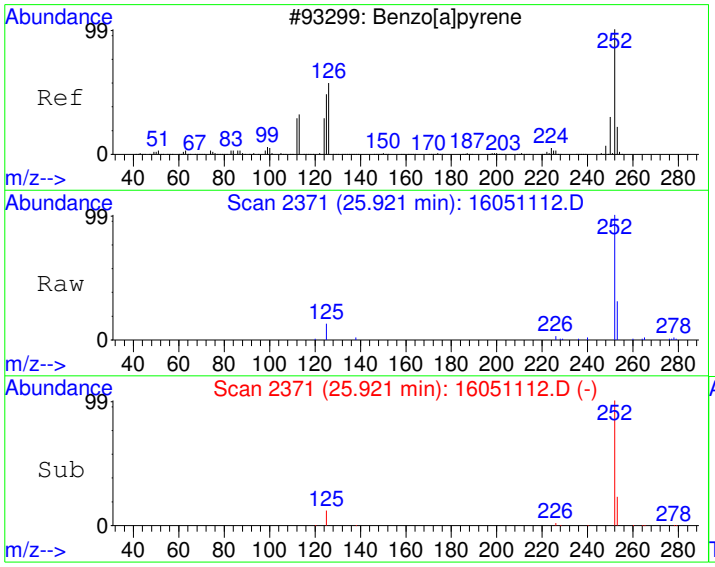


#24
Benzo[e]pyrene
Concen: 35.36 ug/kg
RT: 25.74 min Scan# 2345
Delta R.T. -0.06 min
Lab File: 16051112.D
Acq: 11 May 2016 3:13 pm

Tgt Ion:252 Resp: 15234

Ion	Ratio	Lower	Upper
252	100		
253	23.4	2.2	42.2
125	17.4	0.0	36.1

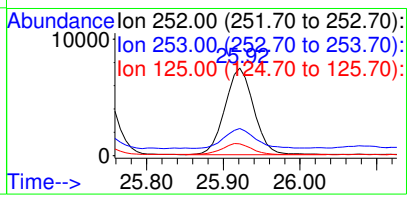


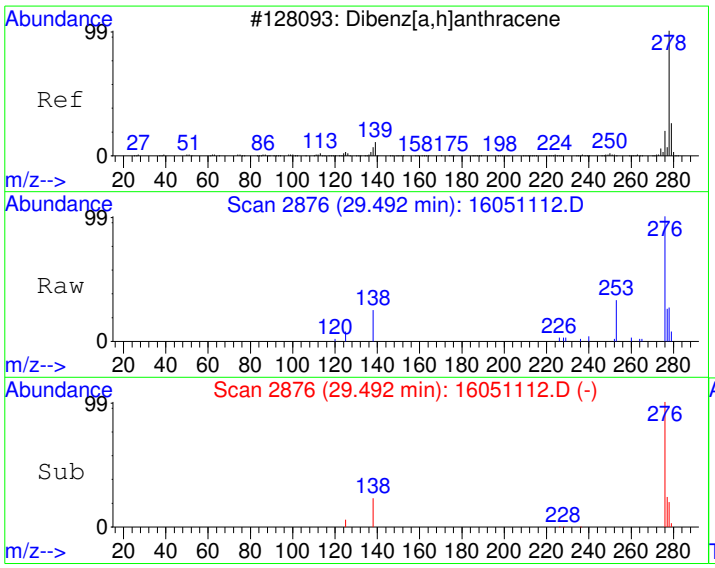


#25
Benzo[a]pyrene
Concen: 43.82 ug/kg
RT: 25.92 min Scan# 2371
Delta R.T. -0.06 min
Lab File: 16051112.D
Acq: 11 May 2016 3:13 pm

Tgt Ion:252 Resp: 19294

Ion	Ratio	Lower	Upper
252	100		
253	22.5	1.9	41.9
125	12.3	0.0	31.7

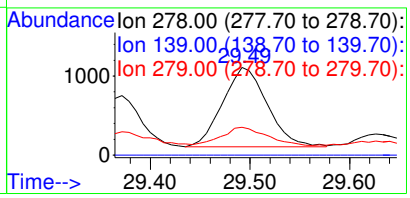


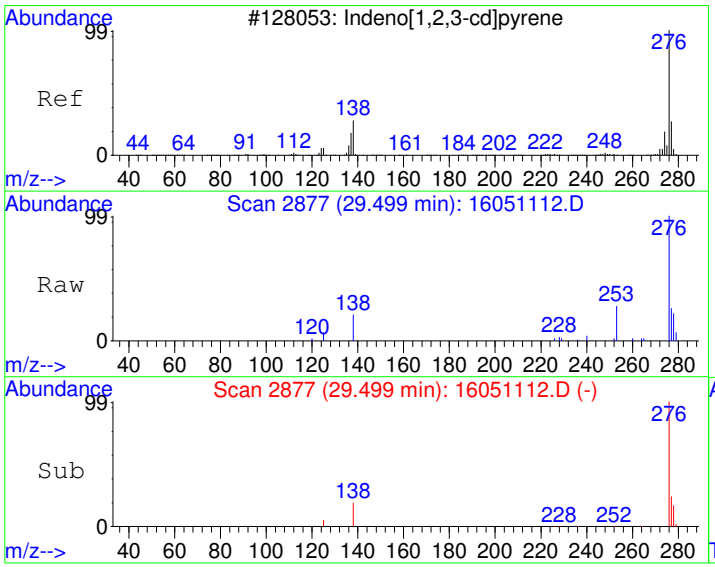


#26
Dibenz[a,h]anthracene
Concen: 7.77 ug/kg
RT: 29.49 min Scan# 2876
Delta R.T. -0.07 min
Lab File: 16051112.D
Acq: 11 May 2016 3:13 pm

Tgt Ion:278 Resp: 3114

Ion	Ratio	Lower	Upper
278	100		
139	0.0	0.0	20.0
279	22.4	4.2	44.2

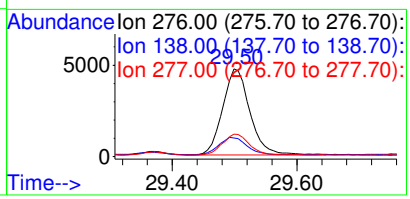


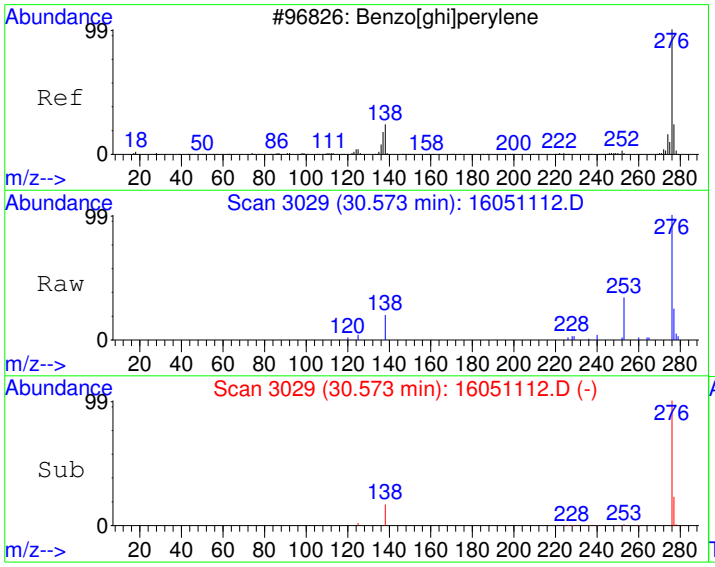


#27
Indeno[1,2,3-cd]pyrene
Concen: 29.97 ug/kg
RT: 29.50 min Scan# 2877
Delta R.T. -0.06 min
Lab File: 16051112.D
Acq: 11 May 2016 3:13 pm

Tgt Ion:276 Resp: 14335

Ion	Ratio	Lower	Upper
276	100		
138	19.4	6.7	46.7
277	24.3	5.8	45.8

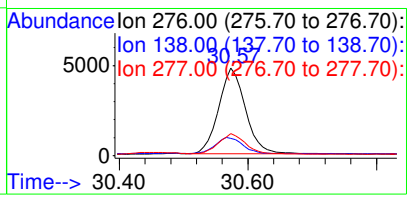




#28
Benzo[g,h,i]perylene
Concen: 36.70 ug/kg
RT: 30.57 min Scan# 3029
Delta R.T. -0.07 min
Lab File: 16051112.D
Acq: 11 May 2016 3:13 pm

Tgt Ion:276 Resp: 13688

Ion	Ratio	Lower	Upper
276	100		
138	17.8	0.0	39.1
277	24.0	4.0	44.0



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160511\16051113.D Vial: 13
Acq On : 11 May 2016 3:53 pm Operator:
Sample : 1605047-36A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 12 8:58 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.87	136	1371440	4000.00 ug/kg	118
5) Acenaphthene-d10	13.28	164	961970	4000.00 ug/kg	84
11) Phenanthrene-d10	15.37	188	1661473	4000.00 ug/kg	81
17) Chrysene-d12	21.11	240	2014310	4000.00 ug/kg	89
20) Perylene-d12	26.27	264	1852637	4000.00 ug/kg	90

System Monitoring Compounds					
7) 2-Fluorobiphenyl	12.22	172	21312	75.95 ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.90%#	
16) 4-Terphenyl-d14	17.86	244	29894	69.54 ug/kg	-0.04
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.74%#	

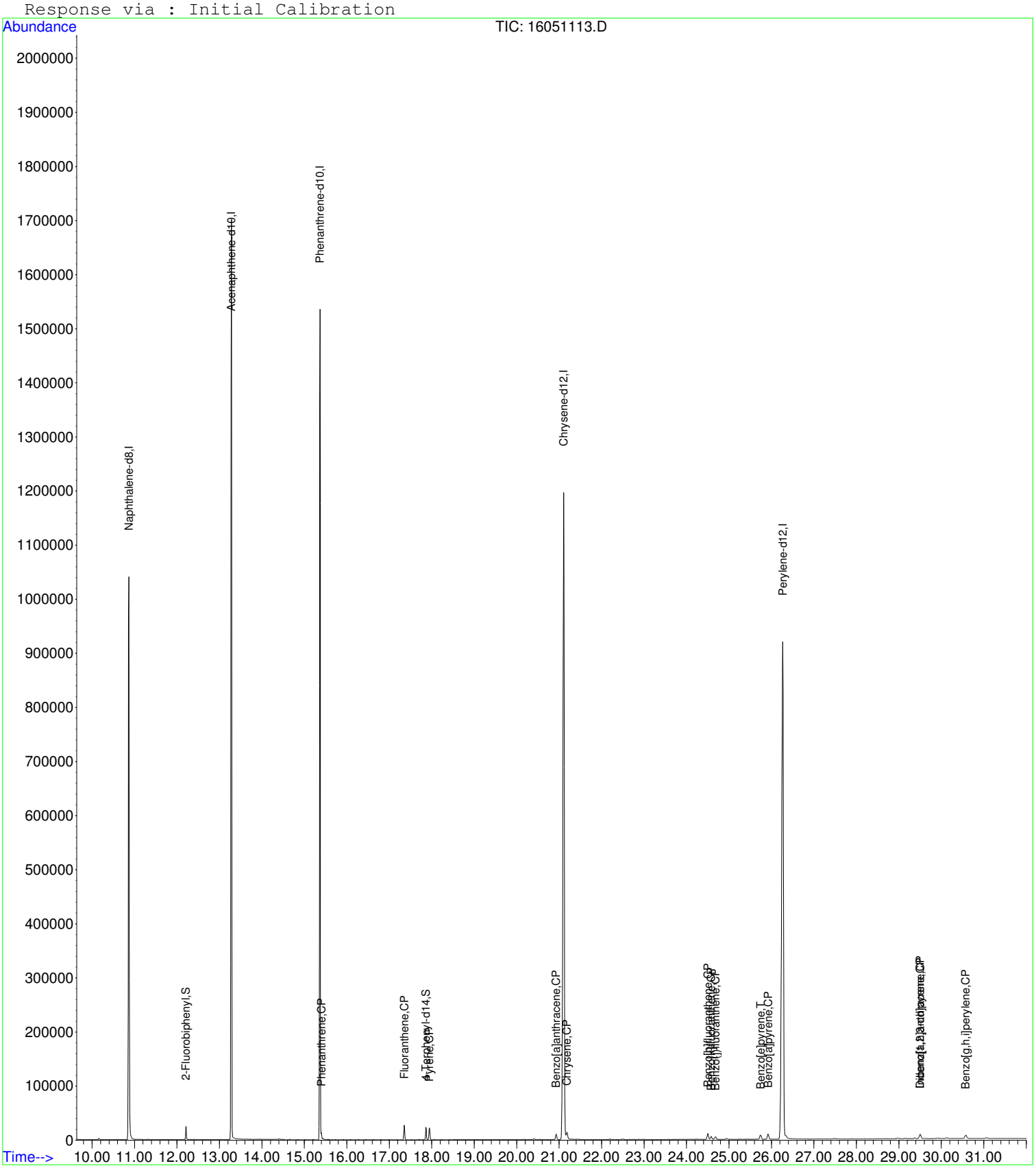
Target Compounds					Qvalue
12) Phenanthrene	15.40	178	9105	20.84 ug/kg	100
14) Fluoranthene	17.35	202	26691	59.03 ug/kg	99
15) Pyrene	17.95	202	23897	50.88 ug/kg	99
18) Benzo[a]anthracene	20.93	228	15207	32.22 ug/kg	99
19) Chrysene	21.18	228	18735	41.09 ug/kg	100
21) Benzo[b]fluoranthene	24.50	252	19825	40.60 ug/kg	100
22) Benzo[k]fluoranthene	24.58	252	9586	20.93 ug/kg	98
23) Benzo(j)fluoranthene	24.68	252	8691	21.30 ug/kg	92
24) Benzo[e]pyrene	25.74	252	14849	33.96 ug/kg	100
25) Benzo[a]pyrene	25.92	252	18444	41.27 ug/kg	99
26) Dibenz[a,h]anthracene	29.50	278	3015	7.41 ug/kg	96
27) Indeno[1,2,3-cd]pyrene	29.51	276	13831	28.49 ug/kg	92
28) Benzo[g,h,i]perylene	30.58	276	12846	33.93 ug/kg	99

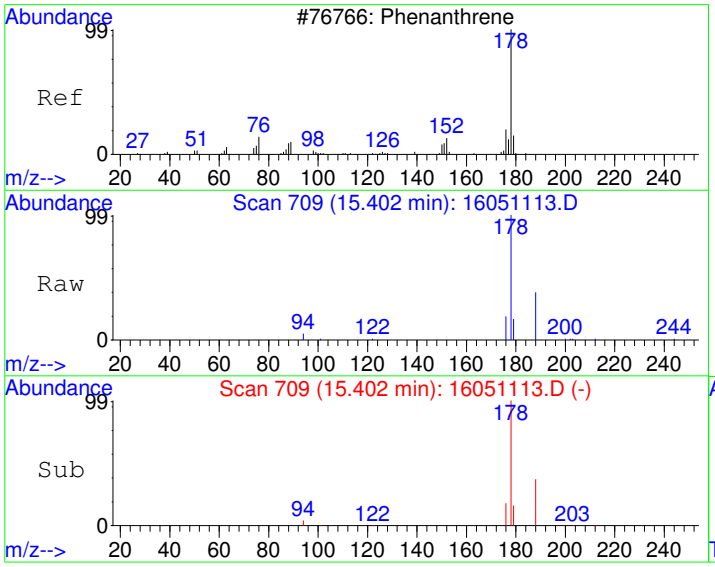
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160511\16051113.D Vial: 13
Acq On : 11 May 2016 3:53 pm Operator:
Sample : 1605047-36A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 12 8:58 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

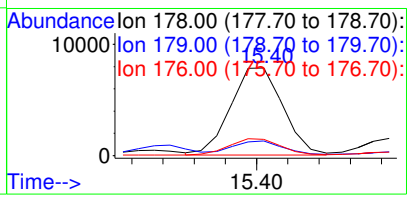


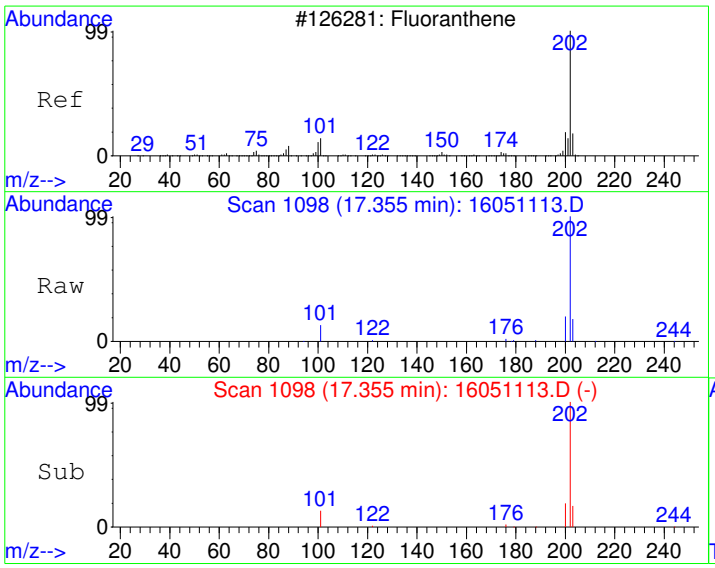


#12
Phenanthrene
Concen: 20.84 ug/kg
RT: 15.40 min Scan# 709
Delta R.T. -0.02 min
Lab File: 16051113.D
Acq: 11 May 2016 3:53 pm

Tgt Ion:178 Resp: 9105

Ion	Ratio	Lower	Upper
178	100		
179	15.8	0.0	45.9
176	18.4	0.0	48.5

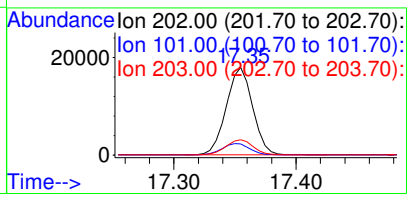


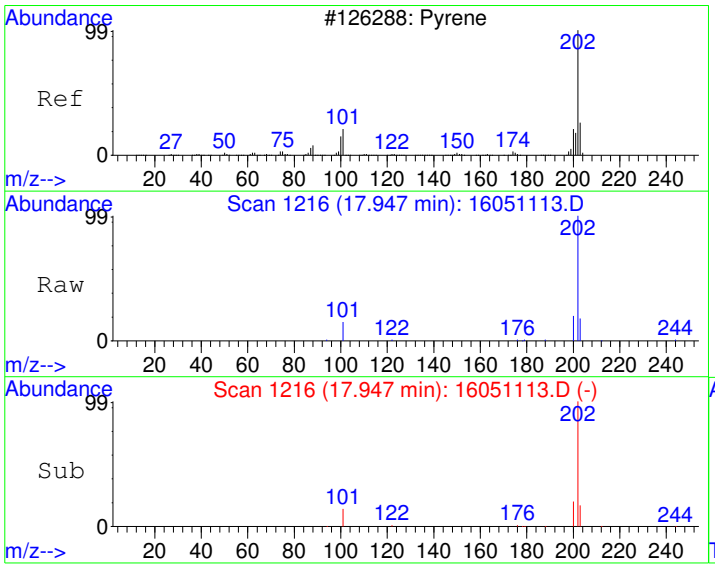


#14
Fluoranthene
Concen: 59.03 ug/kg
RT: 17.35 min Scan# 1098
Delta R.T. -0.03 min
Lab File: 16051113.D
Acq: 11 May 2016 3:53 pm

Tgt Ion:202 Resp: 26691

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

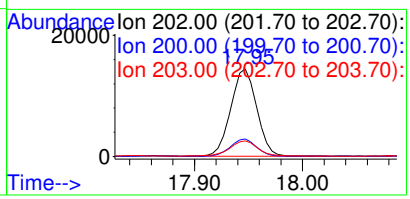


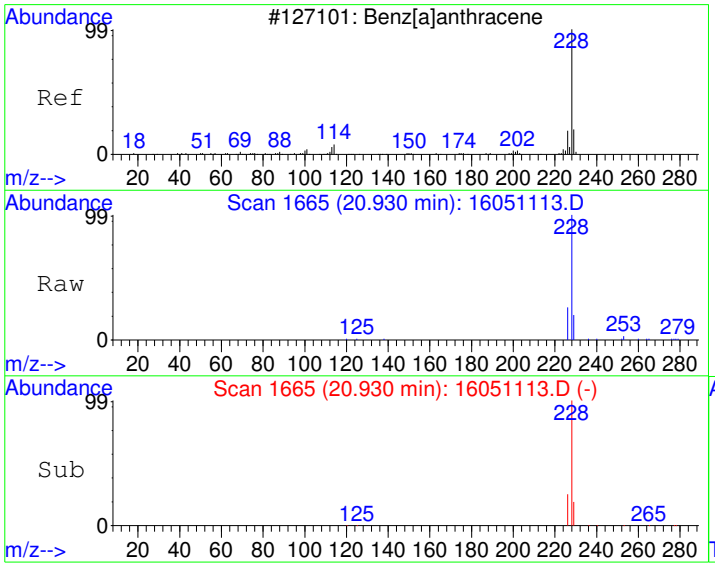


#15
Pyrene
Concen: 50.88 ug/kg
RT: 17.95 min Scan# 1216
Delta R.T. -0.03 min
Lab File: 16051113.D
Acq: 11 May 2016 3:53 pm

Tgt Ion:202 Resp: 23897

Ion	Ratio	Lower	Upper
202	100		
200	19.6	0.0	50.0
203	17.3	0.0	48.0

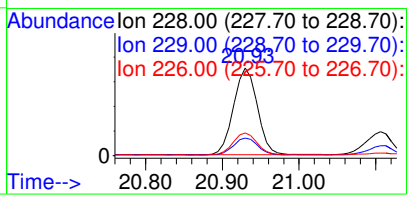


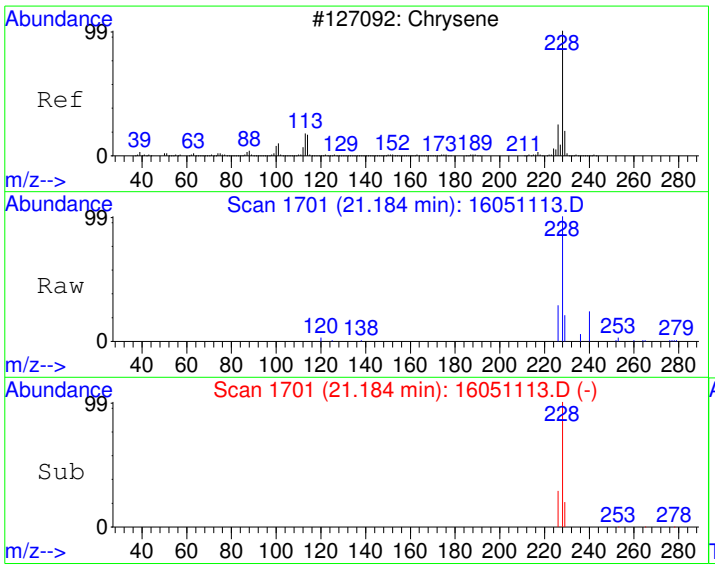


#18
Benzo[a]anthracene
Concen: 32.22 ug/kg
RT: 20.93 min Scan# 1665
Delta R.T. -0.05 min
Lab File: 16051113.D
Acq: 11 May 2016 3:53 pm

Tgt Ion:228 Resp: 15207

Ion	Ratio	Lower	Upper
228	100		
229	19.4	0.0	50.1
226	25.4	0.0	55.2

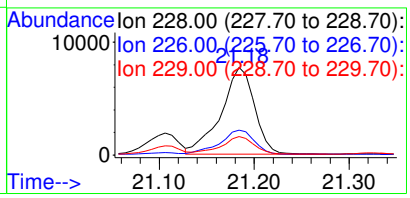


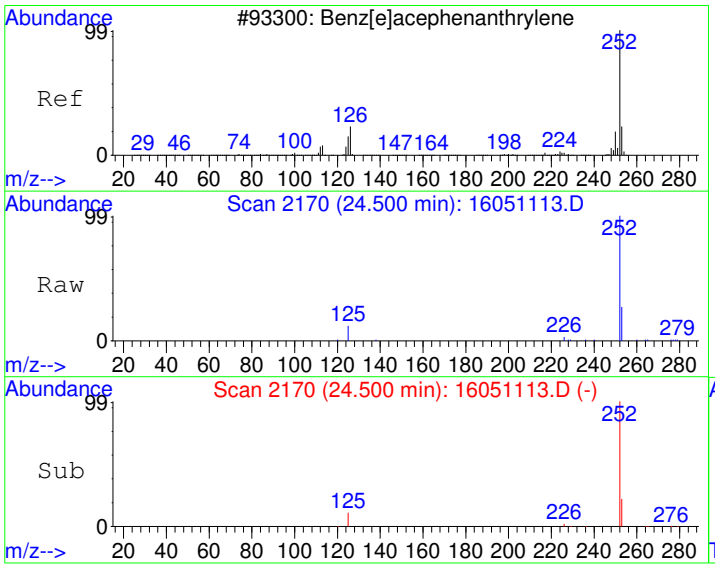


#19
Chrysene
Concen: 41.09 ug/kg
RT: 21.18 min Scan# 1701
Delta R.T. -0.05 min
Lab File: 16051113.D
Acq: 11 May 2016 3:53 pm

Tgt Ion:228 Resp: 18735

Ion	Ratio	Lower	Upper
228	100		
226	28.0	0.0	58.1
229	20.4	0.0	50.1

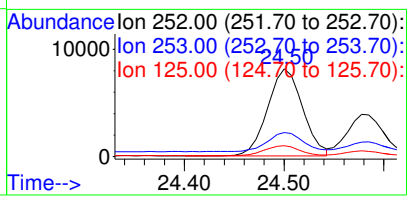


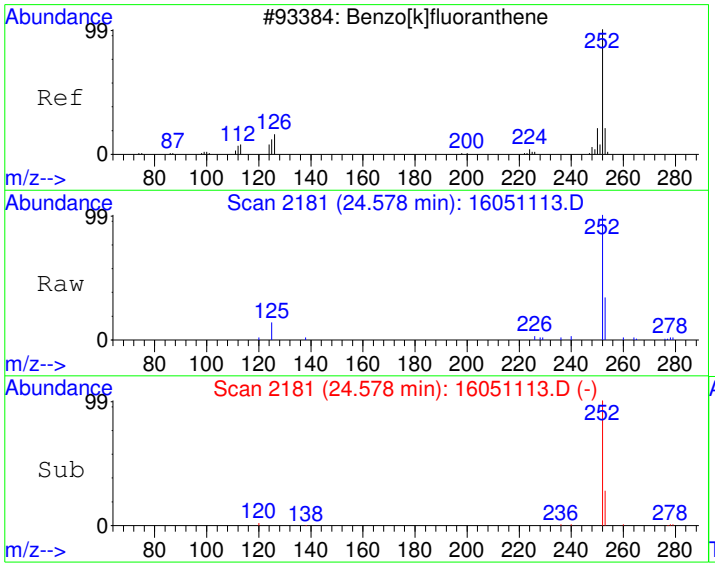


#21
Benzo[b]fluoranthene
Concen: 40.60 ug/kg
RT: 24.50 min Scan# 2170
Delta R.T. -0.06 min
Lab File: 16051113.D
Acq: 11 May 2016 3:53 pm

Tgt Ion:252 Resp: 19825

Ion	Ratio	Lower	Upper
252	100		
253	22.2	0.0	52.2
125	11.4	0.0	41.0

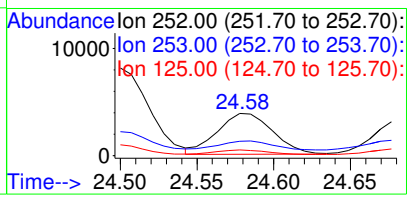


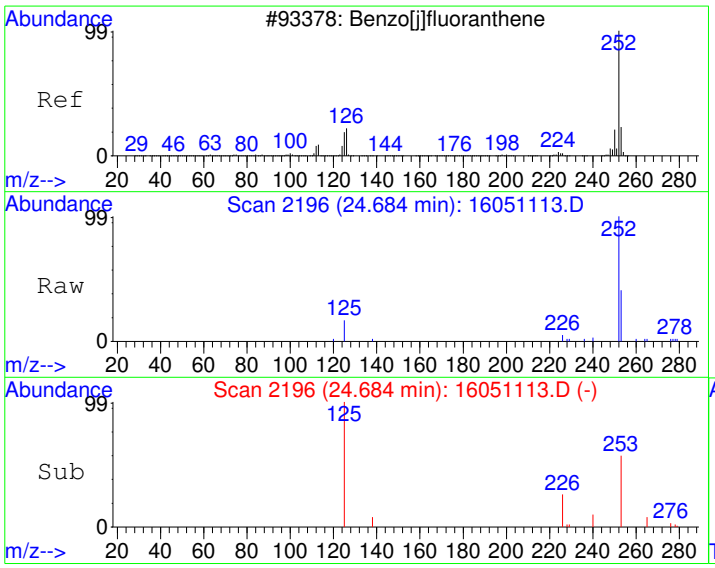


#22
Benzo[k]fluoranthene
Concen: 20.93 ug/kg
RT: 24.58 min Scan# 2181
Delta R.T. -0.06 min
Lab File: 16051113.D
Acq: 11 May 2016 3:53 pm

Tgt Ion:252 Resp: 9586

Ion	Ratio	Lower	Upper
252	100		
253	20.8	2.1	42.1
125	11.7	0.0	31.3

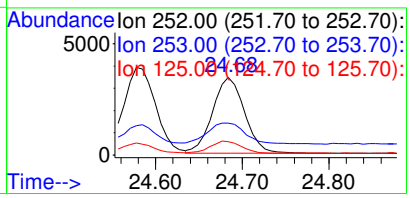


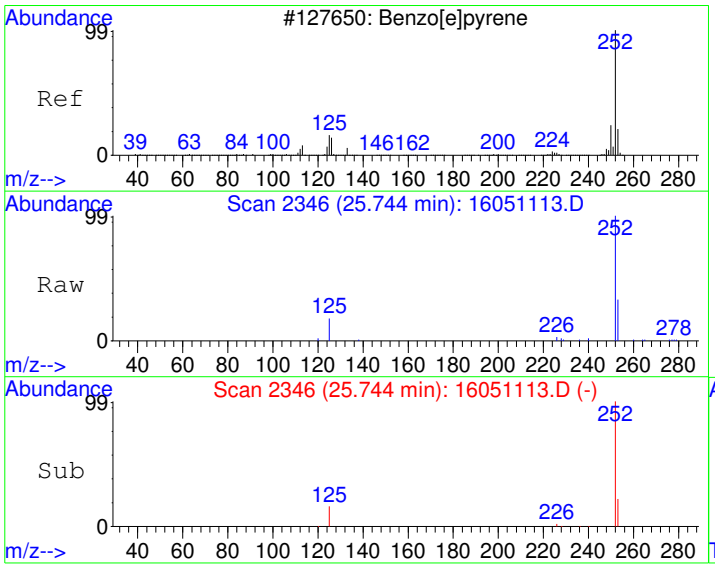


#23
Benzo(j)fluoranthene
Concen: 21.30 ug/kg
RT: 24.68 min Scan# 2196
Delta R.T. -0.06 min
Lab File: 16051113.D
Acq: 11 May 2016 3:53 pm

Tgt Ion:252 Resp: 8691

Ion	Ratio	Lower	Upper
252	100		
253	27.9	2.1	42.1
125	15.2	0.0	34.4

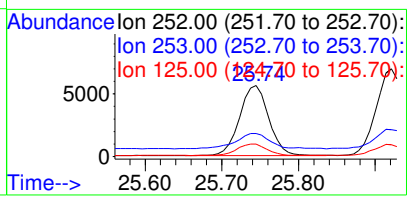


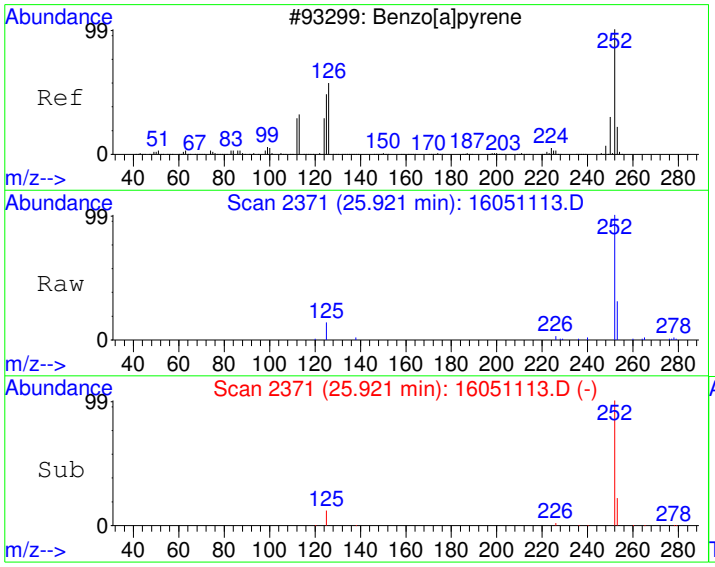


#24
Benzo[e]pyrene
Concen: 33.96 ug/kg
RT: 25.74 min Scan# 2346
Delta R.T. -0.06 min
Lab File: 16051113.D
Acq: 11 May 2016 3:53 pm

Tgt Ion:252 Resp: 14849

Ion	Ratio	Lower	Upper
252	100		
253	22.1	2.2	42.2
125	16.3	0.0	36.1

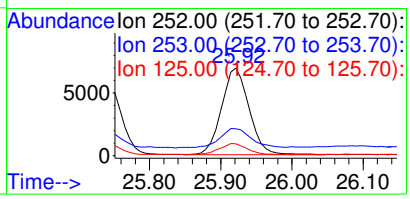


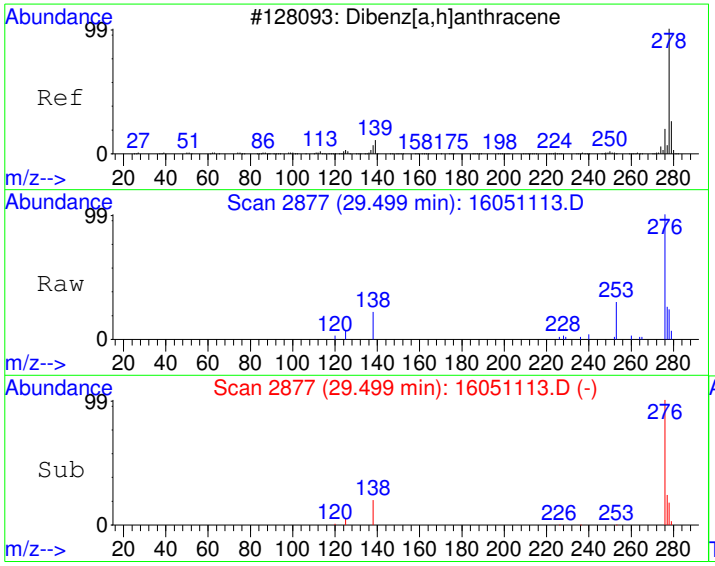


#25
Benzo[a]pyrene
Concen: 41.27 ug/kg
RT: 25.92 min Scan# 2371
Delta R.T. -0.06 min
Lab File: 16051113.D
Acq: 11 May 2016 3:53 pm

Tgt Ion:252 Resp: 18444

Ion	Ratio	Lower	Upper
252	100		
253	21.7	1.9	41.9
125	12.4	0.0	31.7

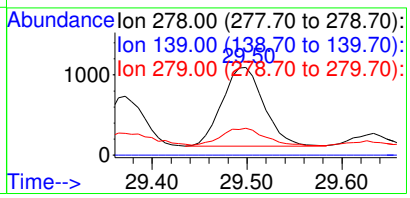


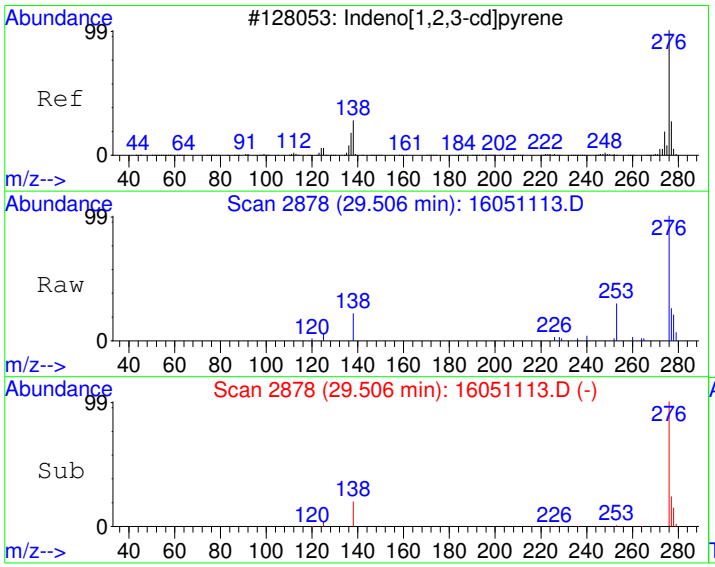


#26
Dibenz[a,h]anthracene
Concen: 7.41 ug/kg
RT: 29.50 min Scan# 2877
Delta R.T. -0.06 min
Lab File: 16051113.D
Acq: 11 May 2016 3:53 pm

Tgt Ion:278 Resp: 3015

Ion	Ratio	Lower	Upper
278	100		
139	0.0	0.0	20.0
279	22.0	4.2	44.2

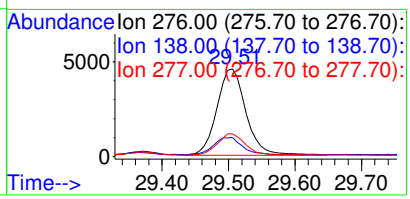


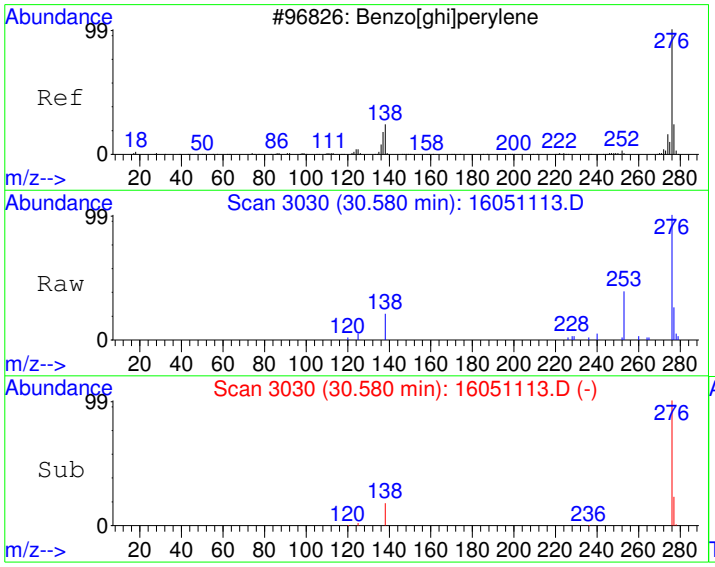


#27
Indeno[1,2,3-cd]pyrene
Concen: 28.49 ug/kg
RT: 29.51 min Scan# 2878
Delta R.T. -0.06 min
Lab File: 16051113.D
Acq: 11 May 2016 3:53 pm

Tgt Ion:276 Resp: 13831

Ion	Ratio	Lower	Upper
276	100		
138	20.2	6.7	46.7
277	24.6	5.8	45.8

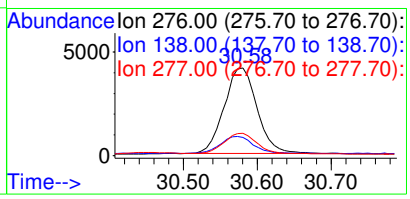




#28
Benzo[g,h,i]perylene
Concen: 33.93 ug/kg
RT: 30.58 min Scan# 3030
Delta R.T. -0.06 min
Lab File: 16051113.D
Acq: 11 May 2016 3:53 pm

Tgt Ion:276 Resp: 12846

Ion	Ratio	Lower	Upper
276	100		
138	18.7	0.0	39.1
277	24.1	4.0	44.0



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160511\16051114.D Vial: 14
Acq On : 11 May 2016 4:33 pm Operator:
Sample : 1605047-37A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 12 8:58 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.87	136	1353630	4000.00 ug/kg	117
5) Acenaphthene-d10	13.28	164	944256	4000.00 ug/kg	82
11) Phenanthrene-d10	15.37	188	1638410	4000.00 ug/kg	80
17) Chrysene-d12	21.11	240	1950235	4000.00 ug/kg	86
20) Perylene-d12	26.27	264	1798012	4000.00 ug/kg	87

System Monitoring Compounds					
7) 2-Fluorobiphenyl	12.22	172	22245	80.76 ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	2.02%#	
16) 4-Terphenyl-d14	17.86	244	31036	73.22 ug/kg	-0.03
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.83%#	

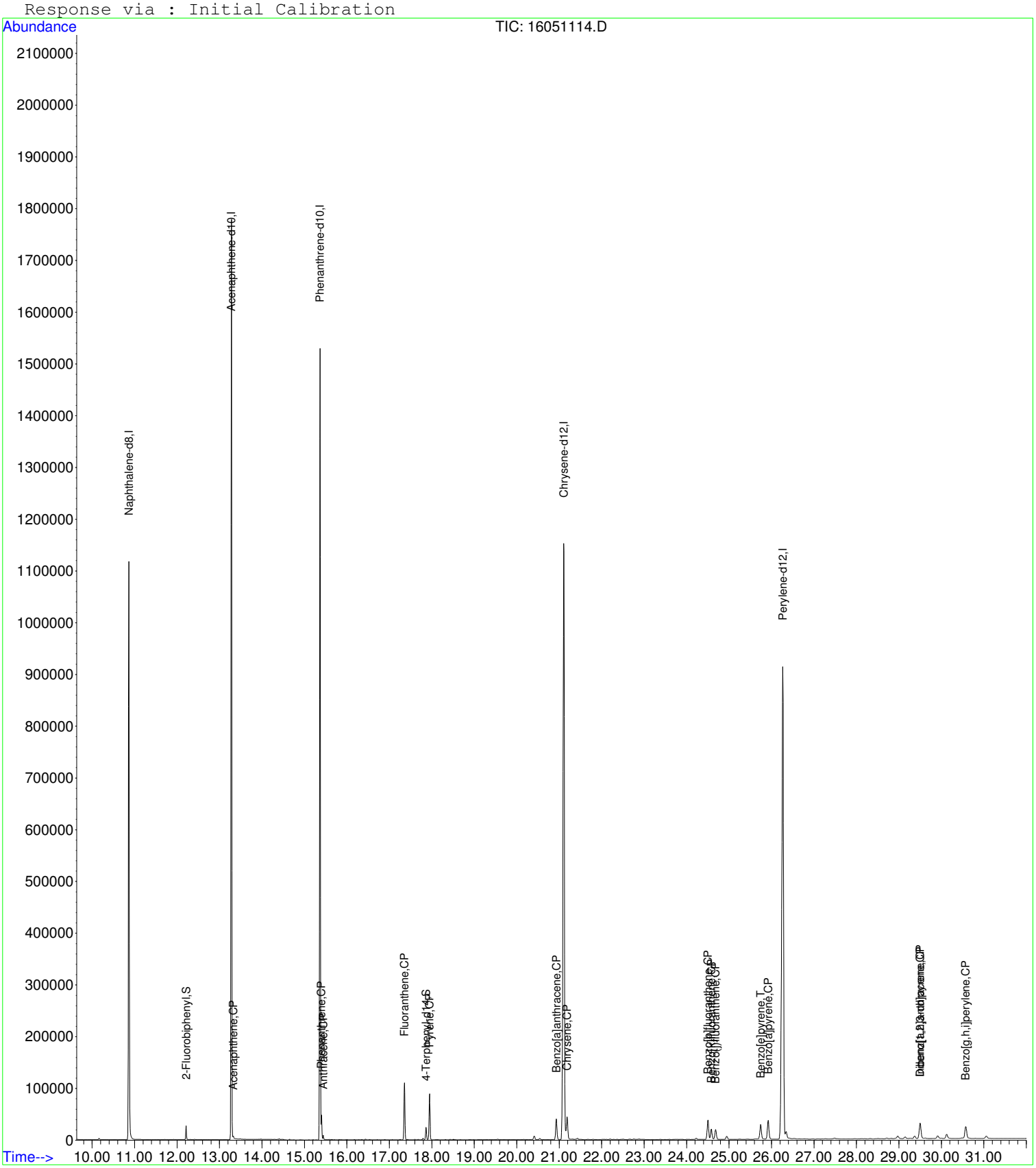
Target Compounds					Qvalue
9) Acenaphthene	13.33	154	1442	5.71 ug/kg	97
12) Phenanthrene	15.40	178	39889	92.58 ug/kg	98
13) Anthracene	15.44	178	7129	17.48 ug/kg	97
14) Fluoranthene	17.36	202	108738	243.87 ug/kg	98
15) Pyrene	17.95	202	95119	205.36 ug/kg	99
18) Benzo[a]anthracene	20.94	228	59737	130.75 ug/kg	100
19) Chrysene	21.19	228	69393	157.19 ug/kg	100
21) Benzo[b]fluoranthene	24.51	252	71023	149.87 ug/kg	99
22) Benzo[k]fluoranthene	24.58	252	34469	77.54 ug/kg	98
23) Benzo(j)fluoranthene	24.68	252	32503	82.08 ug/kg	91
24) Benzo[e]pyrene	25.74	252	52102	122.77 ug/kg	100
25) Benzo[a]pyrene	25.92	252	69900	161.18 ug/kg	99
26) Dibenz[a,h]anthracene	29.49	278	11387	28.83 ug/kg	97
27) Indeno[1,2,3-cd]pyrene	29.51	276	51429	109.15 ug/kg	90
28) Benzo[g,h,i]perylene	30.57	276	47324	128.80 ug/kg	99

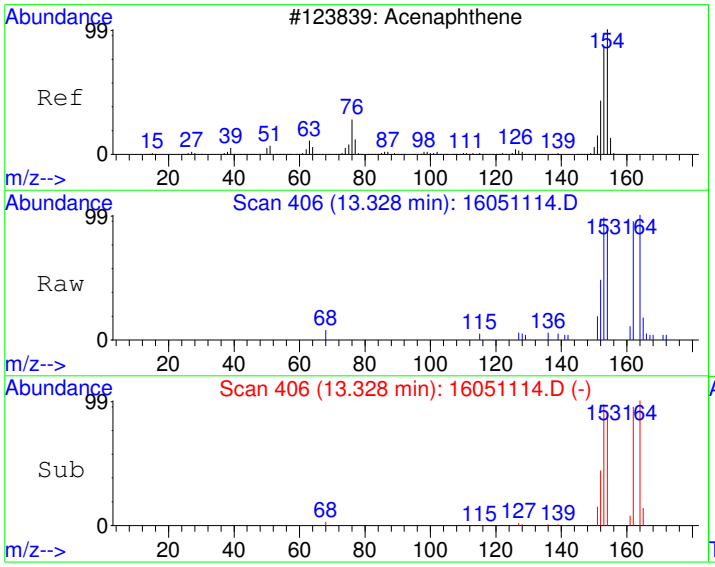
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160511\16051114.D Vial: 14
Acq On : 11 May 2016 4:33 pm Operator:
Sample : 1605047-37A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 12 8:58 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

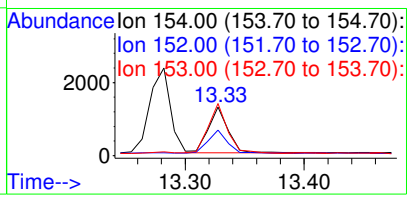


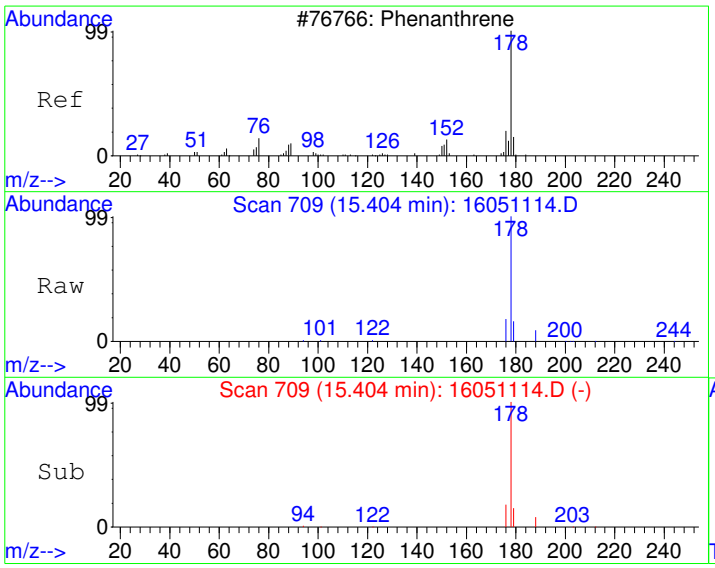


#9
Acenaphthene
Concen: 5.71 ug/kg
RT: 13.33 min Scan# 406
Delta R.T. -0.02 min
Lab File: 16051114.D
Acq: 11 May 2016 4:33 pm

Tgt Ion:154 Resp: 1442

Ion	Ratio	Lower	Upper
154	100		
152	50.0	18.9	78.9
153	108.9	75.2	135.2

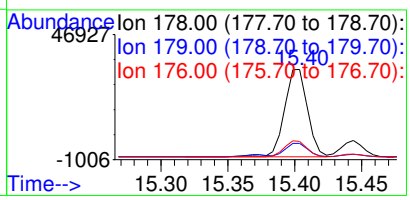


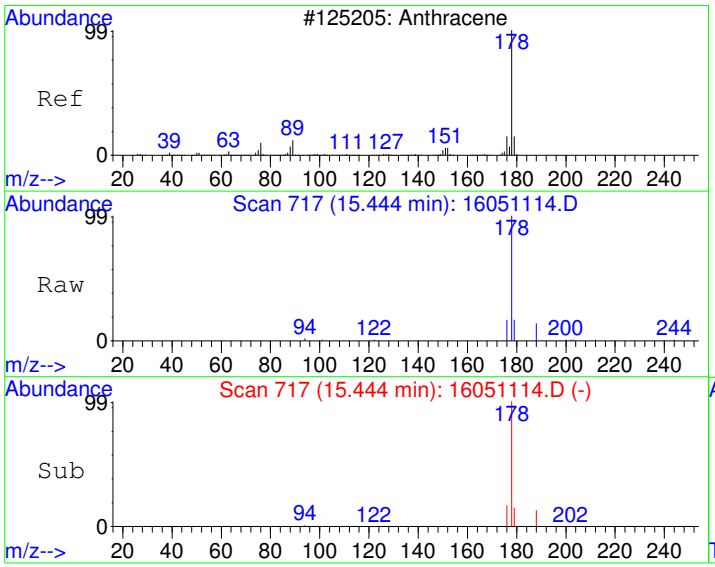


#12
Phenanthrene
Concen: 92.58 ug/kg
RT: 15.40 min Scan# 709
Delta R.T. -0.02 min
Lab File: 16051114.D
Acq: 11 May 2016 4:33 pm

Tgt Ion:178 Resp: 39889

Ion	Ratio	Lower	Upper
178	100		
179	15.3	0.0	45.9
176	17.7	0.0	48.5

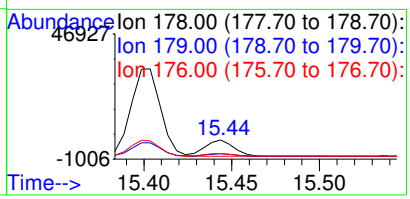


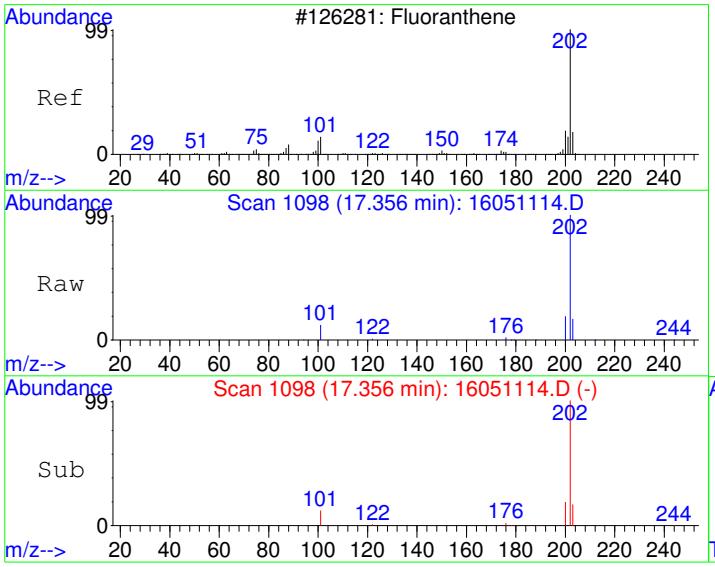


#13
Anthracene
Concen: 17.48 ug/kg
RT: 15.44 min Scan# 717
Delta R.T. -0.02 min
Lab File: 16051114.D
Acq: 11 May 2016 4:33 pm

Tgt Ion:178 Resp: 7129

Ion	Ratio	Lower	Upper
178	100		
179	15.3	0.0	45.9
176	16.6	0.0	48.2

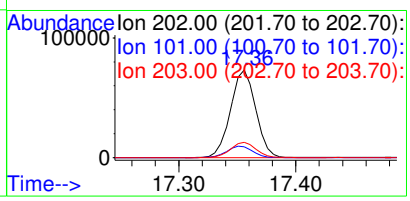


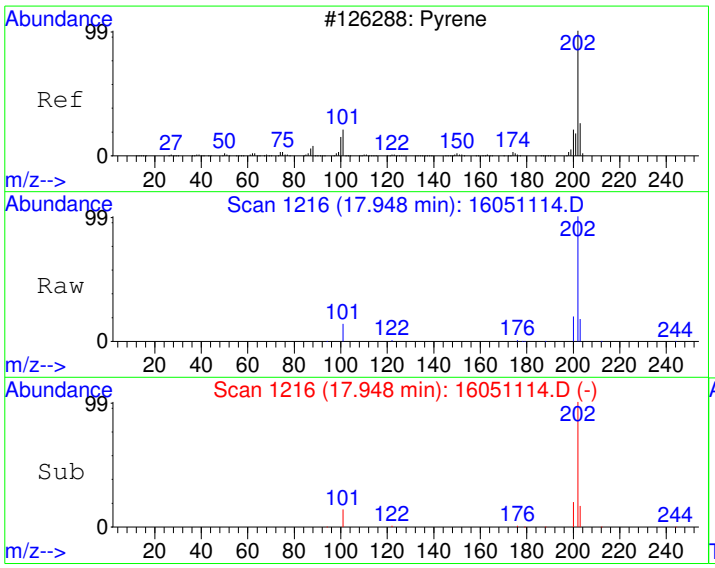


#14
Fluoranthene
Concen: 243.87 ug/kg
RT: 17.36 min Scan# 1098
Delta R.T. -0.02 min
Lab File: 16051114.D
Acq: 11 May 2016 4:33 pm

Tgt Ion:202 Resp: 108738

Ion	Ratio	Lower	Upper
202	100		
101	12.1	0.0	43.0
203	17.4	0.0	47.9

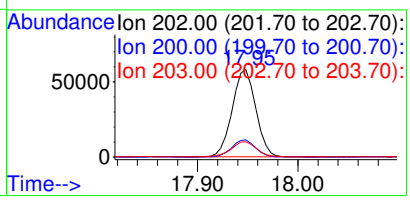


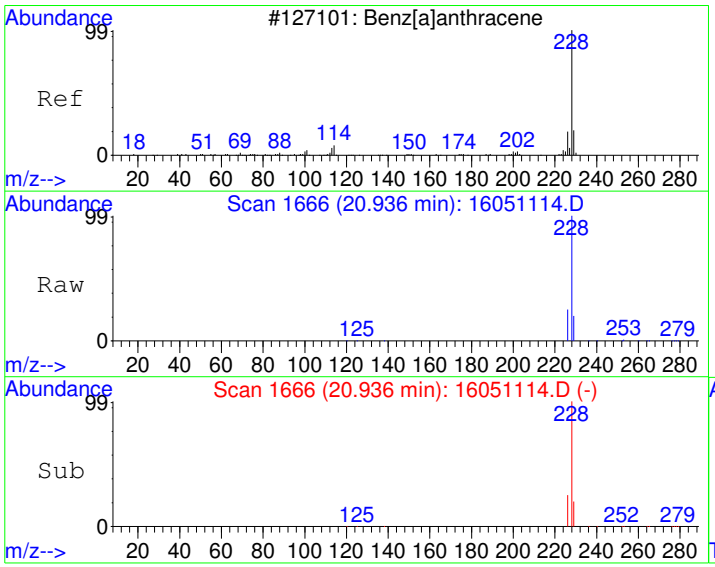


#15
Pyrene
Concen: 205.36 ug/kg
RT: 17.95 min Scan# 1216
Delta R.T. -0.03 min
Lab File: 16051114.D
Acq: 11 May 2016 4:33 pm

Tgt Ion:202 Resp: 95119

Ion	Ratio	Lower	Upper
202	100		
200	19.6	0.0	50.0
203	17.5	0.0	48.0

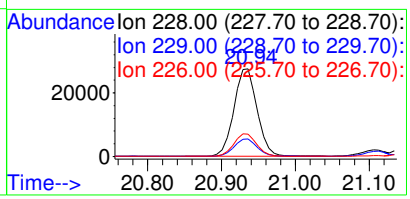


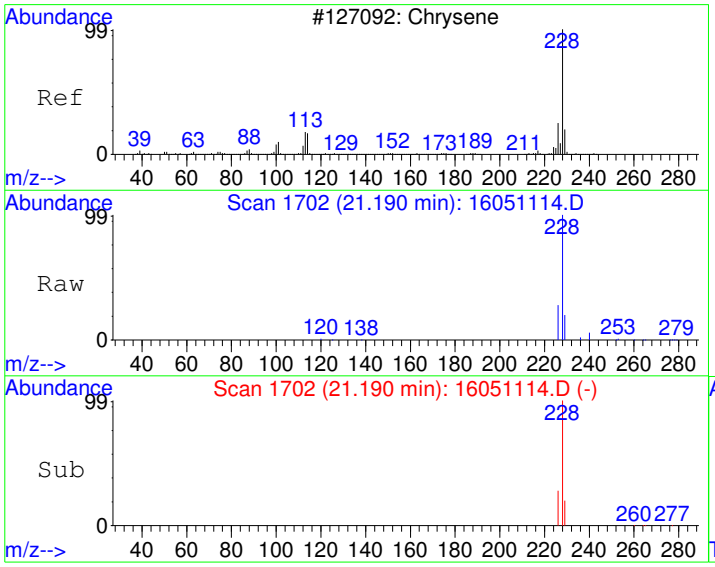


#18
Benzo[a]anthracene
Concen: 130.75 ug/kg
RT: 20.94 min Scan# 1666
Delta R.T. -0.04 min
Lab File: 16051114.D
Acq: 11 May 2016 4:33 pm

Tgt Ion:228 Resp: 59737

Ion	Ratio	Lower	Upper
228	100		
229	19.7	0.0	50.1
226	25.2	0.0	55.2

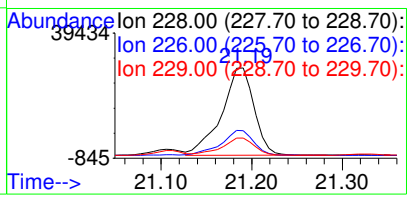


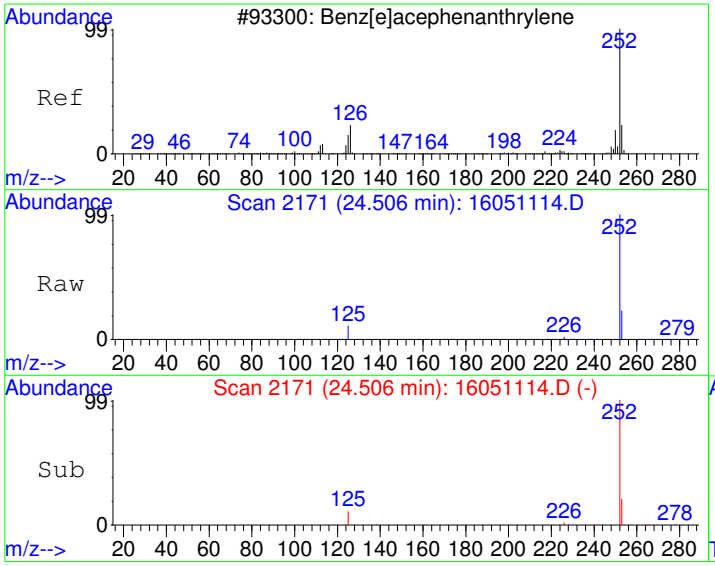


#19
Chrysene
Concen: 157.19 ug/kg
RT: 21.19 min Scan# 1702
Delta R.T. -0.04 min
Lab File: 16051114.D
Acq: 11 May 2016 4:33 pm

Tgt Ion:228 Resp: 69393

Ion	Ratio	Lower	Upper
228	100		
226	28.2	0.0	58.1
229	19.9	0.0	50.1

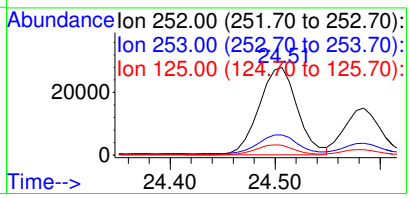


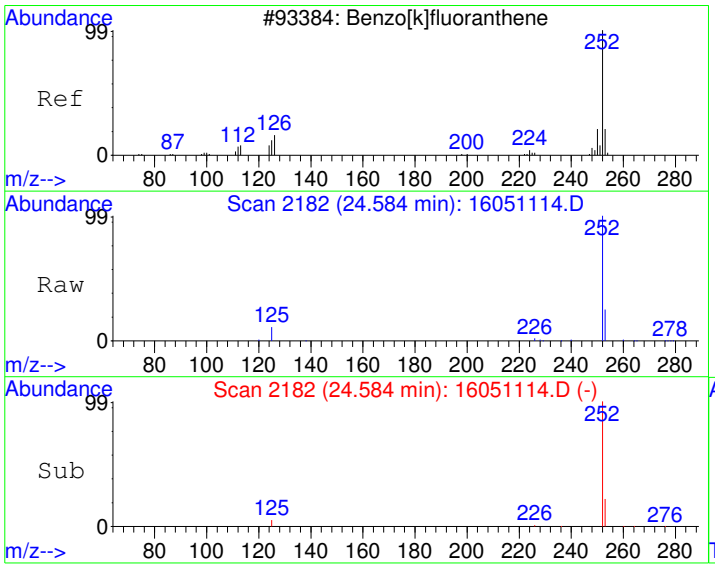


#21
Benzo[b]fluoranthene
Concen: 149.87 ug/kg
RT: 24.51 min Scan# 2171
Delta R.T. -0.05 min
Lab File: 16051114.D
Acq: 11 May 2016 4:33 pm

Tgt Ion:252 Resp: 71023

Ion	Ratio	Lower	Upper
252	100		
253	21.5	0.0	52.2
125	11.0	0.0	41.0

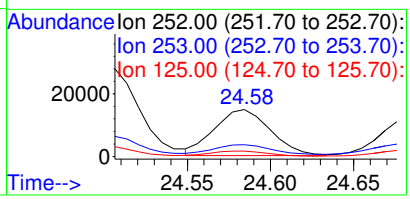


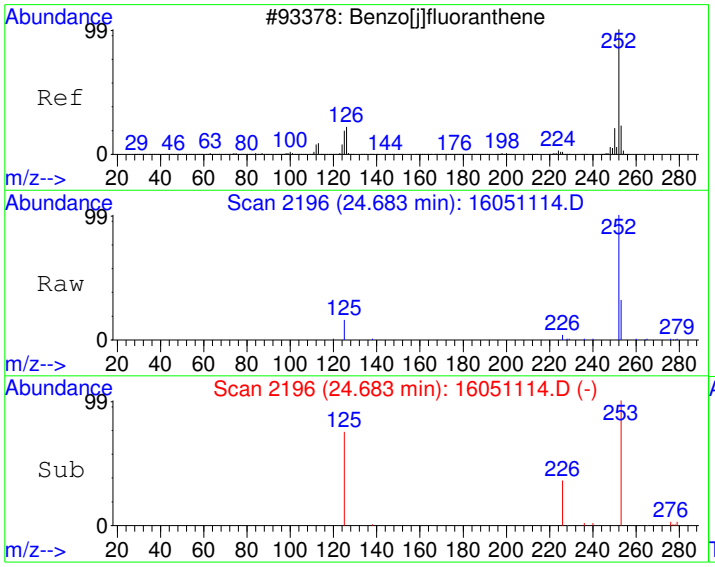


#22
Benzo[k]fluoranthene
Concen: 77.54 ug/kg
RT: 24.58 min Scan# 2182
Delta R.T. -0.06 min
Lab File: 16051114.D
Acq: 11 May 2016 4:33 pm

Tgt Ion:252 Resp: 34469

Ion	Ratio	Lower	Upper
252	100		
253	21.0	2.1	42.1
125	10.9	0.0	31.3

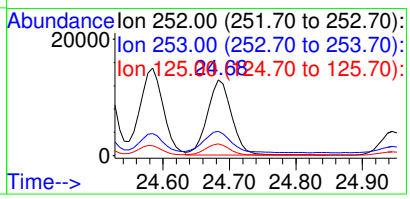


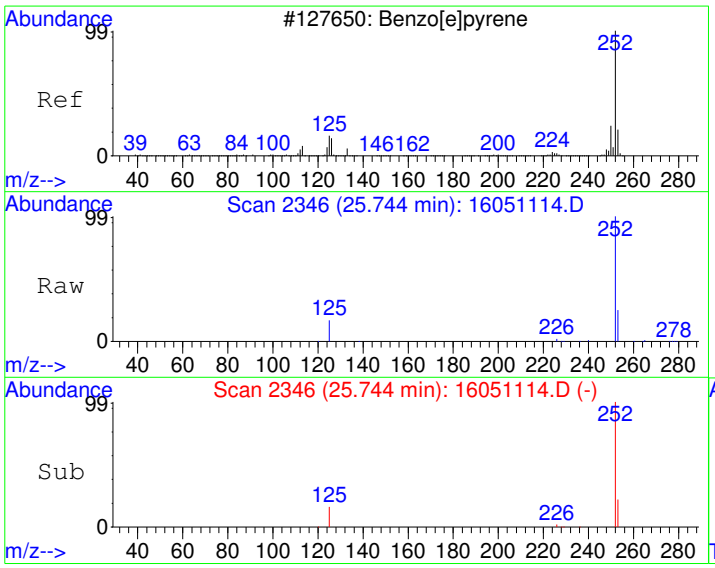


#23
Benzo(j)fluoranthene
Concen: 82.08 ug/kg
RT: 24.68 min Scan# 2196
Delta R.T. -0.06 min
Lab File: 16051114.D
Acq: 11 May 2016 4:33 pm

Tgt Ion:252 Resp: 32503

Ion	Ratio	Lower	Upper
252	100		
253	28.3	2.1	42.1
125	15.1	0.0	34.4

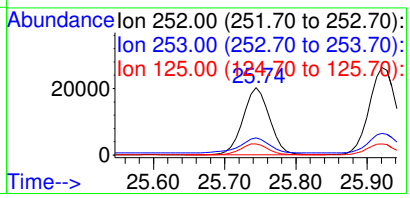


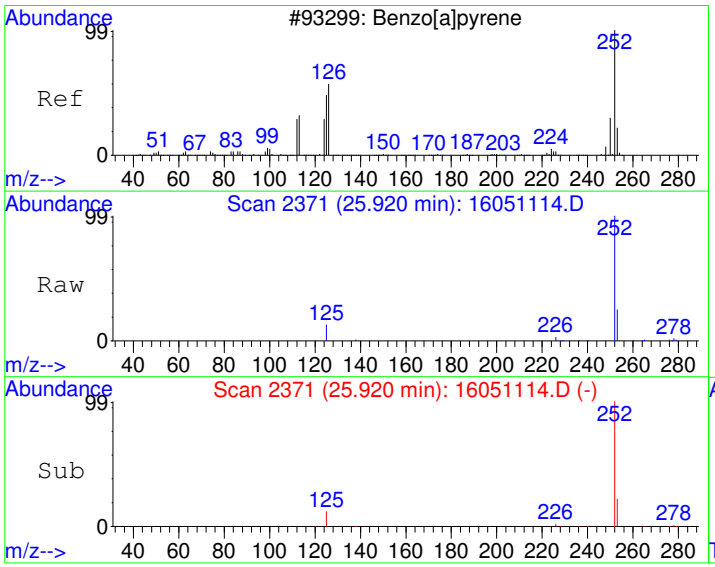


#24
Benzo[e]pyrene
Concen: 122.77 ug/kg
RT: 25.74 min Scan# 2346
Delta R.T. -0.06 min
Lab File: 16051114.D
Acq: 11 May 2016 4:33 pm

Tgt Ion:252 Resp: 52102

Ion	Ratio	Lower	Upper
252	100		
253	22.4	2.2	42.2
125	16.3	0.0	36.1

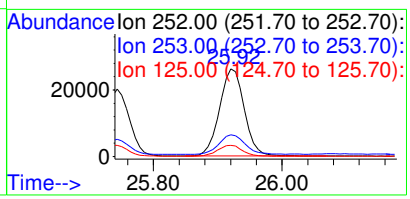


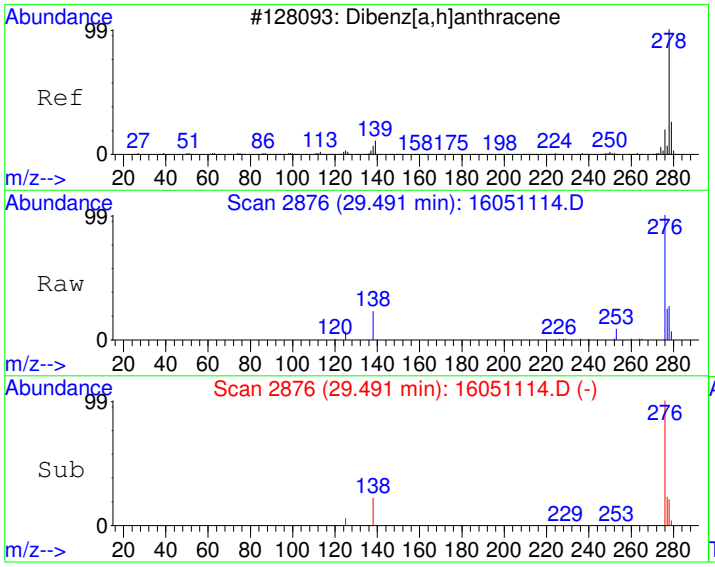


#25
Benzo[a]pyrene
Concen: 161.18 ug/kg
RT: 25.92 min Scan# 2371
Delta R.T. -0.06 min
Lab File: 16051114.D
Acq: 11 May 2016 4:33 pm

Tgt Ion:252 Resp: 69900

Ion	Ratio	Lower	Upper
252	100		
253	22.4	1.9	41.9
125	12.5	0.0	31.7

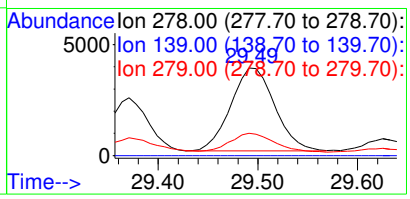


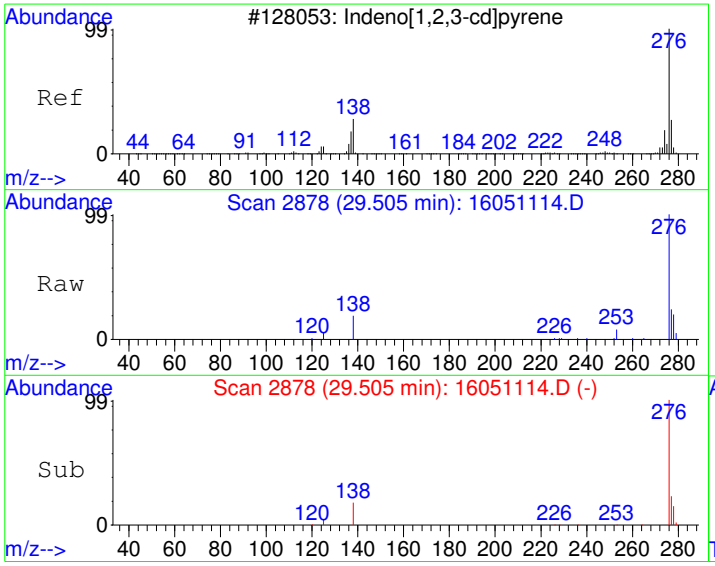


#26
Dibenz[a,h]anthracene
Concen: 28.83 ug/kg
RT: 29.49 min Scan# 2876
Delta R.T. -0.07 min
Lab File: 16051114.D
Acq: 11 May 2016 4:33 pm

Tgt Ion:278 Resp: 11387

Ion	Ratio	Lower	Upper
278	100		
139	0.0	0.0	20.0
279	22.9	4.2	44.2

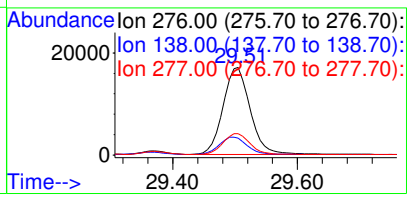


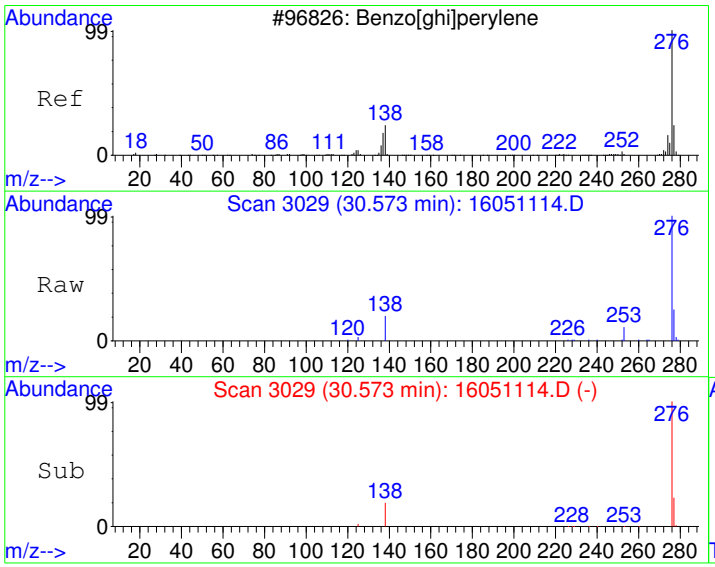


#27
Indeno[1,2,3-cd]pyrene
Concen: 109.15 ug/kg
RT: 29.51 min Scan# 2878
Delta R.T. -0.06 min
Lab File: 16051114.D
Acq: 11 May 2016 4:33 pm

Tgt Ion:276 Resp: 51429

Ion	Ratio	Lower	Upper
276	100		
138	18.6	6.7	46.7
277	23.9	5.8	45.8

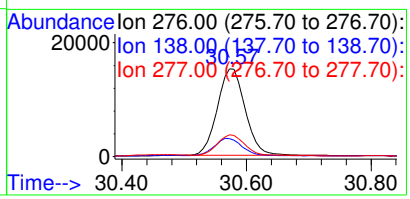




#28
Benzo[g,h,i]perylene
Concen: 128.80 ug/kg
RT: 30.57 min Scan# 3029
Delta R.T. -0.07 min
Lab File: 16051114.D
Acq: 11 May 2016 4:33 pm

Tgt Ion:276 Resp: 47324

Ion	Ratio	Lower	Upper
276	100		
138	19.8	0.0	39.1
277	24.4	4.0	44.0



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160511\16051115.D Vial: 15
Acq On : 11 May 2016 5:12 pm Operator:
Sample : 1605047-39A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 12 8:59 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1259341	4000.00 ug/kg	109
5) Acenaphthene-d10	13.28	164	771851	4000.00 ug/kg	67
11) Phenanthrene-d10	15.37	188	1452355	4000.00 ug/kg	71
17) Chrysene-d12	21.11	240	1678884	4000.00 ug/kg	74
20) Perylene-d12	26.25	264	1551151	4000.00 ug/kg	75

System Monitoring Compounds					
7) 2-Fluorobiphenyl	12.21	172	20270	90.03 ug/kg	-0.01
Spiked Amount 4000.000	Range 40 - 140		Recovery =	2.25%#	
16) 4-Terphenyl-d14	17.86	244	29617	78.82 ug/kg	-0.04
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.97%#	

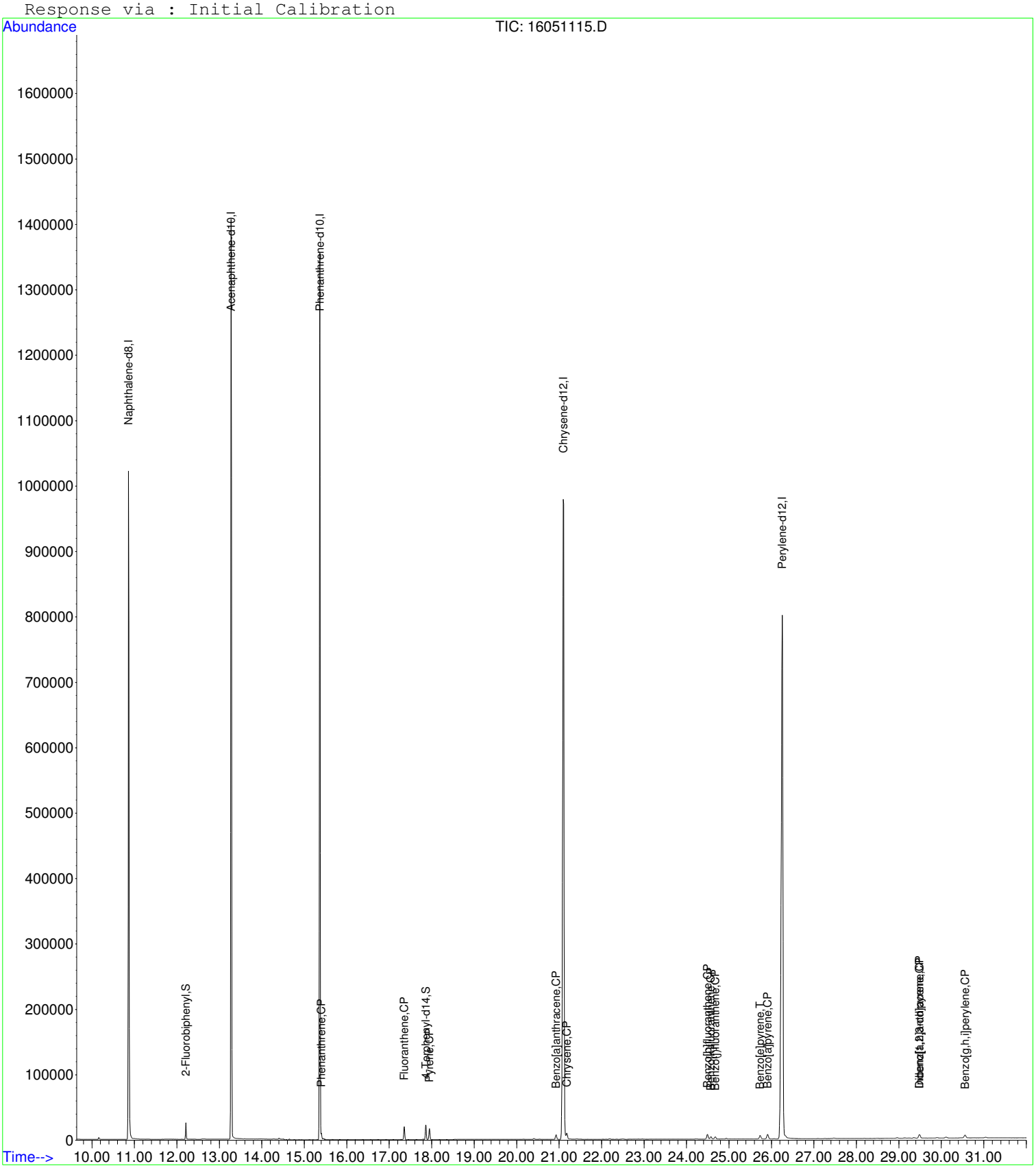
Target Compounds					Qvalue
12) Phenanthrene	15.40	178	6718	17.59 ug/kg	99
14) Fluoranthene	17.35	202	20043	50.71 ug/kg	98
15) Pyrene	17.95	202	17851	43.48 ug/kg	99
18) Benzo[a]anthracene	20.93	228	10423	26.50 ug/kg	99
19) Chrysene	21.18	228	12765	33.59 ug/kg	98
21) Benzo[b]fluoranthene	24.49	252	13431	32.85 ug/kg	99
22) Benzo[k]fluoranthene	24.58	252	6670	17.39 ug/kg	96
23) Benzo(j)fluoranthene	24.68	252	6071	17.77 ug/kg	91
24) Benzo[e]pyrene	25.73	252	10006	27.33 ug/kg	99
25) Benzo[a]pyrene	25.91	252	13149	35.14 ug/kg	98
26) Dibenz[a,h]anthracene	29.48	278	2302	6.76 ug/kg	93
27) Indeno[1,2,3-cd]pyrene	29.48	276	9565	23.53 ug/kg	93
28) Benzo[g,h,i]perylene	30.56	276	9195	29.01 ug/kg	98

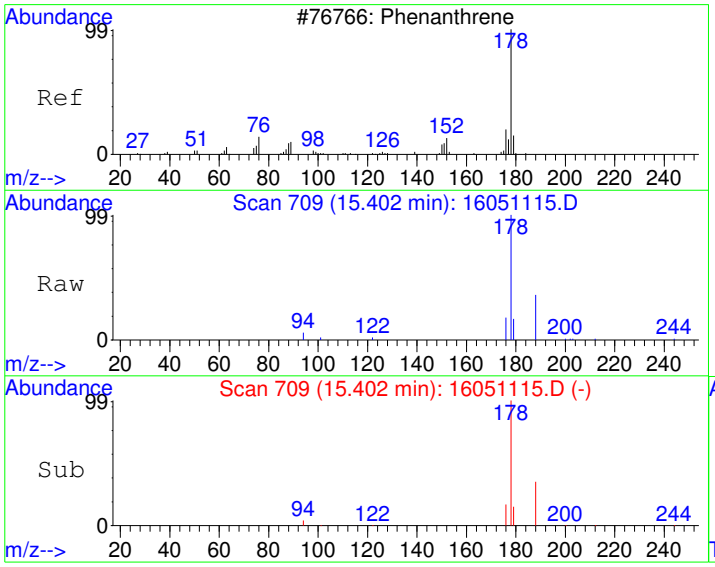
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160511\16051115.D Vial: 15
Acq On : 11 May 2016 5:12 pm Operator:
Sample : 1605047-39A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 12 8:59 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

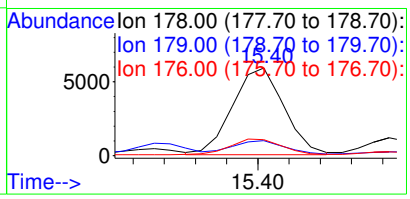


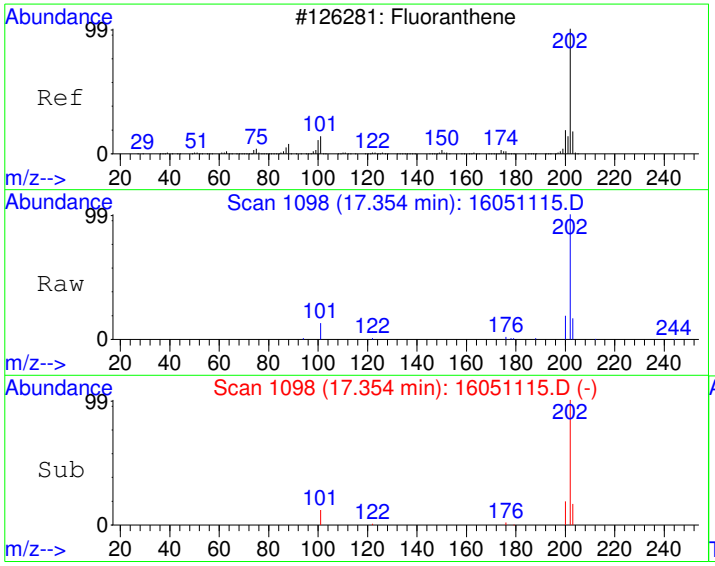


#12
Phenanthrene
Concen: 17.59 ug/kg
RT: 15.40 min Scan# 709
Delta R.T. -0.02 min
Lab File: 16051115.D
Acq: 11 May 2016 5:12 pm

Tgt Ion:178 Resp: 6718

Ion	Ratio	Lower	Upper
178	100		
179	15.7	0.0	45.9
176	17.6	0.0	48.5

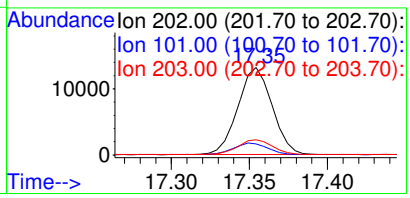


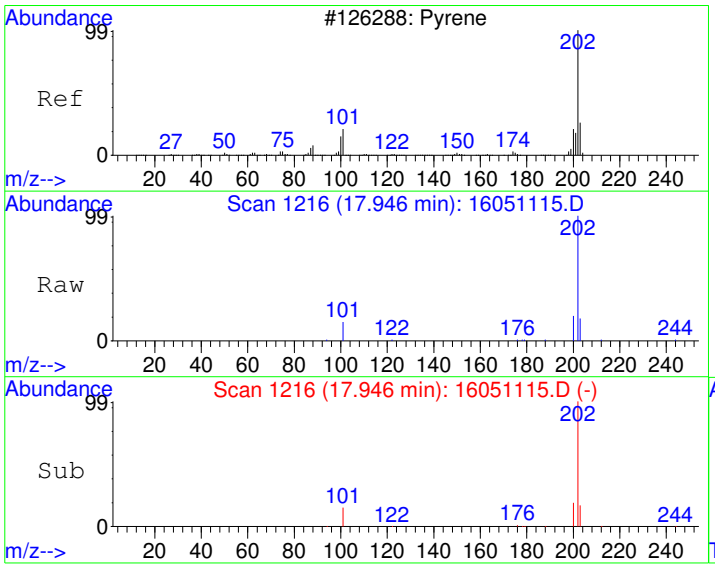


#14
Fluoranthene
Concen: 50.71 ug/kg
RT: 17.35 min Scan# 1098
Delta R.T. -0.03 min
Lab File: 16051115.D
Acq: 11 May 2016 5:12 pm

Tgt Ion:202 Resp: 20043

Ion	Ratio	Lower	Upper
202	100		
101	12.2	0.0	43.0
203	16.9	0.0	47.9

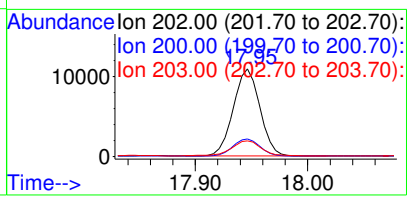


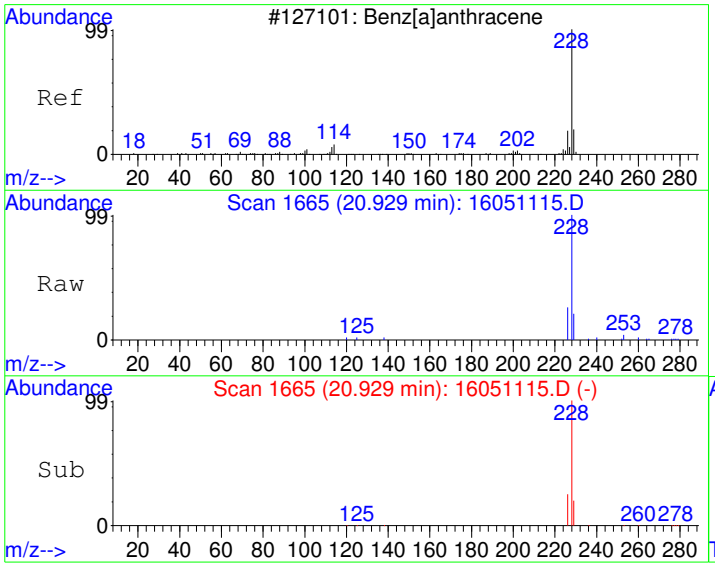


#15
Pyrene
Concen: 43.48 ug/kg
RT: 17.95 min Scan# 1216
Delta R.T. -0.03 min
Lab File: 16051115.D
Acq: 11 May 2016 5:12 pm

Tgt Ion:202 Resp: 17851

Ion	Ratio	Lower	Upper
202	100		
200	19.5	0.0	50.0
203	17.2	0.0	48.0

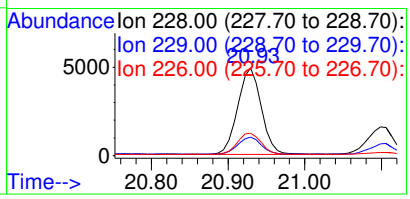


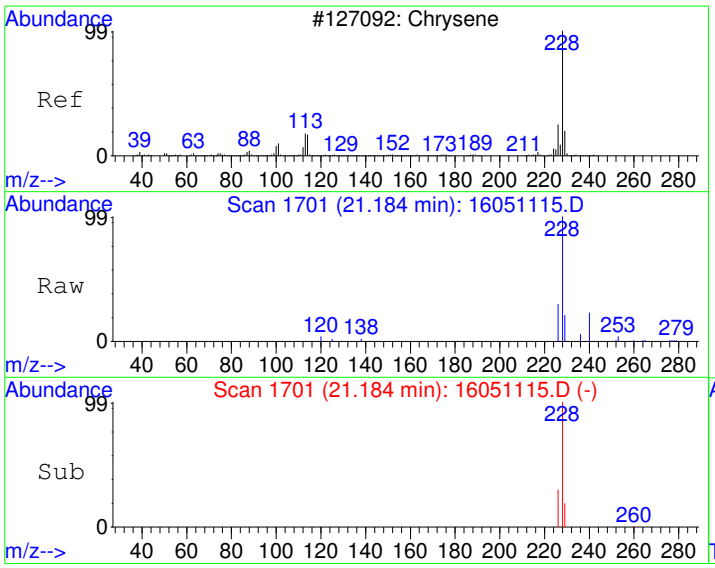


#18
Benzo[a]anthracene
Concen: 26.50 ug/kg
RT: 20.93 min Scan# 1665
Delta R.T. -0.05 min
Lab File: 16051115.D
Acq: 11 May 2016 5:12 pm

Tgt Ion:228 Resp: 10423

Ion	Ratio	Lower	Upper
228	100		
229	19.9	0.0	50.1
226	24.8	0.0	55.2

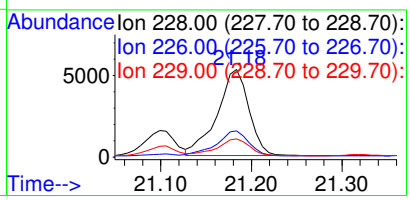


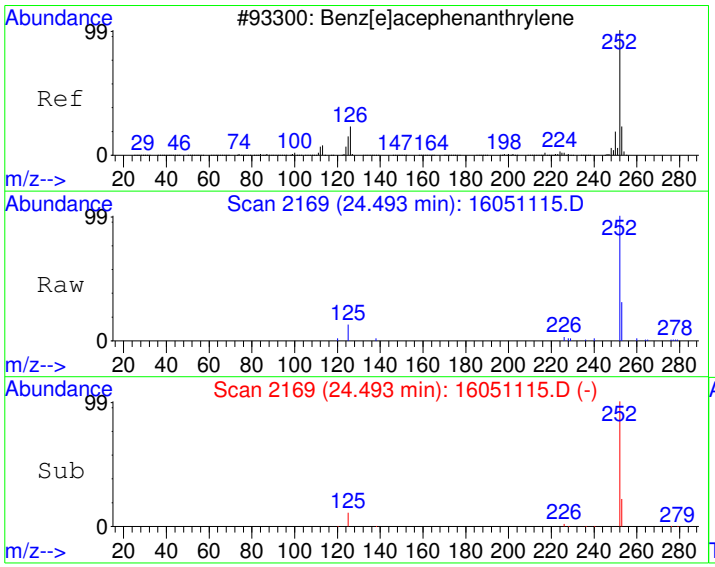


#19
Chrysene
Concen: 33.59 ug/kg
RT: 21.18 min Scan# 1701
Delta R.T. -0.05 min
Lab File: 16051115.D
Acq: 11 May 2016 5:12 pm

Tgt Ion:228 Resp: 12765

Ion	Ratio	Lower	Upper
228	100		
226	29.0	0.0	58.1
229	19.5	0.0	50.1

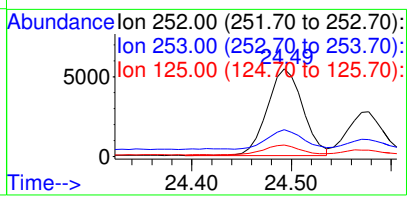


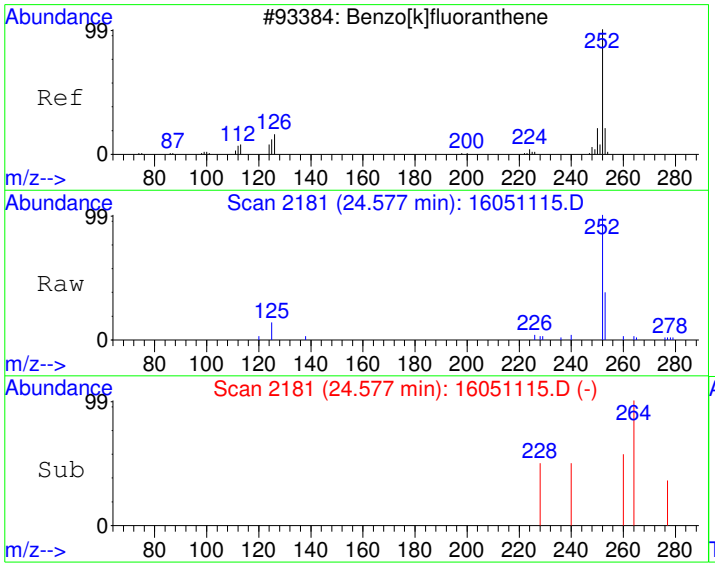


#21
Benzo[b]fluoranthene
Concen: 32.85 ug/kg
RT: 24.49 min Scan# 2169
Delta R.T. -0.06 min
Lab File: 16051115.D
Acq: 11 May 2016 5:12 pm

Tgt Ion:252 Resp: 13431

Ion	Ratio	Lower	Upper
252	100		
253	22.4	0.0	52.2
125	11.3	0.0	41.0

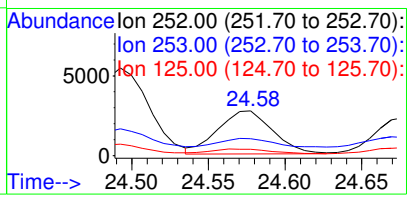


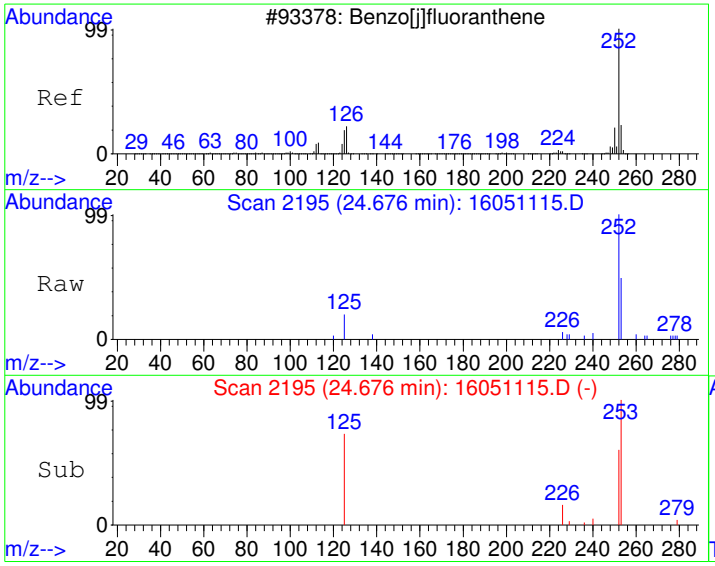


#22
Benzo[k]fluoranthene
Concen: 17.39 ug/kg
RT: 24.58 min Scan# 2181
Delta R.T. -0.06 min
Lab File: 16051115.D
Acq: 11 May 2016 5:12 pm

Tgt Ion:252 Resp: 6670

Ion	Ratio	Lower	Upper
252	100		
253	20.1	2.1	42.1
125	10.1	0.0	31.3

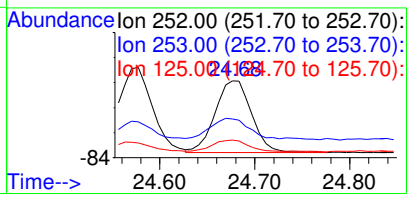


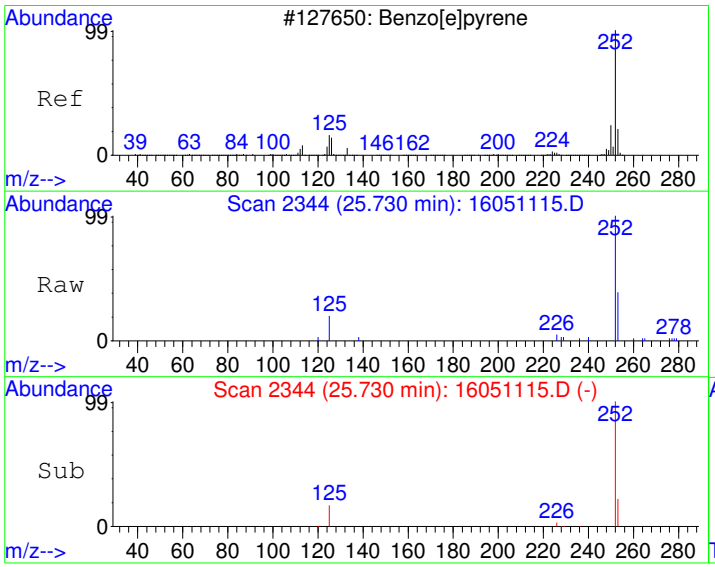


#23
Benzo(j)fluoranthene
Concen: 17.77 ug/kg
RT: 24.68 min Scan# 2195
Delta R.T. -0.07 min
Lab File: 16051115.D
Acq: 11 May 2016 5:12 pm

Tgt Ion:252 Resp: 6071

Ion	Ratio	Lower	Upper
252	100		
253	27.4	2.1	42.1
125	16.2	0.0	34.4

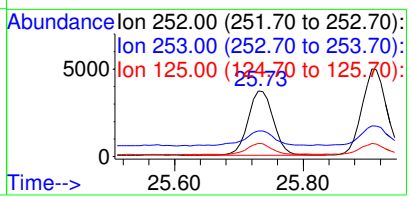


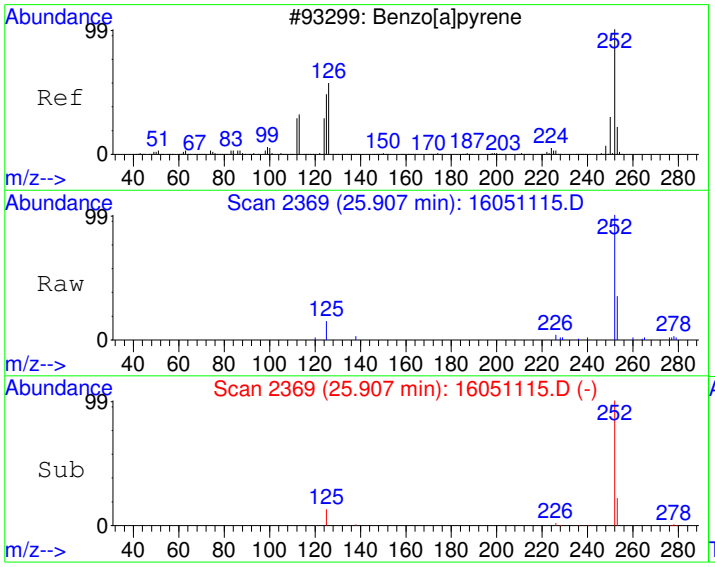


#24
Benzo[e]pyrene
Concen: 27.33 ug/kg
RT: 25.73 min Scan# 2344
Delta R.T. -0.07 min
Lab File: 16051115.D
Acq: 11 May 2016 5:12 pm

Tgt Ion:252 Resp: 10006

Ion	Ratio	Lower	Upper
252	100		
253	22.5	2.2	42.2
125	17.0	0.0	36.1

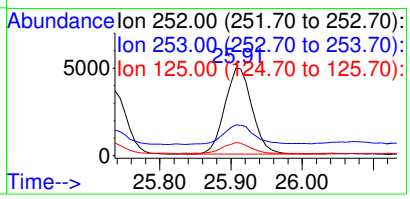


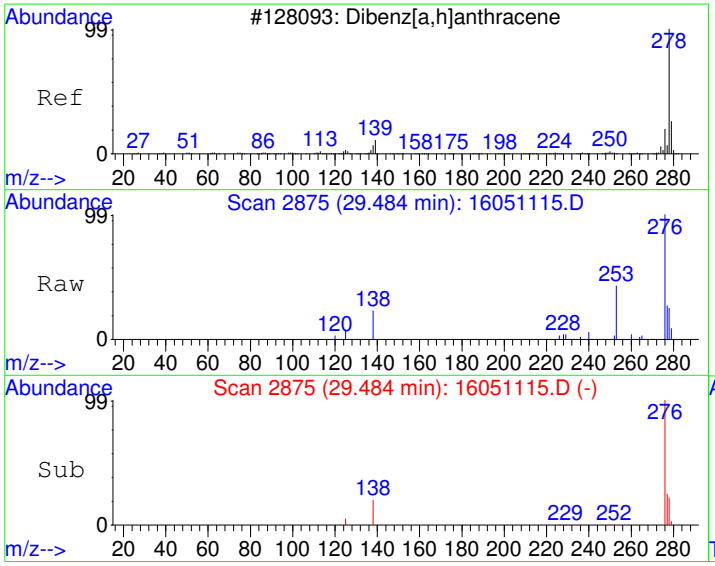


#25
Benzo[a]pyrene
Concen: 35.14 ug/kg
RT: 25.91 min Scan# 2369
Delta R.T. -0.08 min
Lab File: 16051115.D
Acq: 11 May 2016 5:12 pm

Tgt Ion:252 Resp: 13149

Ion	Ratio	Lower	Upper
252	100		
253	22.5	1.9	41.9
125	12.6	0.0	31.7

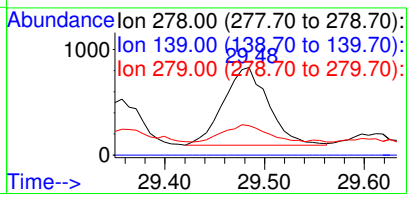


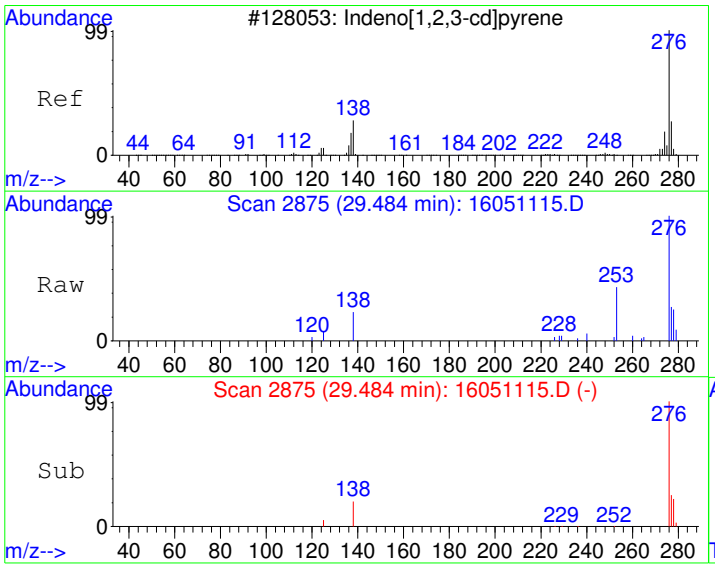


#26
Dibenz[a,h]anthracene
Concen: 6.76 ug/kg
RT: 29.48 min Scan# 2875
Delta R.T. -0.08 min
Lab File: 16051115.D
Acq: 11 May 2016 5:12 pm

Tgt Ion:278 Resp: 2302

Ion	Ratio	Lower	Upper
278	100		
139	0.0	0.0	20.0
279	21.0	4.2	44.2

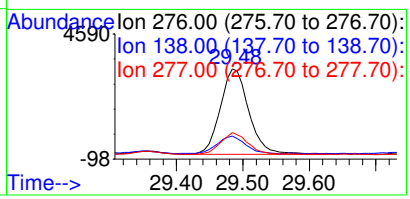


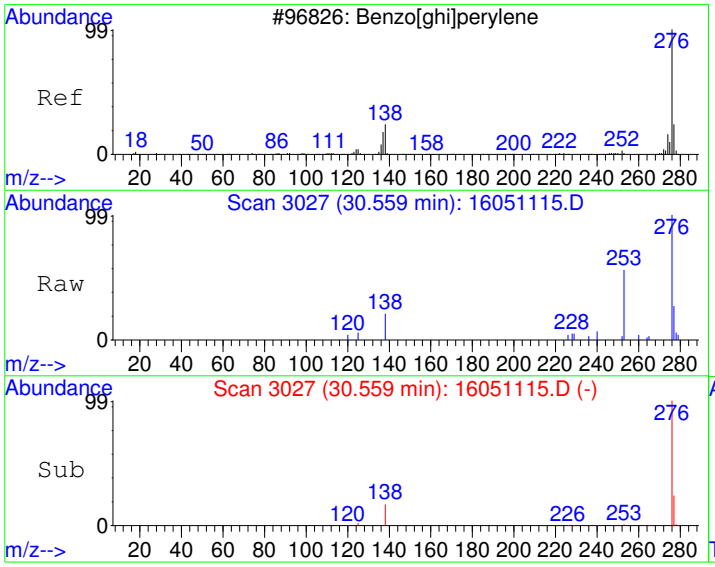


#27
Indeno[1,2,3-cd]pyrene
Concen: 23.53 ug/kg
RT: 29.48 min Scan# 2875
Delta R.T. -0.08 min
Lab File: 16051115.D
Acq: 11 May 2016 5:12 pm

Tgt Ion:276 Resp: 9565

Ion	Ratio	Lower	Upper
276	100		
138	20.3	6.7	46.7
277	25.5	5.8	45.8

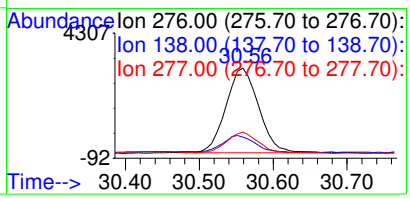




#28
Benzo[g,h,i]perylene
Concen: 29.01 ug/kg
RT: 30.56 min Scan# 3027
Delta R.T. -0.08 min
Lab File: 16051115.D
Acq: 11 May 2016 5:12 pm

Tgt Ion:276 Resp: 9195

Ion	Ratio	Lower	Upper
276	100		
138	17.7	0.0	39.1
277	24.8	4.0	44.0



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160511\16051116.D Vial: 16
Acq On : 11 May 2016 5:52 pm Operator:
Sample : 1605047-34AMS Inst : GC/MS #6
Misc : MS Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 12 8:56 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.87	136	1392907	4000.00 ug/kg	120
5) Acenaphthene-d10	13.28	164	851118	4000.00 ug/kg	74
11) Phenanthrene-d10	15.37	188	1711030	4000.00 ug/kg	84
17) Chrysene-d12	21.11	240	1876532	4000.00 ug/kg	83
20) Perylene-d12	26.27	264	1742867	4000.00 ug/kg	85

System Monitoring Compounds					
7) 2-Fluorobiphenyl	12.21	172	20961	84.43 ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery =	2.11%#	
16) 4-Terphenyl-d14	17.87	244	32525	73.47 ug/kg	-0.03
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.84%#	

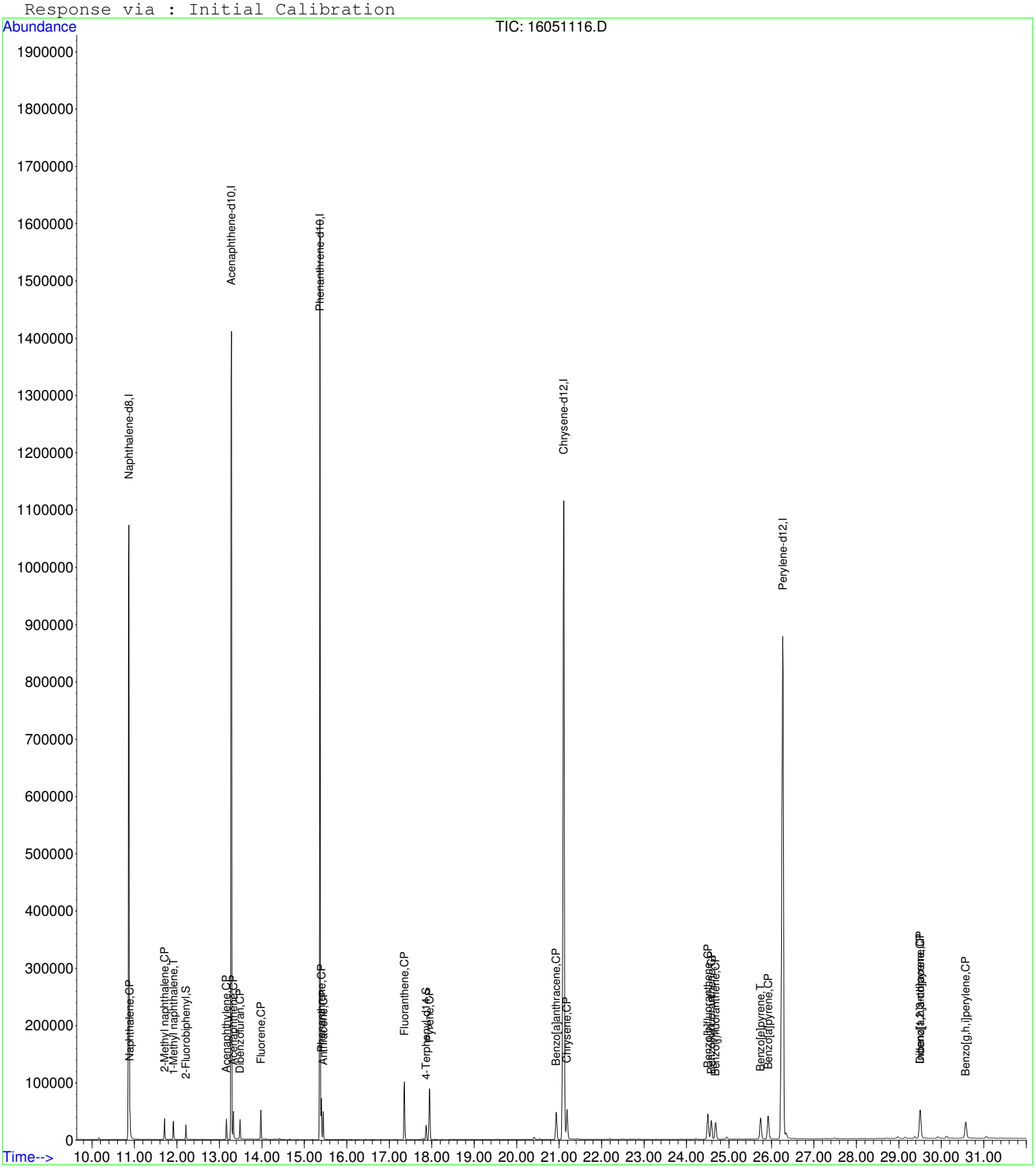
Target Compounds					Qvalue
2) Naphthalene	10.90	128	27300	78.35 ug/kg	99
3) 2-Methyl naphthalene	11.71	142	18821	61.15 ug/kg	97
4) 1-Methyl naphthalene	11.92	142	17119	60.73 ug/kg	97
6) Dibenzofuran	13.49	168	29109	91.25 ug/kg	100
8) Acenaphthylene	13.17	152	30599	83.48 ug/kg	99
9) Acenaphthene	13.33	154	18876	82.97 ug/kg	99
10) Fluorene	13.98	166	24800	89.76 ug/kg	100
12) Phenanthrene	15.40	178	57916	128.71 ug/kg	99
13) Anthracene	15.44	178	40882	95.99 ug/kg	99
14) Fluoranthene	17.36	202	101248	217.44 ug/kg	99
15) Pyrene	17.95	202	96358	199.21 ug/kg	99
18) Benzo[a]anthracene	20.93	228	71726	163.15 ug/kg	99
19) Chrysene	21.19	228	77017	181.32 ug/kg	99
21) Benzo[b]fluoranthene	24.51	252	82292	179.15 ug/kg	100
22) Benzo[k]fluoranthene	24.58	252	58795	136.44 ug/kg	99
23) Benzo(j)fluoranthene	24.69	252	52482	136.72 ug/kg	98
24) Benzo[e]pyrene	25.74	252	68285	165.99 ug/kg	100
25) Benzo[a]pyrene	25.92	252	78299	186.26 ug/kg	99
26) Dibenz[a,h]anthracene	29.50	278	36474	95.27 ug/kg	99
27) Indeno[1,2,3-cd]pyrene	29.51	276	66579	145.77 ug/kg	93
28) Benzo[g,h,i]perylene	30.58	276	58599	164.54 ug/kg	98

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160511\16051116.D Vial: 16
Acq On : 11 May 2016 5:52 pm Operator:
Sample : 1605047-34AMS Inst : GC/MS #6
Misc : MS Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 12 8:56 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\160511\16051117.D Vial: 17
Acq On : 11 May 2016 6:32 pm Operator:
Sample : 1605047-34AMSD Inst : GC/MS #6
Misc : MSD Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 12 8:56 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.87	136	1337888	4000.00	ug/kg	115
5) Acenaphthene-d10	13.28	164	803434	4000.00	ug/kg	70
11) Phenanthrene-d10	15.37	188	1660832	4000.00	ug/kg	81
17) Chrysene-d12	21.11	240	1863251	4000.00	ug/kg	82
20) Perylene-d12	26.27	264	1742760	4000.00	ug/kg	85

System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.21	172	20617	87.97	ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.20%#			
16) 4-Terphenyl-d14	17.87	244	34001	79.13	ug/kg	-0.03
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.98%#			

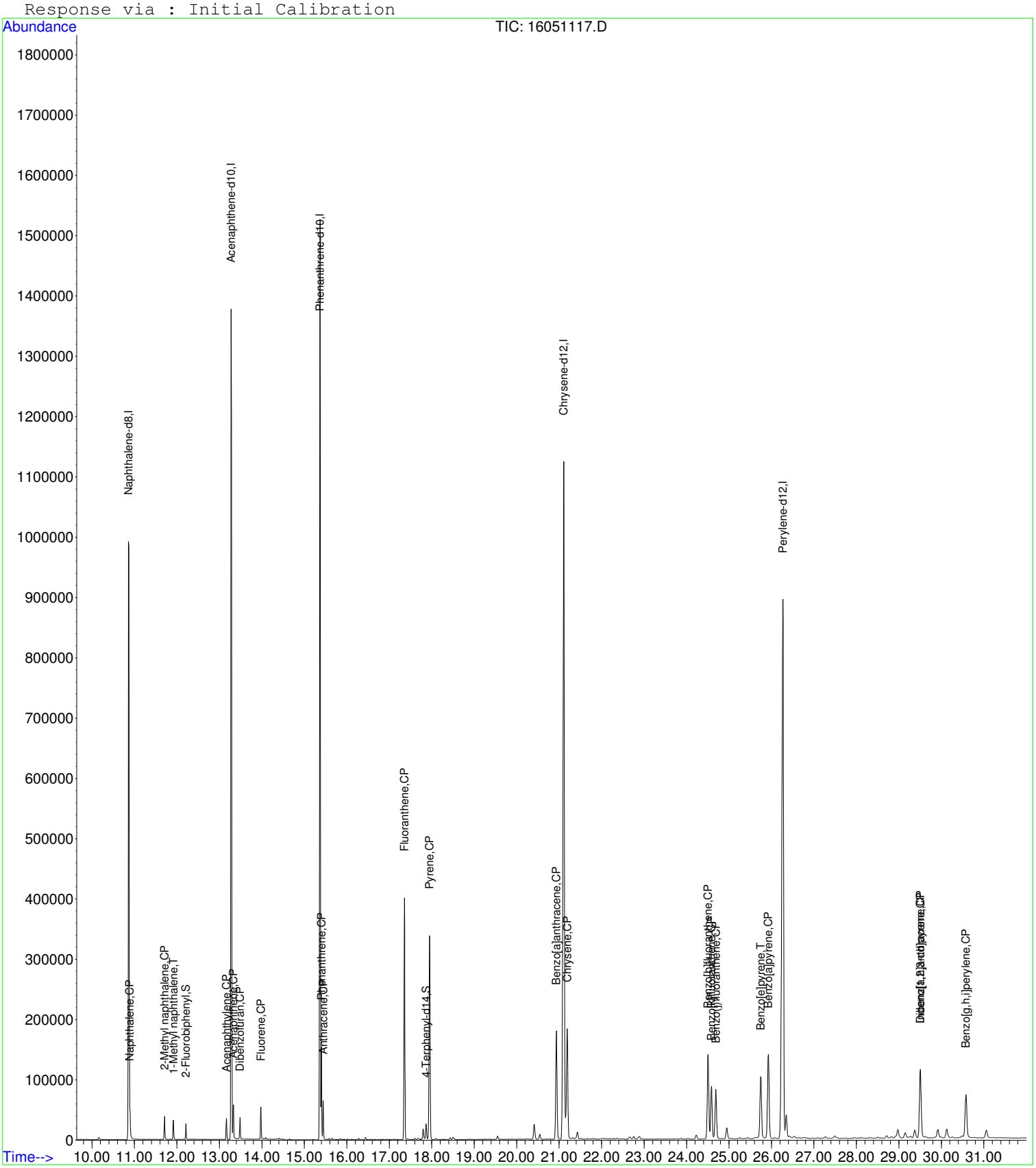
Target Compounds						Qvalue
2) Naphthalene	10.90	128	33365	99.70	ug/kg	100
3) 2-Methyl naphthalene	11.71	142	19811	67.02	ug/kg	98
4) 1-Methyl naphthalene	11.92	142	17842	65.90	ug/kg	99
6) Dibenzofuran	13.49	168	30173	100.20	ug/kg	99
8) Acenaphthylene	13.17	152	30317	87.62	ug/kg	98
9) Acenaphthene	13.33	154	23388	108.90	ug/kg	98
10) Fluorene	13.98	166	26496	101.59	ug/kg	99
12) Phenanthrene	15.40	178	129396	296.26	ug/kg	99
13) Anthracene	15.44	178	54614	132.11	ug/kg	99
14) Fluoranthene	17.36	202	392358	868.08	ug/kg	100
15) Pyrene	17.95	202	365308	778.06	ug/kg	99
18) Benzo[a]anthracene	20.94	228	257962	590.96	ug/kg	100
19) Chrysene	21.19	228	283352	671.83	ug/kg	100
21) Benzo[b]fluoranthene	24.51	252	262771	572.07	ug/kg	100
22) Benzo[k]fluoranthene	24.58	252	153717	356.74	ug/kg	98
23) Benzo(j)fluoranthene	24.69	252	140829	366.90	ug/kg	95
24) Benzo[e]pyrene	25.74	252	193279	469.86	ug/kg	99
25) Benzo[a]pyrene	25.93	252	263044	625.76	ug/kg	99
26) Dibenz[a,h]anthracene	29.50	278	63244	165.20	ug/kg	97
27) Indeno[1,2,3-cd]pyrene	29.51	276	169247	370.58	ug/kg	92
28) Benzo[g,h,i]perylene	30.58	276	145747	409.26	ug/kg	99

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160511\16051117.D Vial: 17
Acq On : 11 May 2016 6:32 pm Operator:
Sample : 1605047-34AMSD Inst : GC/MS #6
Misc : MSD Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 12 8:56 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\160511\16051119.D Vial: 19
Acq On : 11 May 2016 7:48 pm Operator:
Sample : ICV2-160511 Inst : GC/MS #6
Misc : ICV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 12 8:56 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.87	136	1489420	4000.00 ug/kg	128
5) Acenaphthene-d10	13.28	164	922232	4000.00 ug/kg	80
11) Phenanthrene-d10	15.37	188	1833454	4000.00 ug/kg	90
17) Chrysene-d12	21.11	240	2025528	4000.00 ug/kg	89
20) Perylene-d12	26.27	264	1886399	4000.00 ug/kg	92

System Monitoring Compounds					
7) 2-Fluorobiphenyl	12.22	172	538577	2001.98 ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 50.05%		
16) 4-Terphenyl-d14	17.87	244	860120	1813.27 ug/kg	-0.03
Spiked Amount 4000.000	Range 40 - 140		Recovery = 45.33%		

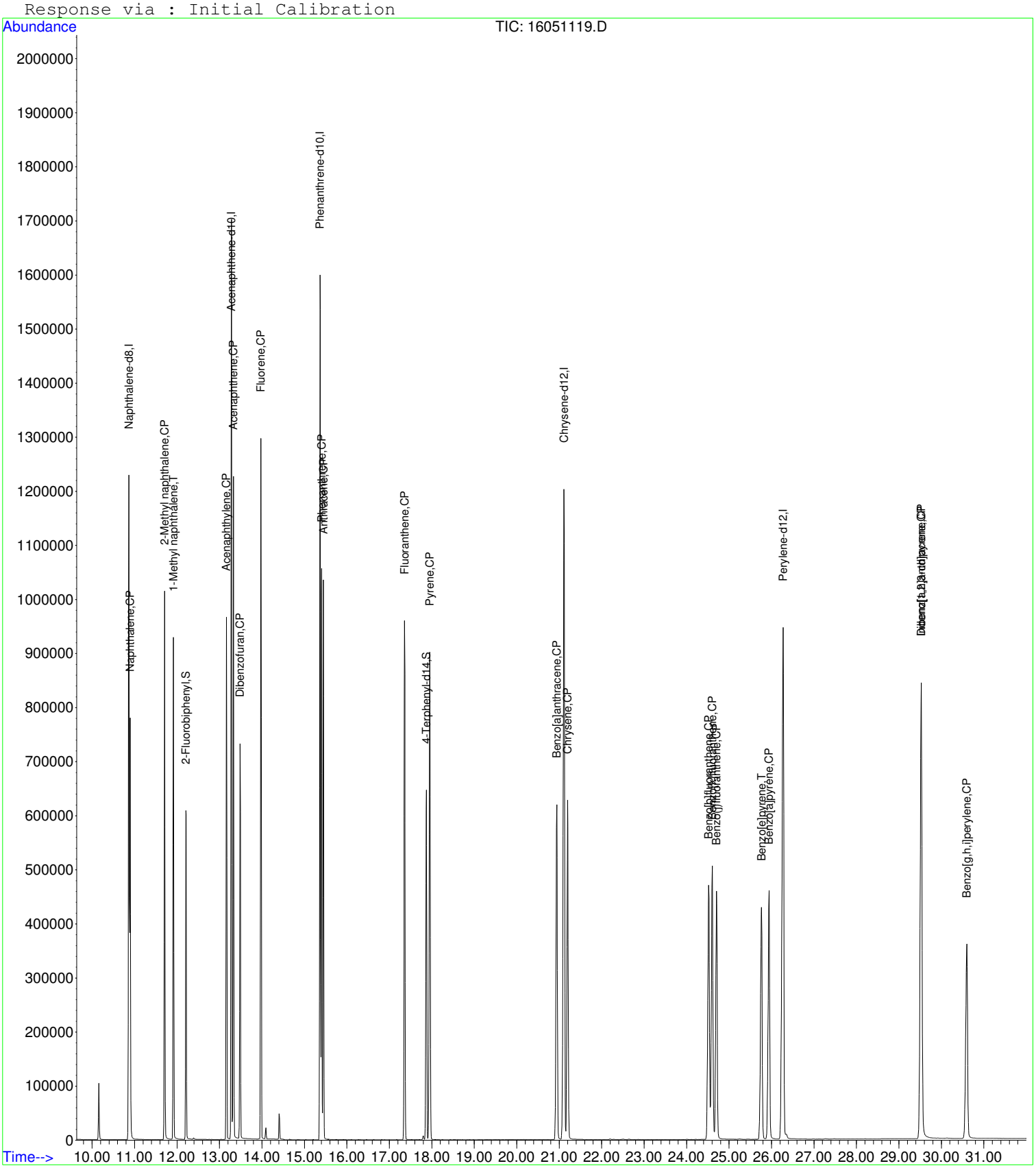
Target Compounds					Qvalue
2) Naphthalene	10.89	128	719961	1932.47 ug/kg	99
3) 2-Methyl naphthalene	11.71	142	507176	1541.14 ug/kg	97
4) 1-Methyl naphthalene	11.92	142	455413	1510.98 ug/kg	98
6) Dibenzofuran	13.49	168	686251	1985.43 ug/kg	99
8) Acenaphthylene	13.16	152	824266	2075.36 ug/kg	100
9) Acenaphthene	13.33	154	484366	1964.83 ug/kg	98
10) Fluorene	13.98	166	632897	2113.99 ug/kg	100
12) Phenanthrene	15.41	178	915890	1899.52 ug/kg	100
13) Anthracene	15.45	178	863092	1891.18 ug/kg	100
14) Fluoranthene	17.36	202	961351	1926.70 ug/kg	100
15) Pyrene	17.95	202	968646	1868.84 ug/kg	100
18) Benzo[a]anthracene	20.94	228	924903	1949.09 ug/kg	100
19) Chrysene	21.20	228	861084	1878.08 ug/kg	100
21) Benzo[b]fluoranthene	24.52	252	933783	1878.12 ug/kg	99
22) Benzo[k]fluoranthene	24.61	252	881447	1889.85 ug/kg	100
23) Benzo(j)fluoranthene	24.70	252	789190	1899.49 ug/kg	99
24) Benzo[e]pyrene	25.76	252	831012	1866.35 ug/kg	100
25) Benzo[a]pyrene	25.94	252	872875	1918.39 ug/kg	100
26) Dibenz[a,h]anthracene	29.53	278	807480	1948.62 ug/kg	100
27) Indeno[1,2,3-cd]pyrene	29.53	276	945144	1911.91 ug/kg	98
28) Benzo[g,h,i]perylene	30.60	276	737087	1912.13 ug/kg	100

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160511\16051119.D Vial: 19
Acq On : 11 May 2016 7:48 pm Operator:
Sample : ICV2-160511 Inst : GC/MS #6
Misc : ICV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 12 8:56 2016 Quant Results File: PP160421.RES

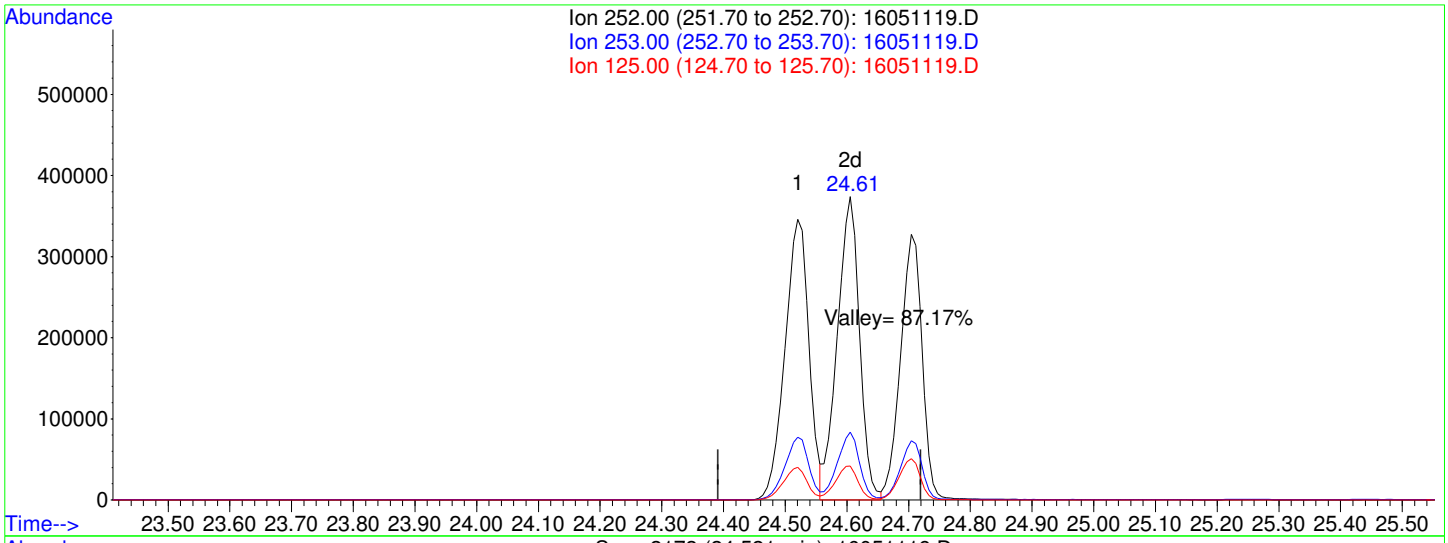
Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri Apr 22 11:43:43 2016
Response via : Initial Calibration

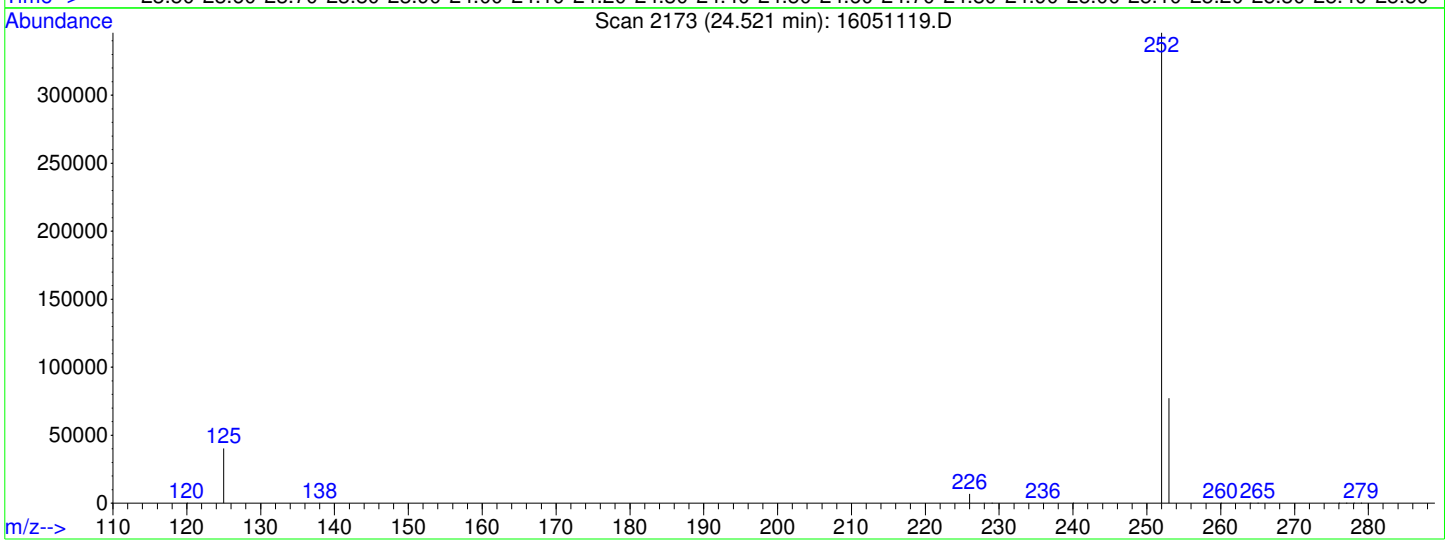


Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\160511\16051119.D Vial: 19
Acq On : 11 May 2016 7:48 pm Operator:
Sample : ICV2-160511 Inst : GC/MS #6
Misc : ICV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 11 20:20 2016 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri Apr 22 11:43:43 2016
Response via : Multiple Level Calibration





TIC: 16051119.D

(21) Benzo[b]fluoranthene (CP)

24.52min 1878.12ug/kg

response 933783

Ion	Exp%	Act%
252.00	100	100
253.00	22.20	22.19
125.00	11.00	11.65
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160511\16051120.D Vial: 20
Acq On : 11 May 2016 8:28 pm Operator:
Sample : SBLK-160511 Inst : GC/MS #6
Misc : SBLK Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 12 8:56 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.87	136	1334383	4000.00 ug/kg	115
5) Acenaphthene-d10	13.28	164	901660	4000.00 ug/kg	78
11) Phenanthrene-d10	15.37	188	1641396	4000.00 ug/kg	80
17) Chrysene-d12	21.11	240	1855634	4000.00 ug/kg	82
20) Perylene-d12	26.27	264	1755900	4000.00 ug/kg	85

System Monitoring Compounds					
7) 2-Fluorobiphenyl	12.22	172	169	0.64 ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	0.02%#	
16) 4-Terphenyl-d14	17.86	244	348	0.82 ug/kg	-0.03
Spiked Amount 4000.000	Range 40 - 140		Recovery =	0.02%#	

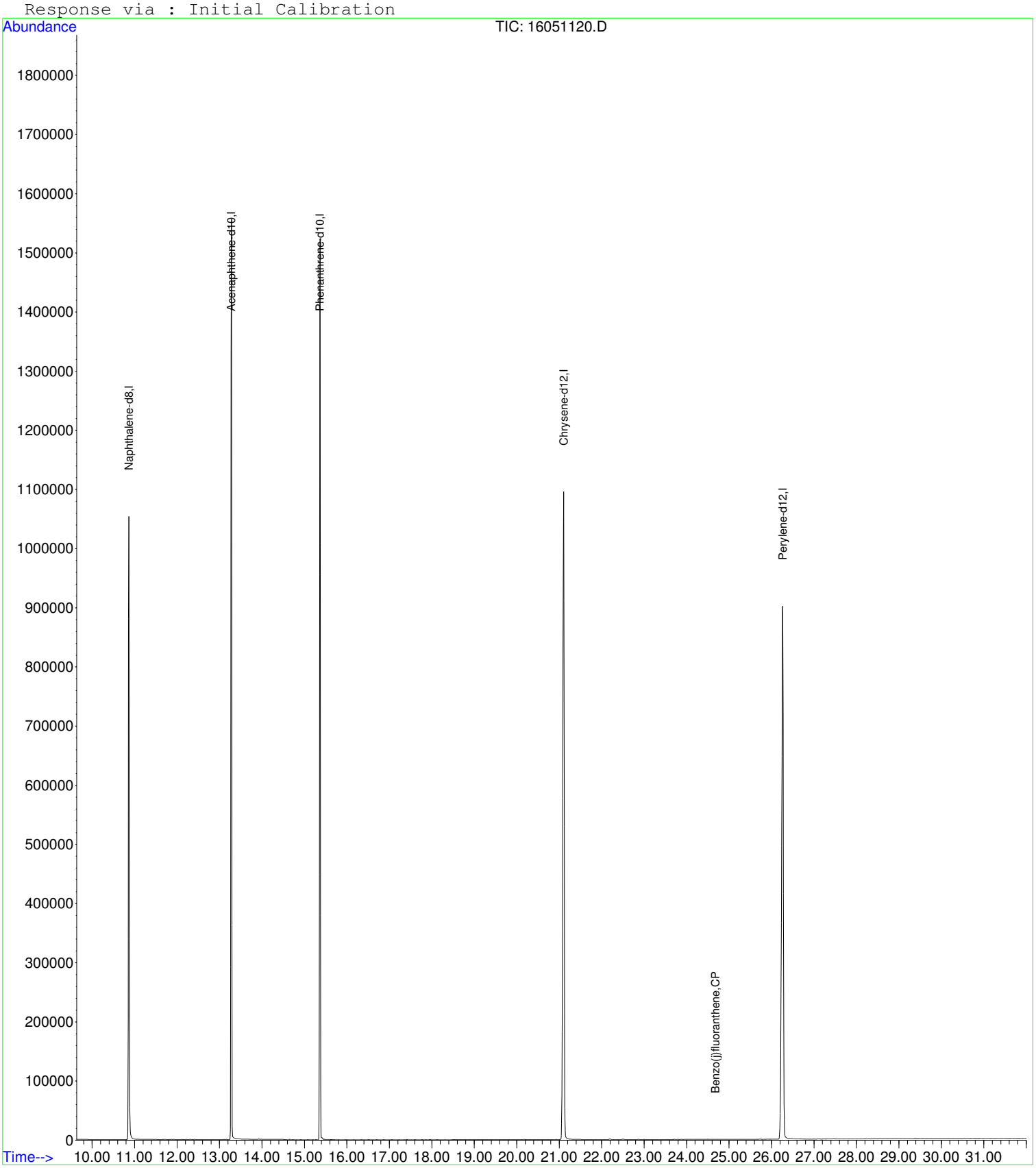
Target Compounds					Qvalue
23) Benzo(j)fluoranthene	24.68	252	96	0.25 ug/kg#	68

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160511\16051120.D Vial: 20
Acq On : 11 May 2016 8:28 pm Operator:
Sample : SBLK-160511 Inst : GC/MS #6
Misc : SBLK Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 12 8:56 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\160511\16051121.D Vial: 21
Acq On : 11 May 2016 9:08 pm Operator:
Sample : 1605047-42A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 12 8:59 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1309816	4000.00 ug/kg	113
5) Acenaphthene-d10	13.28	164	810370	4000.00 ug/kg	70
11) Phenanthrene-d10	15.37	188	1603440	4000.00 ug/kg	79
17) Chrysene-d12	21.11	240	1784633	4000.00 ug/kg	79
20) Perylene-d12	26.26	264	1674170	4000.00 ug/kg	81

System Monitoring Compounds					
7) 2-Fluorobiphenyl	12.21	172	20573	87.03 ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.18%#		
16) 4-Terphenyl-d14	17.86	244	32385	78.07 ug/kg	-0.03
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.95%#		

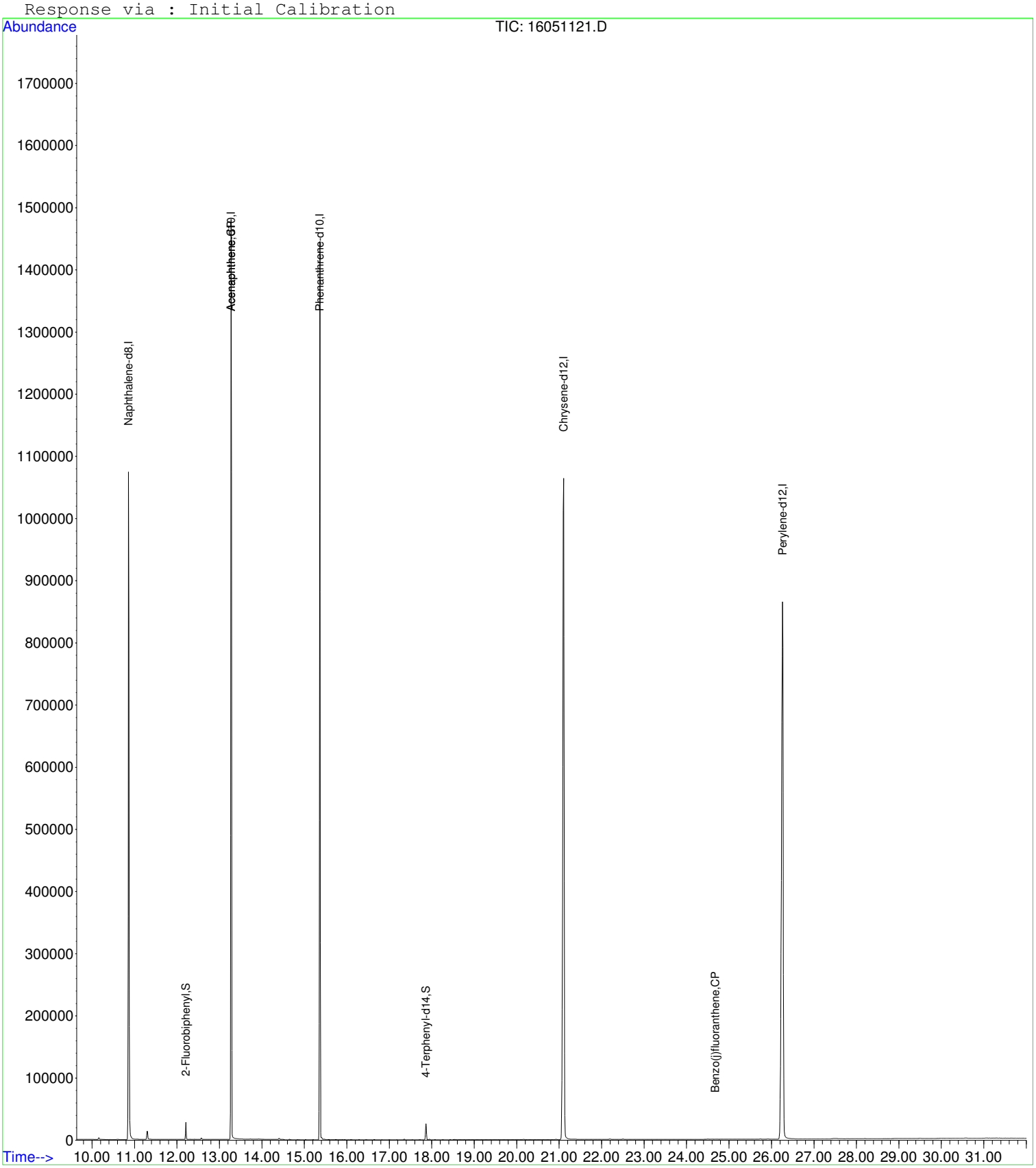
Target Compounds					Qvalue
9) Acenaphthene	13.28	154	2419	~~11.17 ug/kg#~~	9
23) Benzo(j)fluoranthene	24.68	252	356	0.97 ug/kg	81

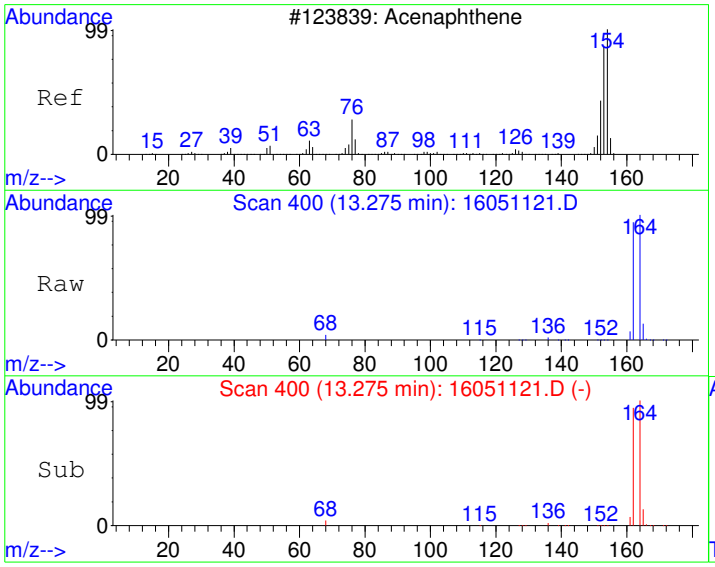
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160511\16051121.D Vial: 21
Acq On : 11 May 2016 9:08 pm Operator:
Sample : 1605047-42A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 12 8:59 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

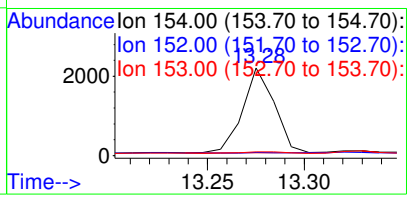


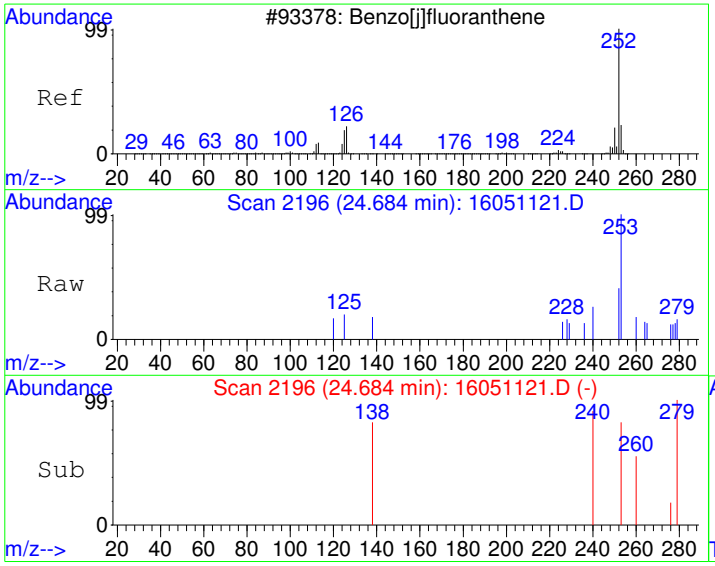


#9
Acenaphthene
Concen: 11.17 ug/kg
RT: 13.28 min Scan# 400
Delta R.T. -0.07 min
Lab File: 16051121.D
Acq: 11 May 2016 9:08 pm

Tgt Ion:154 Resp: 2419

Ion	Ratio	Lower	Upper
154	100		
152	0.8	18.9	78.9#
153	1.5	75.2	135.2#

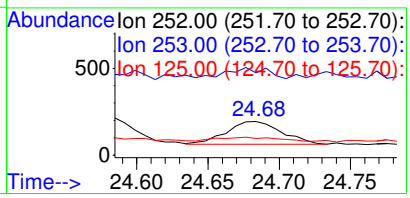




#23
Benzo(j)fluoranthene
Concen: 0.97 ug/kg
RT: 24.68 min Scan# 2196
Delta R.T. -0.06 min
Lab File: 16051121.D
Acq: 11 May 2016 9:08 pm

Tgt Ion:252 Resp: 356

Ion	Ratio	Lower	Upper
252	100		
253	10.6	2.1	42.1
125	9.8	0.0	34.4



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160511\16051126.D Vial: 26
Acq On : 12 May 2016 12:27 am Operator:
Sample : CCV-160511 Inst : GC/MS #6
Misc : CCV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 12 8:56 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1401023	4000.00 ug/kg	121
5) Acenaphthene-d10	13.28	164	914429	4000.00 ug/kg	79
11) Phenanthrene-d10	15.36	188	1635459	4000.00 ug/kg	80
17) Chrysene-d12	21.11	240	1962496	4000.00 ug/kg	86
20) Perylene-d12	26.26	264	1777033	4000.00 ug/kg	86

System Monitoring Compounds

7) 2-Fluorobiphenyl	12.21	172	285058	1068.65 ug/kg	-0.01
Spiked Amount 4000.000	Range 40 - 140		Recovery =	26.72%#	
16) 4-Terphenyl-d14	17.86	244	426501	1007.99 ug/kg	-0.04
Spiked Amount 4000.000	Range 40 - 140		Recovery =	25.20%#	

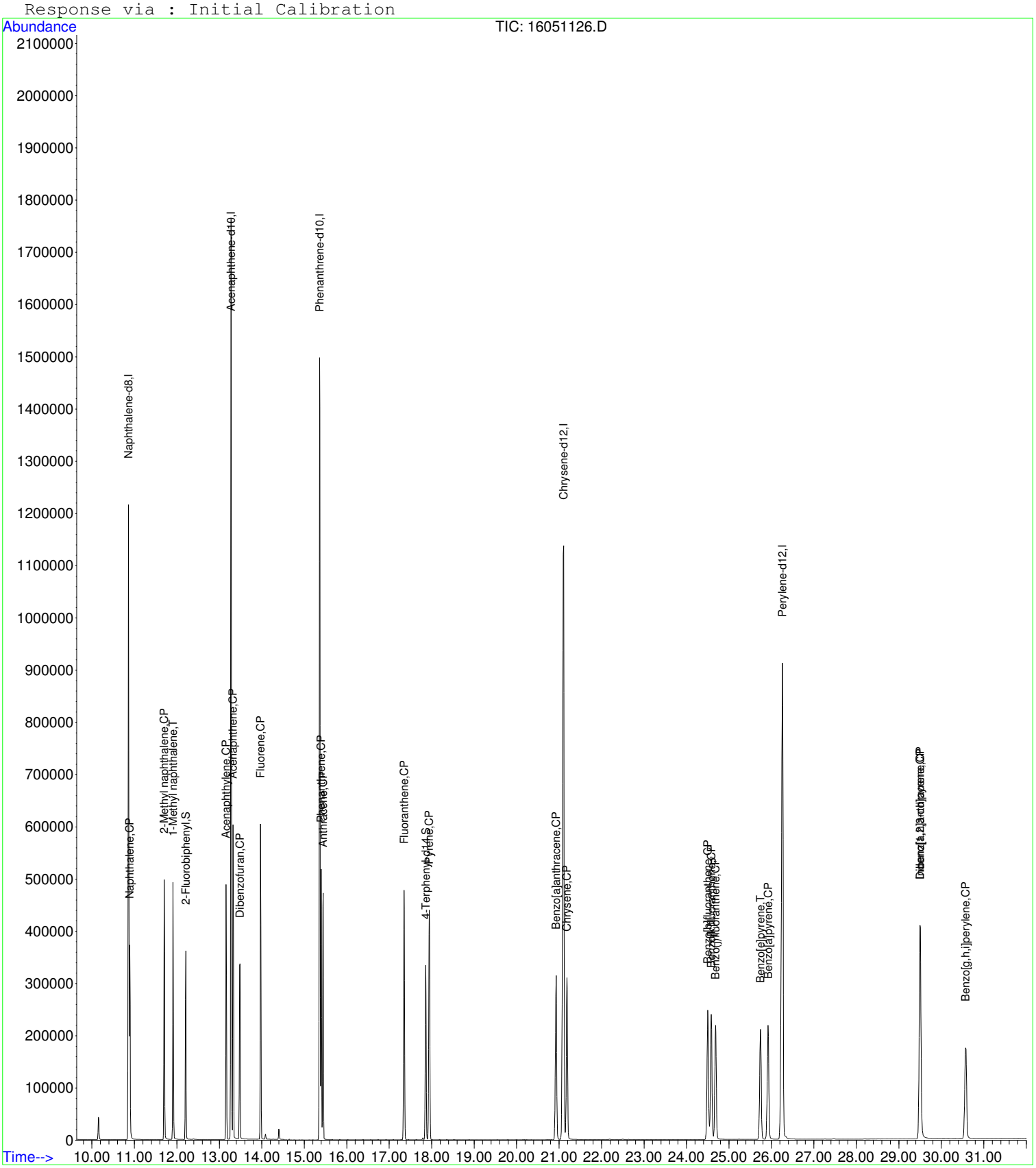
Target Compounds					Qvalue
2) Naphthalene	10.89	128	355034	1013.09 ug/kg	99
3) 2-Methyl naphthalene	11.70	142	265177	856.63 ug/kg	95
4) 1-Methyl naphthalene	11.91	142	241079	850.33 ug/kg	96
6) Dibenzofuran	13.49	168	338447	987.54 ug/kg	100
8) Acenaphthylene	13.16	152	419412	1065.02 ug/kg	99
9) Acenaphthene	13.32	154	244784	1001.44 ug/kg	97
10) Fluorene	13.97	166	300259	1011.48 ug/kg	99
12) Phenanthrene	15.40	178	420411	977.48 ug/kg	99
13) Anthracene	15.44	178	410127	1007.45 ug/kg	99
14) Fluoranthene	17.35	202	471294	1058.90 ug/kg	99
15) Pyrene	17.94	202	478896	1035.81 ug/kg	99
18) Benzo[a]anthracene	20.93	228	456157	992.15 ug/kg	100
19) Chrysene	21.18	228	424404	955.38 ug/kg	100
21) Benzo[b]fluoranthene	24.50	252	454468	970.33 ug/kg	99
22) Benzo[k]fluoranthene	24.58	252	432742	984.92 ug/kg	100
23) Benzo(j)fluoranthene	24.68	252	379333	969.20 ug/kg	99
24) Benzo[e]pyrene	25.74	252	396714	945.80 ug/kg	99
25) Benzo[a]pyrene	25.92	252	412675	962.79 ug/kg	99
26) Dibenz[a,h]anthracene	29.50	278	384689	985.47 ug/kg	99
27) Indeno[1,2,3-cd]pyrene	29.51	276	452112	970.85 ug/kg	97
28) Benzo[g,h,i]perylene	30.57	276	353987	974.82 ug/kg	99

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160511\16051126.D Vial: 26
Acq On : 12 May 2016 12:27 am Operator:
Sample : CCV-160511 Inst : GC/MS #6
Misc : CCV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 12 8:56 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



GCMS6_160512A
For

DHL Work Order
1605047

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_160512A
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	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	
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: 5/13/2016

Second-Level Review: Janice Whitt Date: 5/16/2016

REVIEWED BY
By Janice Whitt at 9:12:49 AM, 5/16/2016

DHL Analytical, Inc.

Run ID: **GCMS6_160512A** **Run No.:** 85792

Analytical Run Date: 5/12/2016 **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-160512	1	PAH_LL_SDOD1	TUNE	R85792	5/12/2016 7:54:00 AM		
ICV-160512	1	PAH_LL_SDOD1	ICV	R85792	5/12/2016 8:31:00 AM		
LCS-75007	1	PAH_LL_SDOD1	LCS	75007	5/12/2016 9:12:00 AM		
MB-75007	1	PAH_LL_SDOD1	MBLK	75007	5/12/2016 9:51:00 AM		
1605034-21A	10	PAH_LL_SDOD1	SAMP	75007	5/12/2016 10:31:00 AM		All samples in this batch run at 10x - detection limit is sufficient and is approved by project managers.
1605034-22A	10	PAH_LL_SDOD1	SAMP	75007	5/12/2016 11:11:00 AM		
1605034-23A	10	PAH_LL_SDOD1	SAMP	75007	5/12/2016 11:51:00 AM		
1605034-24A	10	PAH_LL_SDOD1	SAMP	75007	5/12/2016 12:31:00 PM		
1605034-25A	10	PAH_LL_SDOD1	SAMP	75007	5/12/2016 1:11:00 PM		
1605034-26A	10	PAH_LL_SDOD1	SAMP	75007	5/12/2016 1:51:00 PM		
1605034-27A	10	PAH_LL_SDOD1	SAMP	75007	5/12/2016 2:31:00 PM		
1605034-28A	10	PAH_LL_SDOD1	SAMP	75007	5/12/2016 3:11:00 PM		
1605034-29A	10	PAH_LL_SDOD1	SAMP	75007	5/12/2016 3:50:00 PM		
1605034-30A	10	PAH_LL_SDOD1	SAMP	75007	5/12/2016 4:30:00 PM		
1605047-02A	10	PAH_LL_SDOD1	SAMP	75007	5/12/2016 5:10:00 PM		
1605047-03AMS	10	PAH_LL_SDOD1	MS	75007	5/12/2016 5:49:00 PM		
1605047-03AMSD	10	PAH_LL_SDOD1	MSD	75007	5/12/2016 6:29:00 PM		
DFTPP2-160512	1	PAH_LL_SDOD1	TUNE	R85792	5/12/2016 7:07:00 PM		
ICV2-160512	1	PAH_LL_SDOD1	ICV	R85792	5/12/2016 7:44:00 PM		
SB-160512	1	PAH_LL_SDOD1	SBLK	75007	5/12/2016 8:24:00 PM		
1605047-03A	10	PAH_LL_SDOD1	SAMP	75007	5/12/2016 9:03:00 PM		
1605047-04A	10	PAH_LL_SDOD1	SAMP	75007	5/12/2016 9:43:00 PM		
1605047-05A	10	PAH_LL_SDOD1	SAMP	75007	5/12/2016 10:24:00 PM		
1605047-07A	10	PAH_LL_SDOD1	SAMP	75007	5/12/2016 11:04:00 PM		
1605047-08A	10	PAH_LL_SDOD1	SAMP	75007	5/12/2016 11:44:00 PM		
1605047-09A	10	PAH_LL_SDOD1	SAMP	75007	5/13/2016 12:23:00 AM		
1605047-10A	10	PAH_LL_SDOD1	SAMP	75007	5/13/2016 1:03:00 AM		
1605047-06A	10	PAH_LL_SDOD1	SAMP	75007	5/13/2016 1:43:00 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_160512A** **Run No.:** 85792

1605047-01A	20	PAH_LL_SDOD1	SAMP	75007	5/13/2016 2:23:00 AM		20x done instead of 10x due to color and high concentration of hydrocarbons.
CCV1-160512	1	PAH_LL_SDOD1	CCV	R85792	5/13/2016 3:03:00 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\160512.S
Comment:
Operator:
Data Path: C:\HPCHEM\1\DATA\160512\
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	16051201	DFTPPPAH	DFTPP-160512
2	Sample	2	16051202	PP160421	ICV-160512
3	Sample	3	16051203	PP160421	LCS-75007
4	Sample	4	16051204	PP160421	MB-75007
5	Sample	5	16051205	PP160421	1605034-21A
6	Sample	6	16051206	PP160421	1605034-22A
7	Sample	7	16051207	PP160421	1605034-23A
8	Sample	8	16051208	PP160421	1605034-24A
9	Sample	9	16051209	PP160421	1605034-25A
10	Sample	10	16051210	PP160421	1605034-26A
11	Sample	11	16051211	PP160421	1605034-27A
12	Sample	12	16051212	PP160421	1605034-28A
13	Sample	13	16051213	PP160421	1605034-29A
14	Sample	14	16051214	PP160421	1605034-30A
15	Sample	15	16051215	PP160421	1605047-02A
16	Sample	16	16051216	PP160421	1605047-03AMS
17	Sample	17	16051217	PP160421	1605047-03AMSD
18	Sample	18	16051218	DFTPPPAH	DFTPP2-160512
19	Sample	19	16051219	PP160421	ICV2-160512
20	Sample	20	16051220	PP160421	SB-160512
21	Sample	21	16051221	PP160421	1605047-03A
22	Sample	22	16051222	PP160421	1605047-04A
23	Sample	23	16051223	PP160421	1605047-05A
24	Sample	24	16051224	PP160421	1605047-07A
25	Sample	25	16051225	PP160421	1605047-08A
26	Sample	26	16051226	PP160421	1605047-09A
27	Sample	27	16051227	PP160421	1605047-10A
28	Sample	28	16051228	PP160421	1605047-06A
29	Sample	29	16051229	PP160421	1605047-01A
30	Sample	30	16051230	PP160421	CCV1-160512

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/9/2016 10:10:23 AM**
Digestion:
Prep End Date: **5/9/2016 5:24:00 PM**

Prep Batch **75007** Prep Code: **3550_PAHDOD** Technician: **Alex Robbins**

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
1605034-21A	Soil		10.02	10	0.998	1	of	1	
1605034-22A	Soil		10.18	10	0.982	1	of	1	
1605034-23A	Soil		10	10	1.000	1	of	1	
1605034-24A	Soil		10.34	10	0.967	1	of	1	
1605034-25A	Soil		10.14	10	0.986	1	of	1	
1605034-26A	Soil		10.08	10	0.992	1	of	1	
1605034-27A	Soil		10	10	1.000	1	of	1	
1605034-28A	Soil		10.01	10	0.999	1	of	1	
1605034-29A	Soil		10.1	10	0.990	1	of	1	
1605034-30A	Soil		10.34	10	0.967	1	of	1	
1605047-01A	Soil		10.03	10	0.997	1	of	1	
1605047-02A	Soil		10.01	10	0.999	1	of	1	
1605047-03A	Soil		10.05	10	0.995	1	of	3	
1605047-03AMS	Soil		10.04	10	0.996	12	of		
1605047-03AMSD	Soil		10.05	10	0.995	2	of		
1605047-04A	Soil		10.41	10	0.961	1	of	1	
1605047-05A	Soil		10.01	10	0.999	1	of	1	
1605047-06A	Soil		10.19	10	0.981	1	of	1	
1605047-07A	Soil		10.1	10	0.990	1	of	1	
1605047-08A	Soil		10.07	10	0.993	1	of	1	
1605047-09A	Soil		10.56	10	0.947	1	of	1	
1605047-10A	Soil		10.12	10	0.988	1	of	1	
LCS-75007	Soil		10	10	1.000		of		
MB-75007	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
PAHPREP160317	200 PPM PAH Spike Mix	LCS/MS/MSD	0.05	05/09/2016
SVPREP160415-A	40 PPM Surrogate Standard	ALL	0.25	07/15/2016

REVIEWED BY
By Janice Whitt at 8:22:33 AM, 5/16/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/9/2016 10:10:23 AM**
Digestion:
Prep End Date: 5/9/16 5:24PM

Prep Batch **75007** Prep Code: **3550_PAHDOD** Technician: **Alex Robbins**

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
1605034-21A	Soil		10.02	10	1.000	1	of	1	
1605034-22A	Soil		10.18	10	1.000	1	of	1	
1605034-23A	Soil		10.00	10	1.000	1	of	1	
1605034-24A	Soil		10.34	10	1.000	1	of	1	
1605034-25A	Soil		10.14	10	1.000	1	of	1	
1605034-26A	Soil		10.08	10	1.000	1	of	1	
1605034-27A	Soil		10.00	10	1.000	1	of	1	
1605034-28A	Soil		10.01	10	1.000	1	of	1	
1605034-29A	Soil		10.10	10	1.000	1	of	1	
1605034-30A	Soil		10.34	10	1.000	1	of	1	
1605047-01A	Soil		10.03	10	1.000	1	of	1	
1605047-02A	Soil		10.01	10	1.000	1	of	1	
1605047-03A	Soil		10.05	10	1.000	1	of	3	
1605047-03AMS	Soil		10.04	10	1.000	12	of	3	
1605047-03AMSD	Soil		10.05	10	1.000	2	of	3	
1605047-04A	Soil		10.41	10	1.000	1	of	1	
1605047-05A	Soil		10.01	10	1.000	1	of	1	
1605047-06A	Soil		10.19	10	1.000	1	of	1	
1605047-07A	Soil		10.10	10	1.000	1	of	1	
1605047-08A	Soil		10.07	10	1.000	1	of	1	
1605047-09A	Soil		10.54	10	1.000	1	of	1	
1605047-10A	Soil		10.12	10	1.000	1	of	1	
LCS-75007	Soil		10	10	1.000		of		
MB-75007	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
PAHPREP160317	200 PPM PAH Spike Mix	LCS/MS/MSD	0.05	05/09/2016
SVPREP160415-A	40 PPM Surrogate Standard	ALL	0.25	07/15/2016

5/9/16 / AR 5/9/16

REVIEWED BY
By Janice Whitt at 8:22:30 AM, 5/16/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/4/2016 2:45:00 PM**
Digestion: **Start: 5/4/2016 3:45:00 PM / Stop: 5/6/2016 9:30:00 AM**
Prep End Date: **5/6/2016 5:00:00 PM**

Prep Batch **74956** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker** Prep Factor Units: **mL/**

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #			Cleanup
1605034-01A	Soil		0	0	#Num!	1	of	1	
1605034-02A	Soil		0	0	#Num!	1	of	1	
1605034-03A	Soil		0	0	#Num!	1	of	1	
1605034-04A	Soil		0	0	#Num!	1	of	1	
1605034-05A	Soil		0	0	#Num!	1	of	1	
1605034-06A	Soil		0	0	#Num!	1	of	1	
1605034-07A	Soil		0	0	#Num!	1	of	1	
1605034-08A	Soil		0	0	#Num!	1	of	1	
1605034-09A	Soil		0	0	#Num!		of	3	
1605034-10A	Soil		0	0	#Num!	1	of	1	
1605034-11A	Soil		0	0	#Num!	1	of	1	
1605034-12A	Soil		0	0	#Num!	1	of	1	
1605034-13A	Soil		0	0	#Num!	1	of	1	
1605034-14A	Soil		0	0	#Num!	1	of	1	
1605034-15A	Soil		0	0	#Num!	1	of	1	
1605034-16A	Soil		0	0	#Num!	1	of	1	
1605034-17A	Soil		0	0	#Num!	1	of	1	
1605034-18A	Soil		0	0	#Num!	1	of	1	
1605034-19A	Soil		0	0	#Num!	1	of	1	
1605034-20A	Soil		0	0	#Num!	1	of	1	
1605034-21A	Soil		0	0	#Num!	1	of	1	
1605034-22A	Soil		0	0	#Num!	1	of	1	
1605034-23A	Soil		0	0	#Num!	1	of	1	
1605034-24A	Soil		0	0	#Num!	1	of	1	
1605034-25A	Soil		0	0	#Num!	1	of	1	
1605034-26A	Soil		0	0	#Num!	1	of	1	
1605034-27A	Soil		0	0	#Num!	1	of	1	

REVIEWED BY
By Janice Whitt at 8:24:46 AM, 5/16/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/4/2016 2:45:00 PM**
Digestion: **Start: 5/4/2016 3:45:00 PM / Stop: 5/6/2016 9:30:00 AM**
Prep End Date: **5/6/2016 5:00:00 PM**

Prep Batch **74956** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker** Prep Factor Units: **mL/**

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605034-28A	Soil		0	0	#Num!	1 of 1	
1605034-29A	Soil		0	0	#Num!	1 of 1	
1605034-30A	Soil		0	0	#Num!	1 of 1	

REVIEWED BY
By Janice Whitt at 8:24:48 AM, 5/16/2016

DHL Analytical, Inc.

PREP BATCH REPORT

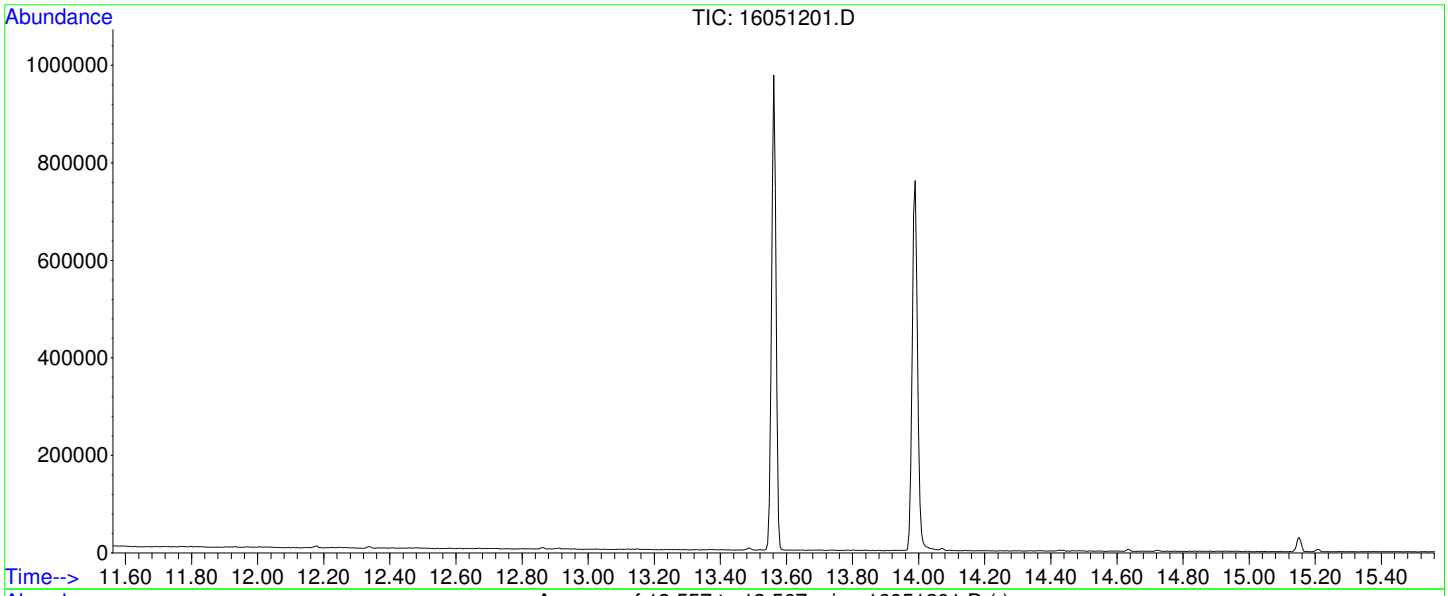
Prep Start Date: **5/5/2016 2:00:00 PM**
Digestion: **Start: 5/5/2016 5:00:00 PM / Stop: 5/7/2016 9:00:00 AM**
Prep End Date: **5/7/2016 3:30:00 PM**

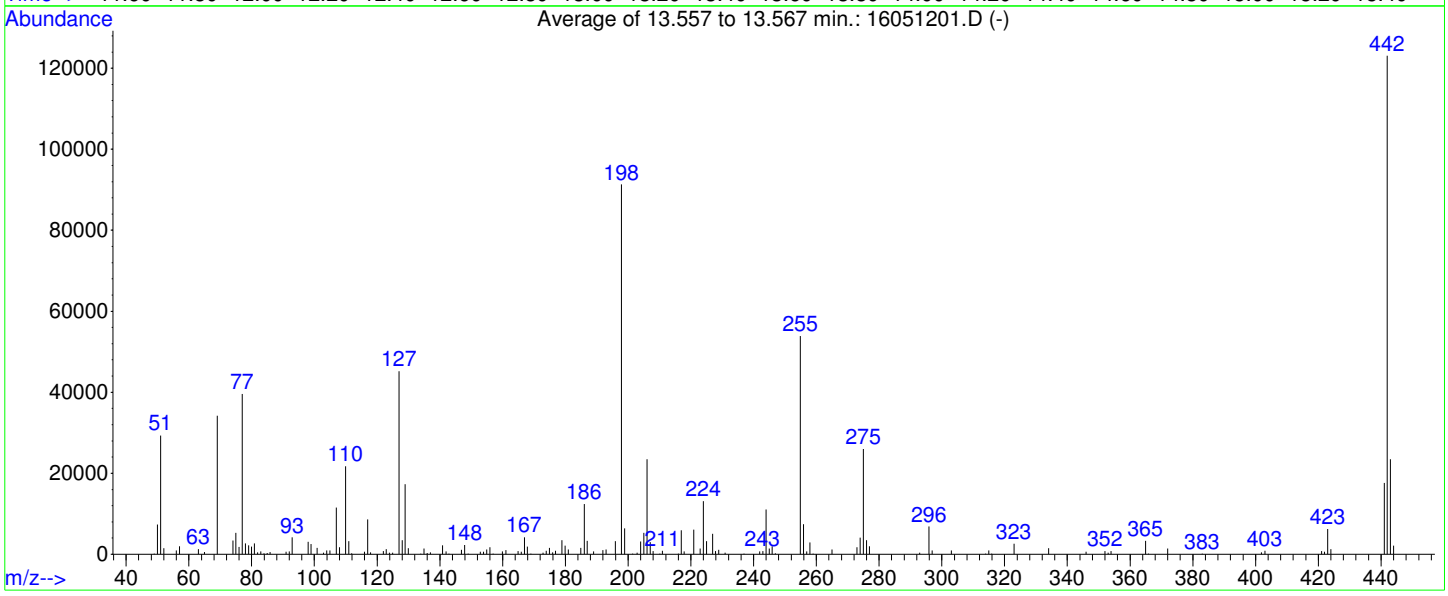
Prep Batch **74972** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker** Prep Factor Units: **mL/**

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #			Cleanup
1605047-01A	Soil		0	0	#Num!	1	of	1	
1605047-02A	Soil		0	0	#Num!	1	of	1	
1605047-03A	Soil		0	0	#Num!		of	3	Extra sample was subsampled for MS/MSD.
1605047-04A	Soil		0	0	#Num!	1	of	1	
1605047-05A	Soil		0	0	#Num!	1	of	1	
1605047-06A	Soil		0	0	#Num!	1	of	1	
1605047-07A	Soil		0	0	#Num!	1	of	1	
1605047-08A	Soil		0	0	#Num!	1	of	1	
1605047-09A	Soil		0	0	#Num!	1	of	1	
1605047-10A	Soil		0	0	#Num!	1	of	1	
1605047-11A	Soil		0	0	#Num!	1	of	1	
1605047-12A	Soil		0	0	#Num!	1	of	1	
1605047-13A	Soil		0	0	#Num!	1	of	1	
1605047-14A	Soil		0	0	#Num!	1	of	1	
1605047-15A	Soil		0	0	#Num!	1	of	1	
1605047-16A	Soil		0	0	#Num!	1	of	1	
1605047-17A	Soil		0	0	#Num!	1	of	1	
1605047-18A	Soil		0	0	#Num!	1	of	1	
1605047-19A	Soil		0	0	#Num!	1	of	1	
1605047-20A	Soil		0	0	#Num!	1	of	1	
1605047-21A	Soil		0	0	#Num!	1	of	1	
1605047-22A	Soil		0	0	#Num!	1	of	1	
1605047-23A	Soil		0	0	#Num!	1	of	1	
1605047-24A	Soil		0	0	#Num!		of	3	Extra sample was subsampled for MS/MSD.
1605047-25A	Soil		0	0	#Num!	1	of	1	
1605047-26A	Soil		0	0	#Num!	1	of	1	
1605047-27A	Soil		0	0	#Num!	1	of	1	

REVIEWED BY
By Janice Whitt at 8:26:02 AM, 5/16/2016

Data File : C:\HPCHEM\1\DATA\160512\16051201.D Vial: 1
Acq On : 12 May 2016 7:54 am Operator:
Sample : DFTPP-160512 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



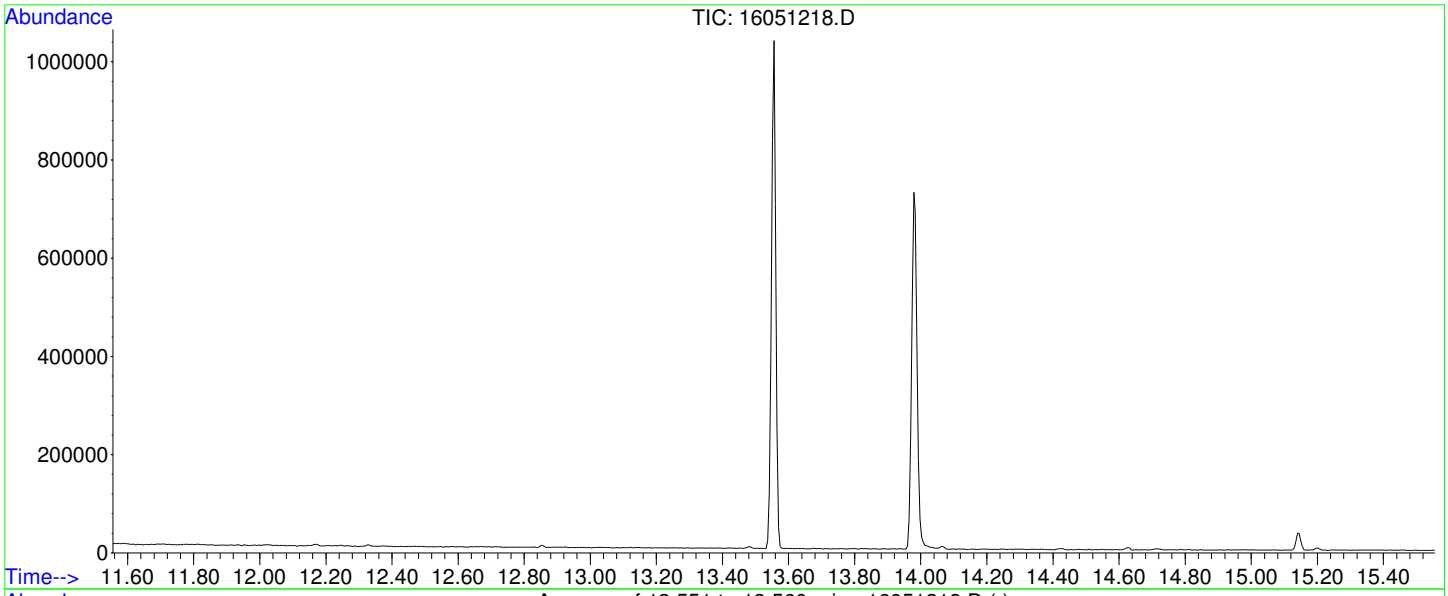


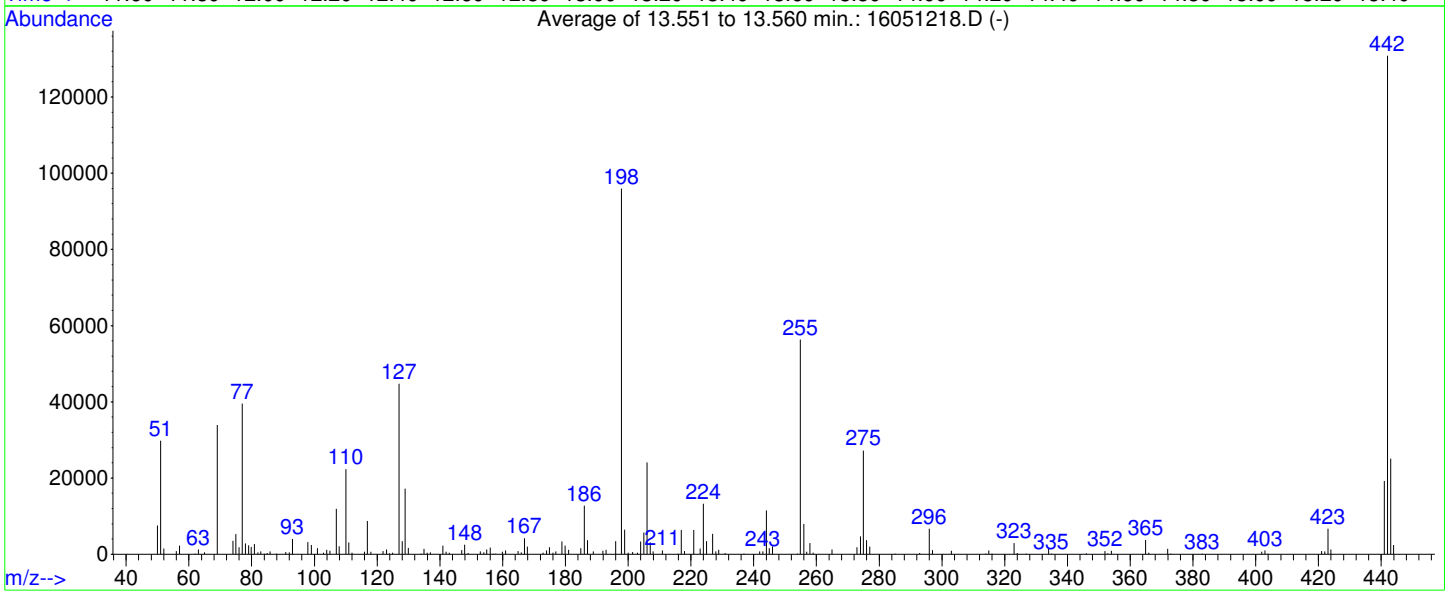
AutoFind: Scans 1588, 1589, 1590; Background Corrected with Scan 1582

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	32.1	29349	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	37.5	34197	PASS
70	69	0.00	2	0.0	0	PASS
127	198	10	80	49.5	45160	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	91309	PASS
199	198	5	9	7.0	6364	PASS
275	198	10	60	28.4	25976	PASS
365	198	1	200	3.7	3350	PASS
441	442	0.01	24	14.3	17655	PASS
442	198	50	400	134.8	123101	PASS
443	442	15	24	19.1	23493	PASS

REVIEWED BY
By Janice Whitt at 8:24:50 AM, 5/16/2016

Data File : C:\HPCHEM\1\DATA\160512\16051218.D Vial: 18
Acq On : 12 May 2016 7:07 pm Operator:
Sample : DFTPP2-160512 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	31.1	29843	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	35.4	33941	PASS
70	69	0.00	2	0.0	0	PASS
127	198	10	80	46.7	44800	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	95971	PASS
199	198	5	9	6.8	6495	PASS
275	198	10	60	28.4	27227	PASS
365	198	1	200	3.9	3767	PASS
441	442	0.01	24	14.7	19253	PASS
442	198	50	400	136.3	130848	PASS
443	442	15	24	19.2	25072	PASS

REVIEWED BY
By Janice Whitt at 8:24:52 AM, 5/16/2016

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160512\16051202.D Vial: 2
Acq On : 12 May 2016 8:31 am Operator:
Sample : ICV-160512 Inst : GC/MS #6
Misc : ICV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:08 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1538840	4000.00	ug/kg	133
5) Acenaphthene-d10	13.27	164	930821	4000.00	ug/kg	81
11) Phenanthrene-d10	15.36	188	1851610	4000.00	ug/kg	91
17) Chrysene-d12	21.10	240	2023154	4000.00	ug/kg	89
20) Perylene-d12	26.26	264	1874760	4000.00	ug/kg	91

System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.21	172	545899	2010.47	ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery = 50.26%			
16) 4-Terphenyl-d14	17.86	244	864516	1804.67	ug/kg	-0.04
Spiked Amount 4000.000	Range 40 - 140		Recovery = 45.12%			

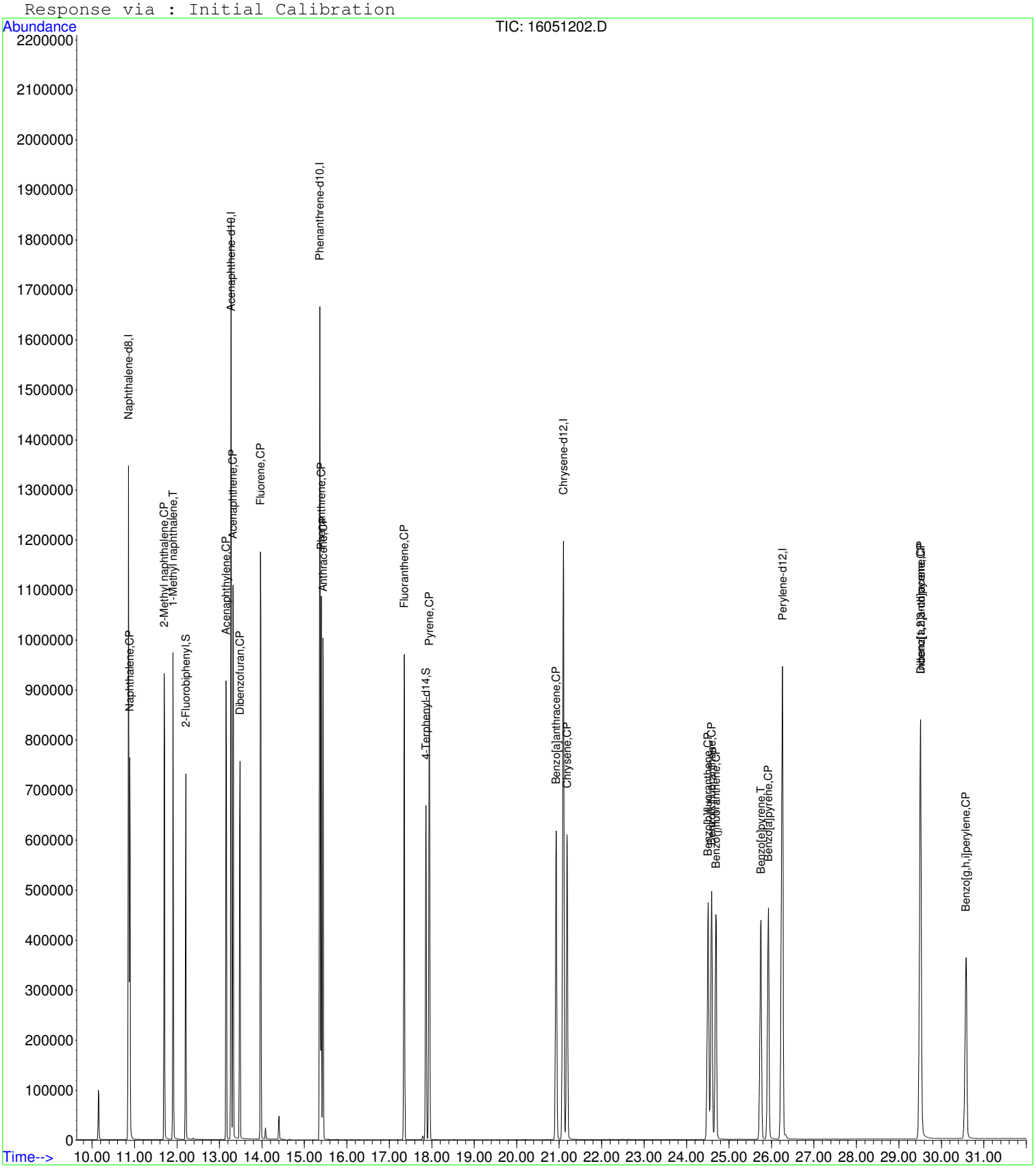
Target Compounds						Qvalue
2) Naphthalene	10.89	128	747225	1941.24	ug/kg	99
3) 2-Methyl naphthalene	11.70	142	516830	1520.04	ug/kg	94
4) 1-Methyl naphthalene	11.91	142	466509	1498.09	ug/kg	95
6) Dibenzofuran	13.48	168	694182	1989.85	ug/kg	99
8) Acenaphthylene	13.16	152	835016	2083.02	ug/kg	99
9) Acenaphthene	13.32	154	489297	1966.52	ug/kg	97
10) Fluorene	13.97	166	640714	2120.36	ug/kg	98
12) Phenanthrene	15.40	178	915065	1879.20	ug/kg	100
13) Anthracene	15.44	178	882608	1914.98	ug/kg	100
14) Fluoranthene	17.35	202	966411	1917.85	ug/kg	99
15) Pyrene	17.94	202	969357	1851.87	ug/kg	100
18) Benzo[a]anthracene	20.93	228	923521	1948.46	ug/kg	100
19) Chrysene	21.18	228	854709	1866.36	ug/kg	100
21) Benzo[b]fluoranthene	24.51	252	927129	1876.32	ug/kg	99
22) Benzo[k]fluoranthene	24.59	252	900731	1943.19	ug/kg	99
23) Benzo(j)fluoranthene	24.69	252	781358	1892.32	ug/kg	99
24) Benzo[e]pyrene	25.75	252	827333	1869.62	ug/kg	99
25) Benzo[a]pyrene	25.93	252	864347	1911.44	ug/kg	100
26) Dibenz[a,h]anthracene	29.51	278	802829	1949.43	ug/kg	100
27) Indeno[1,2,3-cd]pyrene	29.51	276	940395	1914.11	ug/kg	97
28) Benzo[g,h,i]perylene	30.59	276	738738	1928.31	ug/kg	99

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160512\16051202.D Vial: 2
Acq On : 12 May 2016 8:31 am Operator:
Sample : ICV-160512 Inst : GC/MS #6
Misc : ICV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:08 2016 Quant Results File: PP160421.RES

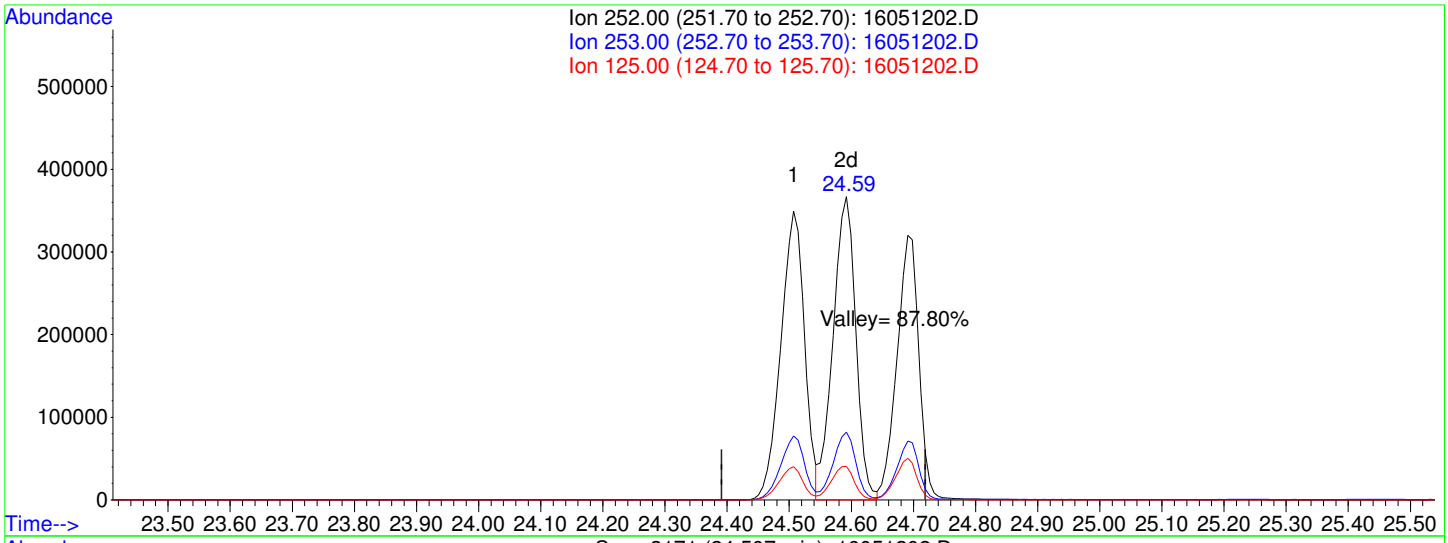
Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri Apr 22 11:43:43 2016
Response via : Initial Calibration

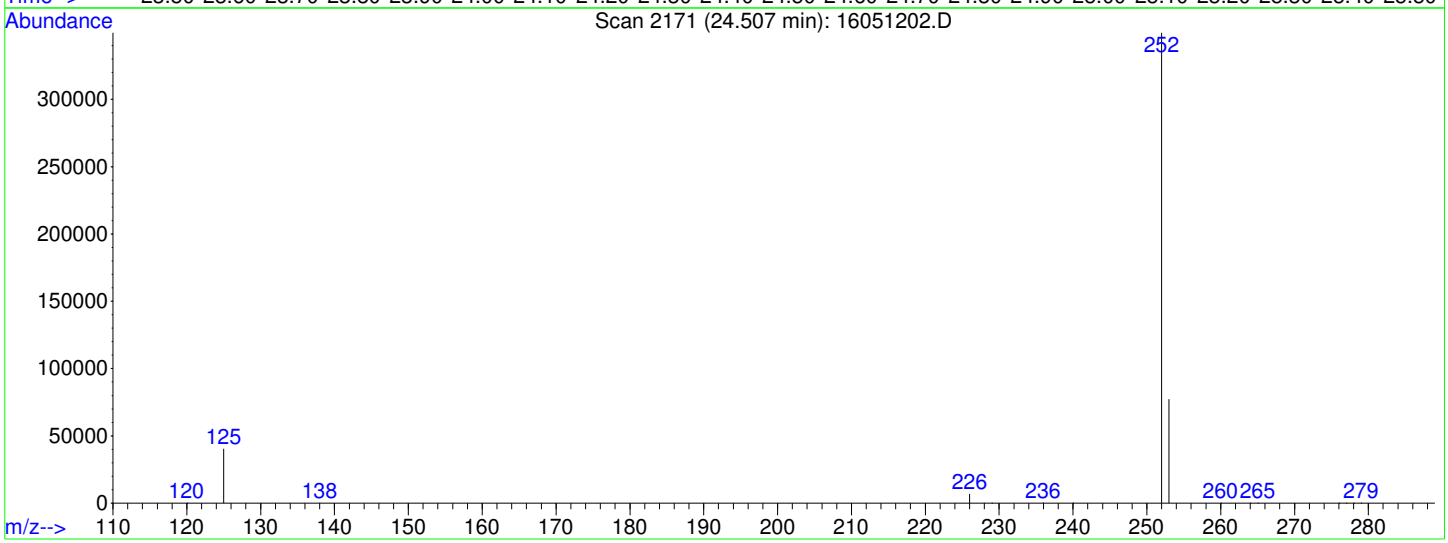


Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\160512\16051202.D Vial: 2
Acq On : 12 May 2016 8:31 am Operator:
Sample : ICV-160512 Inst : GC/MS #6
Misc : ICV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 12 9:03 2016 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri Apr 22 11:43:43 2016
Response via : Multiple Level Calibration





TIC: 16051202.D

(21) Benzo[b]fluoranthene (CP)

24.51min 1876.32ug/kg

response 927129

Ion	Exp%	Act%
252.00	100	100
253.00	22.20	21.99
125.00	11.00	11.52
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160512\16051203.D Vial: 3
Acq On : 12 May 2016 9:12 am Operator:
Sample : LCS-75007 Inst : GC/MS #6
Misc : LCS Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:08 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1138790	4000.00 ug/kg	98
5) Acenaphthene-d10	13.27	164	642733	4000.00 ug/kg	56
11) Phenanthrene-d10	15.36	188	1449134	4000.00 ug/kg	71
17) Chrysene-d12	21.09	240	1732740	4000.00 ug/kg	76
20) Perylene-d12	26.25	264	1699151	4000.00 ug/kg	82

System Monitoring Compounds					
7) 2-Fluorobiphenyl	12.21	172	156768	836.14 ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery = 20.90%#		
16) 4-Terphenyl-d14	17.86	244	293913	783.94 ug/kg	-0.04
Spiked Amount 4000.000	Range 40 - 140		Recovery = 19.60%#		

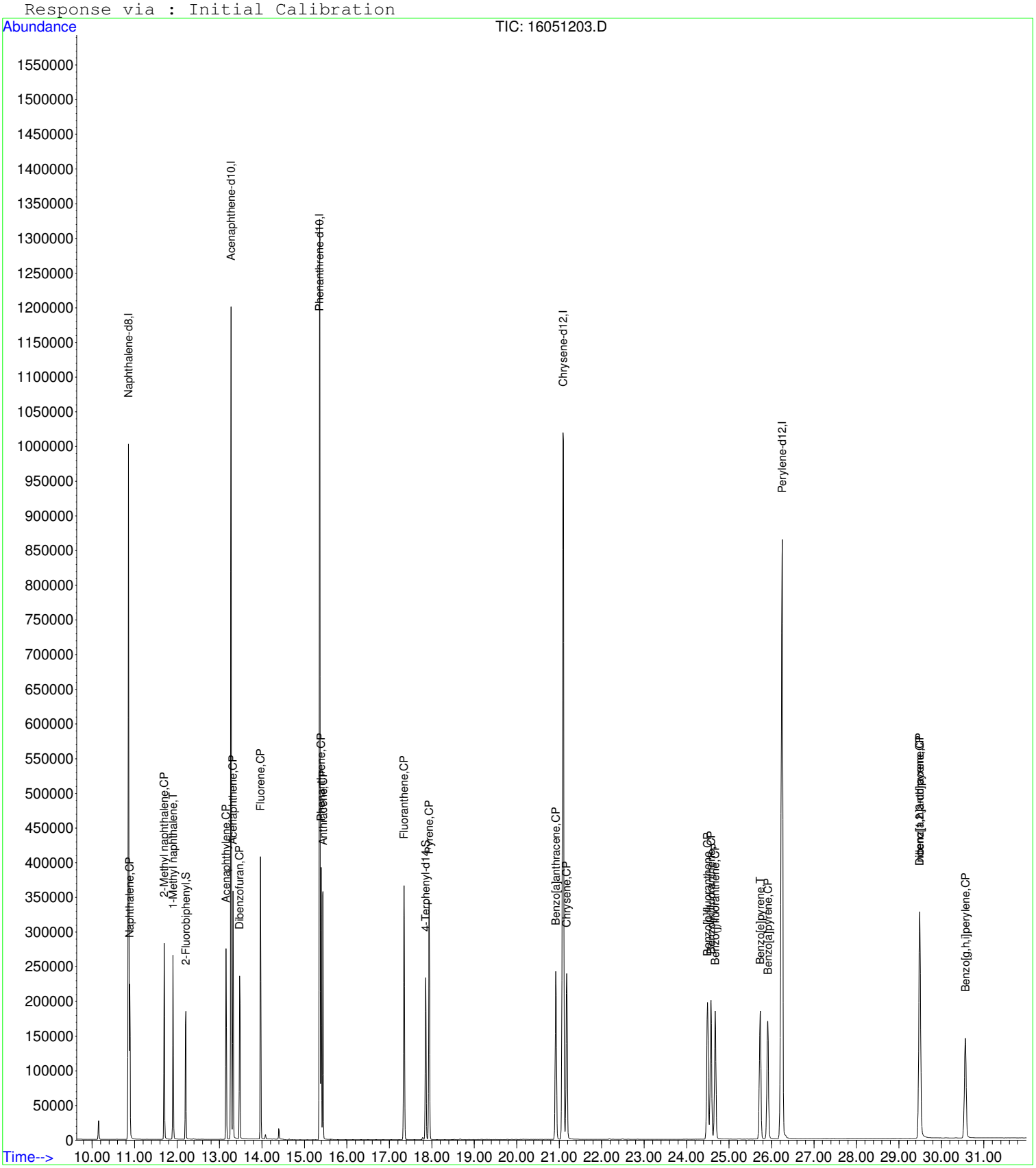
Target Compounds					Qvalue
2) Naphthalene	10.89	128	212271	745.19 ug/kg	99
3) 2-Methyl naphthalene	11.70	142	145681	578.98 ug/kg	96
4) 1-Methyl naphthalene	11.91	142	130503	566.30 ug/kg	96
6) Dibenzofuran	13.48	168	220989	917.39 ug/kg	100
8) Acenaphthylene	13.15	152	235545	850.96 ug/kg	99
9) Acenaphthene	13.32	154	138481	806.03 ug/kg	98
10) Fluorene	13.97	166	192788	923.97 ug/kg	99
12) Phenanthrene	15.39	178	319348	837.97 ug/kg	99
13) Anthracene	15.44	178	317380	879.87 ug/kg	99
14) Fluoranthene	17.35	202	362340	918.78 ug/kg	99
15) Pyrene	17.94	202	363985	888.49 ug/kg	99
18) Benzo[a]anthracene	20.92	228	351330	865.48 ug/kg	99
19) Chrysene	21.18	228	330681	843.11 ug/kg	100
21) Benzo[b]fluoranthene	24.49	252	374672	836.62 ug/kg	99
22) Benzo[k]fluoranthene	24.58	252	356712	849.08 ug/kg	99
23) Benzo(j)fluoranthene	24.68	252	316952	846.94 ug/kg	100
24) Benzo[e]pyrene	25.74	252	340171	848.17 ug/kg	99
25) Benzo[a]pyrene	25.91	252	327777	799.77 ug/kg	100
26) Dibenz[a,h]anthracene	29.49	278	314908	843.69 ug/kg	99
27) Indeno[1,2,3-cd]pyrene	29.49	276	368255	827.03 ug/kg	97
28) Benzo[g,h,i]perylene	30.57	276	294556	848.34 ug/kg	100

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160512\16051203.D Vial: 3
Acq On : 12 May 2016 9:12 am Operator:
Sample : LCS-75007 Inst : GC/MS #6
Misc : LCS Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:08 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\160512\16051204.D Vial: 4
Acq On : 12 May 2016 9:51 am Operator:
Sample : MB-75007 Inst : GC/MS #6
Misc : MBLK Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:08 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.85	136	1196975	4000.00	ug/kg	103
5) Acenaphthene-d10	13.27	164	724786	4000.00	ug/kg	63
11) Phenanthrene-d10	15.36	188	1570080	4000.00	ug/kg	77
17) Chrysene-d12	21.09	240	1851663	4000.00	ug/kg	82
20) Perylene-d12	26.25	264	1819035	4000.00	ug/kg	88

System Monitoring Compounds

7) 2-Fluorobiphenyl	12.20	172	165419	782.40	ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery = 19.56%#			
16) 4-Terphenyl-d14	17.85	244	296479	729.87	ug/kg	-0.05
Spiked Amount 4000.000	Range 40 - 140		Recovery = 18.25%#			

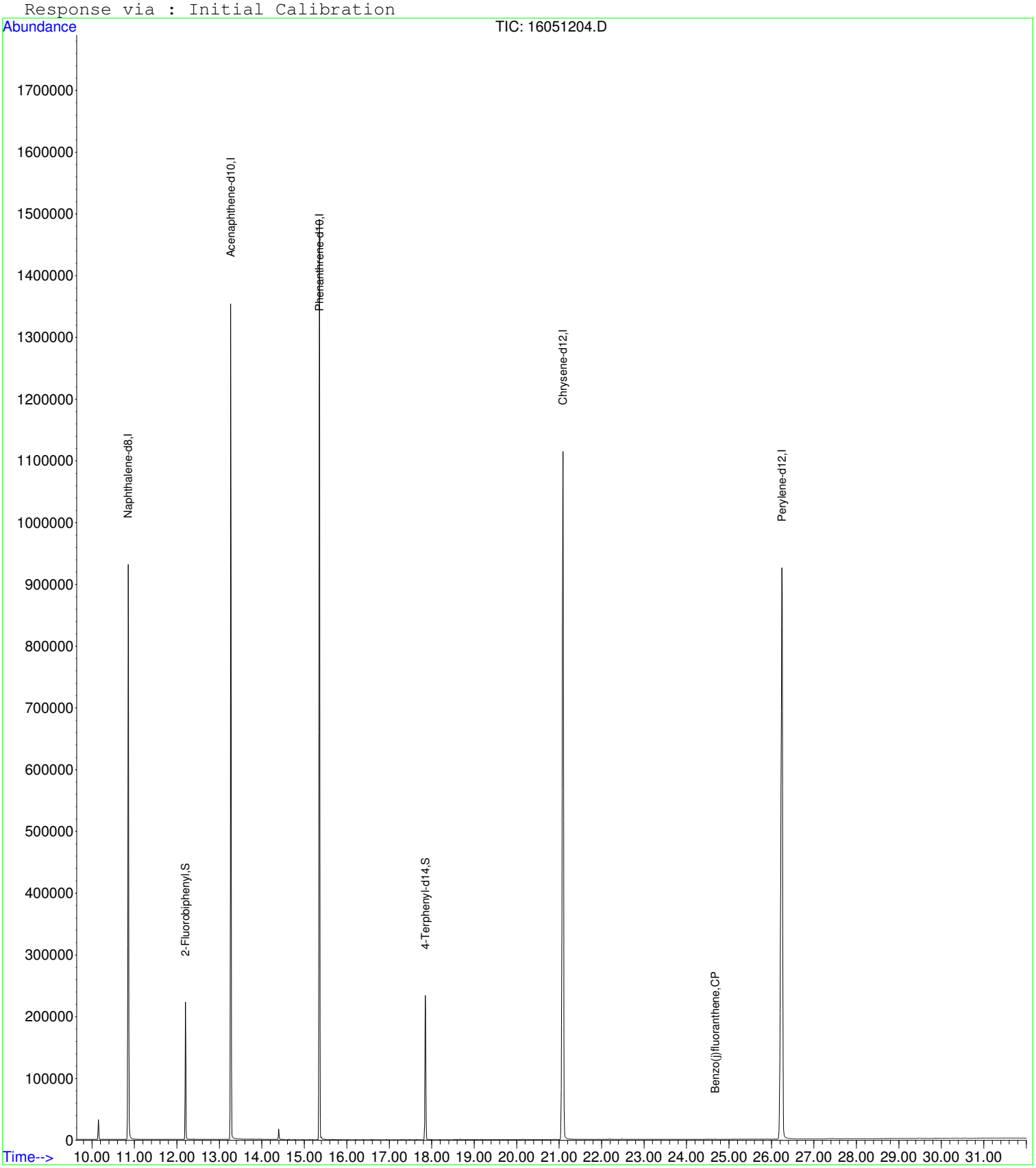
Target Compounds						Qvalue
23) Benzo(j)fluoranthene	24.68	252	354	0.88	ug/kg	83

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160512\16051204.D Vial: 4
Acq On : 12 May 2016 9:51 am Operator:
Sample : MB-75007 Inst : GC/MS #6
Misc : MBLK Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:08 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\160512\16051215.D Vial: 15
Acq On : 12 May 2016 5:10 pm Operator:
Sample : 1605047-02A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:15 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1405720	4000.00 ug/kg	121
5) Acenaphthene-d10	13.27	164	903777	4000.00 ug/kg	79
11) Phenanthrene-d10	15.36	188	1611030	4000.00 ug/kg	79
17) Chrysene-d12	21.10	240	1899332	4000.00 ug/kg	84
20) Perylene-d12	26.25	264	1741435	4000.00 ug/kg	85

System Monitoring Compounds					
7) 2-Fluorobiphenyl	12.21	172	21895	83.05 ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery =	2.08%#	
16) 4-Terphenyl-d14	17.85	244	30168	72.38 ug/kg	-0.04
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.81%#	

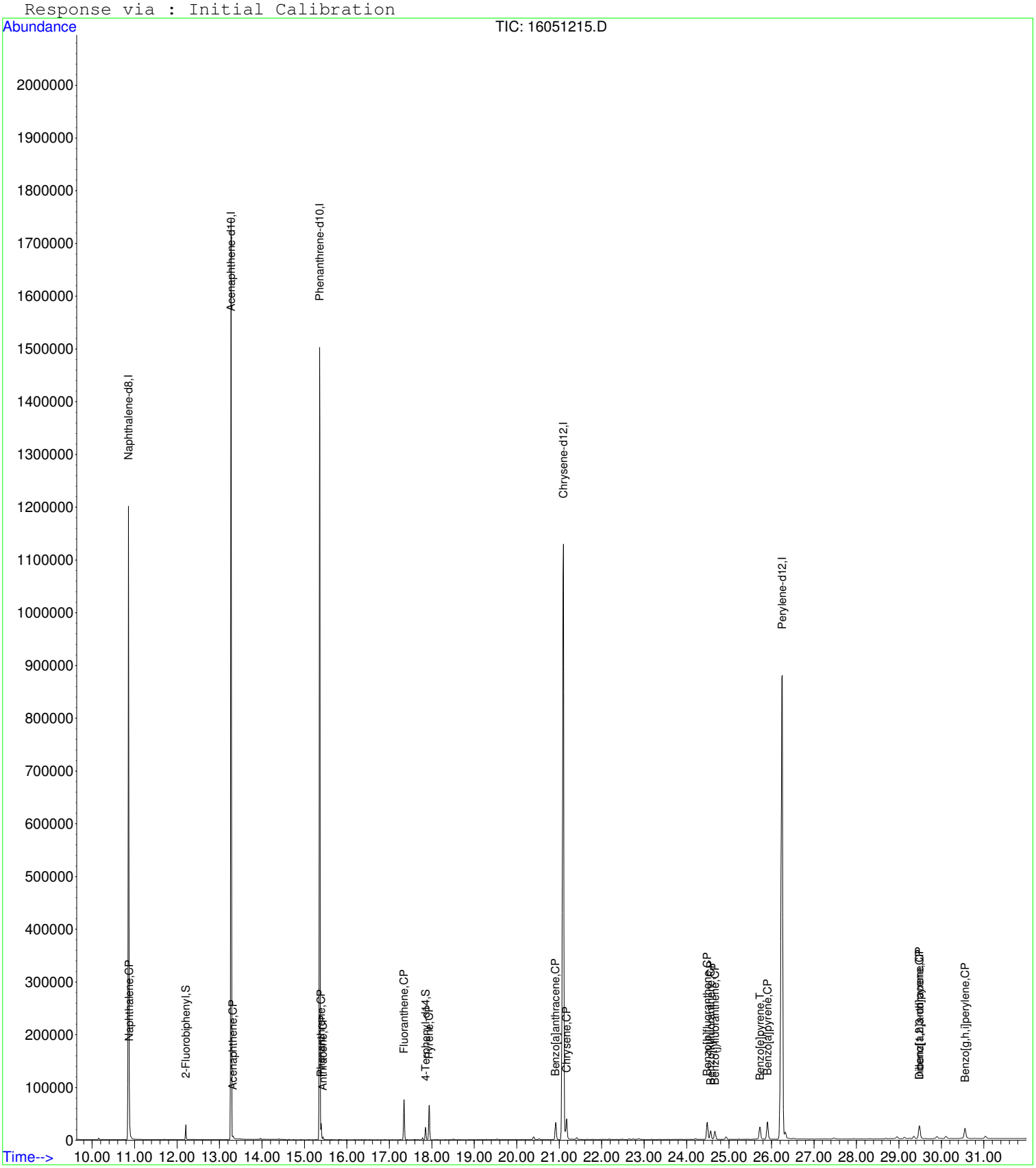
Target Compounds					Qvalue
2) Naphthalene	10.88	128	2110	6.00 ug/kg	98
9) Acenaphthene	13.32	154	1588	6.57 ug/kg	98
12) Phenanthrene	15.39	178	22972	54.22 ug/kg	99
13) Anthracene	15.43	178	4440	11.07 ug/kg	99
14) Fluoranthene	17.35	202	75808	172.91 ug/kg	99
15) Pyrene	17.94	202	70108	153.94 ug/kg	98
18) Benzo[a]anthracene	20.91	228	49767	111.84 ug/kg	99
19) Chrysene	21.18	228	59519	138.44 ug/kg	100
21) Benzo[b]fluoranthene	24.48	252	59717	130.11 ug/kg	99
22) Benzo[k]fluoranthene	24.57	252	29540	68.61 ug/kg	99
23) Benzo(j)fluoranthene	24.67	252	27062	70.56 ug/kg	91
24) Benzo[e]pyrene	25.73	252	45136	109.81 ug/kg	100
25) Benzo[a]pyrene	25.91	252	61362	146.09 ug/kg	99
26) Dibenz[a,h]anthracene	29.48	278	9243	24.16 ug/kg	96
27) Indeno[1,2,3-cd]pyrene	29.48	276	40943	89.72 ug/kg	92
28) Benzo[g,h,i]perylene	30.56	276	38789	109.00 ug/kg	100

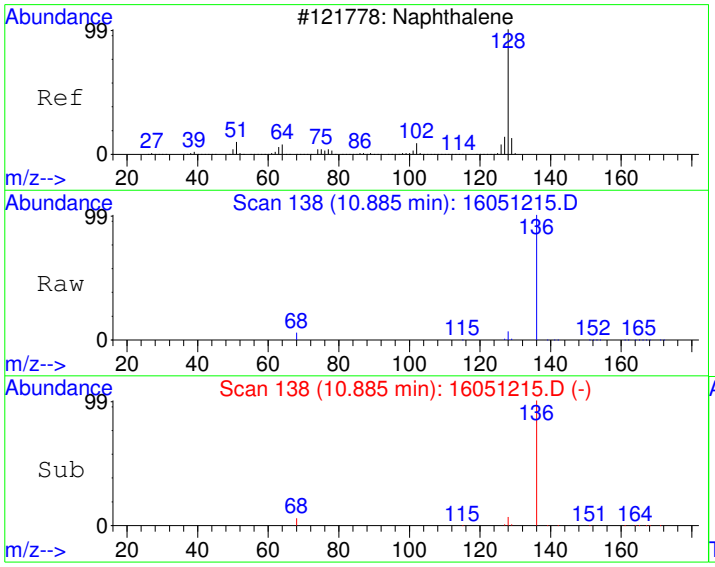
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160512\16051215.D Vial: 15
Acq On : 12 May 2016 5:10 pm Operator:
Sample : 1605047-02A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:15 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

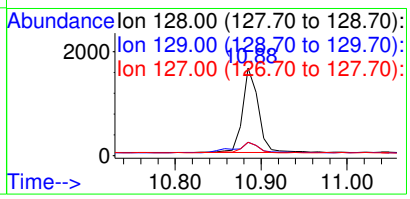


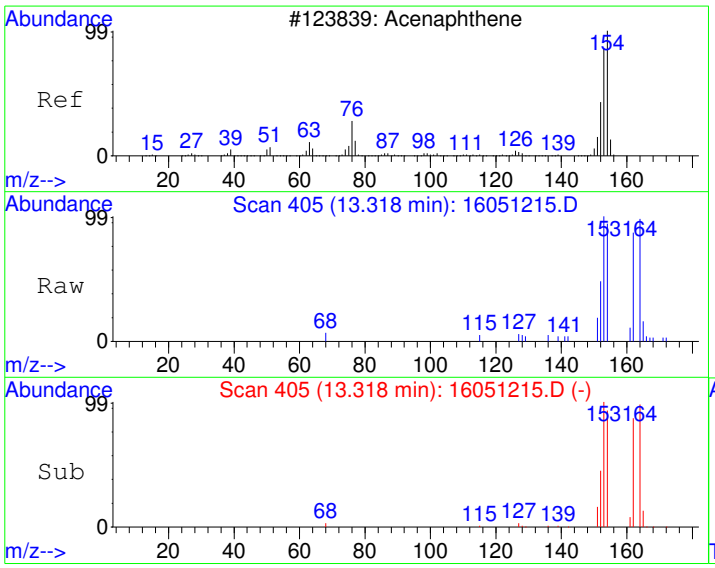


#2
Naphthalene
Concen: 6.00 ug/kg
RT: 10.88 min Scan# 138
Delta R.T. -0.03 min
Lab File: 16051215.D
Acq: 12 May 2016 5:10 pm

Tgt Ion:128 Resp: 2110

Ion	Ratio	Lower	Upper
128	100		
129	12.5	0.0	41.1
127	12.5	0.0	42.4

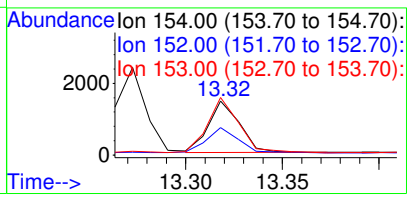


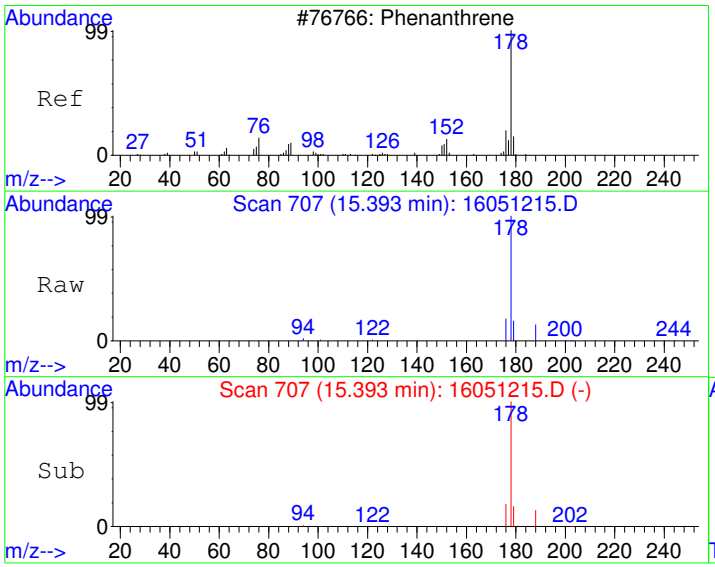


#9
Acenaphthene
Concen: 6.57 ug/kg
RT: 13.32 min Scan# 405
Delta R.T. -0.03 min
Lab File: 16051215.D
Acq: 12 May 2016 5:10 pm

Tgt Ion:154 Resp: 1588

Ion	Ratio	Lower	Upper
154	100		
152	49.2	18.9	78.9
153	108.1	75.2	135.2

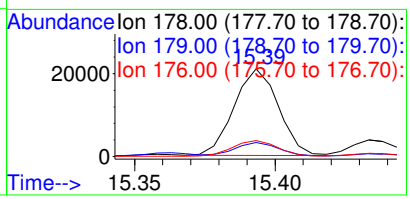


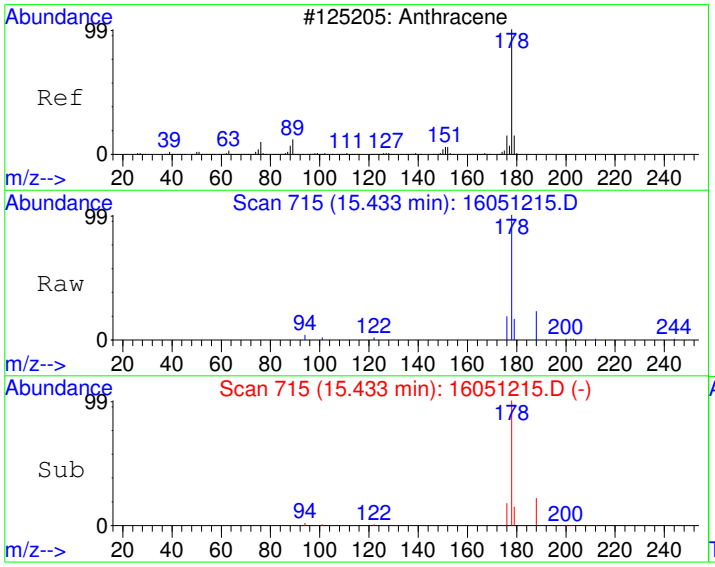


#12
Phenanthrene
Concen: 54.22 ug/kg
RT: 15.39 min Scan# 707
Delta R.T. -0.03 min
Lab File: 16051215.D
Acq: 12 May 2016 5:10 pm

Tgt Ion:178 Resp: 22972

Ion	Ratio	Lower	Upper
178	100		
179	15.4	0.0	45.9
176	18.4	0.0	48.5

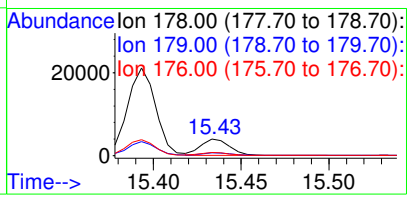


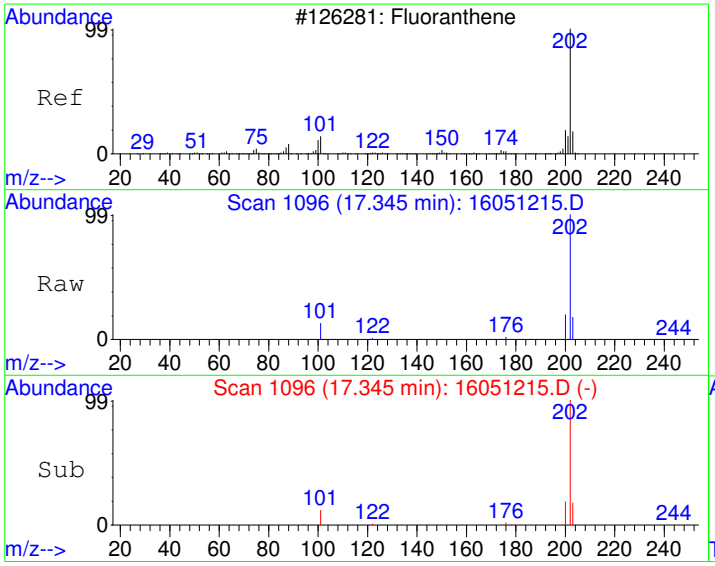


#13
Anthracene
Concen: 11.07 ug/kg
RT: 15.43 min Scan# 715
Delta R.T. -0.03 min
Lab File: 16051215.D
Acq: 12 May 2016 5:10 pm

Tgt Ion:178 Resp: 4440

Ion	Ratio	Lower	Upper
178	100		
179	15.3	0.0	45.9
176	17.6	0.0	48.2

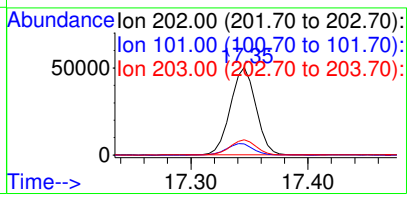


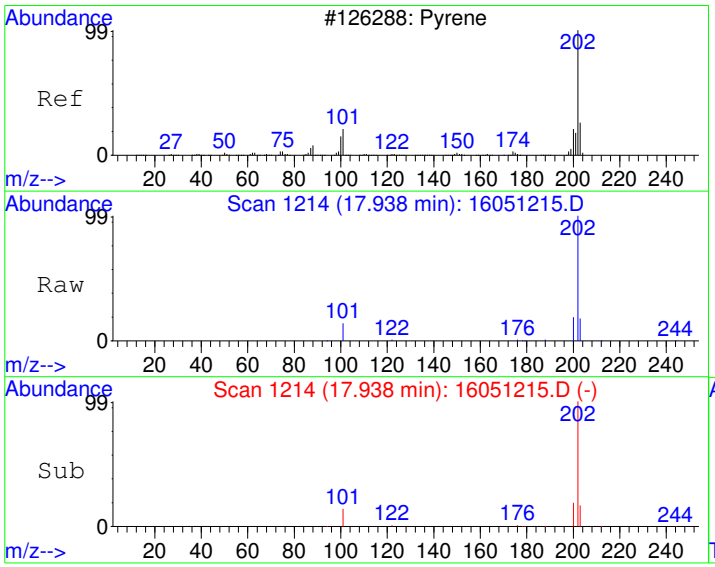


#14
Fluoranthene
Concen: 172.91 ug/kg
RT: 17.35 min Scan# 1096
Delta R.T. -0.03 min
Lab File: 16051215.D
Acq: 12 May 2016 5:10 pm

Tgt Ion:202 Resp: 75808

Ion	Ratio	Lower	Upper
202	100		
101	12.5	0.0	43.0
203	17.5	0.0	47.9

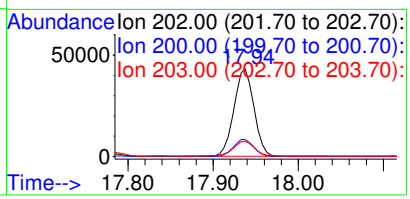


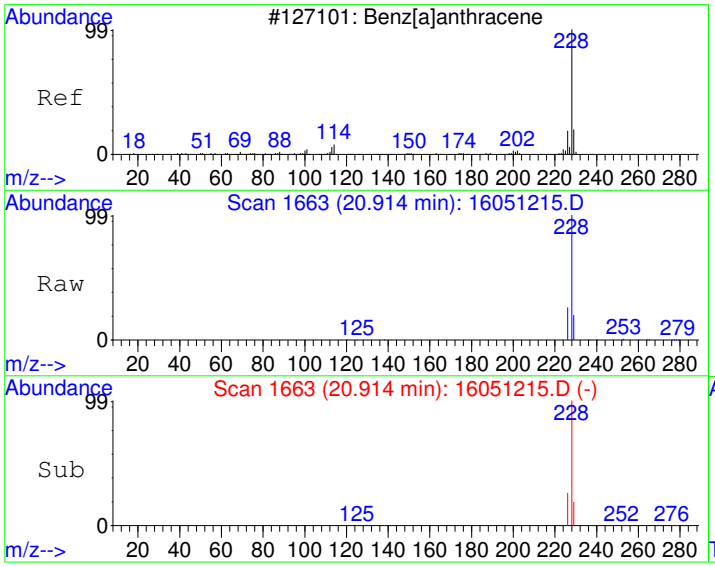


#15
Pyrene
Concen: 153.94 ug/kg
RT: 17.94 min Scan# 1214
Delta R.T. -0.04 min
Lab File: 16051215.D
Acq: 12 May 2016 5:10 pm

Tgt Ion:202 Resp: 70108

Ion	Ratio	Lower	Upper
202	100		
200	19.2	0.0	50.0
203	17.4	0.0	48.0

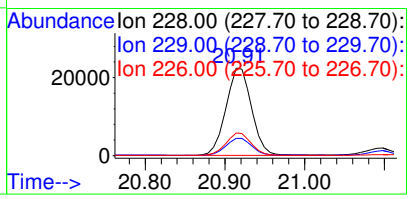


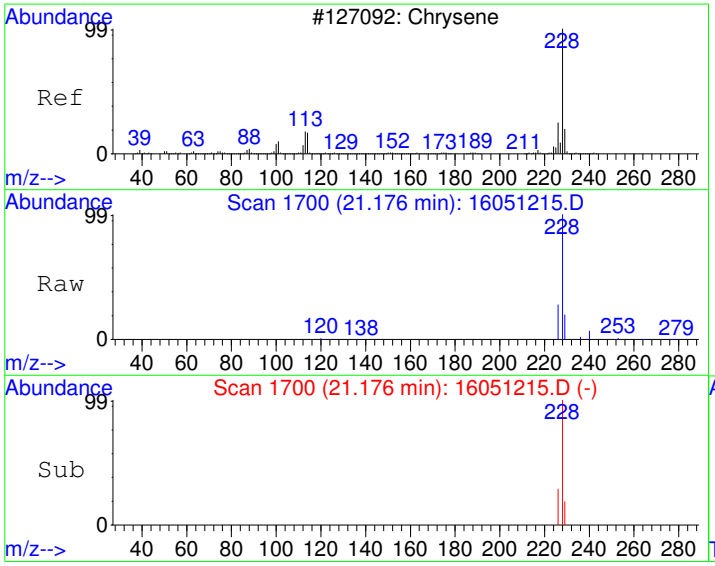


#18
Benzo[a]anthracene
Concen: 111.84 ug/kg
RT: 20.91 min Scan# 1663
Delta R.T. -0.06 min
Lab File: 16051215.D
Acq: 12 May 2016 5:10 pm

Tgt Ion:228 Resp: 49767

Ion	Ratio	Lower	Upper
228	100		
229	19.3	0.0	50.1
226	25.8	0.0	55.2

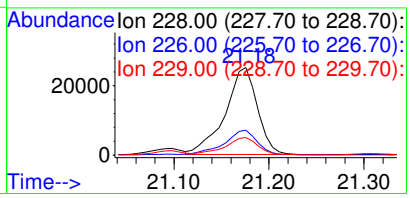


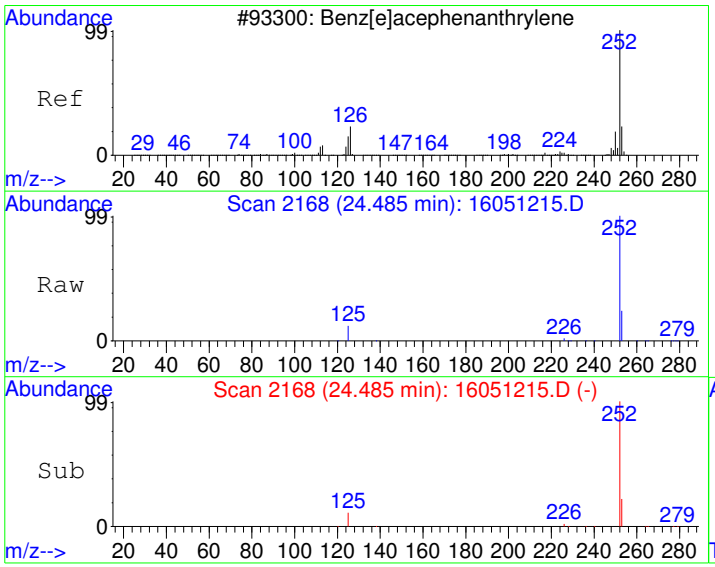


#19
Chrysene
Concen: 138.44 ug/kg
RT: 21.18 min Scan# 1700
Delta R.T. -0.06 min
Lab File: 16051215.D
Acq: 12 May 2016 5:10 pm

Tgt Ion:228 Resp: 59519

Ion	Ratio	Lower	Upper
228	100		
226	28.2	0.0	58.1
229	19.8	0.0	50.1

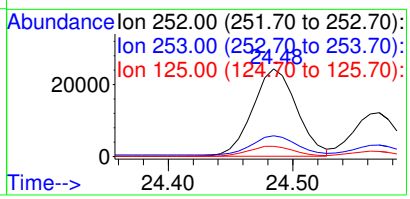


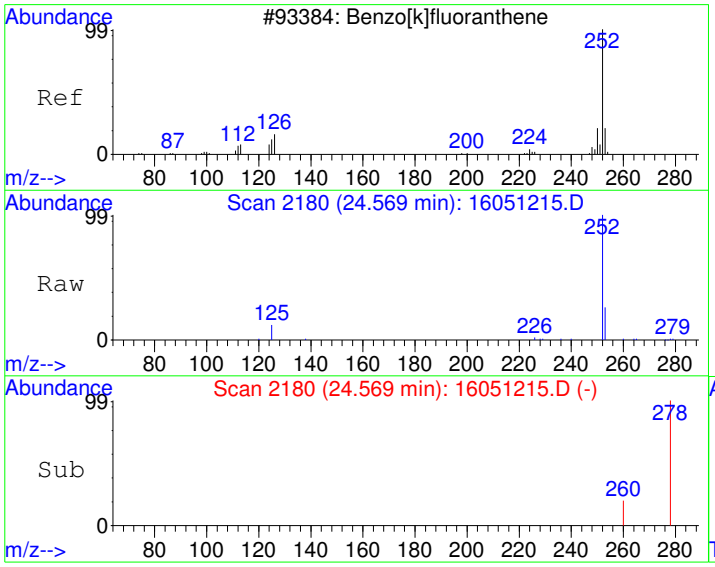


#21
Benzo[b]fluoranthene
Concen: 130.11 ug/kg
RT: 24.48 min Scan# 2168
Delta R.T. -0.07 min
Lab File: 16051215.D
Acq: 12 May 2016 5:10 pm

Tgt Ion:252 Resp: 59717

Ion	Ratio	Lower	Upper
252	100		
253	21.9	0.0	52.2
125	11.3	0.0	41.0

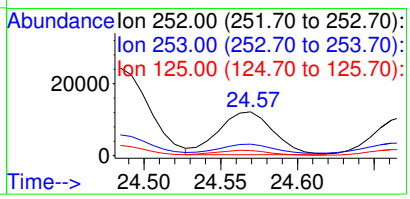


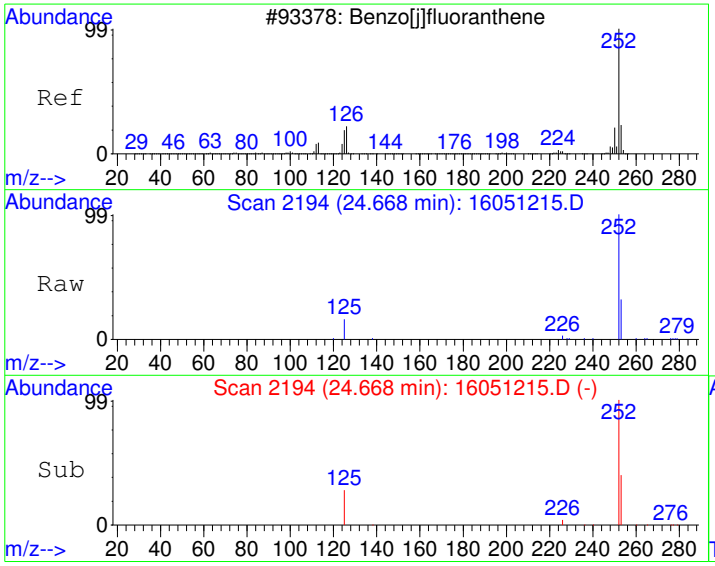


#22
Benzo[k]fluoranthene
Concen: 68.61 ug/kg
RT: 24.57 min Scan# 2180
Delta R.T. -0.07 min
Lab File: 16051215.D
Acq: 12 May 2016 5:10 pm

Tgt Ion:252 Resp: 29540

Ion	Ratio	Lower	Upper
252	100		
253	21.4	2.1	42.1
125	11.0	0.0	31.3

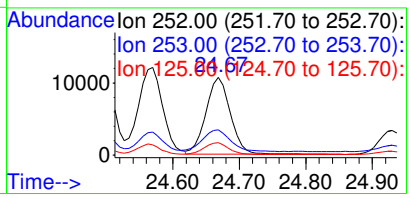


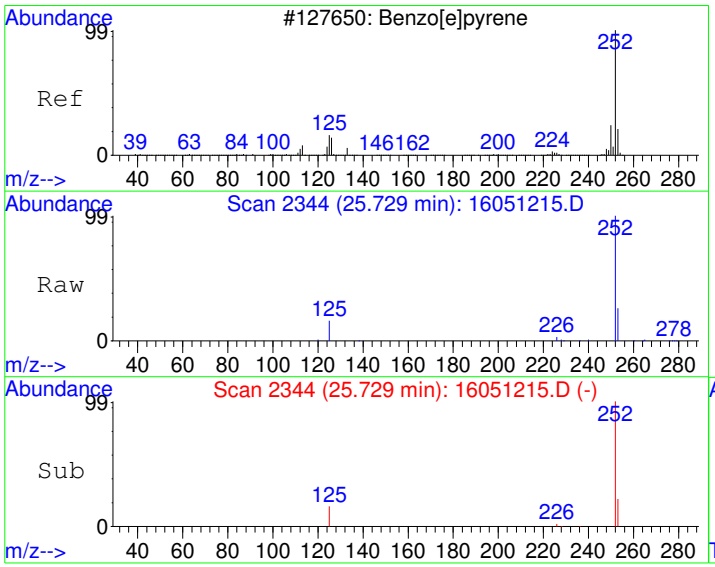


#23
Benzo(j)fluoranthene
Concen: 70.56 ug/kg
RT: 24.67 min Scan# 2194
Delta R.T. -0.08 min
Lab File: 16051215.D
Acq: 12 May 2016 5:10 pm

Tgt Ion:252 Resp: 27062

Ion	Ratio	Lower	Upper
252	100		
253	28.3	2.1	42.1
125	15.4	0.0	34.4

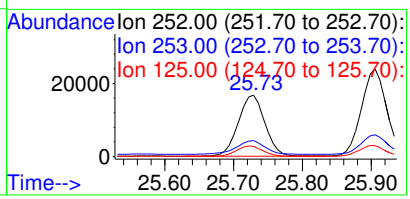


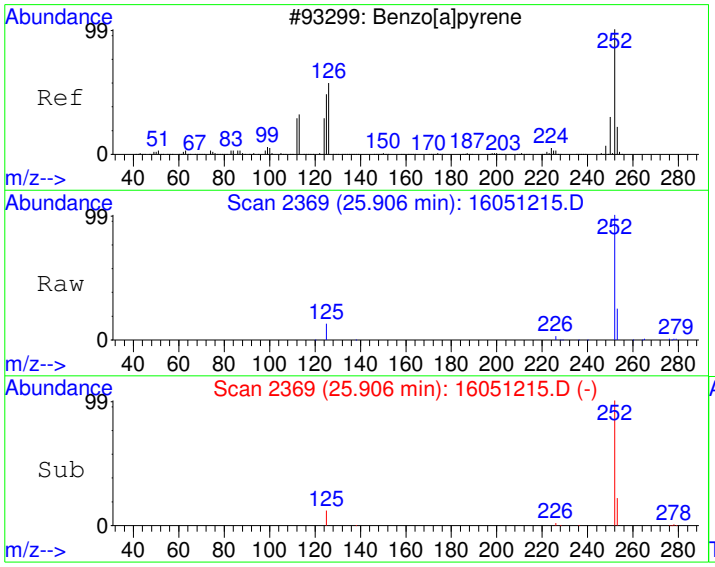


#24
Benzo[e]pyrene
Concen: 109.81 ug/kg
RT: 25.73 min Scan# 2344
Delta R.T. -0.07 min
Lab File: 16051215.D
Acq: 12 May 2016 5:10 pm

Tgt Ion:252 Resp: 45136

Ion	Ratio	Lower	Upper
252	100		
253	22.4	2.2	42.2
125	16.1	0.0	36.1

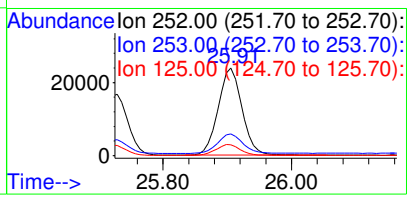


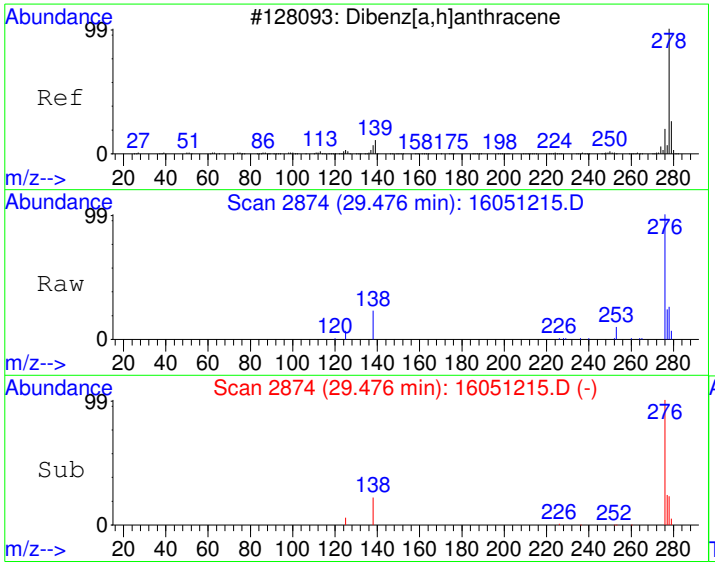


#25
Benzo[a]pyrene
Concen: 146.09 ug/kg
RT: 25.91 min Scan# 2369
Delta R.T. -0.08 min
Lab File: 16051215.D
Acq: 12 May 2016 5:10 pm

Tgt Ion:252 Resp: 61362

Ion	Ratio	Lower	Upper
252	100		
253	22.4	1.9	41.9
125	12.3	0.0	31.7

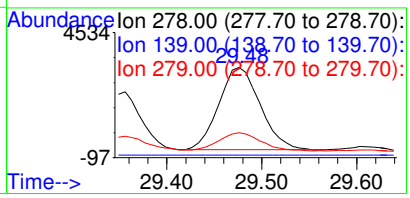


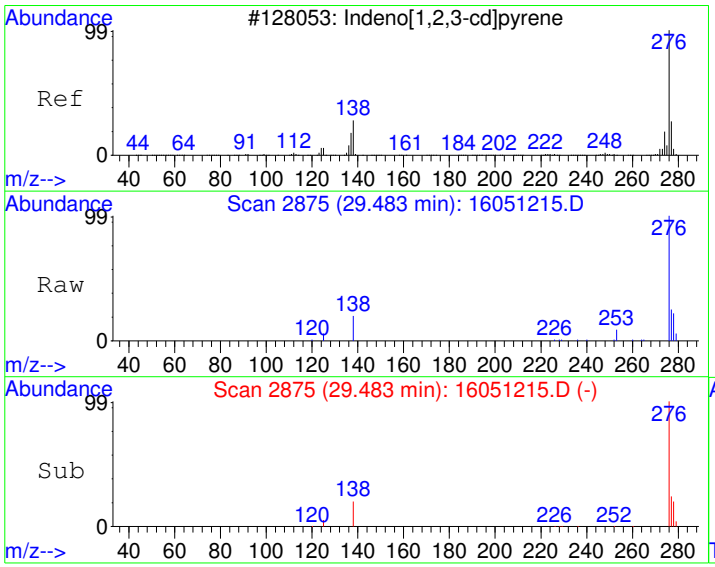


#26
Dibenz[a,h]anthracene
Concen: 24.16 ug/kg
RT: 29.48 min Scan# 2874
Delta R.T. -0.09 min
Lab File: 16051215.D
Acq: 12 May 2016 5:10 pm

Tgt Ion:278 Resp: 9243

Ion	Ratio	Lower	Upper
278	100		
139	0.0	0.0	20.0
279	22.3	4.2	44.2

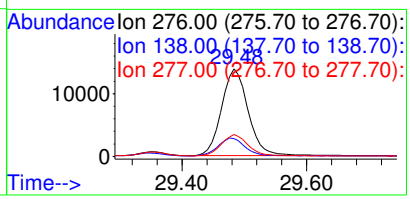


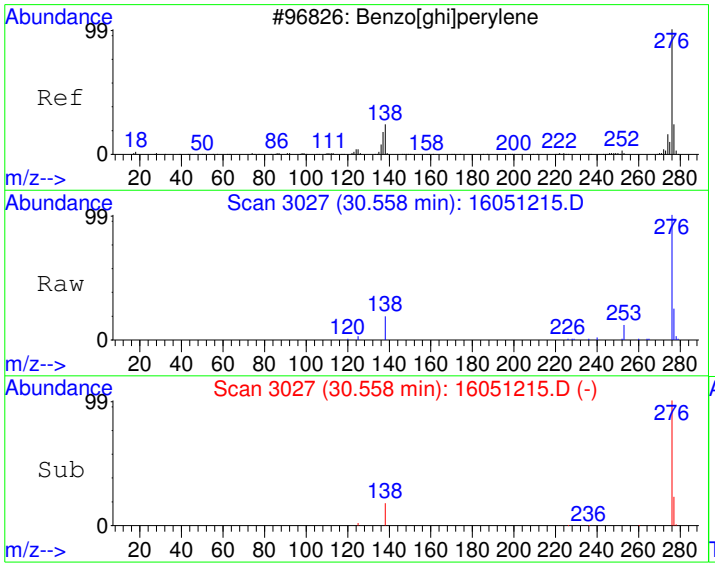


#27
Indeno[1,2,3-cd]pyrene
Concen: 89.72 ug/kg
RT: 29.48 min Scan# 2875
Delta R.T. -0.08 min
Lab File: 16051215.D
Acq: 12 May 2016 5:10 pm

Tgt Ion:276 Resp: 40943

Ion	Ratio	Lower	Upper
276	100		
138	19.8	6.7	46.7
277	24.6	5.8	45.8

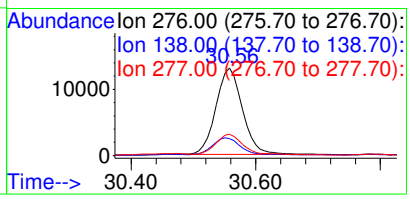




#28
Benzo[g,h,i]perylene
Concen: 109.00 ug/kg
RT: 30.56 min Scan# 3027
Delta R.T. -0.09 min
Lab File: 16051215.D
Acq: 12 May 2016 5:10 pm

Tgt Ion:276 Resp: 38789

Ion	Ratio	Lower	Upper
276	100		
138	18.8	0.0	39.1
277	24.0	4.0	44.0



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160512\16051216.D Vial: 16
Acq On : 12 May 2016 5:49 pm Operator:
Sample : 1605047-03AMS Inst : GC/MS #6
Misc : MS Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:08 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1364390	4000.00 ug/kg	118
5) Acenaphthene-d10	13.28	164	869649	4000.00 ug/kg	76
11) Phenanthrene-d10	15.36	188	1670449	4000.00 ug/kg	82
17) Chrysene-d12	21.09	240	1853377	4000.00 ug/kg	82
20) Perylene-d12	26.25	264	1724410	4000.00 ug/kg	84

System Monitoring Compounds					
7) 2-Fluorobiphenyl	12.21	172	21224	83.66 ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.09%#		
16) 4-Terphenyl-d14	17.85	244	31044	71.83 ug/kg	-0.04
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.80%#		

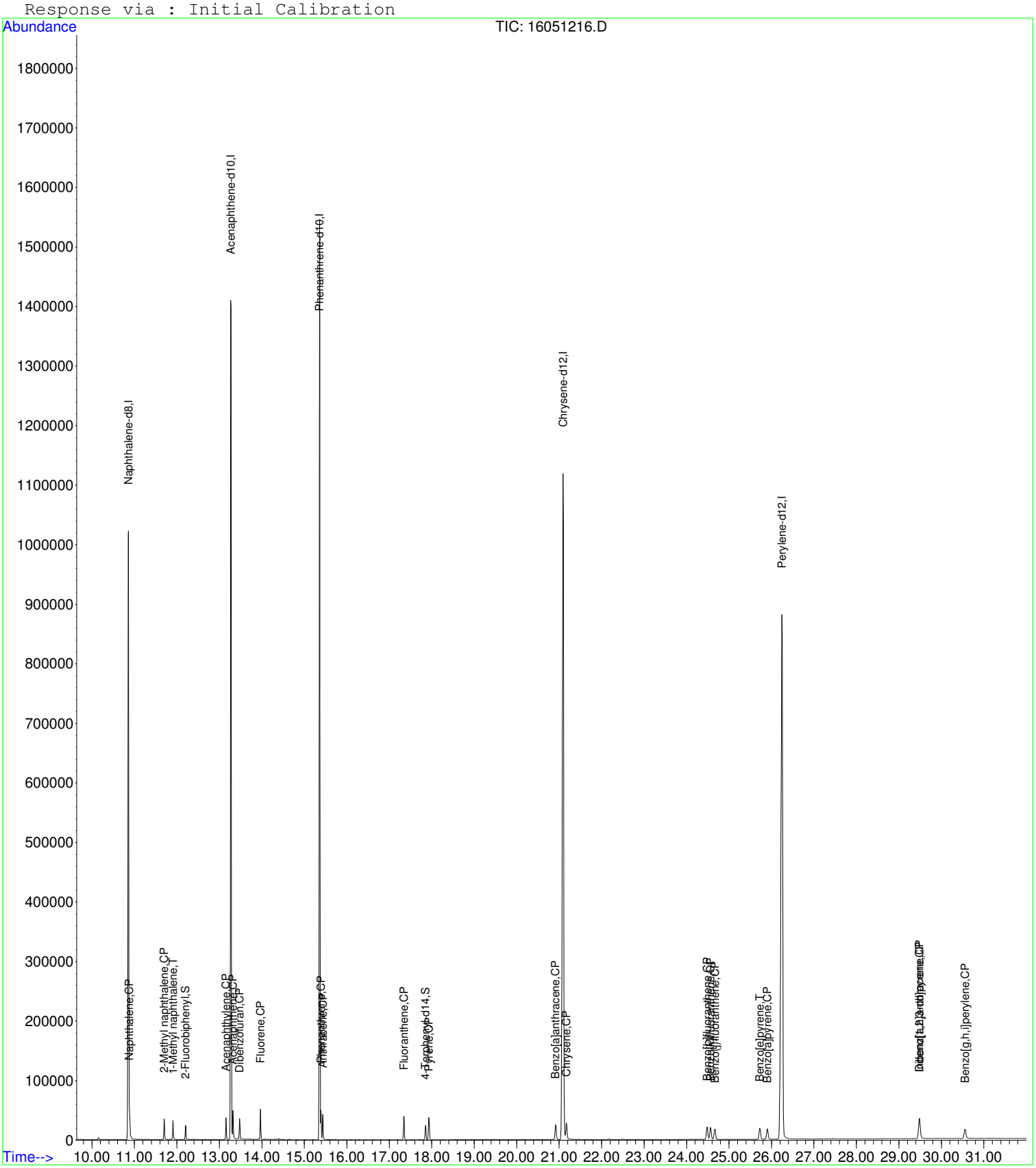
Target Compounds					Qvalue
2) Naphthalene	10.89	128	26434	77.45 ug/kg	100
3) 2-Methyl naphthalene	11.70	142	18770	62.26 ug/kg	96
4) 1-Methyl naphthalene	11.91	142	17144	62.09 ug/kg	98
6) Dibenzofuran	13.48	168	29503	90.52 ug/kg	100
8) Acenaphthylene	13.16	152	30756	82.12 ug/kg	99
9) Acenaphthene	13.32	154	19064	82.01 ug/kg	98
10) Fluorene	13.97	166	25009	88.59 ug/kg	98
12) Phenanthrene	15.39	178	38448	87.52 ug/kg	100
13) Anthracene	15.43	178	35641	85.72 ug/kg	99
14) Fluoranthene	17.35	202	40275	88.59 ug/kg	98
15) Pyrene	17.93	202	40692	86.17 ug/kg	99
18) Benzo[a]anthracene	20.91	228	36671	84.46 ug/kg	99
19) Chrysene	21.17	228	35892	85.55 ug/kg	99
21) Benzo[b]fluoranthene	24.49	252	38723	85.20 ug/kg	99
22) Benzo[k]fluoranthene	24.56	252	35427	83.09 ug/kg	99
23) Benzo(j)fluoranthene	24.67	252	31781	83.68 ug/kg	99
24) Benzo[e]pyrene	25.72	252	35138	86.33 ug/kg	99
25) Benzo[a]pyrene	25.91	252	34727	83.49 ug/kg	100
26) Dibenz[a,h]anthracene	29.48	278	32280	85.22 ug/kg	98
27) Indeno[1,2,3-cd]pyrene	29.48	276	40146	88.84 ug/kg	97
28) Benzo[g,h,i]perylene	30.56	276	32735	92.90 ug/kg	99

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160512\16051216.D Vial: 16
Acq On : 12 May 2016 5:49 pm Operator:
Sample : 1605047-03AMS Inst : GC/MS #6
Misc : MS Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:08 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\160512\16051217.D Vial: 17
Acq On : 12 May 2016 6:29 pm Operator:
Sample : 1605047-03AMSD Inst : GC/MS #6
Misc : MSD Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:08 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1453541	4000.00 ug/kg	125
5) Acenaphthene-d10	13.28	164	948573	4000.00 ug/kg	82
11) Phenanthrene-d10	15.36	188	1707288	4000.00 ug/kg	84
17) Chrysene-d12	21.09	240	1940127	4000.00 ug/kg	85
20) Perylene-d12	26.25	264	1782024	4000.00 ug/kg	87

System Monitoring Compounds					
7) 2-Fluorobiphenyl	12.20	172	22532	81.43 ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery =	2.04%#	
16) 4-Terphenyl-d14	17.85	244	32549	73.69 ug/kg	-0.04
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.84%#	

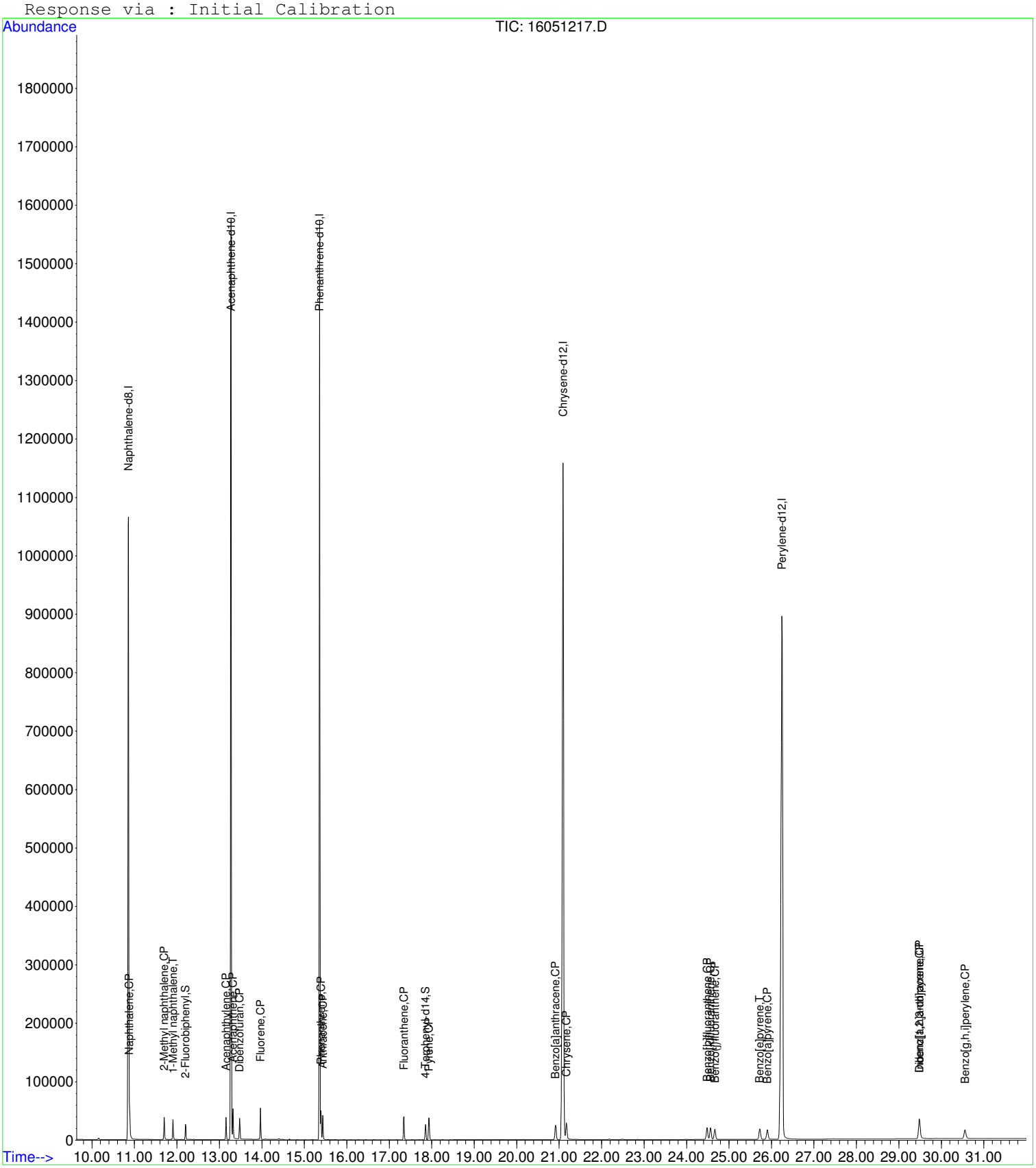
Target Compounds					Qvalue
2) Naphthalene	10.89	128	27676	76.12 ug/kg	99
3) 2-Methyl naphthalene	11.70	142	20443	63.65 ug/kg	96
4) 1-Methyl naphthalene	11.91	142	18891	64.22 ug/kg	99
6) Dibenzofuran	13.48	168	30233	85.04 ug/kg	99
8) Acenaphthylene	13.16	152	33004	80.79 ug/kg	98
9) Acenaphthene	13.32	154	19981	78.80 ug/kg	99
10) Fluorene	13.97	166	25526	82.89 ug/kg	100
12) Phenanthrene	15.39	178	38686	86.16 ug/kg	99
13) Anthracene	15.43	178	36003	84.72 ug/kg	98
14) Fluoranthene	17.35	202	40922	88.08 ug/kg	98
15) Pyrene	17.94	202	41595	86.18 ug/kg	98
18) Benzo[a]anthracene	20.91	228	36960	81.32 ug/kg	99
19) Chrysene	21.17	228	36405	82.90 ug/kg	99
21) Benzo[b]fluoranthene	24.48	252	37696	80.26 ug/kg	99
22) Benzo[k]fluoranthene	24.56	252	35162	79.80 ug/kg	99
23) Benzo(j)fluoranthene	24.67	252	31637	80.61 ug/kg	100
24) Benzo[e]pyrene	25.72	252	34449	81.90 ug/kg	99
25) Benzo[a]pyrene	25.90	252	32202	74.92 ug/kg	98
26) Dibenz[a,h]anthracene	29.48	278	32377	82.71 ug/kg	99
27) Indeno[1,2,3-cd]pyrene	29.48	276	38899	83.30 ug/kg	96
28) Benzo[g,h,i]perylene	30.56	276	31688	87.02 ug/kg	99

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160512\16051217.D Vial: 17
Acq On : 12 May 2016 6:29 pm Operator:
Sample : 1605047-03AMSD Inst : GC/MS #6
Misc : MSD Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:08 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\160512\16051219.D Vial: 19
Acq On : 12 May 2016 7:44 pm Operator:
Sample : ICV2-160512 Inst : GC/MS #6
Misc : ICV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:08 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1459872	4000.00 ug/kg	126
5) Acenaphthene-d10	13.27	164	995191	4000.00 ug/kg	86
11) Phenanthrene-d10	15.36	188	1812429	4000.00 ug/kg	89
17) Chrysene-d12	21.10	240	2051734	4000.00 ug/kg	90
20) Perylene-d12	26.25	264	1860539	4000.00 ug/kg	90

System Monitoring Compounds					
7) 2-Fluorobiphenyl	12.21	172	600150	2067.31 ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery =	51.68%	
16) 4-Terphenyl-d14	17.86	244	886356	1890.26 ug/kg	-0.04
Spiked Amount 4000.000	Range 40 - 140		Recovery =	47.26%	

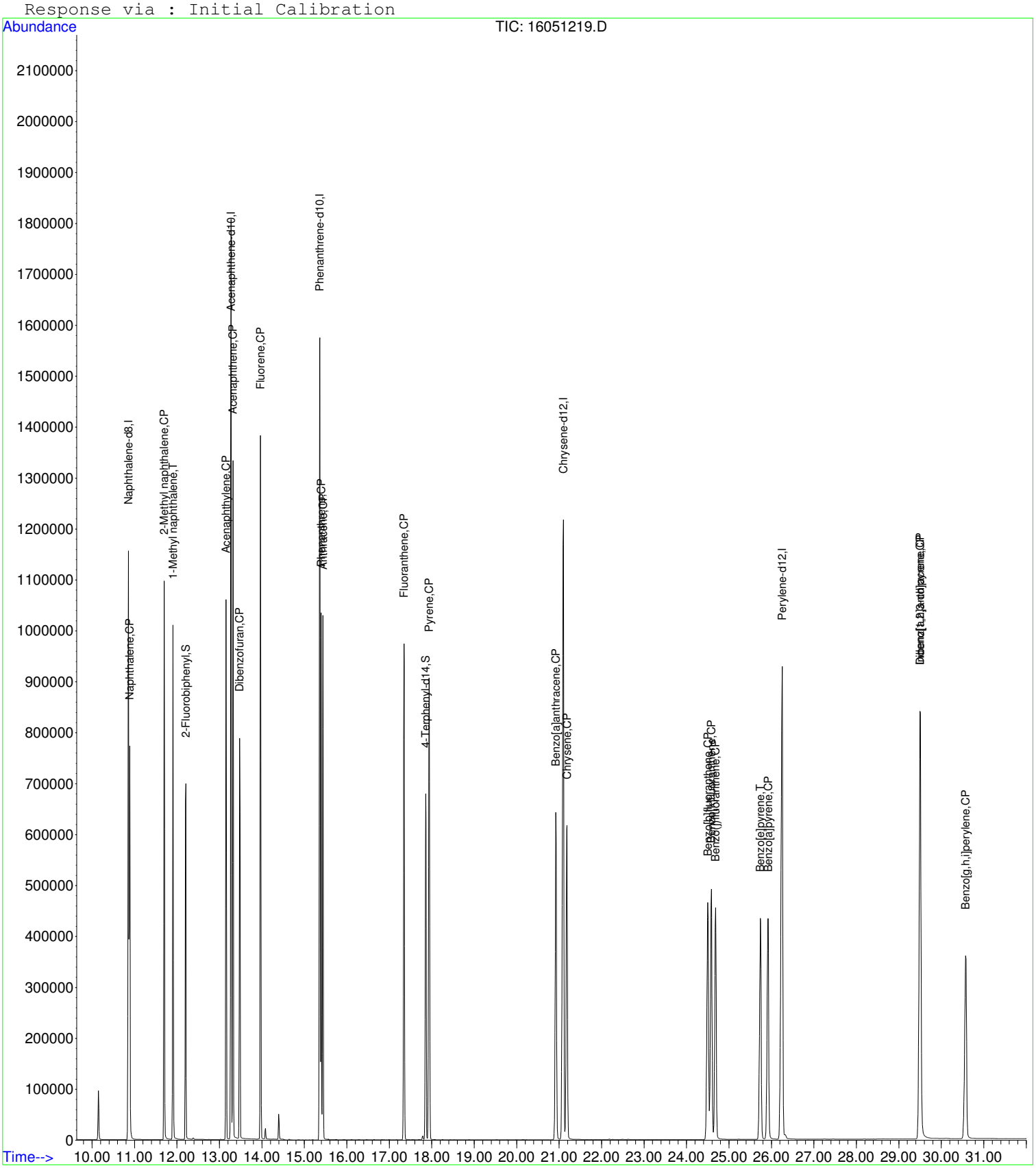
Target Compounds					Qvalue
2) Naphthalene	10.89	128	712649	1951.56 ug/kg	99
3) 2-Methyl naphthalene	11.70	142	551528	1709.84 ug/kg	97
4) 1-Methyl naphthalene	11.91	142	499370	1690.36 ug/kg	99
6) Dibenzofuran	13.48	168	729477	1955.77 ug/kg	99
8) Acenaphthylene	13.16	152	896789	2092.42 ug/kg	100
9) Acenaphthene	13.32	154	526222	1978.13 ug/kg	99
10) Fluorene	13.97	166	654159	2024.82 ug/kg	100
12) Phenanthrene	15.40	178	910440	1910.13 ug/kg	100
13) Anthracene	15.44	178	850855	1886.00 ug/kg	100
14) Fluoranthene	17.34	202	977641	1982.08 ug/kg	99
15) Pyrene	17.94	202	990030	1932.26 ug/kg	100
18) Benzo[a]anthracene	20.92	228	933561	1942.20 ug/kg	100
19) Chrysene	21.18	228	867186	1867.23 ug/kg	100
21) Benzo[b]fluoranthene	24.50	252	923175	1882.59 ug/kg	99
22) Benzo[k]fluoranthene	24.59	252	896210	1948.21 ug/kg	100
23) Benzo(j)fluoranthene	24.68	252	781380	1906.83 ug/kg	99
24) Benzo[e]pyrene	25.74	252	817244	1860.94 ug/kg	99
25) Benzo[a]pyrene	25.92	252	851468	1897.35 ug/kg	99
26) Dibenz[a,h]anthracene	29.50	278	811933	1986.60 ug/kg	100
27) Indeno[1,2,3-cd]pyrene	29.51	276	951558	1951.64 ug/kg	99
28) Benzo[g,h,i]perylene	30.58	276	748230	1968.02 ug/kg	99

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160512\16051219.D Vial: 19
Acq On : 12 May 2016 7:44 pm Operator:
Sample : ICV2-160512 Inst : GC/MS #6
Misc : ICV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:08 2016 Quant Results File: PP160421.RES

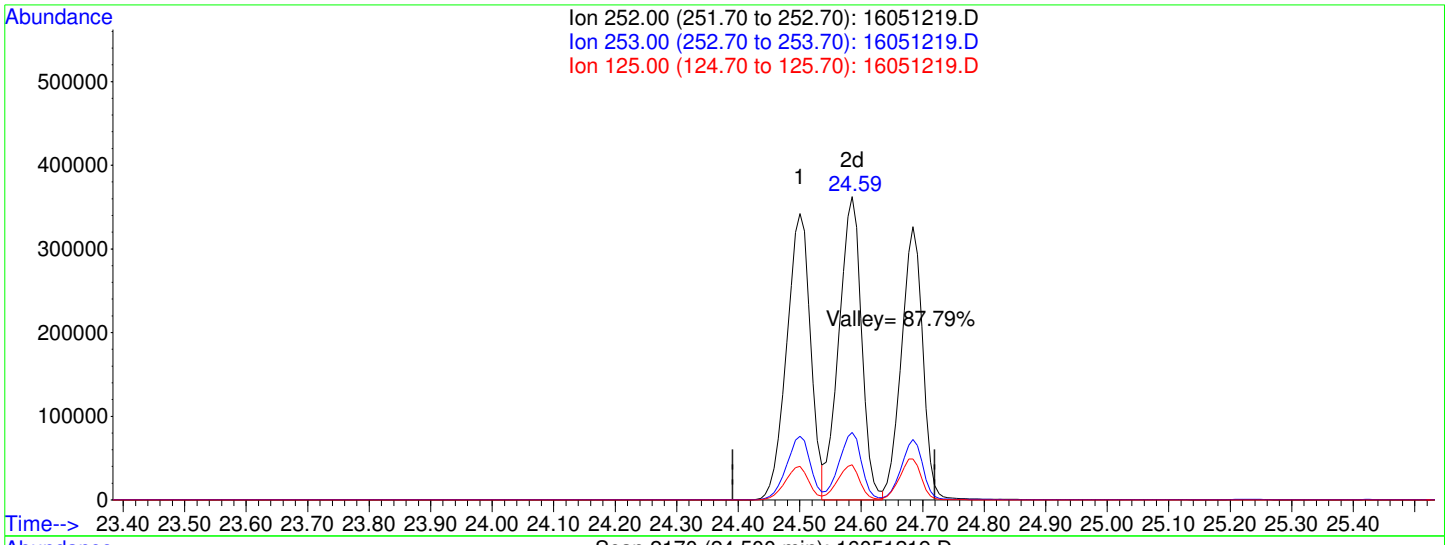
Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri Apr 22 11:43:43 2016
Response via : Initial Calibration

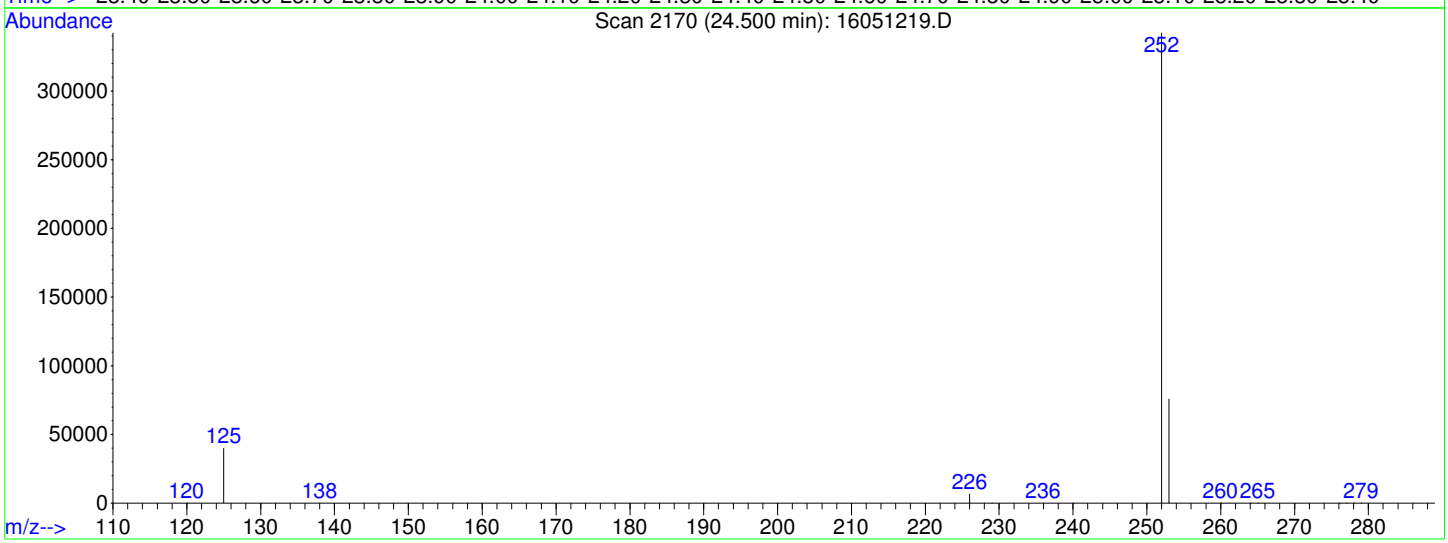


Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\160512\16051219.D Vial: 19
Acq On : 12 May 2016 7:44 pm Operator:
Sample : ICV2-160512 Inst : GC/MS #6
Misc : ICV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 12 20:16 2016 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri Apr 22 11:43:43 2016
Response via : Multiple Level Calibration





TIC: 16051219.D

(21) Benzo[b]fluoranthene (CP)

24.50min 1882.59ug/kg

response 923175

Ion	Exp%	Act%
252.00	100	100
253.00	22.20	22.10
125.00	11.00	11.69
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160512\16051220.D Vial: 20
Acq On : 12 May 2016 8:24 pm Operator:
Sample : SB-160512 Inst : GC/MS #6
Misc : SBLK Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:08 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1367606	4000.00	ug/kg	118
5) Acenaphthene-d10	13.27	164	899937	4000.00	ug/kg	78
11) Phenanthrene-d10	15.36	188	1643180	4000.00	ug/kg	80
17) Chrysene-d12	21.09	240	1847209	4000.00	ug/kg	81
20) Perylene-d12	26.25	264	1738036	4000.00	ug/kg	84

System Monitoring Compounds

7) 2-Fluorobiphenyl	12.21	172	206	0.78	ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery = 0.02%#			
16) 4-Terphenyl-d14	17.85	244	512	1.20	ug/kg	-0.04
Spiked Amount 4000.000	Range 40 - 140		Recovery = 0.03%#			

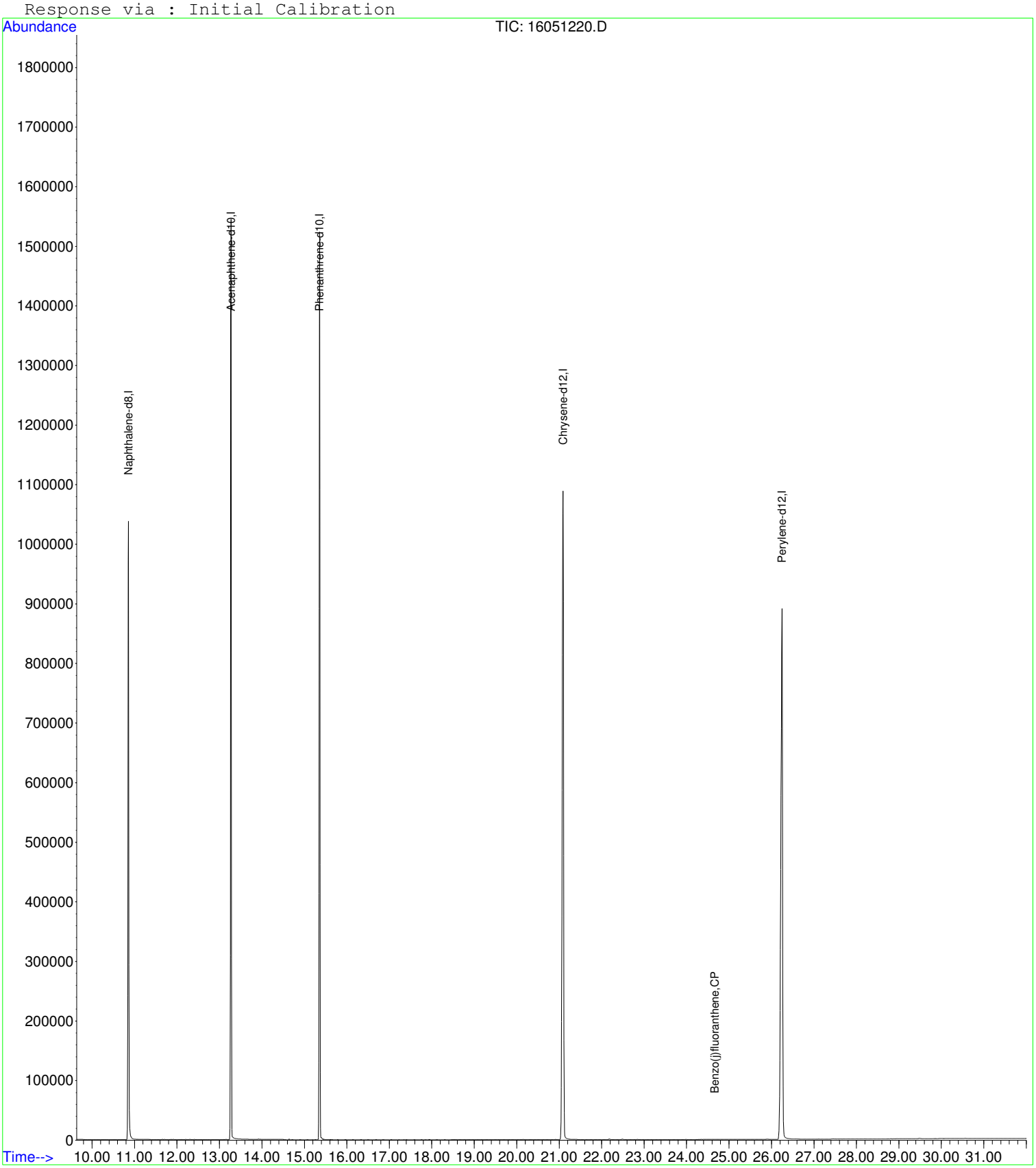
Target Compounds						Qvalue
23) Benzo(j)fluoranthene	24.66	252	164	0.43	ug/kg	89

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160512\16051220.D Vial: 20
Acq On : 12 May 2016 8:24 pm Operator:
Sample : SB-160512 Inst : GC/MS #6
Misc : SBLK Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:08 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\160512\16051221.D Vial: 21
Acq On : 12 May 2016 9:03 pm Operator:
Sample : 1605047-03A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:15 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1420757	4000.00	ug/kg	123
5) Acenaphthene-d10	13.27	164	933337	4000.00	ug/kg	81
11) Phenanthrene-d10	15.36	188	1658970	4000.00	ug/kg	81
17) Chrysene-d12	21.09	240	1956707	4000.00	ug/kg	86
20) Perylene-d12	26.25	264	1787934	4000.00	ug/kg	87

System Monitoring Compounds

7) 2-Fluorobiphenyl	12.21	172	22373	82.17	ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.05%#			
16) 4-Terphenyl-d14	17.85	244	31511	73.42	ug/kg	-0.04
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.84%#			

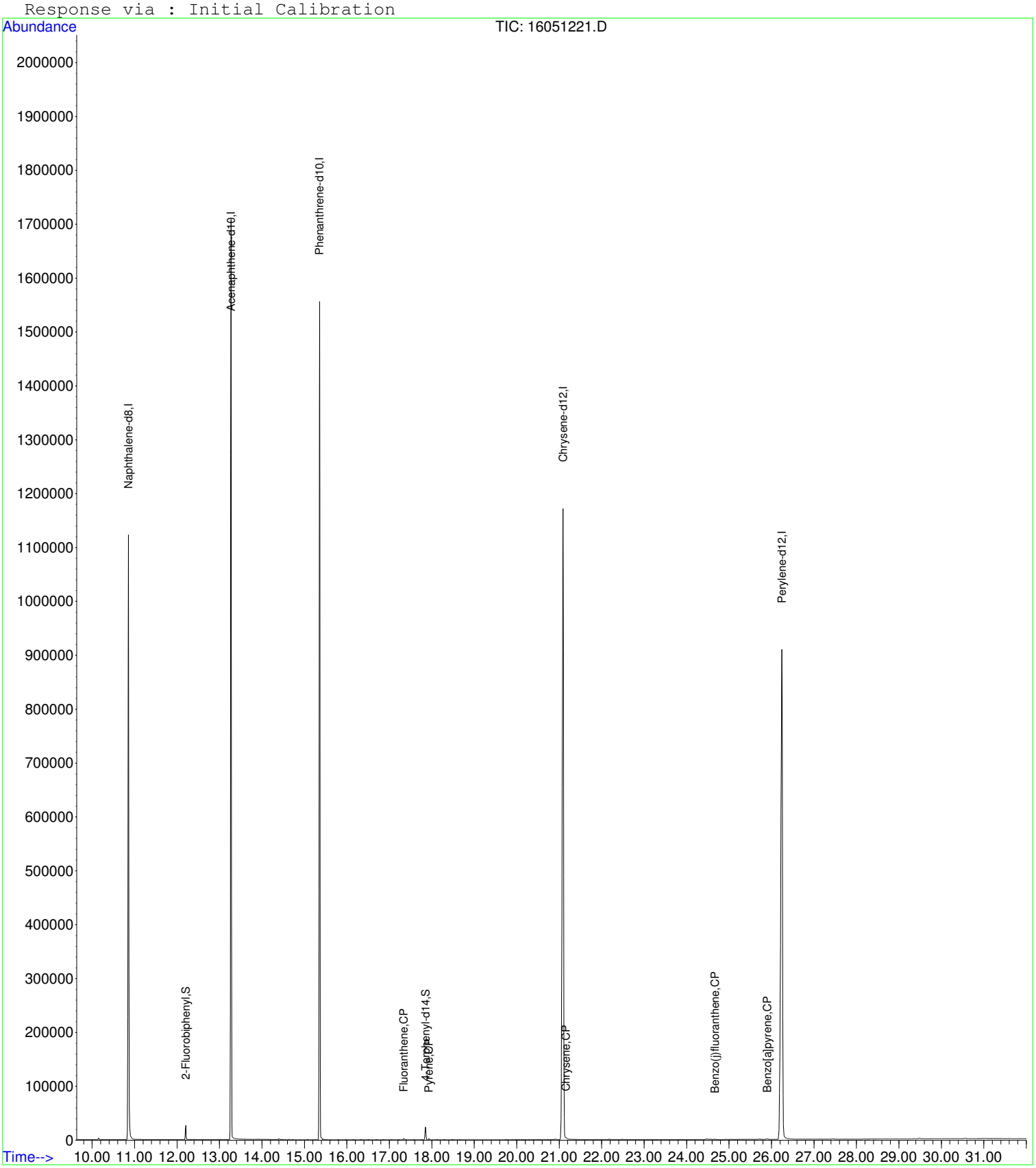
Target Compounds						Qvalue
14) Fluoranthene	17.34	202	2716	6.02	ug/kg	99
15) Pyrene	17.93	202	2571	5.48	ug/kg	100
19) Chrysene	21.17	228	2271	5.13	ug/kg	97
23) Benzo(j)fluoranthene	24.66	252	954	2.42	ug/kg	83
25) Benzo[a]pyrene	25.90	252	2249	5.22	ug/kg	96

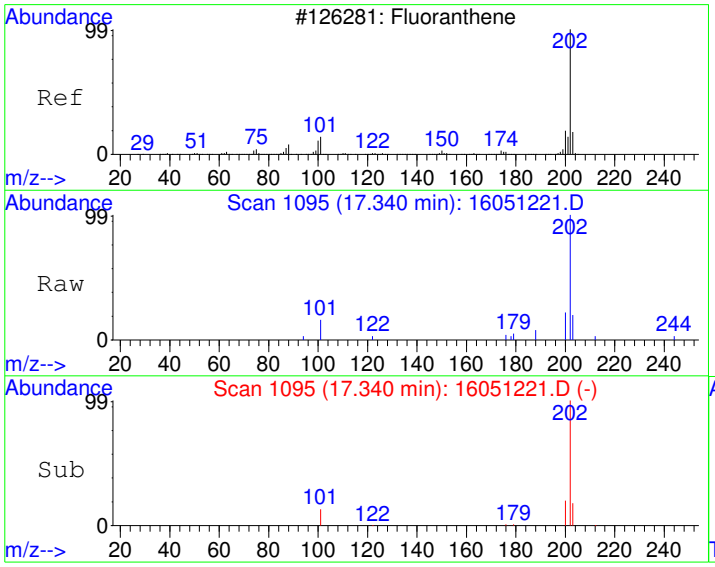
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160512\16051221.D Vial: 21
Acq On : 12 May 2016 9:03 pm Operator:
Sample : 1605047-03A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:15 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

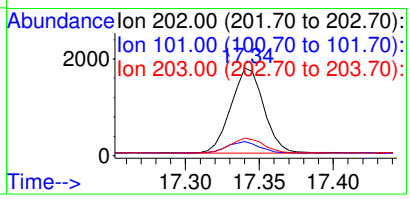


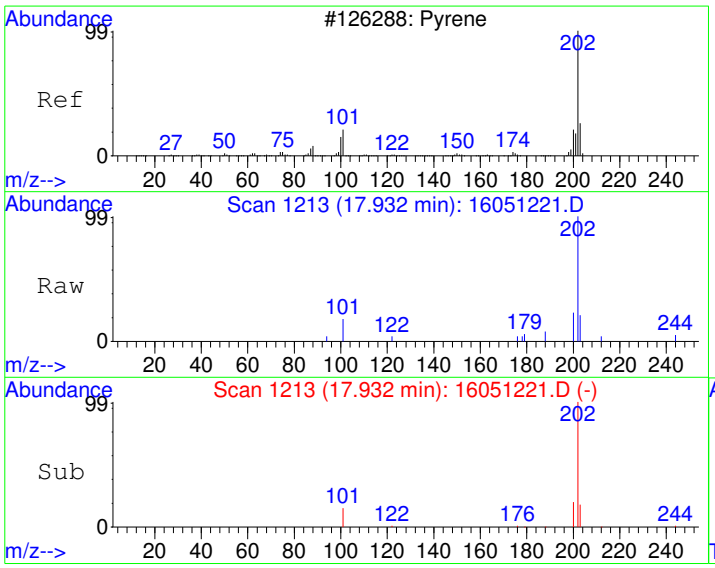


#14
Fluoranthene
Concen: 6.02 ug/kg
RT: 17.34 min Scan# 1095
Delta R.T. -0.04 min
Lab File: 16051221.D
Acq: 12 May 2016 9:03 pm

Tgt Ion:202 Resp: 2716

Ion	Ratio	Lower	Upper
202	100		
101	13.7	0.0	43.0
203	17.6	0.0	47.9

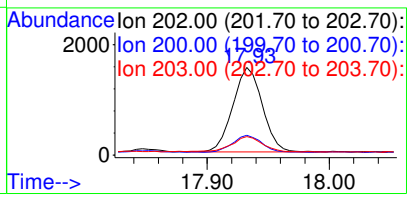


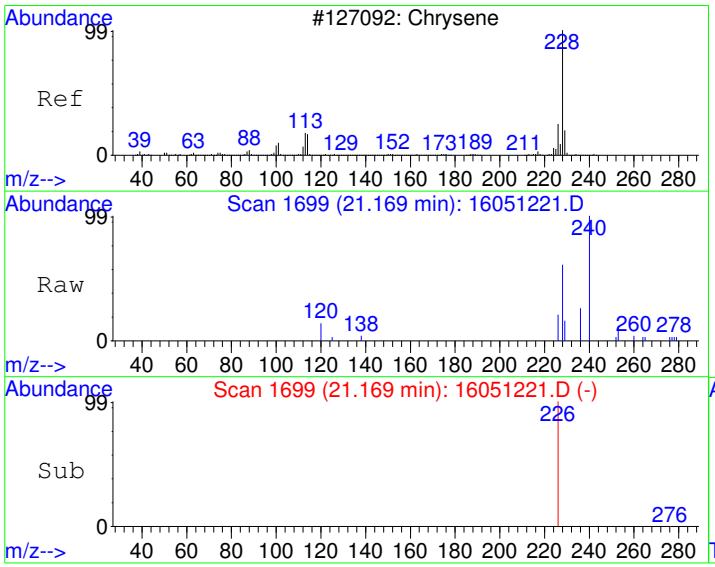


#15
Pyrene
Concen: 5.48 ug/kg
RT: 17.93 min Scan# 1213
Delta R.T. -0.05 min
Lab File: 16051221.D
Acq: 12 May 2016 9:03 pm

Tgt Ion:202 Resp: 2571

Ion	Ratio	Lower	Upper
202	100		
200	20.0	0.0	50.0
203	18.2	0.0	48.0

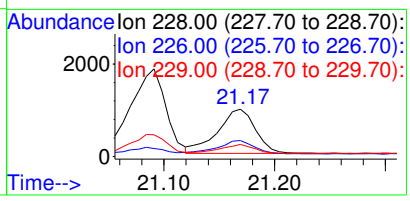


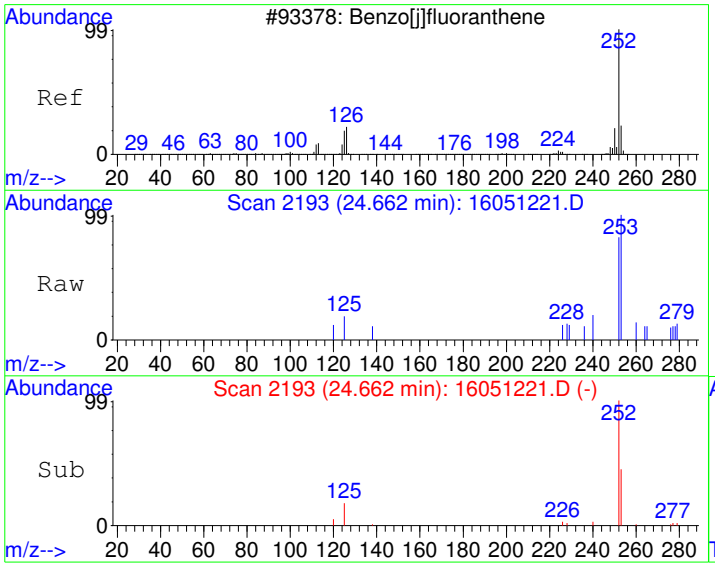


#19
Chrysene
Concen: 5.13 ug/kg
RT: 21.17 min Scan# 1699
Delta R.T. -0.06 min
Lab File: 16051221.D
Acq: 12 May 2016 9:03 pm

Tgt Ion:228 Resp: 2271

Ion	Ratio	Lower	Upper
228	100		
226	30.1	0.0	58.1
229	20.5	0.0	50.1

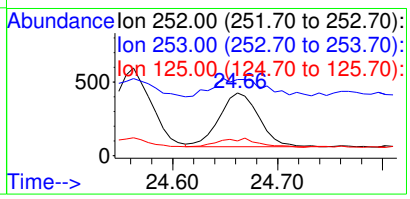


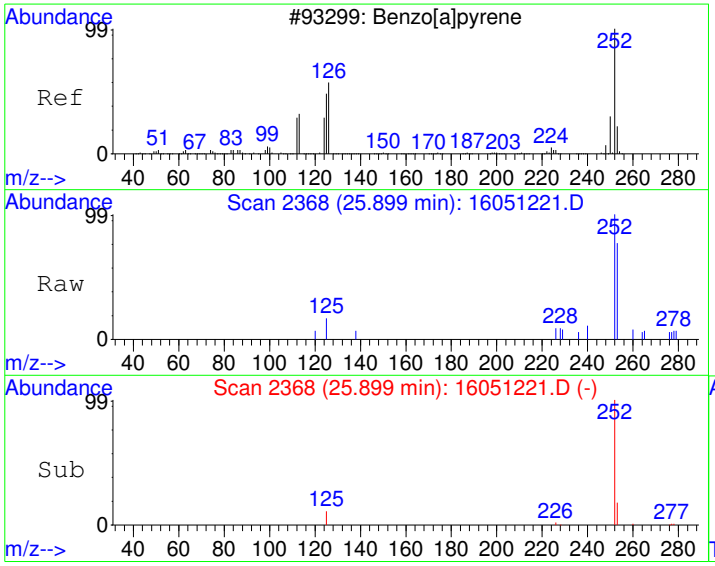


#23
Benzo(j)fluoranthene
Concen: 2.42 ug/kg
RT: 24.66 min Scan# 2193
Delta R.T. -0.08 min
Lab File: 16051221.D
Acq: 12 May 2016 9:03 pm

Tgt Ion:252 Resp: 954

Ion	Ratio	Lower	Upper
252	100		
253	32.3	2.1	42.1
125	10.7	0.0	34.4

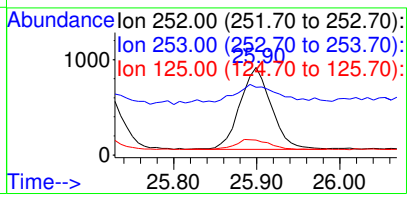




#25
Benzo[a]pyrene
Concen: 5.22 ug/kg
RT: 25.90 min Scan# 2368
Delta R.T. -0.08 min
Lab File: 16051221.D
Acq: 12 May 2016 9:03 pm

Tgt Ion:252 Resp: 2249

Ion	Ratio	Lower	Upper
252	100		
253	19.3	1.9	41.9
125	11.3	0.0	31.7



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160512\16051222.D Vial: 22
Acq On : 12 May 2016 9:43 pm Operator:
Sample : 1605047-04A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:15 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1407381	4000.00 ug/kg	121
5) Acenaphthene-d10	13.27	164	896038	4000.00 ug/kg	78
11) Phenanthrene-d10	15.36	188	1689796	4000.00 ug/kg	83
17) Chrysene-d12	21.09	240	1880797	4000.00 ug/kg	83
20) Perylene-d12	26.24	264	1773949	4000.00 ug/kg	86

System Monitoring Compounds					
7) 2-Fluorobiphenyl	12.21	172	21650	82.83 ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery =	2.07%#	
16) 4-Terphenyl-d14	17.85	244	31880	72.92 ug/kg	-0.05
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.82%#	

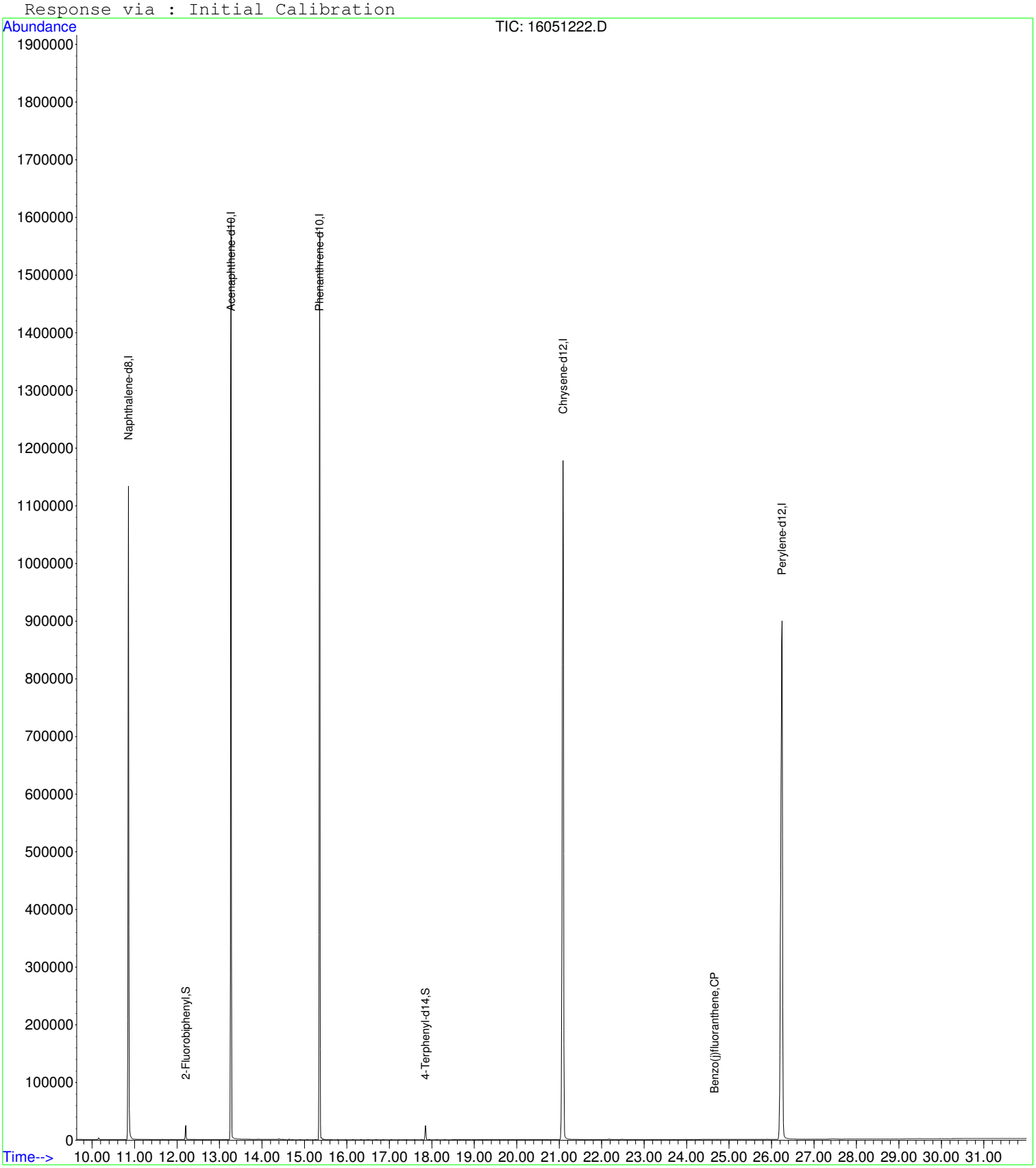
Target Compounds					Qvalue
23) Benzo(j)fluoranthene	24.67	252	109	0.28 ug/kg#	63

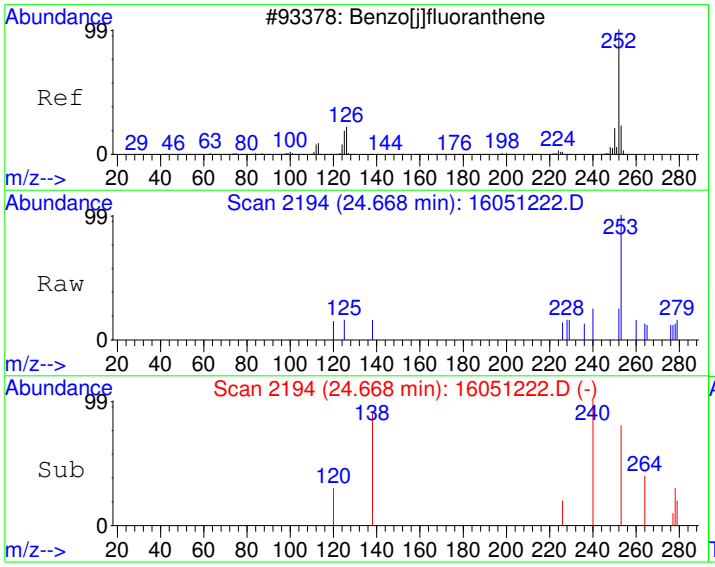
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160512\16051222.D Vial: 22
Acq On : 12 May 2016 9:43 pm Operator:
Sample : 1605047-04A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:15 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

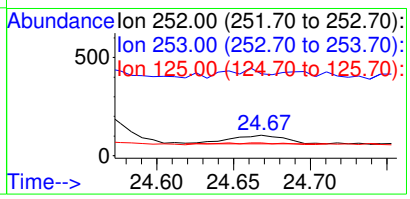




#23
Benzo(j)fluoranthene
Concen: 0.28 ug/kg
RT: 24.67 min Scan# 2194
Delta R.T. -0.08 min
Lab File: 16051222.D
Acq: 12 May 2016 9:43 pm

Tgt Ion:252 Resp: 109

Ion	Ratio	Lower	Upper
252	100		
253	46.7	2.1	42.1#
125	20.0	0.0	34.4



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160512\16051223.D Vial: 23
Acq On : 12 May 2016 10:24 pm Operator:
Sample : 1605047-05A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:15 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1417776	4000.00 ug/kg	122
5) Acenaphthene-d10	13.27	164	898453	4000.00 ug/kg	78
11) Phenanthrene-d10	15.36	188	1658308	4000.00 ug/kg	81
17) Chrysene-d12	21.09	240	1908988	4000.00 ug/kg	84
20) Perylene-d12	26.25	264	1806218	4000.00 ug/kg	88

System Monitoring Compounds					
7) 2-Fluorobiphenyl	12.21	172	20211	77.12 ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.93%#	
16) 4-Terphenyl-d14	17.85	244	29269	68.22 ug/kg	-0.04
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.71%#	

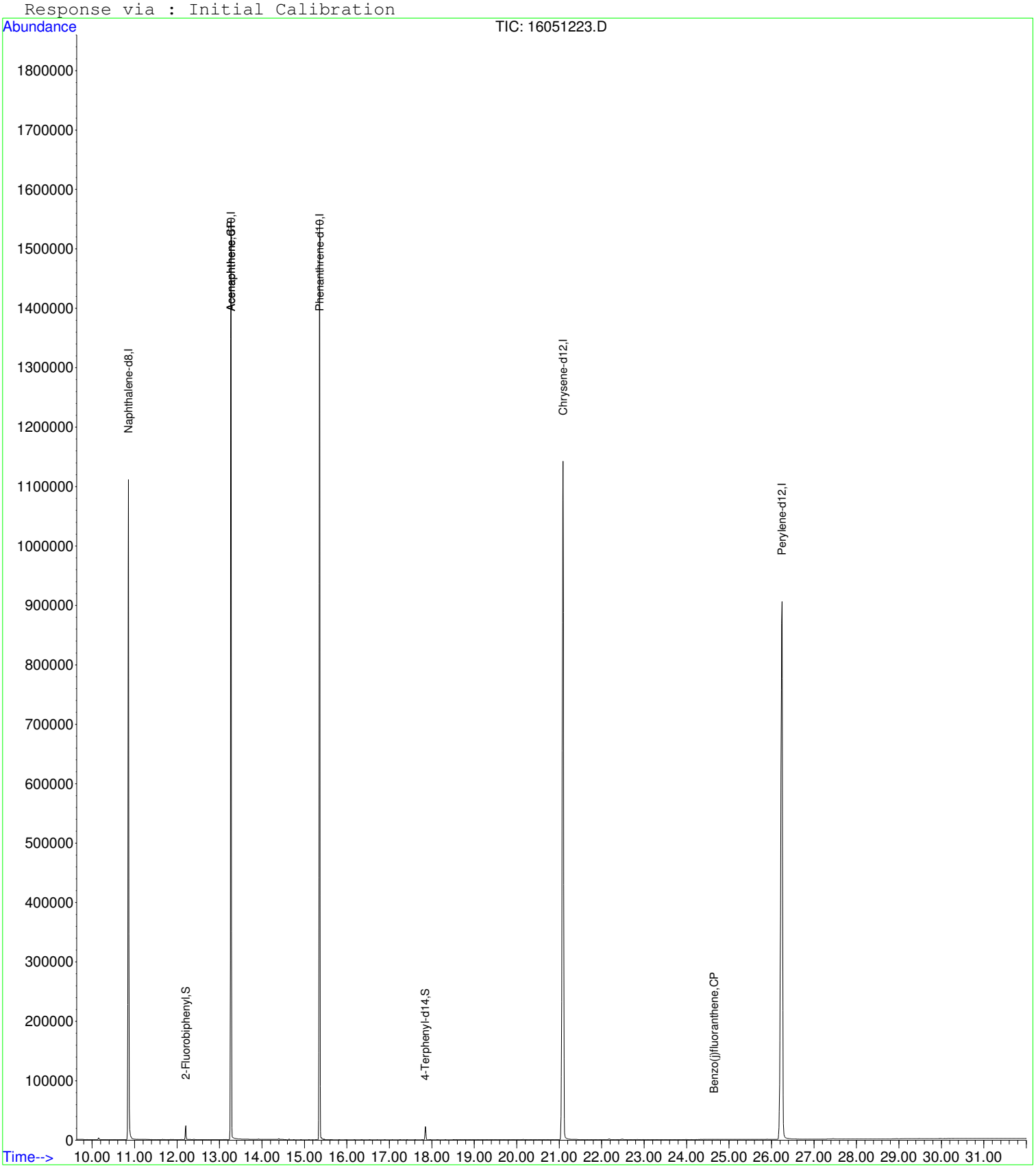
Target Compounds					Qvalue
9) Acenaphthene	13.26	154	2740	~~11.41 ug/kg#~~	9
23) Benzo(j)fluoranthene	24.66	252	88	0.22 ug/kg#	1

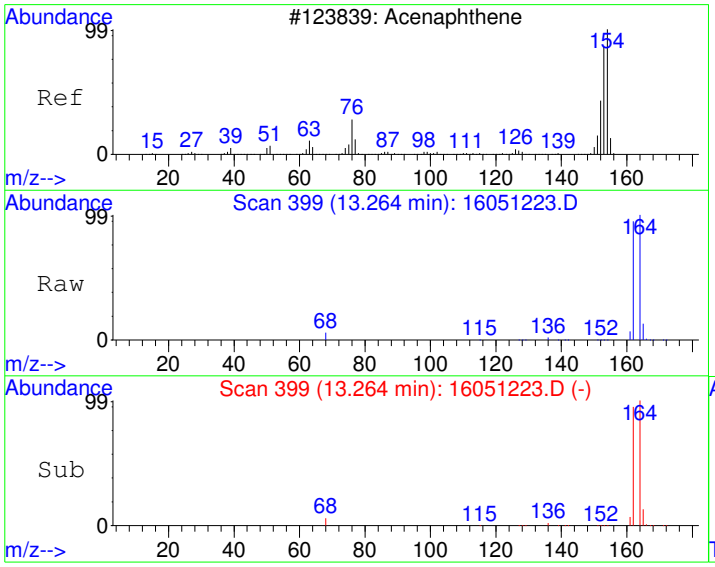
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160512\16051223.D Vial: 23
Acq On : 12 May 2016 10:24 pm Operator:
Sample : 1605047-05A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:15 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

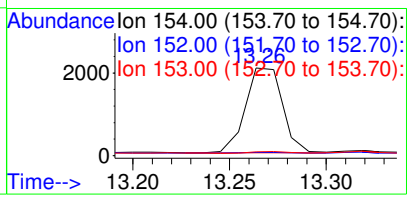


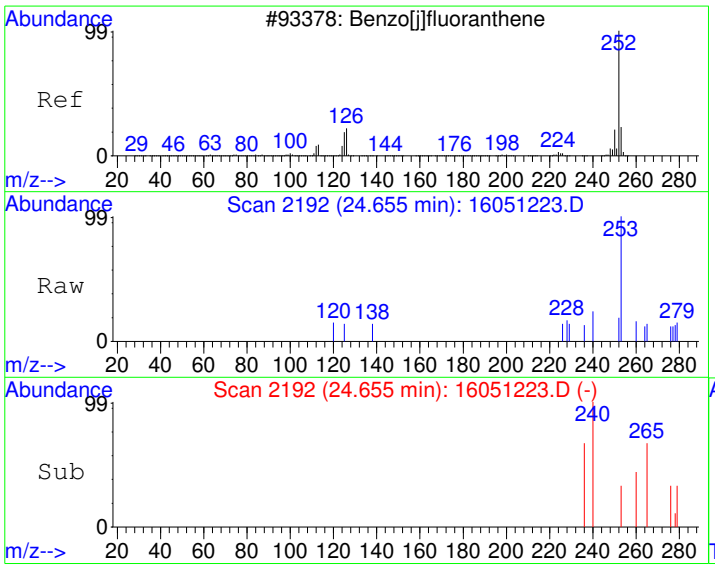


#9
Acenaphthene
Concen: 11.41 ug/kg
RT: 13.26 min Scan# 399
Delta R.T. -0.08 min
Lab File: 16051223.D
Acq: 12 May 2016 10:24 pm

Tgt Ion:154 Resp: 2740

Ion	Ratio	Lower	Upper
154	100		
152	0.7	18.9	78.9#
153	1.3	75.2	135.2#

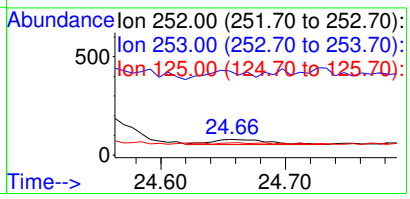




#23
Benzo(j)fluoranthene
Concen: 0.22 ug/kg
RT: 24.66 min Scan# 2192
Delta R.T. -0.09 min
Lab File: 16051223.D
Acq: 12 May 2016 10:24 pm

Tgt Ion:252 Resp: 88

Ion	Ratio	Lower	Upper
252	100		
253	163.0	2.1	42.1#
125	7.4	0.0	34.4



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160512\16051224.D Vial: 24
Acq On : 12 May 2016 11:04 pm Operator:
Sample : 1605047-07A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:15 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.85	136	1334467	4000.00 ug/kg	115
5) Acenaphthene-d10	13.27	164	889973	4000.00 ug/kg	77
11) Phenanthrene-d10	15.36	188	1533820	4000.00 ug/kg	75
17) Chrysene-d12	21.09	240	1841101	4000.00 ug/kg	81
20) Perylene-d12	26.25	264	1718472	4000.00 ug/kg	83

System Monitoring Compounds					
7) 2-Fluorobiphenyl	12.20	172	20447	78.76 ug/kg	-0.03
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.97%#		
16) 4-Terphenyl-d14	17.85	244	29487	74.31 ug/kg	-0.05
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.86%#		

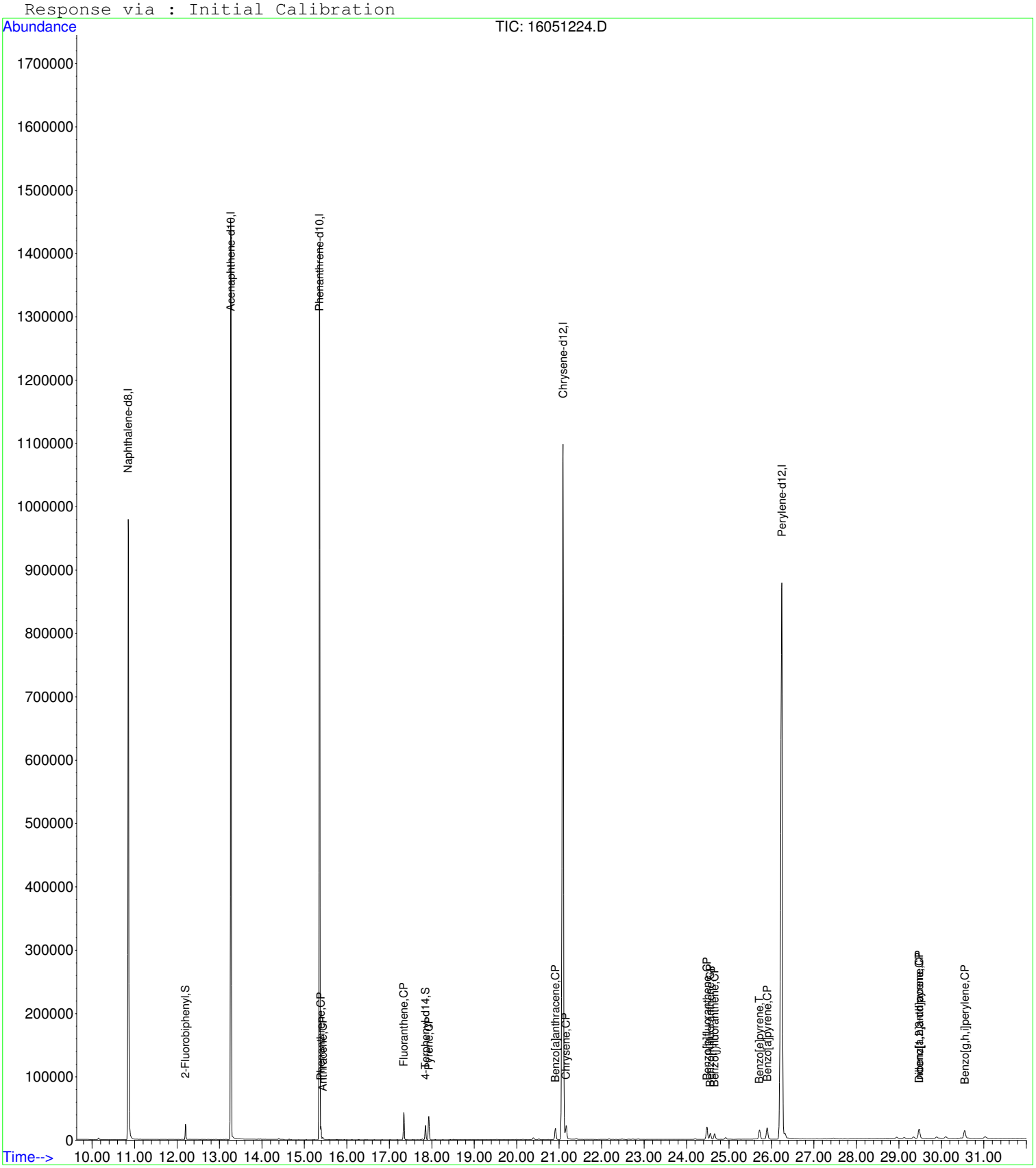
Target Compounds					Qvalue
12) Phenanthrene	15.39	178	15391	38.16 ug/kg	99
13) Anthracene	15.43	178	2839	7.44 ug/kg	98
14) Fluoranthene	17.34	202	42741	102.39 ug/kg	99
15) Pyrene	17.93	202	39618	91.37 ug/kg	99
18) Benzo[a]anthracene	20.91	228	26544	61.54 ug/kg	99
19) Chrysene	21.17	228	33047	79.30 ug/kg	100
21) Benzo[b]fluoranthene	24.48	252	35687	78.79 ug/kg	100
22) Benzo[k]fluoranthene	24.56	252	17167	40.40 ug/kg	99
23) Benzo(j)fluoranthene	24.66	252	15581	41.17 ug/kg	93
24) Benzo[e]pyrene	25.72	252	27296	67.29 ug/kg	98
25) Benzo[a]pyrene	25.90	252	35590	85.86 ug/kg	99
26) Dibenz[a,h]anthracene	29.47	278	5678	15.04 ug/kg	100
27) Indeno[1,2,3-cd]pyrene	29.48	276	26304	58.41 ug/kg	93
28) Benzo[g,h,i]perylene	30.55	276	25498	72.61 ug/kg	98

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

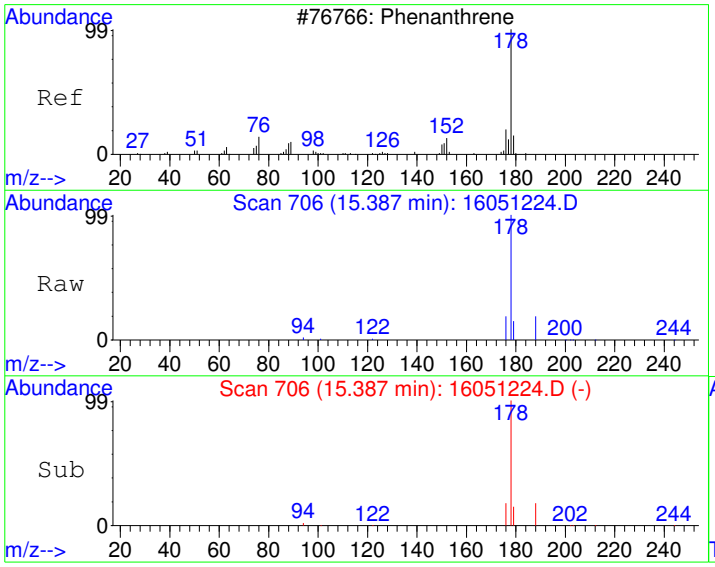
Quantitation Report

Data File : C:\HPCHEM\1\DATA\160512\16051224.D Vial: 24
Acq On : 12 May 2016 11:04 pm Operator:
Sample : 1605047-07A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:15 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



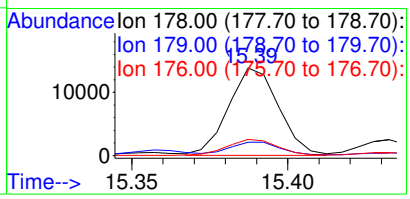
16051224.D PP160421.M Fri May 13 08:16:01 2016 Page 2

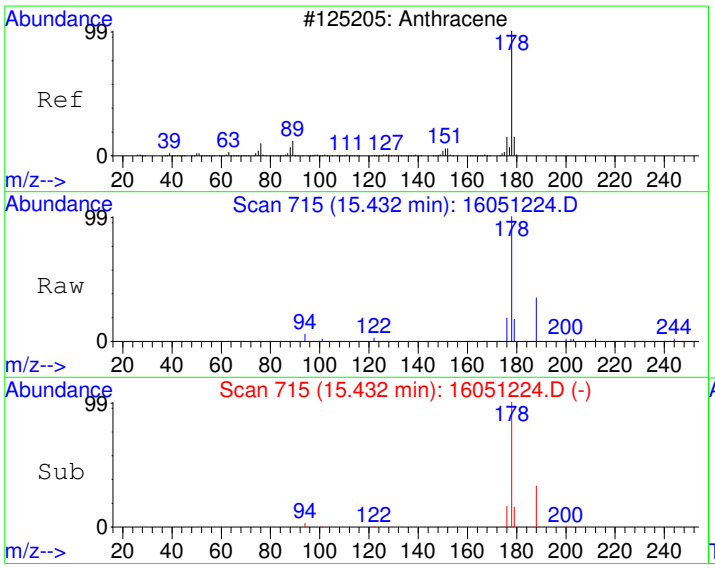


#12
Phenanthrene
Concen: 38.16 ug/kg
RT: 15.39 min Scan# 706
Delta R.T. -0.04 min
Lab File: 16051224.D
Acq: 12 May 2016 11:04 pm

Tgt Ion:178 Resp: 15391

Ion	Ratio	Lower	Upper
178	100		
179	14.8	0.0	45.9
176	18.4	0.0	48.5

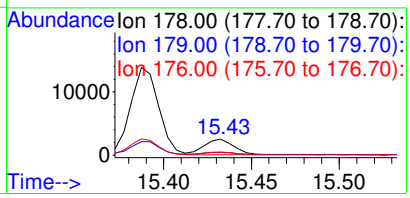


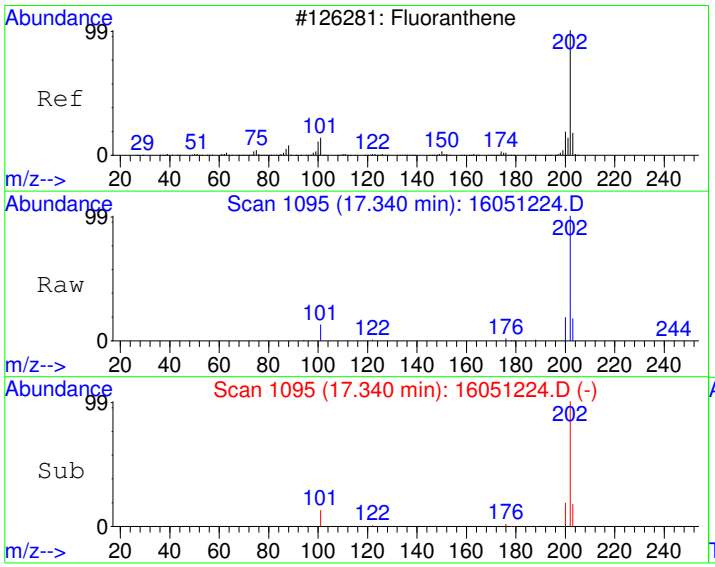


#13
Anthracene
Concen: 7.44 ug/kg
RT: 15.43 min Scan# 715
Delta R.T. -0.03 min
Lab File: 16051224.D
Acq: 12 May 2016 11:04 pm

Tgt Ion:178 Resp: 2839

Ion	Ratio	Lower	Upper
178	100		
179	15.4	0.0	45.9
176	17.1	0.0	48.2

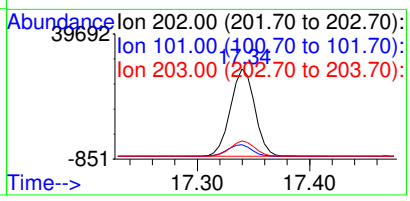


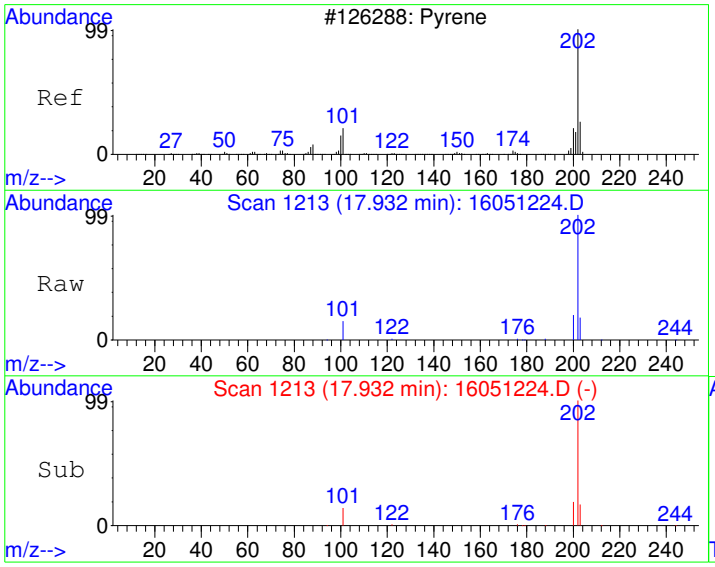


#14
Fluoranthene
Concen: 102.39 ug/kg
RT: 17.34 min Scan# 1095
Delta R.T. -0.04 min
Lab File: 16051224.D
Acq: 12 May 2016 11:04 pm

Tgt Ion:202 Resp: 42741

Ion	Ratio	Lower	Upper
202	100		
101	13.3	0.0	43.0
203	17.5	0.0	47.9

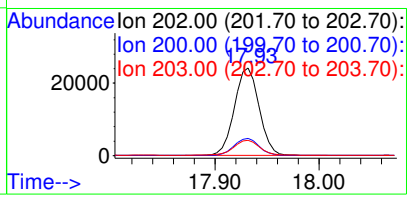


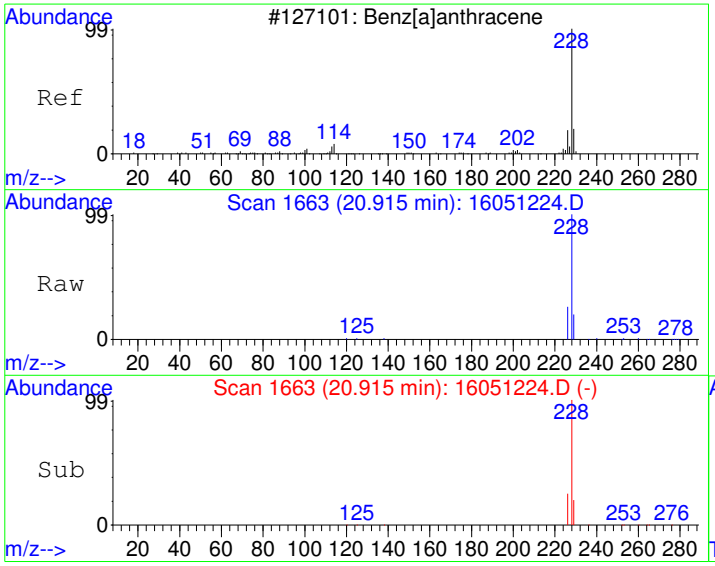


#15
Pyrene
Concen: 91.37 ug/kg
RT: 17.93 min Scan# 1213
Delta R.T. -0.05 min
Lab File: 16051224.D
Acq: 12 May 2016 11:04 pm

Tgt Ion:202 Resp: 39618

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

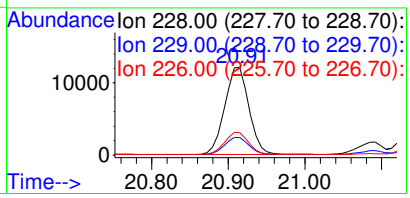


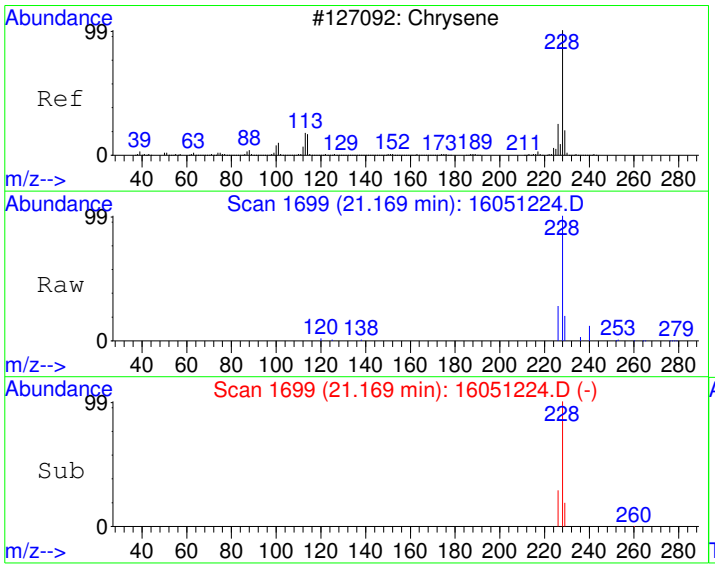


#18
Benzo[a]anthracene
Concen: 61.54 ug/kg
RT: 20.91 min Scan# 1663
Delta R.T. -0.06 min
Lab File: 16051224.D
Acq: 12 May 2016 11:04 pm

Tgt Ion:228 Resp: 26544

Ion	Ratio	Lower	Upper
228	100		
229	19.6	0.0	50.1
226	25.1	0.0	55.2

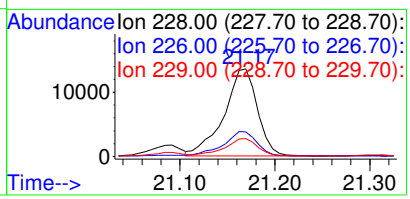


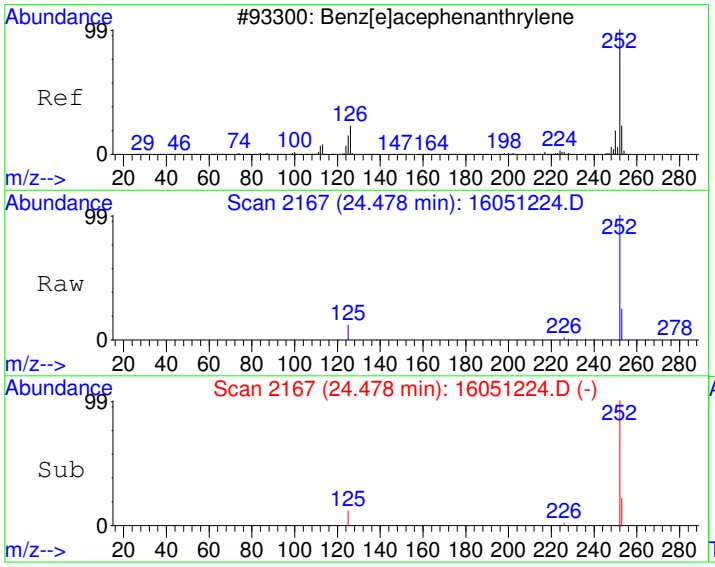


#19
Chrysene
Concen: 79.30 ug/kg
RT: 21.17 min Scan# 1699
Delta R.T. -0.06 min
Lab File: 16051224.D
Acq: 12 May 2016 11:04 pm

Tgt Ion:228 Resp: 33047

Ion	Ratio	Lower	Upper
228	100		
226	27.9	0.0	58.1
229	19.8	0.0	50.1

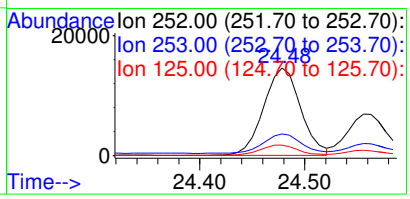


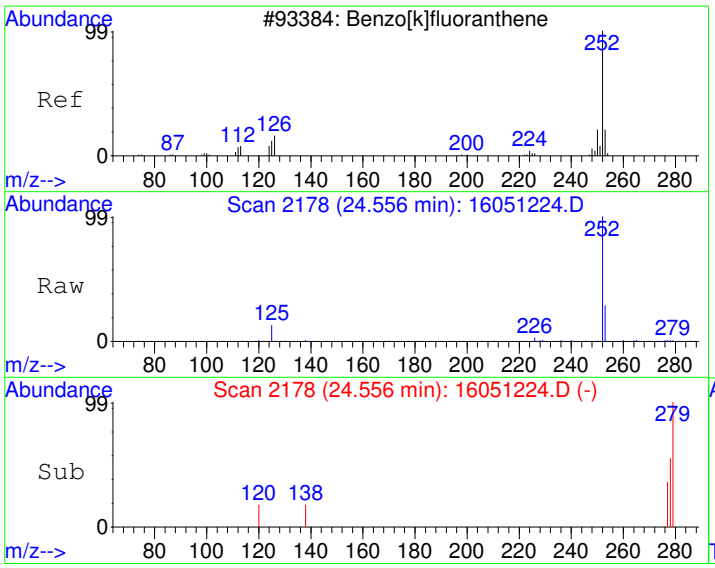


#21
Benzo[b]fluoranthene
Concen: 78.79 ug/kg
RT: 24.48 min Scan# 2167
Delta R.T. -0.08 min
Lab File: 16051224.D
Acq: 12 May 2016 11:04 pm

Tgt Ion:252 Resp: 35687

Ion	Ratio	Lower	Upper
252	100		
253	22.2	0.0	52.2
125	11.5	0.0	41.0

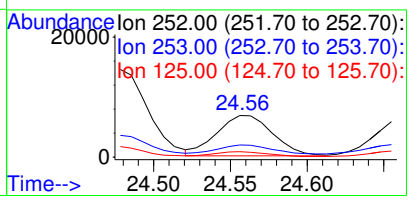


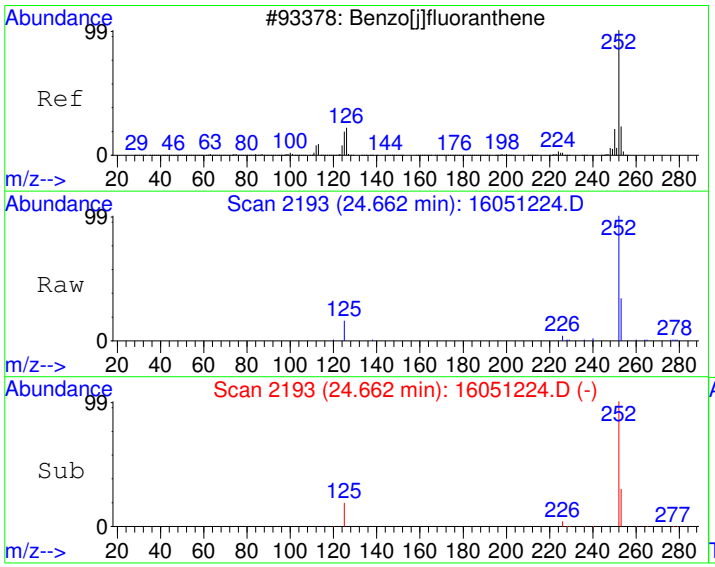


#22
Benzo[k]fluoranthene
Concen: 40.40 ug/kg
RT: 24.56 min Scan# 2178
Delta R.T. -0.08 min
Lab File: 16051224.D
Acq: 12 May 2016 11:04 pm

Tgt Ion:252 Resp: 17167

Ion	Ratio	Lower	Upper
252	100		
253	22.1	2.1	42.1
125	12.1	0.0	31.3

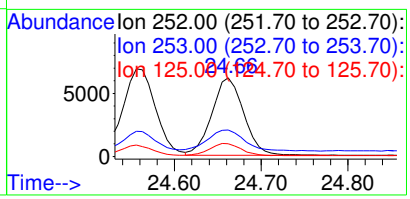


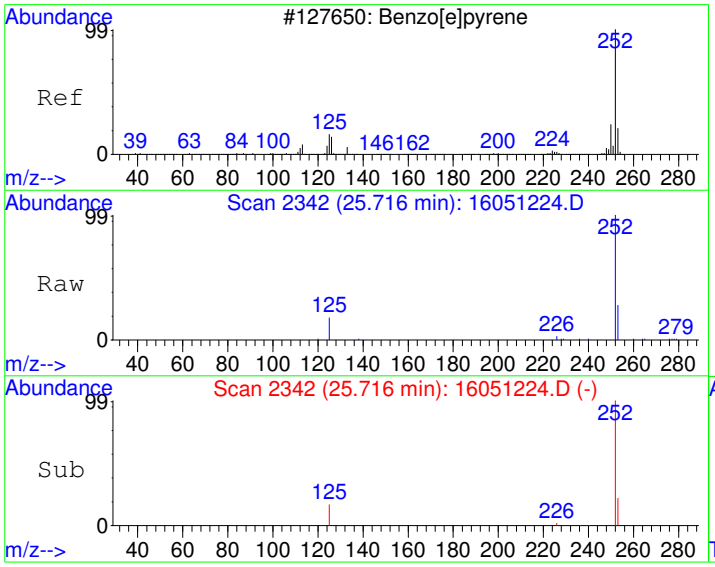


#23
Benzo(j)fluoranthene
Concen: 41.17 ug/kg
RT: 24.66 min Scan# 2193
Delta R.T. -0.08 min
Lab File: 16051224.D
Acq: 12 May 2016 11:04 pm

Tgt Ion:252 Resp: 15581

Ion	Ratio	Lower	Upper
252	100		
253	26.8	2.1	42.1
125	15.3	0.0	34.4

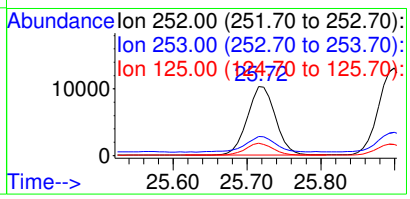


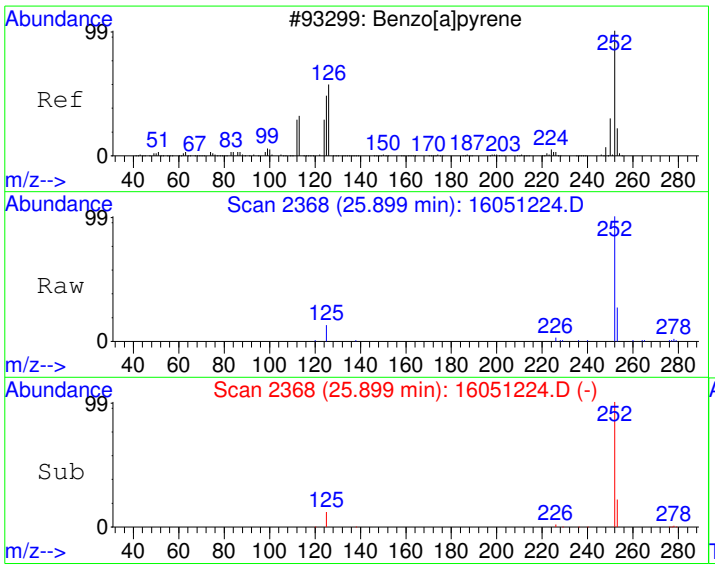


#24
Benzo[e]pyrene
Concen: 67.29 ug/kg
RT: 25.72 min Scan# 2342
Delta R.T. -0.08 min
Lab File: 16051224.D
Acq: 12 May 2016 11:04 pm

Tgt Ion:252 Resp: 27296

Ion	Ratio	Lower	Upper
252	100		
253	22.8	2.2	42.2
125	17.4	0.0	36.1

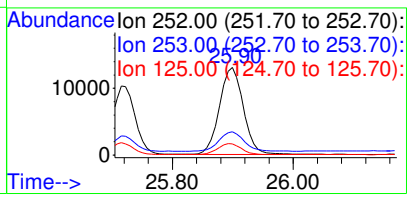


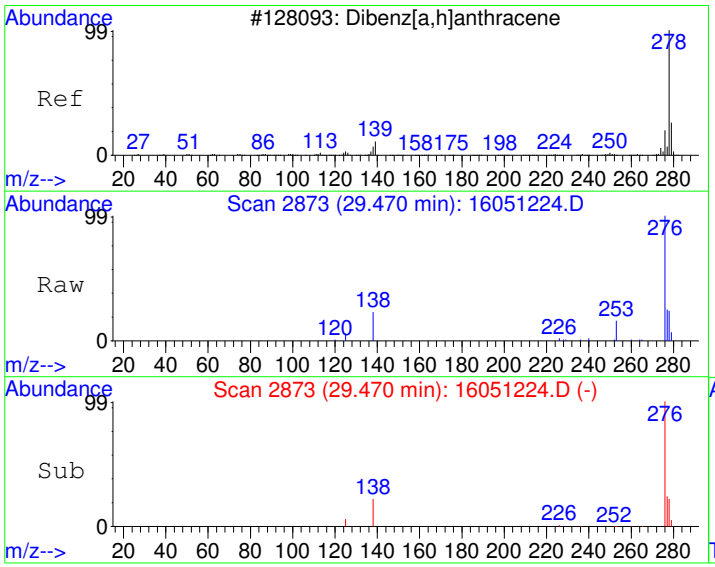


#25
Benzo[a]pyrene
Concen: 85.86 ug/kg
RT: 25.90 min Scan# 2368
Delta R.T. -0.08 min
Lab File: 16051224.D
Acq: 12 May 2016 11:04 pm

Tgt Ion:252 Resp: 35590

Ion	Ratio	Lower	Upper
252	100		
253	22.4	1.9	41.9
125	12.5	0.0	31.7

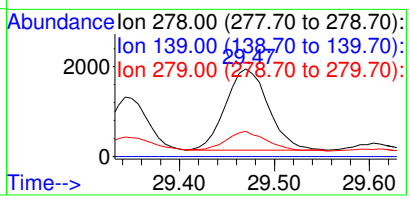


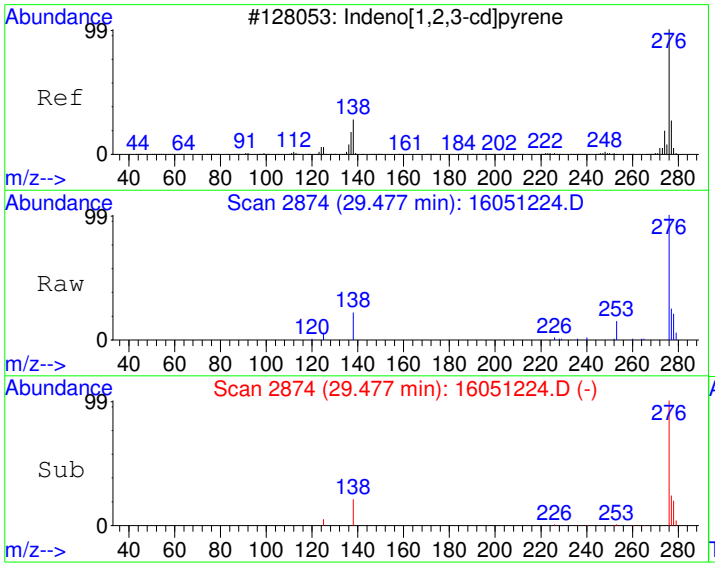


#26
Dibenz[a,h]anthracene
Concen: 15.04 ug/kg
RT: 29.47 min Scan# 2873
Delta R.T. -0.09 min
Lab File: 16051224.D
Acq: 12 May 2016 11:04 pm

Tgt Ion:278 Resp: 5678

Ion	Ratio	Lower	Upper
278	100		
139	0.0	0.0	20.0
279	24.1	4.2	44.2

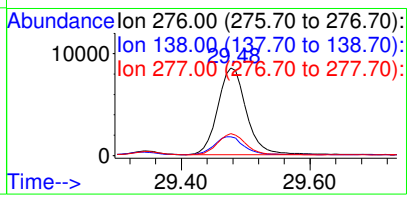


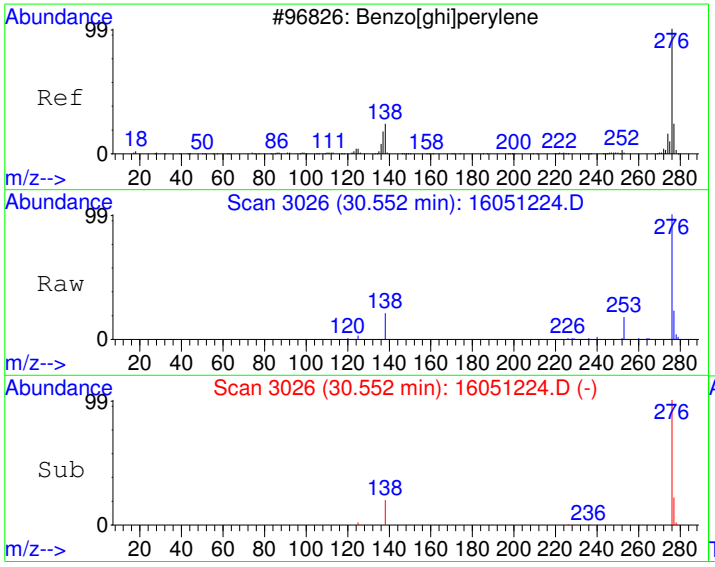


#27
Indeno[1,2,3-cd]pyrene
Concen: 58.41 ug/kg
RT: 29.48 min Scan# 2874
Delta R.T. -0.08 min
Lab File: 16051224.D
Acq: 12 May 2016 11:04 pm

Tgt Ion:276 Resp: 26304

Ion	Ratio	Lower	Upper
276	100		
138	20.7	6.7	46.7
277	24.4	5.8	45.8

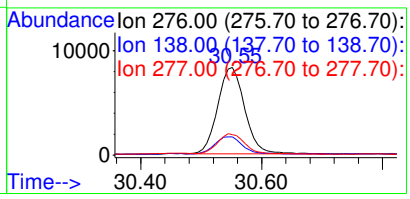




#28
Benzo[g,h,i]perylene
Concen: 72.61 ug/kg
RT: 30.55 min Scan# 3026
Delta R.T. -0.09 min
Lab File: 16051224.D
Acq: 12 May 2016 11:04 pm

Tgt Ion:276 Resp: 25498

Ion	Ratio	Lower	Upper
276	100		
138	19.8	0.0	39.1
277	22.5	4.0	44.0



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160512\16051225.D Vial: 25
Acq On : 12 May 2016 11:44 pm Operator:
Sample : 1605047-08A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:16 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.85	136	1417716	4000.00 ug/kg	122
5) Acenaphthene-d10	13.26	164	916274	4000.00 ug/kg	80
11) Phenanthrene-d10	15.35	188	1705959	4000.00 ug/kg	84
17) Chrysene-d12	21.09	240	1910656	4000.00 ug/kg	84
20) Perylene-d12	26.25	264	1791037	4000.00 ug/kg	87

System Monitoring Compounds

7) 2-Fluorobiphenyl	12.20	172	20171	75.47 ug/kg	-0.03
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.89%#	
16) 4-Terphenyl-d14	17.85	244	29464	66.76 ug/kg	-0.05
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.67%#	

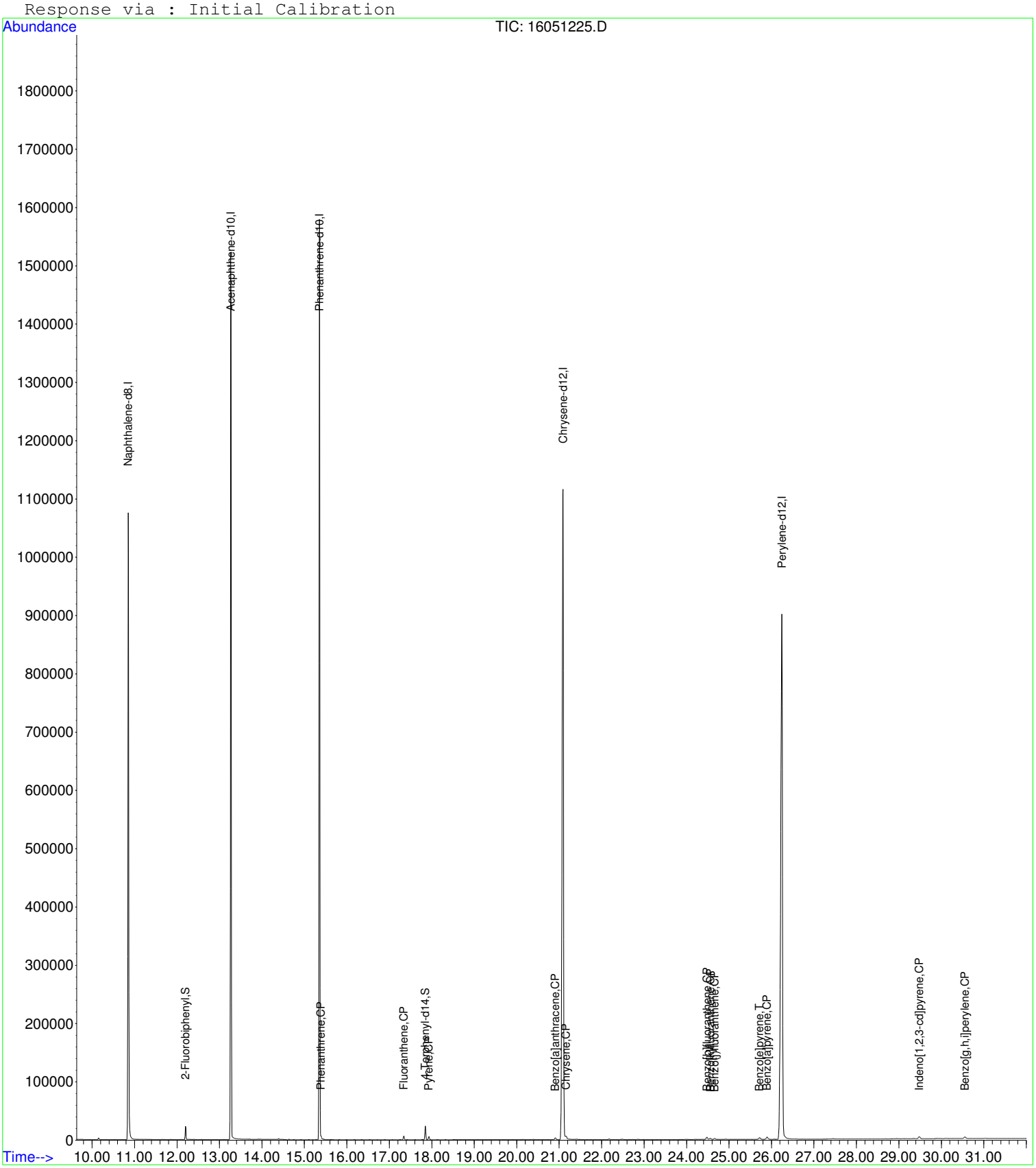
Target Compounds					Qvalue
12) Phenanthrene	15.39	178	3074	6.85 ug/kg	97
14) Fluoranthene	17.34	202	6691	14.41 ug/kg	100
15) Pyrene	17.93	202	6165	12.78 ug/kg	97
18) Benzo[a]anthracene	20.91	228	4815	10.76 ug/kg	99
19) Chrysene	21.17	228	5841	13.51 ug/kg	99
21) Benzo[b]fluoranthene	24.48	252	7052	14.94 ug/kg	100
22) Benzo[k]fluoranthene	24.56	252	3554	8.03 ug/kg	95
23) Benzo(j)fluoranthene	24.66	252	3056	7.75 ug/kg	97
24) Benzo[e]pyrene	25.72	252	5321	12.59 ug/kg	96
25) Benzo[a]pyrene	25.89	252	7579	17.54 ug/kg	99
27) Indeno[1,2,3-cd]pyrene	29.48	276	5803	12.36 ug/kg	91
28) Benzo[g,h,i]perylene	30.55	276	5537	15.13 ug/kg	96

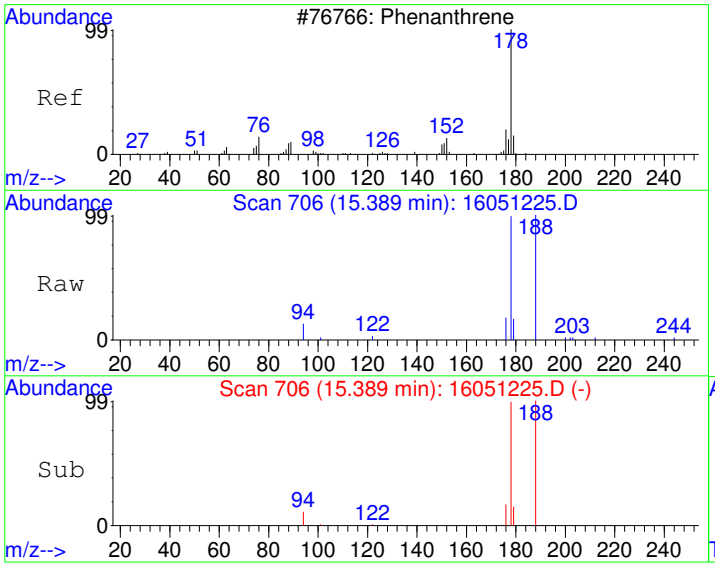
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160512\16051225.D Vial: 25
Acq On : 12 May 2016 11:44 pm Operator:
Sample : 1605047-08A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:16 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

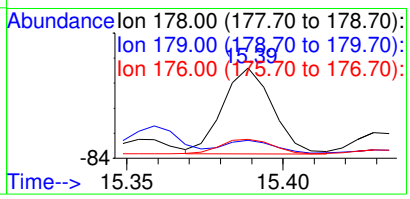


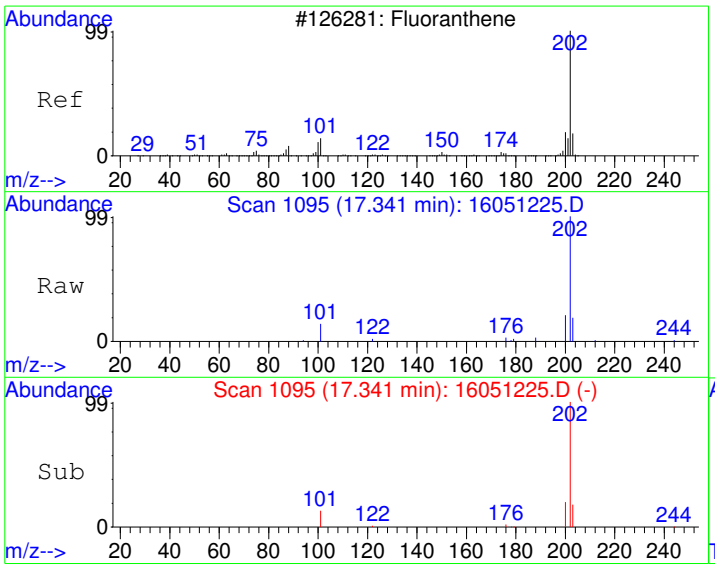


#12
Phenanthrene
Concen: 6.85 ug/kg
RT: 15.39 min Scan# 706
Delta R.T. -0.03 min
Lab File: 16051225.D
Acq: 12 May 2016 11:44 pm

Tgt Ion:178 Resp: 3074

Ion	Ratio	Lower	Upper
178	100		
179	15.0	0.0	45.9
176	16.9	0.0	48.5

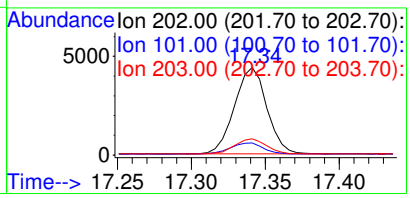


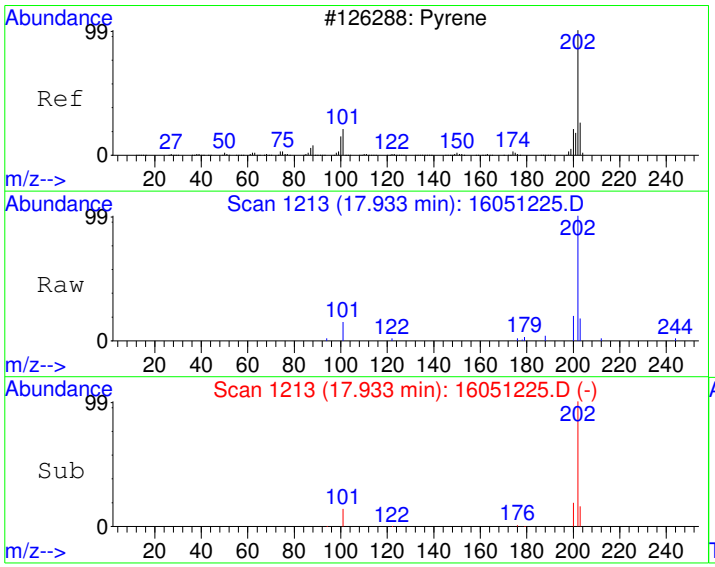


#14
Fluoranthene
Concen: 14.41 ug/kg
RT: 17.34 min Scan# 1095
Delta R.T. -0.04 min
Lab File: 16051225.D
Acq: 12 May 2016 11:44 pm

Tgt Ion:202 Resp: 6691

Ion	Ratio	Lower	Upper
202	100		
101	12.8	0.0	43.0
203	17.7	0.0	47.9

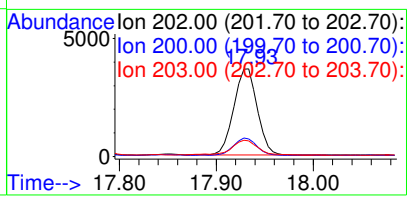


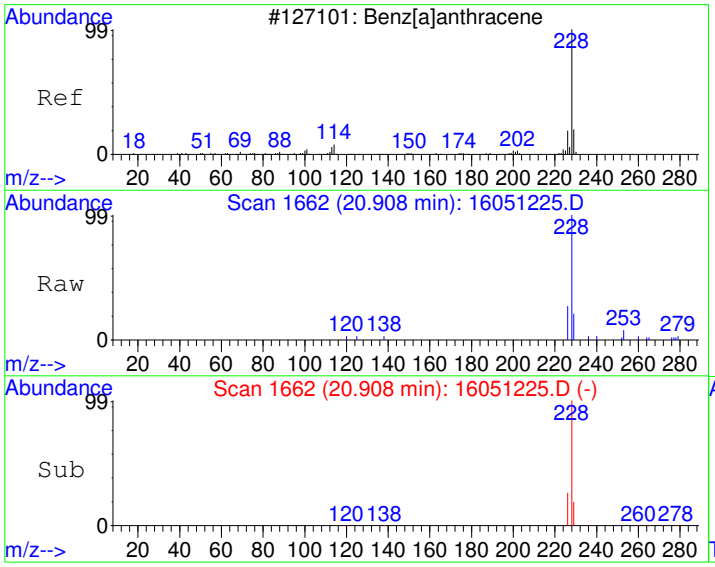


#15
Pyrene
Concen: 12.78 ug/kg
RT: 17.93 min Scan# 1213
Delta R.T. -0.04 min
Lab File: 16051225.D
Acq: 12 May 2016 11:44 pm

Tgt Ion:202 Resp: 6165

Ion	Ratio	Lower	Upper
202	100		
200	18.7	0.0	50.0
203	16.5	0.0	48.0

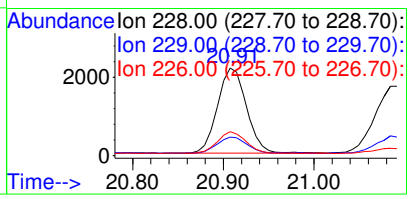


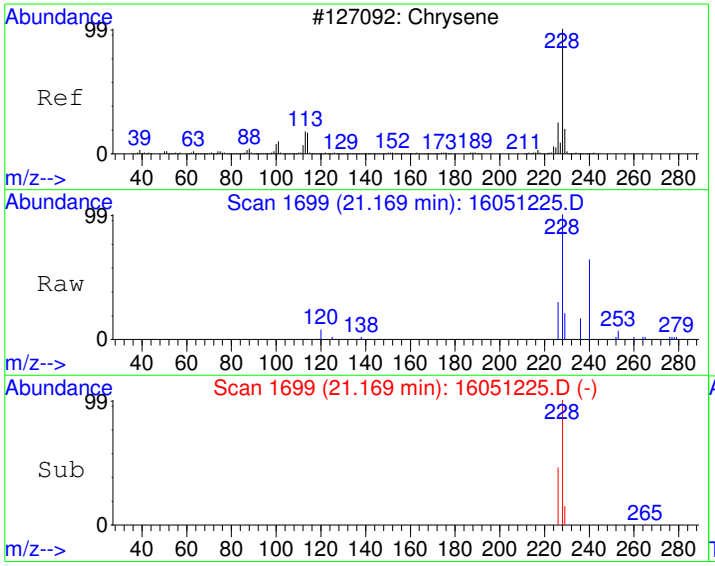


#18
Benzo[a]anthracene
Concen: 10.76 ug/kg
RT: 20.91 min Scan# 1662
Delta R.T. -0.07 min
Lab File: 16051225.D
Acq: 12 May 2016 11:44 pm

Tgt Ion:228 Resp: 4815

Ion	Ratio	Lower	Upper
228	100		
229	18.9	0.0	50.1
226	25.5	0.0	55.2

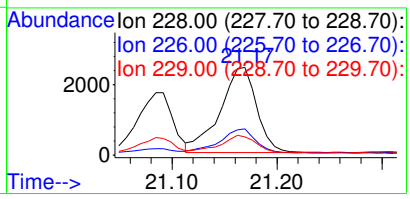


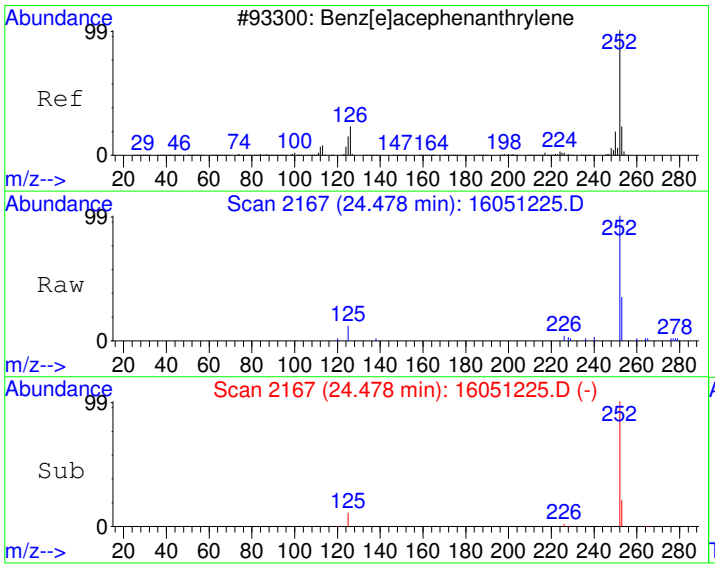


#19
Chrysene
Concen: 13.51 ug/kg
RT: 21.17 min Scan# 1699
Delta R.T. -0.06 min
Lab File: 16051225.D
Acq: 12 May 2016 11:44 pm

Tgt Ion:228 Resp: 5841

Ion	Ratio	Lower	Upper
228	100		
226	28.3	0.0	58.1
229	18.8	0.0	50.1

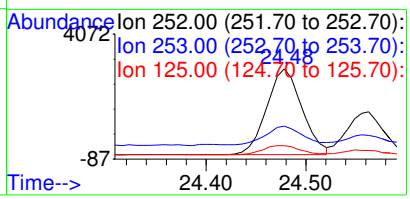


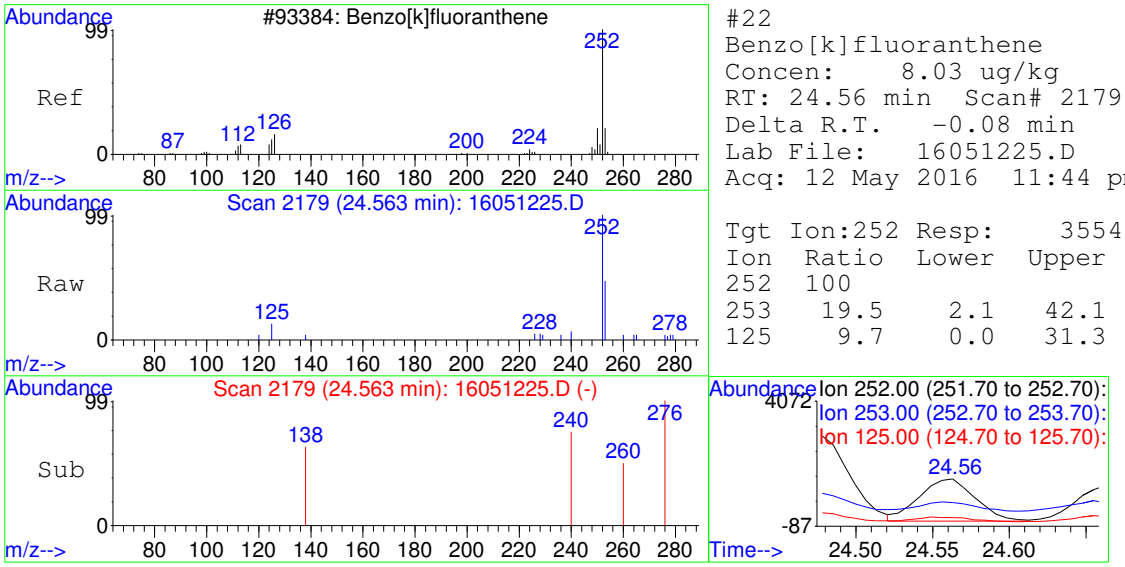


#21
Benzo[b]fluoranthene
Concen: 14.94 ug/kg
RT: 24.48 min Scan# 2167
Delta R.T. -0.08 min
Lab File: 16051225.D
Acq: 12 May 2016 11:44 pm

Tgt Ion:252 Resp: 7052

Ion	Ratio	Lower	Upper
252	100		
253	22.3	0.0	52.2
125	10.7	0.0	41.0

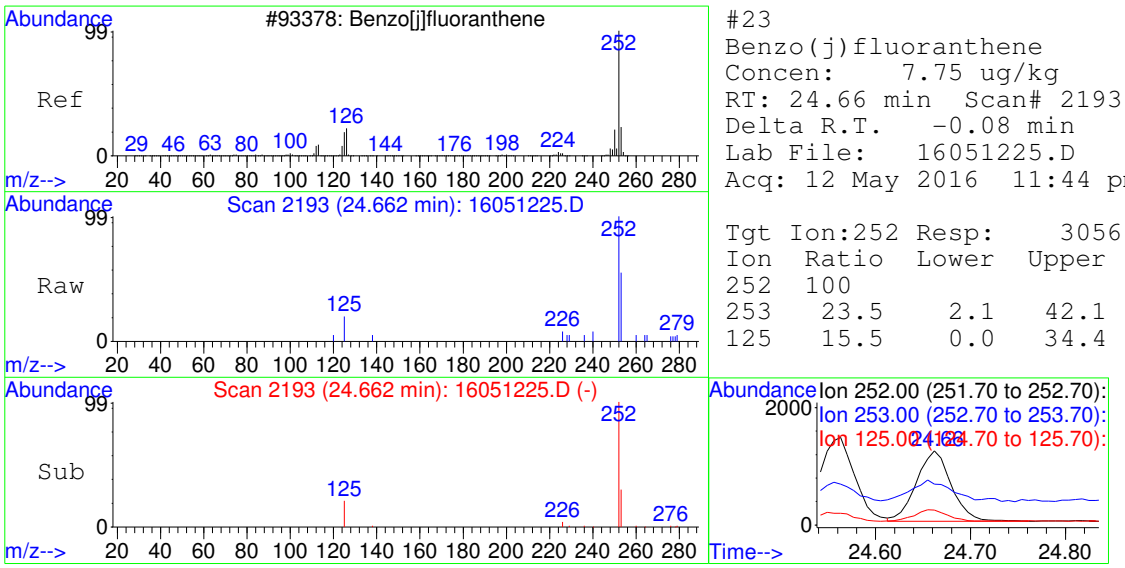




#22
Benzo[k]fluoranthene
Concen: 8.03 ug/kg
RT: 24.56 min Scan# 2179
Delta R.T. -0.08 min
Lab File: 16051225.D
Acq: 12 May 2016 11:44 pm

Tgt Ion:252 Resp: 3554

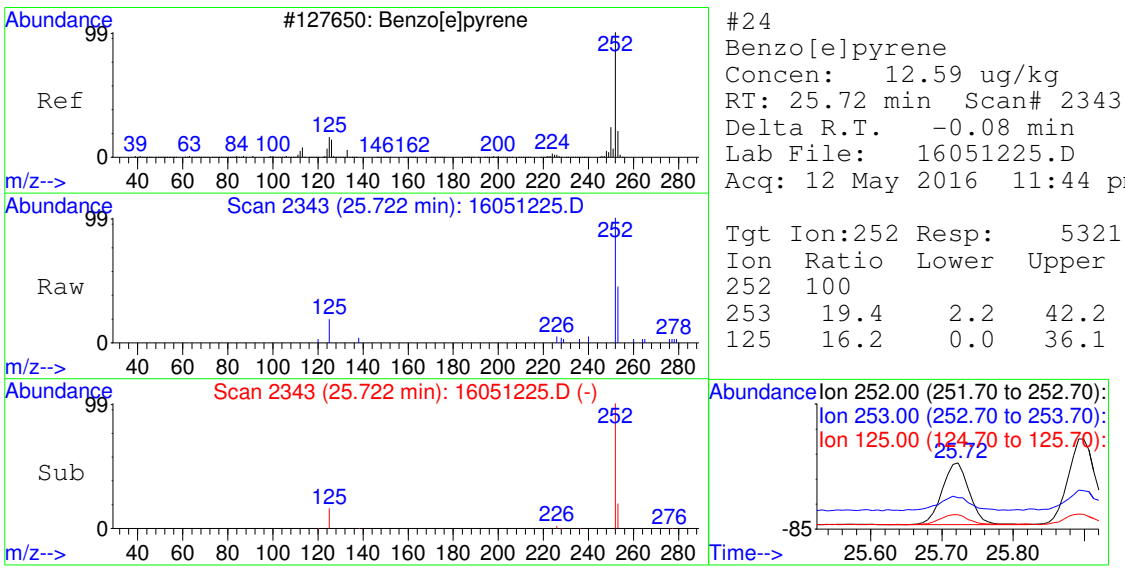
Ion	Ratio	Lower	Upper
252	100		
253	19.5	2.1	42.1
125	9.7	0.0	31.3



#23
Benzo(j)fluoranthene
Concen: 7.75 ug/kg
RT: 24.66 min Scan# 2193
Delta R.T. -0.08 min
Lab File: 16051225.D
Acq: 12 May 2016 11:44 pm

Tgt Ion:252 Resp: 3056

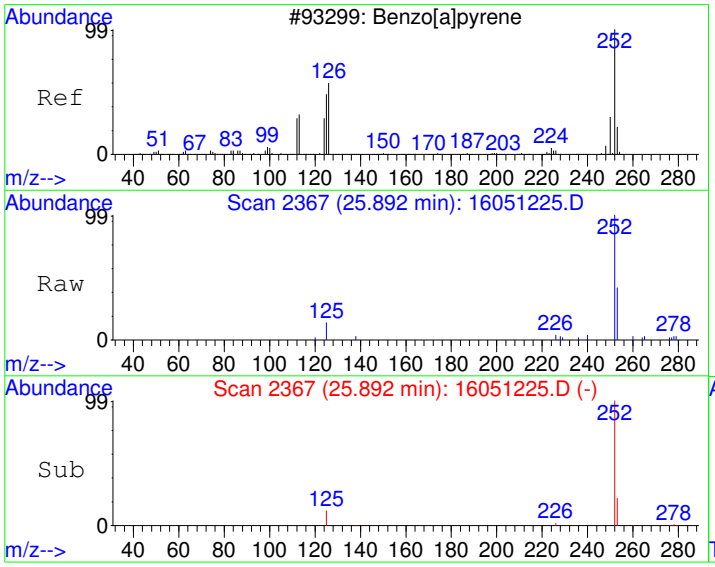
Ion	Ratio	Lower	Upper
252	100		
253	23.5	2.1	42.1
125	15.5	0.0	34.4



#24
Benzo[e]pyrene
Concen: 12.59 ug/kg
RT: 25.72 min Scan# 2343
Delta R.T. -0.08 min
Lab File: 16051225.D
Acq: 12 May 2016 11:44 pm

Tgt Ion:252 Resp: 5321

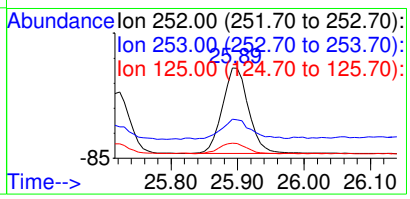
Ion	Ratio	Lower	Upper
252	100		
253	19.4	2.2	42.2
125	16.2	0.0	36.1

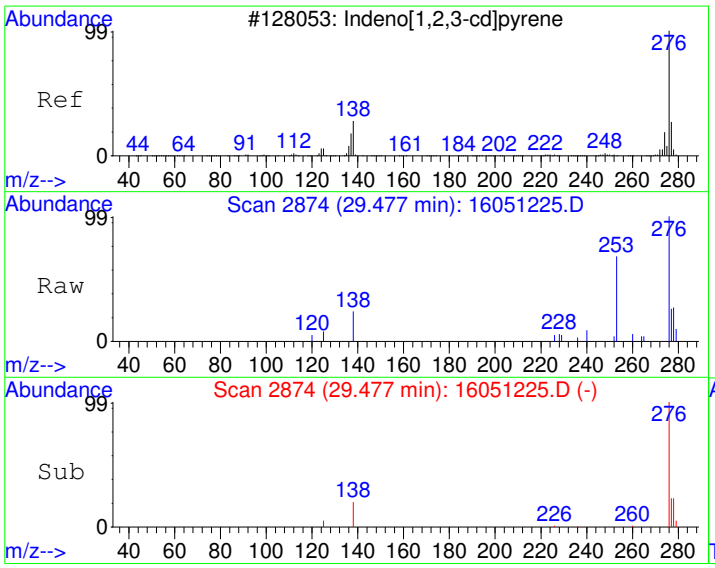


#25
Benzo[a]pyrene
Concen: 17.54 ug/kg
RT: 25.89 min Scan# 2367
Delta R.T. -0.09 min
Lab File: 16051225.D
Acq: 12 May 2016 11:44 pm

Tgt Ion:252 Resp: 7579

Ion	Ratio	Lower	Upper
252	100		
253	22.0	1.9	41.9
125	12.2	0.0	31.7

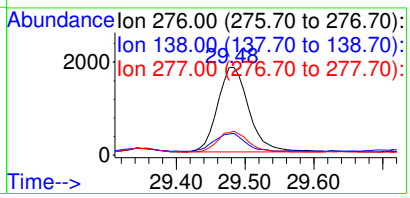


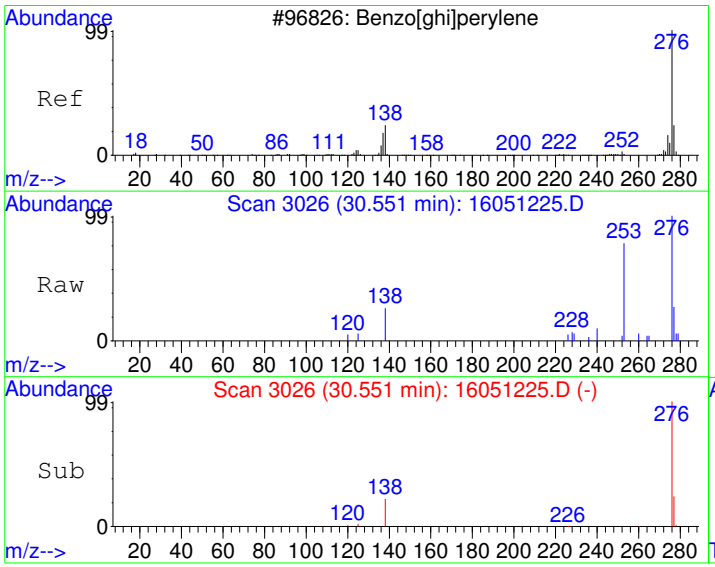


#27
Indeno[1,2,3-cd]pyrene
Concen: 12.36 ug/kg
RT: 29.48 min Scan# 2874
Delta R.T. -0.08 min
Lab File: 16051225.D
Acq: 12 May 2016 11:44 pm

Tgt Ion:276 Resp: 5803

Ion	Ratio	Lower	Upper
276	100		
138	20.5	6.7	46.7
277	23.3	5.8	45.8

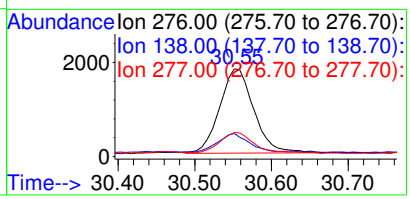




#28
Benzo[g,h,i]perylene
Concen: 15.13 ug/kg
RT: 30.55 min Scan# 3026
Delta R.T. -0.09 min
Lab File: 16051225.D
Acq: 12 May 2016 11:44 pm

Tgt Ion:276 Resp: 5537

Ion	Ratio	Lower	Upper
276	100		
138	22.4	0.0	39.1
277	24.3	4.0	44.0



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160512\16051226.D Vial: 26
Acq On : 13 May 2016 12:23 am Operator:
Sample : 1605047-09A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:16 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.85	136	1393803	4000.00 ug/kg	120
5) Acenaphthene-d10	13.27	164	901961	4000.00 ug/kg	78
11) Phenanthrene-d10	15.35	188	1665800	4000.00 ug/kg	82
17) Chrysene-d12	21.08	240	1844831	4000.00 ug/kg	81
20) Perylene-d12	26.24	264	1754415	4000.00 ug/kg	85

System Monitoring Compounds					
7) 2-Fluorobiphenyl	12.20	172	19404	73.75 ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.84%#	
16) 4-Terphenyl-d14	17.85	244	28311	65.69 ug/kg	-0.05
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.64%#	

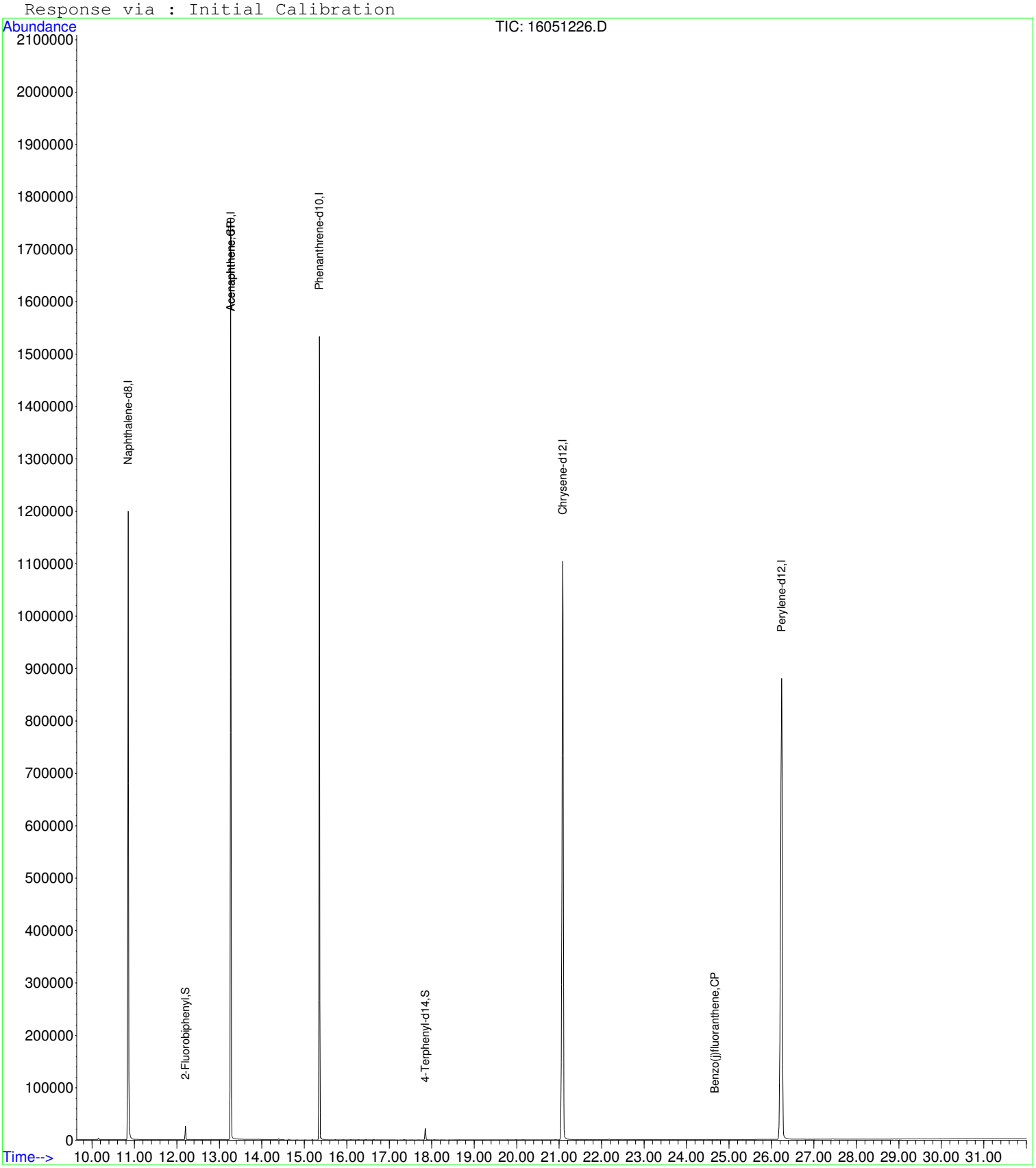
Target Compounds					Qvalue
9) Acenaphthene	13.27	154	2655	~~11.01 ug/kg#~~	9
23) Benzo(j)fluoranthene	24.66	252	142	0.37 ug/kg#	57

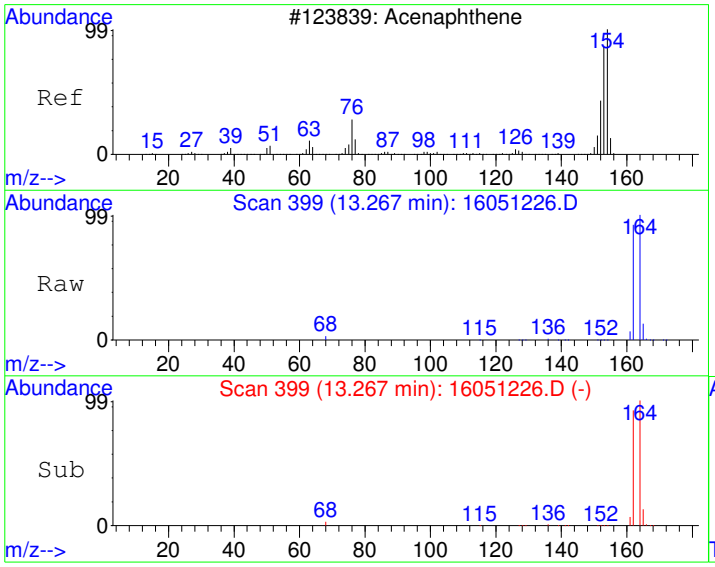
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160512\16051226.D Vial: 26
Acq On : 13 May 2016 12:23 am Operator:
Sample : 1605047-09A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:16 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

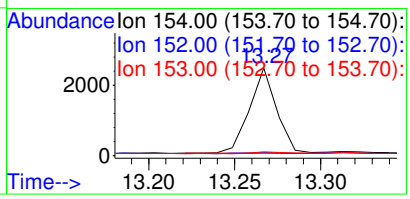


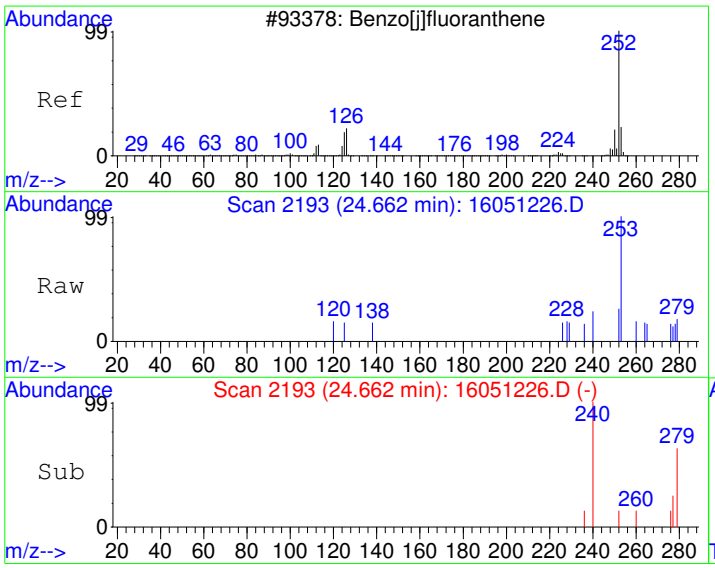


#9
Acenaphthene
Concen: 11.01 ug/kg
RT: 13.27 min Scan# 399
Delta R.T. -0.08 min
Lab File: 16051226.D
Acq: 13 May 2016 12:23 am

Tgt Ion:154 Resp: 2655

Ion	Ratio	Lower	Upper
154	100		
152	0.8	18.9	78.9#
153	2.1	75.2	135.2#

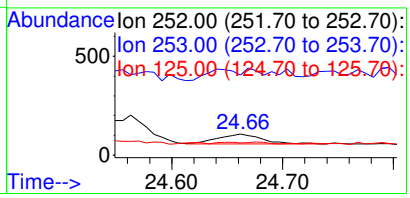




#23
Benzo(j)fluoranthene
Concen: 0.37 ug/kg
RT: 24.66 min Scan# 2193
Delta R.T. -0.08 min
Lab File: 16051226.D
Acq: 13 May 2016 12:23 am

Tgt Ion:252 Resp: 142

Ion	Ratio	Lower	Upper
252	100		
253	51.0	2.1	42.1#
125	7.8	0.0	34.4



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160512\16051227.D Vial: 27
Acq On : 13 May 2016 1:03 am Operator:
Sample : 1605047-10A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:16 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.85	136	1381650	4000.00 ug/kg	119
5) Acenaphthene-d10	13.26	164	907251	4000.00 ug/kg	79
11) Phenanthrene-d10	15.36	188	1710218	4000.00 ug/kg	84
17) Chrysene-d12	21.08	240	1874570	4000.00 ug/kg	83
20) Perylene-d12	26.24	264	1753558	4000.00 ug/kg	85

System Monitoring Compounds					
7) 2-Fluorobiphenyl	12.20	172	19143	72.33 ug/kg	-0.03
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.81%#	
16) 4-Terphenyl-d14	17.85	244	28768	65.02 ug/kg	-0.05
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.63%#	

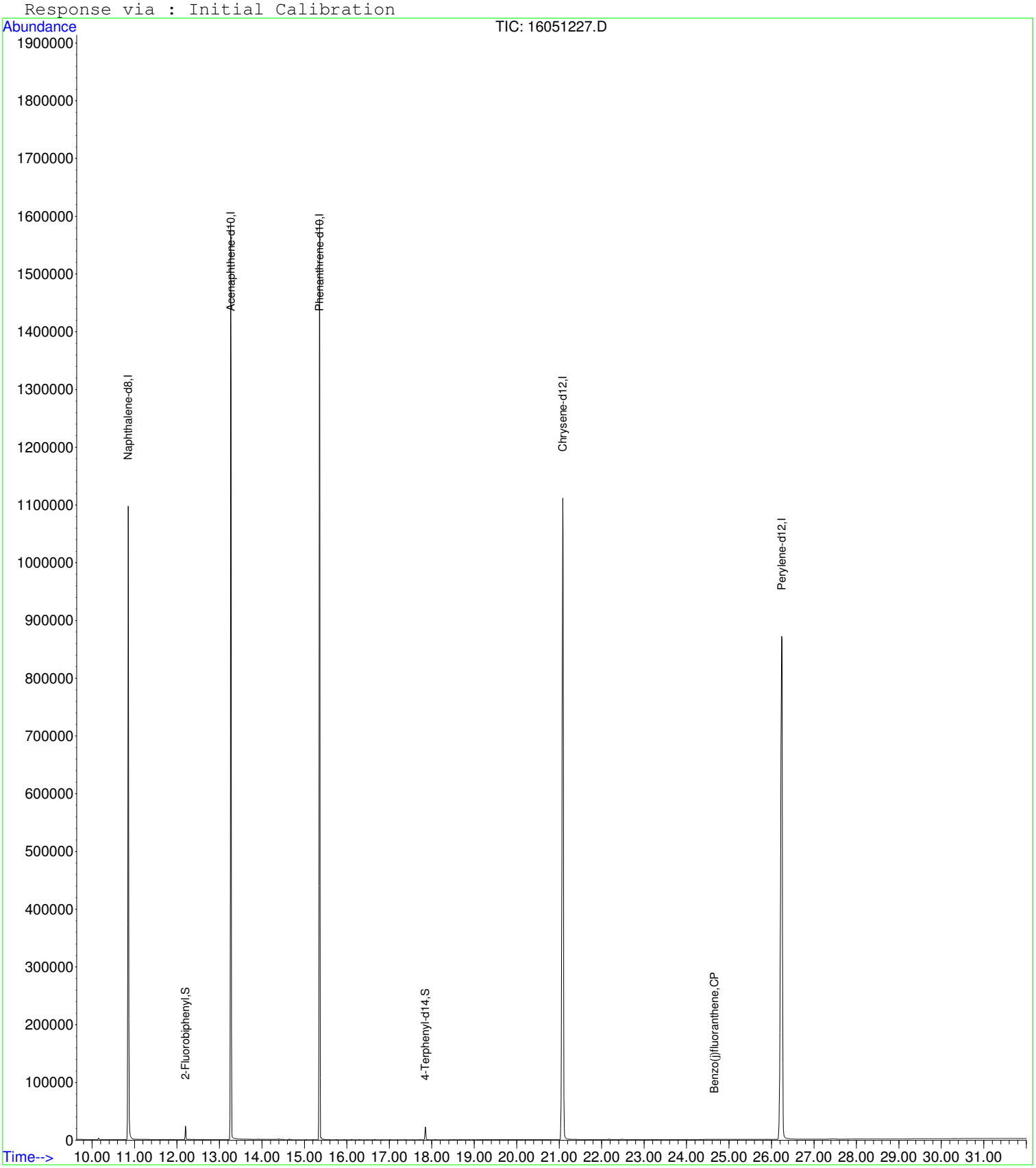
Target Compounds					Qvalue
23) Benzo(j)fluoranthene	24.65	252	20	0.05 ug/kg#	1

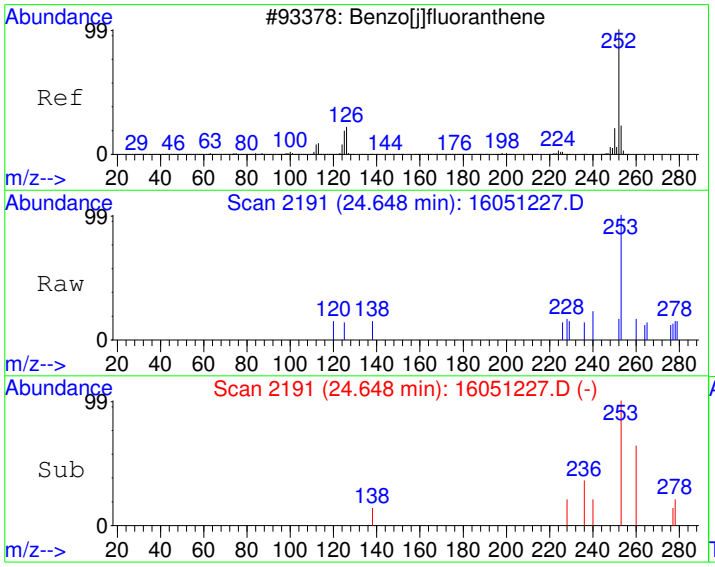
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160512\16051227.D Vial: 27
Acq On : 13 May 2016 1:03 am Operator:
Sample : 1605047-10A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:16 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

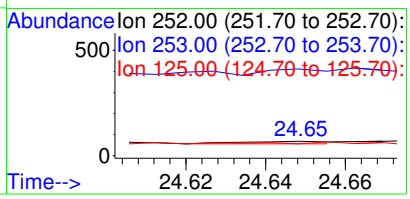




#23
Benzo(j)fluoranthene
Concen: 0.05 ug/kg
RT: 24.65 min Scan# 2191
Delta R.T. -0.10 min
Lab File: 16051227.D
Acq: 13 May 2016 1:03 am

Tgt Ion:252 Resp: 20

Ion	Ratio	Lower	Upper
252	100		
253	123.1	2.1	42.1#
125	0.0	0.0	34.4



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160512\16051228.D Vial: 28
Acq On : 13 May 2016 1:43 am Operator:
Sample : 1605047-06A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:16 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.85	136	1409581	4000.00	ug/kg	122
5) Acenaphthene-d10	13.26	164	911831	4000.00	ug/kg	79
11) Phenanthrene-d10	15.36	188	1638061	4000.00	ug/kg	80
17) Chrysene-d12	21.09	240	1900365	4000.00	ug/kg	84
20) Perylene-d12	26.25	264	1746727	4000.00	ug/kg	85

System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.20	172	22036	82.85	ug/kg	-0.03
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.07%#			
16) 4-Terphenyl-d14	17.85	244	31698	74.80	ug/kg	-0.04
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.87%#			

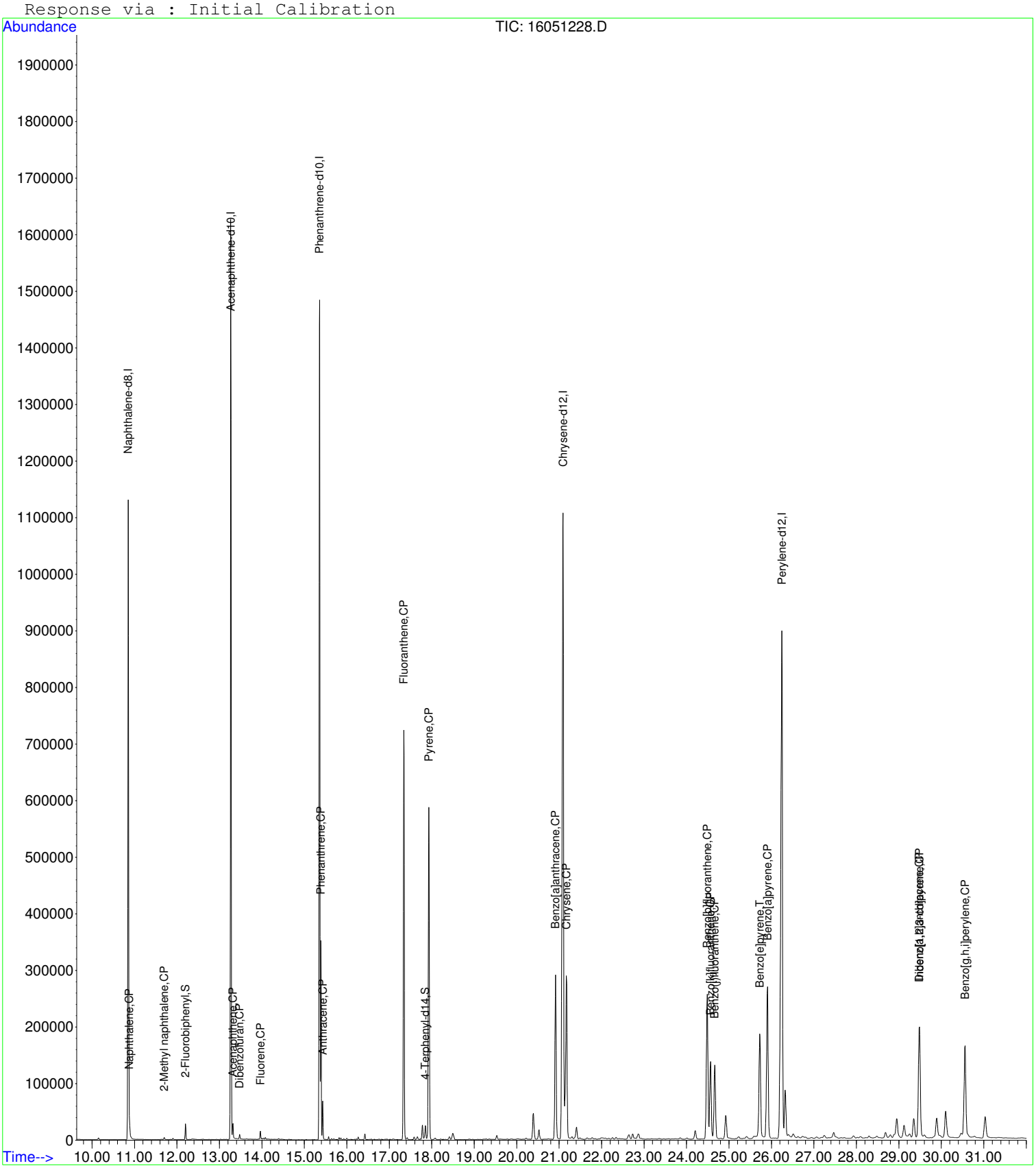
Target Compounds						Qvalue
2) Naphthalene	10.89	128	8823	25.02	ug/kg	99
3) 2-Methyl naphthalene	11.70	142	2139	6.87	ug/kg	97
6) Dibenzofuran	13.47	168	7044	20.61	ug/kg	100
9) Acenaphthene	13.32	154	11496	47.17	ug/kg	98
10) Fluorene	13.97	166	7021	23.72	ug/kg	98
12) Phenanthrene	15.39	178	301436	699.74	ug/kg	99
13) Anthracene	15.43	178	59126	145.01	ug/kg	99
14) Fluoranthene	17.34	202	717497	1609.51	ug/kg	99
15) Pyrene	17.93	202	623588	1346.62	ug/kg	99
18) Benzo[a]anthracene	20.92	228	413352	928.44	ug/kg	100
19) Chrysene	21.17	228	471548	1096.21	ug/kg	99
21) Benzo[b]fluoranthene	24.49	252	480905	1044.59	ug/kg	99
22) Benzo[k]fluoranthene	24.56	252	239973	555.65	ug/kg	99
23) Benzo(j)fluoranthene	24.66	252	220283	572.59	ug/kg	90
24) Benzo[e]pyrene	25.72	252	347056	841.77	ug/kg	99
25) Benzo[a]pyrene	25.91	252	494333	1173.31	ug/kg	99
26) Dibenz[a,h]anthracene	29.47	278	77961	203.18	ug/kg	97
27) Indeno[1,2,3-cd]pyrene	29.48	276	339521	741.73	ug/kg	93
28) Benzo[g,h,i]perylene	30.56	276	318299	891.75	ug/kg	99

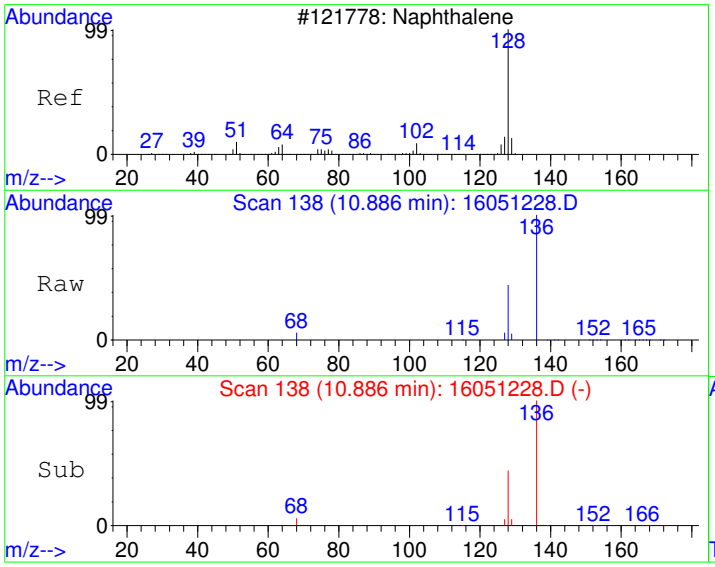
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160512\16051228.D Vial: 28
Acq On : 13 May 2016 1:43 am Operator:
Sample : 1605047-06A Inst : GC/MS #6
Misc : SAMP Multiplr: 10.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:16 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

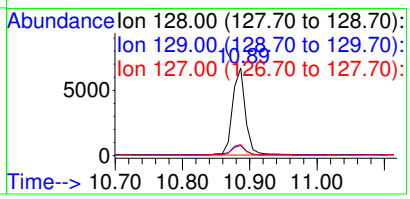


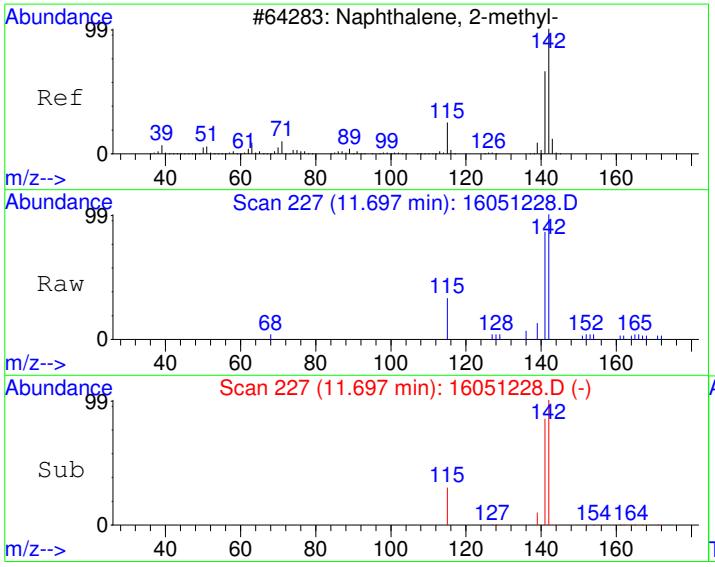


#2
Naphthalene
Concen: 25.02 ug/kg
RT: 10.89 min Scan# 138
Delta R.T. -0.03 min
Lab File: 16051228.D
Acq: 13 May 2016 1:43 am

Tgt Ion:128 Resp: 8823

Ion	Ratio	Lower	Upper
128	100		
129	10.7	0.0	41.1
127	11.9	0.0	42.4

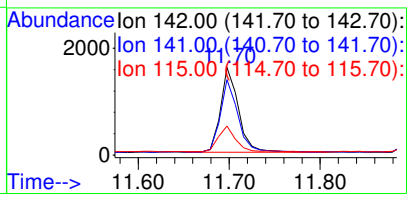


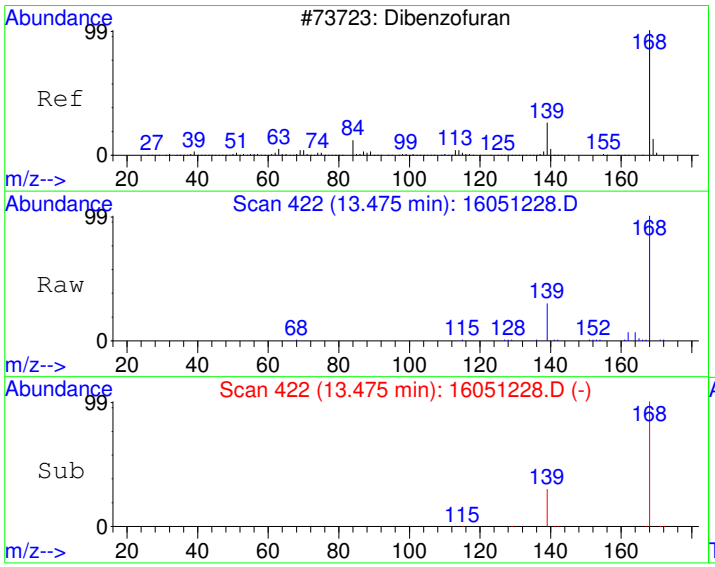


#3
2-Methyl naphthalene
Concen: 6.87 ug/kg
RT: 11.70 min Scan# 227
Delta R.T. -0.03 min
Lab File: 16051228.D
Acq: 13 May 2016 1:43 am

Tgt Ion:142 Resp: 2139

Ion	Ratio	Lower	Upper
142	100		
141	85.5	54.4	114.4
115	30.5	0.0	56.0

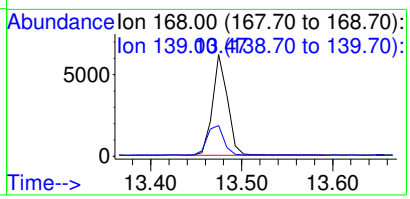


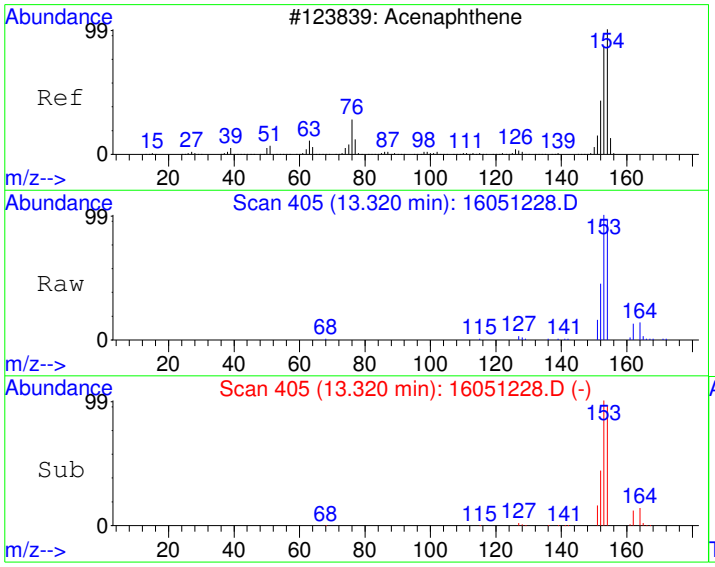


#6
Dibenzofuran
Concen: 20.61 ug/kg
RT: 13.47 min Scan# 422
Delta R.T. -0.03 min
Lab File: 16051228.D
Acq: 13 May 2016 1:43 am

Tgt Ion:168 Resp: 7044

Ion	Ratio	Lower	Upper
168	100		
139	33.8	27.0	40.4

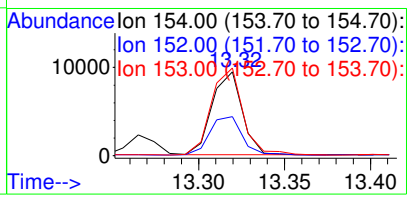


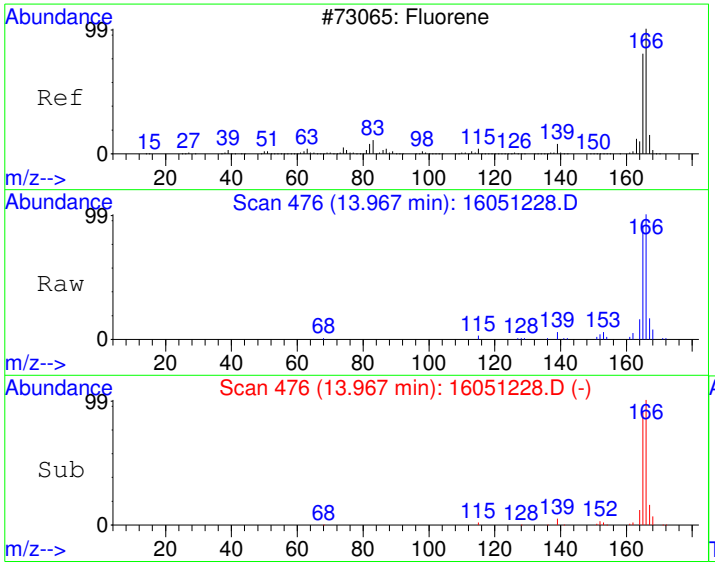


#9
Acenaphthene
Concen: 47.17 ug/kg
RT: 13.32 min Scan# 405
Delta R.T. -0.03 min
Lab File: 16051228.D
Acq: 13 May 2016 1:43 am

Tgt Ion:154 Resp: 11496

Ion	Ratio	Lower	Upper
154	100		
152	46.2	18.9	78.9
153	104.6	75.2	135.2

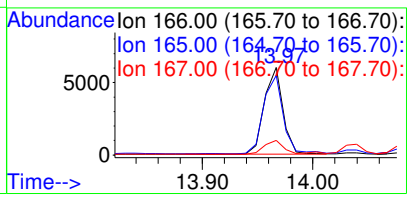


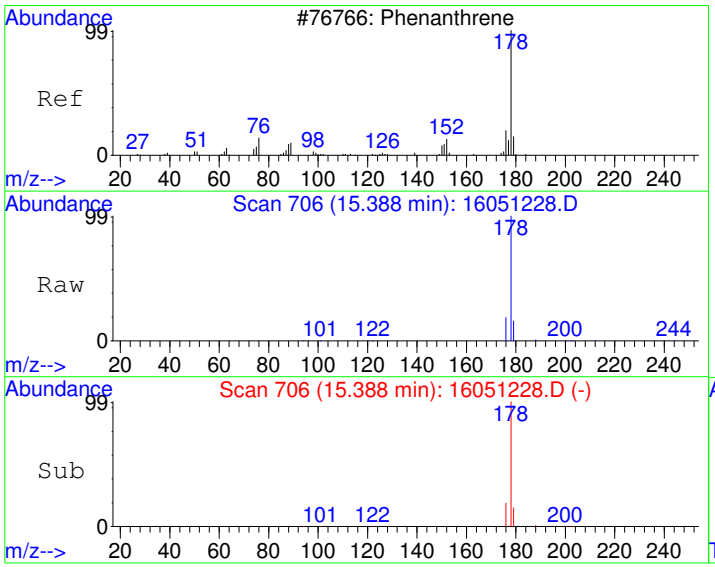


#10
Fluorene
Concen: 23.72 ug/kg
RT: 13.97 min Scan# 476
Delta R.T. -0.03 min
Lab File: 16051228.D
Acq: 13 May 2016 1:43 am

Tgt Ion:166 Resp: 7021

Ion	Ratio	Lower	Upper
166	100		
165	90.3	61.8	121.8
167	15.7	0.0	43.6

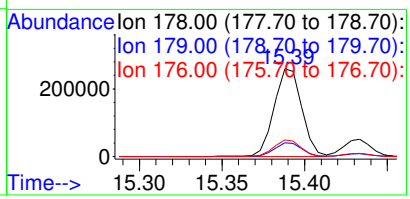


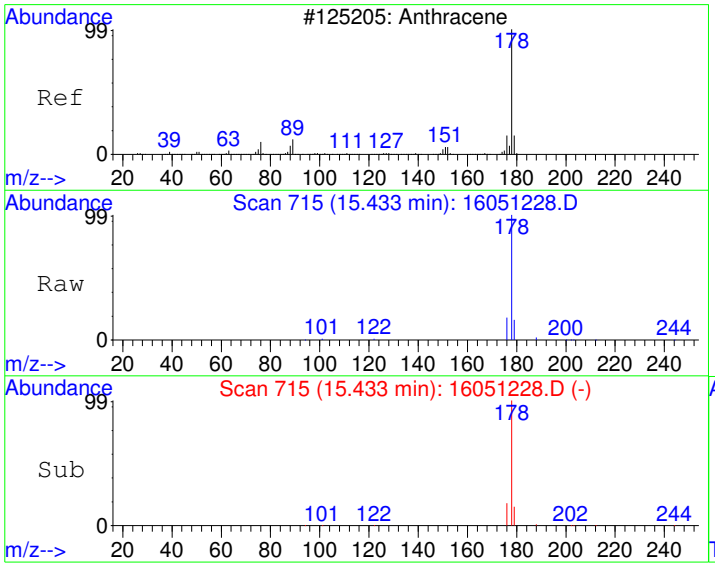


#12
Phenanthrene
Concen: 699.74 ug/kg
RT: 15.39 min Scan# 706
Delta R.T. -0.04 min
Lab File: 16051228.D
Acq: 13 May 2016 1:43 am

Tgt Ion:178 Resp: 301436

Ion	Ratio	Lower	Upper
178	100		
179	15.5	0.0	45.9
176	18.9	0.0	48.5

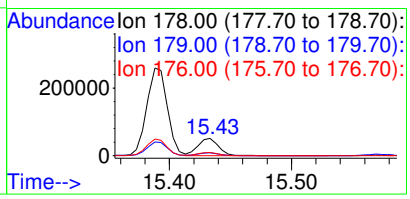


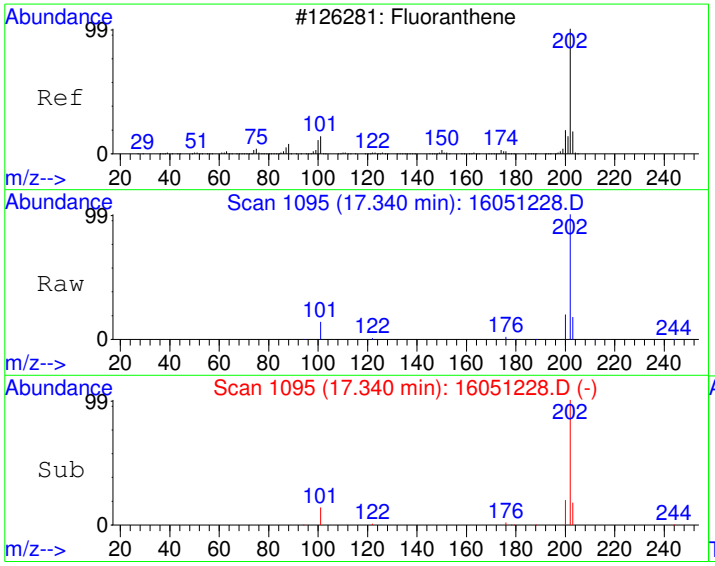


#13
Anthracene
Concen: 145.01 ug/kg
RT: 15.43 min Scan# 715
Delta R.T. -0.03 min
Lab File: 16051228.D
Acq: 13 May 2016 1:43 am

Tgt Ion:178 Resp: 59126

Ion	Ratio	Lower	Upper
178	100		
179	15.4	0.0	45.9
176	17.6	0.0	48.2

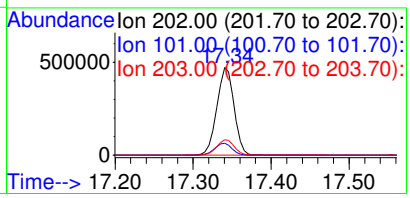


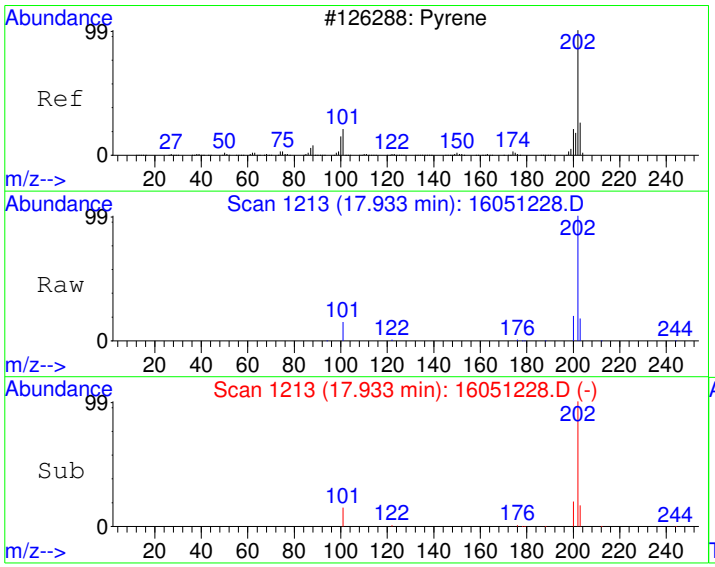


#14
Fluoranthene
Concen: 1609.51 ug/kg
RT: 17.34 min Scan# 1095
Delta R.T. -0.04 min
Lab File: 16051228.D
Acq: 13 May 2016 1:43 am

Tgt Ion:202 Resp: 717497

Ion	Ratio	Lower	Upper
202	100		
101	13.5	0.0	43.0
203	17.6	0.0	47.9

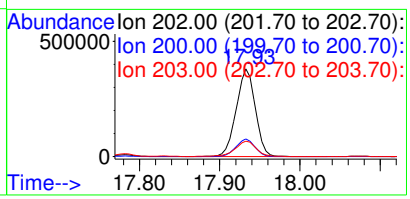


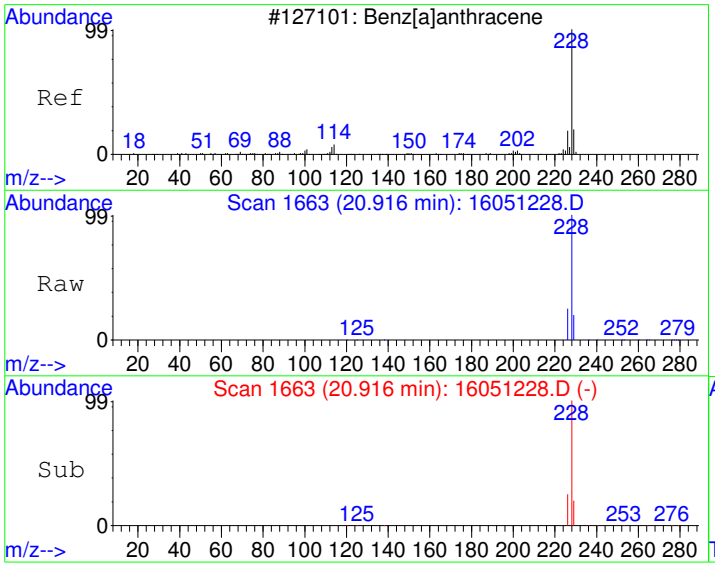


#15
Pyrene
Concen: 1346.62 ug/kg
RT: 17.93 min Scan# 1213
Delta R.T. -0.05 min
Lab File: 16051228.D
Acq: 13 May 2016 1:43 am

Tgt Ion:202 Resp: 623588

Ion	Ratio	Lower	Upper
202	100		
200	19.9	0.0	50.0
203	17.6	0.0	48.0

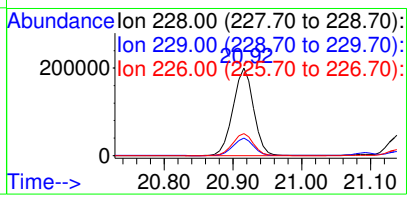


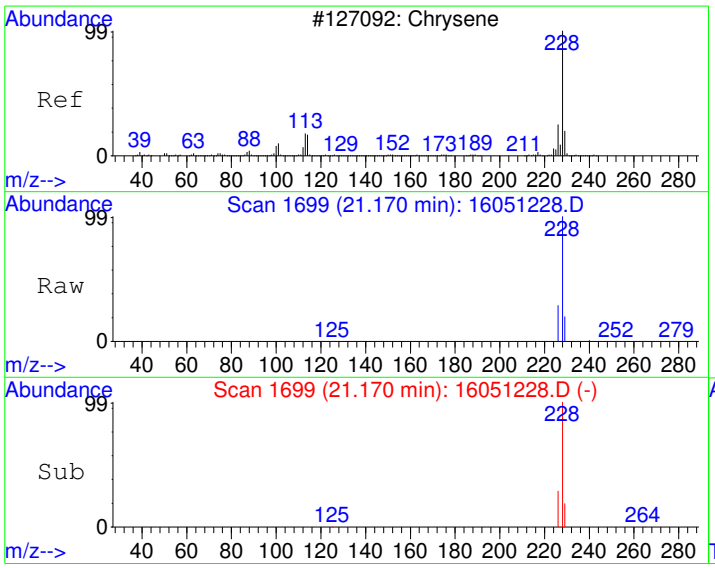


#18
Benzo[a]anthracene
Concen: 928.44 ug/kg
RT: 20.92 min Scan# 1663
Delta R.T. -0.06 min
Lab File: 16051228.D
Acq: 13 May 2016 1:43 am

Tgt Ion:228 Resp: 413352

Ion	Ratio	Lower	Upper
228	100		
229	19.9	0.0	50.1
226	25.3	0.0	55.2

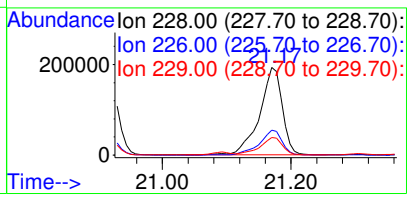


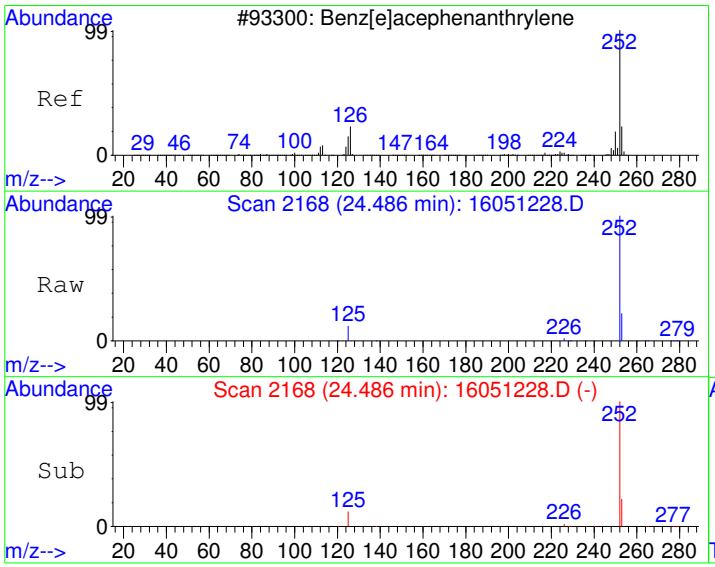


#19
Chrysene
Concen: 1096.21 ug/kg
RT: 21.17 min Scan# 1699
Delta R.T. -0.06 min
Lab File: 16051228.D
Acq: 13 May 2016 1:43 am

Tgt Ion:228 Resp: 471548

Ion	Ratio	Lower	Upper
228	100		
226	28.5	0.0	58.1
229	19.9	0.0	50.1

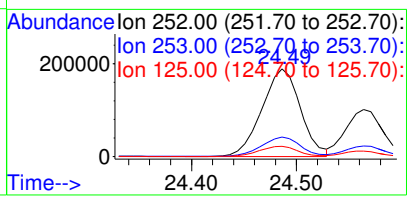


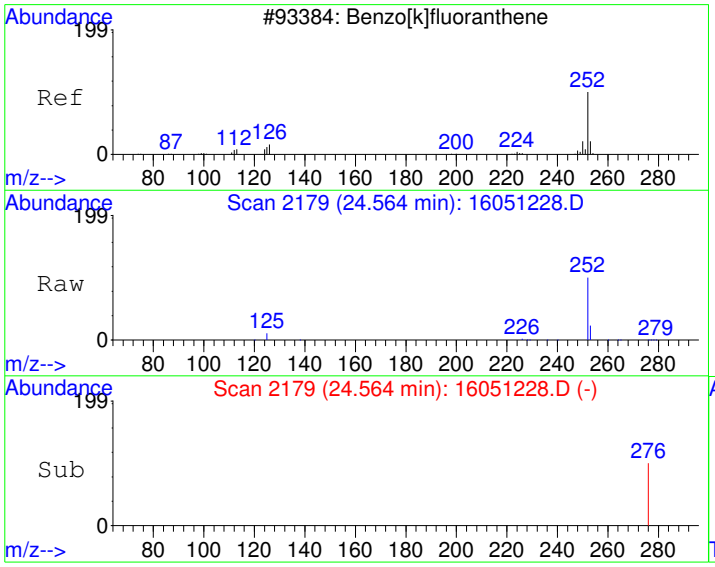


#21
Benzo[b]fluoranthene
Concen: 1044.59 ug/kg
RT: 24.49 min Scan# 2168
Delta R.T. -0.07 min
Lab File: 16051228.D
Acq: 13 May 2016 1:43 am

Tgt Ion:252 Resp: 480905

Ion	Ratio	Lower	Upper
252	100		
253	21.9	0.0	52.2
125	11.6	0.0	41.0

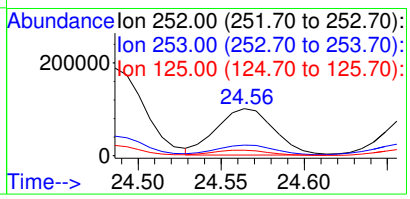


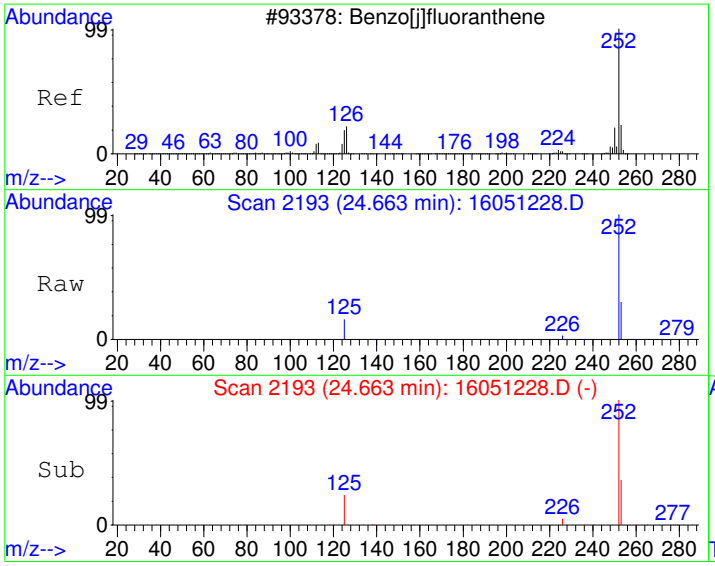


#22
Benzo[k]fluoranthene
Concen: 555.65 ug/kg
RT: 24.56 min Scan# 2179
Delta R.T. -0.08 min
Lab File: 16051228.D
Acq: 13 May 2016 1:43 am

Tgt Ion:252 Resp: 239973

Ion	Ratio	Lower	Upper
252	100		
253	21.3	2.1	42.1
125	11.4	0.0	31.3

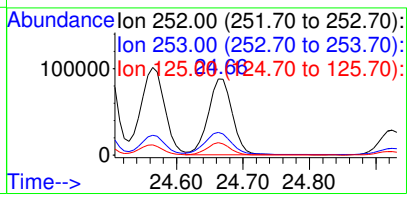


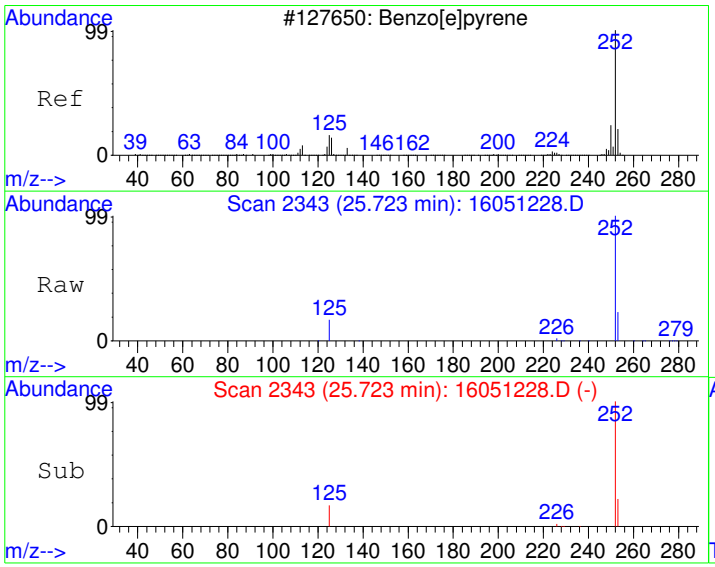


#23
Benzo(j)fluoranthene
Concen: 572.59 ug/kg
RT: 24.66 min Scan# 2193
Delta R.T. -0.08 min
Lab File: 16051228.D
Acq: 13 May 2016 1:43 am

Tgt Ion:252 Resp: 220283

Ion	Ratio	Lower	Upper
252	100		
253	29.1	2.1	42.1
125	16.1	0.0	34.4

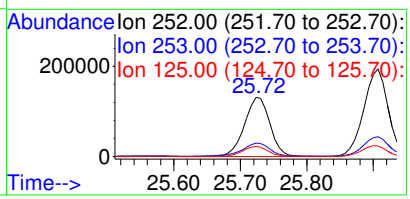


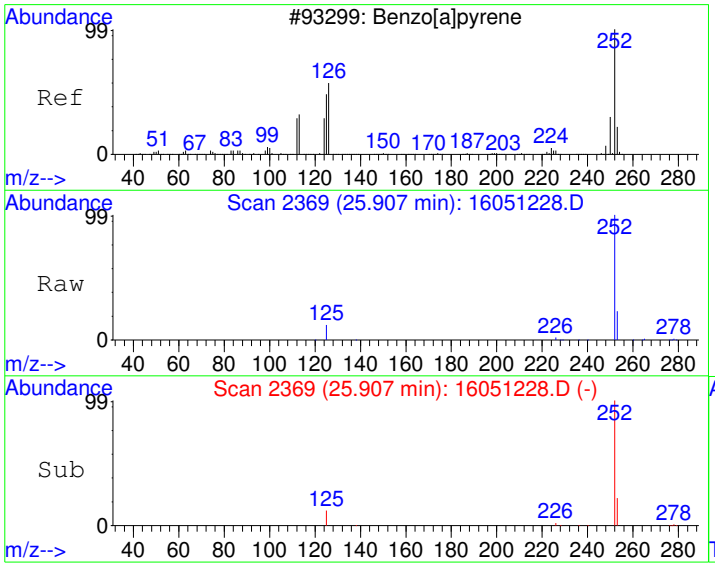


#24
Benzo[e]pyrene
Concen: 841.77 ug/kg
RT: 25.72 min Scan# 2343
Delta R.T. -0.08 min
Lab File: 16051228.D
Acq: 13 May 2016 1:43 am

Tgt Ion:252 Resp: 347056

Ion	Ratio	Lower	Upper
252	100		
253	22.4	2.2	42.2
125	17.0	0.0	36.1

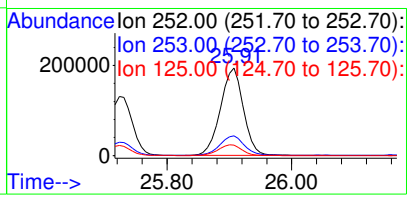


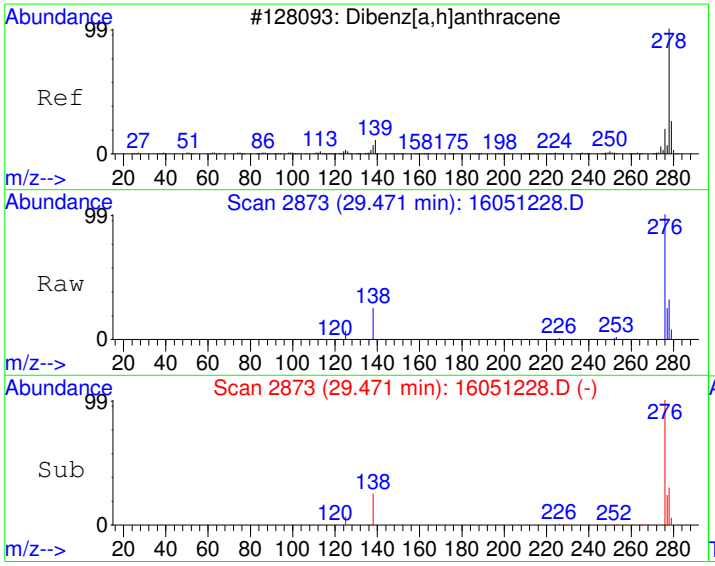


#25
Benzo[a]pyrene
Concen: 1173.31 ug/kg
RT: 25.91 min Scan# 2369
Delta R.T. -0.08 min
Lab File: 16051228.D
Acq: 13 May 2016 1:43 am

Tgt Ion:252 Resp: 494333

Ion	Ratio	Lower	Upper
252	100		
253	22.2	1.9	41.9
125	11.9	0.0	31.7

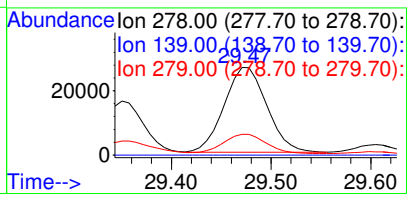


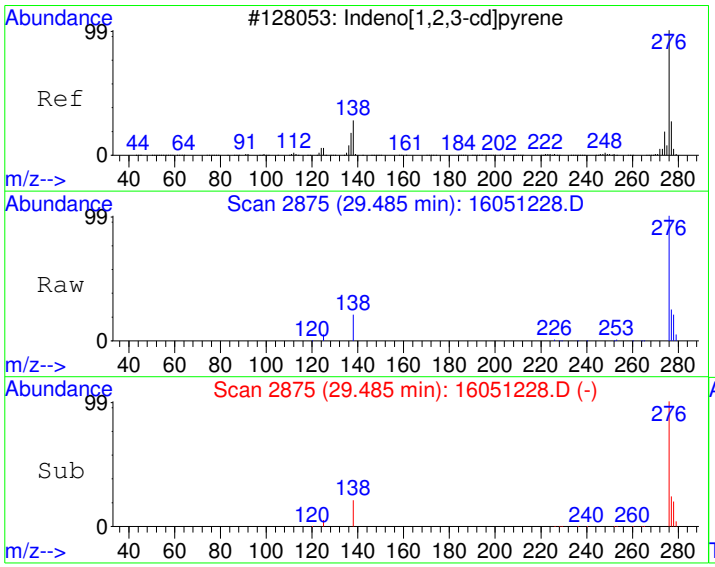


#26
Dibenz[a,h]anthracene
Concen: 203.18 ug/kg
RT: 29.47 min Scan# 2873
Delta R.T. -0.09 min
Lab File: 16051228.D
Acq: 13 May 2016 1:43 am

Tgt Ion:278 Resp: 77961

Ion	Ratio	Lower	Upper
278	100		
139	0.0	0.0	20.0
279	22.9	4.2	44.2

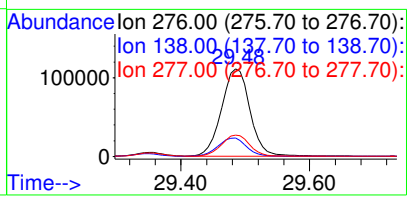


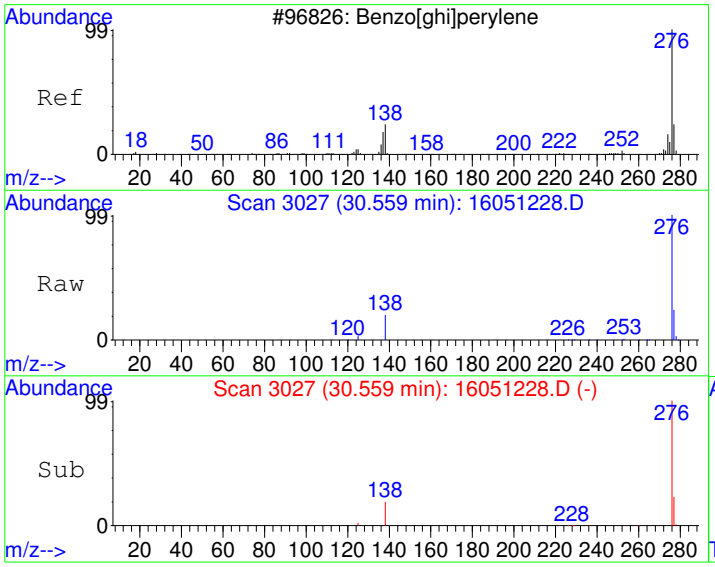


#27
Indeno[1,2,3-cd]pyrene
Concen: 741.73 ug/kg
RT: 29.48 min Scan# 2875
Delta R.T. -0.08 min
Lab File: 16051228.D
Acq: 13 May 2016 1:43 am

Tgt Ion:276 Resp: 339521

Ion	Ratio	Lower	Upper
276	100		
138	20.9	6.7	46.7
277	24.4	5.8	45.8

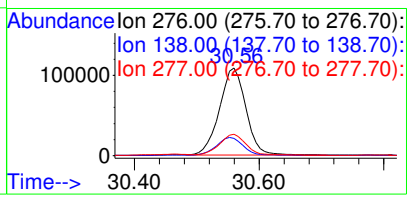




#28
Benzo[g,h,i]perylene
Concen: 891.75 ug/kg
RT: 30.56 min Scan# 3027
Delta R.T. -0.08 min
Lab File: 16051228.D
Acq: 13 May 2016 1:43 am

Tgt Ion:276 Resp: 318299

Ion	Ratio	Lower	Upper
276	100		
138	19.6	0.0	39.1
277	24.1	4.0	44.0



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160512\16051229.D Vial: 29
Acq On : 13 May 2016 2:23 am Operator:
Sample : 1605047-01A Inst : GC/MS #6
Misc : SAMP Multiplr: 20.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:17 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	10.86	136	1411613	4000.00 ug/kg	122
5) Acenaphthene-d10	13.27	164	876265	4000.00 ug/kg	76
11) Phenanthrene-d10	15.36	188	1644112	4000.00 ug/kg	81
17) Chrysene-d12	21.09	240	1868416	4000.00 ug/kg	82
20) Perylene-d12	26.25	264	1733850	4000.00 ug/kg	84

System Monitoring Compounds					
7) 2-Fluorobiphenyl	12.21	172	10849	42.44 ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.06%#	
16) 4-Terphenyl-d14	17.85	244	15784	37.11 ug/kg	-0.05
Spiked Amount 4000.000	Range 40 - 140		Recovery =	0.93%#	

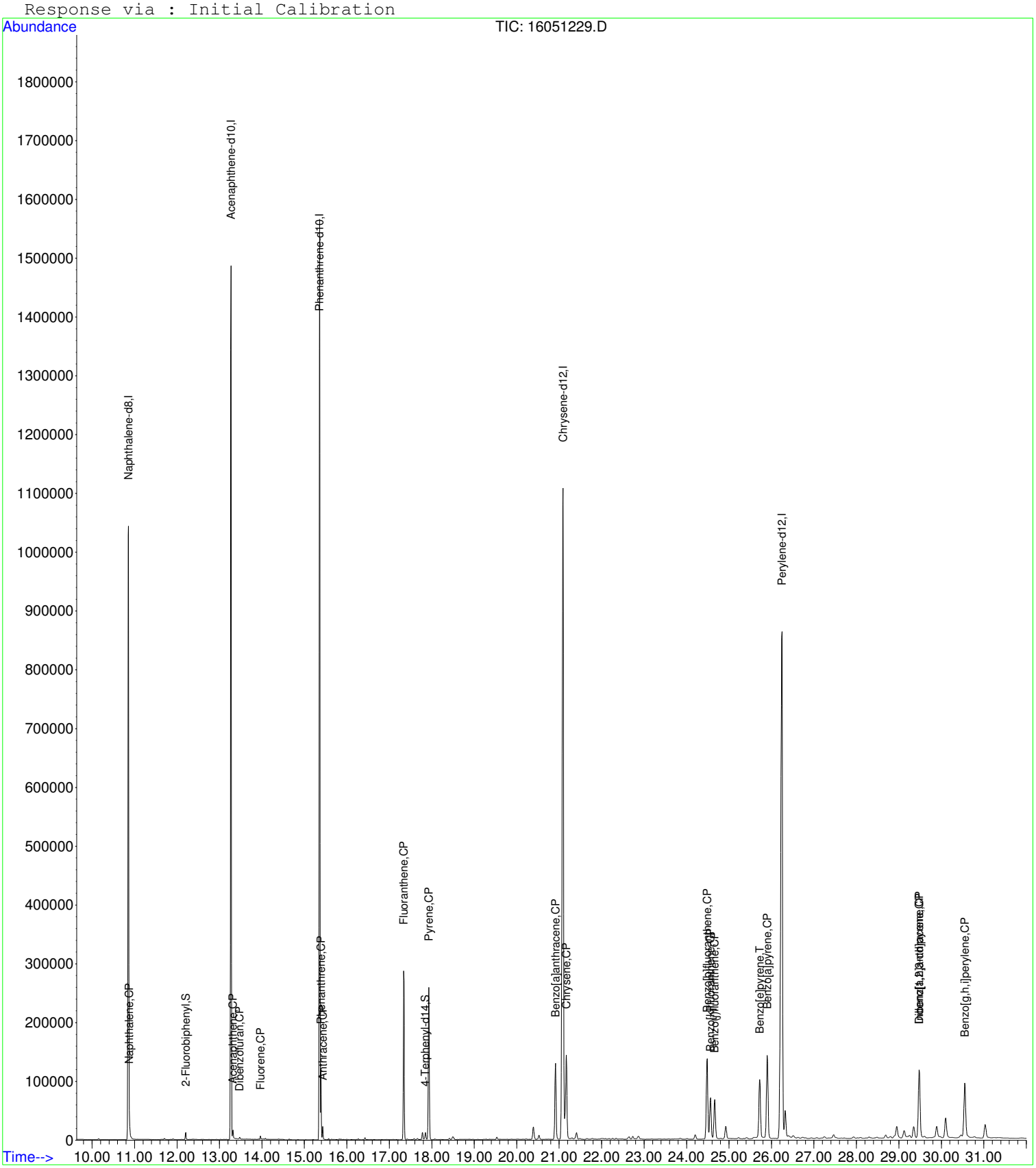
Target Compounds					Qvalue
2) Naphthalene	10.89	128	6114	17.32 ug/kg	99
6) Dibenzofuran	13.47	168	2704	8.23 ug/kg	99
9) Acenaphthene	13.32	154	5488	23.43 ug/kg	99
10) Fluorene	13.97	166	2450	8.61 ug/kg	98
12) Phenanthrene	15.39	178	100170	231.67 ug/kg	99
13) Anthracene	15.43	178	18307	44.73 ug/kg	99
14) Fluoranthene	17.34	202	286310	639.89 ug/kg	99
15) Pyrene	17.93	202	266357	573.07 ug/kg	99
18) Benzo[a]anthracene	20.92	228	188960	431.69 ug/kg	99
19) Chrysene	21.17	228	231463	547.29 ug/kg	100
21) Benzo[b]fluoranthene	24.49	252	251620	550.61 ug/kg	100
22) Benzo[k]fluoranthene	24.56	252	122834	286.53 ug/kg	98
23) Benzo(j)fluoranthene	24.66	252	114752	300.50 ug/kg	91
24) Benzo[e]pyrene	25.72	252	188210	459.89 ug/kg	99
25) Benzo[a]pyrene	25.90	252	263740	630.64 ug/kg	99
26) Dibenz[a,h]anthracene	29.47	278	43059	113.05 ug/kg	98
27) Indeno[1,2,3-cd]pyrene	29.48	276	190029	418.23 ug/kg	92
28) Benzo[g,h,i]perylene	30.55	276	180989	510.83 ug/kg	98

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

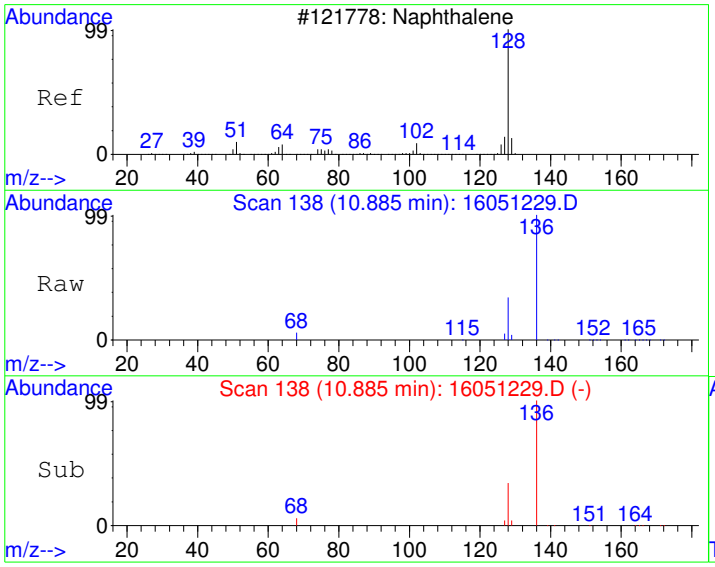
Quantitation Report

Data File : C:\HPCHEM\1\DATA\160512\16051229.D Vial: 29
Acq On : 13 May 2016 2:23 am Operator:
Sample : 1605047-01A Inst : GC/MS #6
Misc : SAMP Multiplr: 20.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:17 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



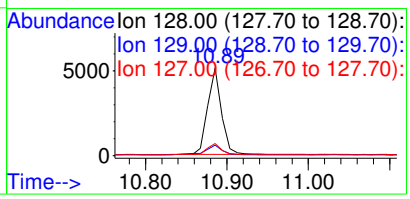
16051229.D PP160421.M Fri May 13 08:17:05 2016 Page 2

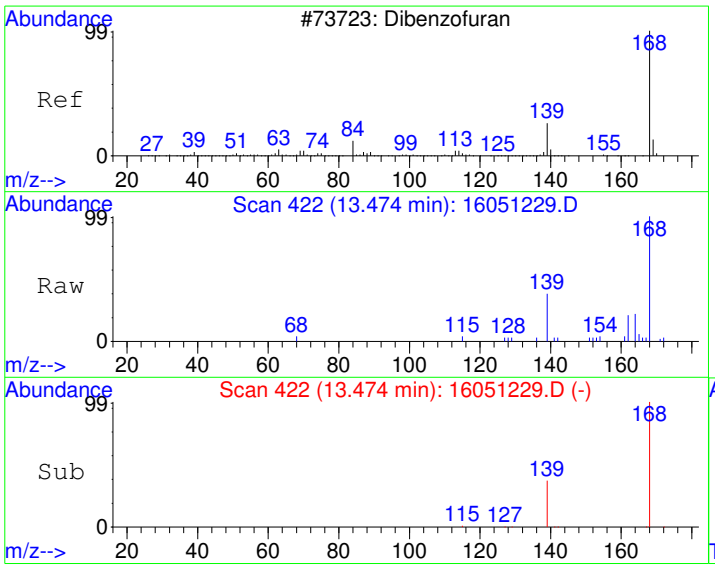


#2
Naphthalene
Concen: 17.32 ug/kg
RT: 10.89 min Scan# 138
Delta R.T. -0.03 min
Lab File: 16051229.D
Acq: 13 May 2016 2:23 am

Tgt Ion:128 Resp: 6114

Ion	Ratio	Lower	Upper
128	100		
129	10.9	0.0	41.1
127	12.8	0.0	42.4

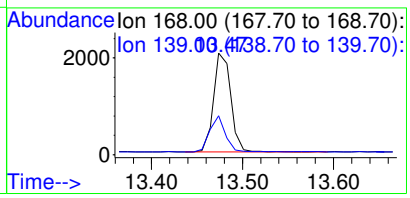


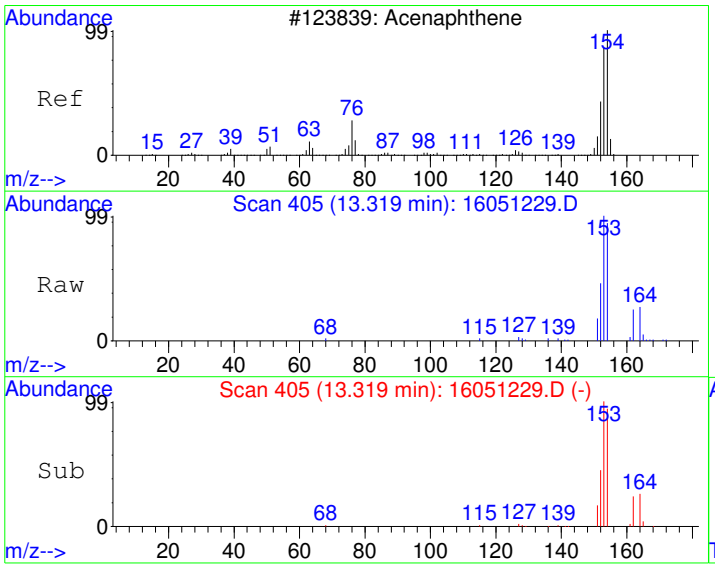


#6
Dibenzofuran
Concen: 8.23 ug/kg
RT: 13.47 min Scan# 422
Delta R.T. -0.03 min
Lab File: 16051229.D
Acq: 13 May 2016 2:23 am

Tgt Ion:168 Resp: 2704

Ion	Ratio	Lower	Upper
168	100		
139	34.5	27.0	40.4

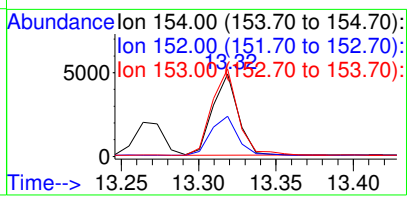


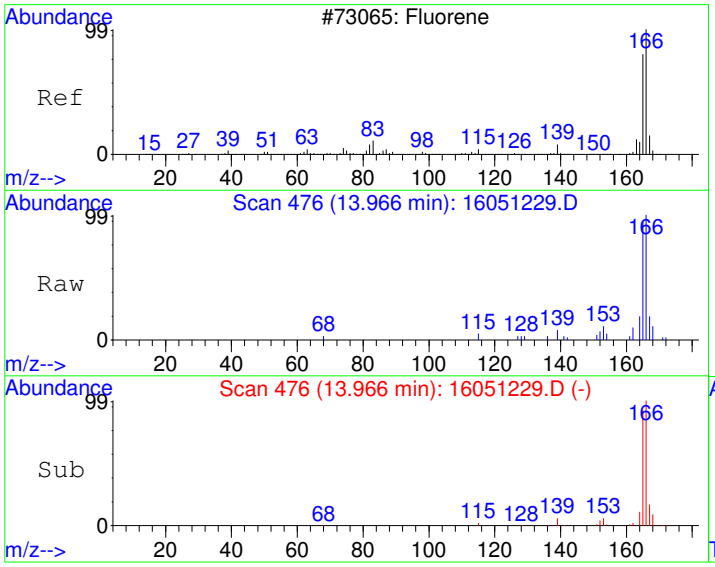


#9
Acenaphthene
Concen: 23.43 ug/kg
RT: 13.32 min Scan# 405
Delta R.T. -0.03 min
Lab File: 16051229.D
Acq: 13 May 2016 2:23 am

Tgt Ion:154 Resp: 5488

Ion	Ratio	Lower	Upper
154	100		
152	48.3	18.9	78.9
153	106.7	75.2	135.2

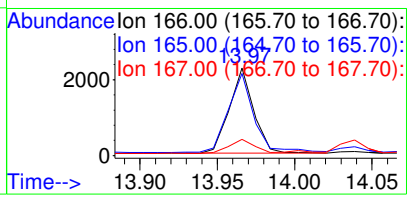


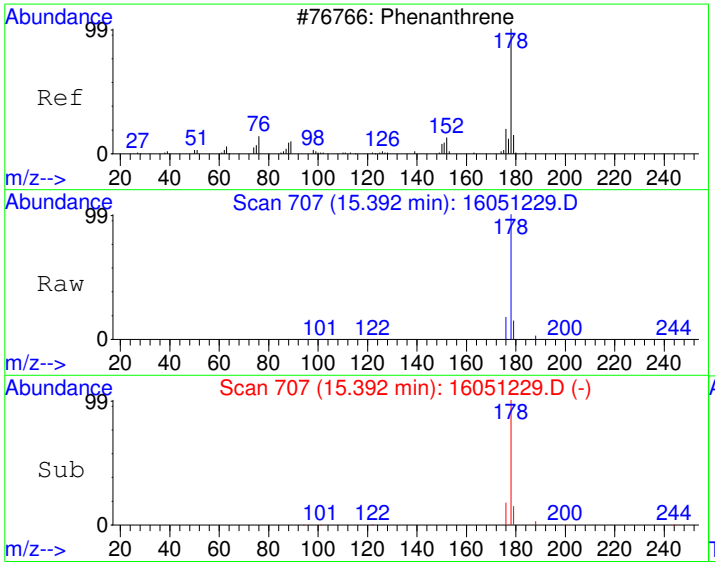


#10
Fluorene
Concen: 8.61 ug/kg
RT: 13.97 min Scan# 476
Delta R.T. -0.03 min
Lab File: 16051229.D
Acq: 13 May 2016 2:23 am

Tgt Ion:166 Resp: 2450

Ion	Ratio	Lower	Upper
166	100		
165	92.6	61.8	121.8
167	16.4	0.0	43.6

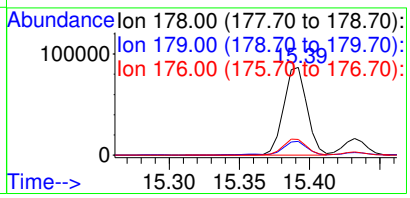


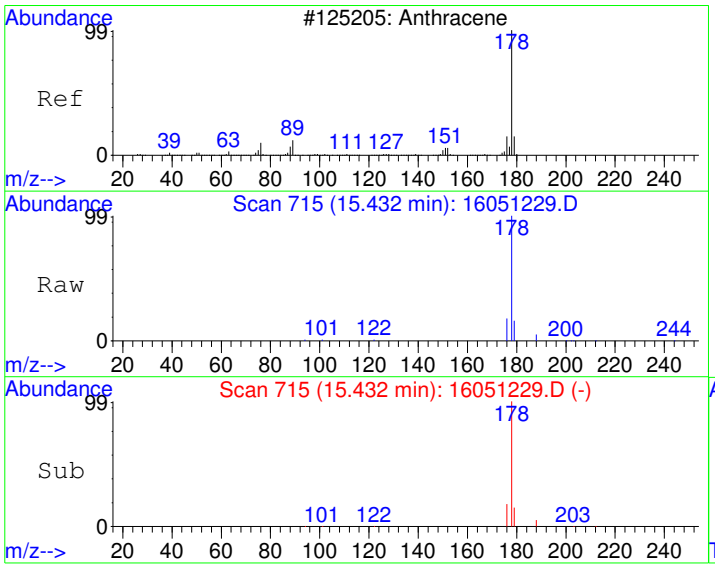


#12
Phenanthrene
Concen: 231.67 ug/kg
RT: 15.39 min Scan# 707
Delta R.T. -0.03 min
Lab File: 16051229.D
Acq: 13 May 2016 2:23 am

Tgt Ion:178 Resp: 100170

Ion	Ratio	Lower	Upper
178	100		
179	15.4	0.0	45.9
176	17.8	0.0	48.5

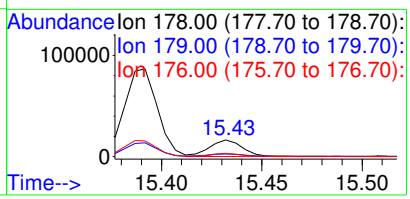


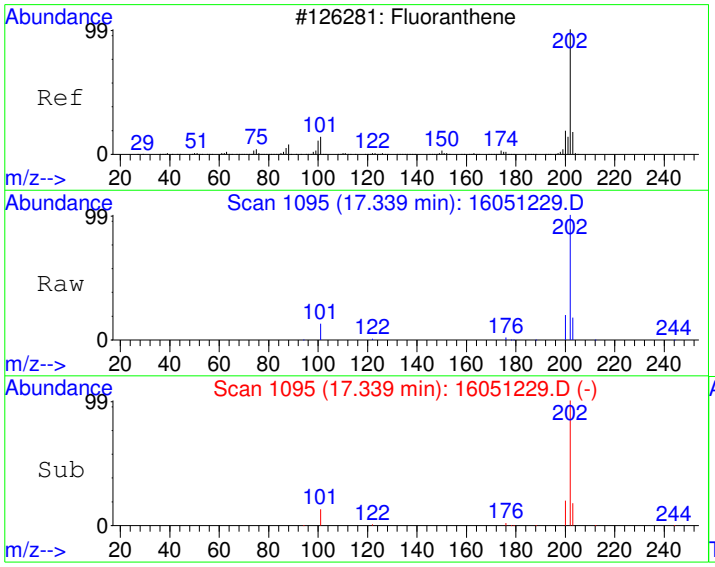


#13
Anthracene
Concen: 44.73 ug/kg
RT: 15.43 min Scan# 715
Delta R.T. -0.03 min
Lab File: 16051229.D
Acq: 13 May 2016 2:23 am

Tgt Ion:178 Resp: 18307

Ion	Ratio	Lower	Upper
178	100		
179	15.2	0.0	45.9
176	18.1	0.0	48.2

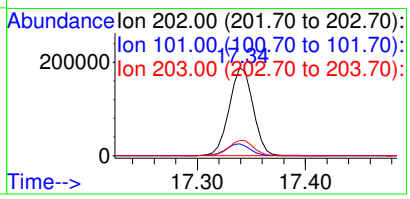


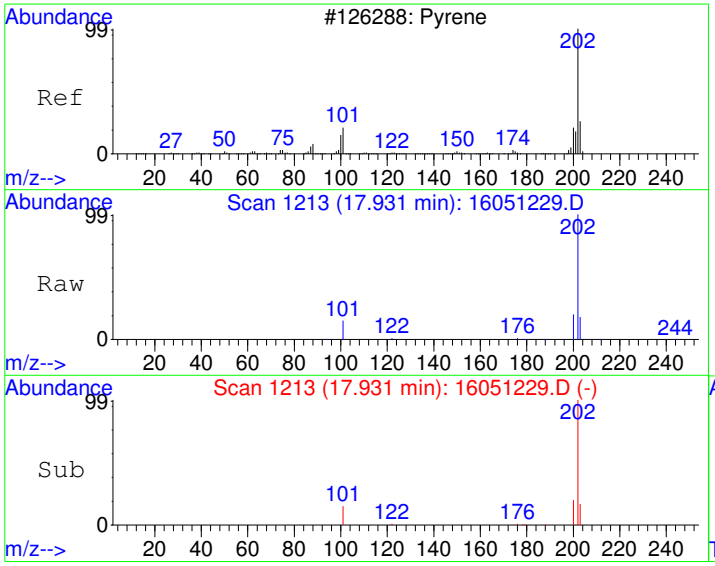


#14
Fluoranthene
Concen: 639.89 ug/kg
RT: 17.34 min Scan# 1095
Delta R.T. -0.04 min
Lab File: 16051229.D
Acq: 13 May 2016 2:23 am

Tgt Ion:202 Resp: 286310

Ion	Ratio	Lower	Upper
202	100		
101	13.5	0.0	43.0
203	17.5	0.0	47.9

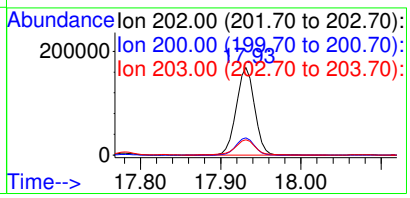


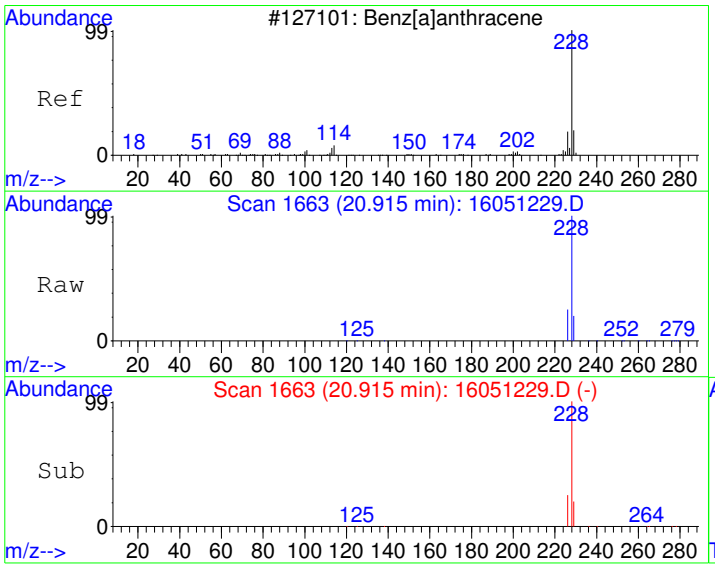


#15
Pyrene
Concen: 573.07 ug/kg
RT: 17.93 min Scan# 1213
Delta R.T. -0.05 min
Lab File: 16051229.D
Acq: 13 May 2016 2:23 am

Tgt Ion:202 Resp: 266357

Ion	Ratio	Lower	Upper
202	100		
200	19.7	0.0	50.0
203	17.5	0.0	48.0

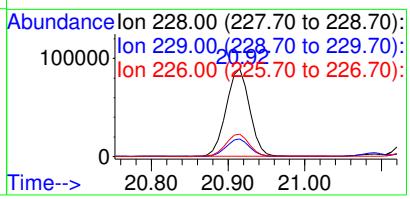


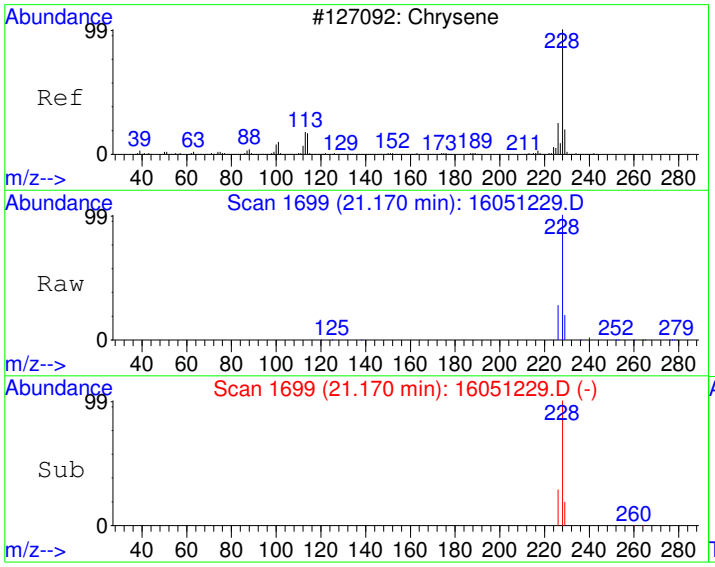


#18
Benzo[a]anthracene
Concen: 431.69 ug/kg
RT: 20.92 min Scan# 1663
Delta R.T. -0.06 min
Lab File: 16051229.D
Acq: 13 May 2016 2:23 am

Tgt Ion:228 Resp: 188960

Ion	Ratio	Lower	Upper
228	100		
229	19.7	0.0	50.1
226	25.4	0.0	55.2

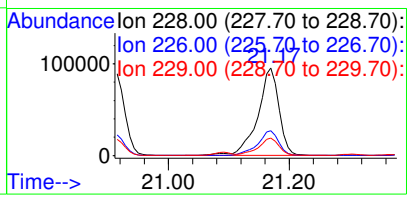


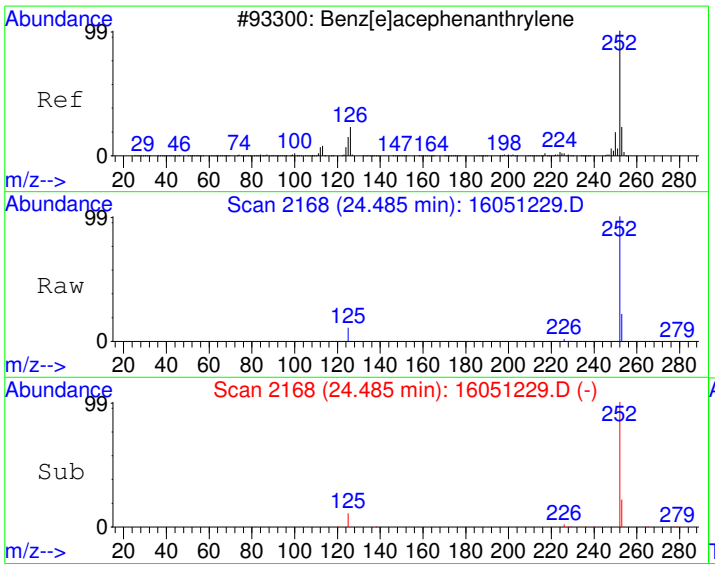


#19
Chrysene
Concen: 547.29 ug/kg
RT: 21.17 min Scan# 1699
Delta R.T. -0.06 min
Lab File: 16051229.D
Acq: 13 May 2016 2:23 am

Tgt Ion:228 Resp: 231463

Ion	Ratio	Lower	Upper
228	100		
226	28.3	0.0	58.1
229	20.0	0.0	50.1

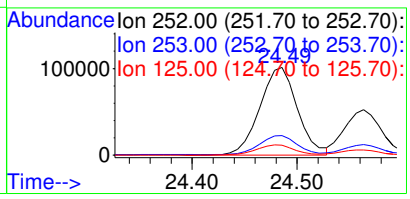


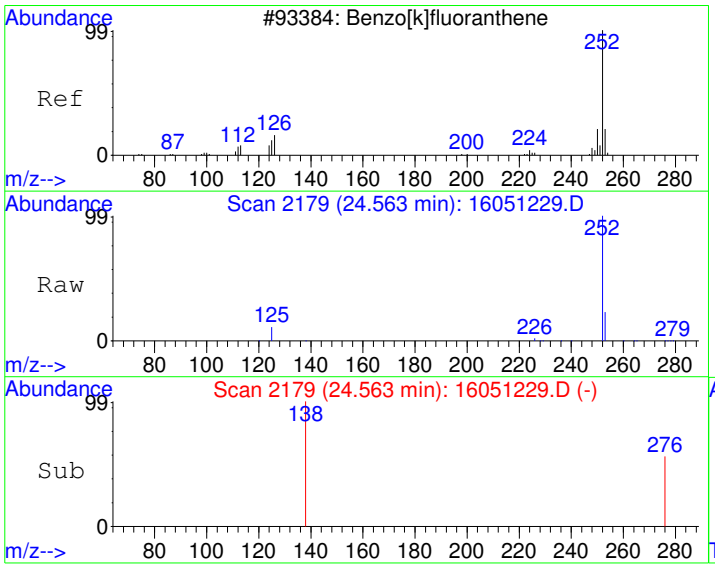


#21
Benzo[b]fluoranthene
Concen: 550.61 ug/kg
RT: 24.49 min Scan# 2168
Delta R.T. -0.07 min
Lab File: 16051229.D
Acq: 13 May 2016 2:23 am

Tgt Ion:252 Resp: 251620

Ion	Ratio	Lower	Upper
252	100		
253	21.9	0.0	52.2
125	11.1	0.0	41.0

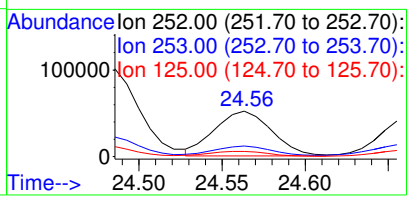


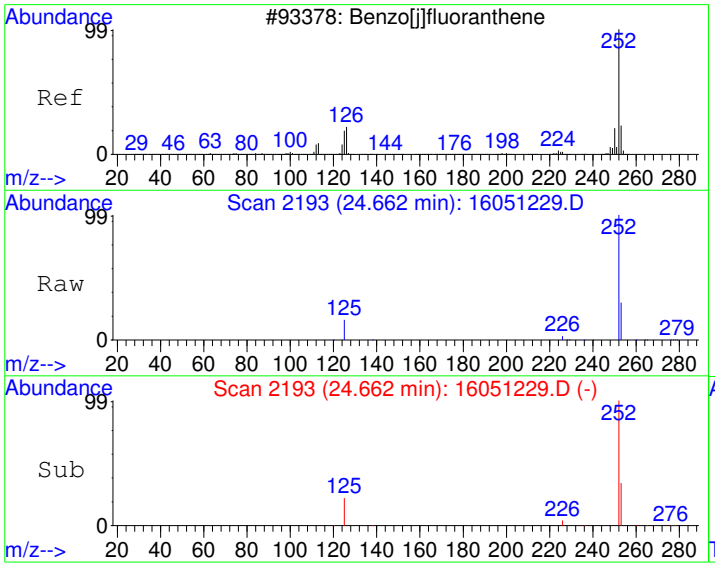


#22
Benzo[k]fluoranthene
Concen: 286.53 ug/kg
RT: 24.56 min Scan# 2179
Delta R.T. -0.08 min
Lab File: 16051229.D
Acq: 13 May 2016 2:23 am

Tgt Ion:252 Resp: 122834

Ion	Ratio	Lower	Upper
252	100		
253	21.0	2.1	42.1
125	11.0	0.0	31.3

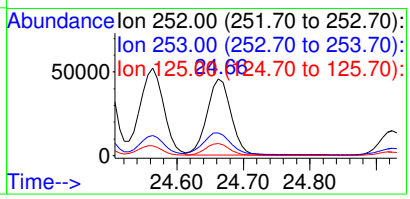


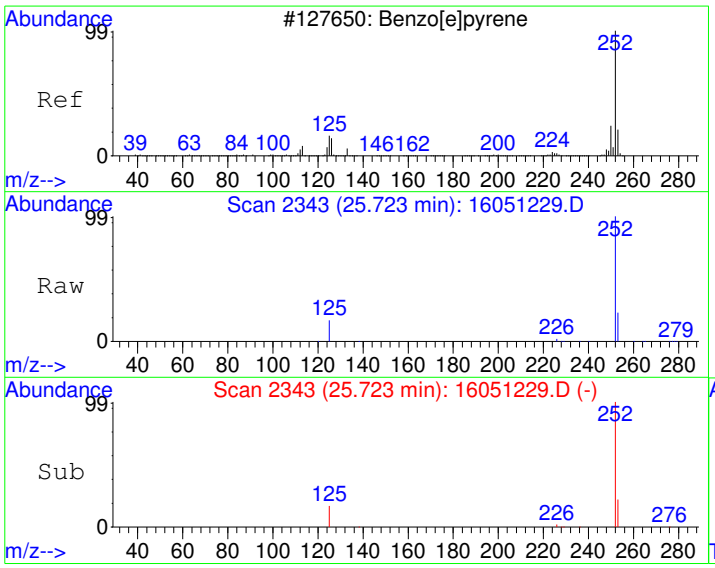


#23
Benzo(j)fluoranthene
Concen: 300.50 ug/kg
RT: 24.66 min Scan# 2193
Delta R.T. -0.08 min
Lab File: 16051229.D
Acq: 13 May 2016 2:23 am

Tgt Ion:252 Resp: 114752

Ion	Ratio	Lower	Upper
252	100		
253	28.7	2.1	42.1
125	15.5	0.0	34.4

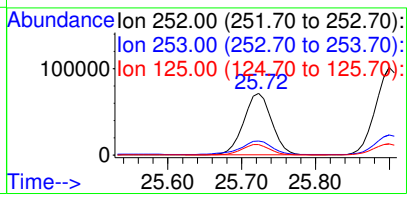


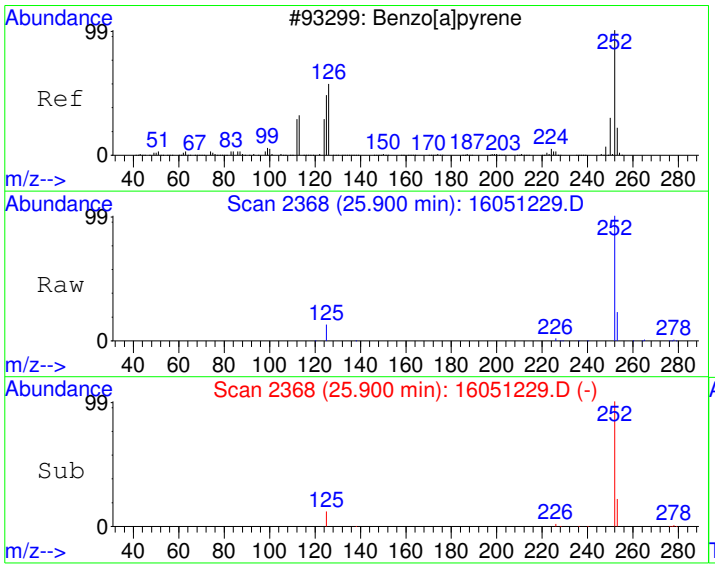


#24
Benzo[e]pyrene
Concen: 459.89 ug/kg
RT: 25.72 min Scan# 2343
Delta R.T. -0.08 min
Lab File: 16051229.D
Acq: 13 May 2016 2:23 am

Tgt Ion:252 Resp: 188210

Ion	Ratio	Lower	Upper
252	100		
253	22.0	2.2	42.2
125	16.6	0.0	36.1

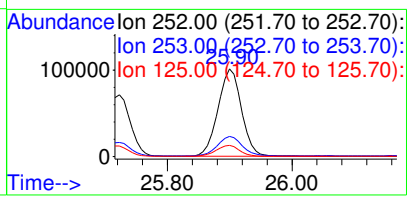


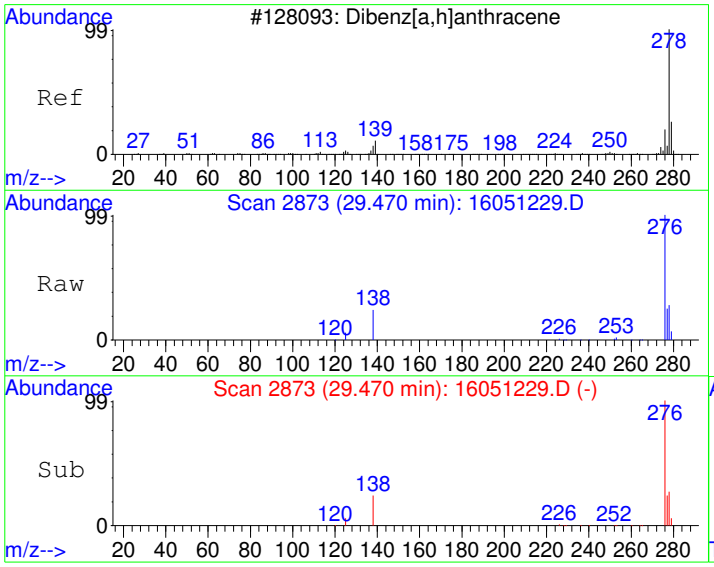


#25
Benzo[a]pyrene
Concen: 630.64 ug/kg
RT: 25.90 min Scan# 2368
Delta R.T. -0.08 min
Lab File: 16051229.D
Acq: 13 May 2016 2:23 am

Tgt Ion:252 Resp: 263740

Ion	Ratio	Lower	Upper
252	100		
253	22.3	1.9	41.9
125	12.5	0.0	31.7

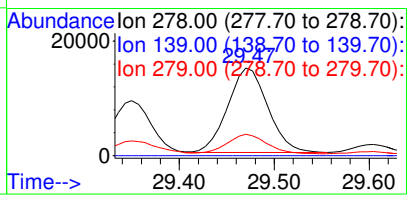


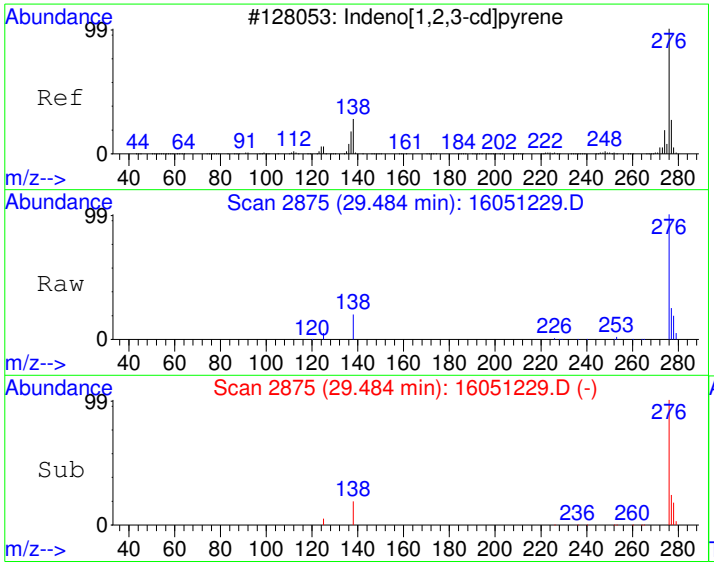


#26
Dibenz[a,h]anthracene
Concen: 113.05 ug/kg
RT: 29.47 min Scan# 2873
Delta R.T. -0.09 min
Lab File: 16051229.D
Acq: 13 May 2016 2:23 am

Tgt Ion:278 Resp: 43059

Ion	Ratio	Lower	Upper
278	100		
139	0.0	0.0	20.0
279	23.1	4.2	44.2

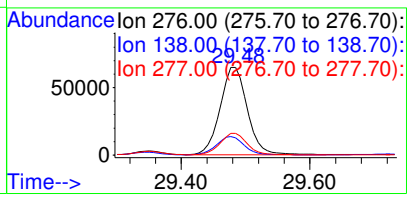


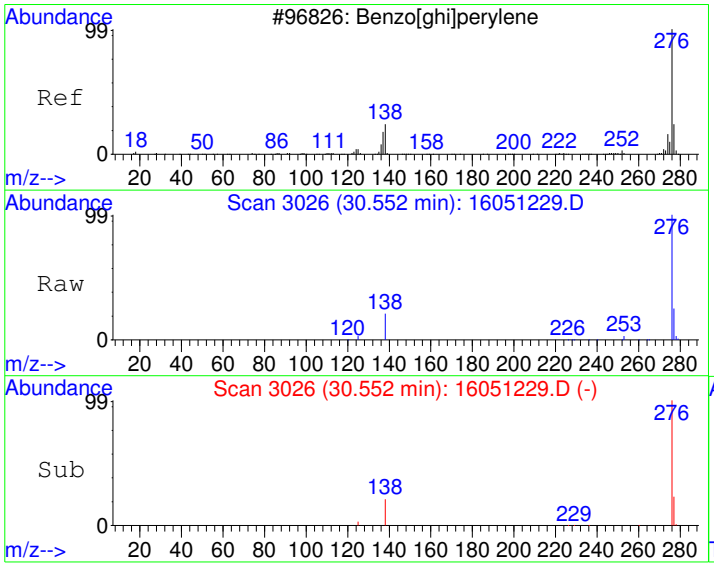


#27
Indeno[1,2,3-cd]pyrene
Concen: 418.23 ug/kg
RT: 29.48 min Scan# 2875
Delta R.T. -0.08 min
Lab File: 16051229.D
Acq: 13 May 2016 2:23 am

Tgt Ion:276 Resp: 190029

Ion	Ratio	Lower	Upper
276	100		
138	19.4	6.7	46.7
277	24.4	5.8	45.8

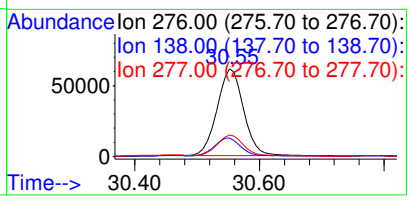




#28
Benzo[g,h,i]perylene
Concen: 510.83 ug/kg
RT: 30.55 min Scan# 3026
Delta R.T. -0.09 min
Lab File: 16051229.D
Acq: 13 May 2016 2:23 am

Tgt Ion:276 Resp: 180989

Ion	Ratio	Lower	Upper
276	100		
138	20.9	0.0	39.1
277	24.3	4.0	44.0



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\160512\16051230.D Vial: 30
Acq On : 13 May 2016 3:03 am Operator:
Sample : CCV1-160512 Inst : GC/MS #6
Misc : CCV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:09 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 : PP160421

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	10.85	136	1438492	4000.00	ug/kg	124
5) Acenaphthene-d10	13.27	164	890655	4000.00	ug/kg	77
11) Phenanthrene-d10	15.36	188	1613116	4000.00	ug/kg	79
17) Chrysene-d12	21.09	240	1899671	4000.00	ug/kg	84
20) Perylene-d12	26.25	264	1708414	4000.00	ug/kg	83

System Monitoring Compounds						
7) 2-Fluorobiphenyl	12.20	172	281423	1083.18	ug/kg	-0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery = 27.08%#			
16) 4-Terphenyl-d14	17.85	244	417969	1001.50	ug/kg	-0.04
Spiked Amount 4000.000	Range 40 - 140		Recovery = 25.04%#			

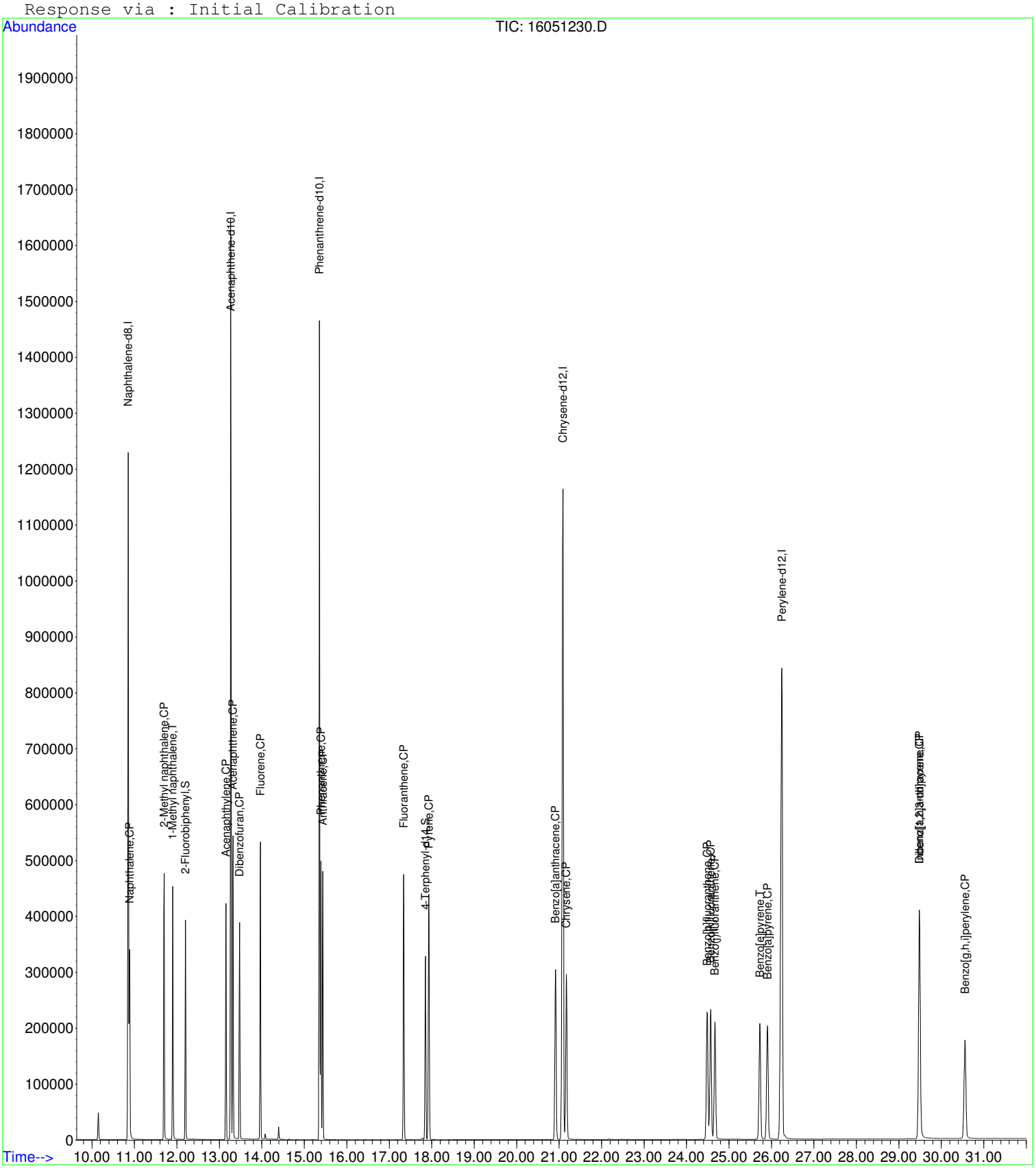
Target Compounds						Qvalue
2) Naphthalene	10.89	128	363311	1009.70	ug/kg	100
3) 2-Methyl naphthalene	11.70	142	266888	839.70	ug/kg	98
4) 1-Methyl naphthalene	11.90	142	240035	824.59	ug/kg	92
6) Dibenzofuran	13.48	168	330766	990.89	ug/kg	99
8) Acenaphthylene	13.16	152	410942	1071.36	ug/kg	99
9) Acenaphthene	13.32	154	241341	1013.71	ug/kg	98
10) Fluorene	13.97	166	293075	1013.63	ug/kg	97
12) Phenanthrene	15.39	178	416617	982.07	ug/kg	99
13) Anthracene	15.43	178	397539	990.06	ug/kg	99
14) Fluoranthene	17.34	202	463442	1055.68	ug/kg	99
15) Pyrene	17.93	202	466872	1023.79	ug/kg	99
18) Benzo[a]anthracene	20.91	228	443502	996.53	ug/kg	99
19) Chrysene	21.17	228	411432	956.81	ug/kg	100
21) Benzo[b]fluoranthene	24.48	252	437207	970.97	ug/kg	99
22) Benzo[k]fluoranthene	24.57	252	419794	993.82	ug/kg	100
23) Benzo(j)fluoranthene	24.67	252	365930	972.51	ug/kg	98
24) Benzo[e]pyrene	25.73	252	384497	953.50	ug/kg	100
25) Benzo[a]pyrene	25.91	252	397327	964.21	ug/kg	99
26) Dibenz[a,h]anthracene	29.48	278	376800	1004.03	ug/kg	99
27) Indeno[1,2,3-cd]pyrene	29.48	276	445905	995.98	ug/kg	100
28) Benzo[g,h,i]perylene	30.56	276	355993	1019.72	ug/kg	99

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\160512\16051230.D Vial: 30
Acq On : 13 May 2016 3:03 am Operator:
Sample : CCV1-160512 Inst : GC/MS #6
Misc : CCV Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 13 8:09 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



GCMS6
Calibration Curve
For

DHL Work Order
1605047

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

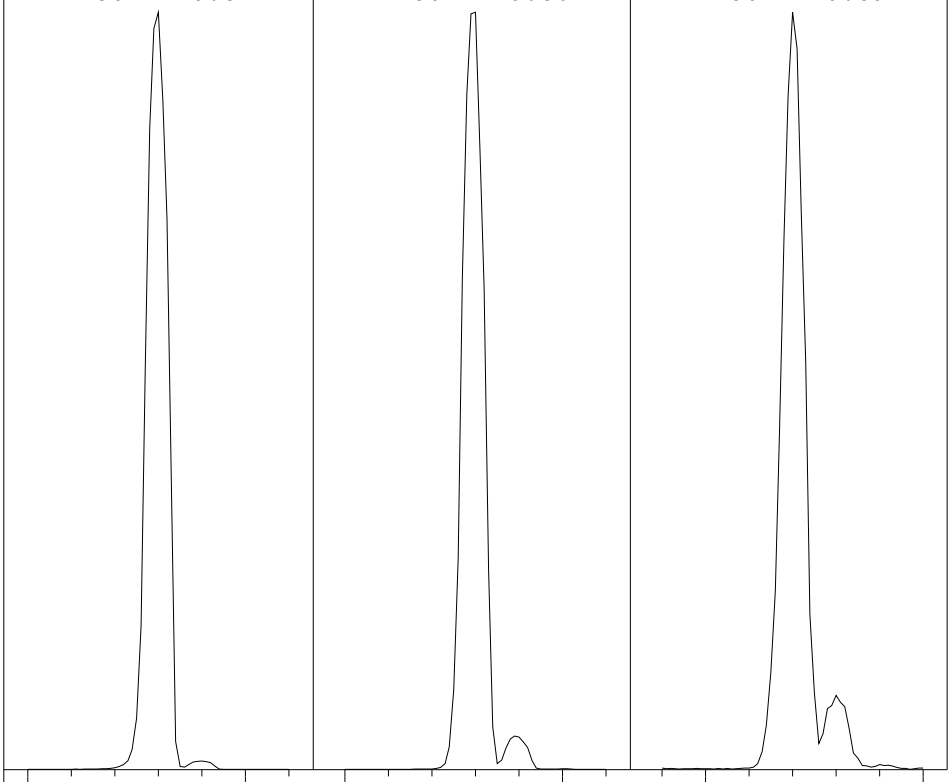
Second-Level Review: [signature] Date: 04/22/2016

HP5973

Instrument: GC/MS #6

Thu Apr 21 13:07:27 2016 C:\HPCHEM\1\5973\ATUNE.U

Mass	Ab	Pw50
69.00	443007	0.57
219.00	295483	0.58
502.00	16133	0.59



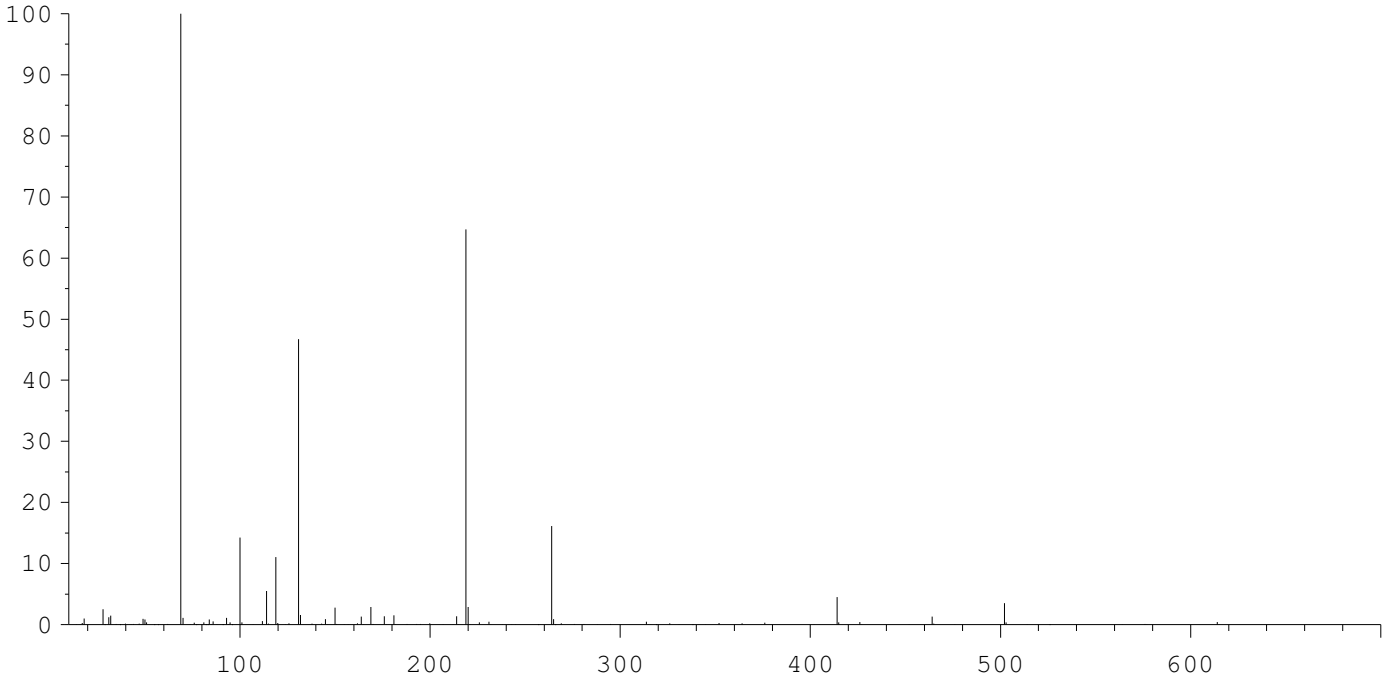
Ion Pol	POS	MassGain	7
		MassOffs	-14
Emission	34.6	AmuGain	2195
EleEnergy	69.9	AmuOffs	127
Filament	2	Wid219	0.011
		DC Pol	POS
Repeller	19.90		
IonFocus	80.7	HED	ON
EntLens	14.0	EMVolts	1424
EntOffs	16.06		
		Samples	8
PFTBA	OPEN	Averages	3
		StepSize	0.10

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	64.7	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

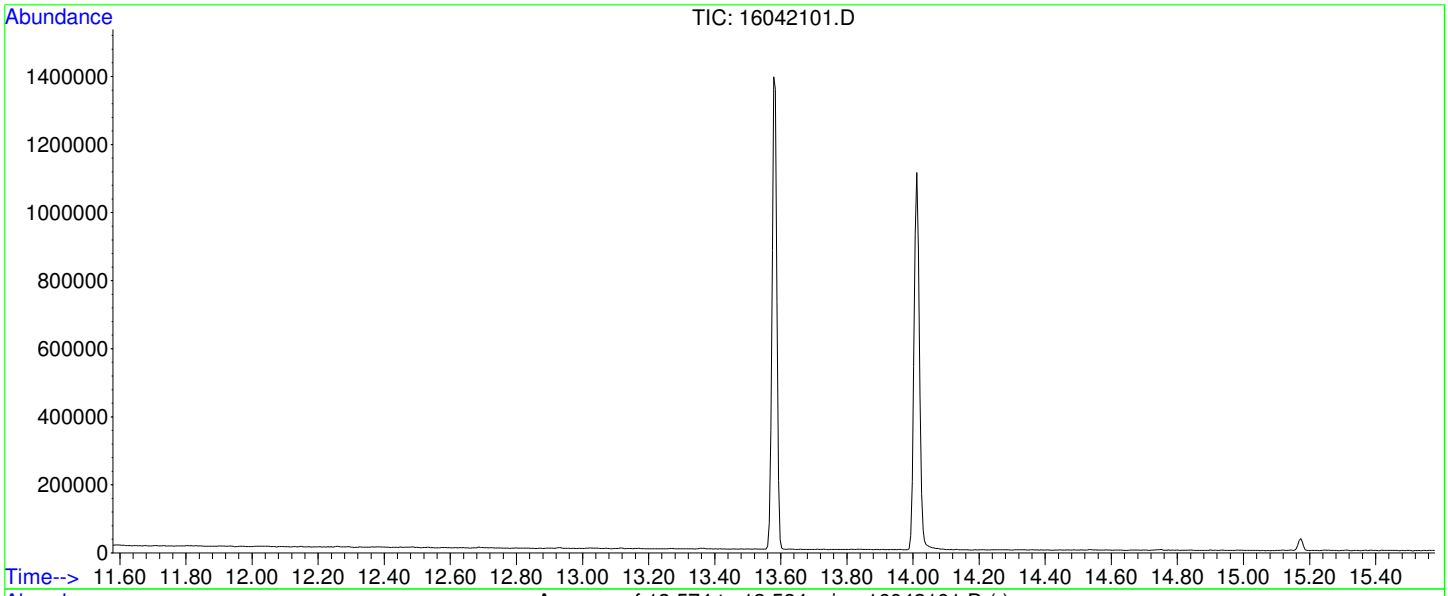
REVIEWED/APPROVED
By Sherri Herschmann at 9:42:37 AM, 4/28/2016

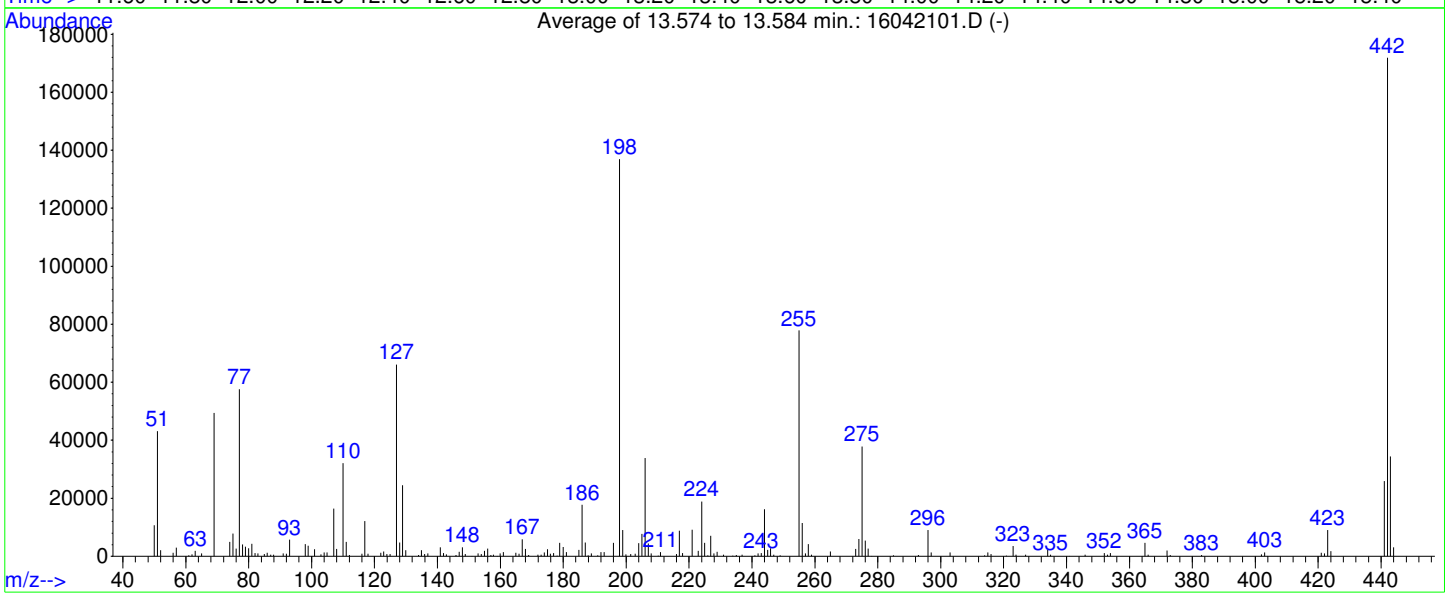
Calibration Files
1 =16042103.D 2 =16042104.D 3 =16042105.D 4 =16042106.D 5 =16042107.D 6 =16042108.D 7 =16042109.D
8 =16042110.D

		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 Reprocessed low point.
DataAcq Meth : PP160322

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%#		

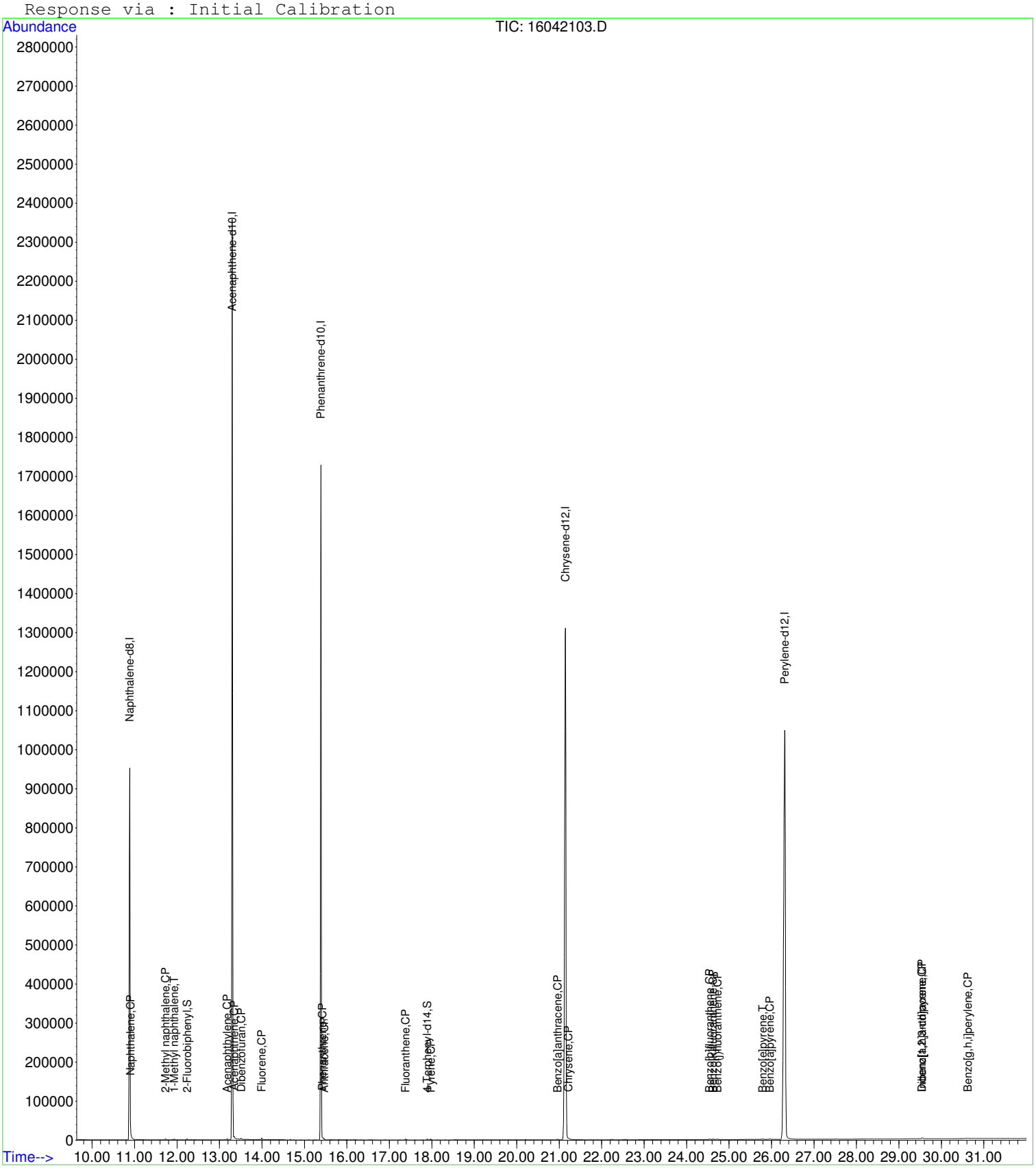
Target Compounds					Qvalue
2) Naphthalene	10.91	128	1531	5.36 ug/kg	98
3) 2-Methyl naphthalene	11.73	142	1362	5.39 ug/kg	98
4) 1-Methyl naphthalene	11.93	142	1218	5.27 ug/kg	92
6) Dibenzofuran	13.51	168	2405	5.15 ug/kg	100
8) Acenaphthylene	13.18	152	2605	4.86 ug/kg	99
9) Acenaphthene	13.35	154	1708	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%#		

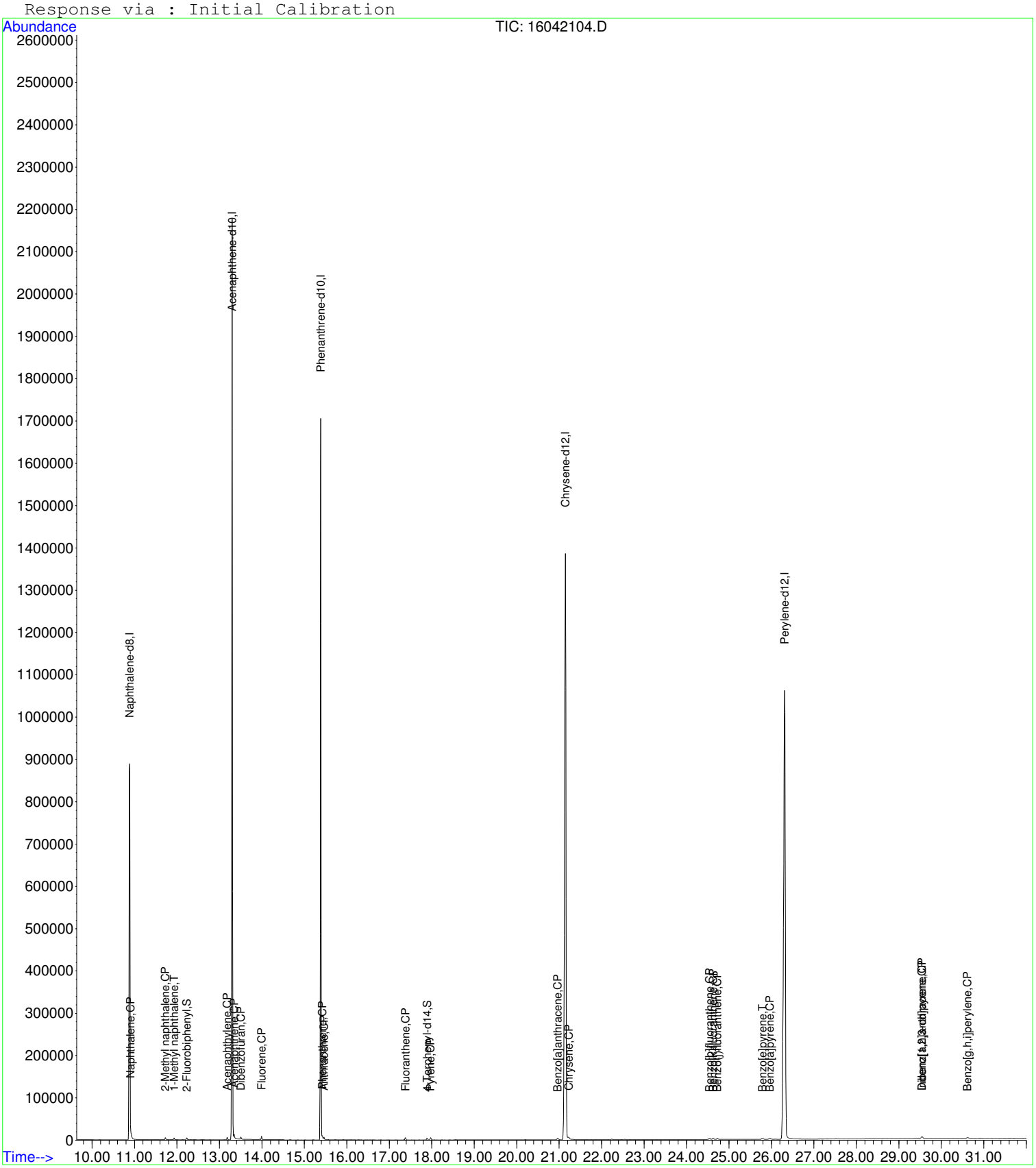
Target Compounds					Qvalue
2) Naphthalene	10.91	128	3165	10.55 ug/kg	99
3) 2-Methyl naphthalene	11.72	142	2722	10.27 ug/kg	96
4) 1-Methyl naphthalene	11.93	142	2498	10.30 ug/kg	98
6) Dibenzofuran	13.50	168	4637	10.12 ug/kg	97
8) Acenaphthylene	13.18	152	5169	9.82 ug/kg	99
9) Acenaphthene	13.35	154	3288	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



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%#	

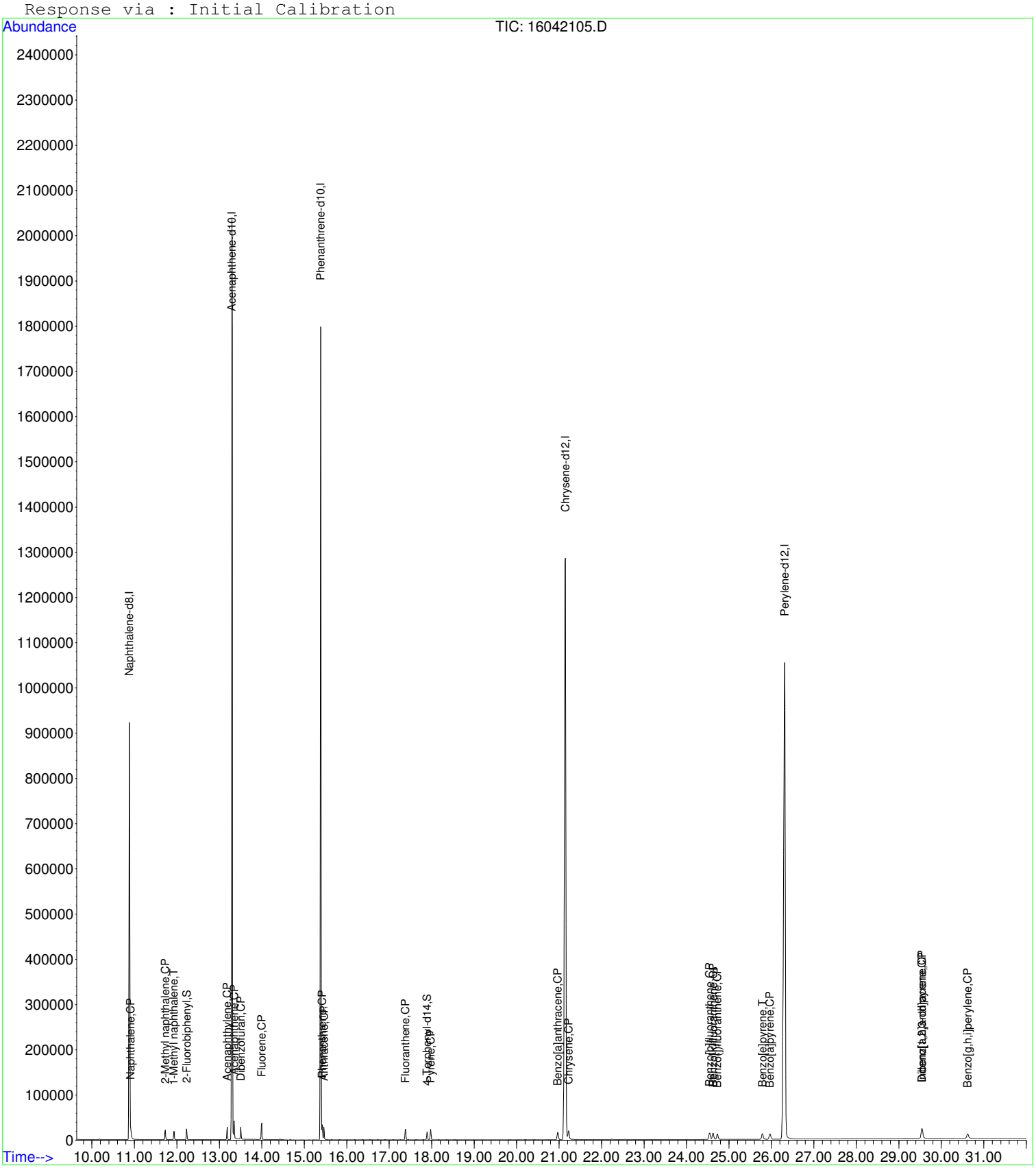
Target Compounds					Qvalue
2) Naphthalene	10.92	128	13632	50.43 ug/kg	99
3) 2-Methyl naphthalene	11.73	142	12186	51.04 ug/kg	97
4) 1-Methyl naphthalene	11.94	142	11156	51.02 ug/kg	99
6) Dibenzofuran	13.51	168	22945	50.95 ug/kg	99
8) Acenaphthylene	13.19	152	25071	48.45 ug/kg	98
9) Acenaphthene	13.35	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%#			

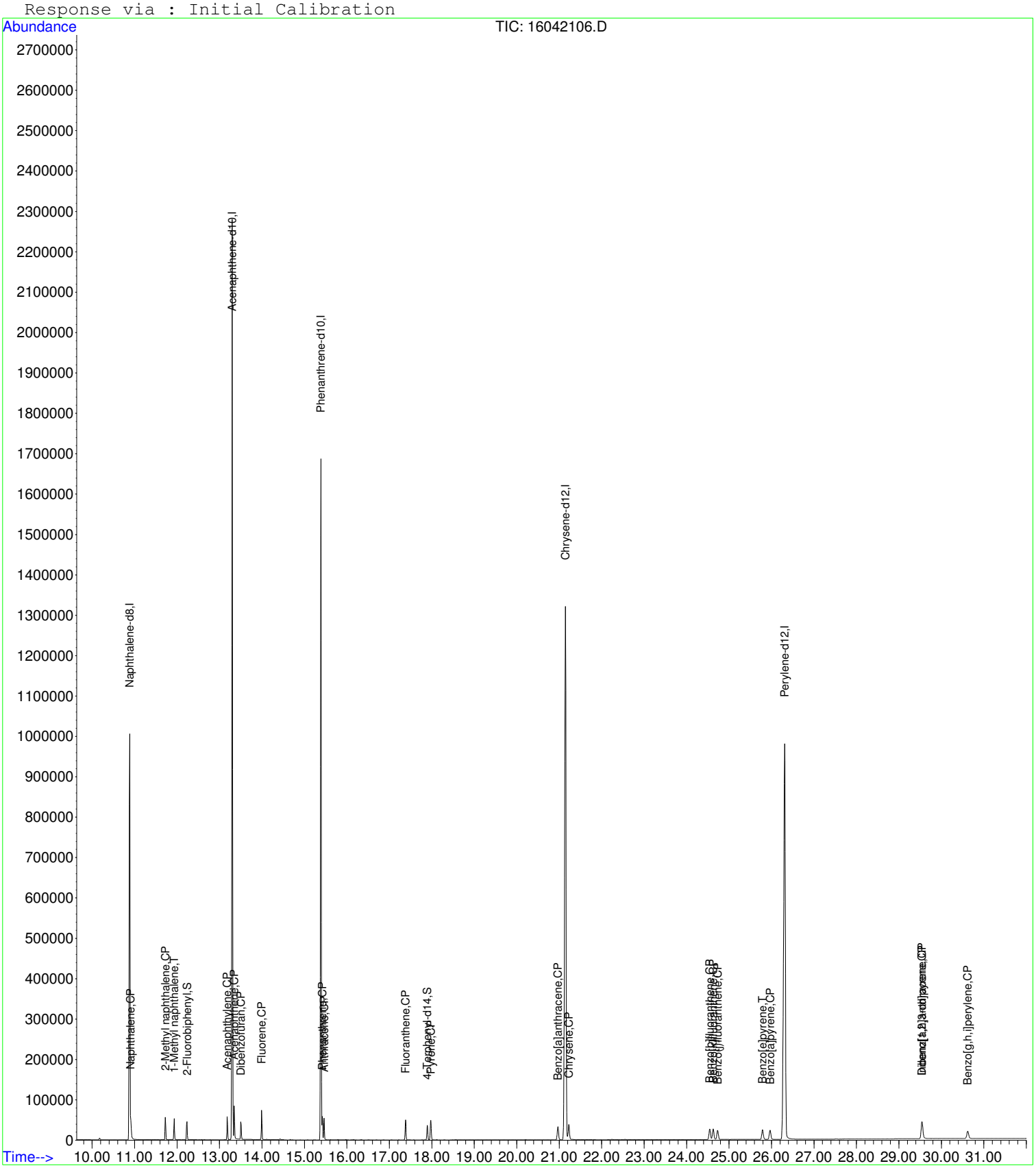
Target Compounds						Qvalue
2) Naphthalene	10.91	128	31387	98.73	ug/kg	100
3) 2-Methyl naphthalene	11.72	142	29129	103.73	ug/kg	96
4) 1-Methyl naphthalene	11.93	142	26563	103.29	ug/kg	97
6) Dibenzofuran	13.51	168	41336	93.73	ug/kg	98
8) Acenaphthylene	13.18	152	50435	99.53	ug/kg	99
9) Acenaphthene	13.35	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%#		

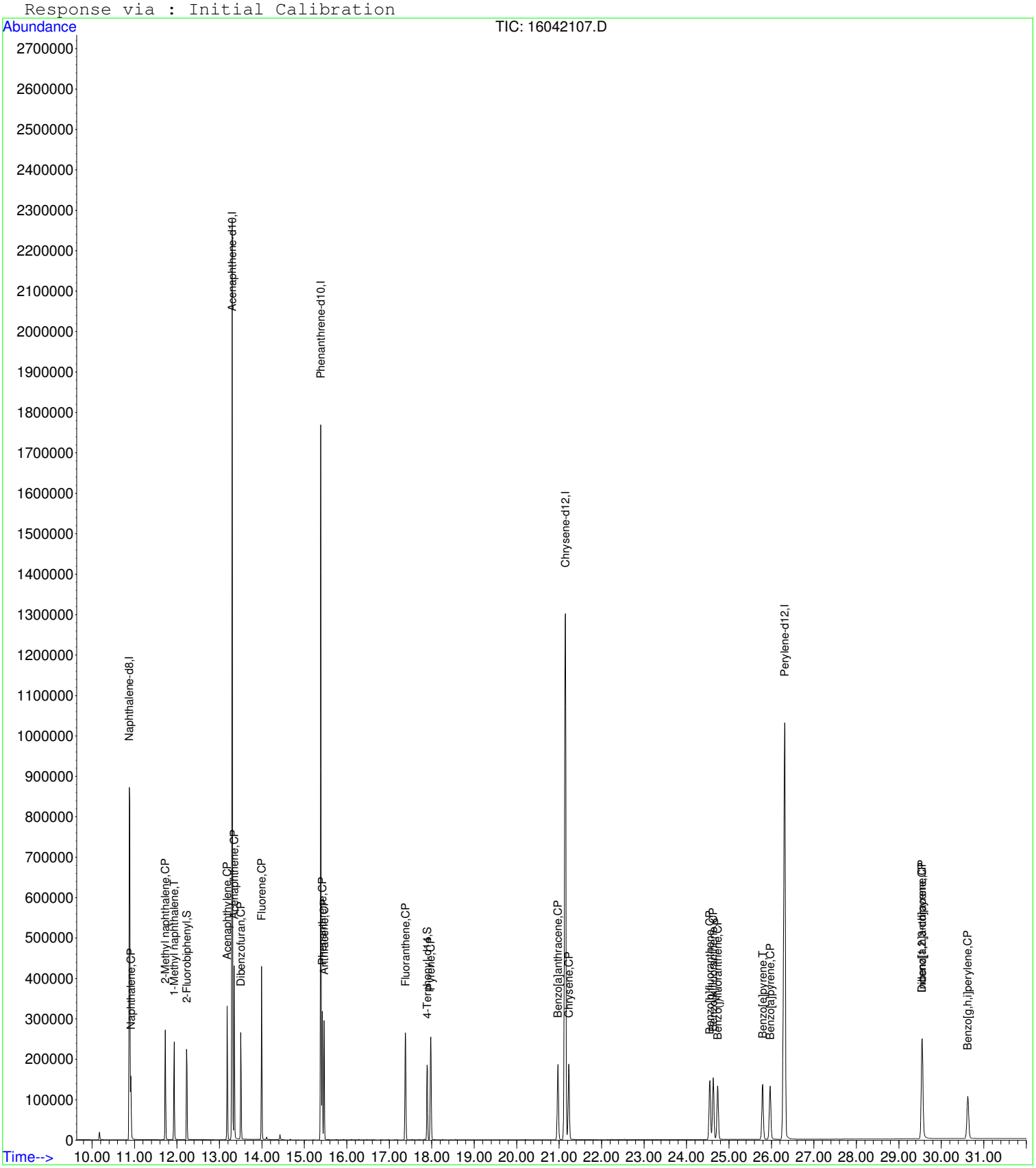
Target Compounds					Qvalue
2) Naphthalene	10.91	128	144814	504.22 ug/kg	100
3) 2-Methyl naphthalene	11.72	142	134217	529.05 ug/kg	99
4) 1-Methyl naphthalene	11.93	142	123573	531.84 ug/kg	99
6) Dibenzofuran	13.50	168	229182	504.36 ug/kg	99
8) Acenaphthylene	13.18	152	275195	527.05 ug/kg	99
9) Acenaphthene	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%#			

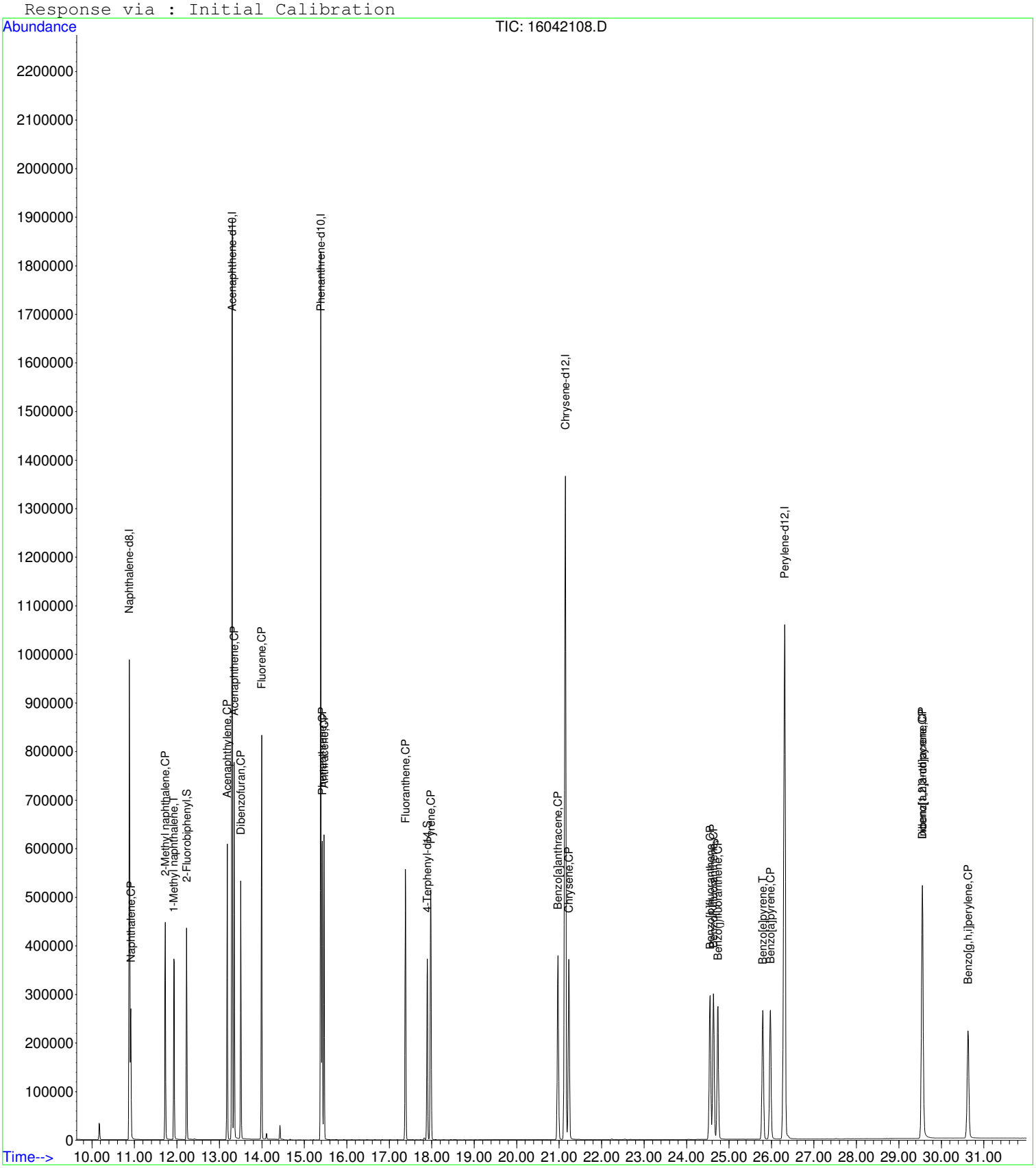
Target Compounds						Qvalue
2) Naphthalene	10.92	128	277677	976.77	ug/kg	100
3) 2-Methyl naphthalene	11.73	142	236454	941.63	ug/kg	97
4) 1-Methyl naphthalene	11.94	142	218047	948.10	ug/kg	98
6) Dibenzofuran	13.50	168	452065	1043.89	ug/kg	99
8) Acenaphthylene	13.18	152	509913	1024.72	ug/kg	99
9) Acenaphthene	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%	

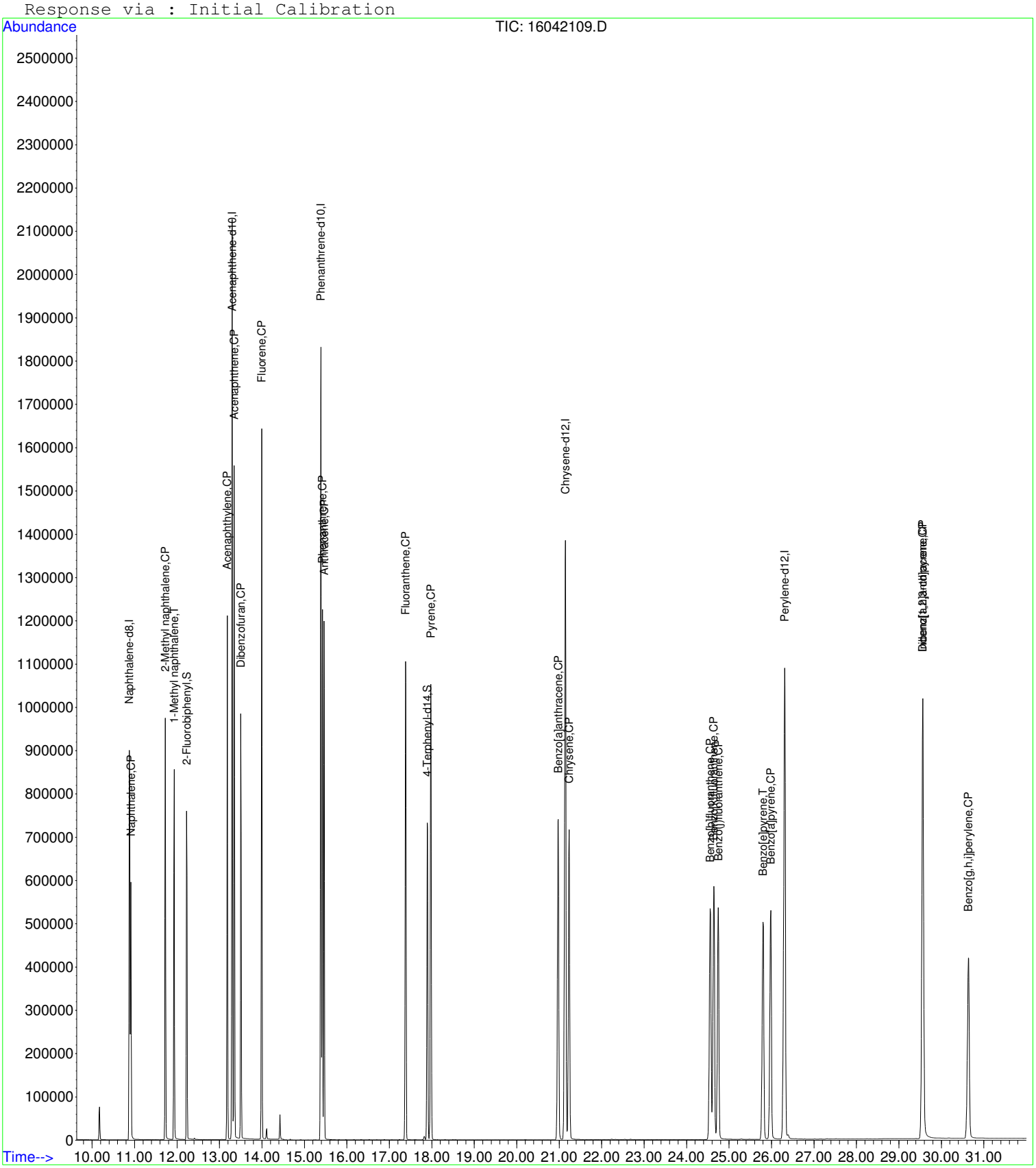
Target Compounds					Qvalue
2) Naphthalene	10.91	128	561019	1934.86 ug/kg	100
3) 2-Methyl naphthalene	11.72	142	481530	1880.07 ug/kg	100
4) 1-Methyl naphthalene	11.93	142	443761	1891.77 ug/kg	100
6) Dibenzofuran	13.50	168	873590	2024.72 ug/kg	100
8) Acenaphthylene	13.18	152	1023648	2064.73 ug/kg	100
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

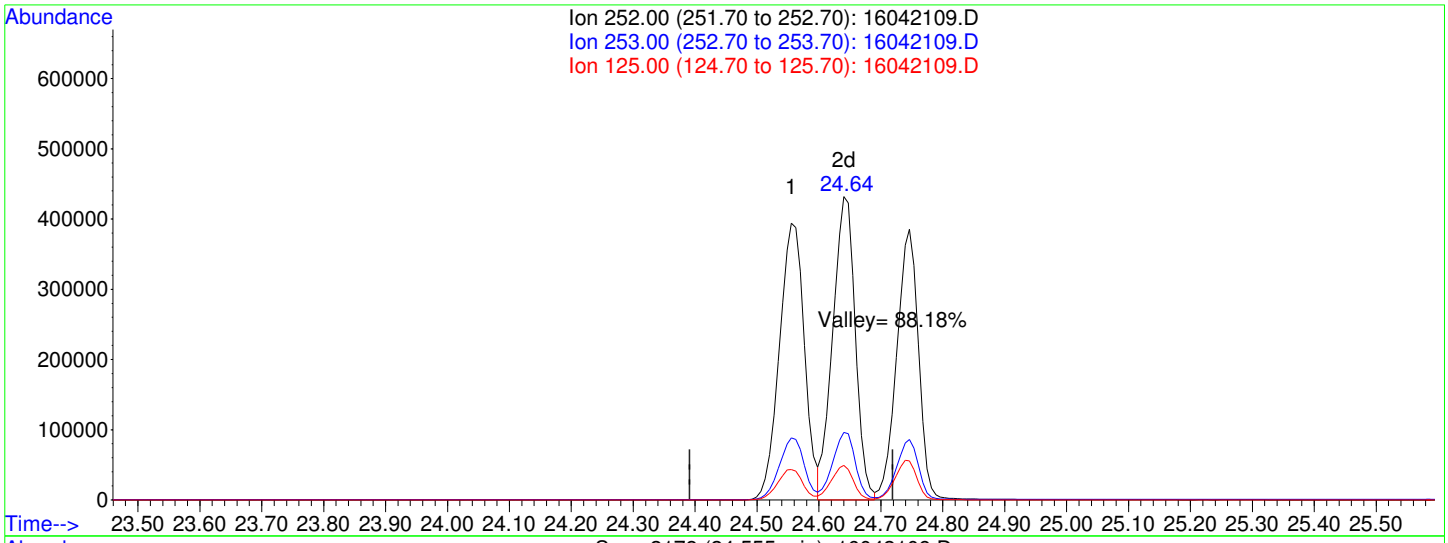
Method : C:\HPCHEM\1\METHODS\PP160421.M (RTE Integrator)
Title : PAH Calibration
Last Update : Fri Apr 22 11:43:43 2016
Response via : Initial Calibration

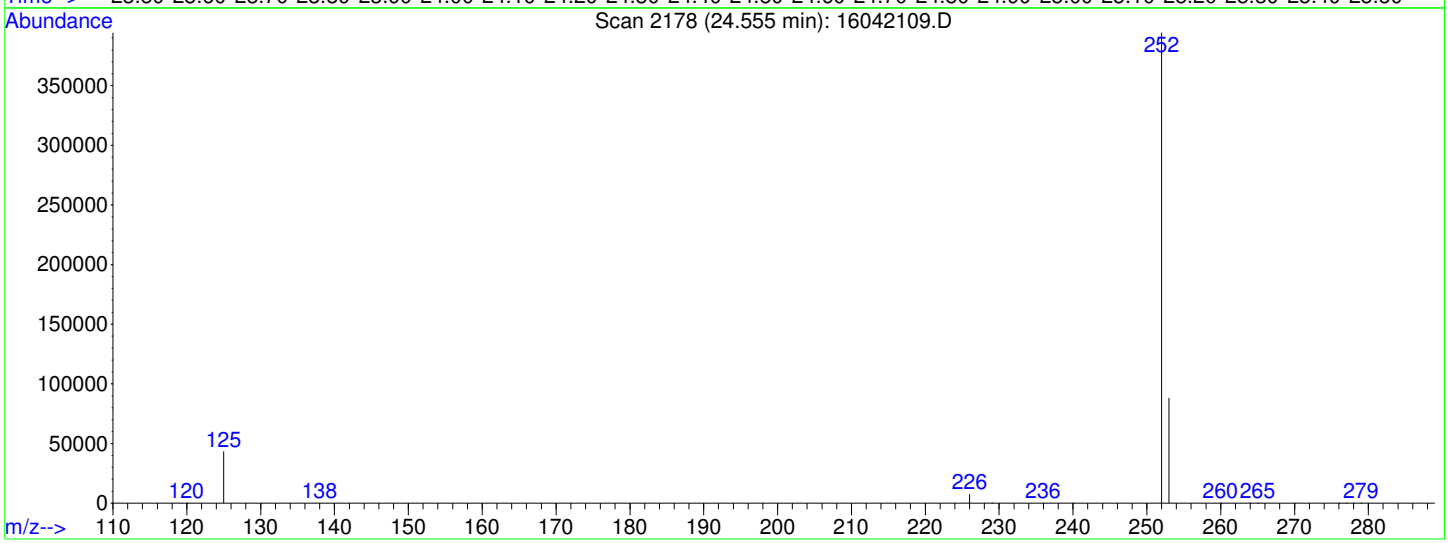


Quantitation Report (Qedit)

```
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%		

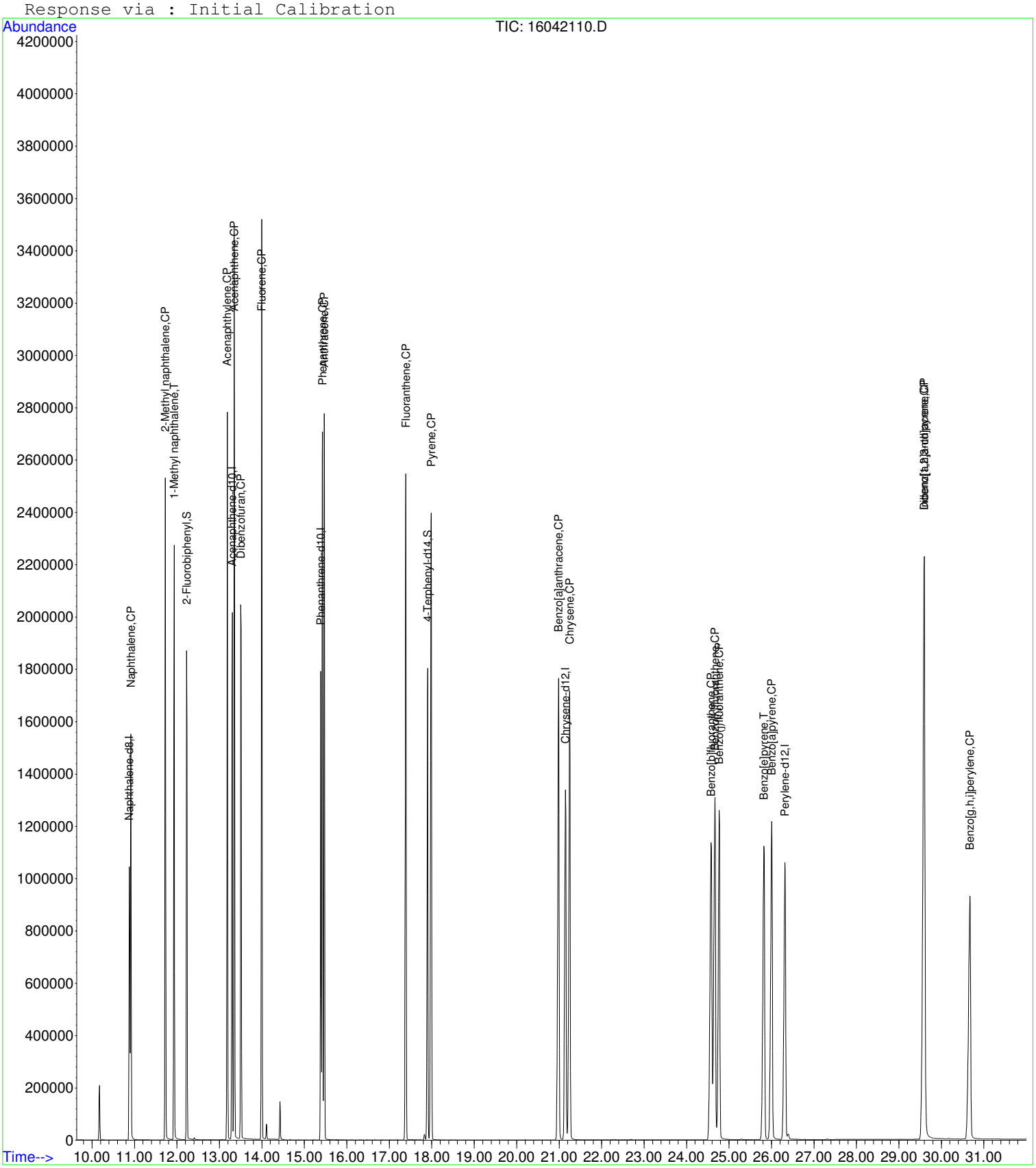
Target Compounds					Qvalue
2) Naphthalene	10.91	128	1466551	4624.22 ug/kg	99
3) 2-Methyl naphthalene	11.73	142	1254770	4479.04 ug/kg	99
4) 1-Methyl naphthalene	11.94	142	1162503	4530.90 ug/kg	99
6) Dibenzofuran	13.51	168	2052094	4677.28 ug/kg	99
8) Acenaphthylene	13.18	152	2446851	4853.52 ug/kg	98
9) 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%#	

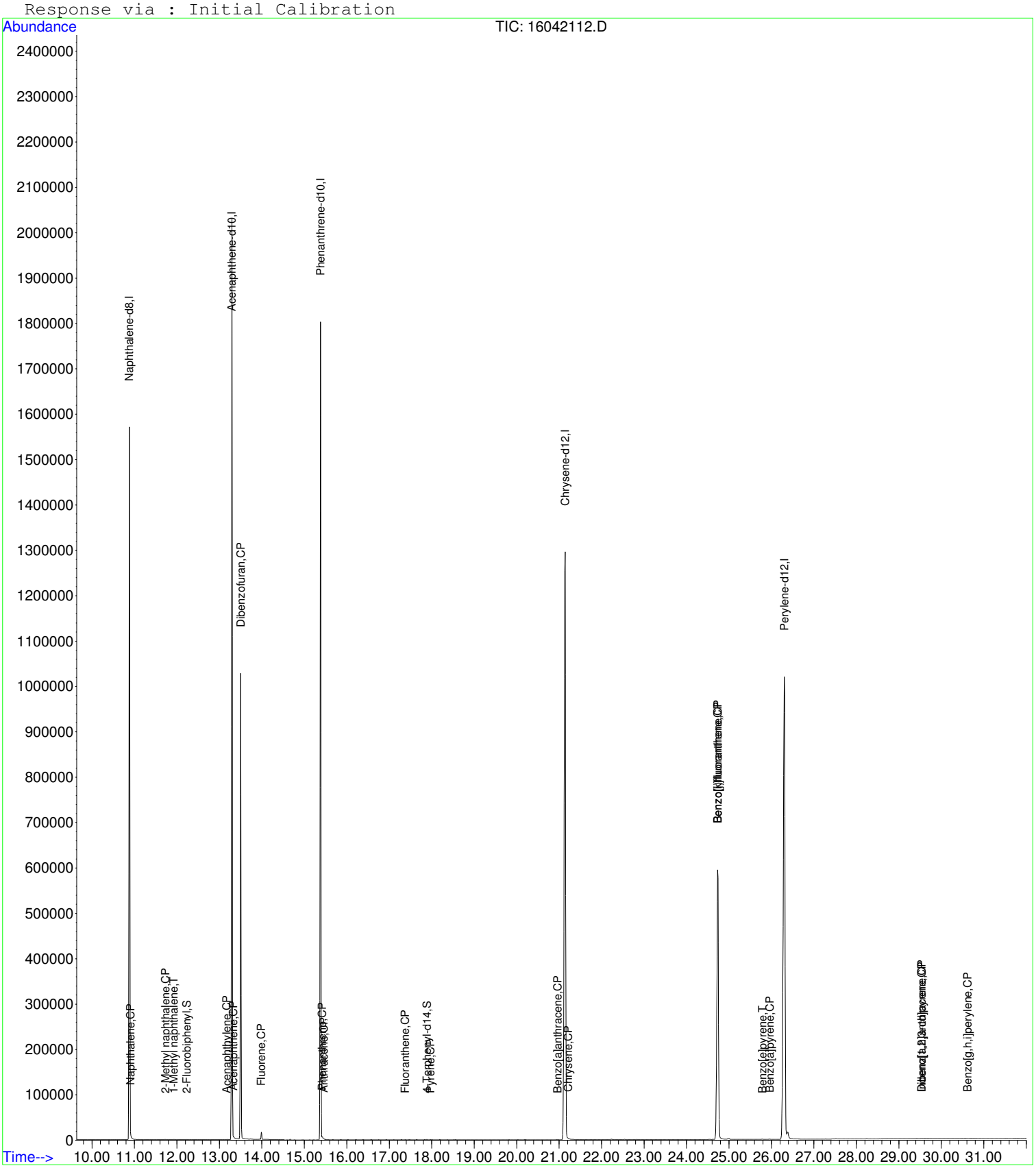
Target Compounds					Qvalue	
2) Naphthalene	10.92	128	667	1.50 ug/kg	98	
3) 2-Methyl naphthalene	11.73	142	541	1.38 ug/kg	94	
4) 1-Methyl naphthalene	11.93	142	390	1.09 ug/kg	96	
6) Dibenzofuran	13.50	168	930384	2312.95 ug/kg	99	92.52%
8) Acenaphthylene	13.18	152	654	1.41 ug/kg	99	
9) Acenaphthene	13.34	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%			

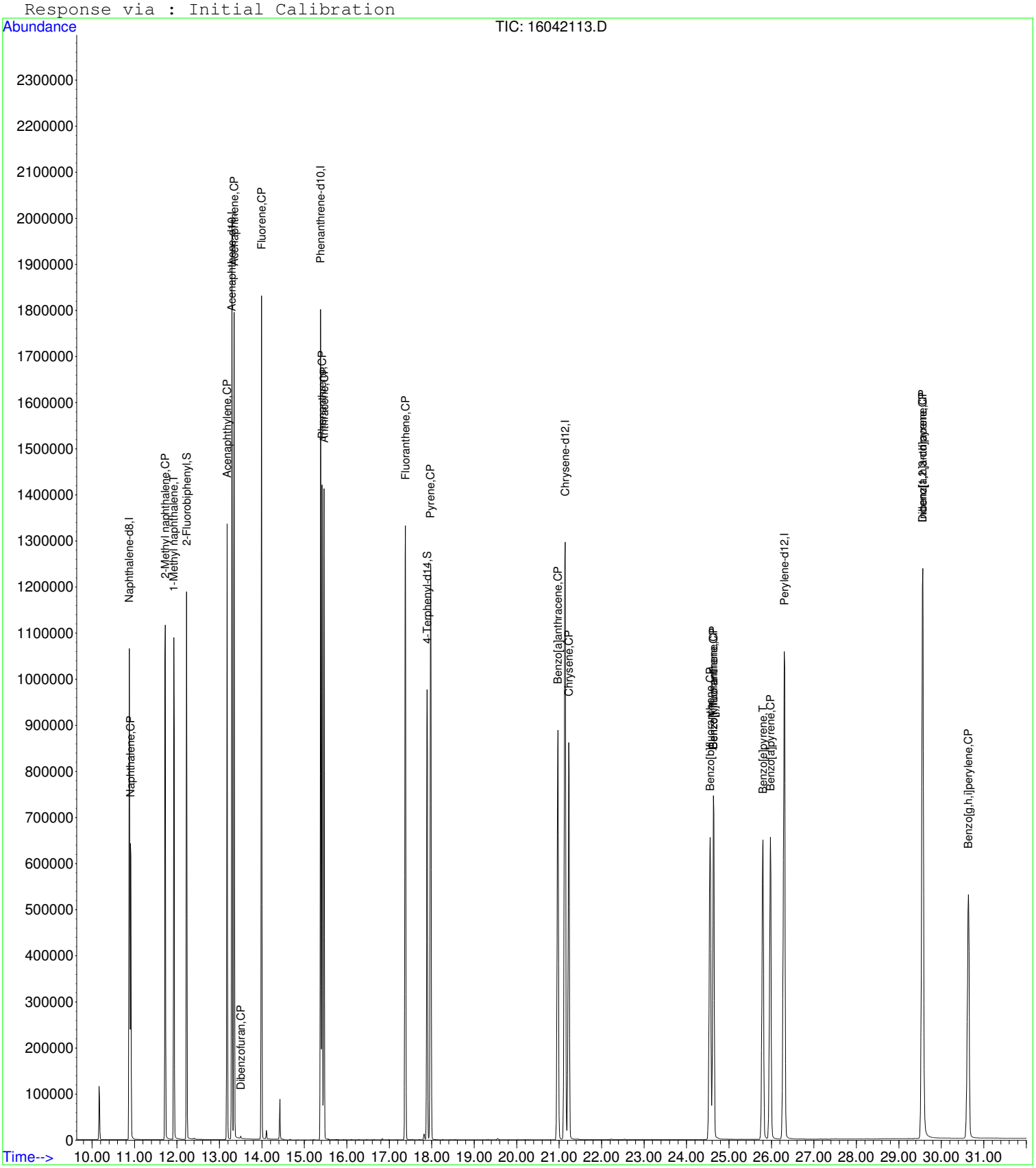
Target Compounds						Qvalue
2) Naphthalene	10.90	128	700486	2319.36	ug/kg	99
3) 2-Methyl naphthalene	11.72	142	646154	2422.05	ug/kg	96
4) 1-Methyl naphthalene	11.93	142	589122	2411.14	ug/kg	93
6) ~~Dibenzofuran~~	~~13.50~~	~~168~~	~~4477~~	~~10.62~~	~~ug/kg~~	~~99~~
8) Acenaphthylene	13.18	152	1162279	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
1605047

GCMS8_160512A
For

DHL Work Order
1605047

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_160512A
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	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	
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: Sherri Herschmann Date: **VARIANCE APPROVED** By Sherri Herschmann at 12:57:51 PM, 5/16/2016

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
___ 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	x 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	x Other (describe below)	___ Accept data
x Other (describe below)	___ Cannot reanalyze (HT out/Lack of Sample)	

General Comments and Impact on Data: **See Run Log.**

All samples in this batch run at 10x - detection limit is sufficient and is approved by project managers.
1605047-24AMSD: Injected 20 minutes past initial DFTPP injection. Following runs (tune and ICV) show that proper instrument conditions still met after this run. Client approved variance.
1605047-45A/-46A: Surrogate 4-Terphenyl-d14 high. Very high levels of hydrocarbons present - did not run less than 1000x.

Analyst: Karyn Lane Date: 5/13/2016

Second-Level Review: Sherri Herschmann Date: **REVIEWED/APPROVED** By Sherri Herschmann at 12:27:53 PM, 5/16/2016 **05/16/2016**

DHL Analytical, Inc.

Run ID: GCMS8_160512A **Run No.:** 85793

Analytical Run Date: 5/12/2016 **InstrumentID:** GCMS8

Analyst: Don Winston **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-160512	1	PAH_LL_SDOD1	TUNE	R85793	5/12/2016 12:16:00 PM		
ICV-160512	1	PAH_LL_SDOD1	ICV	R85793	5/12/2016 12:53:00 PM		
LCS-75021	1	PAH_LL_SDOD1	LCS	75021	5/12/2016 2:09:00 PM		
MB-75021	1	PAH_LL_SDOD1	MBLK	75021	5/12/2016 2:45:00 PM		
1605047-11A	10	PAH_LL_SDOD1	SAMP	75021	5/12/2016 3:22:00 PM		All samples in this batch run at 10x - detection limit is sufficient and is approved by project managers.
1605047-12A	10	PAH_LL_SDOD1	SAMP	75021	5/12/2016 3:59:00 PM		
1605047-13A	10	PAH_LL_SDOD1	SAMP	75021	5/12/2016 4:36:00 PM		
1605047-14A	10	PAH_LL_SDOD1	SAMP	75021	5/12/2016 5:13:00 PM		
1605047-15A	10	PAH_LL_SDOD1	SAMP	75021	5/12/2016 5:50:00 PM		
1605047-16A	10	PAH_LL_SDOD1	SAMP	75021	5/12/2016 6:27:00 PM		
1605047-17A	10	PAH_LL_SDOD1	SAMP	75021	5/12/2016 7:04:00 PM		
1605047-18A	10	PAH_LL_SDOD1	SAMP	75021	5/12/2016 7:41:00 PM		
1605047-19A	10	PAH_LL_SDOD1	SAMP	75021	5/12/2016 8:18:00 PM		
1605047-20A	10	PAH_LL_SDOD1	SAMP	75021	5/12/2016 8:55:00 PM		
1605047-21A	10	PAH_LL_SDOD1	SAMP	75021	5/12/2016 9:32:00 PM		
1605047-22A	10	PAH_LL_SDOD1	SAMP	75021	5/12/2016 10:09:00 PM		
1605047-23A	10	PAH_LL_SDOD1	SAMP	75021	5/12/2016 10:46:00 PM		
1605047-24A	10	PAH_LL_SDOD1	SAMP	75021	5/12/2016 11:23:00 PM		
1605047-24AMS	10	PAH_LL_SDOD1	MS	75021	5/13/2016		
1605047-24AMSD	10	PAH_LL_SDOD1	MSD	75021	5/13/2016 12:36:00 AM		Injected 20 minutes past initial DFTPP injection. Following runs (tune and ICV) show that proper instrument conditions still met after this run.
DFTPP2-160512	1	PAH_LL_SDOD1	TUNE	R85793	5/13/2016 1:13:00 AM		
ICV2-160512	1	PAH_LL_SDOD1	ICV	R85793	5/13/2016 1:50:00 AM		
SB-160512	1	PAH_LL_SDOD1	SBLK	75021	5/13/2016 3:03:00 AM		
1605047-25A	10	PAH_LL_SDOD1	SAMP	75021	5/13/2016 3:40:00 AM		
1605071-16A	10	PAH_LL_SDOD1	SAMP	75021	5/13/2016 4:17:00 AM		
1605071-17A	10	PAH_LL_SDOD1	SAMP	75021	5/13/2016 4:53:00 AM		

REVIEWED/APPROVED

By Sherri Herschmann at 12:28:28 PM, 5/16/2016

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_160512A** **Run No.:** 85793

1605071-18A	10	PAH_LL_SDOD1	SAMP	75021	5/13/2016 5:30:00 AM		
1605047-45A	1000	PAH_LL_SDOD1	SAMP	75021	5/13/2016 6:07:00 AM		Surrogate 4-Terphenyl-d14 high. Very high levels of hydrocarbons present - did not run less than 1000x.
1605047-46A	1000	PAH_LL_SDOD1	SAMP	75021	5/13/2016 6:44:00 AM		Surrogate 4-Terphenyl-d14 high. Very high levels of hydrocarbons present - did not run less than 1000x.
CCV1-150512	1	PAH_LL_SDOD1	CCV	R85793	5/13/2016 7:21:00 AM		

REVIEWED/APPROVED

By Sherri Herschmann at 12:28:41 PM, 5/16/2016

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\160512.S
Comment:
Operator:
Data Path: C:\MSDCHEM\1\DATA\160512\
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	16051201	DFTPPPAH	DFTPP-160512
2)	Sample	2	16051202	PAH160510	ICV-160512
3)	Sample	3	16051203	PAH160510	SBLK
4)	Sample	4	16051204	PAH160510	LQV1-74876
5)	Sample	1	16051205	DFTPPPAH	DFTPP-160512
6)	Sample	2	16051206	PAH160510	ICV-160512
7)	Sample	3	16051207	PAH160510	LQV1-74876
8)	Sample	4	16051208	PAH160510	LCS-75021
9)	Sample	5	16051209	PAH160510	MB-75021
10)	Sample	6	16051210	PAH160510	1605047-11A
11)	Sample	7	16051211	PAH160510	1605047-12A
12)	Sample	8	16051212	PAH160510	1605047-13A
13)	Sample	9	16051213	PAH160510	1605047-14A
14)	Sample	10	16051214	PAH160510	1605047-15A
15)	Sample	11	16051215	PAH160510	1605047-16A
16)	Sample	12	16051216	PAH160510	1605047-17A
17)	Sample	13	16051217	PAH160510	1605047-18A
18)	Sample	14	16051218	PAH160510	1605047-19A
19)	Sample	15	16051219	PAH160510	1605047-20A
20)	Sample	16	16051220	PAH160510	1605047-21A
21)	Sample	17	16051221	PAH160510	1605047-22A
22)	Sample	18	16051222	PAH160510	1605047-23A
23)	Sample	19	16051223	PAH160510	1605047-24A
24)	Sample	20	16051224	PAH160510	1605047-24AMS
25)	Sample	21	16051225	PAH160510	1605047-24AMSD
26)	Sample	22	16051226	DFTPPPAH	DFTPP2-160512
27)	Sample	23	16051227	PAH160510	ICV2-160512
28)	Sample	24	16051228	PAH160510	SBLK
29)	Sample	25	16051229	PAH160510	SB-160512
30)	Sample	26	16051230	PAH160510	1605047-25A
31)	Sample	27	16051231	PAH160510	1605071-16A
32)	Sample	28	16051232	PAH160510	1605071-17A
33)	Sample	29	16051233	PAH160510	1605071-18A
34)	Sample	30	16051234	PAH160510	1605047-45A
35)	Sample	31	16051235	PAH160510	1605047-46A
36)	Sample	32	16051236	PAH160510	CCV1-150512
37)	Sample	33	16051237	PAH160510	LCS-75137
38)	Sample	34	16051238	PAH160510	SBLK
39)	Sample	35	16051239	PAH160510	MB-75137
40)	Sample	36	16051240	PAH160510	1605103-01A
41)	Sample	37	16051241	PAH160510	1605103-01AMS
42)	Sample	38	16051242	PAH160510	1605103-01AMSD

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/9/2016 2:16:02 PM**
Digestion:
Prep End Date: **5/10/2016 11:52:00 AM**

Prep Batch **75021** Prep Code: **3550_PAHDOD** Technician: **Alex Robbins**

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
1605047-11A	Soil		10.08	10	0.992	1 of 1	
1605047-12A	Soil		10.08	10	0.992	1 of 1	
1605047-13A	Soil		10.37	10	0.964	1 of 1	
1605047-14A	Soil		10.63	10	0.941	1 of 1	
1605047-15A	Soil		10.18	10	0.982	1 of 1	
1605047-16A	Soil		10.15	10	0.985	1 of 1	
1605047-17A	Soil		10.24	10	0.977	1 of 1	
1605047-18A	Soil		10.28	10	0.973	1 of 1	
1605047-19A	Soil		10.26	10	0.975	1 of 1	
1605047-20A	Soil		10.04	10	0.996	1 of 1	
1605047-21A	Soil		10.03	10	0.997	1 of 1	
1605047-22A	Soil		10.1	10	0.990	1 of 1	
1605047-23A	Soil		10.16	10	0.984	1 of 1	
1605047-24A	Soil		10.22	10	0.978	2 of 3	
1605047-24AMS	Soil		10.02	10	0.998	2 of	
1605047-24AMSD	Soil		10.03	10	0.997	2 of	
1605047-25A	Soil		10.13	10	0.987	1 of 1	
1605047-45A	Solid		1.07	10	9.346	1 of 1	
talk to JD before prep. PAH warning !!!							
1605047-46A	Solid		1.04	10	9.615	1 of 1	
talk to JD before prep PAH warning !!!							
1605071-16A	Soil		10.04	10	0.996	1 of 1	
1605071-17A	Soil		10.11	10	0.989	1 of 1	
1605071-18A	Soil		10.12	10	0.988	1 of 1	
LCS-75021	Soil		10	10	1.000	of	
MB-75021	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
PAHPREP160317	200 PPM PAH Spike Mix	LCS/MS/MSD	0.05	05/09/2016
SVPREP160415-A	40 PPM Surrogate Standard	ALL	0.25	07/15/2016

REVIEWED BY
By Janice Whitt at 9:17:11 AM, 5/16/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/9/2016 2:16:02 PM**
Digestion:
Prep End Date: 5/10/16 11:52AM

Prep Batch **75021** Prep Code: **3550_PAHDOD** Technician: **Alex Robbins**

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
1605047-11A	Soil		10.08	10	1.000	1 of 1	Added @ 9:19 AM 5/10/16
1605047-12A	Soil		10.08	10	1.000	1 of 1	
1605047-13A	Soil		10.37	10	1.000	1 of 1	
1605047-14A	Soil		10.63	10	1.000	1 of 1	
1605047-15A	Soil		10.18	10	1.000	1 of 1	
1605047-16A	Soil		10.15	10	1.000	1 of 1	
1605047-17A	Soil		10.24	10	1.000	1 of 1	
1605047-18A	Soil		10.28	10	1.000	1 of 1	
1605047-19A	Soil		10.26	10	1.000	1 of 1	
1605047-20A	Soil		10.04	10	1.000	1 of 1	
1605047-21A	Soil		10.03	10	1.000	1 of 1	
1605047-22A	Soil		10.10	10	1.000	1 of 1	
1605047-23A	Soil		10.16	10	1.000	1 of 1	
1605047-24A	Soil		10.22	10	0.978	2 of 3	
1605047-24AMS	Soil		10.02	10	0.998	2 of 3	
1605047-24AMSD	Soil		10.03	10	0.997	2 of 3	
1605047-25A	Soil		10.13	10	1.000	1 of 1	Added @ 9:19 AM 5/10/16
1605047-45A	Solid		1.07	10	9.346	1 of 1	
talk to JD before prep. PAH warning !!!							
1605047-46A	Solid		1.04	10	9.615	1 of 1	
talk to JD before prep PAH warning !!!							
1605071-16A	Soil		10.04	10	0.996	1 of 1	~~Added @ 9:19AM 5/10/16~~
1605071-17A	Soil		10.11	10	0.989	1 of 1	
1605071-18A	Soil		10.12	10	0.988	1 of 1	5/9/16
LCS-75021	Soil		10	10	1.000	of	
MB-75021	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
PAHPREP160317	200 PPM PAH Spike Mix	LCS/MS/MSD	0.05	05/09/2016
SVPREP160415-A	40 PPM Surrogate Standard	ALL	0.25	07/15/2016

REVIEWED BY
By Janice Whitt at 9:17:05 AM, 5/16/2016

5/10/16 | 5/10/16

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/9/2016 2:16:02 PM**
Digestion:
Prep End Date: 5/10/16 11:52AM

Prep Batch **75021** Prep Code: **3550_PAHDOD** Technician: **Alex Robbins**

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
1605047-24A	Soil		10 .22	10	1.000	2 of 3	
1605047-24AMS	Soil		10 .02	10	1.000	3 of 3	
1605047-24AMSD	Soil		10 .03	10	1.000	3 of 3	
1605047-45A	Solid	5/9/16 AK	~~10 .07~~ 1.07	10	1.000	1 of 1	
talk to JD before prep. PAH warning !!!							
1605047-46A	Solid		~~10~~ 1.04	10	1.000	1 of 1	
talk to JD before prep PAH warning !!!							
1605071-16A	Soil		10 .04	10	1.000	1 of 1	
1605071-17A	Soil		10 .11	10	1.000	1 of 1	
1605071-18A	Soil		10 .12	10	1.000	1 of 1	
LCS-75021	Soil		10	10	1.000	of	
MB-75021	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
PAHPREP160317	200 PPM PAH Spike Mix	LCS/MS/MSD	0.05	05/09/2016
SVPREP160415-A	40 PPM Surrogate Standard	ALL	0.25	07/15/2016

5/9/16 / AK 5/9/16
5/10/16

REVIEWED BY
By Janice Whitt at 9:17:08 AM, 5/16/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/5/2016 2:00:00 PM**
Digestion: **Start: 5/5/2016 5:00:00 PM / Stop: 5/7/2016 9:00:00 AM**
Prep End Date: **5/7/2016 3:30:00 PM**

Prep Batch **74972** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker** Prep Factor Units: **mL/**

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #			Cleanup
1605047-01A	Soil		0	0	#Num!	1	of	1	
1605047-02A	Soil		0	0	#Num!	1	of	1	
1605047-03A	Soil		0	0	#Num!		of	3	
1605047-04A	Soil		0	0	#Num!	1	of	1	
1605047-05A	Soil		0	0	#Num!	1	of	1	
1605047-06A	Soil		0	0	#Num!	1	of	1	
1605047-07A	Soil		0	0	#Num!	1	of	1	
1605047-08A	Soil		0	0	#Num!	1	of	1	
1605047-09A	Soil		0	0	#Num!	1	of	1	
1605047-10A	Soil		0	0	#Num!	1	of	1	
1605047-11A	Soil		0	0	#Num!	1	of	1	
1605047-12A	Soil		0	0	#Num!	1	of	1	
1605047-13A	Soil		0	0	#Num!	1	of	1	
1605047-14A	Soil		0	0	#Num!	1	of	1	
1605047-15A	Soil		0	0	#Num!	1	of	1	
1605047-16A	Soil		0	0	#Num!	1	of	1	
1605047-17A	Soil		0	0	#Num!	1	of	1	
1605047-18A	Soil		0	0	#Num!	1	of	1	
1605047-19A	Soil		0	0	#Num!	1	of	1	
1605047-20A	Soil		0	0	#Num!	1	of	1	
1605047-21A	Soil		0	0	#Num!	1	of	1	
1605047-22A	Soil		0	0	#Num!	1	of	1	
1605047-23A	Soil		0	0	#Num!	1	of	1	
1605047-24A	Soil		0	0	#Num!		of	3	
1605047-25A	Soil		0	0	#Num!	1	of	1	
1605047-26A	Soil		0	0	#Num!	1	of	1	
1605047-27A	Soil		0	0	#Num!	1	of	1	

REVIEWED BY
By Janice Whitt at 9:17:20 AM, 5/16/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/5/2016 2:00:00 PM**
Digestion: **Start: 5/5/2016 5:00:00 PM / Stop: 5/7/2016 9:00:00 AM**
Prep End Date: **5/7/2016 3:30:00 PM**

Prep Batch **74972** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker** Prep Factor Units: **mL/**

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605047-28A	Soil		0	0	#Num!	1 of 1	
1605047-29A	Soil		0	0	#Num!	1 of 1	
1605047-30A	Soil		0	0	#Num!	1 of 1	

REVIEWED BY
By Janice Whitt at 9:17:23 AM, 5/16/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/7/2016 3:15:00 PM**
Digestion: **Start: 5/7/2016 3:30:00 PM / Stop: 5/9/2016 9:30:00 AM**
Prep End Date: **5/9/2016 11:00:00 AM**

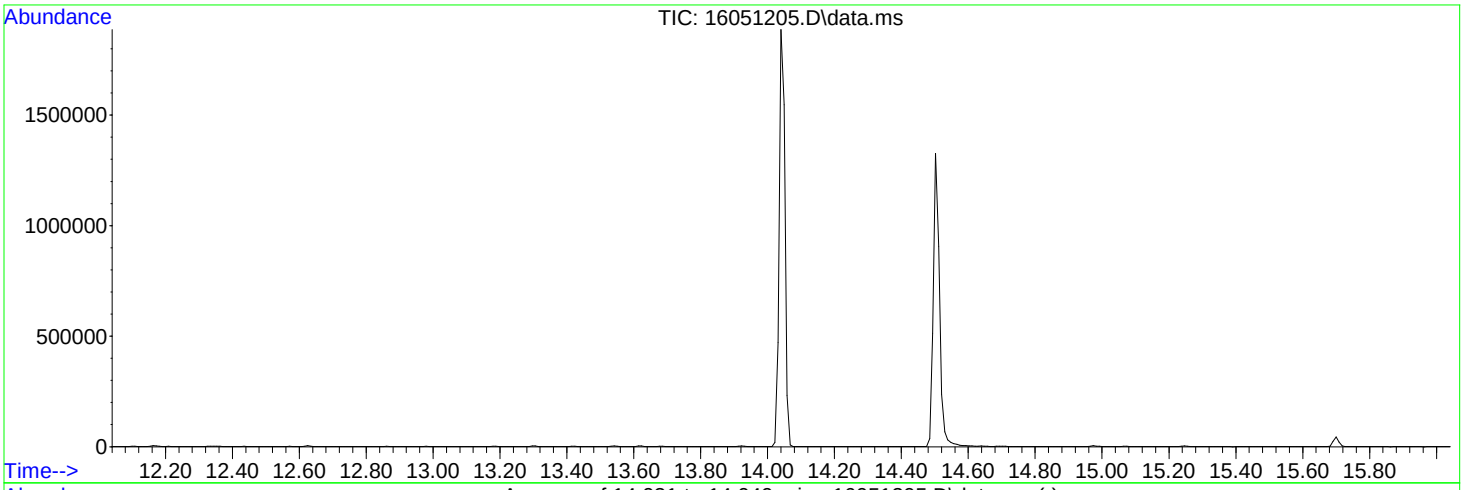
Prep Batch **74999** Prep Code: **ISM250_PREP** Technician: **Jennifer Barker** Prep Factor Units: **mL/**

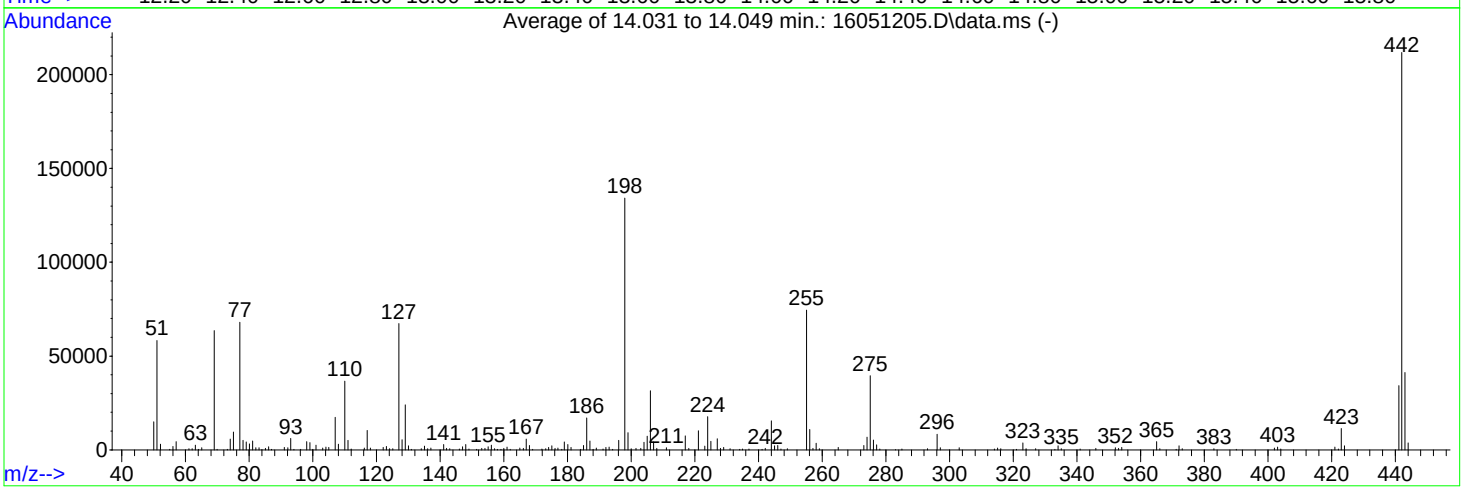
Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605071-16A	Soil		0	0	#Num!	1 of 1	
	Sample were sieved thru both sieves						
1605071-17A	Soil		0	0	#Num!	1 of 1	
	Sample were sieved thru both sieves						
1605071-18A	Soil		0	0	#Num!	1 of 1	
	Sample were sieved thru both sieves						

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051205.D
Acq On : 12 May 2016 12:16 pm
Operator :
Sample : DFTPP-160512
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	43.5	58362	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	47.4	63560	PASS
70	69	0.00	2	0.3	202	PASS
127	198	10	80	50.2	67378	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	134192	PASS
199	198	5	9	6.8	9084	PASS
275	198	10	60	29.5	39562	PASS
365	198	1	200	3.2	4310	PASS
441	442	0.01	24	16.1	34169	PASS
442	198	50	400	157.9	211909	PASS
443	442	15	24	19.4	41167	PASS

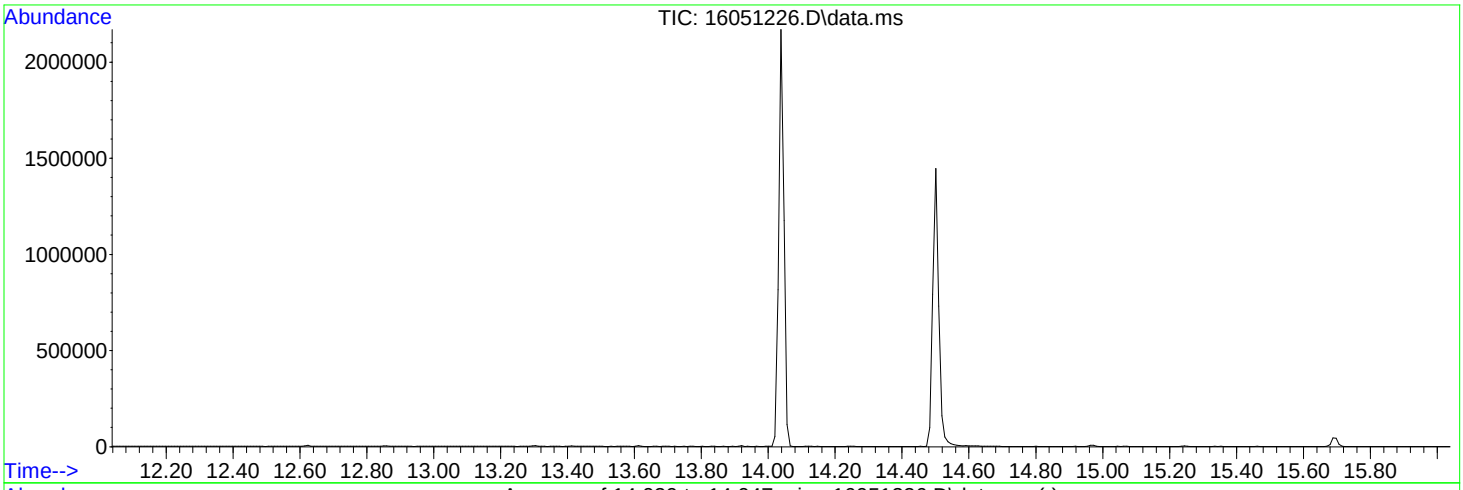
REVIEWED/APPROVED

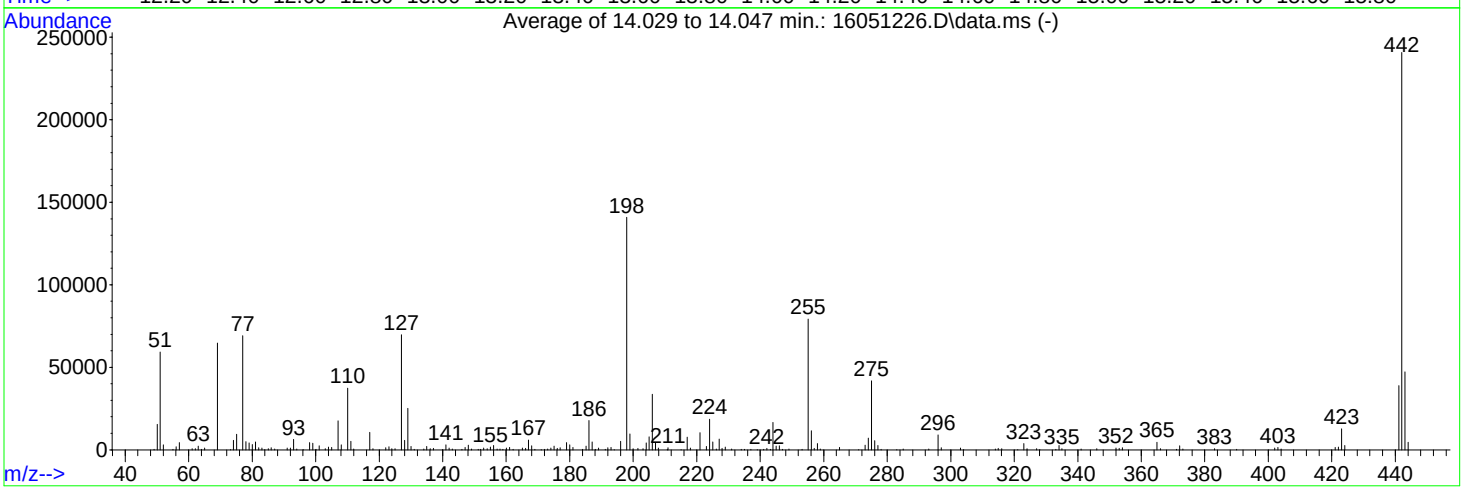
By Sherri Herschmann at 12:32:13 PM, 5/16/2016

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051226.D
Acq On : 13 May 2016 1:13 am
Operator :
Sample : DFTPP2-160512
Misc : TUNE
ALS Vial : 22 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	42.1	59336	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	45.9	64744	PASS
70	69	0.00	2	0.0	0	PASS
127	198	10	80	49.4	69642	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	140901	PASS
199	198	5	9	6.9	9662	PASS
275	198	10	60	29.7	41792	PASS
365	198	1	200	3.3	4657	PASS
441	442	0.01	24	16.1	38887	PASS
442	198	50	400	170.9	240808	PASS
443	442	15	24	19.6	47225	PASS

REVIEWED/APPROVED
By Sherri Herschmann at 12:32:17 PM, 5/16/2016

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051206.D
Acq On : 12 May 2016 12:53 pm
Operator :
Sample : ICV-160512
Misc : ICV
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 13 08:19:11 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	10.272	136	1477388	4000.00	ug/kg	95
6) Acenaphthene-d10	12.857	164	973224	4000.00	ug/kg	100
11) Phenanthrene-d10	14.981	188	3045520	4000.00	ug/kg	98
16) Chrysene-d12	20.991	240	3290157	4000.00	ug/kg	94
20) Perylene-d12	26.258	264	2827283	4000.00	ug/kg	95

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.757	172	638460	2198.84	ug/kg	-0.01
Spiked Amount 4000.000	Range 40 - 140		Recovery = 54.97%			
17) 4-Terphenyl-d14	17.588	244	1464588	1926.58	ug/kg	-0.03
Spiked Amount 4000.000	Range 51 - 135		Recovery = 48.16%#			

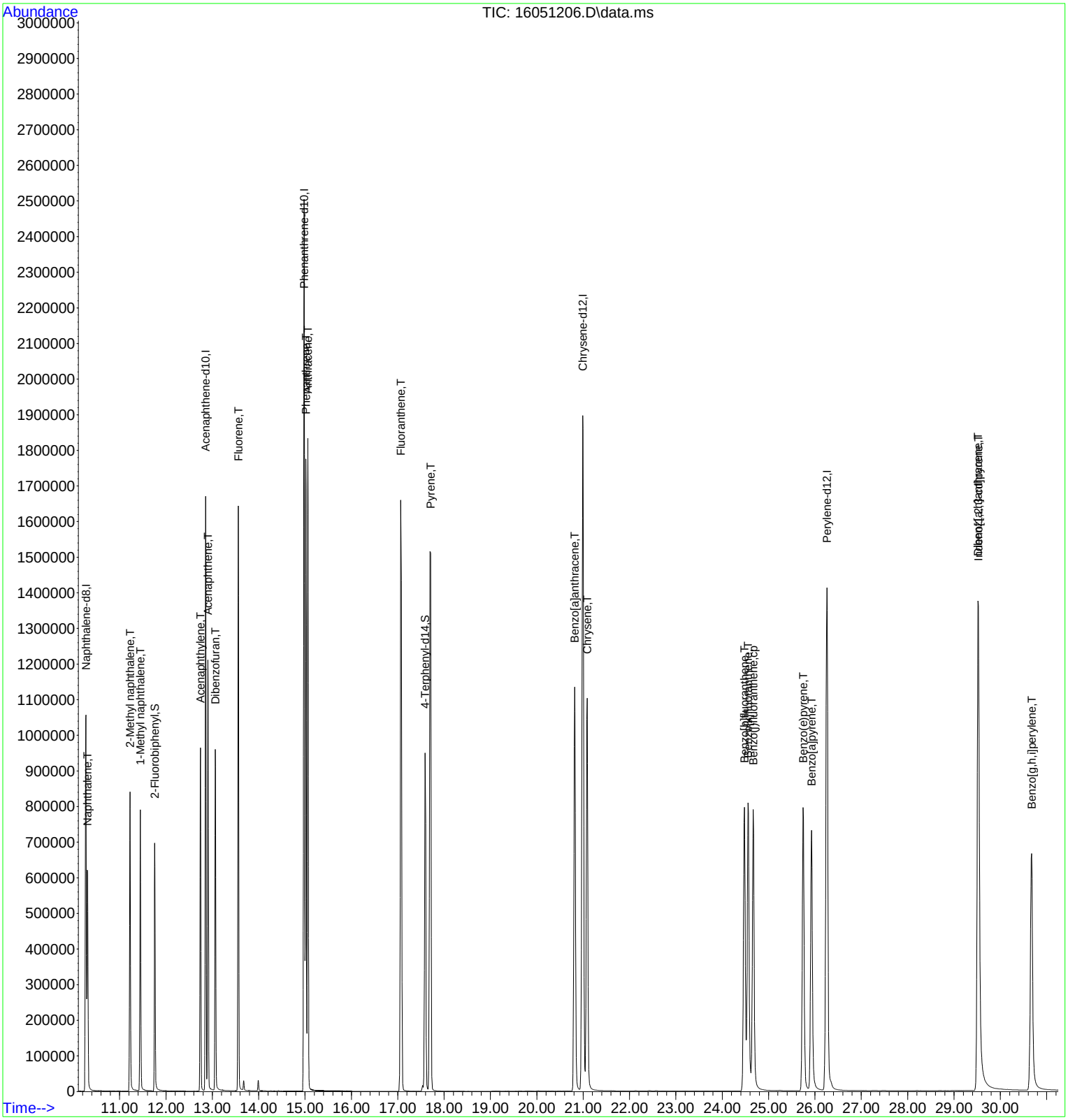
Target Compounds						Qvalue
2) Naphthalene	10.305	128	725244	2025.56	ug/kg	100
3) 2-Methyl naphthalene	11.222	142	527006	2179.30	ug/kg	98
4) 1-Methyl naphthalene	11.444	142	482268	2146.43	ug/kg	98
7) Acenaphthylene	12.744	152	930277	2034.08	ug/kg	100
8) Acenaphthene	12.906	153	584009	2017.84	ug/kg	100
9) Dibenzofuran	13.068	168	933819	1998.00	ug/kg	96
10) Fluorene	13.559	166	892758	2031.18	ug/kg	99
12) Phenanthrene	15.019	178	1719022	1950.23	ug/kg	100
13) Anthracene	15.061	178	1780118	1864.04	ug/kg	100
14) Fluoranthene	17.065	202	2086301	1808.61	ug/kg	82
15) Pyrene	17.709	202	2089851	1806.26	ug/kg	94
18) Benzo[a]anthracene	20.815	228	1826498	1974.85	ug/kg	100
19) Chrysene	21.086	228	1671302	1974.00	ug/kg	100
21) Benzo[b]fluoranthene	24.478	252	1615765	2006.72	ug/kg	100
22) Benzo[k]fluoranthene	24.558	252	1385313	2145.10	ug/kg	100
23) Benzo(j)fluoranthene	24.668	252	1379869	2113.96	ug/kg	99
24) Benzo(e)pyrene	25.745	252	1522283	1969.79	ug/kg	99
25) Benzo[a]pyrene	25.928	252	1477798	1996.93	ug/kg	100
26) Indeno[1,2,3-cd]pyrene	29.532	276	1673645	2041.37	ug/kg	98
27) Dibenz[a,h]anthracene	29.517	278	1373839	2055.42	ug/kg	99
28) Benzo[g,h,i]perylene	30.675	276	1427891	1995.91	ug/kg	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051206.D
Acq On : 12 May 2016 12:53 pm
Operator :
Sample : ICV-160512
Misc : ICV
ALS Vial : 2 Sample Multiplier: 1

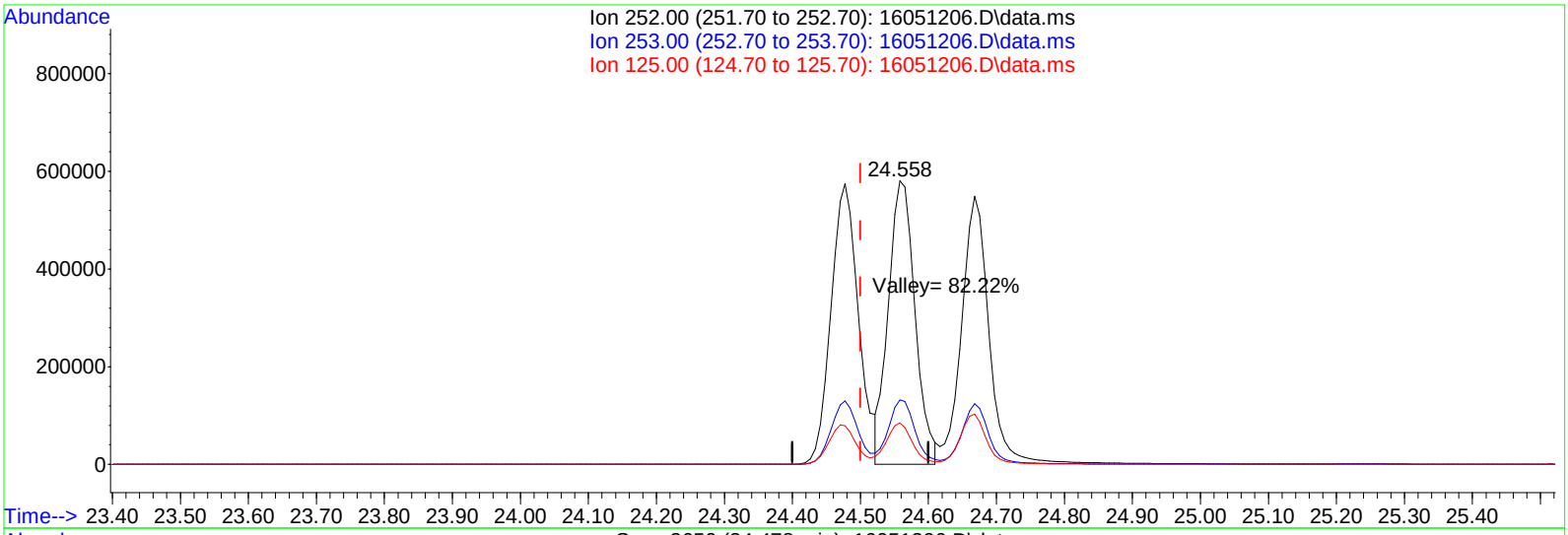
Quant Time: May 13 08:19:11 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 11 10:43:33 2016
Response via : Initial Calibration

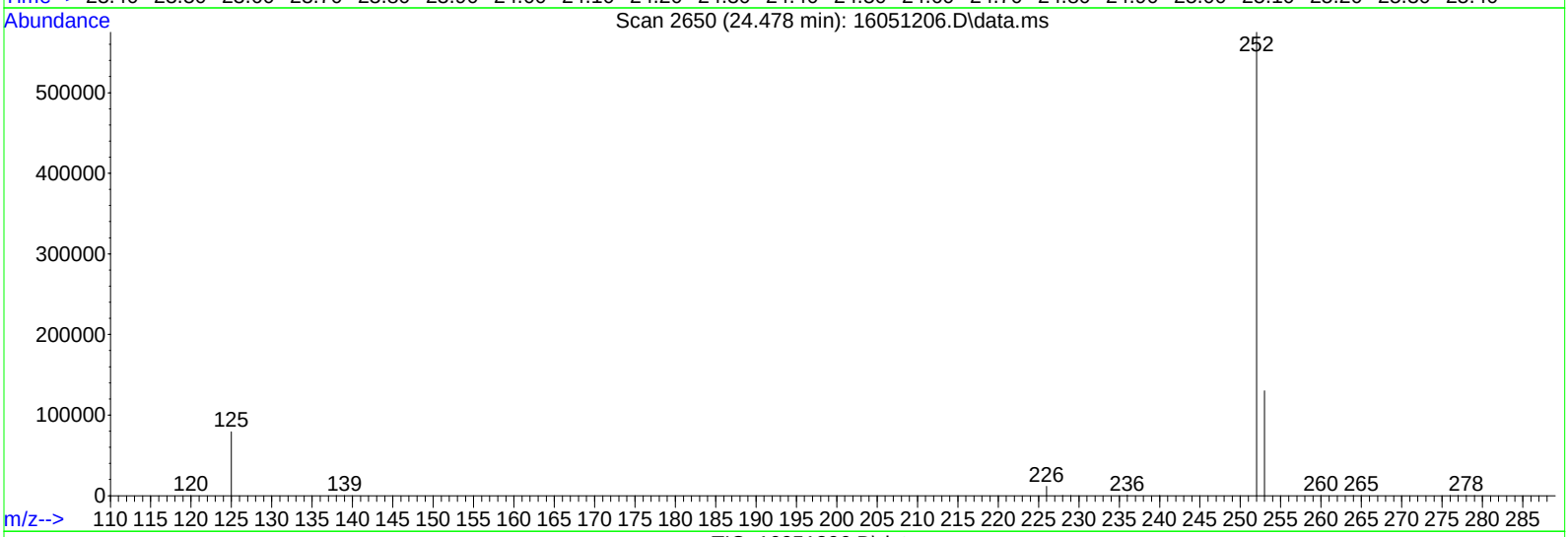


Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051206.D
Acq On : 12 May 2016 12:53 pm
Operator :
Sample : ICV-160512
Misc : ICV
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 13 08:19:11 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





TIC: 16051206.D\data.ms

(21) Benzo[b]fluoranthene (T)

24.478min (-0.022) 2006.72ug/kg

response 1615765

Ion	Exp%	Act%
252.00	100	100
253.00	22.60	22.57
125.00	13.80	13.76
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051208.D
Acq On : 12 May 2016 2:09 pm
Operator :
Sample : LCS-75021
Misc : LCS
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 13 08:19:13 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	10.272	136	1427936	4000.00 ug/kg	91
6) Acenaphthene-d10	12.857	164	907032	4000.00 ug/kg	93
11) Phenanthrene-d10	14.979	188	2542743	4000.00 ug/kg	82
16) Chrysene-d12	20.992	240	3428045	4000.00 ug/kg	98
20) Perylene-d12	26.259	264	2959255	4000.00 ug/kg	100

System Monitoring Compounds					Dev(Min)
5) 2-Fluorobiphenyl	11.757	172	231671	825.50 ug/kg	-0.01
Spiked Amount 4000.000	Range 40 - 140		Recovery = 20.64%#		
17) 4-Terphenyl-d14	17.589	244	594323	750.35 ug/kg	-0.03
Spiked Amount 4000.000	Range 51 - 135		Recovery = 18.76%#		

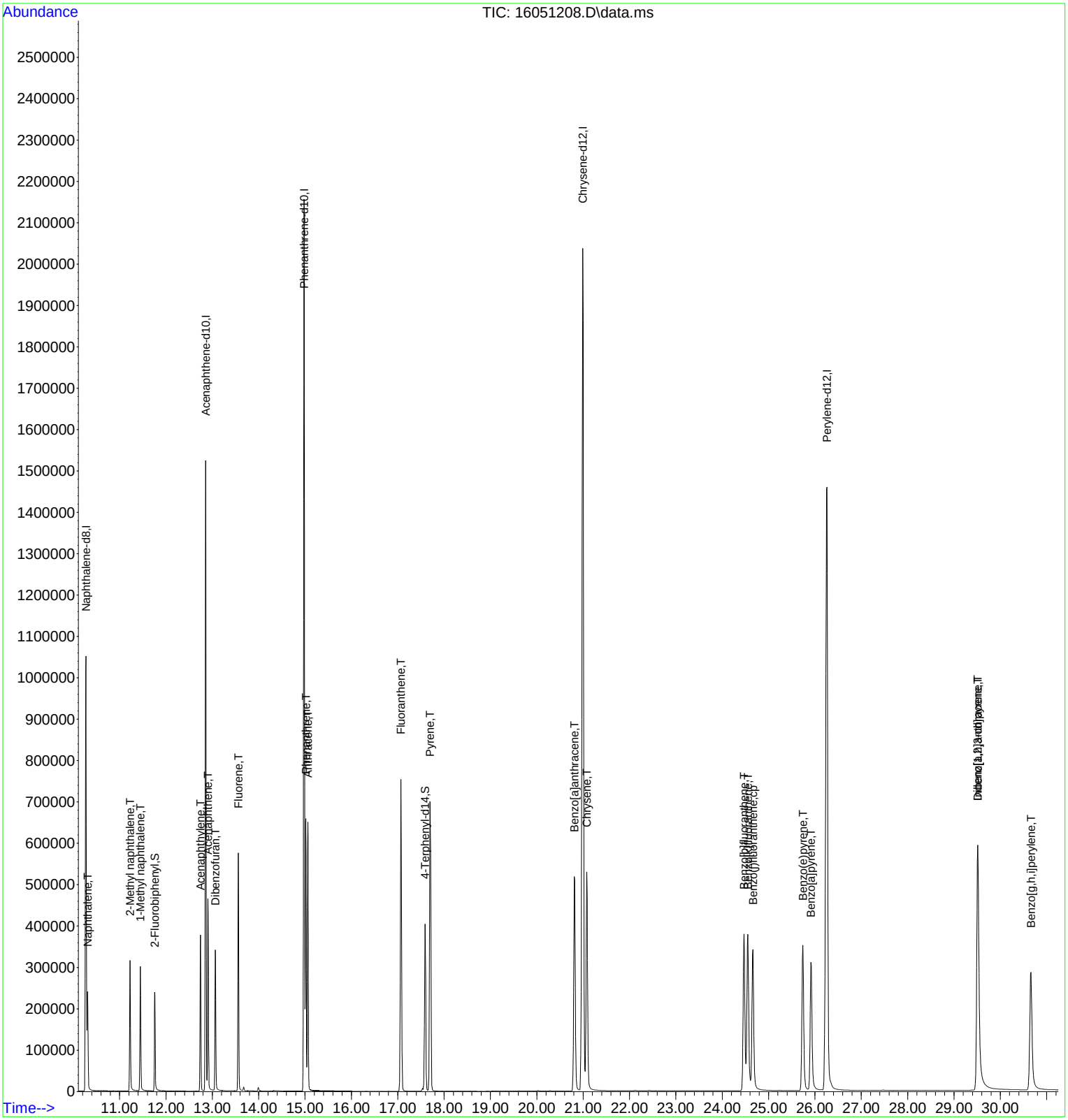
Target Compounds					Qvalue
2) Naphthalene	10.309	128	269670	779.26 ug/kg	99
3) 2-Methyl naphthalene	11.222	142	199421	845.76 ug/kg	97
4) 1-Methyl naphthalene	11.449	142	187374	862.83 ug/kg	100
7) Acenaphthylene	12.744	152	356946	837.43 ug/kg	99
8) Acenaphthene	12.906	153	222388	824.46 ug/kg	99
9) Dibenzofuran	13.068	168	338702	777.57 ug/kg	95
10) Fluorene	13.560	166	313884	766.25 ug/kg	99
12) Phenanthrene	15.017	178	626721	851.60 ug/kg	98
13) Anthracene	15.061	178	637495	799.54 ug/kg	98
14) Fluoranthene	17.066	202	887401	921.40 ug/kg	87
15) Pyrene	17.696	202	894338	925.82 ug/kg	90
18) Benzo[a]anthracene	20.809	228	832653	864.07 ug/kg	99
19) Chrysene	21.080	228	770655	873.62 ug/kg	99
21) Benzo[b]fluoranthene	24.471	252	720096	854.45 ug/kg	99
22) Benzo[k]fluoranthene	24.552	252	643203	951.56 ug/kg	98
23) Benzo(j)fluoranthene	24.662	252	618116	904.73 ug/kg	99
24) Benzo(e)pyrene	25.738	252	678474	838.77 ug/kg	99
25) Benzo[a]pyrene	25.914	252	638639	824.50 ug/kg	99
26) Indeno[1,2,3-cd]pyrene	29.518	276	746421	869.82 ug/kg	100
27) Dibenz[a,h]anthracene	29.511	278	605358	865.29 ug/kg	97
28) Benzo[g,h,i]perylene	30.661	276	642840	858.49 ug/kg	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051208.D
Acq On : 12 May 2016 2:09 pm
Operator :
Sample : LCS-75021
Misc : LCS
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 13 08:19:13 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\160512\
Data File : 16051209.D
Acq On : 12 May 2016 2:45 pm
Operator :
Sample : MB-75021
Misc : MBLK
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 13 08:19:17 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	10.271	136	1504945	4000.00	ug/kg	96
6) Acenaphthene-d10	12.856	164	974166	4000.00	ug/kg	100
11) Phenanthrene-d10	14.979	188	2651447	4000.00	ug/kg	85
16) Chrysene-d12	20.991	240	3726105	4000.00	ug/kg	107
20) Perylene-d12	26.258	264	3208815	4000.00	ug/kg	108

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.760	172	230887	780.61	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 19.52%#			
17) 4-Terphenyl-d14	17.588	244	610967	709.66	ug/kg	-0.03
Spiked Amount 4000.000	Range 51 - 135		Recovery = 17.74%#			

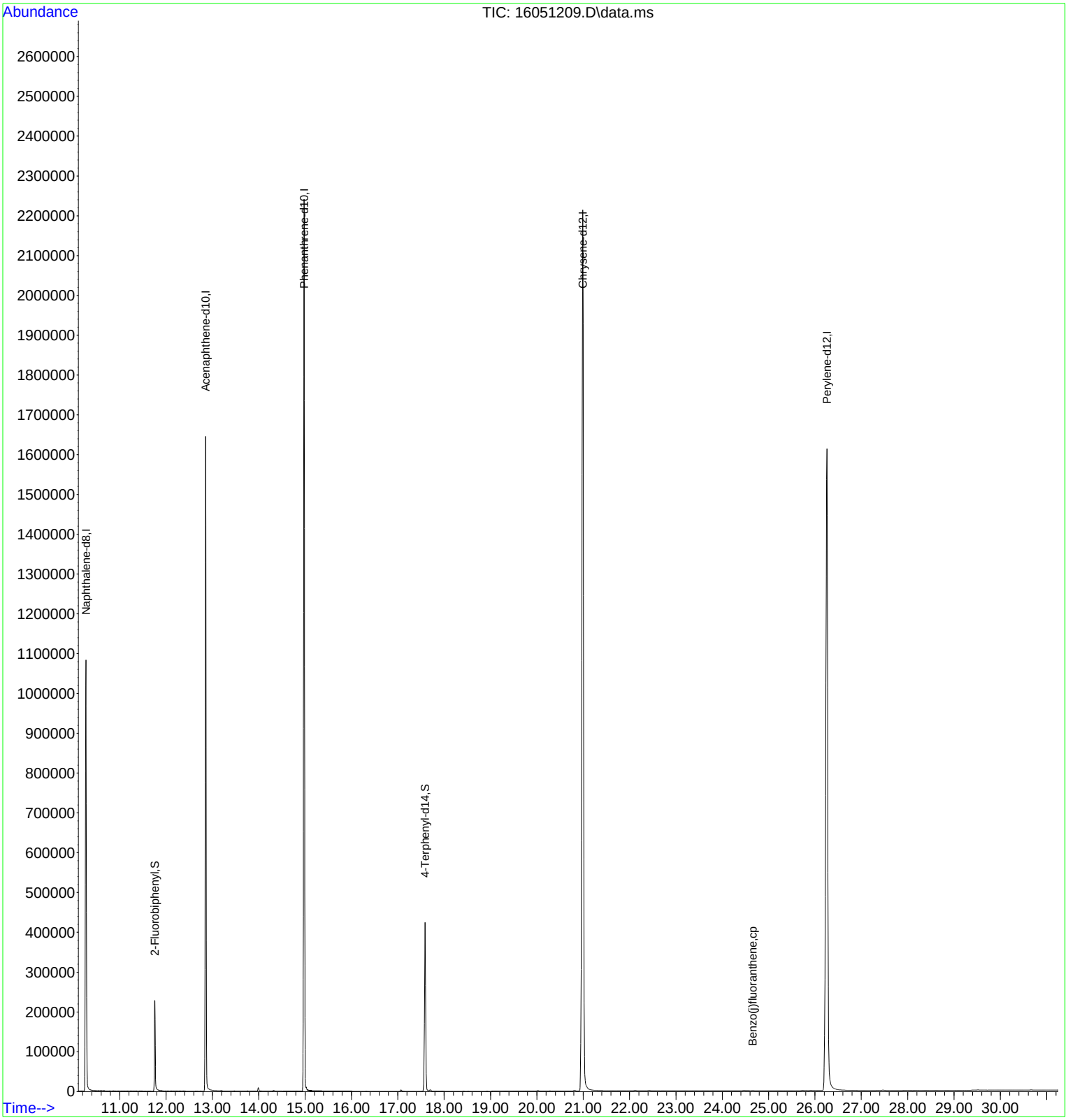
Target Compounds						Qvalue
23) Benzo(j)fluoranthene	24.653	252	1118	1.51	ug/kg	82

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051209.D
Acq On : 12 May 2016 2:45 pm
Operator :
Sample : MB-75021
Misc : MBLK
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 13 08:19:17 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\160512\
Data File : 16051210.D
Acq On : 12 May 2016 3:22 pm
Operator :
Sample : 1605047-11A
Misc : SAMP
ALS Vial : 6 Sample Multiplier: 10

Quant Time: May 13 08:20:01 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	10.271	136	1571071	4000.00 ug/kg	101
6) Acenaphthene-d10	12.856	164	1051522	4000.00 ug/kg	108
11) Phenanthrene-d10	14.980	188	3097149	4000.00 ug/kg	100
16) Chrysene-d12	20.990	240	3386214	4000.00 ug/kg	97
20) Perylene-d12	26.257	264	2908047	4000.00 ug/kg	98

System Monitoring Compounds					Dev(Min)
5) 2-Fluorobiphenyl	11.765	172	22330	72.32 ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.81%#	
17) 4-Terphenyl-d14	17.589	244	56992	72.84 ug/kg	-0.03
Spiked Amount 4000.000	Range 51 - 135		Recovery =	1.82%#	

Target Compounds					Qvalue
2) Naphthalene	10.308	128	2036	5.35 ug/kg	99
3) 2-Methyl naphthalene	11.234	142	442	5.11 ug/kg	91
8) Acenaphthene	12.910	153	3659	11.70 ug/kg	98
12) Phenanthrene	15.016	178	154539	172.40 ug/kg	97
13) Anthracene	15.058	178	31023	31.94 ug/kg	97
14) Fluoranthene	17.066	202	483813	412.42 ug/kg	91
15) Pyrene	17.696	202	421957	358.62 ug/kg	95
18) Benzo[a]anthracene	20.814	228	238310	250.36 ug/kg	99
19) Chrysene	21.078	228	268010	307.57 ug/kg	99
21) Benzo[b]fluoranthene	24.462	252	240839	290.81 ug/kg	99
22) Benzo[k]fluoranthene	24.550	252	103004	155.07 ug/kg	95
23) Benzo(j)fluoranthene	24.653	252	107037	159.43 ug/kg	91
24) Benzo(e)pyrene	25.737	252	183658	231.05 ug/kg	97
25) Benzo[a]pyrene	25.913	252	247325	324.93 ug/kg	100
26) Indeno[1,2,3-cd]pyrene	29.517	276	169175	200.61 ug/kg	90
27) Dibenz[a,h]anthracene	29.509	278	27325	39.75 ug/kg	98
28) Benzo[g,h,i]perylene	30.659	276	177889	241.75 ug/kg	97

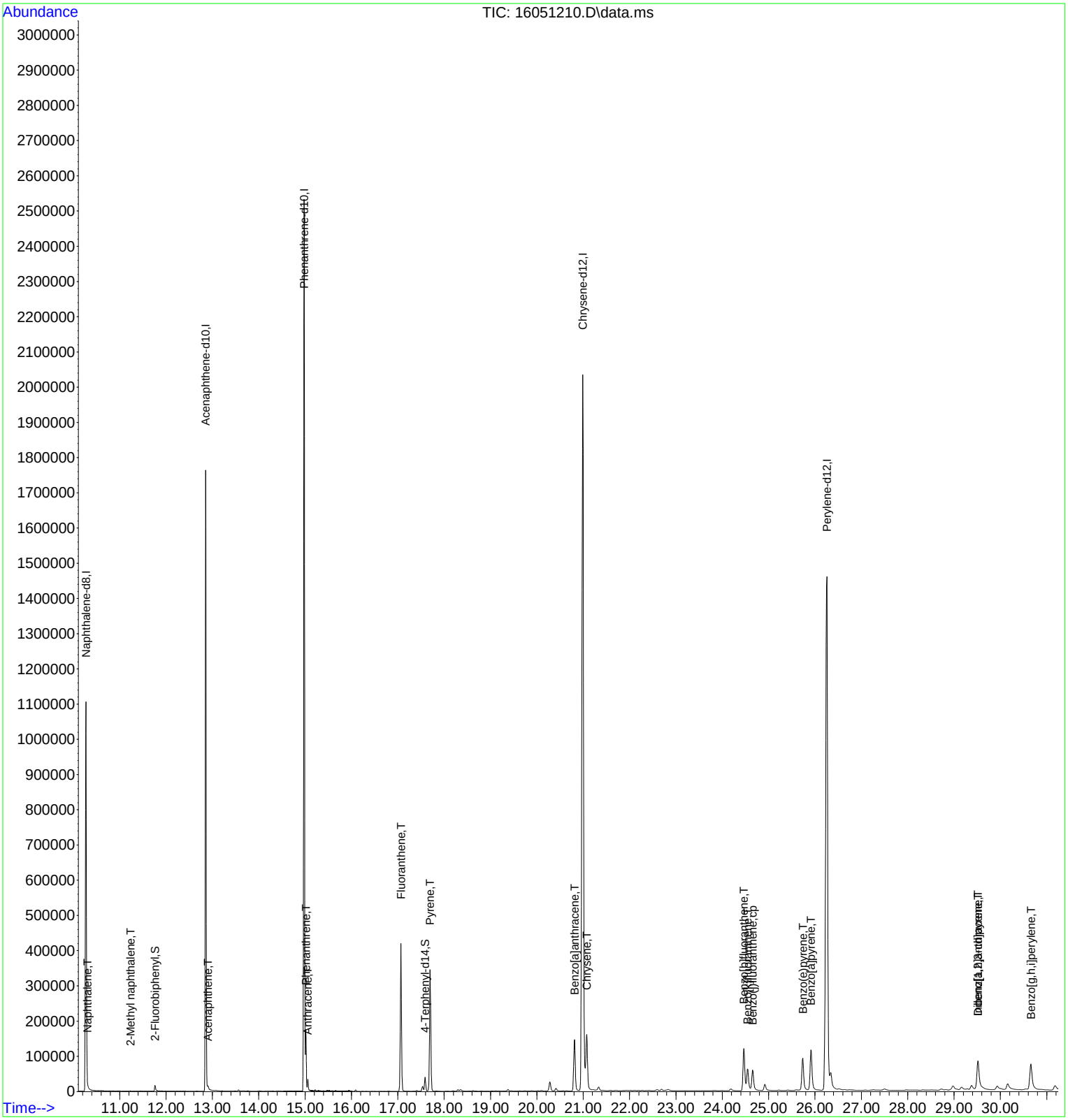
CONFIRMED
By Sherri Herschmann at 12:38:14 PM, 5/16/2016

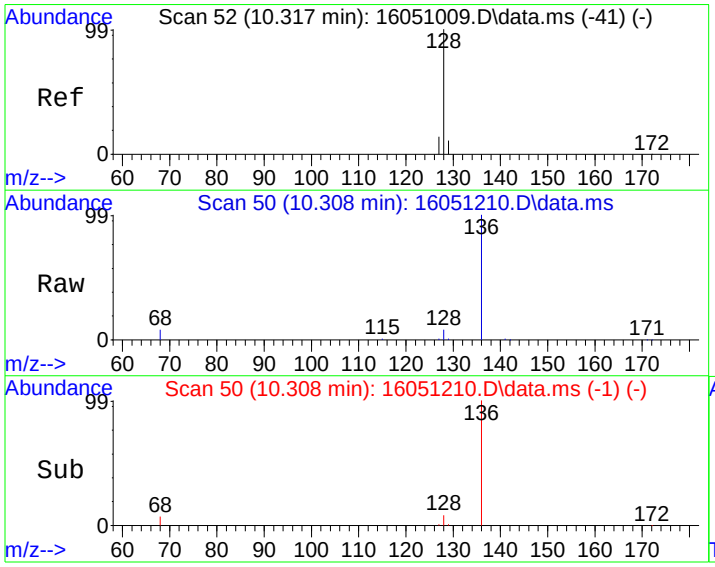
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051210.D
Acq On : 12 May 2016 3:22 pm
Operator :
Sample : 1605047-11A
Misc : SAMP
ALS Vial : 6 Sample Multiplier: 10

Quant Time: May 13 08:20:01 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

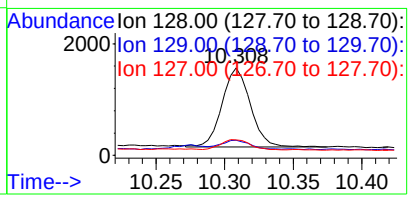


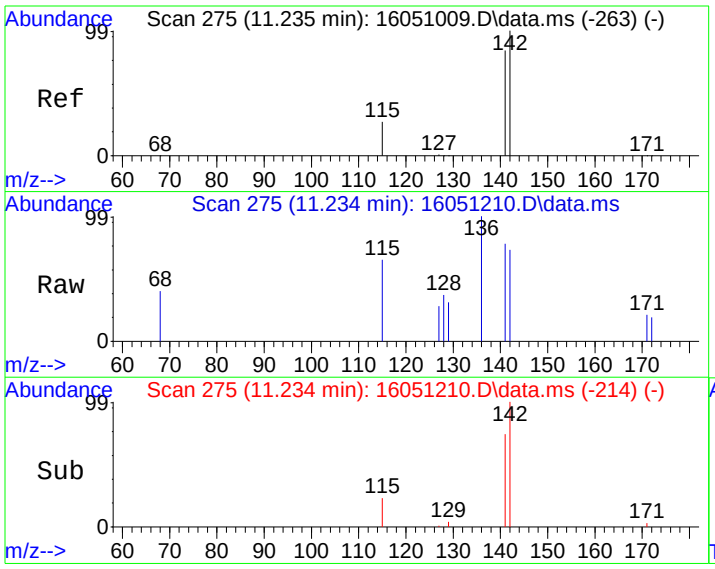


#2
Naphthalene
Concen: 5.35 ug/kg
RT: 10.308 min Scan# 50
Delta R.T. -0.009 min
Lab File: 16051210.D
Acq: 12 May 2016 3:22 pm

Tgt Ion:128 Resp: 2036

Ion	Ratio	Lower	Upper
128	100		
129	11.5	0.0	31.3
127	13.3	0.0	33.5

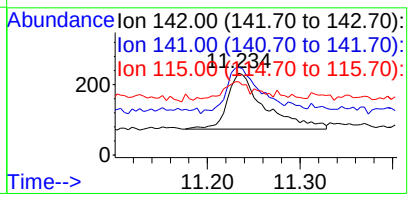


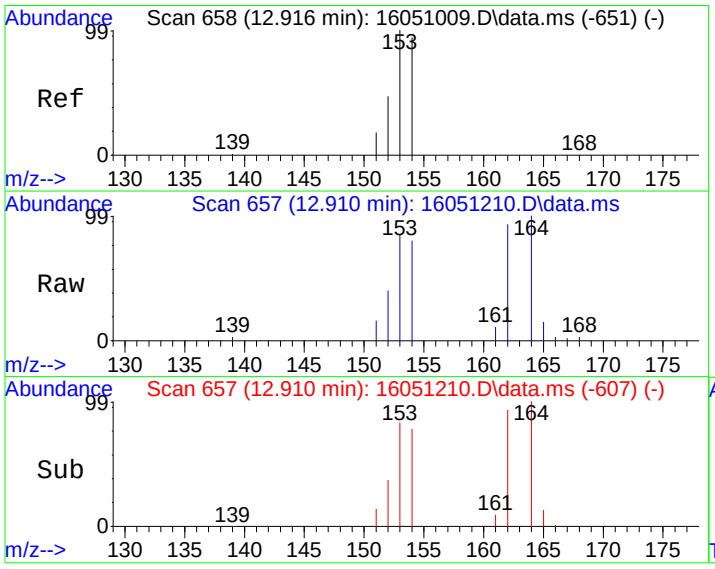


#3
2-Methyl naphthalene
Concen: 5.11 ug/kg
RT: 11.234 min Scan# 275
Delta R.T. -0.001 min
Lab File: 16051210.D
Acq: 12 May 2016 3:22 pm

Tgt Ion:142 Resp: 442

Ion	Ratio	Lower	Upper
142	100		
141	74.8	63.9	103.9
115	24.5	6.7	46.7

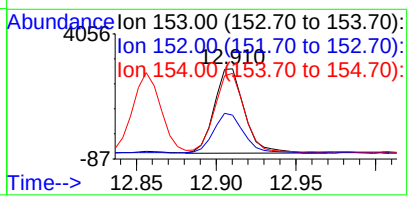


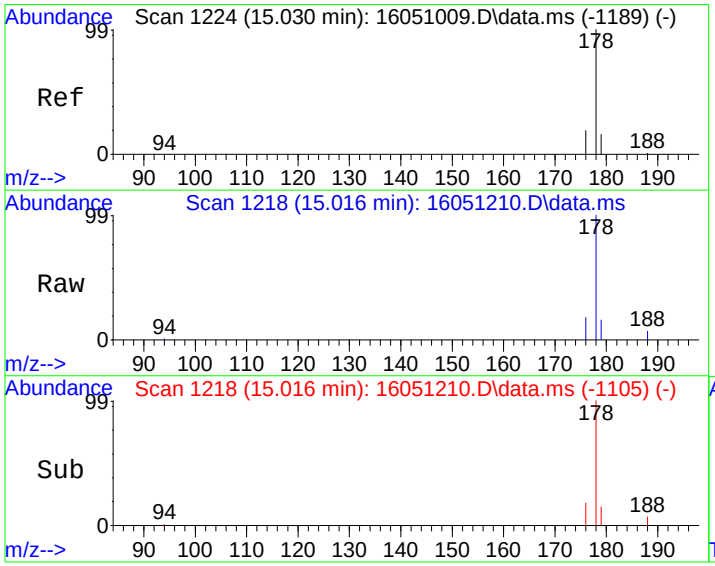


#8
Acenaphthene
Concen: 11.70 ug/kg
RT: 12.910 min Scan# 657
Delta R.T. -0.005 min
Lab File: 16051210.D
Acq: 12 May 2016 3:22 pm

Tgt Ion:153 Resp: 3659

Ion	Ratio	Lower	Upper
153	100		
152	44.7	27.2	67.2
154	93.1	74.3	114.3

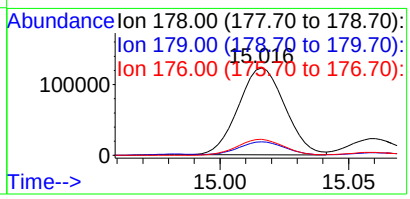


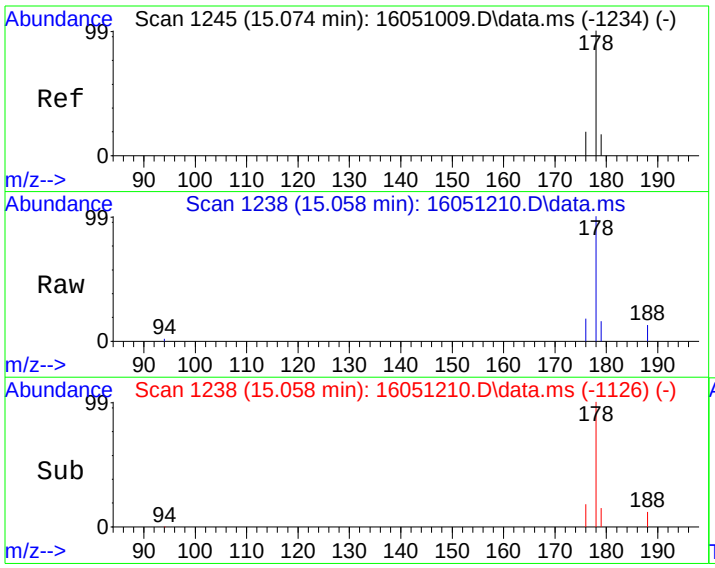


#12
Phenanthrene
Concen: 172.40 ug/kg
RT: 15.016 min Scan# 1218
Delta R.T. -0.013 min
Lab File: 16051210.D
Acq: 12 May 2016 3:22 pm

Tgt Ion:178 Resp: 154539

Ion	Ratio	Lower	Upper
178	100		
179	14.9	0.0	36.4
176	18.4	0.0	39.2

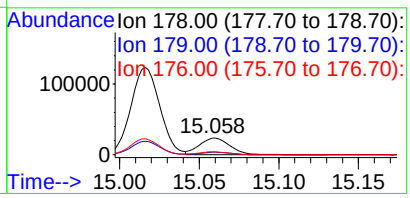


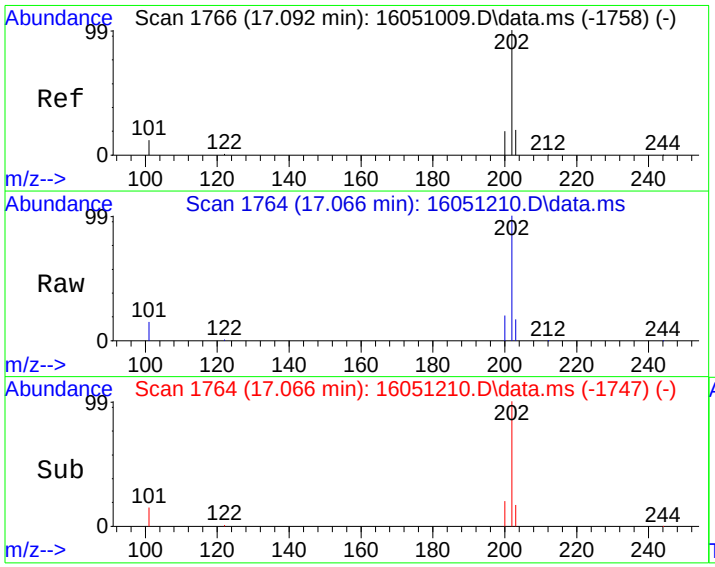


#13
Anthracene
Concen: 31.94 ug/kg
RT: 15.058 min Scan# 1238
Delta R.T. -0.015 min
Lab File: 16051210.D
Acq: 12 May 2016 3:22 pm

Tgt Ion:178 Resp: 31023

Ion	Ratio	Lower	Upper
178	100		
179	15.2	0.0	36.5
176	17.6	0.0	38.6

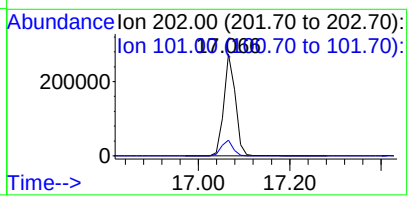


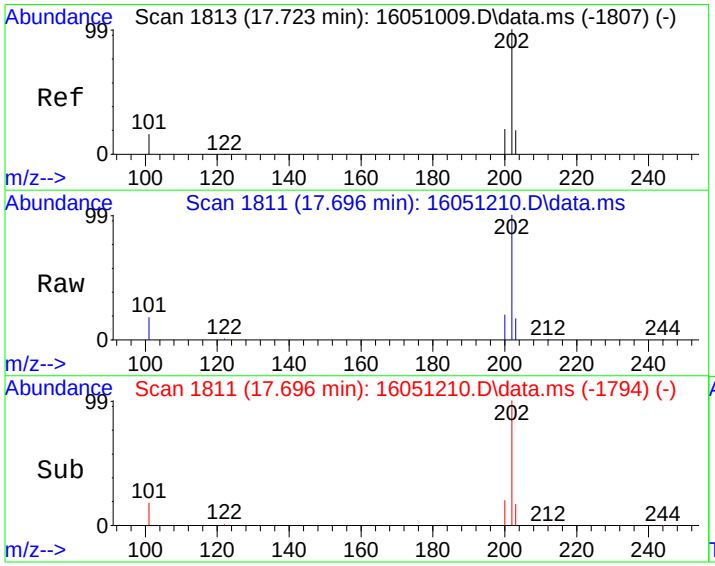


#14
Fluoranthene
Concen: 412.42 ug/kg
RT: 17.066 min Scan# 1764
Delta R.T. -0.026 min
Lab File: 16051210.D
Acq: 12 May 2016 3:22 pm

Tgt Ion:202 Resp: 483813

Ion	Ratio	Lower	Upper
202	100		
101	15.4	0.0	32.0

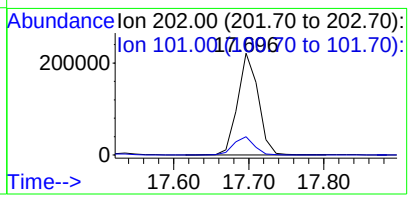


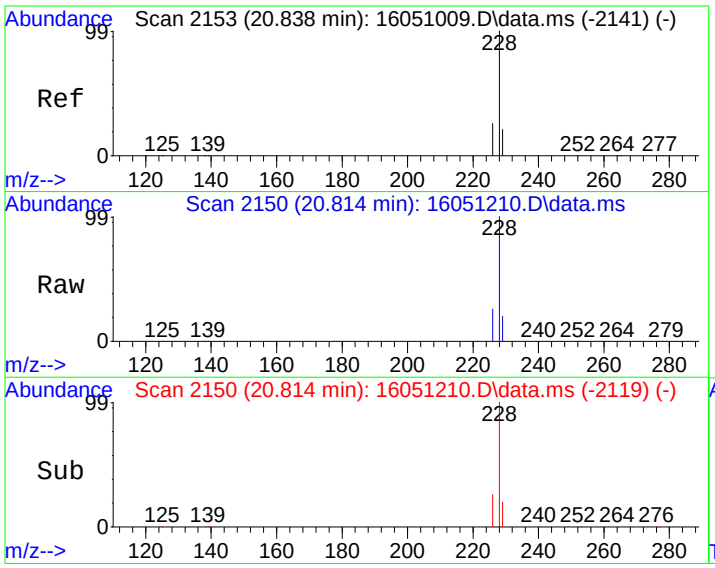


#15
Pyrene
Concen: 358.62 ug/kg
RT: 17.696 min Scan# 1811
Delta R.T. -0.026 min
Lab File: 16051210.D
Acq: 12 May 2016 3:22 pm

Tgt Ion:202 Resp: 421957

Ion	Ratio	Lower	Upper
202	100		
101	17.9	0.0	35.9

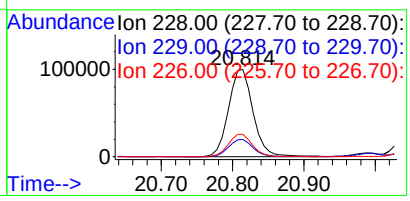


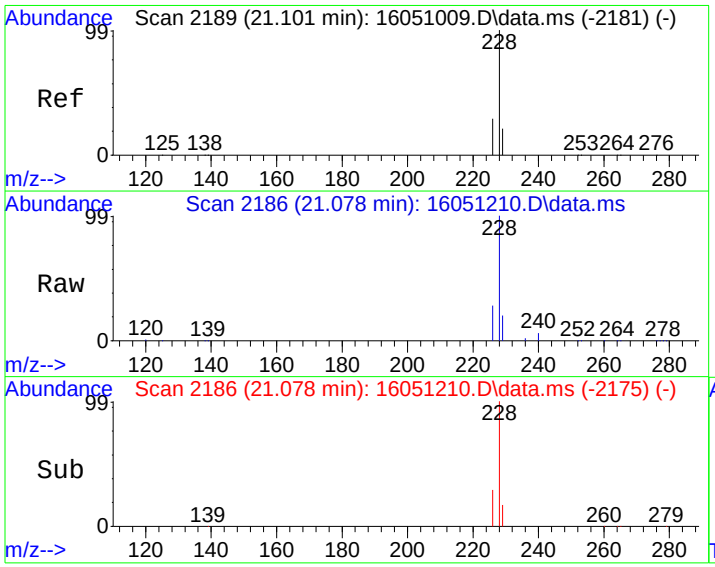


#18
Benzo[a]anthracene
Concen: 250.36 ug/kg
RT: 20.814 min Scan# 2150
Delta R.T. -0.023 min
Lab File: 16051210.D
Acq: 12 May 2016 3:22 pm

Tgt Ion:228 Resp: 238310

Ion	Ratio	Lower	Upper
228	100		
229	19.8	0.7	40.7
226	25.6	5.9	45.9

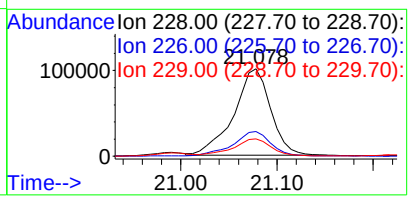


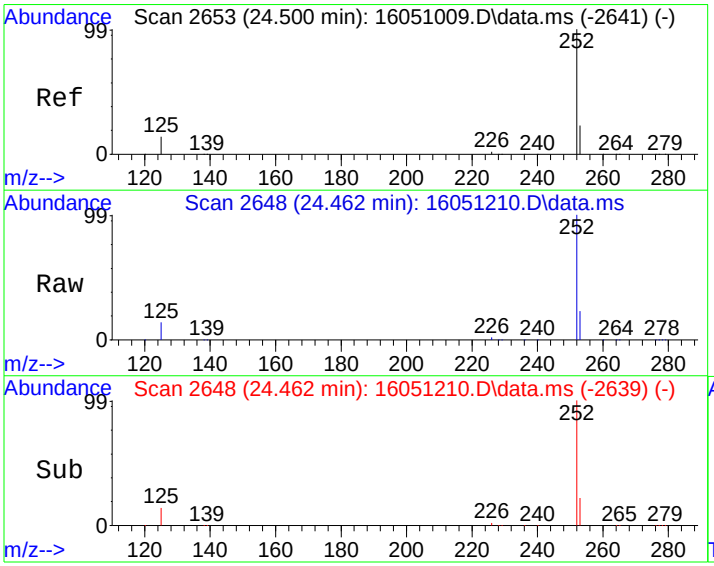


#19
Chrysene
Concen: 307.57 ug/kg
RT: 21.078 min Scan# 2186
Delta R.T. -0.023 min
Lab File: 16051210.D
Acq: 12 May 2016 3:22 pm

Tgt Ion:228 Resp: 268010

Ion	Ratio	Lower	Upper
228	100		
226	28.1	8.8	48.8
229	19.8	0.5	40.5

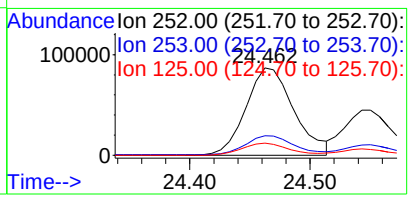


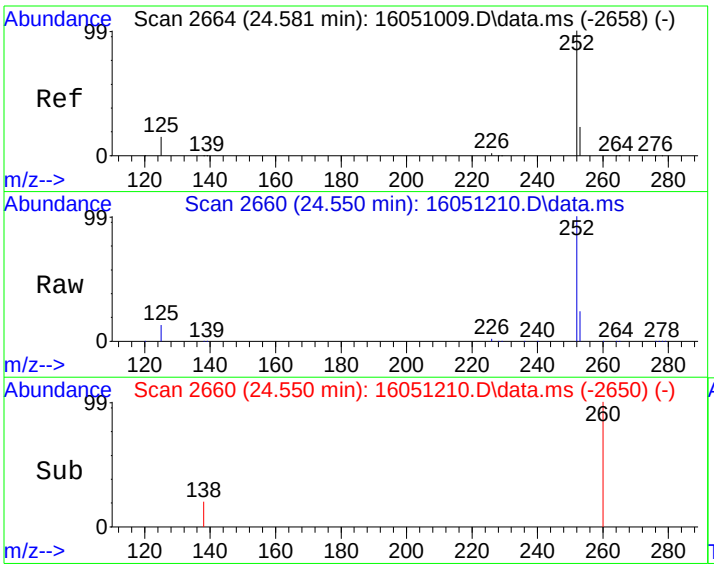


#21
Benzo[b]fluoranthene
Concen: 290.81 ug/kg
RT: 24.462 min Scan# 2648
Delta R.T. -0.038 min
Lab File: 16051210.D
Acq: 12 May 2016 3:22 pm

Tgt Ion:252 Resp: 240839

Ion	Ratio	Lower	Upper
252	100		
253	21.9	2.6	42.6
125	13.9	0.0	33.8

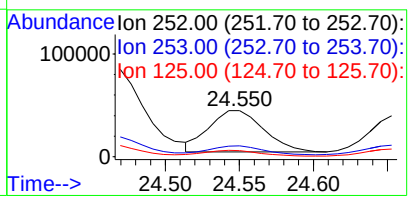


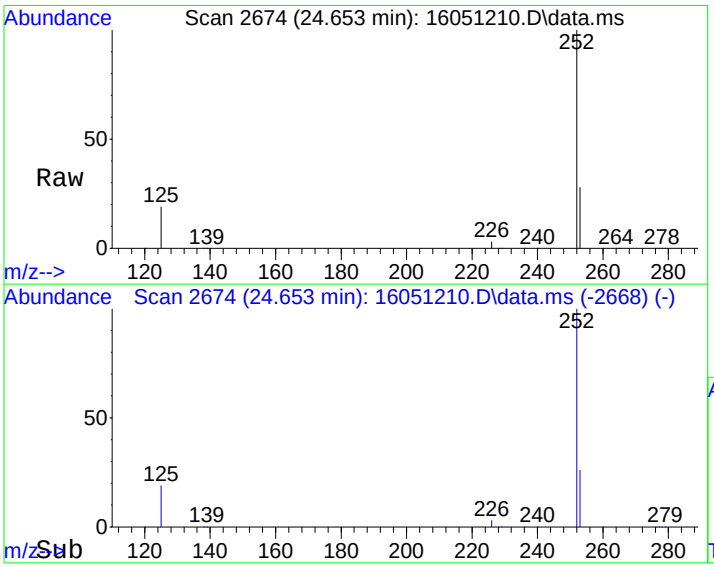


#22
Benzo[k]fluoranthene
Concen: 155.07 ug/kg
RT: 24.550 min Scan# 2660
Delta R.T. -0.030 min
Lab File: 16051210.D
Acq: 12 May 2016 3:22 pm

Tgt Ion:252 Resp: 103004

Ion	Ratio	Lower	Upper
252	100		
253	20.7	2.8	42.8
125	12.6	0.0	34.7

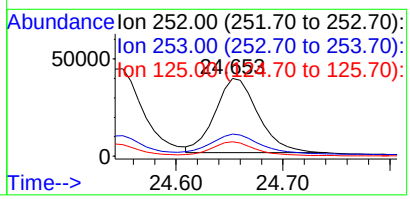


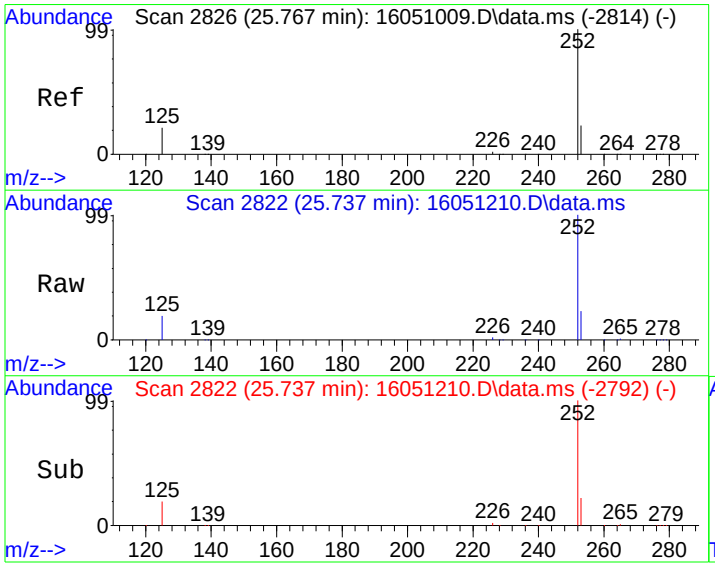


#23
Benzo(j)fluoranthene
Concen: 159.43 ug/kg
RT: 24.653 min Scan# 2674
Delta R.T. -0.037 min
Lab File: 16051210.D
Acq: 12 May 2016 3:22 pm

Tgt Ion:252 Resp: 107037

Ion	Ratio	Lower	Upper
252	100		
253	29.6	2.3	42.3
125	18.5	0.0	39.2

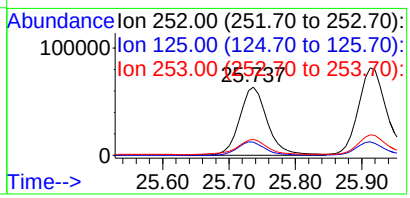


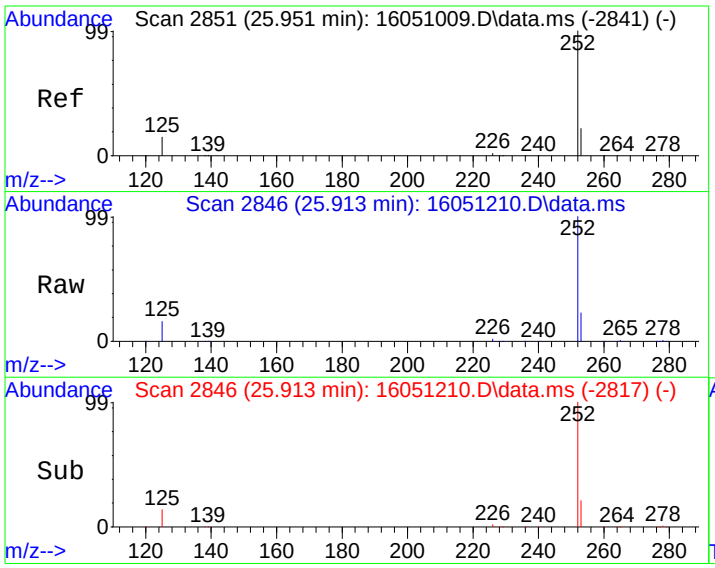


#24
Benzo(e)pyrene
Concen: 231.05 ug/kg
RT: 25.737 min Scan# 2822
Delta R.T. -0.030 min
Lab File: 16051210.D
Acq: 12 May 2016 3:22 pm

Tgt Ion:252 Resp: 183658

Ion	Ratio	Lower	Upper
252	100		
125	19.7	0.8	40.8
253	23.9	2.4	42.4

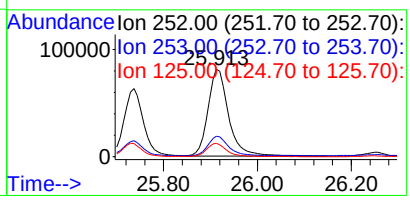


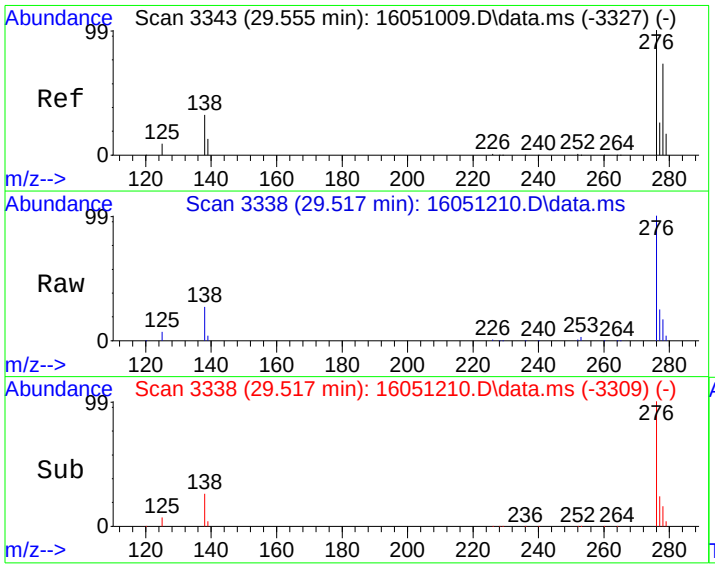


#25
Benzo[a]pyrene
Concen: 324.93 ug/kg
RT: 25.913 min Scan# 2846
Delta R.T. -0.037 min
Lab File: 16051210.D
Acq: 12 May 2016 3:22 pm

Tgt Ion:252 Resp: 247325

Ion	Ratio	Lower	Upper
252	100		
253	22.4	2.5	42.5
125	15.4	0.0	35.5

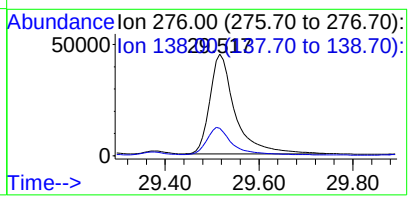


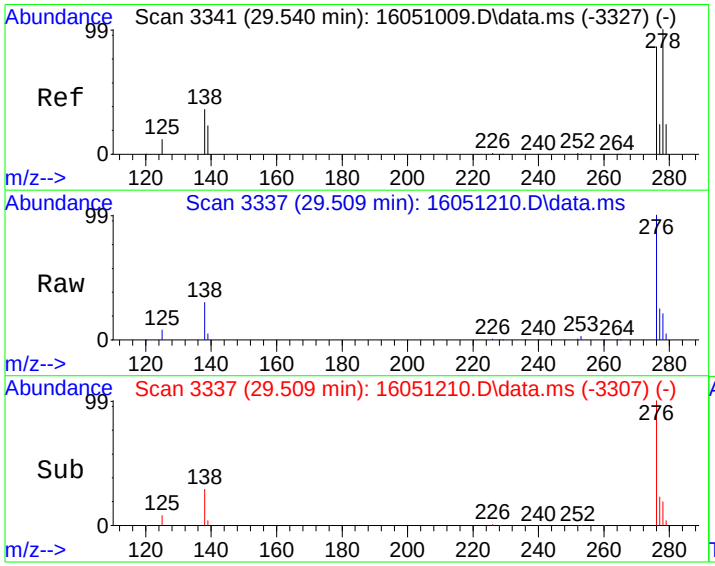


#26
Indeno[1,2,3-cd]pyrene
Concen: 200.61 ug/kg
RT: 29.517 min Scan# 3338
Delta R.T. -0.037 min
Lab File: 16051210.D
Acq: 12 May 2016 3:22 pm

Tgt Ion:276 Resp: 169175

Ion	Ratio	Lower	Upper
276	100		
138	26.5	12.0	52.0

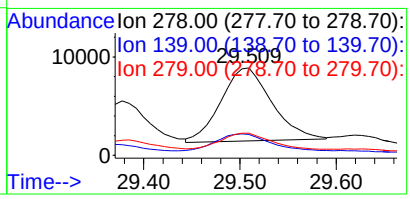


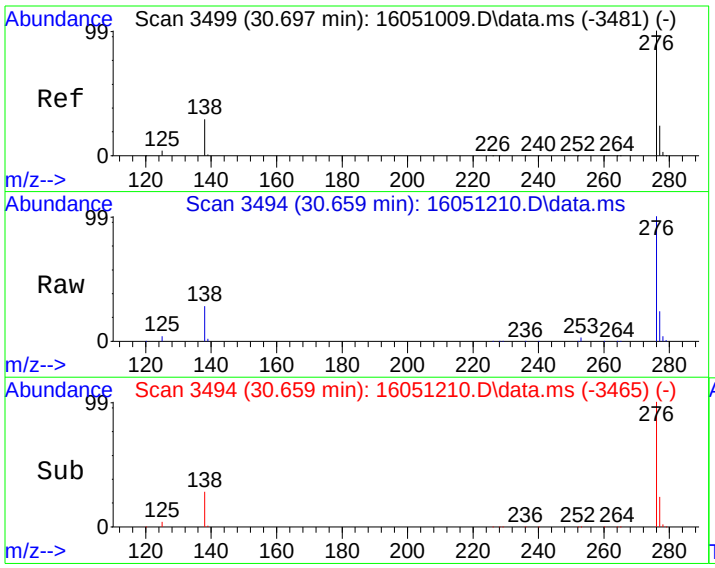


#27
Dibenz[a,h]anthracene
Concen: 39.75 ug/kg
RT: 29.509 min Scan# 3337
Delta R.T. -0.030 min
Lab File: 16051210.D
Acq: 12 May 2016 3:22 pm

Tgt Ion:278 Resp: 27325

Ion	Ratio	Lower	Upper
278	100		
139	22.5	2.9	42.9
279	22.6	4.4	44.4

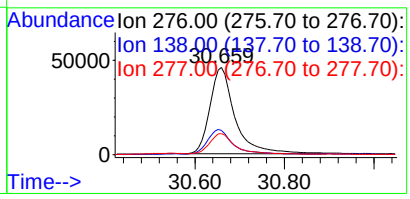




#28
Benzo[g,h,i]perylene
Concen: 241.75 ug/kg
RT: 30.659 min Scan# 3494
Delta R.T. -0.038 min
Lab File: 16051210.D
Acq: 12 May 2016 3:22 pm

Tgt Ion:276 Resp: 177889

Ion	Ratio	Lower	Upper
276	100		
138	27.3	9.3	49.3
277	23.6	4.3	44.3



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051211.D
Acq On : 12 May 2016 3:59 pm
Operator :
Sample : 1605047-12A
Misc : SAMP
ALS Vial : 7 Sample Multiplier: 10

Quant Time: May 13 08:20:09 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	10.270	136	1584185	4000.00 ug/kg	101
6) Acenaphthene-d10	12.856	164	1118071	4000.00 ug/kg	114
11) Phenanthrene-d10	14.980	188	3242894	4000.00 ug/kg	104
16) Chrysene-d12	20.992	240	3444367	4000.00 ug/kg	99
20) Perylene-d12	26.258	264	3005298	4000.00 ug/kg	101

System Monitoring Compounds					Dev(Min)
5) 2-Fluorobiphenyl	11.763	172	25700	82.54 ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.06%#		
17) 4-Terphenyl-d14	17.588	244	61388	77.14 ug/kg	-0.03
Spiked Amount 4000.000	Range 51 - 135		Recovery = 1.93%#		

Target Compounds					Qvalue
2) Naphthalene	10.307	128	3907	10.18 ug/kg	98
3) 2-Methyl naphthalene	11.233	142	580	5.62 ug/kg	94
8) Acenaphthene	12.910	153	3512	10.56 ug/kg	99
10) Fluorene	13.563	166	2846	5.64 ug/kg	97
12) Phenanthrene	15.016	178	205959	219.44 ug/kg	97
13) Anthracene	15.060	178	42836	42.13 ug/kg	97
14) Fluoranthene	17.065	202	582857	474.52 ug/kg	89
15) Pyrene	17.696	202	493285	400.40 ug/kg	92
18) Benzo[a]anthracene	20.809	228	263079	271.71 ug/kg	99
19) Chrysene	21.080	228	286176	322.87 ug/kg	99
21) Benzo[b]fluoranthene	24.464	252	242093	282.86 ug/kg	99
22) Benzo[k]fluoranthene	24.552	252	103840	151.27 ug/kg	95
23) Benzo(j)fluoranthene	24.654	252	107614	155.10 ug/kg	91
24) Benzo(e)pyrene	25.738	252	177452	216.02 ug/kg	98
25) Benzo[a]pyrene	25.914	252	241515	307.03 ug/kg	100
26) Indeno[1,2,3-cd]pyrene	29.518	276	157884	181.17 ug/kg	89
27) Dibenz[a,h]anthracene	29.503	278	25666	36.12 ug/kg	97
28) Benzo[g,h,i]perylene	30.661	276	162434	213.60 ug/kg	96

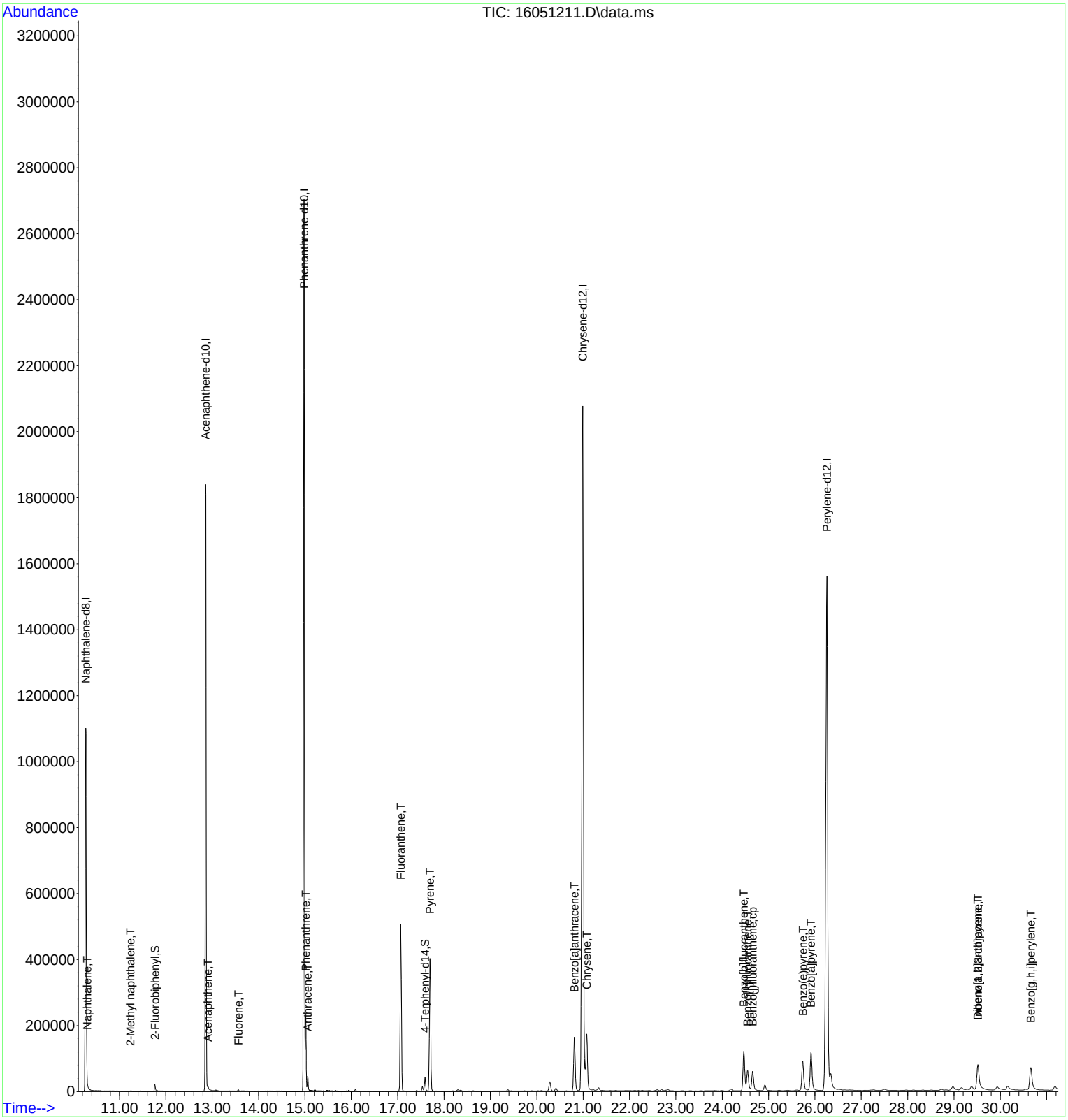
(#) = qualifier out of range (m) = manual integration (+) = signals summed

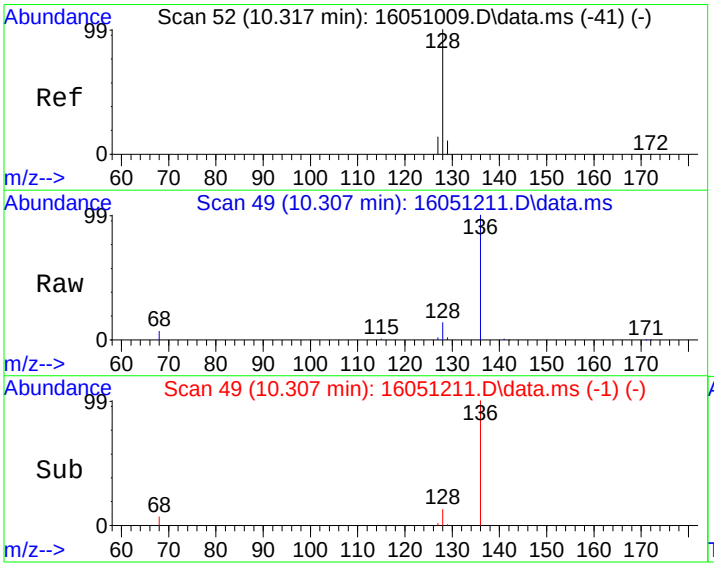
CONFIRMED
By Sherri Herschmann at 12:39:19 PM, 5/16/2016

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051211.D
Acq On : 12 May 2016 3:59 pm
Operator :
Sample : 1605047-12A
Misc : SAMP
ALS Vial : 7 Sample Multiplier: 10

Quant Time: May 13 08:20:09 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

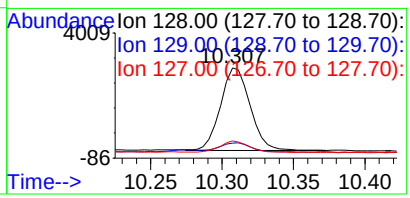


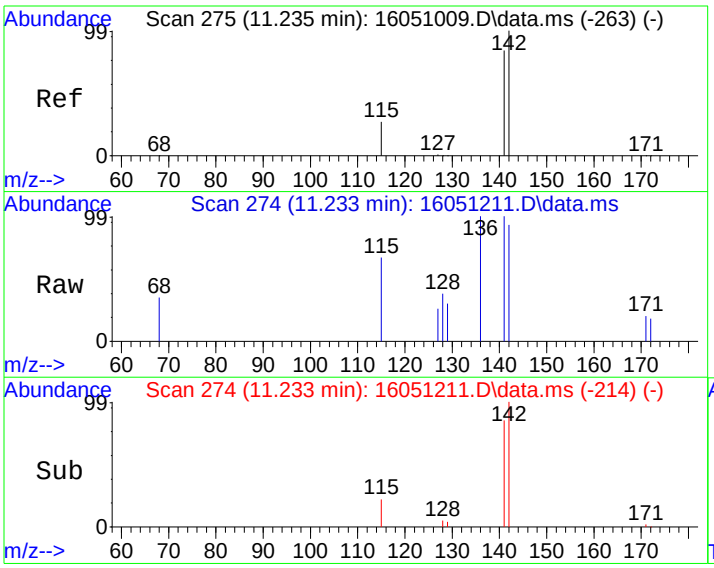


#2
Naphthalene
Concen: 10.18 ug/kg
RT: 10.307 min Scan# 49
Delta R.T. -0.010 min
Lab File: 16051211.D
Acq: 12 May 2016 3:59 pm

Tgt Ion:128 Resp: 3907

Ion	Ratio	Lower	Upper
128	100		
129	10.7	0.0	31.3
127	14.1	0.0	33.5

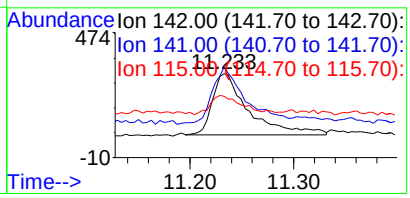


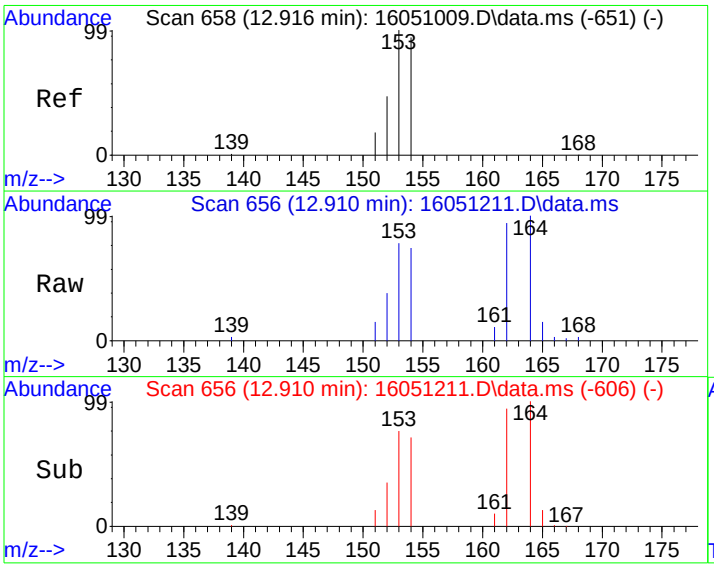


#3
2-Methyl naphthalene
Concen: 5.62 ug/kg
RT: 11.233 min Scan# 274
Delta R.T. -0.002 min
Lab File: 16051211.D
Acq: 12 May 2016 3:59 pm

Tgt Ion:142 Resp: 580

Ion	Ratio	Lower	Upper
142	100		
141	90.3	63.9	103.9
115	29.1	6.7	46.7

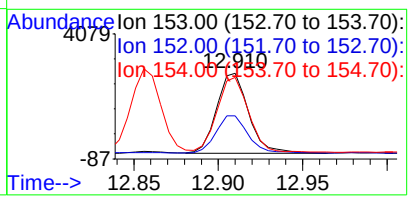


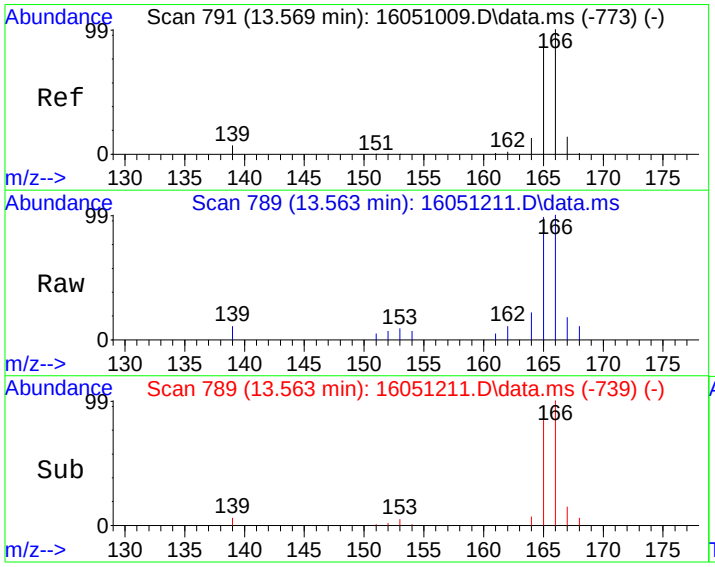


#8
Acenaphthene
Concen: 10.56 ug/kg
RT: 12.910 min Scan# 656
Delta R.T. -0.005 min
Lab File: 16051211.D
Acq: 12 May 2016 3:59 pm

Tgt Ion:153 Resp: 3512

Ion	Ratio	Lower	Upper
153	100		
152	46.5	27.2	67.2
154	93.4	74.3	114.3

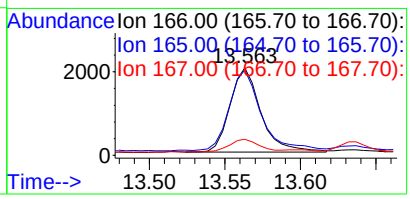


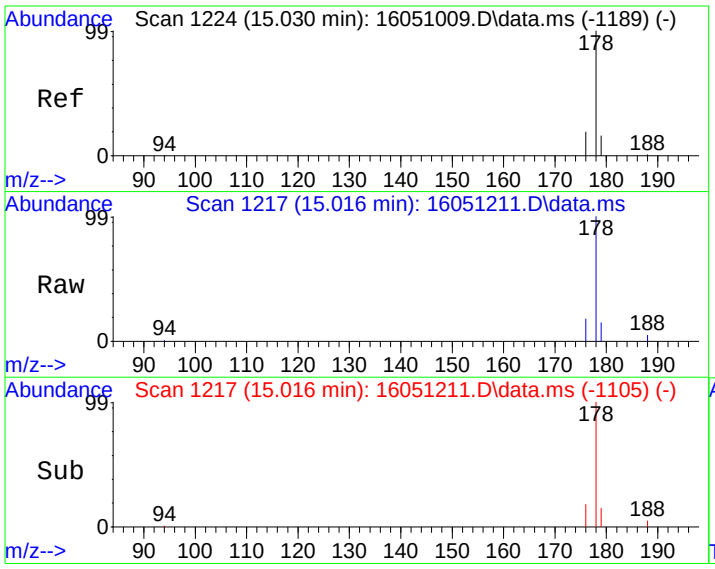


#10
Fluorene
Concen: 5.64 ug/kg
RT: 13.563 min Scan# 789
Delta R.T. -0.006 min
Lab File: 16051211.D
Acq: 12 May 2016 3:59 pm

Tgt Ion:166 Resp: 2846

Ion	Ratio	Lower	Upper
166	100		
165	95.3	71.9	111.9
167	15.0	0.0	33.8

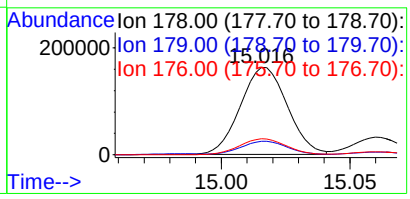


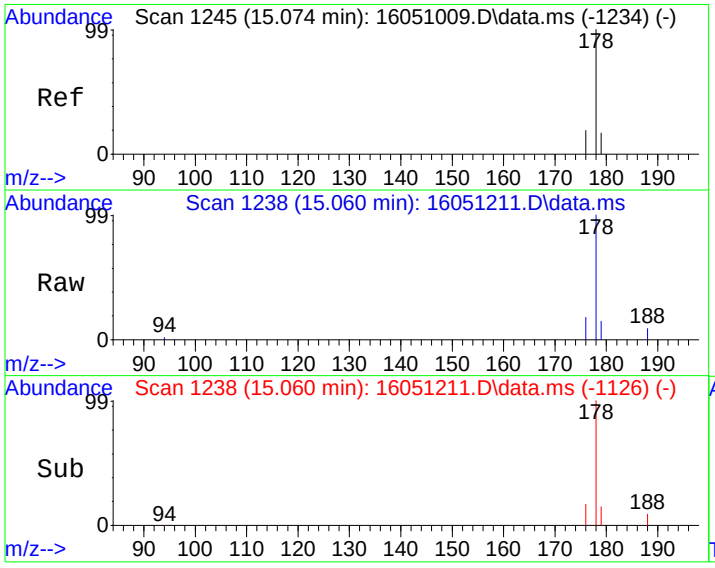


#12
Phenanthrene
Concen: 219.44 ug/kg
RT: 15.016 min Scan# 1217
Delta R.T. -0.013 min
Lab File: 16051211.D
Acq: 12 May 2016 3:59 pm

Tgt Ion:178 Resp: 205959

Ion	Ratio	Lower	Upper
178	100		
179	14.9	0.0	36.4
176	18.4	0.0	39.2

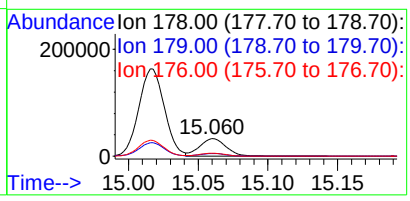


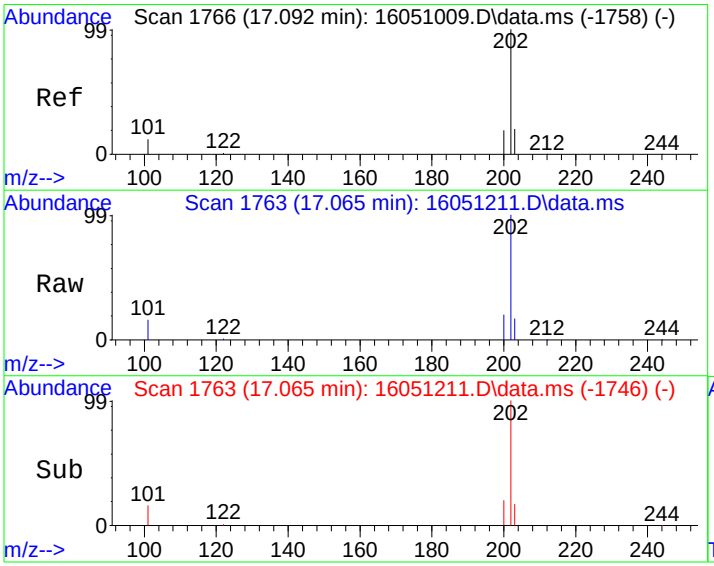


#13
Anthracene
Concen: 42.13 ug/kg
RT: 15.060 min Scan# 1238
Delta R.T. -0.013 min
Lab File: 16051211.D
Acq: 12 May 2016 3:59 pm

Tgt Ion:178 Resp: 42836

Ion	Ratio	Lower	Upper
178	100		
179	15.2	0.0	36.5
176	17.5	0.0	38.6

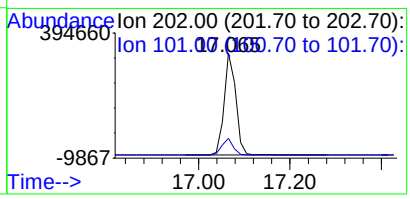


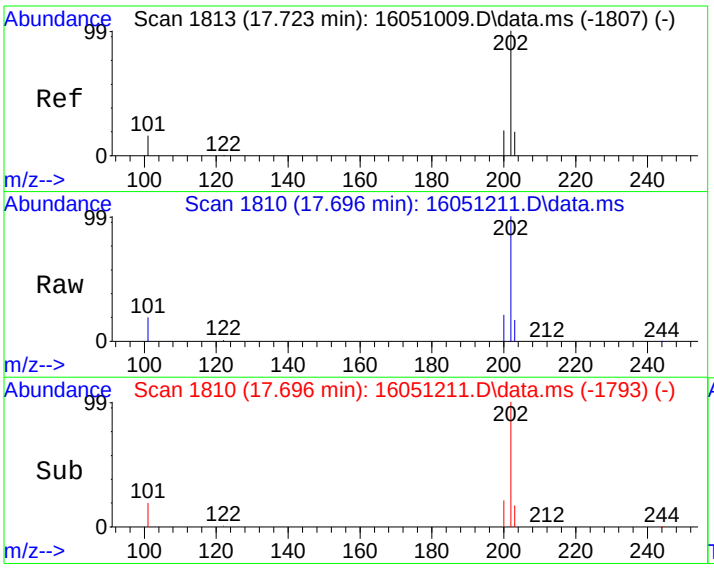


#14
Fluoranthene
Concen: 474.52 ug/kg
RT: 17.065 min Scan# 1763
Delta R.T. -0.027 min
Lab File: 16051211.D
Acq: 12 May 2016 3:59 pm

Tgt Ion:202 Resp: 582857

Ion	Ratio	Lower	Upper
202	100		
101	16.2	0.0	32.0

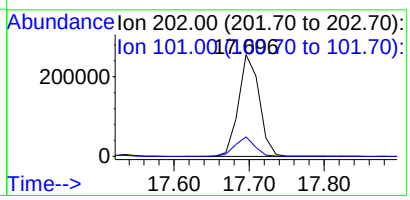


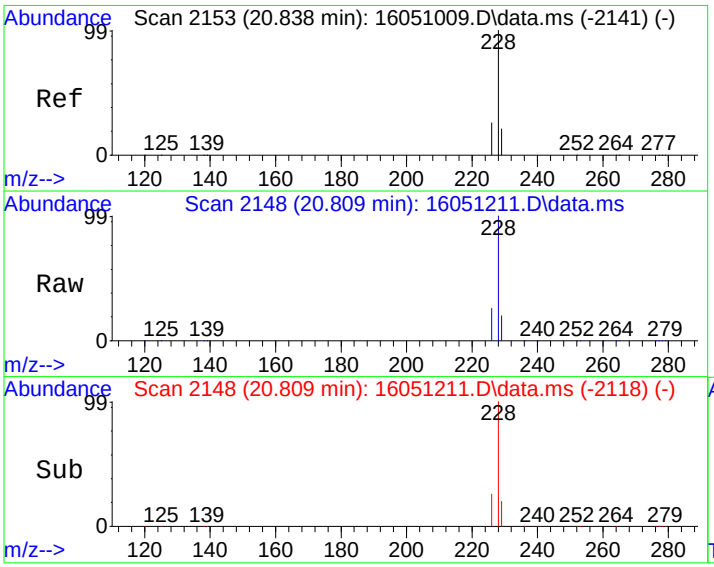


#15
Pyrene
Concen: 400.40 ug/kg
RT: 17.696 min Scan# 1810
Delta R.T. -0.026 min
Lab File: 16051211.D
Acq: 12 May 2016 3:59 pm

Tgt Ion:202 Resp: 493285

Ion	Ratio	Lower	Upper
202	100		
101	19.2	0.0	35.9

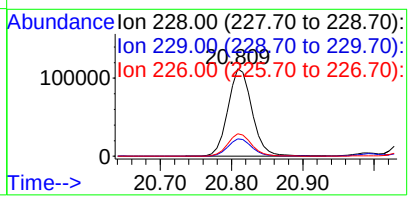


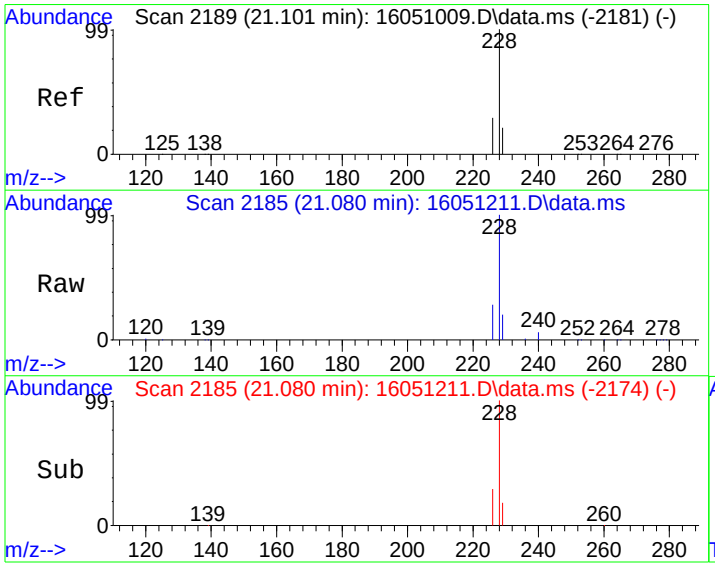


#18
Benzo[a]anthracene
Concen: 271.71 ug/kg
RT: 20.809 min Scan# 2148
Delta R.T. -0.028 min
Lab File: 16051211.D
Acq: 12 May 2016 3:59 pm

Tgt Ion:228 Resp: 263079

Ion	Ratio	Lower	Upper
228	100		
229	19.7	0.7	40.7
226	25.7	5.9	45.9

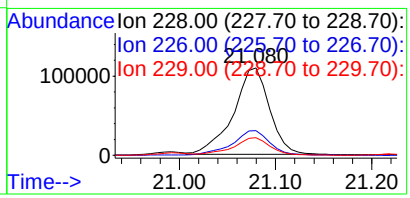


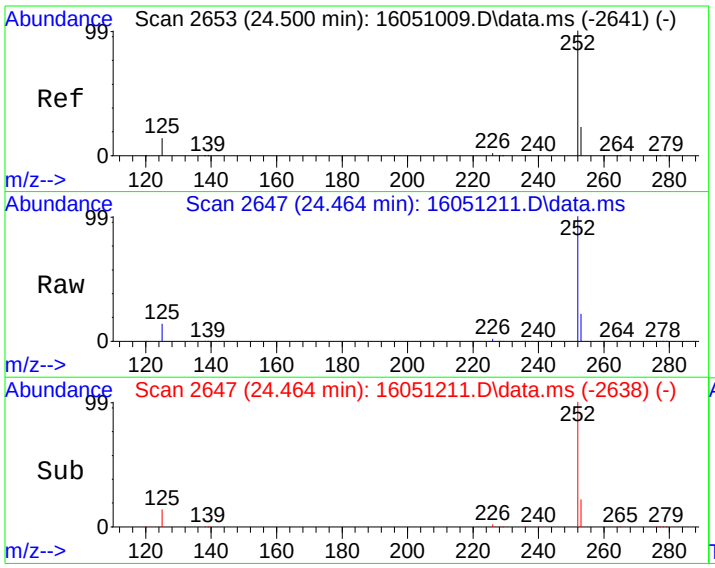


#19
Chrysene
Concen: 322.87 ug/kg
RT: 21.080 min Scan# 2185
Delta R.T. -0.021 min
Lab File: 16051211.D
Acq: 12 May 2016 3:59 pm

Tgt Ion:228 Resp: 286176

Ion	Ratio	Lower	Upper
228	100		
226	28.2	8.8	48.8
229	20.0	0.5	40.5

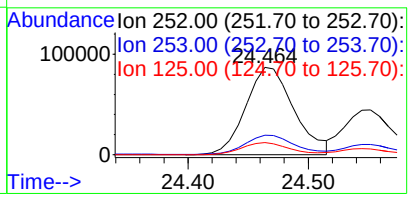


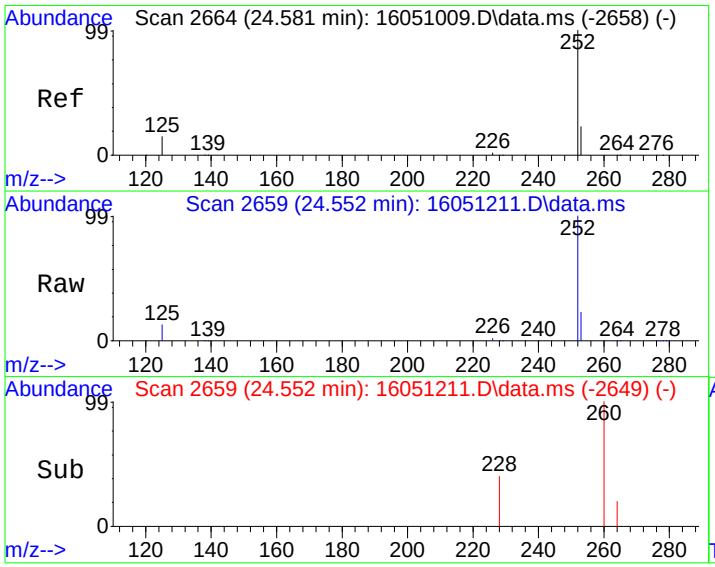


#21
Benzo[b]fluoranthene
Concen: 282.86 ug/kg
RT: 24.464 min Scan# 2647
Delta R.T. -0.036 min
Lab File: 16051211.D
Acq: 12 May 2016 3:59 pm

Tgt Ion:252 Resp: 242093

Ion	Ratio	Lower	Upper
252	100		
253	21.8	2.6	42.6
125	13.9	0.0	33.8

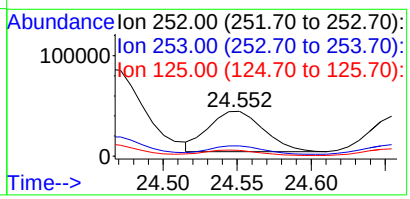


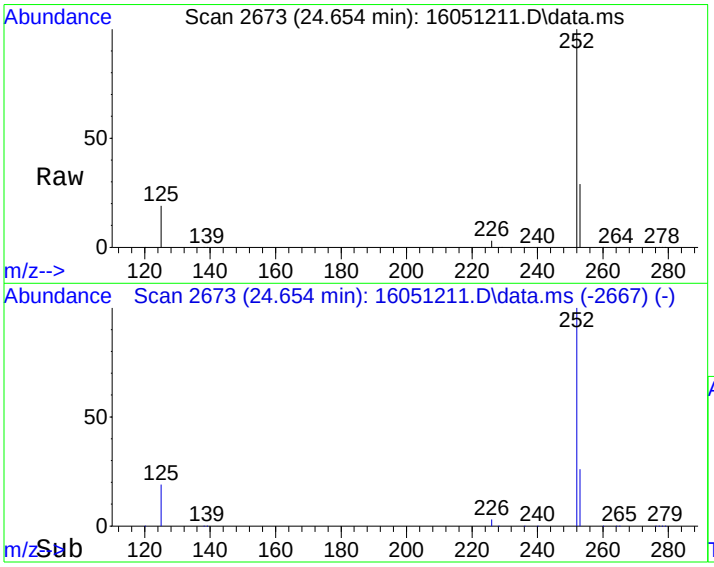


#22
Benzo[k]fluoranthene
Concen: 151.27 ug/kg
RT: 24.552 min Scan# 2659
Delta R.T. -0.028 min
Lab File: 16051211.D
Acq: 12 May 2016 3:59 pm

Tgt Ion:252 Resp: 103840

Ion	Ratio	Lower	Upper
252	100		
253	20.5	2.8	42.8
125	12.9	0.0	34.7

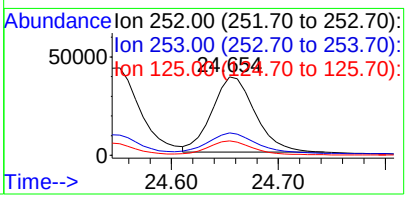


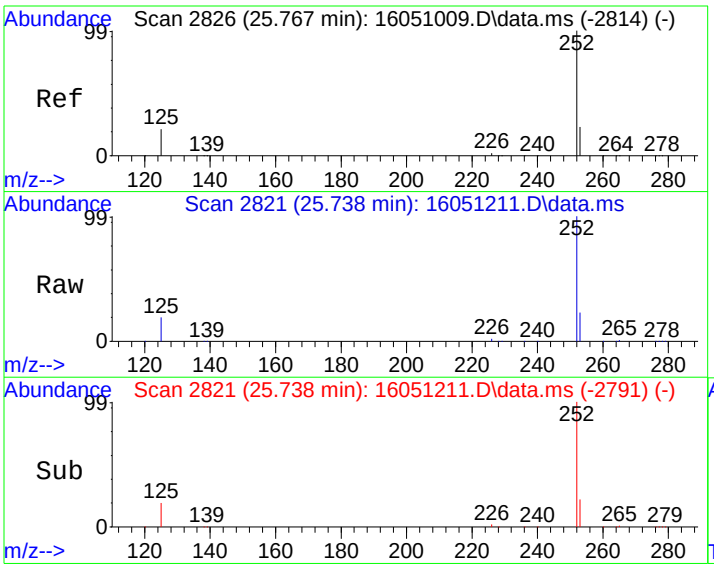


#23
Benzo(j)fluoranthene
Concen: 155.10 ug/kg
RT: 24.654 min Scan# 2673
Delta R.T. -0.036 min
Lab File: 16051211.D
Acq: 12 May 2016 3:59 pm

Tgt Ion:252 Resp: 107614

Ion	Ratio	Lower	Upper
252	100		
253	29.4	2.3	42.3
125	18.4	0.0	39.2

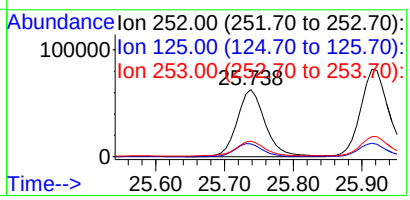


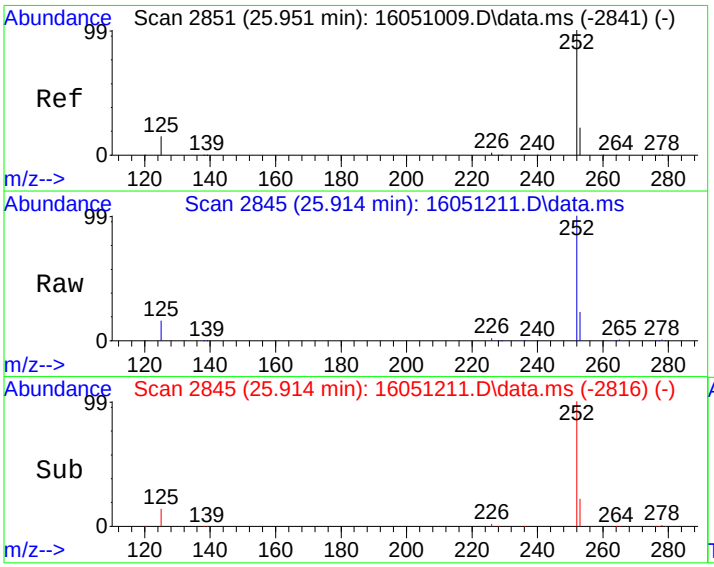


#24
Benzo(e)pyrene
Concen: 216.02 ug/kg
RT: 25.738 min Scan# 2821
Delta R.T. -0.029 min
Lab File: 16051211.D
Acq: 12 May 2016 3:59 pm

Tgt Ion:252 Resp: 177452

Ion	Ratio	Lower	Upper
252	100		
125	19.6	0.8	40.8
253	23.5	2.4	42.4

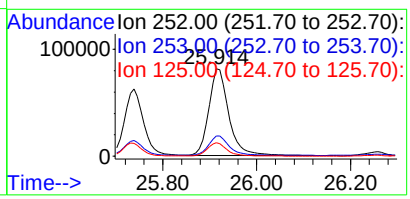


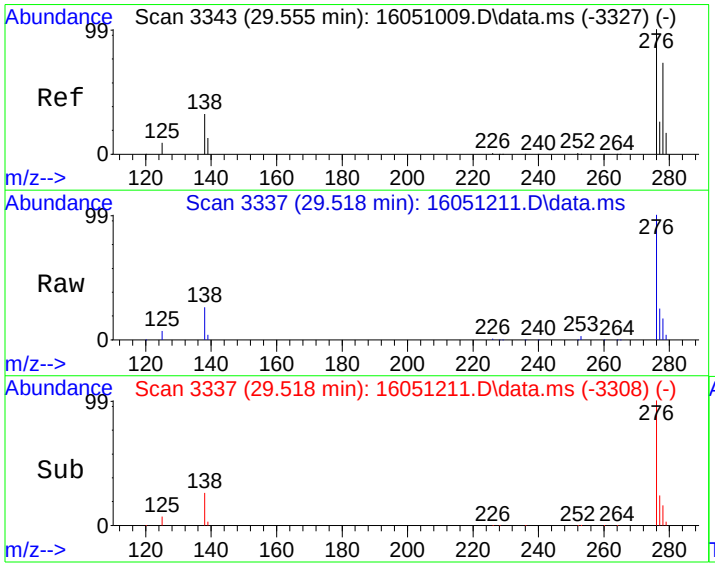


#25
Benzo[a]pyrene
Concen: 307.03 ug/kg
RT: 25.914 min Scan# 2845
Delta R.T. -0.036 min
Lab File: 16051211.D
Acq: 12 May 2016 3:59 pm

Tgt Ion:252 Resp: 241515

Ion	Ratio	Lower	Upper
252	100		
253	22.5	2.5	42.5
125	15.4	0.0	35.5

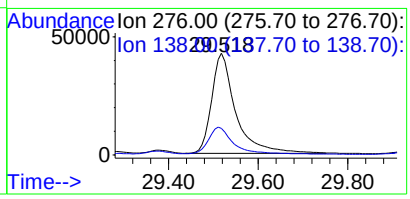


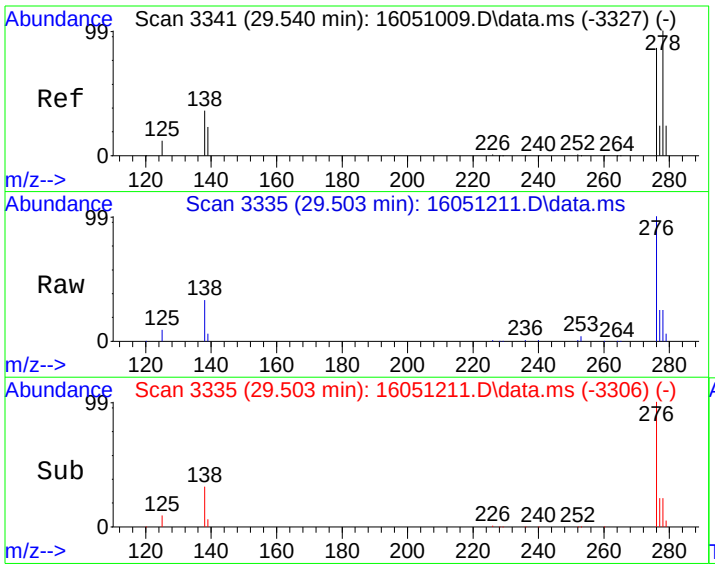


#26
Indeno[1,2,3-cd]pyrene
Concen: 181.17 ug/kg
RT: 29.518 min Scan# 3337
Delta R.T. -0.036 min
Lab File: 16051211.D
Acq: 12 May 2016 3:59 pm

Tgt Ion:276 Resp: 157884

Ion	Ratio	Lower	Upper
276	100		
138	25.8	12.0	52.0

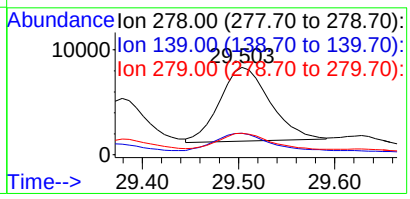


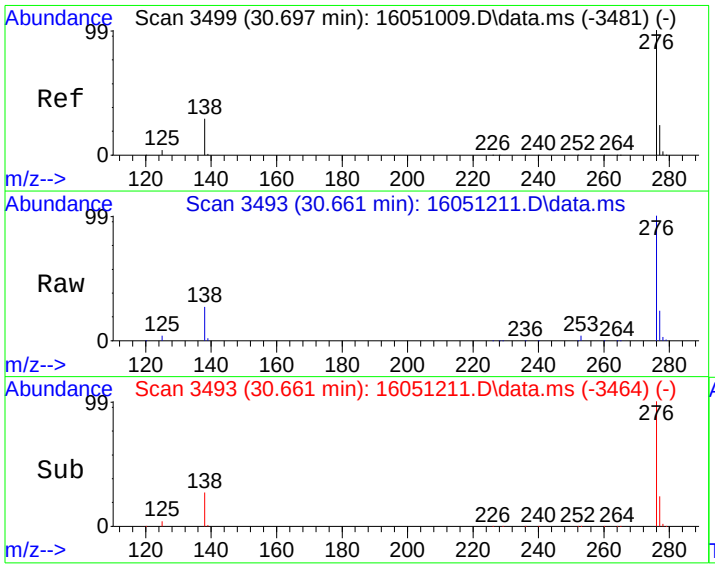


#27
Dibenz[a,h]anthracene
Concen: 36.12 ug/kg
RT: 29.503 min Scan# 3335
Delta R.T. -0.036 min
Lab File: 16051211.D
Acq: 12 May 2016 3:59 pm

Tgt Ion:278 Resp: 25666

Ion	Ratio	Lower	Upper
278	100		
139	23.9	2.9	42.9
279	22.2	4.4	44.4

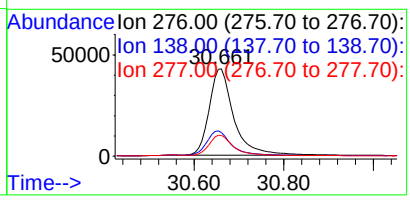




#28
Benzo[g,h,i]perylene
Concen: 213.60 ug/kg
RT: 30.661 min Scan# 3493
Delta R.T. -0.036 min
Lab File: 16051211.D
Acq: 12 May 2016 3:59 pm

Tgt Ion:276 Resp: 162434

Ion	Ratio	Lower	Upper
276	100		
138	26.4	9.3	49.3
277	23.5	4.3	44.3



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051212.D
Acq On : 12 May 2016 4:36 pm
Operator :
Sample : 1605047-13A
Misc : SAMP
ALS Vial : 8 Sample Multiplier: 10

Quant Time: May 13 08:20:19 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	10.271	136	1507812	4000.00 ug/kg	97
6) Acenaphthene-d10	12.856	164	1056112	4000.00 ug/kg	108
11) Phenanthrene-d10	14.980	188	3039207	4000.00 ug/kg	98
16) Chrysene-d12	20.992	240	3345379	4000.00 ug/kg	96
20) Perylene-d12	26.259	264	2852465	4000.00 ug/kg	96

System Monitoring Compounds					Dev(Min)
5) 2-Fluorobiphenyl	11.764	172	24487	82.63 ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.07%#		
17) 4-Terphenyl-d14	17.588	244	58581	75.79 ug/kg	-0.03
Spiked Amount 4000.000	Range 51 - 135		Recovery = 1.89%#		

Target Compounds					Qvalue
12) Phenanthrene	15.018	178	5008	5.69 ug/kg	97
14) Fluoranthene	17.065	202	11613	10.09 ug/kg	87
15) Pyrene	17.696	202	9564	8.28 ug/kg	91
19) Chrysene	21.073	228	4849	5.63 ug/kg	97
23) Benzo(j)fluoranthene	24.655	252	1607	2.44 ug/kg	88

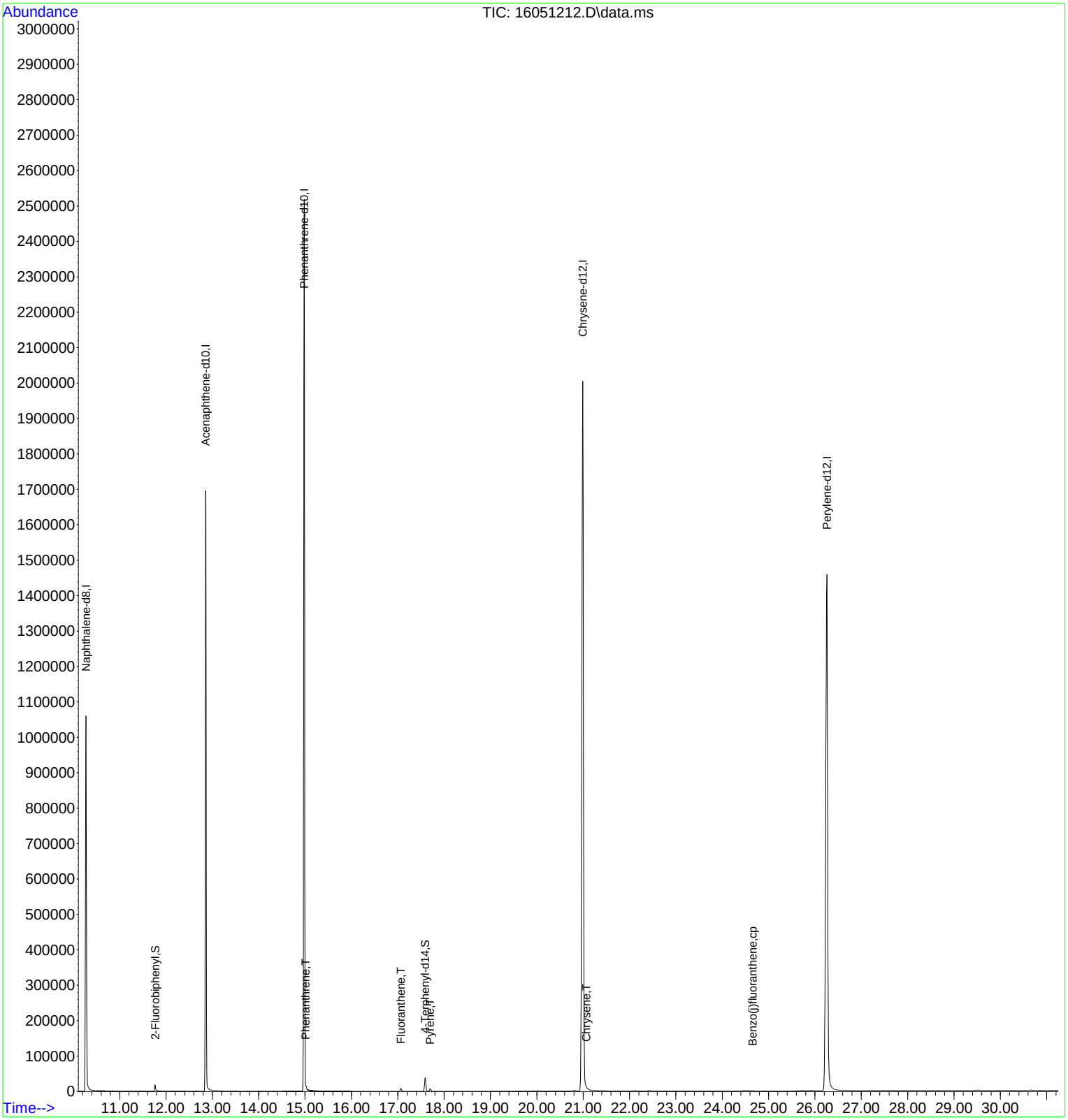
CONFIRMED
By Sherri Herschmann at 12:40:19 PM, 5/16/2016

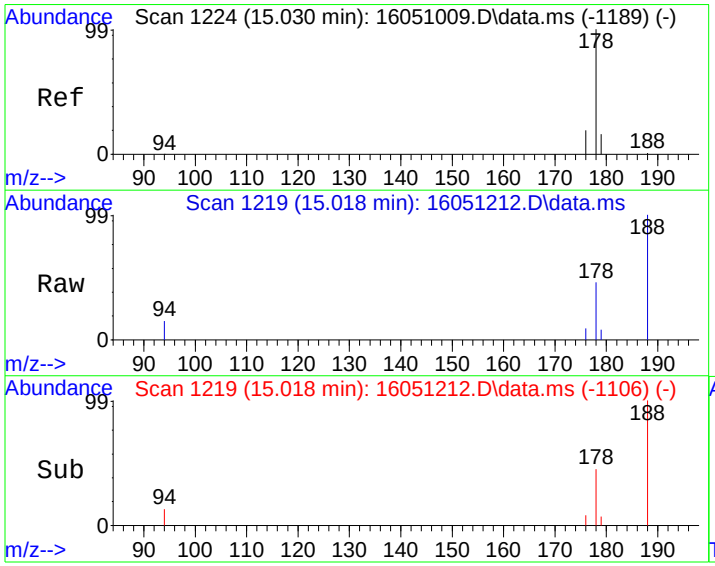
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051212.D
Acq On : 12 May 2016 4:36 pm
Operator :
Sample : 1605047-13A
Misc : SAMP
ALS Vial : 8 Sample Multiplier: 10

Quant Time: May 13 08:20:19 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

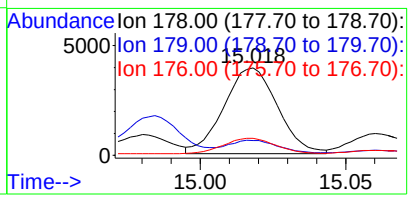


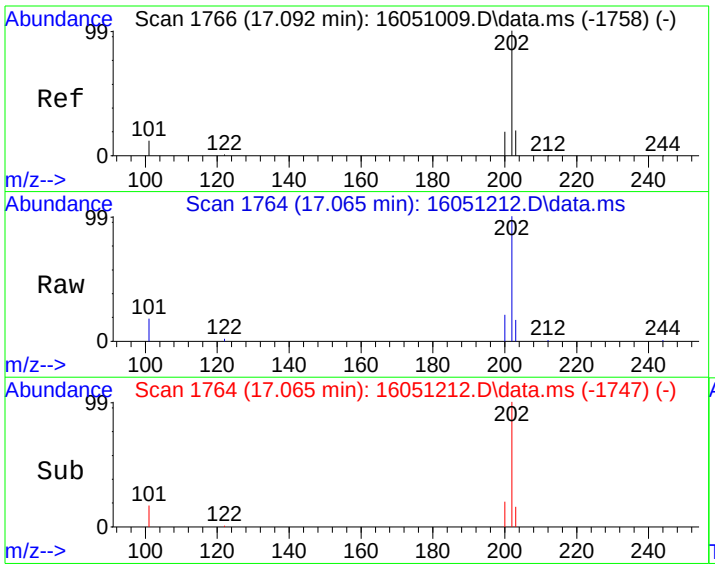


#12
Phenanthrene
Concen: 5.69 ug/kg
RT: 15.018 min Scan# 1219
Delta R.T. -0.011 min
Lab File: 16051212.D
Acq: 12 May 2016 4:36 pm

Tgt Ion:178 Resp: 5008

Ion	Ratio	Lower	Upper
178	100		
179	15.1	0.0	36.4
176	18.2	0.0	39.2

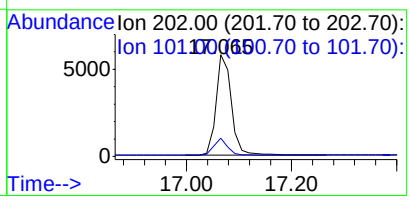


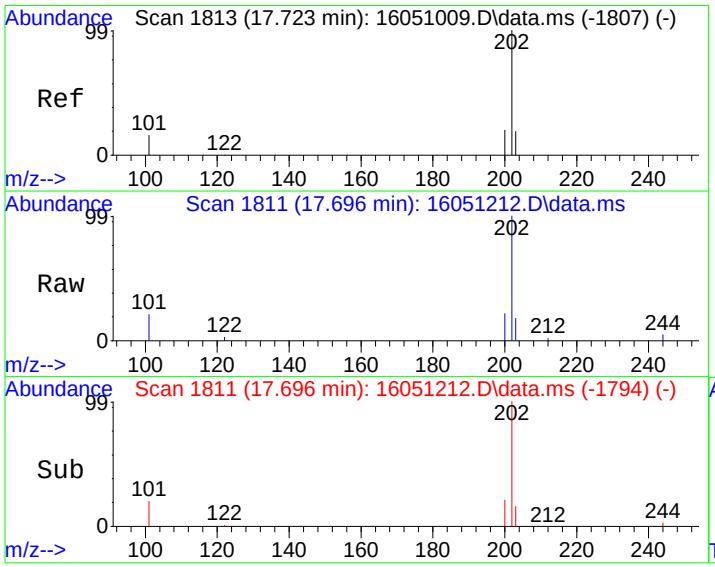


#14
Fluoranthene
Concen: 10.09 ug/kg
RT: 17.065 min Scan# 1764
Delta R.T. -0.027 min
Lab File: 16051212.D
Acq: 12 May 2016 4:36 pm

Tgt Ion:202 Resp: 11613

Ion	Ratio	Lower	Upper
202	100		
101	16.9	0.0	32.0

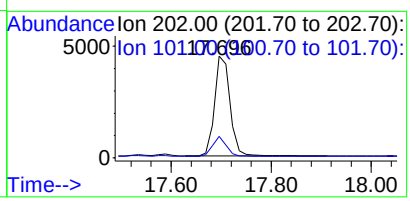


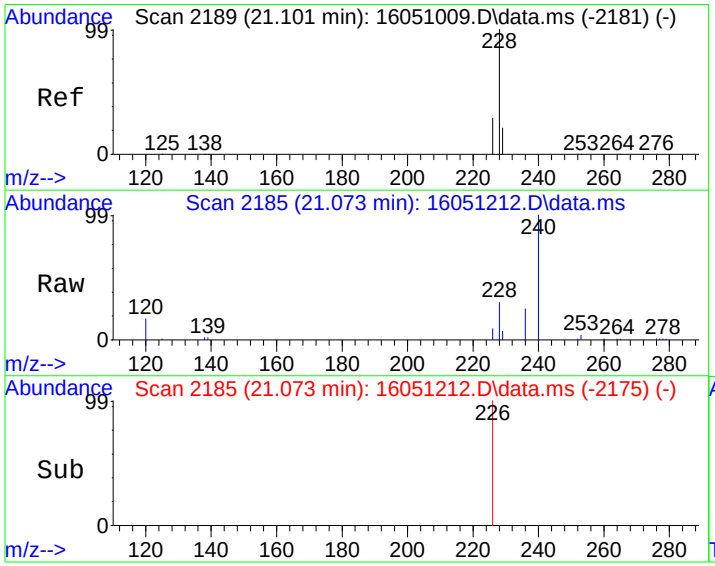


#15
Pyrene
Concen: 8.28 ug/kg
RT: 17.696 min Scan# 1811
Delta R.T. -0.026 min
Lab File: 16051212.D
Acq: 12 May 2016 4:36 pm

Tgt Ion:202 Resp: 9564

Ion	Ratio	Lower	Upper
202	100		
101	19.8	0.0	35.9

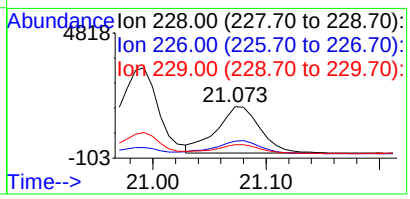


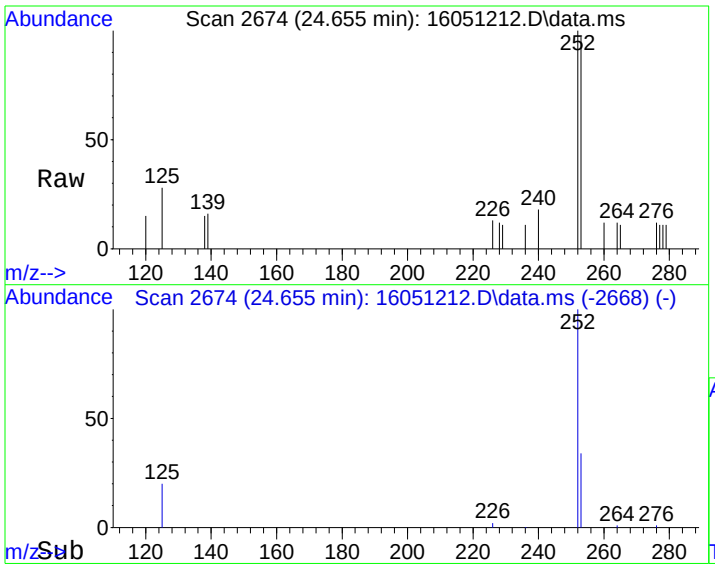


#19
Chrysene
Concen: 5.63 ug/kg
RT: 21.073 min Scan# 2185
Delta R.T. -0.028 min
Lab File: 16051212.D
Acq: 12 May 2016 4:36 pm

Tgt Ion:228 Resp: 4849

Ion	Ratio	Lower	Upper
228	100		
226	27.0	8.8	48.8
229	19.1	0.5	40.5

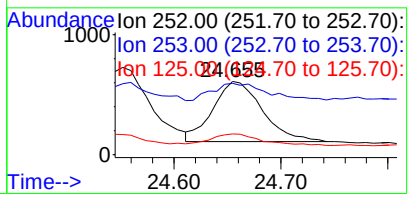




#23
Benzo(j)fluoranthene
Concen: 2.44 ug/kg
RT: 24.655 min Scan# 2674
Delta R.T. -0.035 min
Lab File: 16051212.D
Acq: 12 May 2016 4:36 pm

Tgt Ion:252 Resp: 1607

Ion	Ratio	Lower	Upper
252	100		
253	32.2	2.3	42.3
125	19.9	0.0	39.2



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051213.D
Acq On : 12 May 2016 5:13 pm
Operator :
Sample : 1605047-14A
Misc : SAMP
ALS Vial : 9 Sample Multiplier: 10

Quant Time: May 13 08:20:25 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	10.273	136	1536415	4000.00	ug/kg	98
6) Acenaphthene-d10	12.856	164	1078936	4000.00	ug/kg	110
11) Phenanthrene-d10	14.981	188	3110323	4000.00	ug/kg	100
16) Chrysene-d12	20.990	240	3406662	4000.00	ug/kg	97
20) Perylene-d12	26.257	264	2925724	4000.00	ug/kg	99

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.762	172	23555	78.01	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.95%#			
17) 4-Terphenyl-d14	17.589	244	55191	70.12	ug/kg	-0.03
Spiked Amount 4000.000	Range 51 - 135		Recovery = 1.75%#			

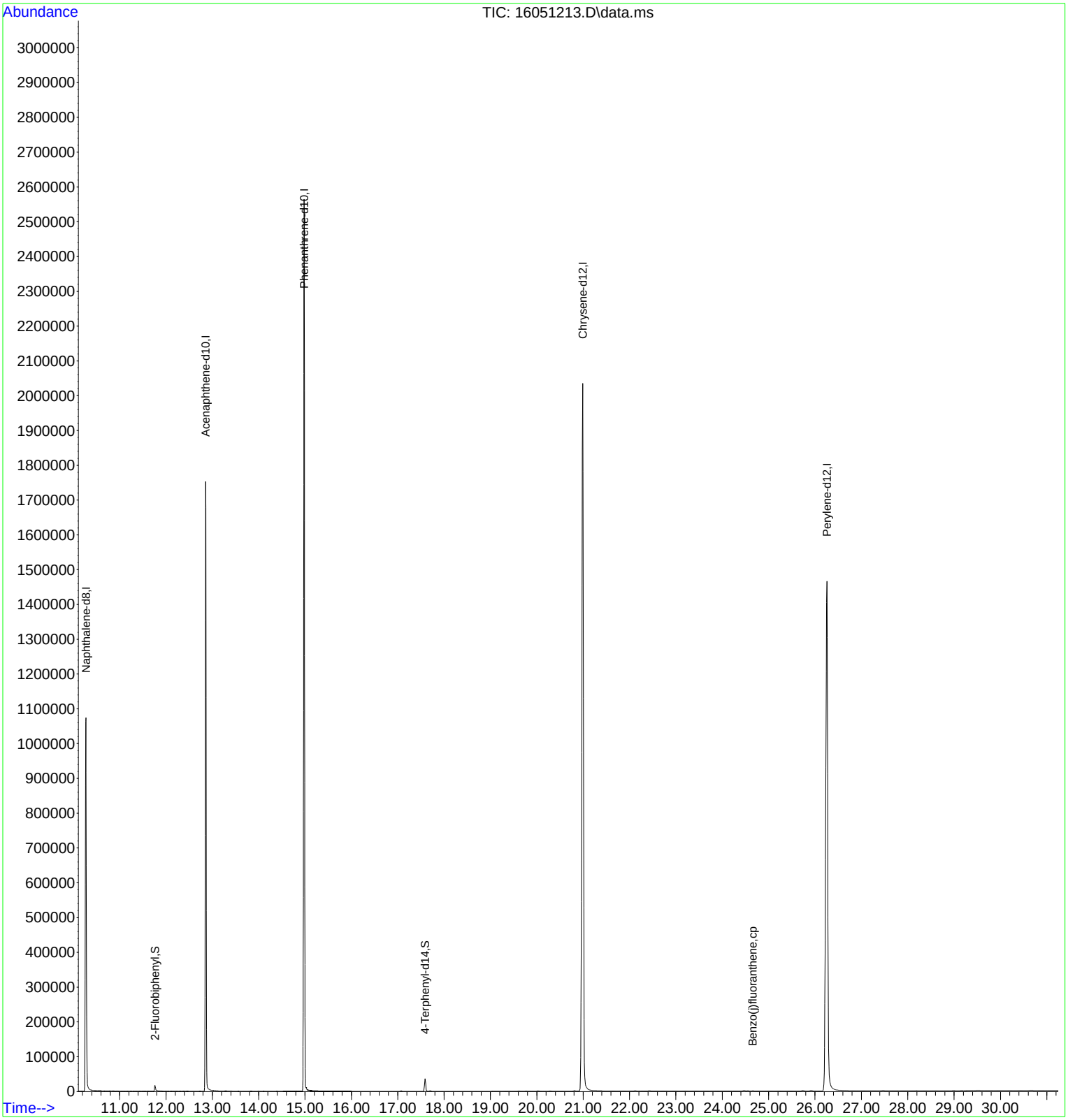
Target Compounds						Qvalue
23) Benzo(j)fluoranthene	24.653	252	1172	1.74	ug/kg	87

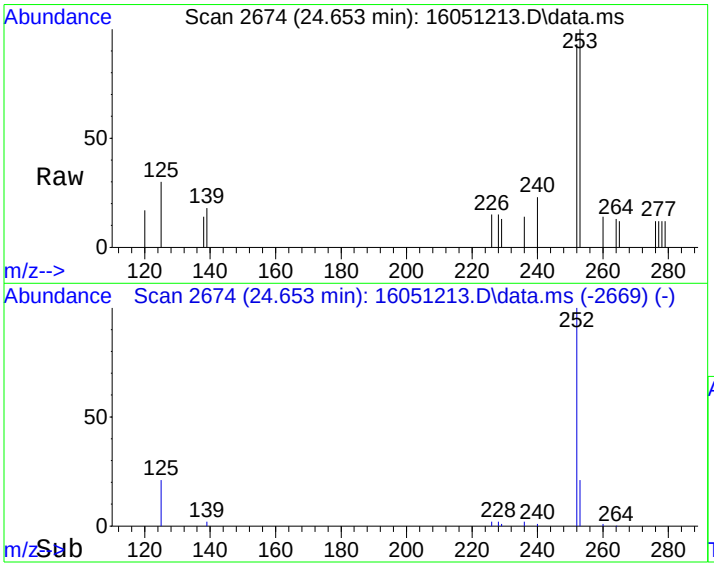
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051213.D
Acq On : 12 May 2016 5:13 pm
Operator :
Sample : 1605047-14A
Misc : SAMP
ALS Vial : 9 Sample Multiplier: 10

Quant Time: May 13 08:20:25 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

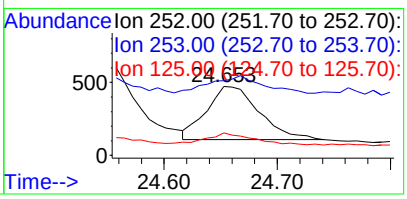




#23
Benzo(j)fluoranthene
Concen: 1.74 ug/kg
RT: 24.653 min Scan# 2674
Delta R.T. -0.037 min
Lab File: 16051213.D
Acq: 12 May 2016 5:13 pm

Tgt Ion:252 Resp: 1172

Ion	Ratio	Lower	Upper
252	100		
253	32.5	2.3	42.3
125	20.8	0.0	39.2



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051214.D
Acq On : 12 May 2016 5:50 pm
Operator :
Sample : 1605047-15A
Misc : SAMP
ALS Vial : 10 Sample Multiplier: 10

Quant Time: May 13 08:20:28 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	10.269	136	1575598	4000.00	ug/kg	101
6) Acenaphthene-d10	12.857	164	1123500	4000.00	ug/kg	115
11) Phenanthrene-d10	14.981	188	3149469	4000.00	ug/kg	101
16) Chrysene-d12	20.991	240	3399839	4000.00	ug/kg	97
20) Perylene-d12	26.258	264	2970831	4000.00	ug/kg	100

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.762	172	26289	84.90	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.12%#			
17) 4-Terphenyl-d14	17.587	244	60069	76.47	ug/kg	-0.03
Spiked Amount 4000.000	Range 51 - 135		Recovery = 1.91%#			

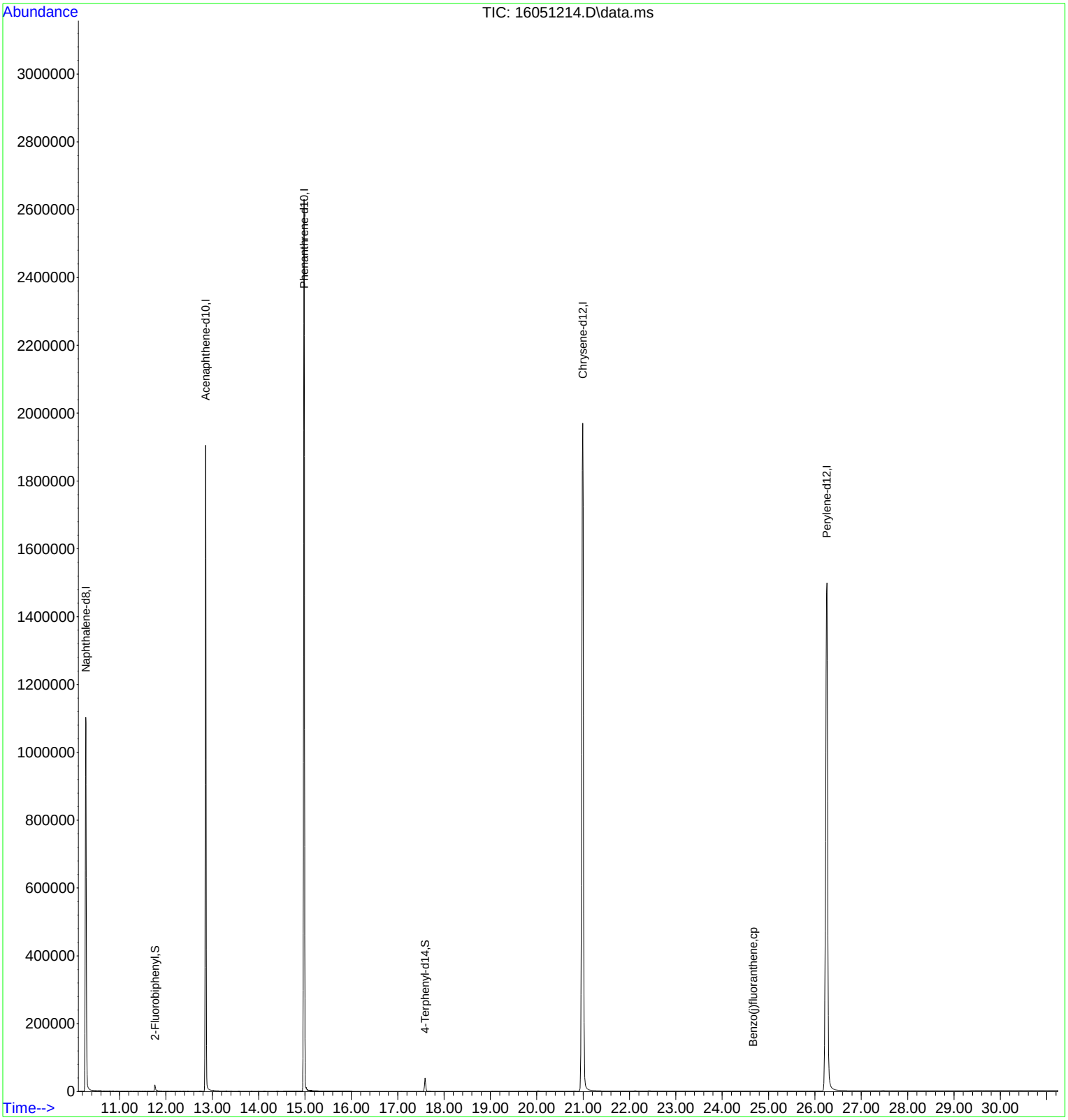
Target Compounds						Qvalue
23) Benzo(j)fluoranthene	24.654	252	129	0.19	ug/kg#	56

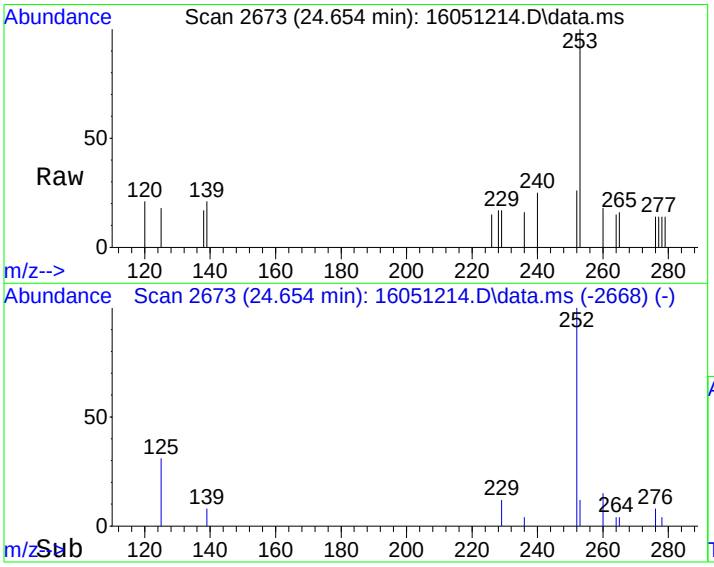
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051214.D
Acq On : 12 May 2016 5:50 pm
Operator :
Sample : 1605047-15A
Misc : SAMP
ALS Vial : 10 Sample Multiplier: 10

Quant Time: May 13 08:20:28 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

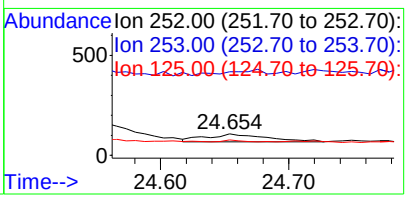




#23
Benzo(j)fluoranthene
Concen: 0.19 ug/kg
RT: 24.654 min Scan# 2673
Delta R.T. -0.036 min
Lab File: 16051214.D
Acq: 12 May 2016 5:50 pm

Tgt Ion:252 Resp: 129

Ion	Ratio	Lower	Upper
252	100		
253	50.4	2.3	42.3#
125	7.0	0.0	39.2



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051215.D
Acq On : 12 May 2016 6:27 pm
Operator :
Sample : 1605047-16A
Misc : SAMP
ALS Vial : 11 Sample Multiplier: 10

Quant Time: May 13 08:20:31 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	10.271	136	1554225	4000.00 ug/kg	99
6) Acenaphthene-d10	12.861	164	1106457	4000.00 ug/kg	113
11) Phenanthrene-d10	14.980	188	3108042	4000.00 ug/kg	100
16) Chrysene-d12	20.989	240	3373252	4000.00 ug/kg	96
20) Perylene-d12	26.256	264	2932090	4000.00 ug/kg	99

System Monitoring Compounds					Dev(Min)
5) 2-Fluorobiphenyl	11.764	172	26777	87.66 ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.19%#		
17) 4-Terphenyl-d14	17.588	244	60678	77.85 ug/kg	-0.03
Spiked Amount 4000.000	Range 51 - 135		Recovery = 1.95%#		

Target Compounds					Qvalue
14) Fluoranthene	17.065	202	10977	9.32 ug/kg	87
15) Pyrene	17.696	202	9971	8.44 ug/kg	90
18) Benzo[a]anthracene	20.814	228	5428	5.72 ug/kg	99
19) Chrysene	21.077	228	6840	7.88 ug/kg	98
21) Benzo[b]fluoranthene	24.469	252	6408	7.67 ug/kg	98
23) Benzo(j)fluoranthene	24.659	252	2473	3.65 ug/kg	94
24) Benzo(e)pyrene	25.743	252	5129	6.40 ug/kg	93
25) Benzo[a]pyrene	25.912	252	6015	7.84 ug/kg	99
26) Indeno[1,2,3-cd]pyrene	29.516	276	4566	5.37 ug/kg	92
28) Benzo[g,h,i]perylene	30.659	276	5049	6.81 ug/kg	95

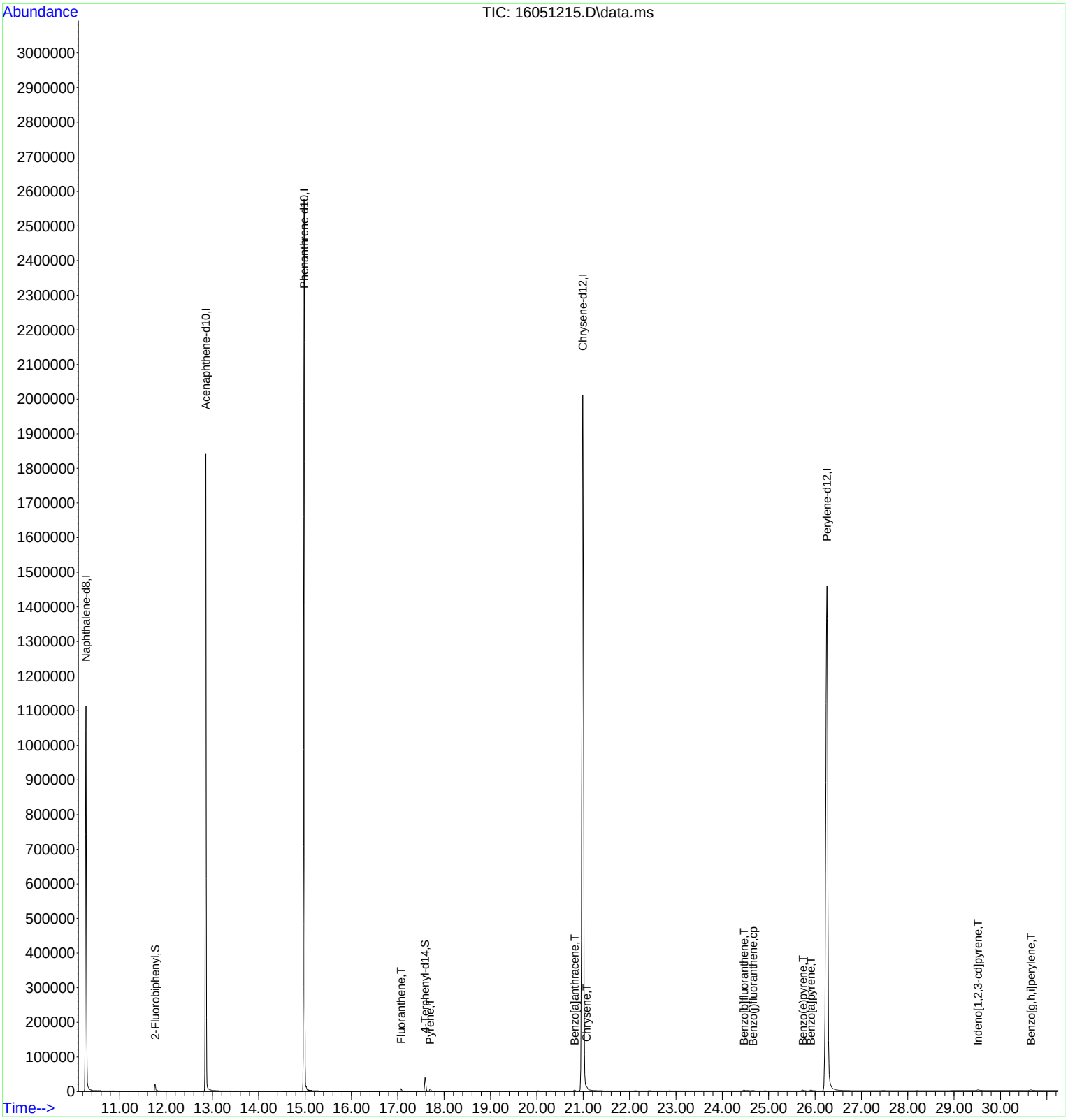
CONFIRMED
By Sherri Herschmann at 12:40:51 PM, 5/16/2016

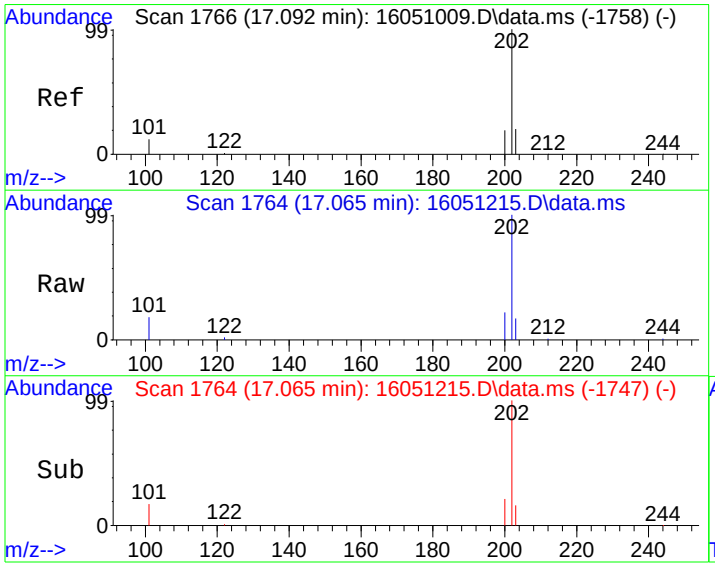
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051215.D
Acq On : 12 May 2016 6:27 pm
Operator :
Sample : 1605047-16A
Misc : SAMP
ALS Vial : 11 Sample Multiplier: 10

Quant Time: May 13 08:20:31 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

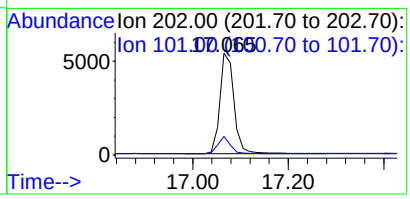


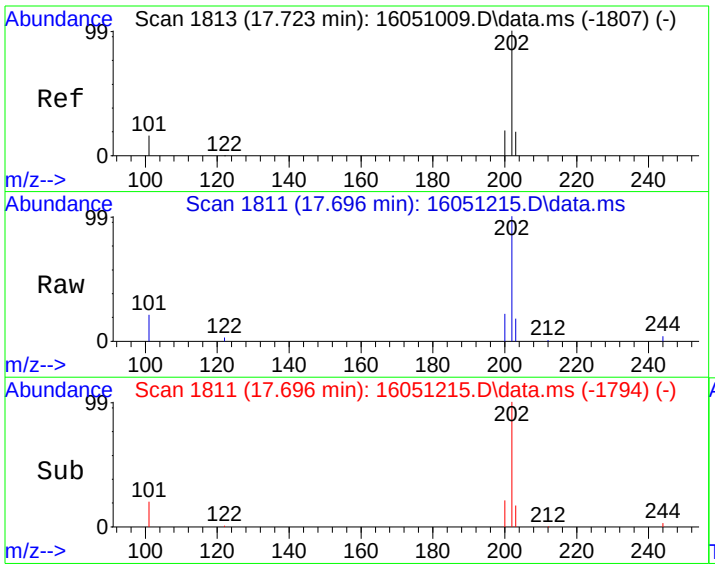


#14
Fluoranthene
Concen: 9.32 ug/kg
RT: 17.065 min Scan# 1764
Delta R.T. -0.027 min
Lab File: 16051215.D
Acq: 12 May 2016 6:27 pm

Tgt Ion:202 Resp: 10977

Ion	Ratio	Lower	Upper
202	100		
101	17.2	0.0	32.0

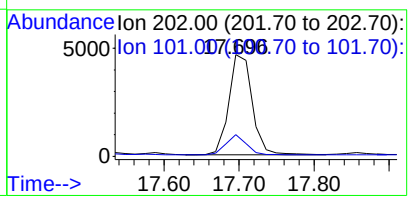


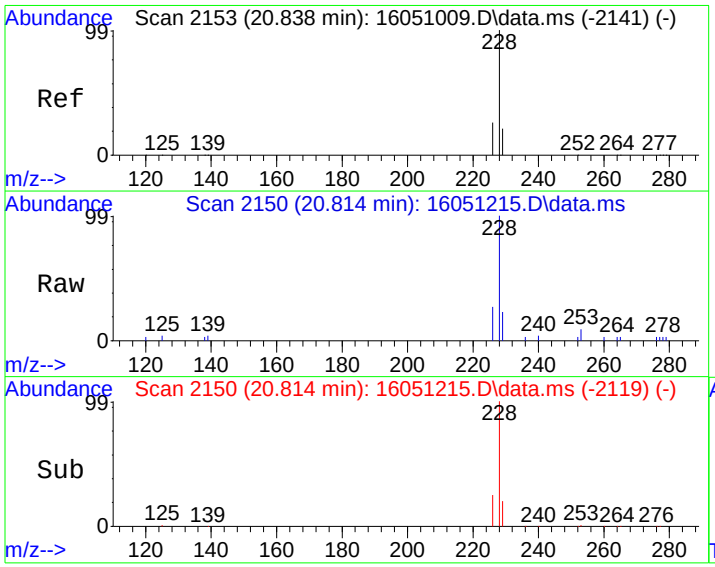


#15
Pyrene
Concen: 8.44 ug/kg
RT: 17.696 min Scan# 1811
Delta R.T. -0.026 min
Lab File: 16051215.D
Acq: 12 May 2016 6:27 pm

Tgt Ion:202 Resp: 9971

Ion	Ratio	Lower	Upper
202	100		
101	20.1	0.0	35.9

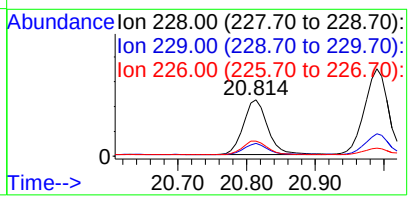


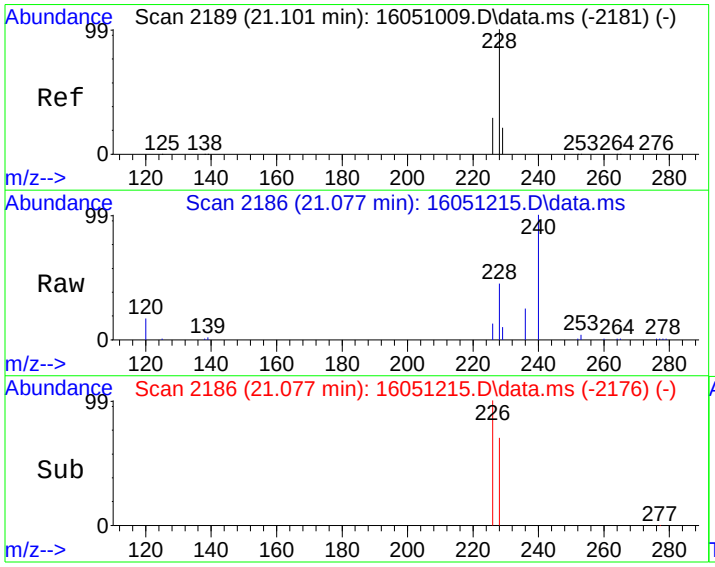


#18
Benzo[a]anthracene
Concen: 5.72 ug/kg
RT: 20.814 min Scan# 2150
Delta R.T. -0.023 min
Lab File: 16051215.D
Acq: 12 May 2016 6:27 pm

Tgt Ion:228 Resp: 5428

Ion	Ratio	Lower	Upper
228	100		
229	20.5	0.7	40.7
226	24.7	5.9	45.9

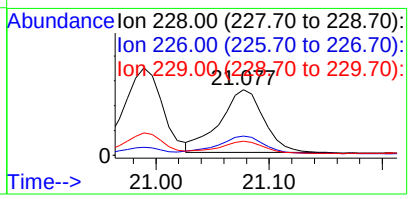


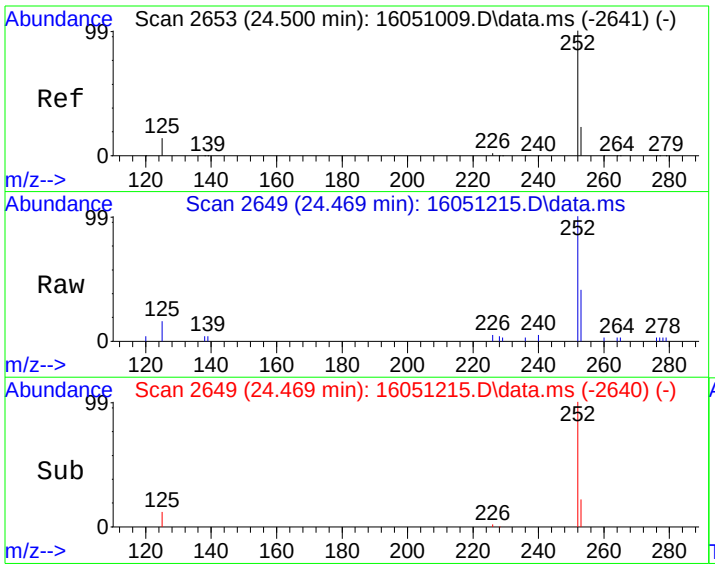


#19
Chrysene
Concen: 7.88 ug/kg
RT: 21.077 min Scan# 2186
Delta R.T. -0.024 min
Lab File: 16051215.D
Acq: 12 May 2016 6:27 pm

Tgt Ion:228 Resp: 6840

Ion	Ratio	Lower	Upper
228	100		
226	27.5	8.8	48.8
229	19.6	0.5	40.5

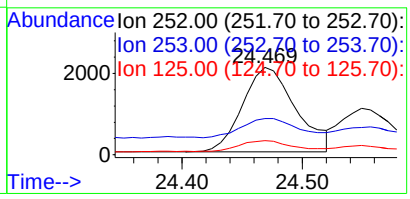


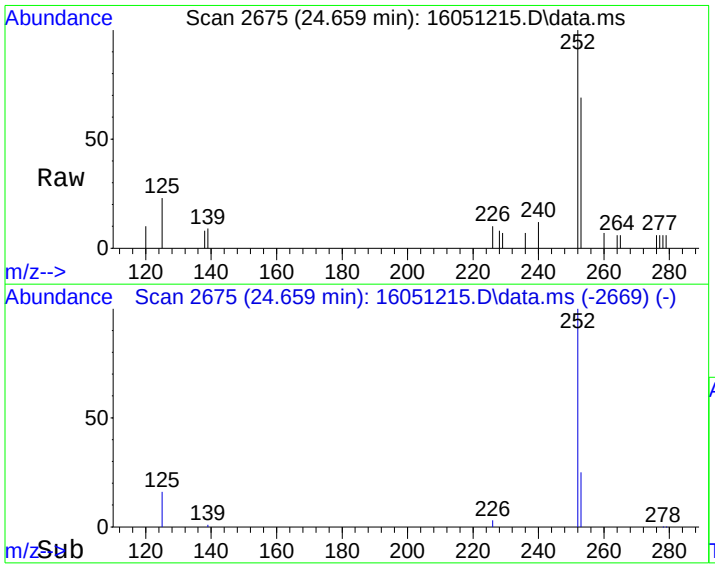


#21
Benzo[b]fluoranthene
Concen: 7.67 ug/kg
RT: 24.469 min Scan# 2649
Delta R.T. -0.031 min
Lab File: 16051215.D
Acq: 12 May 2016 6:27 pm

Tgt Ion:252 Resp: 6408

Ion	Ratio	Lower	Upper
252	100		
253	22.0	2.6	42.6
125	12.3	0.0	33.8

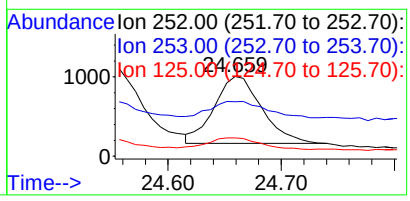


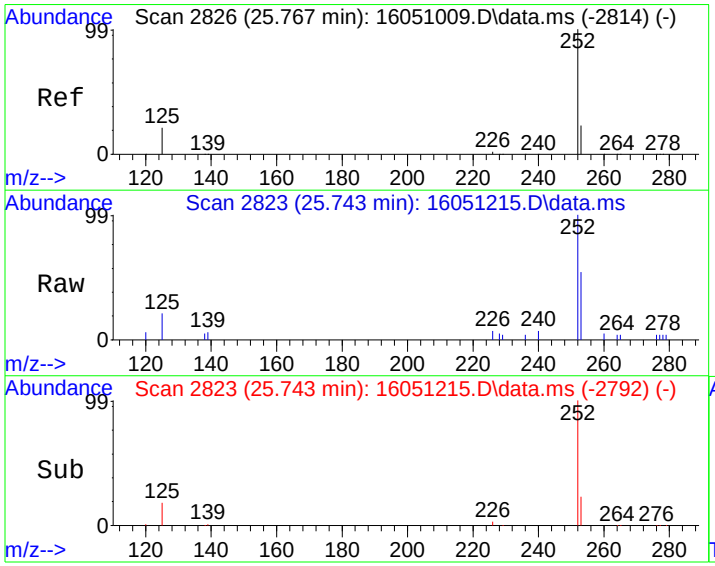


#23
Benzo(j)fluoranthene
Concen: 3.65 ug/kg
RT: 24.659 min Scan# 2675
Delta R.T. -0.031 min
Lab File: 16051215.D
Acq: 12 May 2016 6:27 pm

Tgt Ion:252 Resp: 2473

Ion	Ratio	Lower	Upper
252	100		
253	27.4	2.3	42.3
125	19.0	0.0	39.2

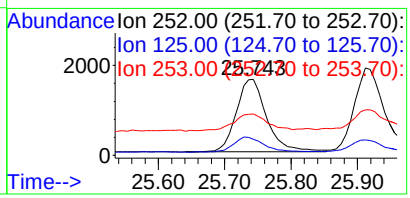


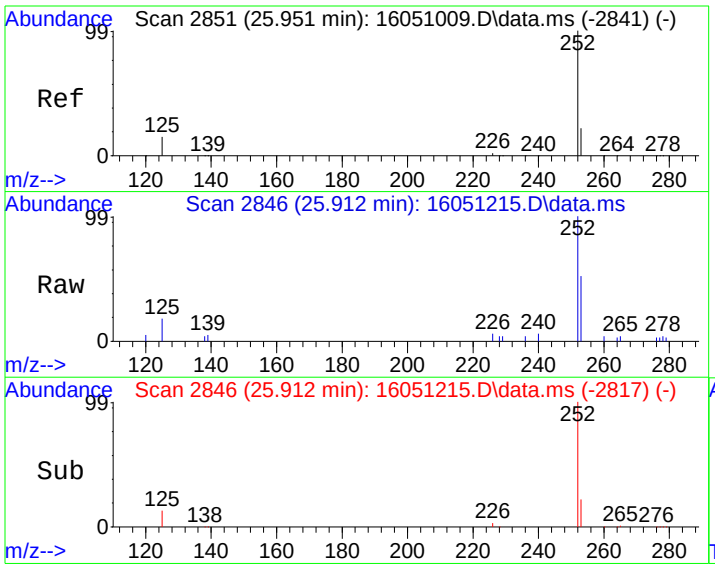


#24
Benzo(e)pyrene
Concen: 6.40 ug/kg
RT: 25.743 min Scan# 2823
Delta R.T. -0.024 min
Lab File: 16051215.D
Acq: 12 May 2016 6:27 pm

Tgt Ion:252 Resp: 5129

Ion	Ratio	Lower	Upper
252	100		
125	20.0	0.8	40.8
253	27.9	2.4	42.4

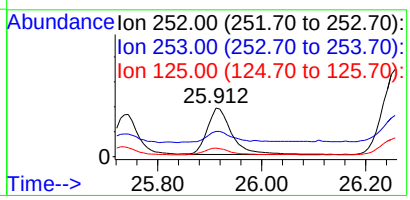


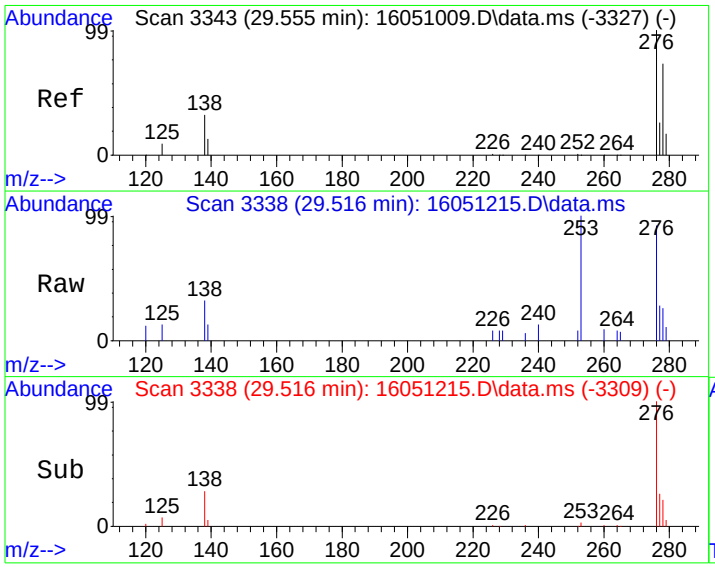


#25
Benzo[a]pyrene
Concen: 7.84 ug/kg
RT: 25.912 min Scan# 2846
Delta R.T. -0.038 min
Lab File: 16051215.D
Acq: 12 May 2016 6:27 pm

Tgt Ion:252 Resp: 6015

Ion	Ratio	Lower	Upper
252	100		
253	22.5	2.5	42.5
125	14.1	0.0	35.5

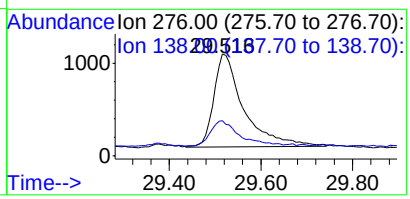


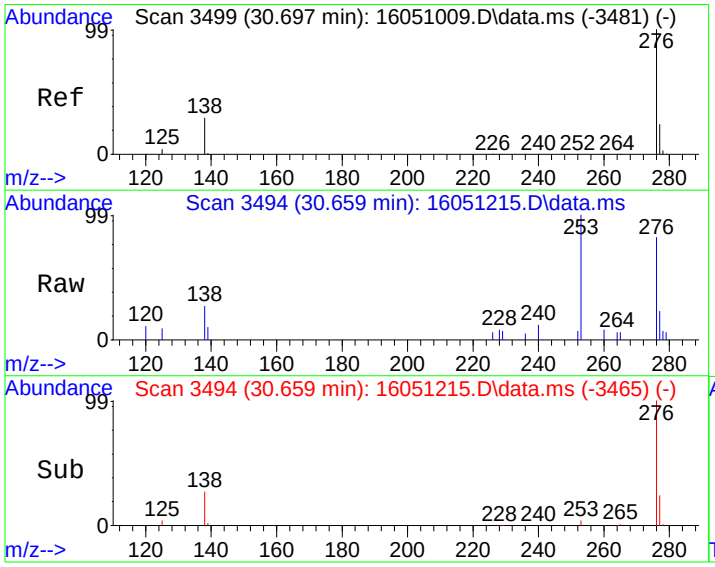


#26
Indeno[1,2,3-cd]pyrene
Concen: 5.37 ug/kg
RT: 29.516 min Scan# 3338
Delta R.T. -0.038 min
Lab File: 16051215.D
Acq: 12 May 2016 6:27 pm

Tgt Ion:276 Resp: 4566

Ion	Ratio	Lower	Upper
276	100		
138	27.5	12.0	52.0

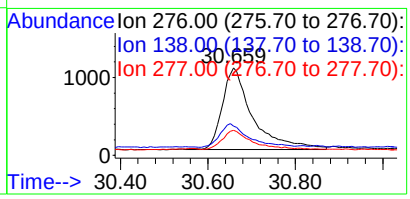




#28
Benzo[g,h,i]perylene
Concen: 6.81 ug/kg
RT: 30.659 min Scan# 3494
Delta R.T. -0.038 min
Lab File: 16051215.D
Acq: 12 May 2016 6:27 pm

Tgt Ion:276 Resp: 5049

Ion	Ratio	Lower	Upper
276	100		
138	25.8	9.3	49.3
277	23.0	4.3	44.3



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051216.D
Acq On : 12 May 2016 7:04 pm
Operator :
Sample : 1605047-17A
Misc : SAMP
ALS Vial : 12 Sample Multiplier: 10

Quant Time: May 13 08:20:37 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	10.271	136	1491115	4000.00	ug/kg	95
6) Acenaphthene-d10	12.856	164	1081305	4000.00	ug/kg	111
11) Phenanthrene-d10	14.980	188	3048885	4000.00	ug/kg	98
16) Chrysene-d12	20.990	240	3304895	4000.00	ug/kg	95
20) Perylene-d12	26.257	264	2858177	4000.00	ug/kg	96

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.764	172	26722	91.18	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.28%#			
17) 4-Terphenyl-d14	17.588	244	62921	82.40	ug/kg	-0.03
Spiked Amount 4000.000	Range 51 - 135		Recovery = 2.06%#			

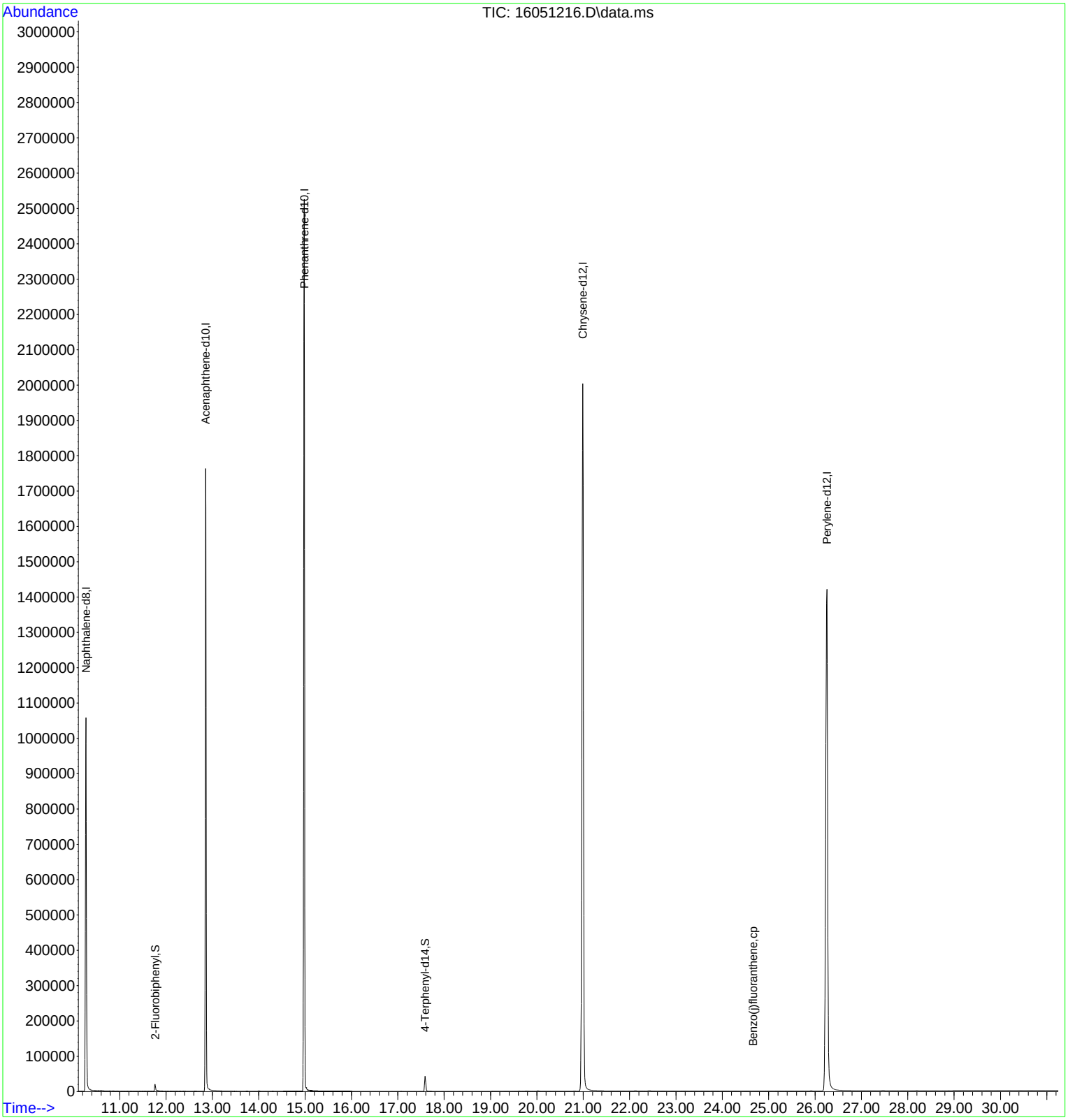
Target Compounds						Qvalue
23) Benzo(j)fluoranthene	24.653	252	178	0.27	ug/kg	75

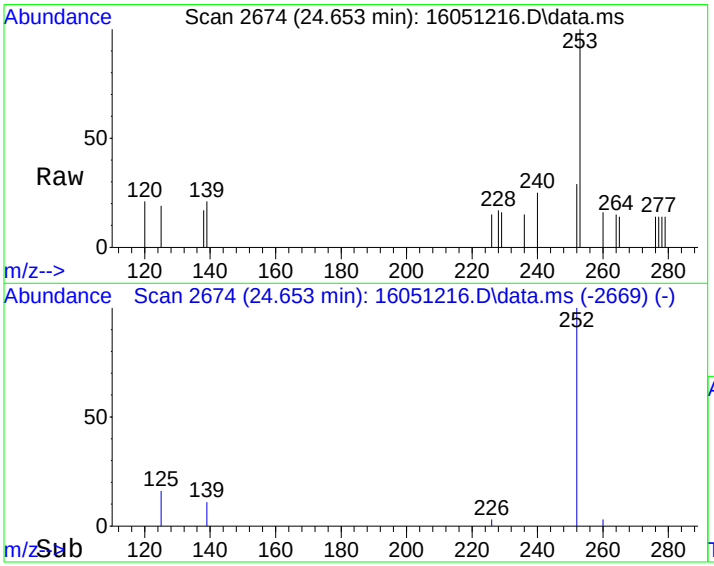
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051216.D
Acq On : 12 May 2016 7:04 pm
Operator :
Sample : 1605047-17A
Misc : SAMP
ALS Vial : 12 Sample Multiplier: 10

Quant Time: May 13 08:20:37 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

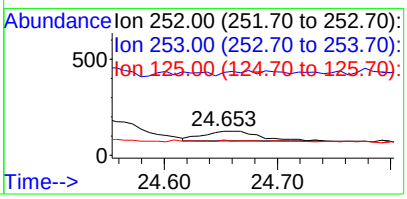




#23
Benzo(j)fluoranthene
Concen: 0.27 ug/kg
RT: 24.653 min Scan# 2674
Delta R.T. -0.037 min
Lab File: 16051216.D
Acq: 12 May 2016 7:04 pm

Tgt Ion:252 Resp: 178

Ion	Ratio	Lower	Upper
252	100		
253	14.0	2.3	42.3
125	3.4	0.0	39.2



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051217.D
Acq On : 12 May 2016 7:41 pm
Operator :
Sample : 1605047-18A
Misc : SAMP
ALS Vial : 13 Sample Multiplier: 10

Quant Time: May 13 08:20:41 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	10.272	136	1561103	4000.00 ug/kg	100
6) Acenaphthene-d10	12.857	164	1092069	4000.00 ug/kg	112
11) Phenanthrene-d10	14.979	188	3092399	4000.00 ug/kg	100
16) Chrysene-d12	20.991	240	3425827	4000.00 ug/kg	98
20) Perylene-d12	26.258	264	2955196	4000.00 ug/kg	100

System Monitoring Compounds					Dev(Min)
5) 2-Fluorobiphenyl	11.761	172	24401	79.53 ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 1.99%#		
17) 4-Terphenyl-d14	17.588	244	58159	73.47 ug/kg	-0.03
Spiked Amount 4000.000	Range 51 - 135		Recovery = 1.84%#		

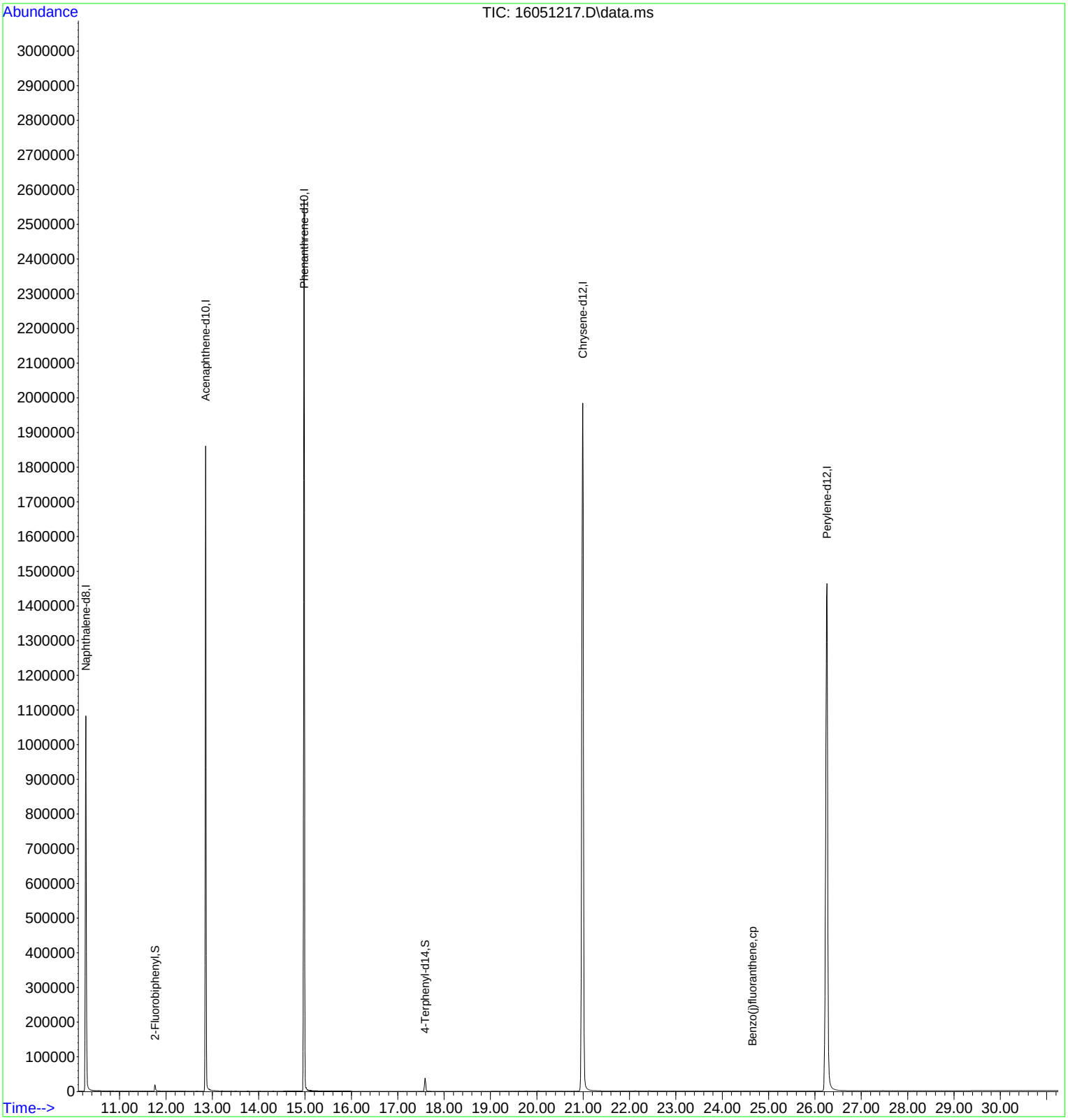
Target Compounds					Qvalue
23) Benzo(j)fluoranthene	24.646	252	27	0.04 ug/kg#	1

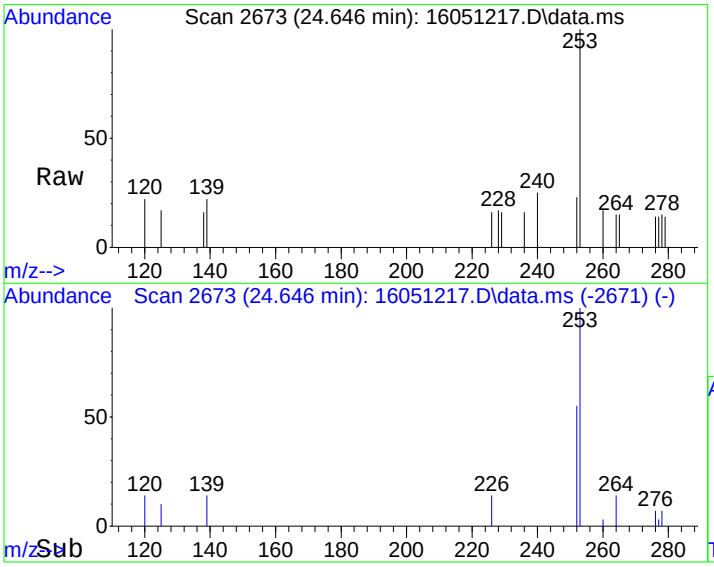
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051217.D
Acq On : 12 May 2016 7:41 pm
Operator :
Sample : 1605047-18A
Misc : SAMP
ALS Vial : 13 Sample Multiplier: 10

Quant Time: May 13 08:20:41 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

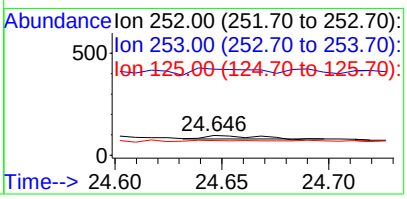




#23
Benzo(j)fluoranthene
Concen: 0.04 ug/kg
RT: 24.646 min Scan# 2673
Delta R.T. -0.044 min
Lab File: 16051217.D
Acq: 12 May 2016 7:41 pm

Tgt Ion:252 Resp: 27

Ion	Ratio	Lower	Upper
252	100		
253	251.9	2.3	42.3#
125	66.7	0.0	39.2#



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051218.D
Acq On : 12 May 2016 8:18 pm
Operator :
Sample : 1605047-19A
Misc : SAMP
ALS Vial : 14 Sample Multiplier: 10

Quant Time: May 13 08:20:44 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	10.270	136	1549519	4000.00	ug/kg	99
6) Acenaphthene-d10	12.857	164	1101758	4000.00	ug/kg	113
11) Phenanthrene-d10	14.979	188	3096033	4000.00	ug/kg	100
16) Chrysene-d12	20.992	240	3455868	4000.00	ug/kg	99
20) Perylene-d12	26.258	264	2972582	4000.00	ug/kg	100

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.763	172	26097	85.69	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.14%#			
17) 4-Terphenyl-d14	17.588	244	62665	78.48	ug/kg	-0.03
Spiked Amount 4000.000	Range 51 - 135		Recovery = 1.96%#			

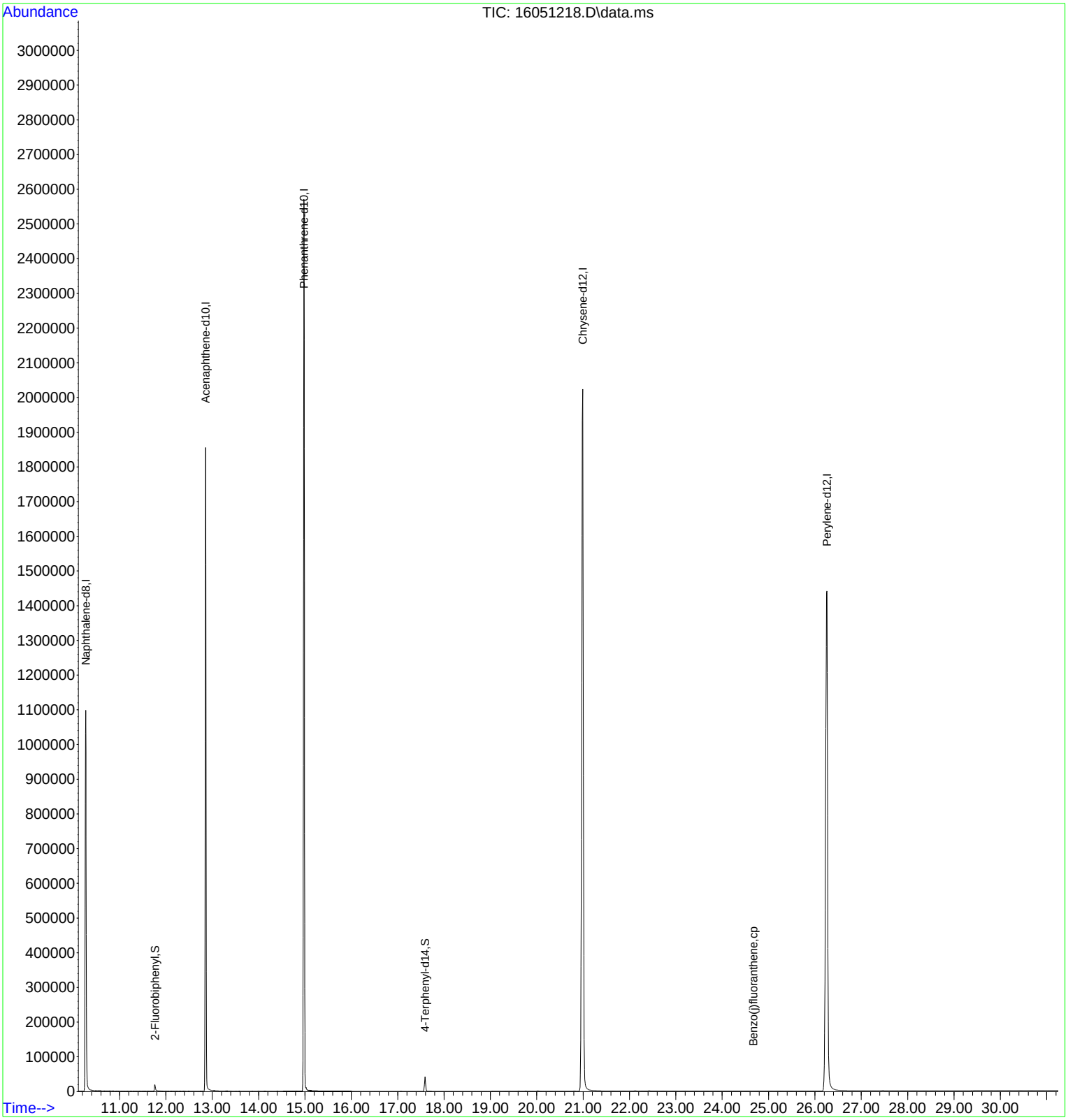
Target Compounds						Qvalue
23) Benzo(j)fluoranthene	24.669	252	80	0.12	ug/kg	81

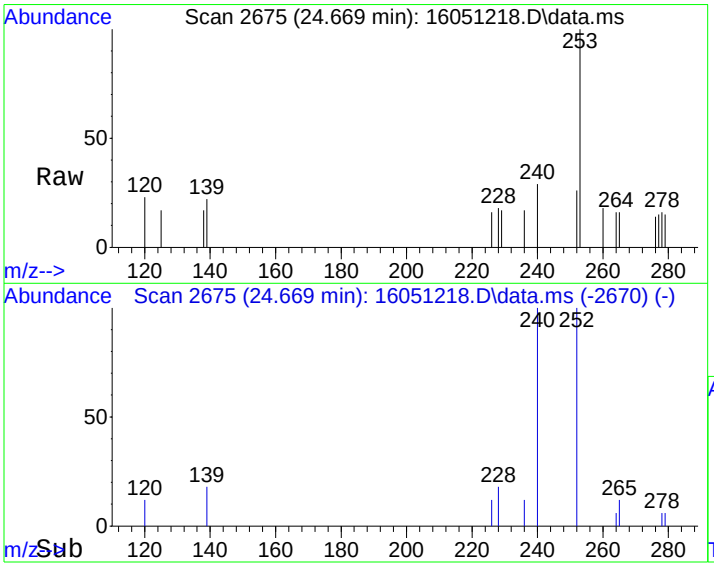
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051218.D
Acq On : 12 May 2016 8:18 pm
Operator :
Sample : 1605047-19A
Misc : SAMP
ALS Vial : 14 Sample Multiplier: 10

Quant Time: May 13 08:20:44 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

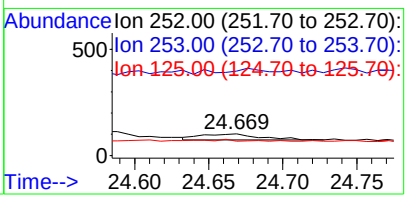




#23
Benzo(j)fluoranthene
Concen: 0.12 ug/kg
RT: 24.669 min Scan# 2675
Delta R.T. -0.021 min
Lab File: 16051218.D
Acq: 12 May 2016 8:18 pm

Tgt Ion:252 Resp: 80

Ion	Ratio	Lower	Upper
252	100		
253	26.3	2.3	42.3
125	5.0	0.0	39.2



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051219.D
Acq On : 12 May 2016 8:55 pm
Operator :
Sample : 1605047-20A
Misc : SAMP
ALS Vial : 15 Sample Multiplier: 10

Quant Time: May 13 08:20:46 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	10.268	136	1513212	4000.00	ug/kg	97
6) Acenaphthene-d10	12.857	164	1080803	4000.00	ug/kg	111
11) Phenanthrene-d10	14.979	188	3049510	4000.00	ug/kg	98
16) Chrysene-d12	20.991	240	3351118	4000.00	ug/kg	96
20) Perylene-d12	26.251	264	2884463	4000.00	ug/kg	97

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.761	172	27095	91.11	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.28%#			
17) 4-Terphenyl-d14	17.589	244	62090	80.19	ug/kg	-0.03
Spiked Amount 4000.000	Range 51 - 135		Recovery = 2.00%#			

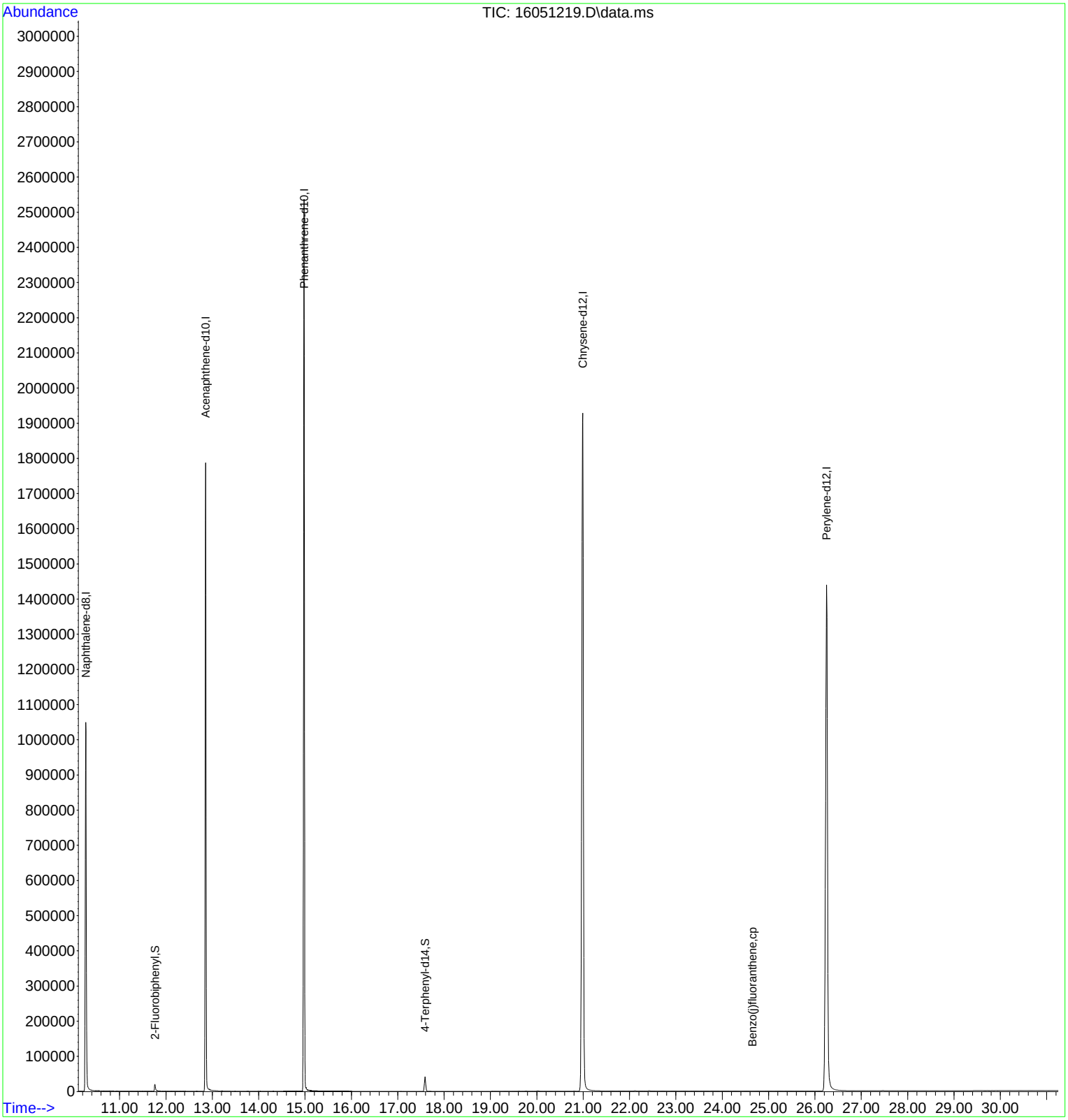
Target Compounds						Qvalue
23) Benzo(j)fluoranthene	24.646	252	61	0.09	ug/kg#	56

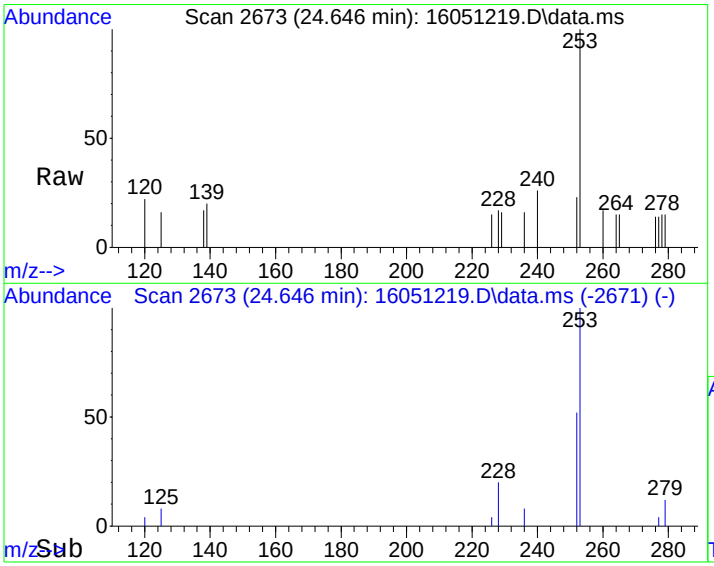
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051219.D
Acq On : 12 May 2016 8:55 pm
Operator :
Sample : 1605047-20A
Misc : SAMP
ALS Vial : 15 Sample Multiplier: 10

Quant Time: May 13 08:20:46 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

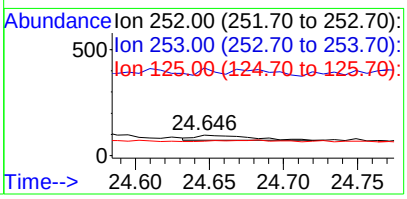




#23
Benzo(j)fluoranthene
Concen: 0.09 ug/kg
RT: 24.646 min Scan# 2673
Delta R.T. -0.044 min
Lab File: 16051219.D
Acq: 12 May 2016 8:55 pm

Tgt Ion:252 Resp: 61

Ion	Ratio	Lower	Upper
252	100		
253	44.3	2.3	42.3#
125	0.0	0.0	39.2



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051220.D
Acq On : 12 May 2016 9:32 pm
Operator :
Sample : 1605047-21A
Misc : SAMP
ALS Vial : 16 Sample Multiplier: 10

Quant Time: May 13 08:20:49 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	10.268	136	1462180	4000.00 ug/kg	94
6) Acenaphthene-d10	12.857	164	1046076	4000.00 ug/kg	107
11) Phenanthrene-d10	14.979	188	3002646	4000.00 ug/kg	97
16) Chrysene-d12	20.991	240	3242513	4000.00 ug/kg	93
20) Perylene-d12	26.251	264	2828962	4000.00 ug/kg	95

System Monitoring Compounds					Dev(Min)
5) 2-Fluorobiphenyl	11.761	172	26060	90.68 ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	2.27%#	
17) 4-Terphenyl-d14	17.588	244	59470	79.38 ug/kg	-0.03
Spiked Amount 4000.000	Range 51 - 135		Recovery =	1.98%#	

Target Compounds					Qvalue
14) Fluoranthene	17.065	202	7341	6.45 ug/kg	90
15) Pyrene	17.696	202	6608	5.79 ug/kg	95
19) Chrysene	21.072	228	4487	5.38 ug/kg	98
23) Benzo(j)fluoranthene	24.661	252	1581	2.42 ug/kg	93

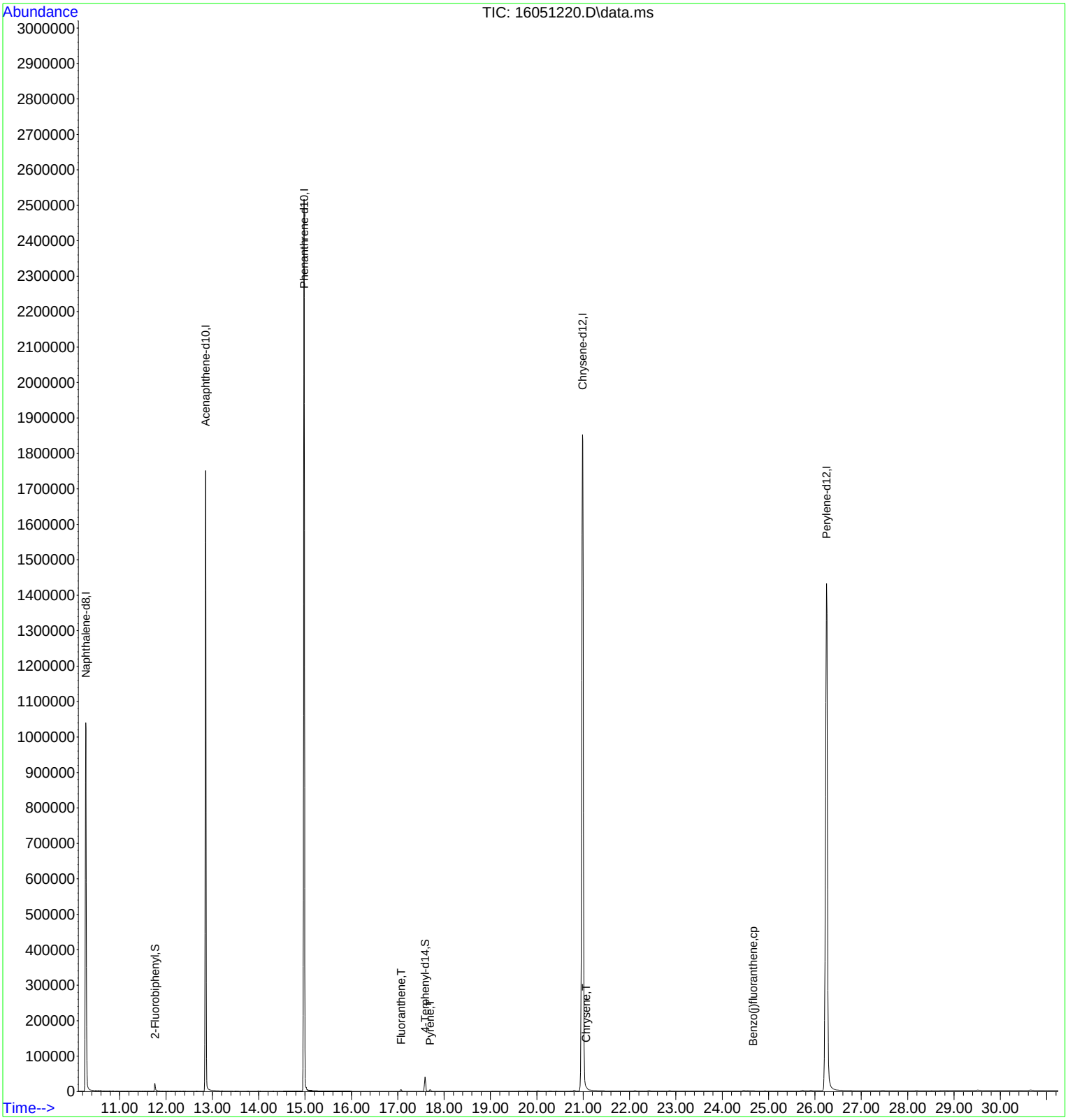
CONFIRMED
By Sherri Herschmann at 12:42:16 PM, 5/16/2016

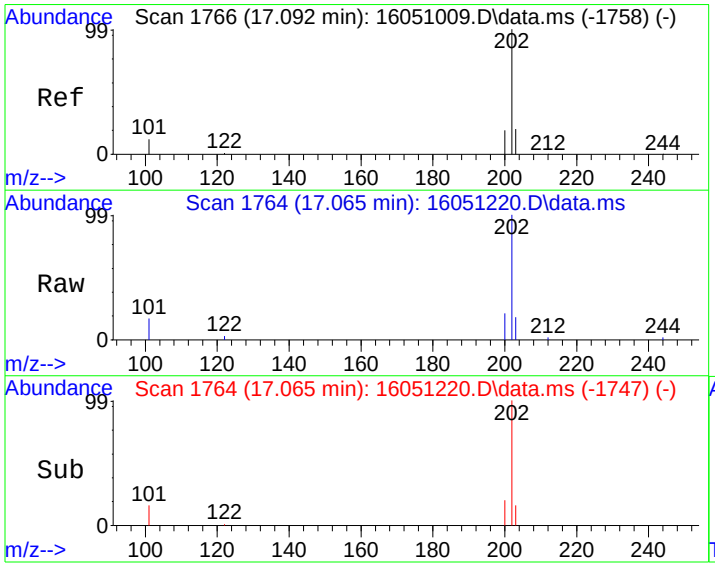
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051220.D
Acq On : 12 May 2016 9:32 pm
Operator :
Sample : 1605047-21A
Misc : SAMP
ALS Vial : 16 Sample Multiplier: 10

Quant Time: May 13 08:20:49 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

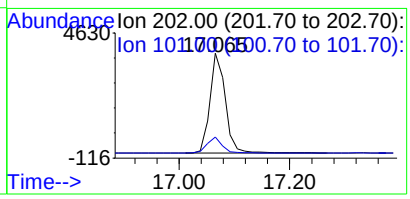


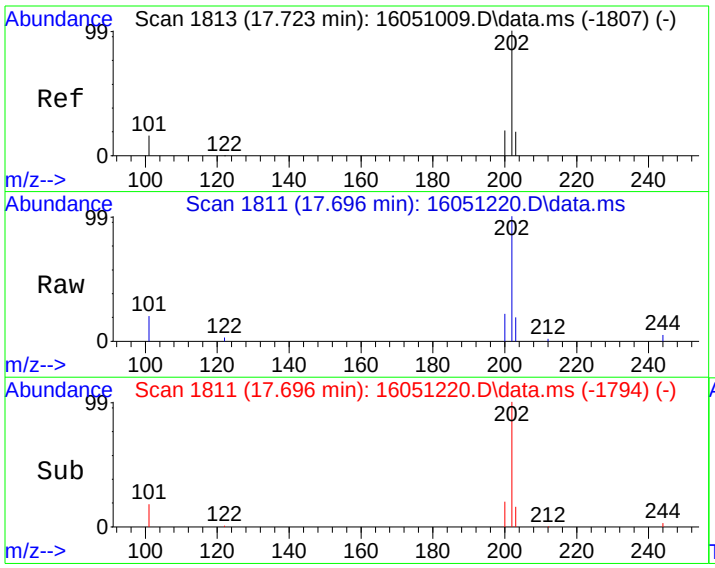


#14
Fluoranthene
Concen: 6.45 ug/kg
RT: 17.065 min Scan# 1764
Delta R.T. -0.027 min
Lab File: 16051220.D
Acq: 12 May 2016 9:32 pm

Tgt Ion:202 Resp: 7341

Ion	Ratio	Lower	Upper
202	100		
101	15.9	0.0	32.0

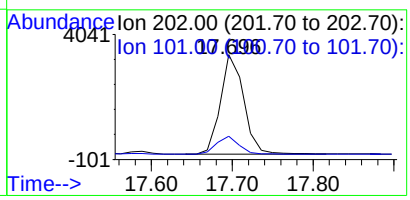


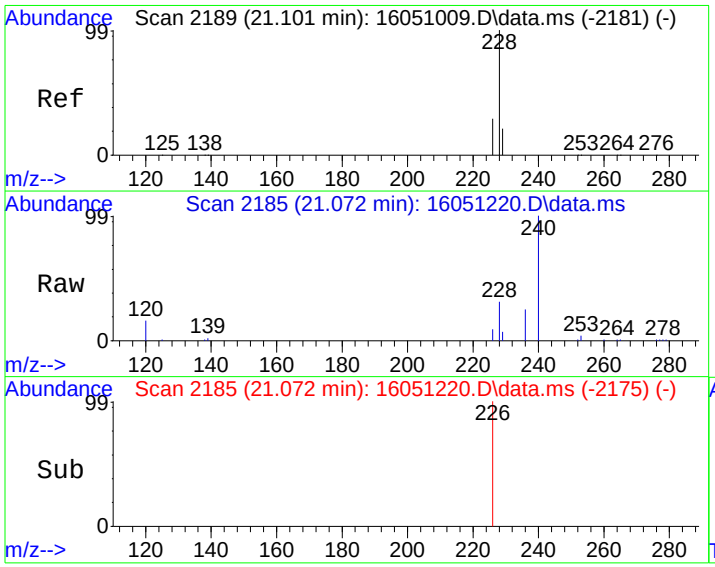


#15
Pyrene
Concen: 5.79 ug/kg
RT: 17.696 min Scan# 1811
Delta R.T. -0.026 min
Lab File: 16051220.D
Acq: 12 May 2016 9:32 pm

Tgt Ion:202 Resp: 6608

Ion	Ratio	Lower	Upper
202	100		
101	18.0	0.0	35.9

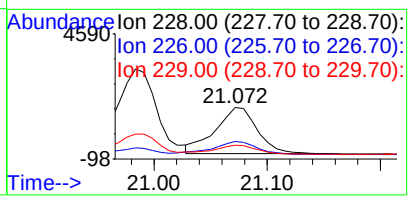


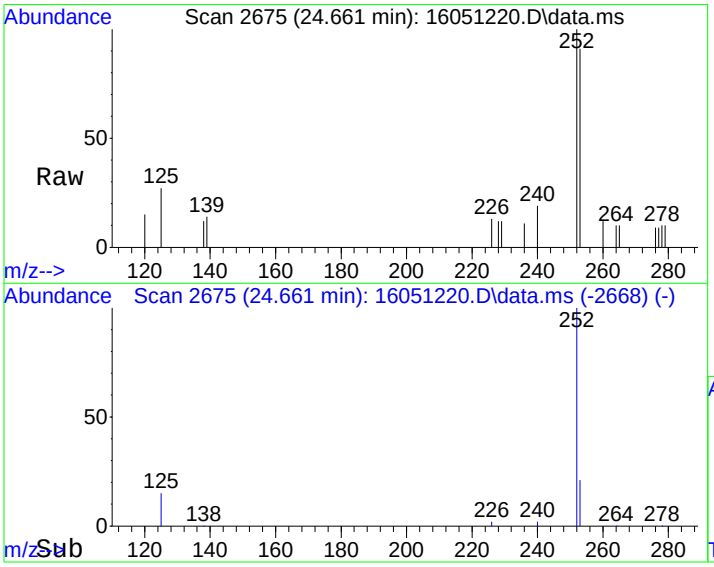


#19
Chrysene
Concen: 5.38 ug/kg
RT: 21.072 min Scan# 2185
Delta R.T. -0.029 min
Lab File: 16051220.D
Acq: 12 May 2016 9:32 pm

Tgt Ion:228 Resp: 4487

Ion	Ratio	Lower	Upper
228	100		
226	27.8	8.8	48.8
229	19.3	0.5	40.5

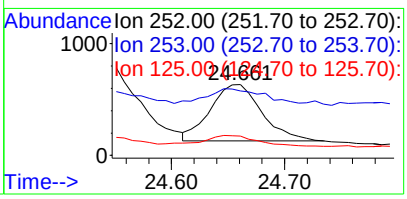




#23
Benzo(j)fluoranthene
Concen: 2.42 ug/kg
RT: 24.661 min Scan# 2675
Delta R.T. -0.029 min
Lab File: 16051220.D
Acq: 12 May 2016 9:32 pm

Tgt Ion:252 Resp: 1581

Ion	Ratio	Lower	Upper
252	100		
253	26.8	2.3	42.3
125	20.7	0.0	39.2



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051221.D
Acq On : 12 May 2016 10:09 pm
Operator :
Sample : 1605047-22A
Misc : SAMP
ALS Vial : 17 Sample Multiplier: 10

Quant Time: May 13 08:20:55 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	10.268	136	1572301	4000.00	ug/kg	101
6) Acenaphthene-d10	12.857	164	1119754	4000.00	ug/kg	115
11) Phenanthrene-d10	14.979	188	3195225	4000.00	ug/kg	103
16) Chrysene-d12	20.984	240	3526724	4000.00	ug/kg	101
20) Perylene-d12	26.251	264	3036364	4000.00	ug/kg	102

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.761	172	25070	81.13	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.03%#			
17) 4-Terphenyl-d14	17.589	244	61851	75.90	ug/kg	-0.03
Spiked Amount 4000.000	Range 51 - 135		Recovery = 1.90%#			

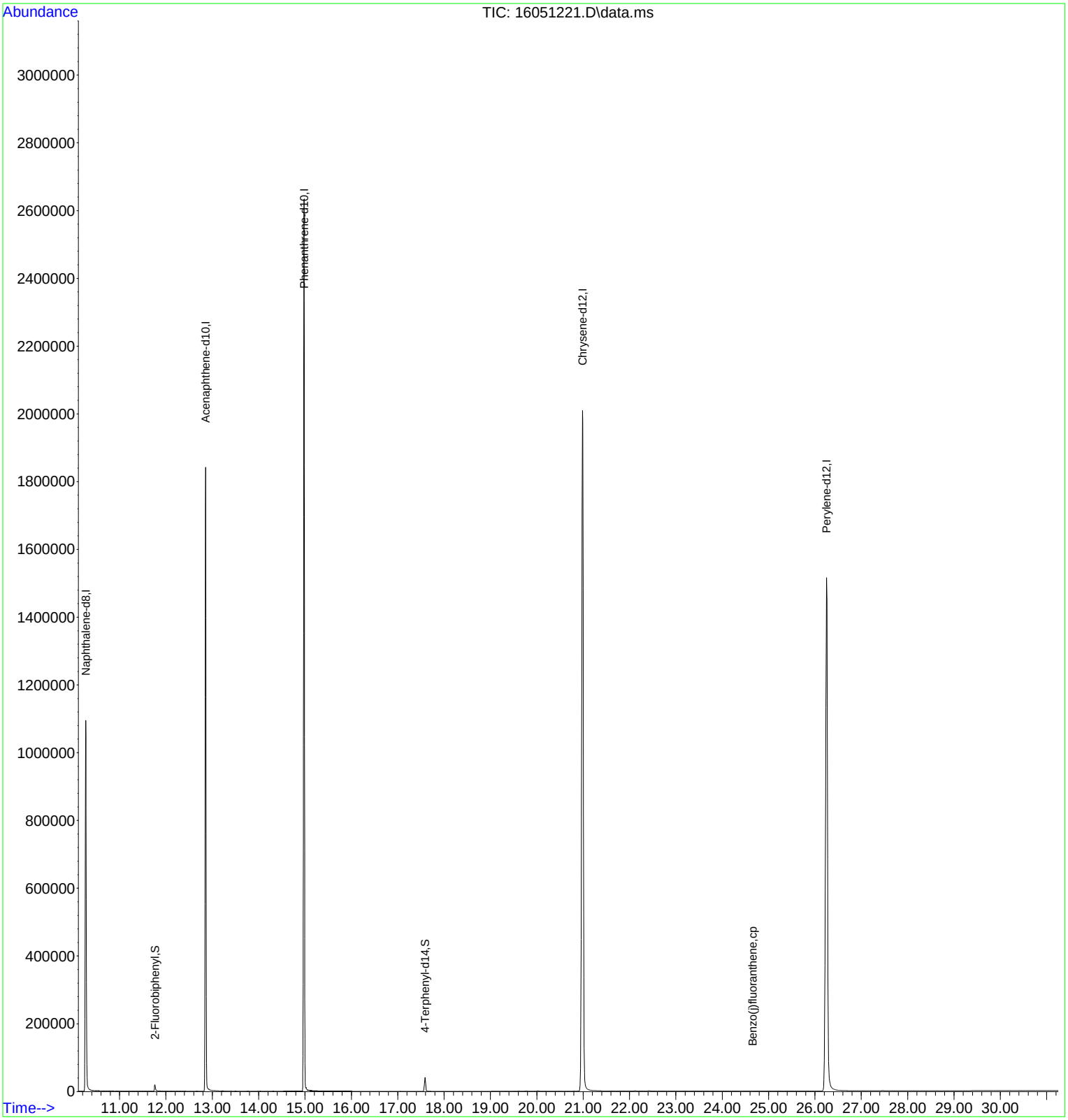
Target Compounds						Qvalue
23) Benzo(j)fluoranthene	24.654	252	73	0.10	ug/kg	74

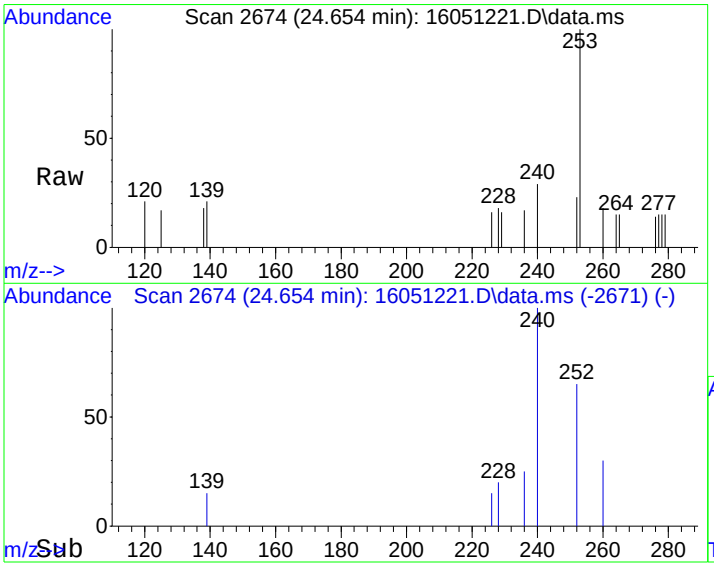
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051221.D
Acq On : 12 May 2016 10:09 pm
Operator :
Sample : 1605047-22A
Misc : SAMP
ALS Vial : 17 Sample Multiplier: 10

Quant Time: May 13 08:20:55 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

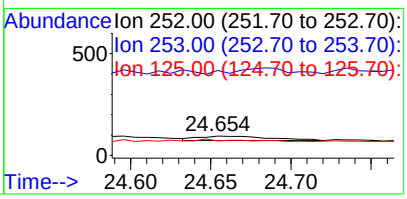




#23
Benzo(j)fluoranthene
Concen: 0.10 ug/kg
RT: 24.654 min Scan# 2674
Delta R.T. -0.036 min
Lab File: 16051221.D
Acq: 12 May 2016 10:09 pm

Tgt Ion:252 Resp: 73

Ion	Ratio	Lower	Upper
252	100		
253	32.9	2.3	42.3
125	32.9	0.0	39.2



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051222.D
Acq On : 12 May 2016 10:46 pm
Operator :
Sample : 1605047-23A
Misc : SAMP
ALS Vial : 18 Sample Multiplier: 10

Quant Time: May 13 08:20:58 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	10.269	136	1496923	4000.00	ug/kg	96
6) Acenaphthene-d10	12.856	164	1073591	4000.00	ug/kg	110
11) Phenanthrene-d10	14.978	188	3035497	4000.00	ug/kg	98
16) Chrysene-d12	20.985	240	3319155	4000.00	ug/kg	95
20) Perylene-d12	26.251	264	2869458	4000.00	ug/kg	97

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.758	172	25979	88.30	ug/kg	-0.01
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.21%#			
17) 4-Terphenyl-d14	17.588	244	58178	75.86	ug/kg	-0.03
Spiked Amount 4000.000	Range 51 - 135		Recovery = 1.90%#			

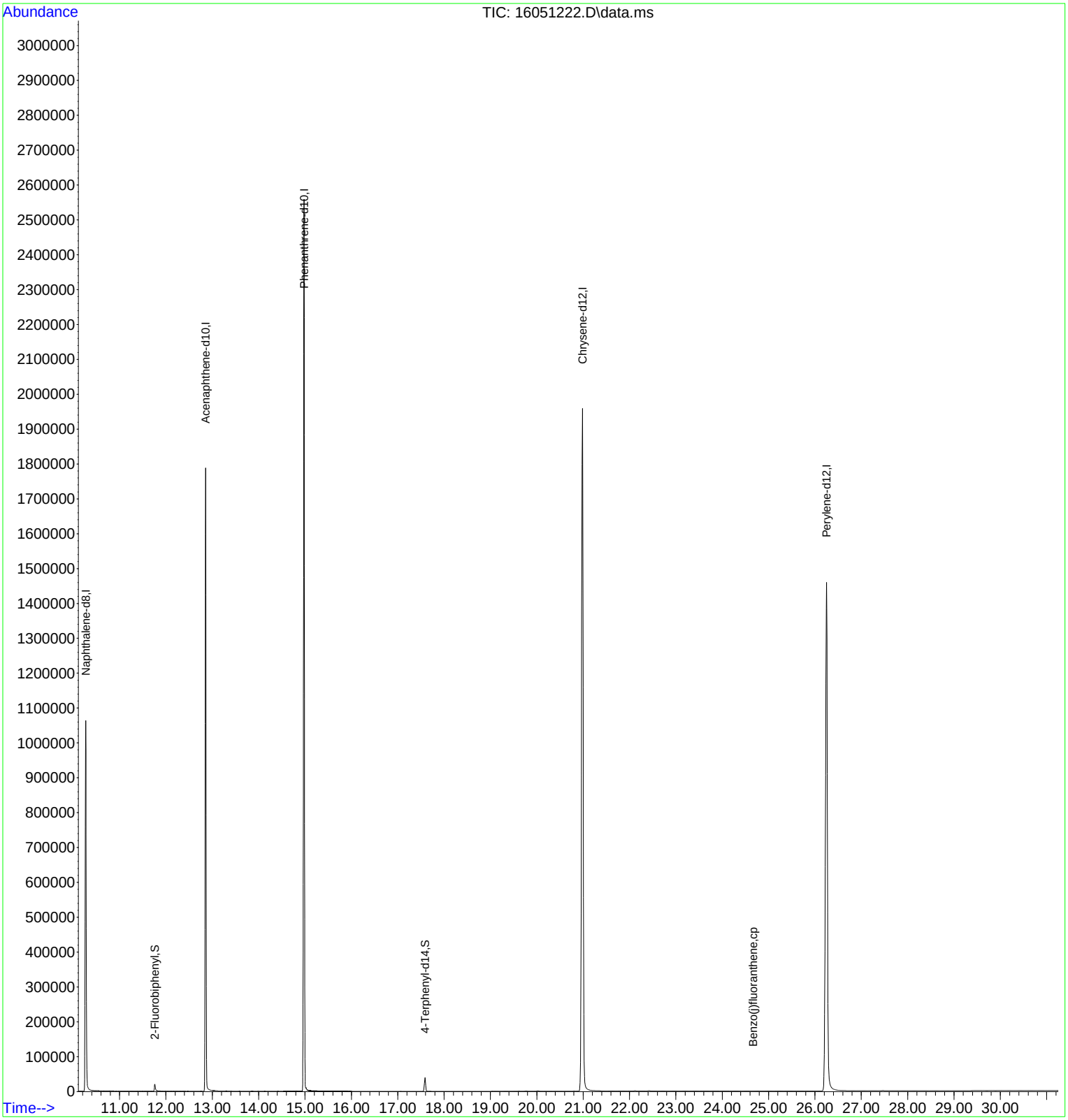
Target Compounds						Qvalue
23) Benzo(j)fluoranthene	24.669	252	85	0.13	ug/kg#	62

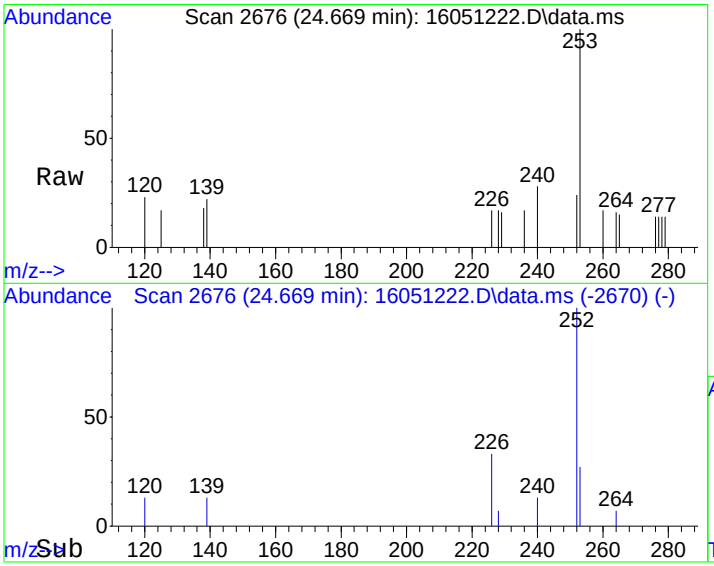
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051222.D
Acq On : 12 May 2016 10:46 pm
Operator :
Sample : 1605047-23A
Misc : SAMP
ALS Vial : 18 Sample Multiplier: 10

Quant Time: May 13 08:20:58 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

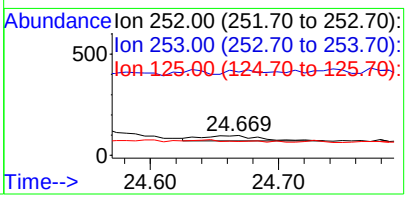




#23
Benzo(j)fluoranthene
Concen: 0.13 ug/kg
RT: 24.669 min Scan# 2676
Delta R.T. -0.021 min
Lab File: 16051222.D
Acq: 12 May 2016 10:46 pm

Tgt Ion:252 Resp: 85

Ion	Ratio	Lower	Upper
252	100		
253	38.8	2.3	42.3
125	0.0	0.0	39.2



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051223.D
Acq On : 12 May 2016 11:23 pm
Operator :
Sample : 1605047-24A
Misc : SAMP
ALS Vial : 19 Sample Multiplier: 10

Quant Time: May 13 08:21:00 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	10.270	136	1476673	4000.00	ug/kg	95
6) Acenaphthene-d10	12.857	164	1058744	4000.00	ug/kg	108
11) Phenanthrene-d10	14.977	188	3031312	4000.00	ug/kg	98
16) Chrysene-d12	20.984	240	3242194	4000.00	ug/kg	93
20) Perylene-d12	26.250	264	2798382	4000.00	ug/kg	94

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.759	172	24146	83.20	ug/kg	-0.01
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.08%#			
17) 4-Terphenyl-d14	17.588	244	55810	74.50	ug/kg	-0.03
Spiked Amount 4000.000	Range 51 - 135		Recovery = 1.86%#			

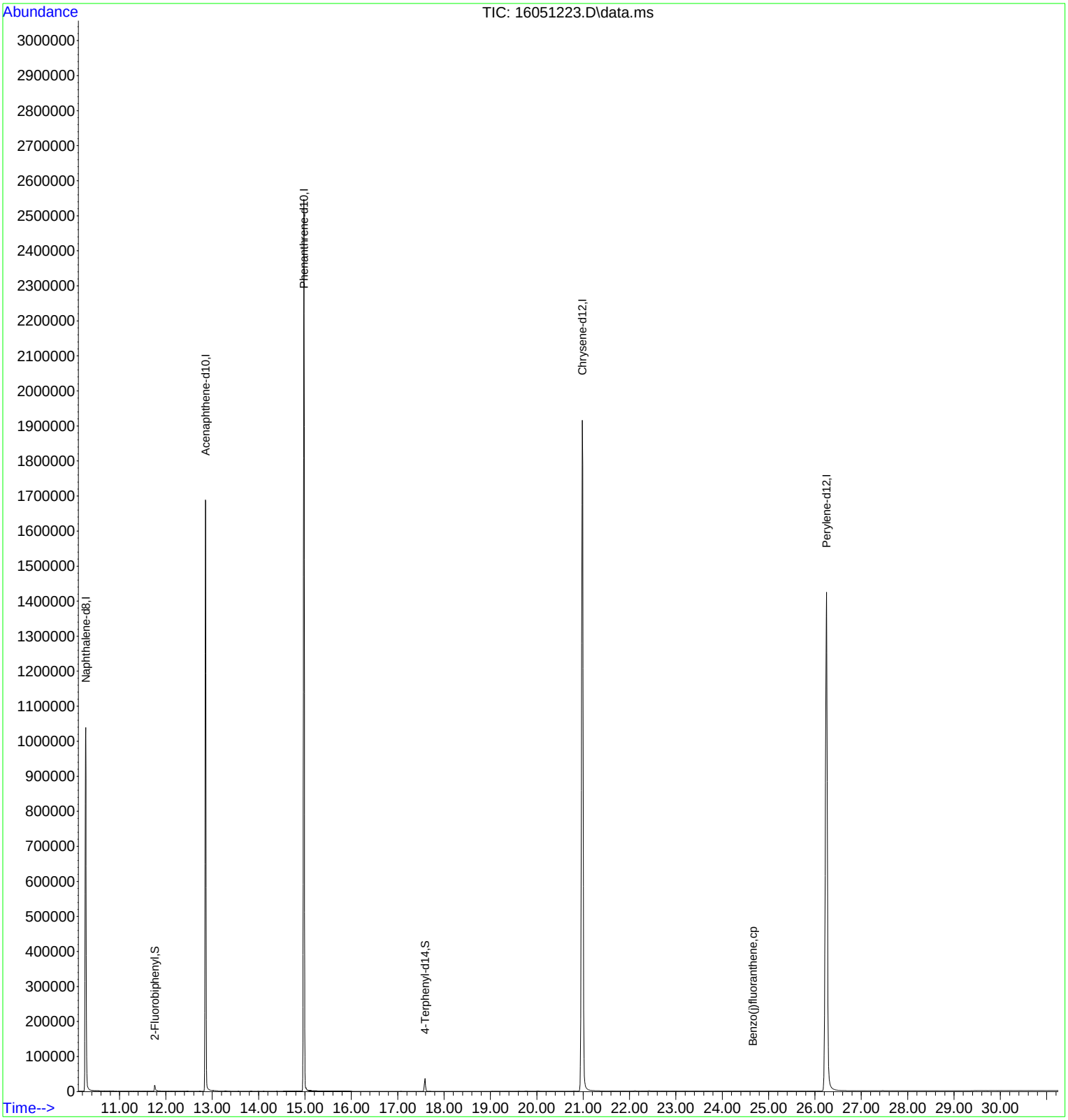
Target Compounds						Qvalue
23) Benzo(j)fluoranthene	24.661	252	172	0.27	ug/kg	92

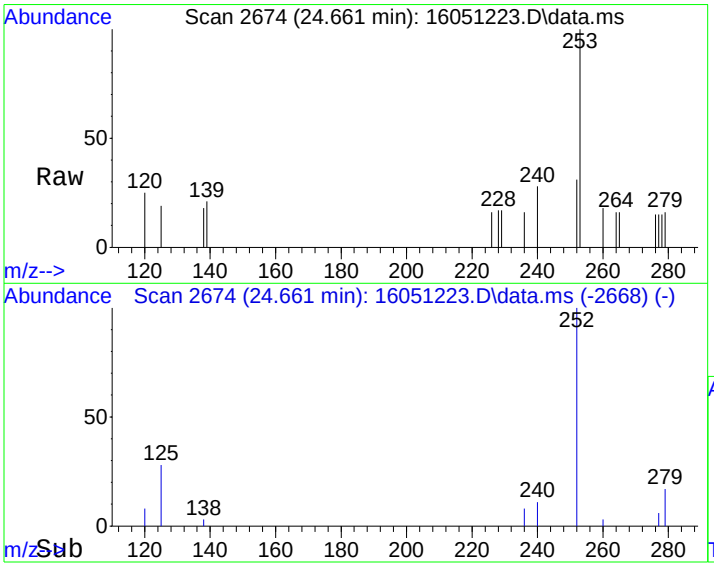
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051223.D
Acq On : 12 May 2016 11:23 pm
Operator :
Sample : 1605047-24A
Misc : SAMP
ALS Vial : 19 Sample Multiplier: 10

Quant Time: May 13 08:21:00 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

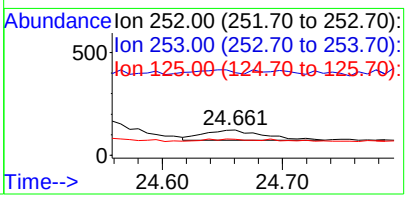




#23
Benzo(j)fluoranthene
Concen: 0.27 ug/kg
RT: 24.661 min Scan# 2674
Delta R.T. -0.029 min
Lab File: 16051223.D
Acq: 12 May 2016 11:23 pm

Tgt Ion:252 Resp: 172

Ion	Ratio	Lower	Upper
252	100		
253	26.2	2.3	42.3
125	15.7	0.0	39.2



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051224.D
Acq On : 13 May 2016 12:00 am
Operator :
Sample : 1605047-24AMS
Misc : MS
ALS Vial : 20 Sample Multiplier: 10

Quant Time: May 13 08:19:20 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	10.268	136	1502253	4000.00 ug/kg	96
6) Acenaphthene-d10	12.852	164	1042889	4000.00 ug/kg	107
11) Phenanthrene-d10	14.977	188	2964222	4000.00 ug/kg	95
16) Chrysene-d12	20.984	240	3225856	4000.00 ug/kg	92
20) Perylene-d12	26.244	264	2780983	4000.00 ug/kg	94

System Monitoring Compounds					Dev(Min)
5) 2-Fluorobiphenyl	11.757	172	23456	79.44 ug/kg	-0.01
Spiked Amount 4000.000	Range 40 - 140		Recovery =	1.99%#	
17) 4-Terphenyl-d14	17.589	244	55186	74.04 ug/kg	-0.03
Spiked Amount 4000.000	Range 51 - 135		Recovery =	1.85%#	

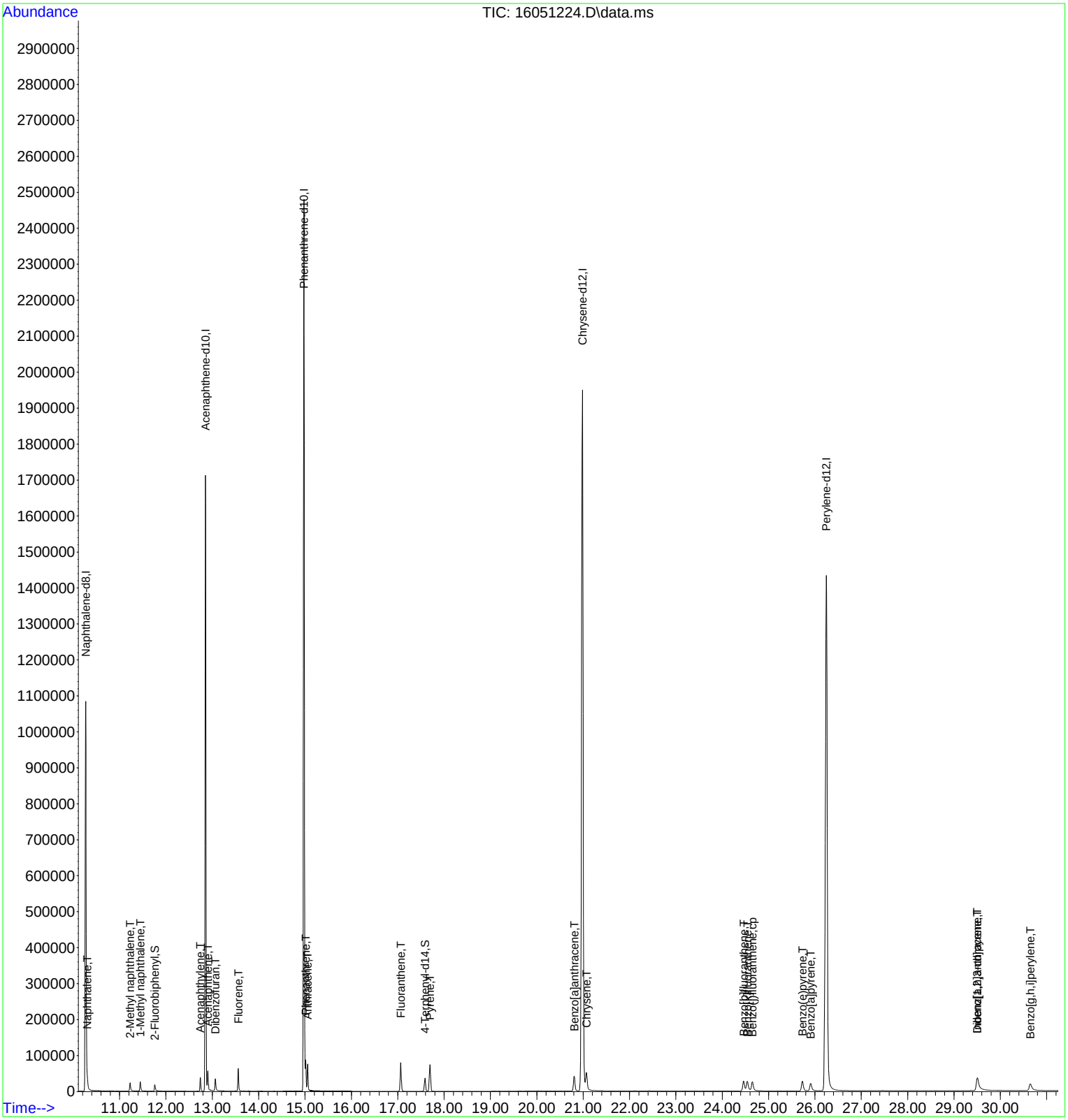
Target Compounds					Qvalue
2) Naphthalene	10.305	128	26905	73.90 ug/kg	100
3) 2-Methyl naphthalene	11.227	142	19666	81.88 ug/kg	99
4) 1-Methyl naphthalene	11.445	142	18882	82.65 ug/kg	97
7) Acenaphthylene	12.739	152	38509	78.58 ug/kg	99
8) Acenaphthene	12.906	153	24406	78.69 ug/kg	100
9) Dibenzofuran	13.063	168	39797	79.46 ug/kg	89
10) Fluorene	13.559	166	37529	79.68 ug/kg	100
12) Phenanthrene	15.013	178	73093	85.20 ug/kg	97
13) Anthracene	15.055	178	72588	78.09 ug/kg	97
14) Fluoranthene	17.066	202	91498	81.49 ug/kg	98
15) Pyrene	17.696	202	89944	79.87 ug/kg	99
18) Benzo[a]anthracene	20.808	228	69754	76.92 ug/kg	98
19) Chrysene	21.072	228	67407	81.20 ug/kg	99
21) Benzo[b]fluoranthene	24.464	252	56851	71.78 ug/kg	98
22) Benzo[k]fluoranthene	24.544	252	46640	73.42 ug/kg	97
23) Benzo(j)fluoranthene	24.654	252	48215	75.10 ug/kg	98
24) Benzo(e)pyrene	25.731	252	56988	74.97 ug/kg	98
25) Benzo[a]pyrene	25.907	252	49826	68.45 ug/kg	99
26) Indeno[1,2,3-cd]pyrene	29.511	276	59872	74.24 ug/kg	97
27) Dibenz[a,h]anthracene	29.496	278	47199	71.79 ug/kg	98
28) Benzo[g,h,i]perylene	30.646	276	53650	76.24 ug/kg	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051224.D
Acq On : 13 May 2016 12:00 am
Operator :
Sample : 1605047-24AMS
Misc : MS
ALS Vial : 20 Sample Multiplier: 10

Quant Time: May 13 08:19:20 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\160512\
Data File : 16051225.D
Acq On : 13 May 2016 12:36 am
Operator :
Sample : 1605047-24AMSD
Misc : MSD
ALS Vial : 21 Sample Multiplier: 10

Quant Time: May 13 08:19:23 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	10.267	136	1550173	4000.00 ug/kg	99
6) Acenaphthene-d10	12.856	164	1109201	4000.00 ug/kg	114
11) Phenanthrene-d10	14.976	188	3124789	4000.00 ug/kg	101
16) Chrysene-d12	20.983	240	3385072	4000.00 ug/kg	97
20) Perylene-d12	26.250	264	2923727	4000.00 ug/kg	99

System Monitoring Compounds					Dev(Min)
5) 2-Fluorobiphenyl	11.760	172	24753	81.25 ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery =	2.03%#	
17) 4-Terphenyl-d14	17.589	244	57118	73.03 ug/kg	-0.03
Spiked Amount 4000.000	Range 51 - 135		Recovery =	1.83%#	

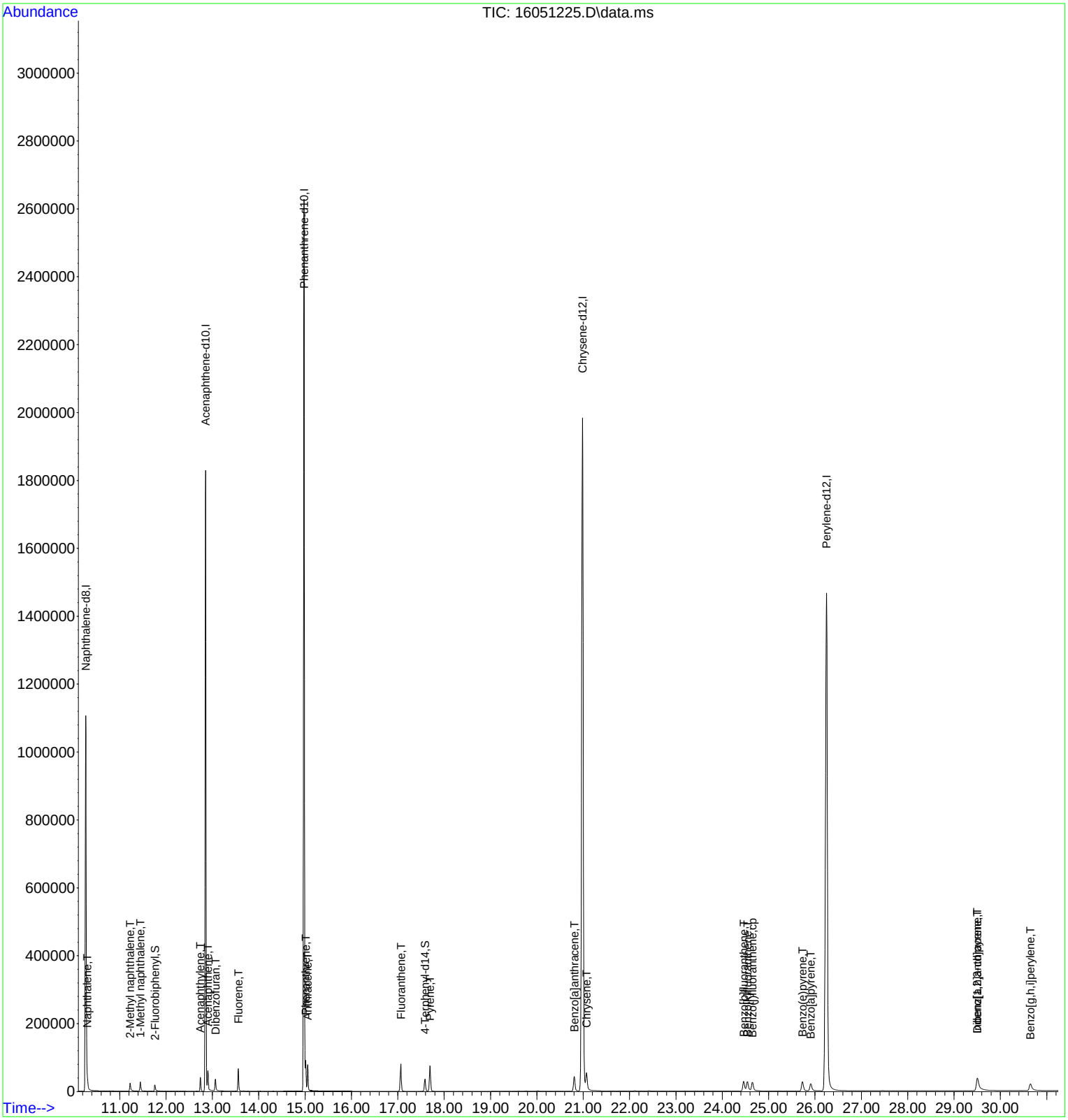
Target Compounds					Qvalue
2) Naphthalene	10.304	128	27835	74.09 ug/kg	99
3) 2-Methyl naphthalene	11.226	142	20040	80.90 ug/kg	99
4) 1-Methyl naphthalene	11.448	142	19971	84.71 ug/kg	100
7) Acenaphthylene	12.738	152	40819	78.31 ug/kg	99
8) Acenaphthene	12.905	153	25767	78.11 ug/kg	100
9) Dibenzofuran	13.067	168	42195	79.21 ug/kg	100
10) Fluorene	13.558	166	39628	79.11 ug/kg	100
12) Phenanthrene	15.012	178	76713	84.82 ug/kg	96
13) Anthracene	15.056	178	75438	76.99 ug/kg	97
14) Fluoranthene	17.066	202	93940	79.37 ug/kg	99
15) Pyrene	17.697	202	93033	78.37 ug/kg	98
18) Benzo[a]anthracene	20.807	228	71573	75.22 ug/kg	98
19) Chrysene	21.071	228	69327	79.59 ug/kg	99
21) Benzo[b]fluoranthene	24.463	252	57972	69.62 ug/kg	98
22) Benzo[k]fluoranthene	24.543	252	48174	72.13 ug/kg	97
23) Benzo(j)fluoranthene	24.653	252	50539	74.87 ug/kg	98
24) Benzo(e)pyrene	25.730	252	58670	73.41 ug/kg	99
25) Benzo[a]pyrene	25.906	252	51345	67.09 ug/kg	99
26) Indeno[1,2,3-cd]pyrene	29.510	276	62054	73.19 ug/kg	97
27) Dibenz[a,h]anthracene	29.502	278	48175	69.70 ug/kg	97
28) Benzo[g,h,i]perylene	30.645	276	55221	74.64 ug/kg	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051225.D
Acq On : 13 May 2016 12:36 am
Operator :
Sample : 1605047-24AMSD
Misc : MSD
ALS Vial : 21 Sample Multiplier: 10

Quant Time: May 13 08:19:23 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\160512\
Data File : 16051227.D
Acq On : 13 May 2016 1:50 am
Operator :
Sample : ICV2-160512
Misc : ICV
ALS Vial : 23 Sample Multiplier: 1

Quant Time: May 13 08:19:25 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	10.267	136	1394038	4000.00	ug/kg	89
6) Acenaphthene-d10	12.856	164	943246	4000.00	ug/kg	97
11) Phenanthrene-d10	14.976	188	2949649	4000.00	ug/kg	95
16) Chrysene-d12	20.983	240	3051240	4000.00	ug/kg	87
20) Perylene-d12	26.250	264	2613093	4000.00	ug/kg	88

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.756	172	608090	2219.46	ug/kg	-0.01
Spiked Amount 4000.000	Range 40 - 140		Recovery = 55.49%			
17) 4-Terphenyl-d14	17.589	244	1363050	1933.40	ug/kg	-0.03
Spiked Amount 4000.000	Range 51 - 135		Recovery = 48.34%#			

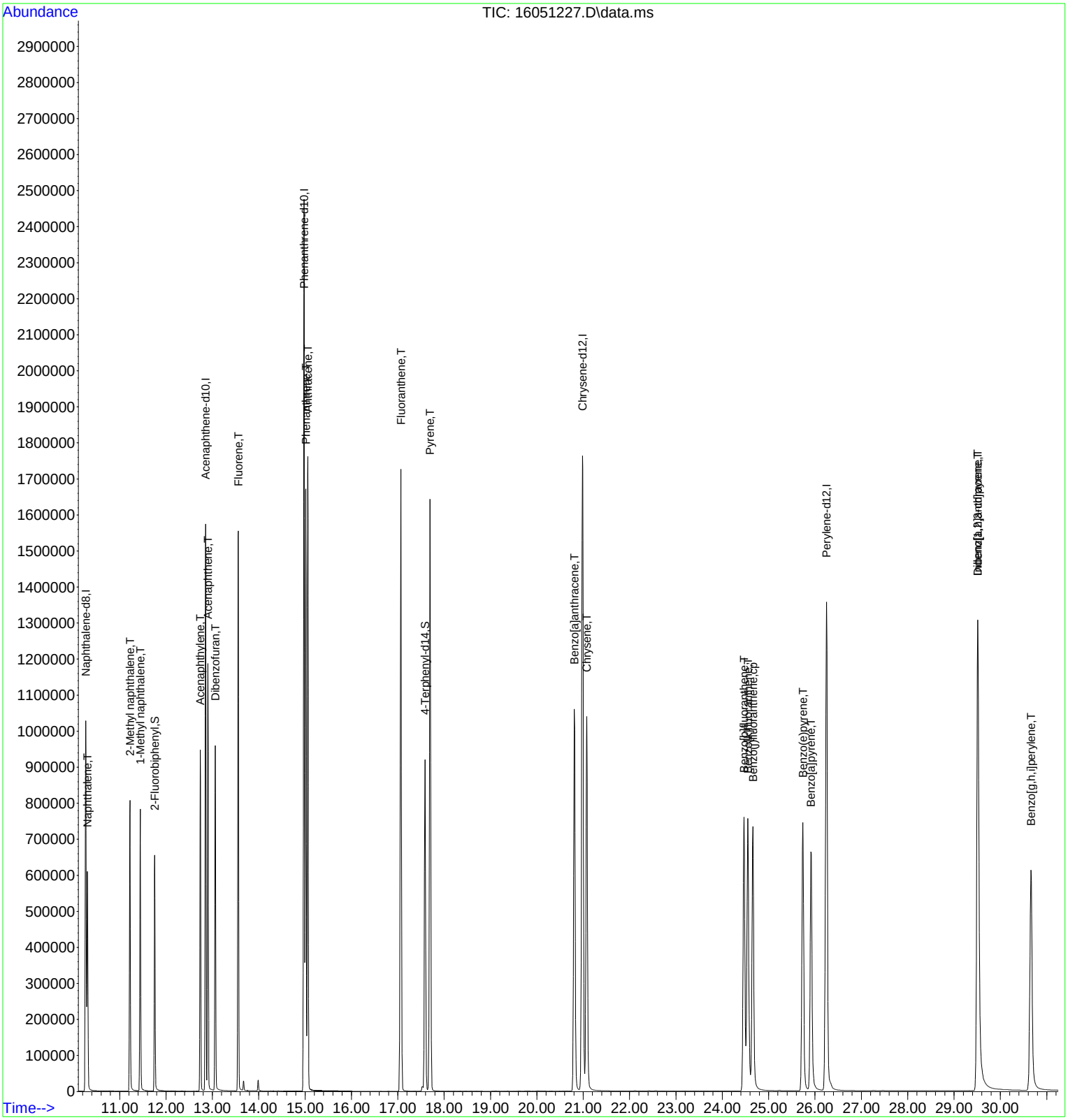
Target Compounds						Qvalue
2) Naphthalene	10.304	128	686372	2031.61	ug/kg	100
3) 2-Methyl naphthalene	11.222	142	500516	2193.76	ug/kg	99
4) 1-Methyl naphthalene	11.444	142	457108	2156.09	ug/kg	99
7) Acenaphthylene	12.738	152	903147	2037.52	ug/kg	100
8) Acenaphthene	12.905	153	567173	2021.95	ug/kg	99
9) Dibenzofuran	13.062	168	912061	2013.47	ug/kg	92
10) Fluorene	13.558	166	872395	2047.93	ug/kg	98
12) Phenanthrene	15.016	178	1666975	1952.65	ug/kg	100
13) Anthracene	15.059	178	1710129	1848.95	ug/kg	100
14) Fluoranthene	17.066	202	1962347	1756.44	ug/kg	91
15) Pyrene	17.696	202	1949237	1739.49	ug/kg	95
18) Benzo[a]anthracene	20.807	228	1680270	1958.99	ug/kg	100
19) Chrysene	21.078	228	1544193	1966.68	ug/kg	100
21) Benzo[b]fluoranthene	24.470	252	1457321	1958.30	ug/kg	100
22) Benzo[k]fluoranthene	24.551	252	1318728	2209.38	ug/kg	99
23) Benzo(j)fluoranthene	24.660	252	1276263	2115.51	ug/kg	99
24) Benzo(e)pyrene	25.737	252	1405817	1968.19	ug/kg	99
25) Benzo[a]pyrene	25.920	252	1363523	1993.54	ug/kg	99
26) Indeno[1,2,3-cd]pyrene	29.517	276	1564629	2064.83	ug/kg	97
27) Dibenz[a,h]anthracene	29.510	278	1279455	2071.12	ug/kg	98
28) Benzo[g,h,i]perylene	30.660	276	1343792	2032.33	ug/kg	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051227.D
Acq On : 13 May 2016 1:50 am
Operator :
Sample : ICV2-160512
Misc : ICV
ALS Vial : 23 Sample Multiplier: 1

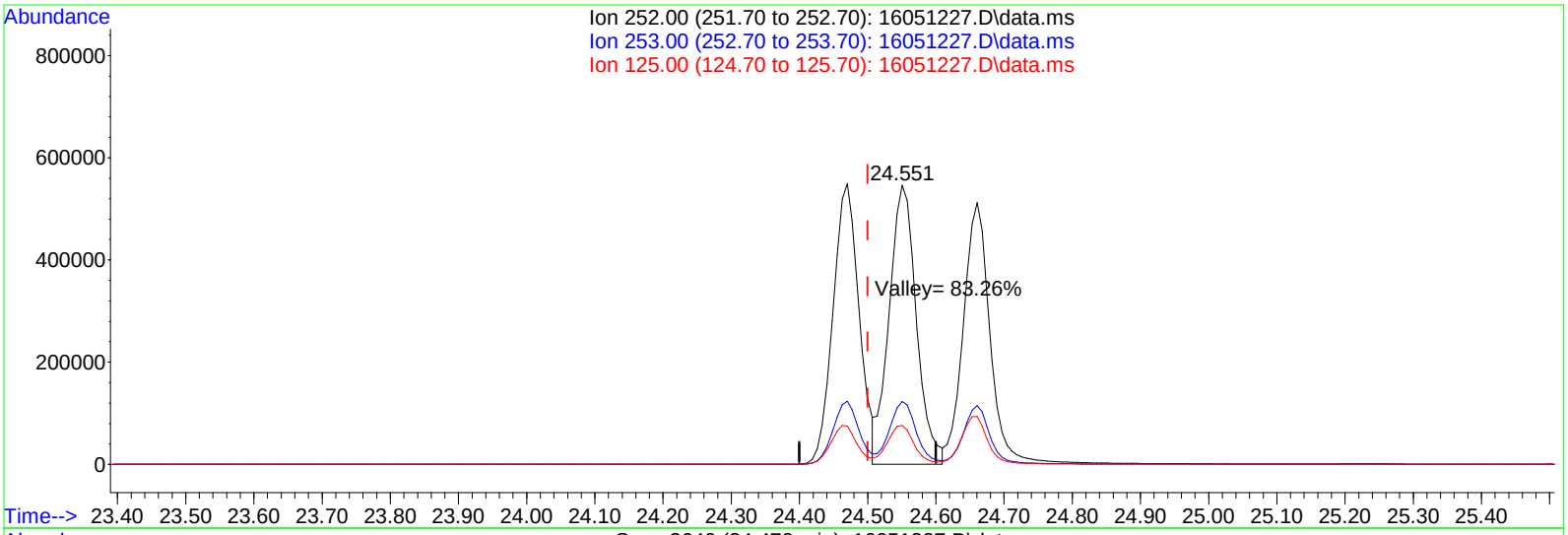
Quant Time: May 13 08:19:25 2016
Quant Method : C:\msdchem\1\METHODS\PAH160510.M
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Wed May 11 10:43:33 2016
Response via : Initial Calibration

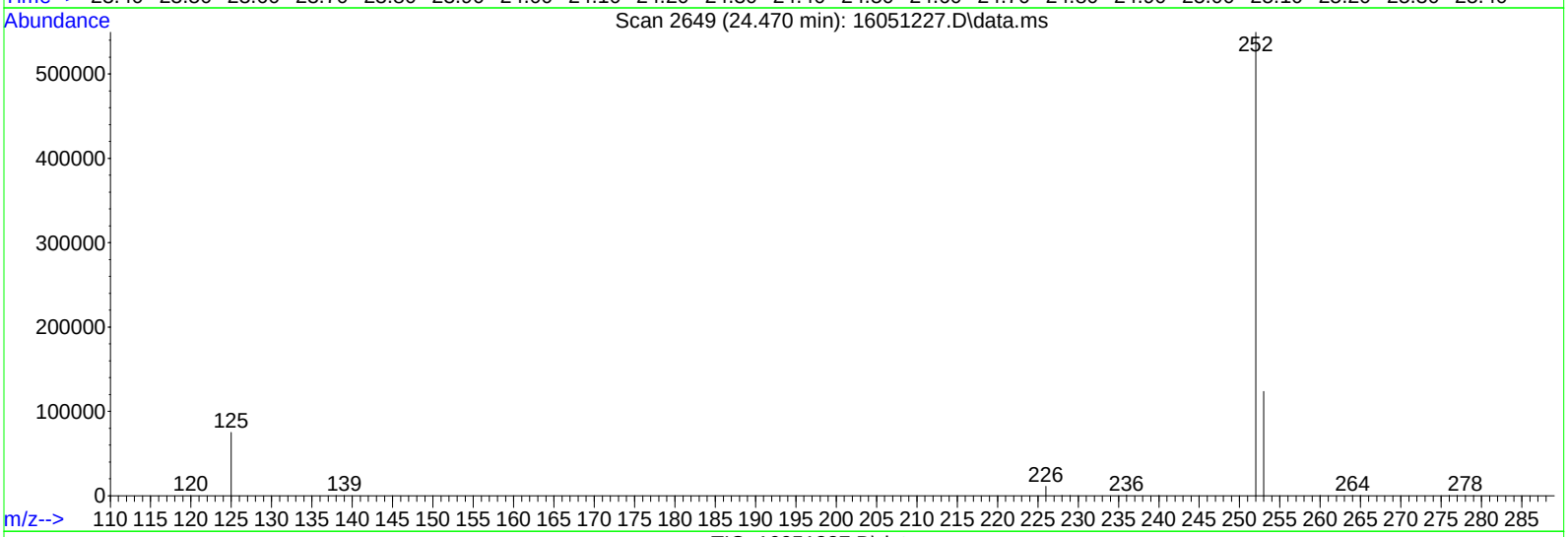


Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051227.D
Acq On : 13 May 2016 1:50 am
Operator :
Sample : ICV2-160512
Misc : ICV
ALS Vial : 23 Sample Multiplier: 1

Quant Time: May 13 02:21:25 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





TIC: 16051227.D\data.ms

(21) Benzo[b]fluoranthene (T)

24.470min (-0.030) 1958.30ug/kg

response 1457321

Ion	Exp%	Act%
252.00	100	100
253.00	22.60	22.45
125.00	13.80	13.61
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051229.D
Acq On : 13 May 2016 3:03 am
Operator :
Sample : SB-160512
Misc : SBLK
ALS Vial : 25 Sample Multiplier: 1

Quant Time: May 13 08:19:28 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	10.271	136	1292677	4000.00	ug/kg	83
6) Acenaphthene-d10	12.856	164	953482	4000.00	ug/kg	98
11) Phenanthrene-d10	14.978	188	2731486	4000.00	ug/kg	88
16) Chrysene-d12	20.982	240	2789784	4000.00	ug/kg	80
20) Perylene-d12	26.249	264	2388643	4000.00	ug/kg	81

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.789	172	12	0.05	ug/kg	0.02
Spiked Amount 4000.000	Range 40 - 140		Recovery = 0.00%#			
17) 4-Terphenyl-d14	17.602	244	359	0.56	ug/kg	-0.01
Spiked Amount 4000.000	Range 51 - 135		Recovery = 0.01%#			

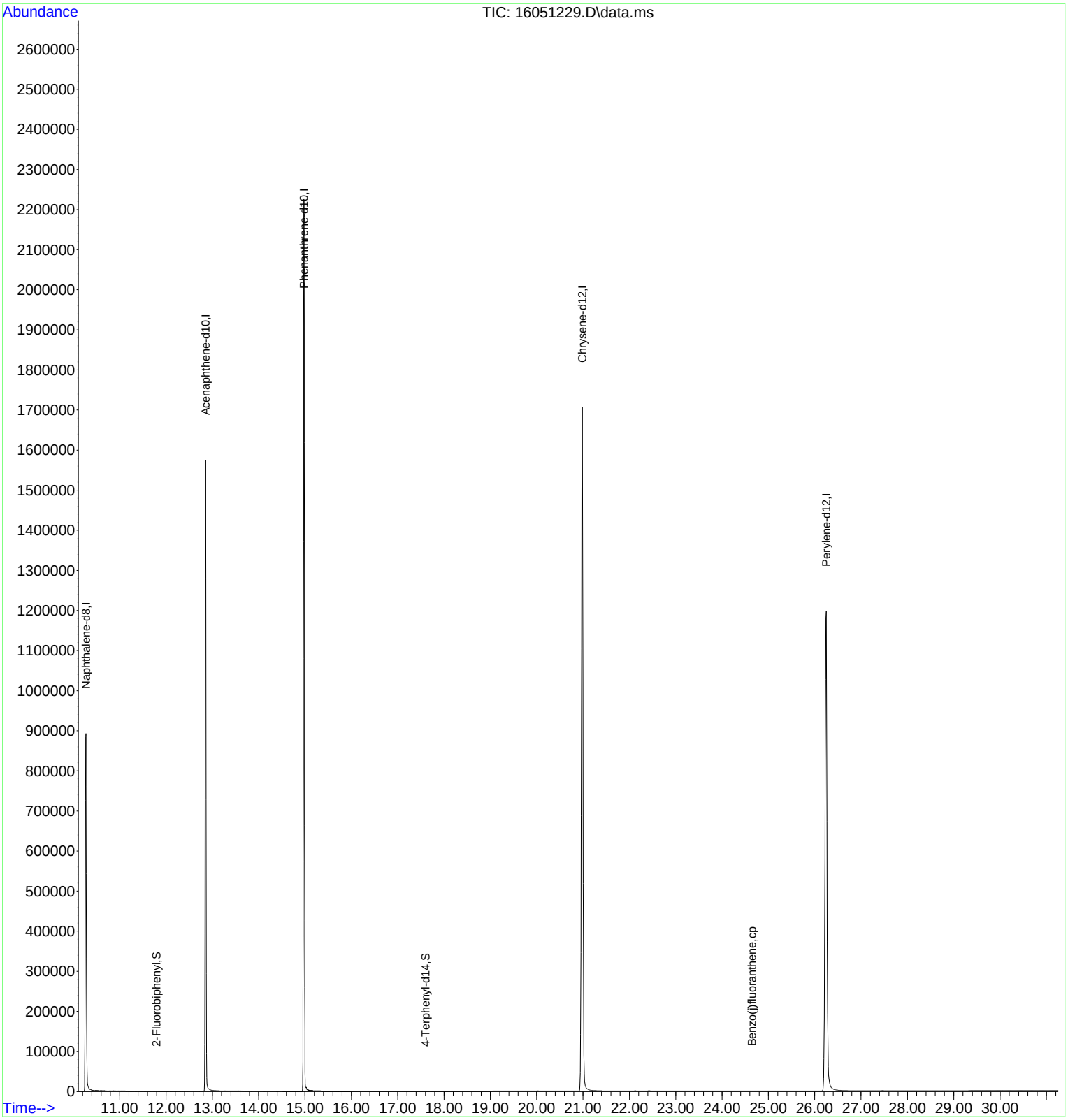
Target Compounds						Qvalue
23) Benzo(j)fluoranthene	24.652	252	64	0.12	ug/kg	81

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051229.D
Acq On : 13 May 2016 3:03 am
Operator :
Sample : SB-160512
Misc : SBLK
ALS Vial : 25 Sample Multiplier: 1

Quant Time: May 13 08:19:28 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\160512\
Data File : 16051230.D
Acq On : 13 May 2016 3:40 am
Operator :
Sample : 1605047-25A
Misc : SAMP
ALS Vial : 26 Sample Multiplier: 10

Quant Time: May 13 08:21:04 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	10.268	136	1511273	4000.00	ug/kg	97
6) Acenaphthene-d10	12.857	164	1083887	4000.00	ug/kg	111
11) Phenanthrene-d10	14.978	188	3014564	4000.00	ug/kg	97
16) Chrysene-d12	20.984	240	3287493	4000.00	ug/kg	94
20) Perylene-d12	26.251	264	2833422	4000.00	ug/kg	96

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.761	172	23982	80.74	ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 2.02%#			
17) 4-Terphenyl-d14	17.588	244	54108	71.23	ug/kg	-0.03
Spiked Amount 4000.000	Range 51 - 135		Recovery = 1.78%#			

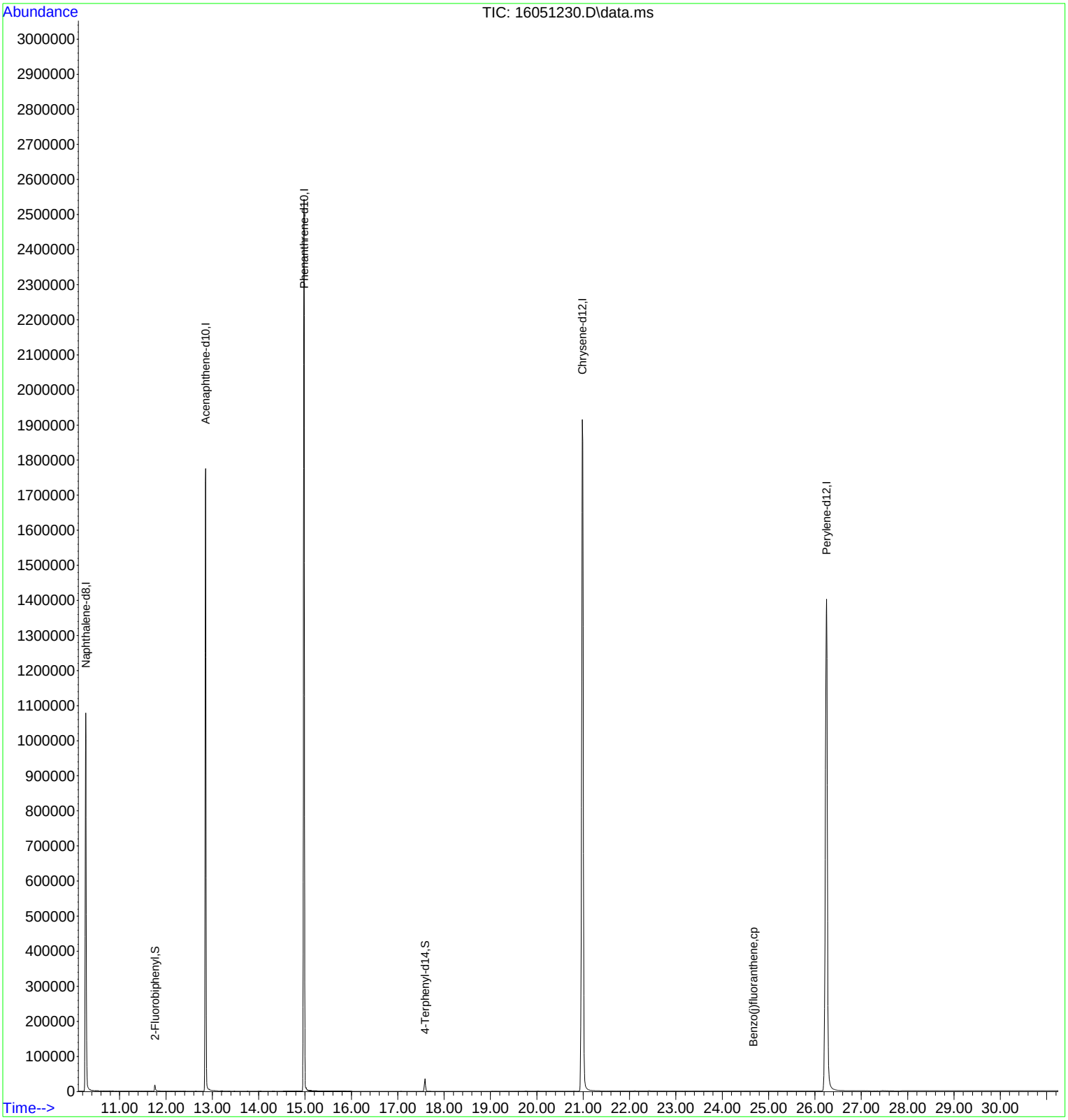
Target Compounds						Qvalue
23) Benzo(j)fluoranthene	24.669	252	84	0.13	ug/kg#	52

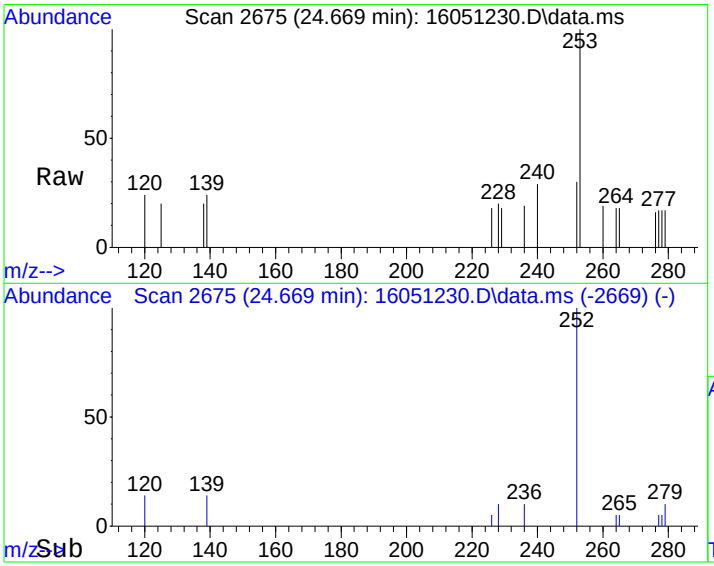
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051230.D
Acq On : 13 May 2016 3:40 am
Operator :
Sample : 1605047-25A
Misc : SAMP
ALS Vial : 26 Sample Multiplier: 10

Quant Time: May 13 08:21:04 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

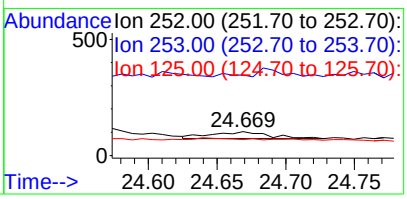




#23
Benzo(j)fluoranthene
Concen: 0.13 ug/kg
RT: 24.669 min Scan# 2675
Delta R.T. -0.021 min
Lab File: 16051230.D
Acq: 13 May 2016 3:40 am

Tgt Ion:252 Resp: 84

Ion	Ratio	Lower	Upper
252	100		
253	52.4	2.3	42.3#
125	4.8	0.0	39.2



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051234.D
Acq On : 13 May 2016 6:07 am
Operator :
Sample : 1605047-45A
Misc : SAMP
ALS Vial : 30 Sample Multiplier: 1000

Quant Time: May 13 08:21:30 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	10.267	136	1480517	4000.00 ug/kg	95
6) Acenaphthene-d10	12.856	164	1169159	4000.00 ug/kg	120
11) Phenanthrene-d10	14.976	188	3280117	4000.00 ug/kg	106
16) Chrysene-d12	20.983	240	3176004	4000.00 ug/kg	91
20) Perylene-d12	26.249	264	2797321	4000.00 ug/kg	94

System Monitoring Compounds					Dev(Min)
5) 2-Fluorobiphenyl	11.764	172	213	0.73 ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery	= 0.02%#	
17) 4-Terphenyl-d14	17.589	244	1015	1.38 ug/kg	-0.03
Spiked Amount 4000.000	Range 51 - 135		Recovery	= 0.03%#	

Target Compounds					Qvalue
8) Acenaphthene	12.905	153	3436	9.88 ug/kg	98
10) Fluorene	13.558	166	3585	6.79 ug/kg	98
12) Phenanthrene	15.014	178	131525	138.54 ug/kg	97
13) Anthracene	15.056	178	31344	30.47 ug/kg	97
14) Fluoranthene	17.066	202	315760	254.15 ug/kg	100
15) Pyrene	17.696	202	262464	210.62 ug/kg	97
18) Benzo[a]anthracene	20.800	228	128772	144.24 ug/kg	99
19) Chrysene	21.071	228	140051	171.36 ug/kg	99
21) Benzo[b]fluoranthene	24.455	252	112250	140.90 ug/kg	99
22) Benzo[k]fluoranthene	24.543	252	47888	74.95 ug/kg	95
23) Benzo(j)fluoranthene	24.645	252	49738	77.01 ug/kg	91
24) Benzo(e)pyrene	25.729	252	80224	104.92 ug/kg	97
25) Benzo[a]pyrene	25.905	252	116693	159.38 ug/kg	98
26) Indeno[1,2,3-cd]pyrene	29.509	276	72060	88.83 ug/kg	89
27) Dibenz[a,h]anthracene	29.494	278	16444	24.87 ug/kg	99
28) Benzo[g,h,i]perylene	30.645	276	72305	102.15 ug/kg	97

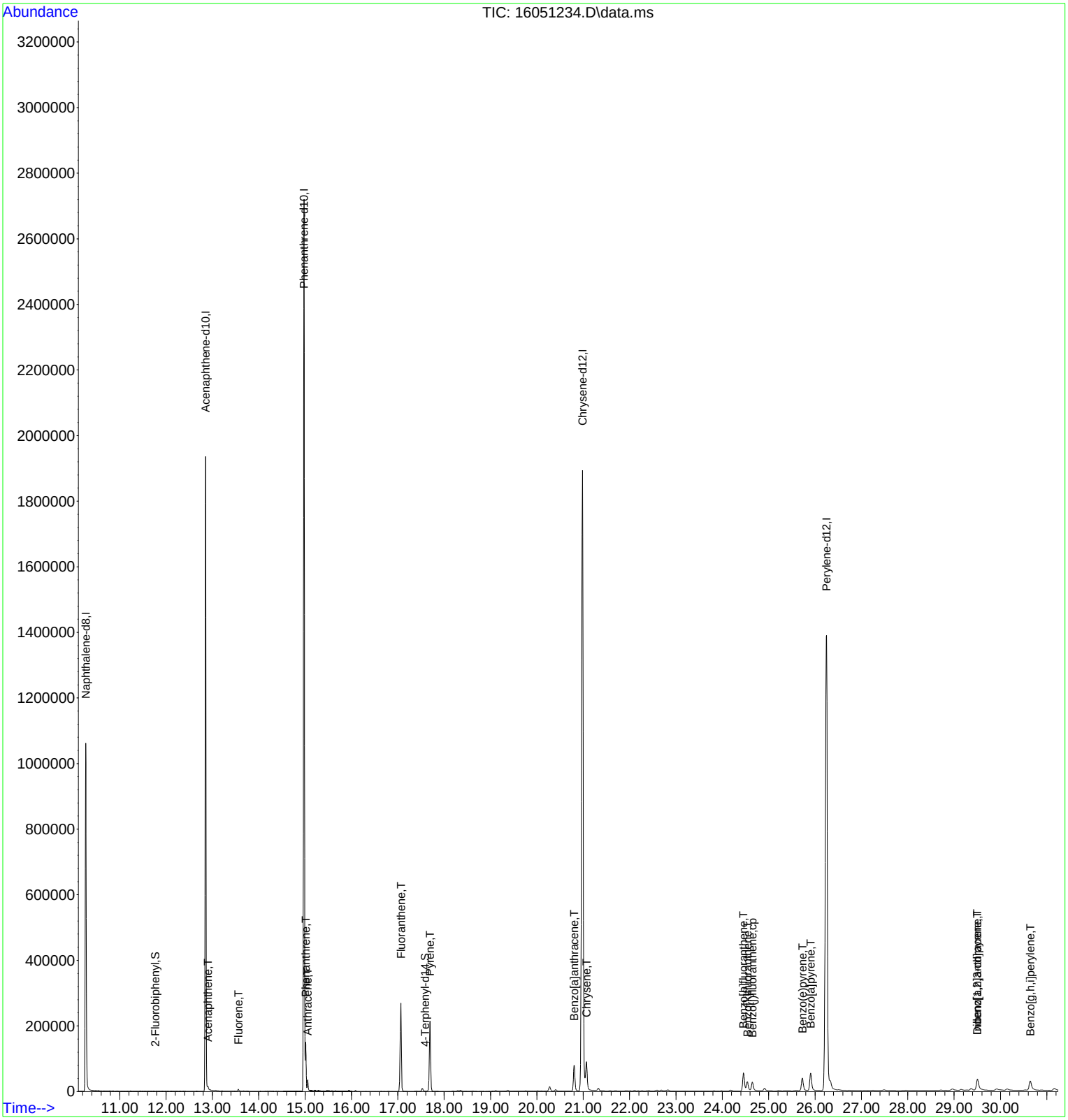
CONFIRMED
By Sherri Herschmann at 12:46:54 PM, 5/16/2016

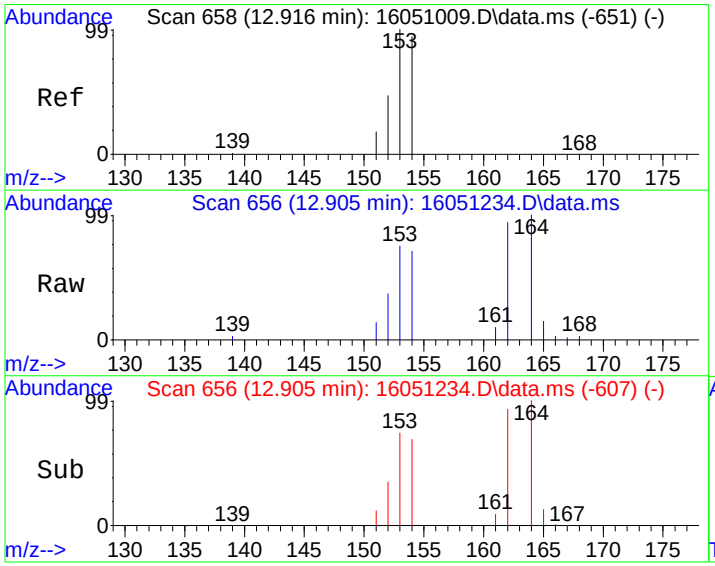
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051234.D
Acq On : 13 May 2016 6:07 am
Operator :
Sample : 1605047-45A
Misc : SAMP
ALS Vial : 30 Sample Multiplier: 1000

Quant Time: May 13 08:21:30 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

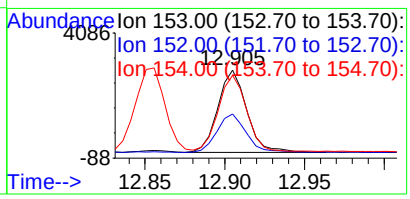


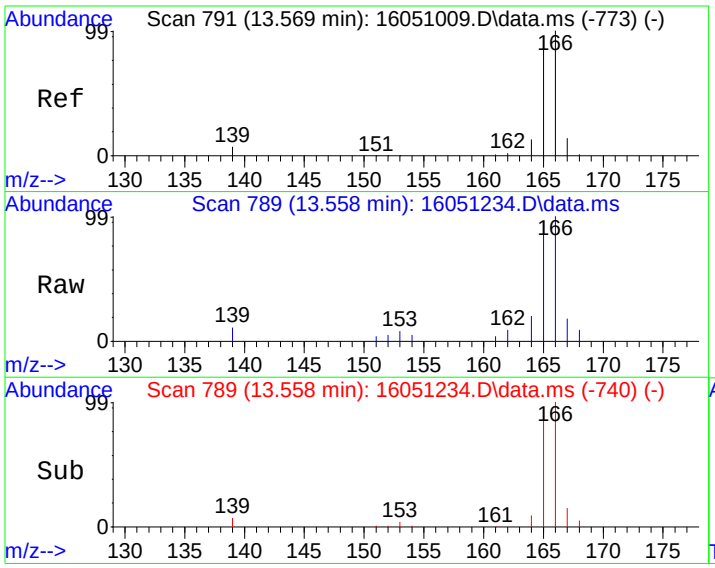


#8
Acenaphthene
Concen: 9.88 ug/kg
RT: 12.905 min Scan# 656
Delta R.T. -0.010 min
Lab File: 16051234.D
Acq: 13 May 2016 6:07 am

Tgt Ion:153 Resp: 3436

Ion	Ratio	Lower	Upper
153	100		
152	46.6	27.2	67.2
154	92.5	74.3	114.3

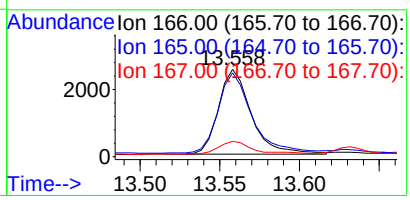


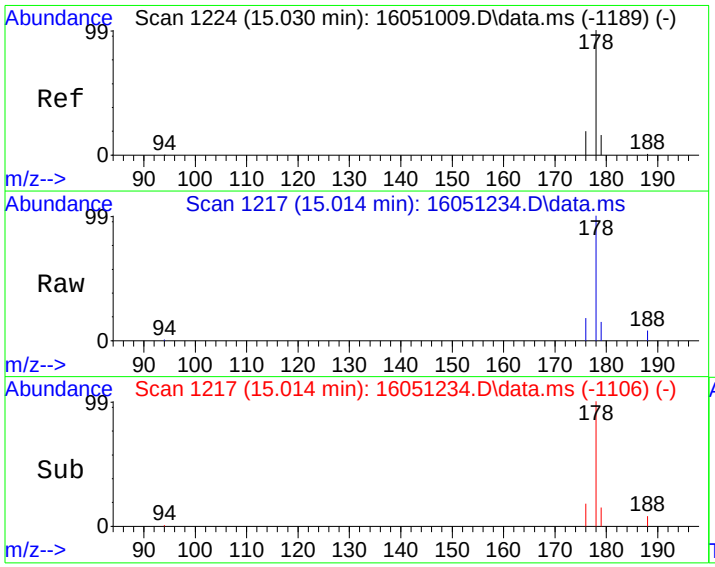


#10
Fluorene
Concen: 6.79 ug/kg
RT: 13.558 min Scan# 789
Delta R.T. -0.011 min
Lab File: 16051234.D
Acq: 13 May 2016 6:07 am

Tgt Ion:166 Resp: 3585

Ion	Ratio	Lower	Upper
166	100		
165	94.1	71.9	111.9
167	14.8	0.0	33.8

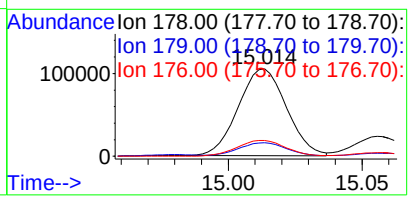


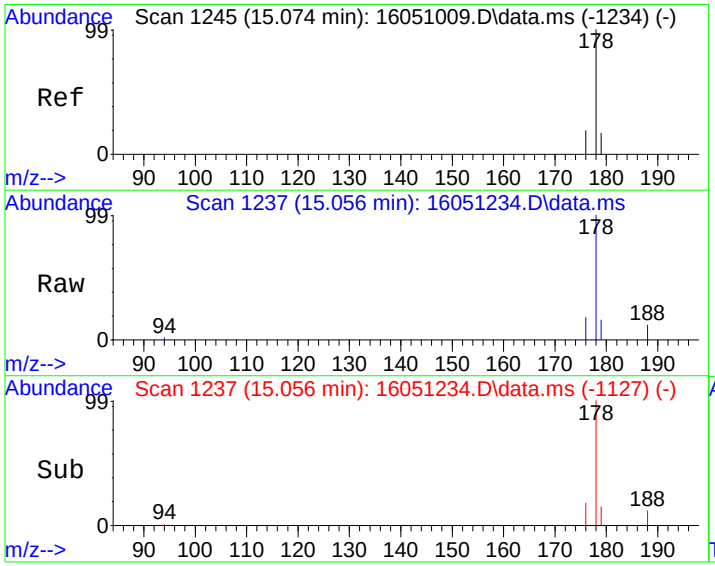


#12
Phenanthrene
Concen: 138.54 ug/kg
RT: 15.014 min Scan# 1217
Delta R.T. -0.015 min
Lab File: 16051234.D
Acq: 13 May 2016 6:07 am

Tgt Ion:178 Resp: 131525

Ion	Ratio	Lower	Upper
178	100		
179	14.9	0.0	36.4
176	18.0	0.0	39.2

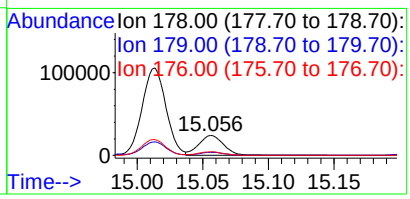


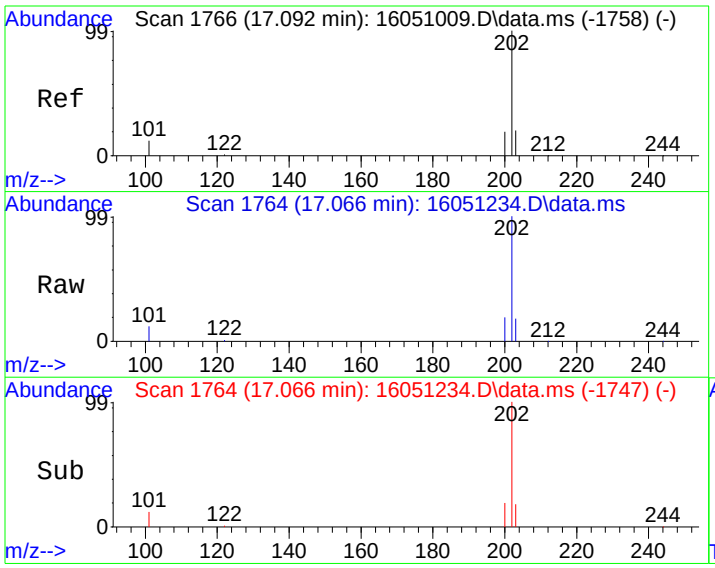


#13
Anthracene
Concen: 30.47 ug/kg
RT: 15.056 min Scan# 1237
Delta R.T. -0.017 min
Lab File: 16051234.D
Acq: 13 May 2016 6:07 am

Tgt Ion:178 Resp: 31344

Ion	Ratio	Lower	Upper
178	100		
179	15.3	0.0	36.5
176	17.5	0.0	38.6

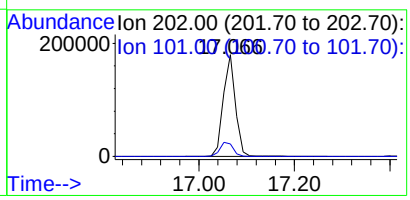


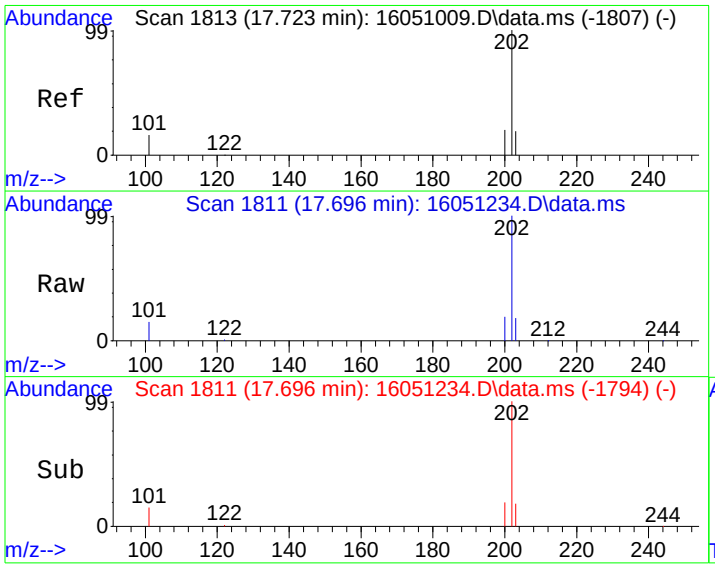


#14
Fluoranthene
Concen: 254.15 ug/kg
RT: 17.066 min Scan# 1764
Delta R.T. -0.026 min
Lab File: 16051234.D
Acq: 13 May 2016 6:07 am

Tgt Ion:202 Resp: 315760

Ion	Ratio	Lower	Upper
202	100		
101	12.1	0.0	32.0

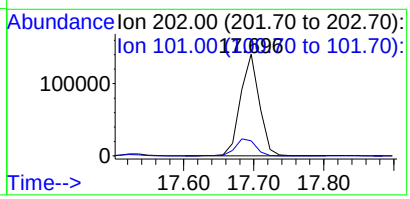


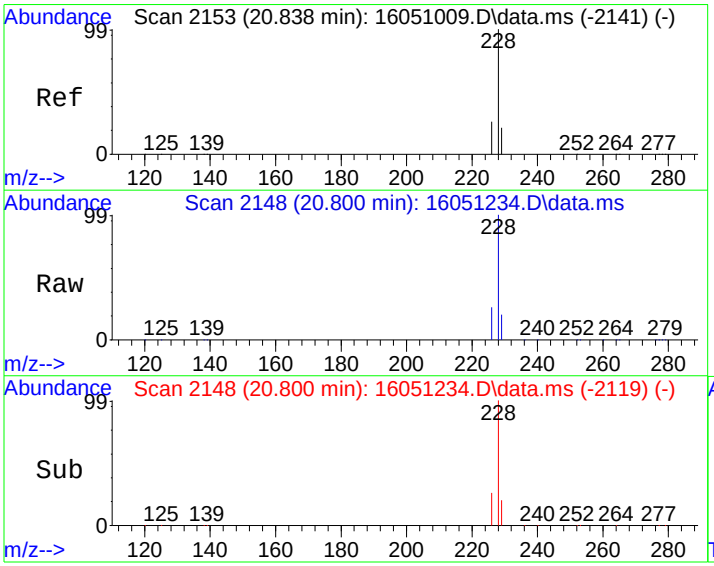


#15
Pyrene
Concen: 210.62 ug/kg
RT: 17.696 min Scan# 1811
Delta R.T. -0.026 min
Lab File: 16051234.D
Acq: 13 May 2016 6:07 am

Tgt Ion:202 Resp: 262464

Ion	Ratio	Lower	Upper
202	100		
101	14.7	0.0	35.9

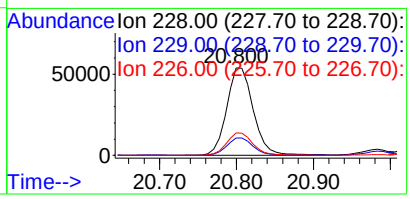


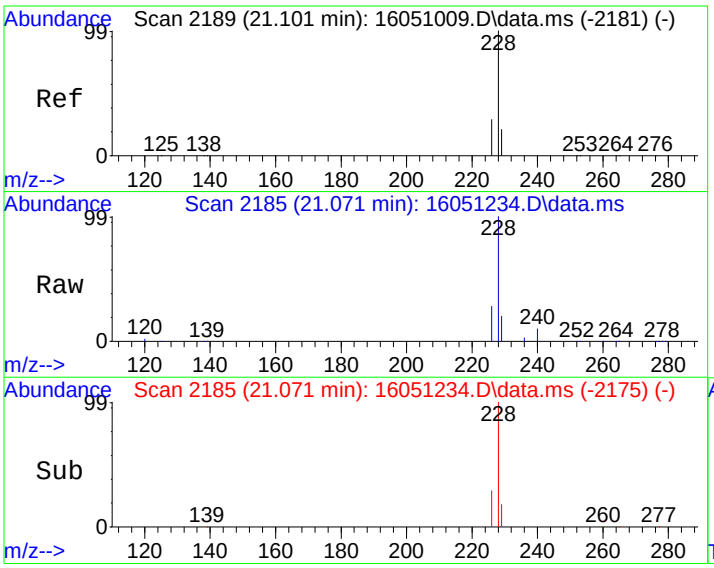


#18
Benzo[a]anthracene
Concen: 144.24 ug/kg
RT: 20.800 min Scan# 2148
Delta R.T. -0.037 min
Lab File: 16051234.D
Acq: 13 May 2016 6:07 am

Tgt Ion:228 Resp: 128772

Ion	Ratio	Lower	Upper
228	100		
229	19.7	0.7	40.7
226	25.7	5.9	45.9

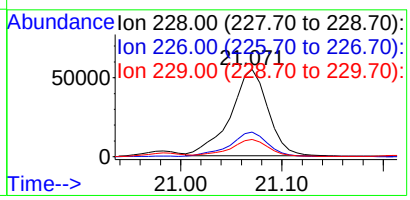


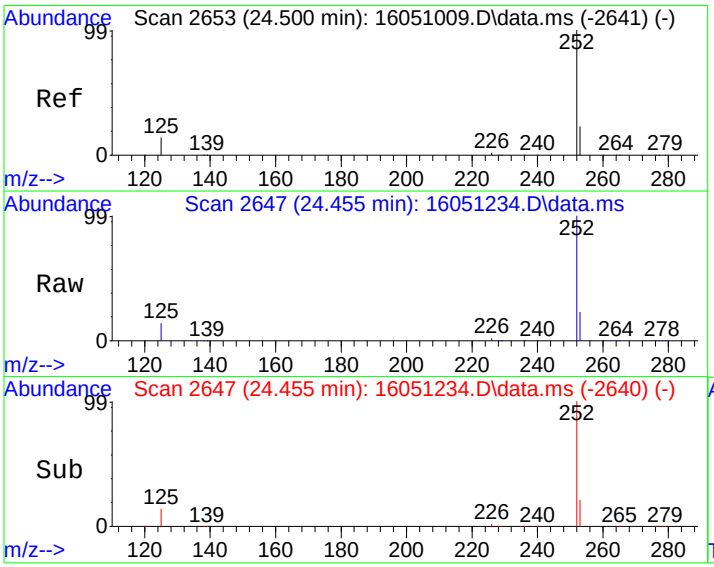


#19
Chrysene
Concen: 171.36 ug/kg
RT: 21.071 min Scan# 2185
Delta R.T. -0.030 min
Lab File: 16051234.D
Acq: 13 May 2016 6:07 am

Tgt Ion:228 Resp: 140051

Ion	Ratio	Lower	Upper
228	100		
226	28.1	8.8	48.8
229	19.8	0.5	40.5

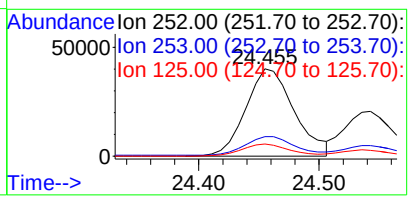


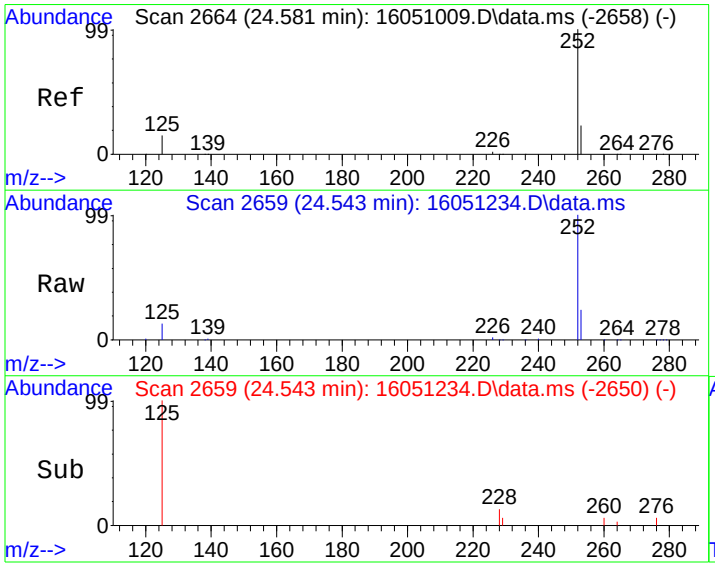


#21
Benzo[b]fluoranthene
Concen: 140.90 ug/kg
RT: 24.455 min Scan# 2647
Delta R.T. -0.045 min
Lab File: 16051234.D
Acq: 13 May 2016 6:07 am

Tgt Ion:252 Resp: 112250

Ion	Ratio	Lower	Upper
252	100		
253	21.5	2.6	42.6
125	13.8	0.0	33.8

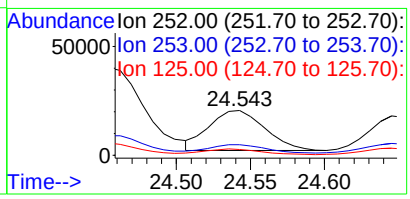


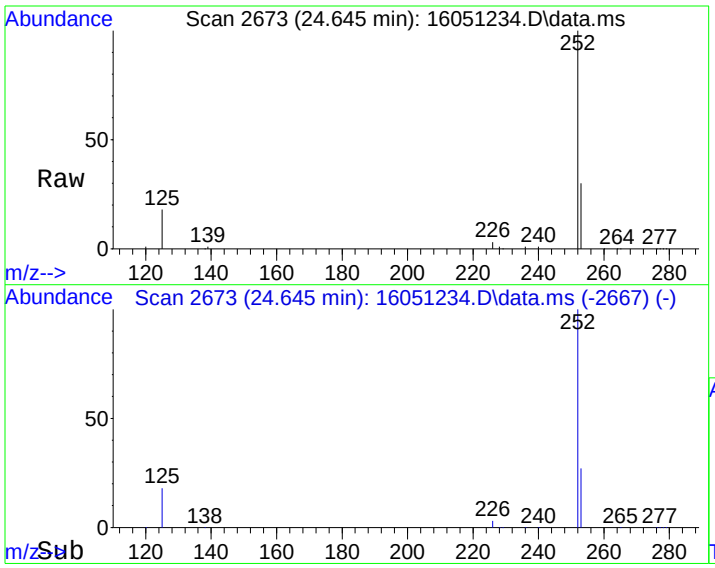


#22
Benzo[k]fluoranthene
Concen: 74.95 ug/kg
RT: 24.543 min Scan# 2659
Delta R.T. -0.037 min
Lab File: 16051234.D
Acq: 13 May 2016 6:07 am

Tgt Ion:252 Resp: 47888

Ion	Ratio	Lower	Upper
252	100		
253	20.5	2.8	42.8
125	12.5	0.0	34.7

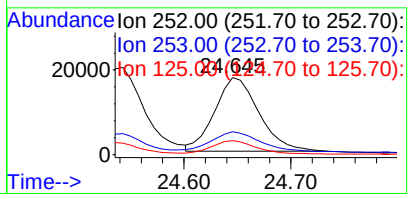


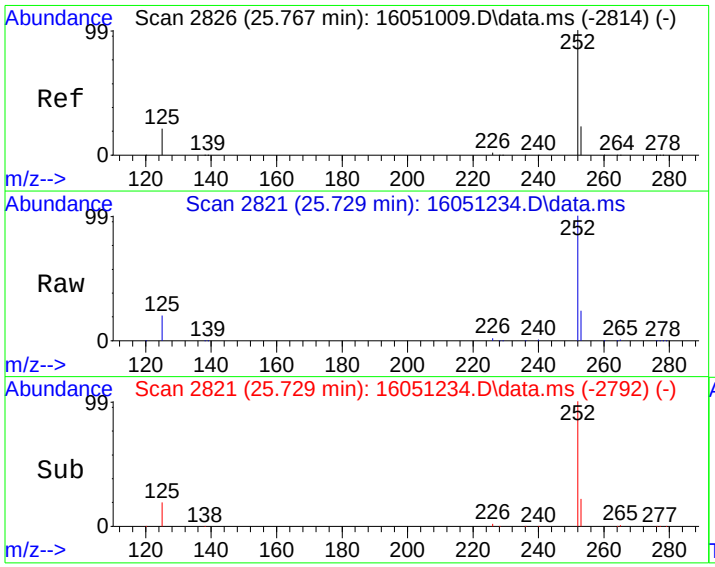


#23
Benzo(j)fluoranthene
Concen: 77.01 ug/kg
RT: 24.645 min Scan# 2673
Delta R.T. -0.045 min
Lab File: 16051234.D
Acq: 13 May 2016 6:07 am

Tgt Ion:252 Resp: 49738

Ion	Ratio	Lower	Upper
252	100		
253	29.5	2.3	42.3
125	18.2	0.0	39.2

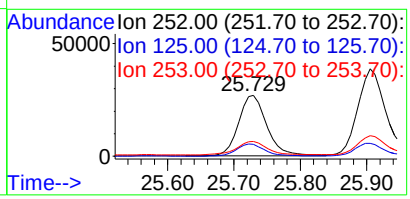


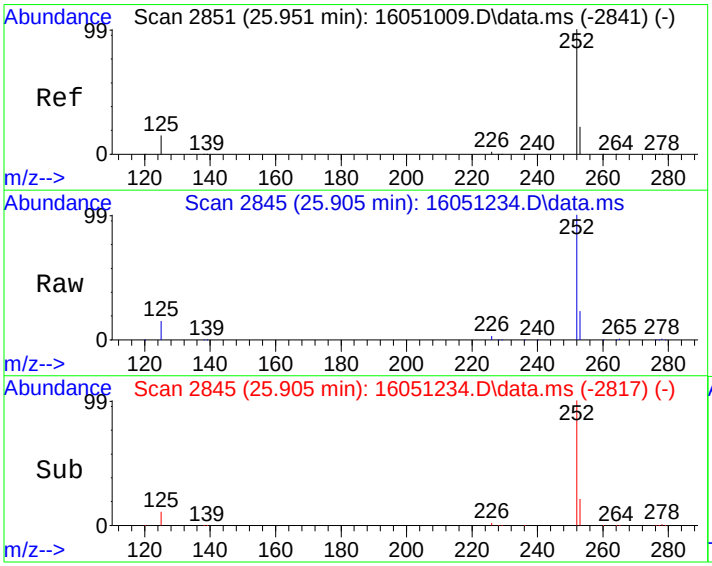


#24
Benzo(e)pyrene
Concen: 104.92 ug/kg
RT: 25.729 min Scan# 2821
Delta R.T. -0.038 min
Lab File: 16051234.D
Acq: 13 May 2016 6:07 am

Tgt Ion:252 Resp: 80224

Ion	Ratio	Lower	Upper
252	100		
125	19.6	0.8	40.8
253	24.0	2.4	42.4

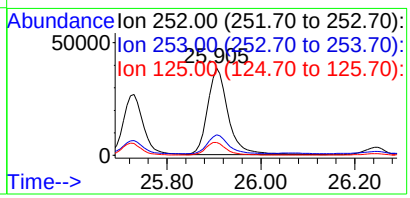


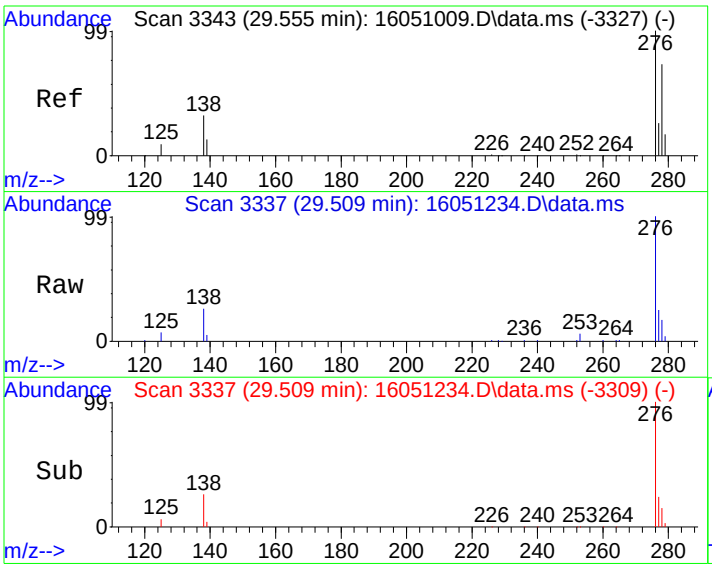


#25
Benzo[a]pyrene
Concen: 159.38 ug/kg
RT: 25.905 min Scan# 2845
Delta R.T. -0.045 min
Lab File: 16051234.D
Acq: 13 May 2016 6:07 am

Tgt Ion:252 Resp: 116693

Ion	Ratio	Lower	Upper
252	100		
253	21.8	2.5	42.5
125	14.6	0.0	35.5

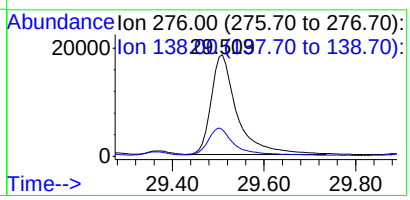


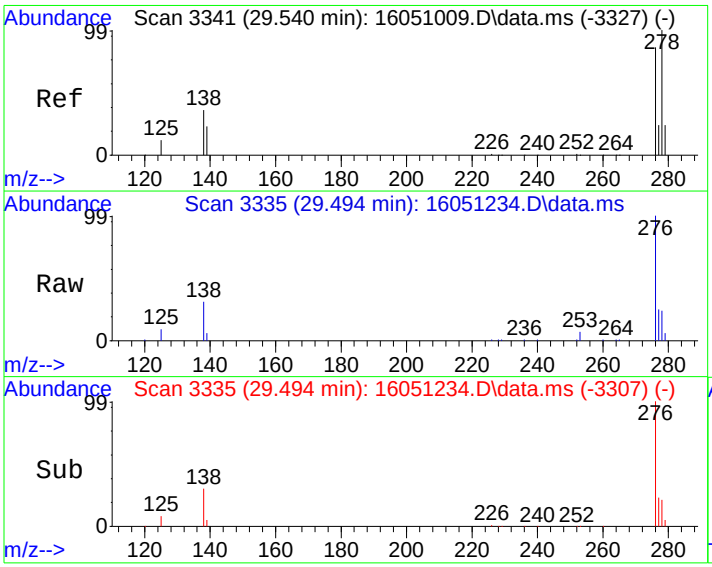


#26
Indeno[1,2,3-cd]pyrene
Concen: 88.83 ug/kg
RT: 29.509 min Scan# 3337
Delta R.T. -0.045 min
Lab File: 16051234.D
Acq: 13 May 2016 6:07 am

Tgt Ion:276 Resp: 72060

Ion	Ratio	Lower	Upper
276	100		
138	25.6	12.0	52.0

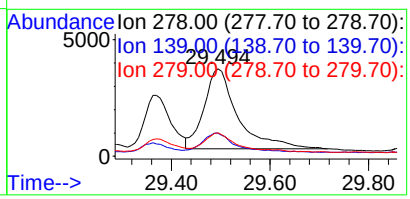


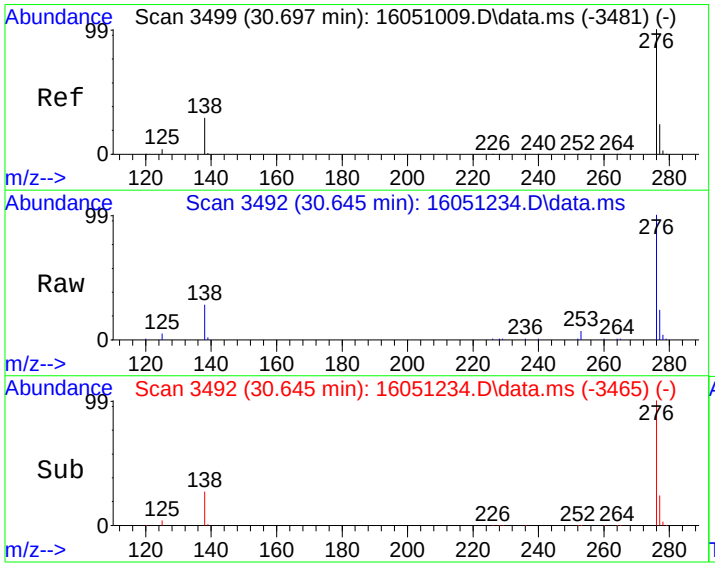


#27
Dibenz[a,h]anthracene
Concen: 24.87 ug/kg
RT: 29.494 min Scan# 3335
Delta R.T. -0.045 min
Lab File: 16051234.D
Acq: 13 May 2016 6:07 am

Tgt Ion:278 Resp: 16444

Ion	Ratio	Lower	Upper
278	100		
139	23.6	2.9	42.9
279	23.8	4.4	44.4

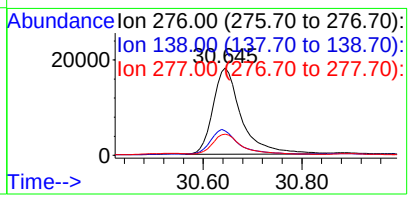




#28
Benzo[g,h,i]perylene
Concen: 102.15 ug/kg
RT: 30.645 min Scan# 3492
Delta R.T. -0.052 min
Lab File: 16051234.D
Acq: 13 May 2016 6:07 am

Tgt Ion:276 Resp: 72305

Ion	Ratio	Lower	Upper
276	100		
138	26.9	9.3	49.3
277	23.4	4.3	44.3



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051235.D
Acq On : 13 May 2016 6:44 am
Operator :
Sample : 1605047-46A
Misc : SAMP
ALS Vial : 31 Sample Multiplier: 1000

Quant Time: May 13 08:21:39 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	10.268	136	1452260	4000.00 ug/kg	93
6) Acenaphthene-d10	12.857	164	1139456	4000.00 ug/kg	117
11) Phenanthrene-d10	14.977	188	3182303	4000.00 ug/kg	102
16) Chrysene-d12	20.983	240	3083406	4000.00 ug/kg	88
20) Perylene-d12	26.243	264	2742422	4000.00 ug/kg	92

System Monitoring Compounds					Dev(Min)
5) 2-Fluorobiphenyl	11.765	172	259	0.91 ug/kg	0.00
Spiked Amount 4000.000	Range 40 - 140		Recovery = 0.02%#		
17) 4-Terphenyl-d14	17.588	244	1067	1.50 ug/kg	-0.03
Spiked Amount 4000.000	Range 51 - 135		Recovery = 0.04%#		

Target Compounds					Qvalue
2) Naphthalene	10.305	128	3388	9.63 ug/kg	99
8) Acenaphthene	12.906	153	7022	20.72 ug/kg	98
12) Phenanthrene	15.012	178	63953	69.44 ug/kg	97
13) Anthracene	15.057	178	12677	12.70 ug/kg	97
14) Fluoranthene	17.065	202	447398	371.18 ug/kg	98
15) Pyrene	17.695	202	431026	356.52 ug/kg	98
18) Benzo[a]anthracene	20.808	228	255508	294.78 ug/kg	98
19) Chrysene	21.071	228	305119	384.54 ug/kg	99
21) Benzo[b]fluoranthene	24.456	252	317280	406.24 ug/kg	99
22) Benzo[k]fluoranthene	24.543	252	128101	204.50 ug/kg	94
23) Benzo(j)fluoranthene	24.646	252	128836	203.48 ug/kg	90
24) Benzo(e)pyrene	25.730	252	235551	314.23 ug/kg	97
25) Benzo[a]pyrene	25.906	252	328468	457.59 ug/kg	99
26) Indeno[1,2,3-cd]pyrene	29.510	276	231128	290.63 ug/kg	88
27) Dibenz[a,h]anthracene	29.495	278	46779	72.15 ug/kg	99
28) Benzo[g,h,i]perylene	30.645	276	243935	351.52 ug/kg	98

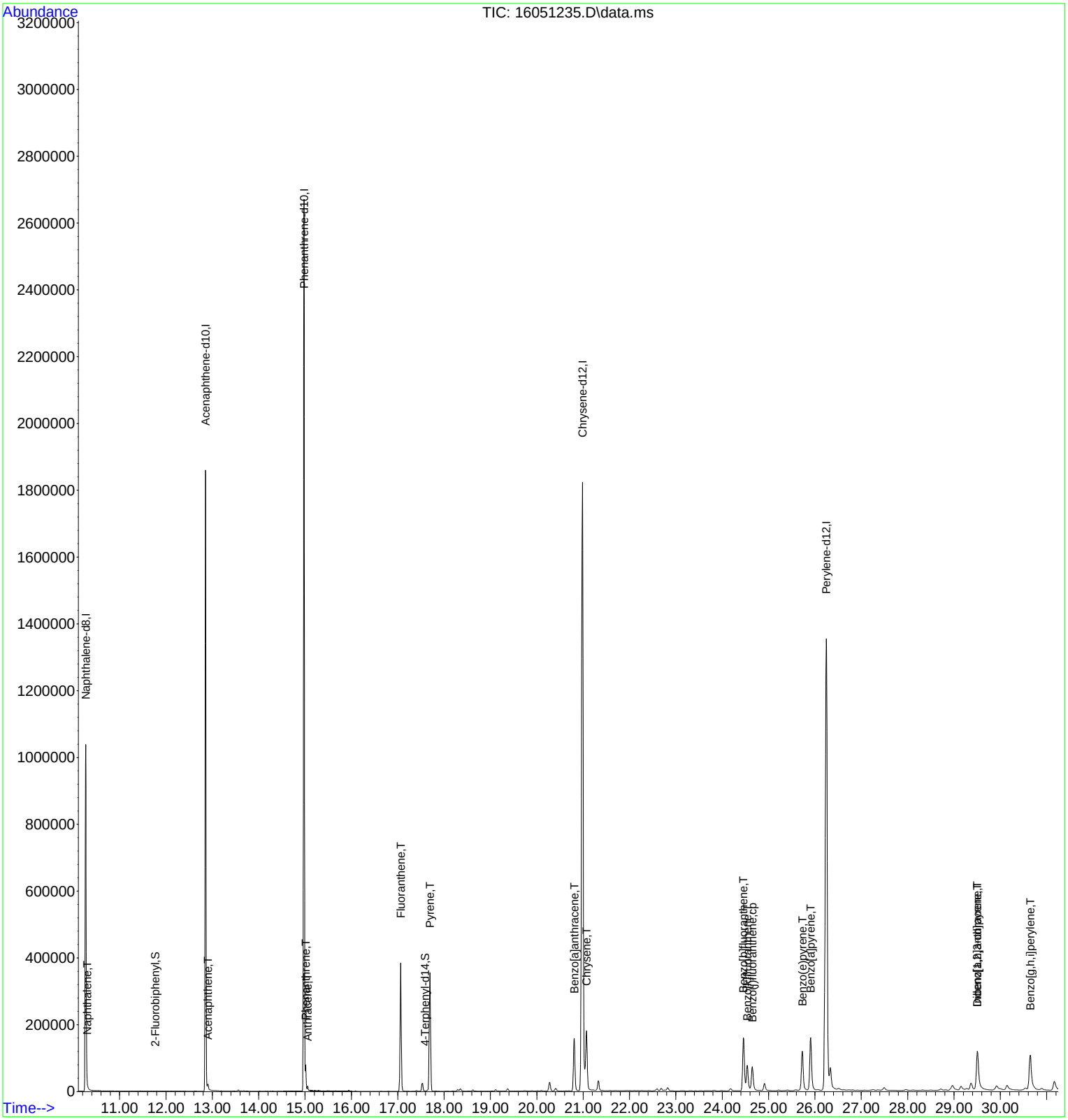
CONFIRMED
By Sherri Herschmann at 12:47:41 PM, 5/16/2016

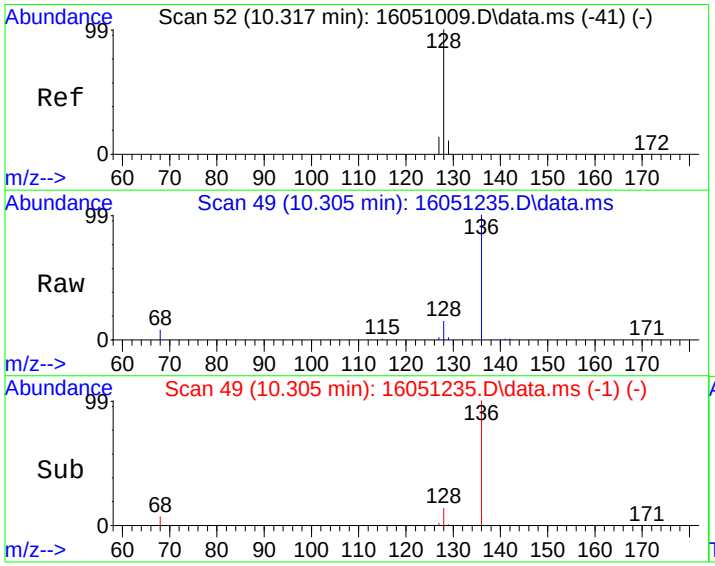
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051235.D
Acq On : 13 May 2016 6:44 am
Operator :
Sample : 1605047-46A
Misc : SAMP
ALS Vial : 31 Sample Multiplier: 1000

Quant Time: May 13 08:21:39 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

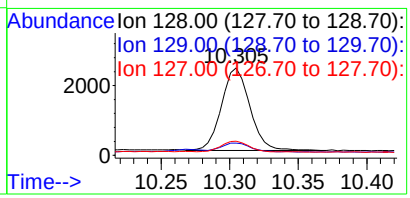


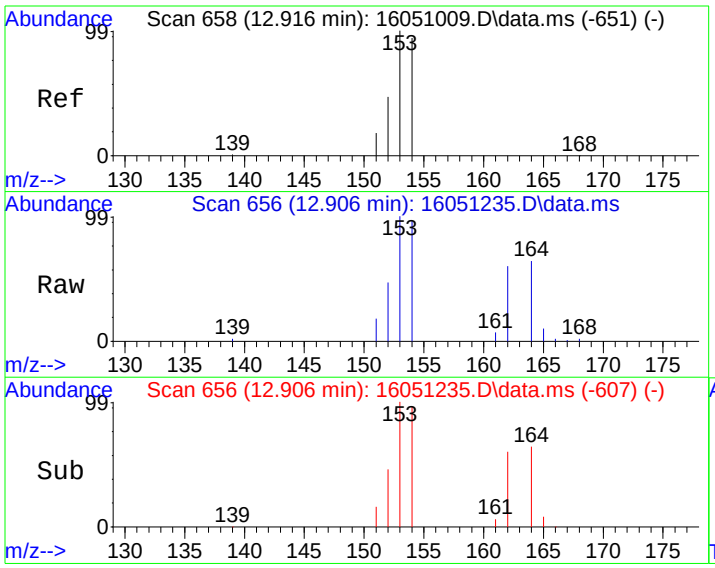


#2
Naphthalene
Concen: 9.63 ug/kg
RT: 10.305 min Scan# 49
Delta R.T. -0.012 min
Lab File: 16051235.D
Acq: 13 May 2016 6:44 am

Tgt Ion:128 Resp: 3388

Ion	Ratio	Lower	Upper
128	100		
129	10.8	0.0	31.3
127	13.2	0.0	33.5

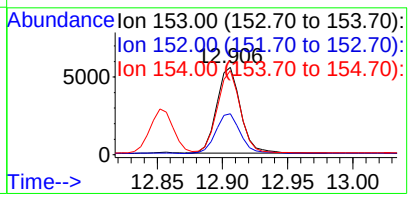


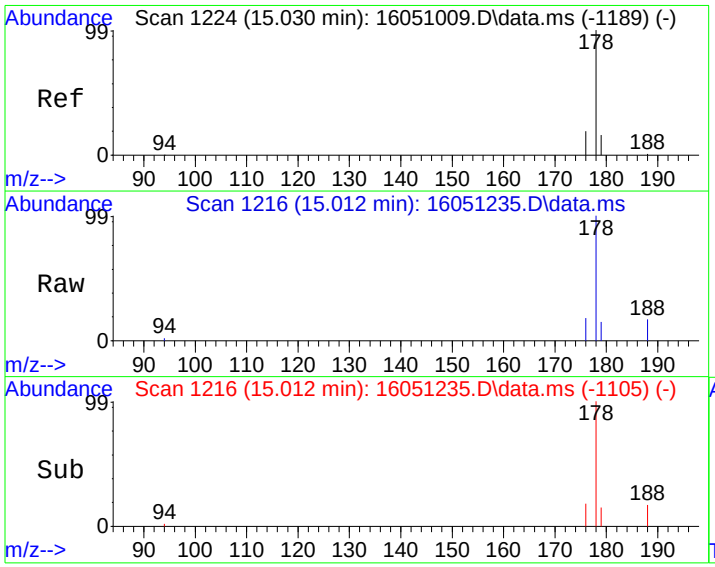


#8
Acenaphthene
Concen: 20.72 ug/kg
RT: 12.906 min Scan# 656
Delta R.T. -0.009 min
Lab File: 16051235.D
Acq: 13 May 2016 6:44 am

Tgt Ion:153 Resp: 7022

Ion	Ratio	Lower	Upper
153	100		
152	45.9	27.2	67.2
154	95.7	74.3	114.3

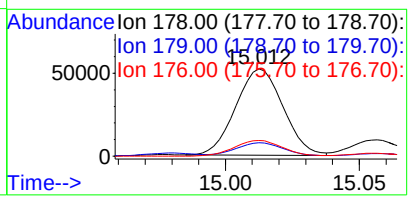


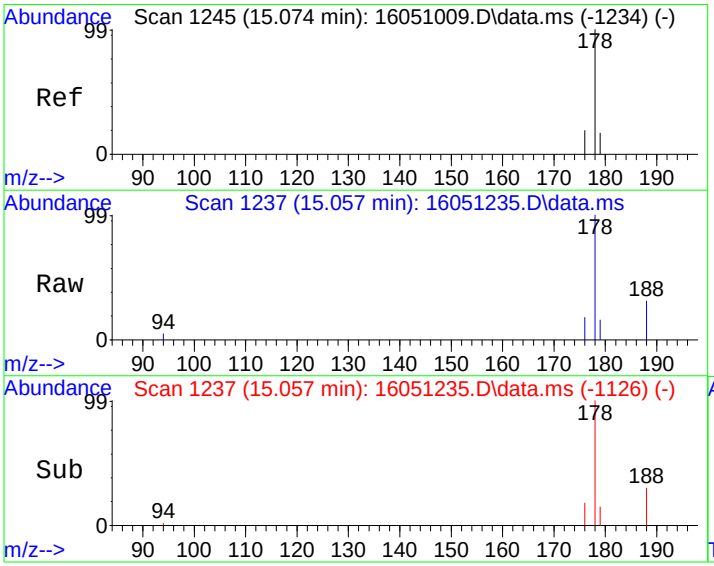


#12
Phenanthrene
Concen: 69.44 ug/kg
RT: 15.012 min Scan# 1216
Delta R.T. -0.017 min
Lab File: 16051235.D
Acq: 13 May 2016 6:44 am

Tgt Ion:178 Resp: 63953

Ion	Ratio	Lower	Upper
178	100		
179	14.9	0.0	36.4
176	18.2	0.0	39.2

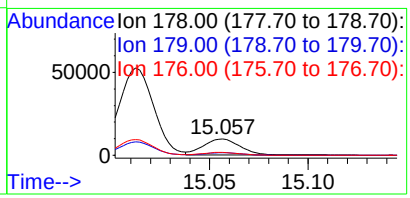


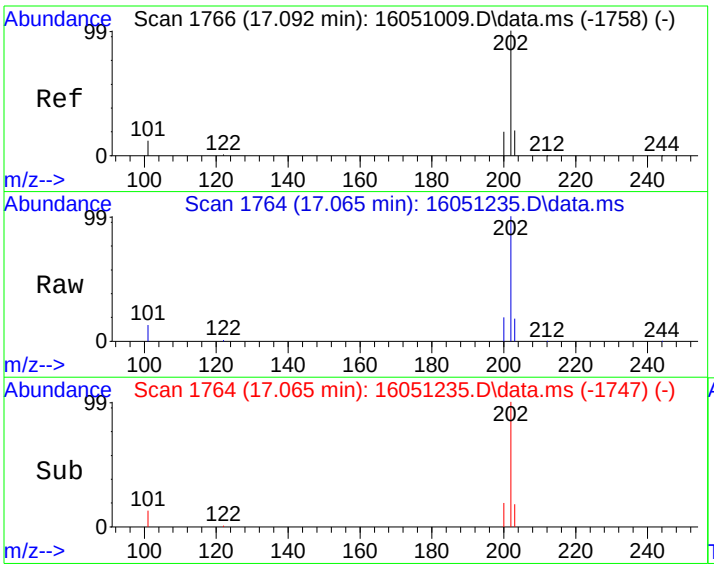


#13
Anthracene
Concen: 12.70 ug/kg
RT: 15.057 min Scan# 1237
Delta R.T. -0.016 min
Lab File: 16051235.D
Acq: 13 May 2016 6:44 am

Tgt Ion:178 Resp: 12677

Ion	Ratio	Lower	Upper
178	100		
179	14.8	0.0	36.5
176	17.5	0.0	38.6

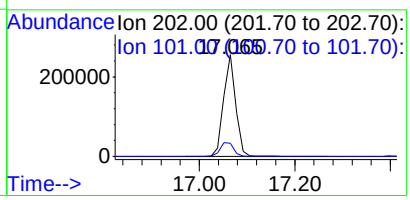


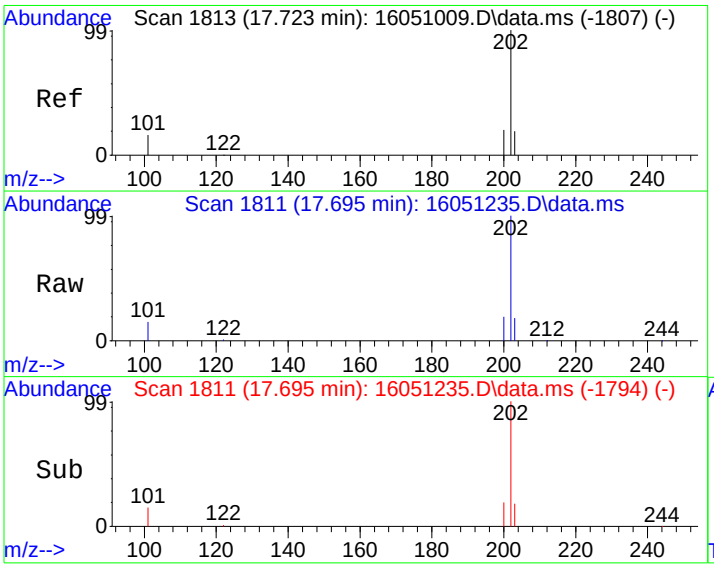


#14
Fluoranthene
Concen: 371.18 ug/kg
RT: 17.065 min Scan# 1764
Delta R.T. -0.027 min
Lab File: 16051235.D
Acq: 13 May 2016 6:44 am

Tgt Ion:202 Resp: 447398

Ion	Ratio	Lower	Upper
202	100		
101	12.7	0.0	32.0

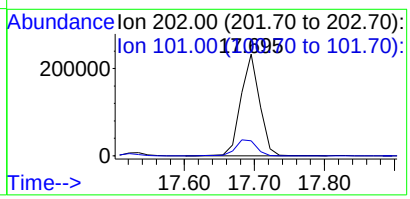


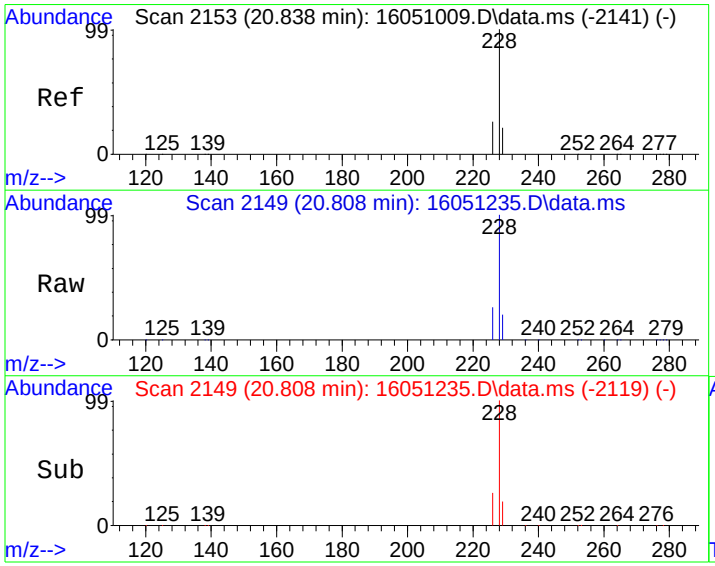


#15
Pyrene
Concen: 356.52 ug/kg
RT: 17.695 min Scan# 1811
Delta R.T. -0.027 min
Lab File: 16051235.D
Acq: 13 May 2016 6:44 am

Tgt Ion:202 Resp: 431026

Ion	Ratio	Lower	Upper
202	100		
101	14.9	0.0	35.9

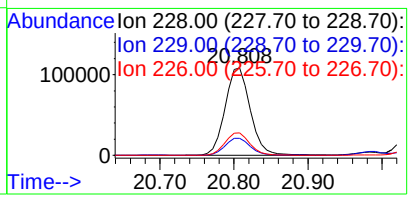


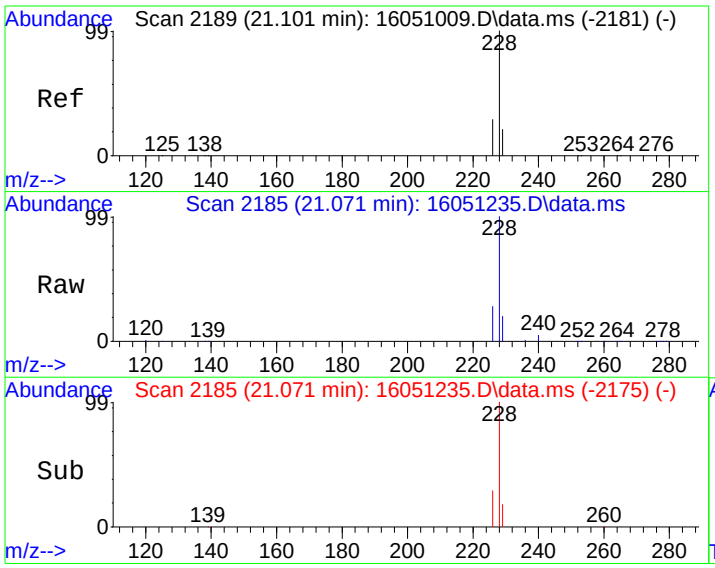


#18
Benzo[a]anthracene
Concen: 294.78 ug/kg
RT: 20.808 min Scan# 2149
Delta R.T. -0.029 min
Lab File: 16051235.D
Acq: 13 May 2016 6:44 am

Tgt Ion:228 Resp: 255508

Ion	Ratio	Lower	Upper
228	100		
229	19.4	0.7	40.7
226	25.6	5.9	45.9

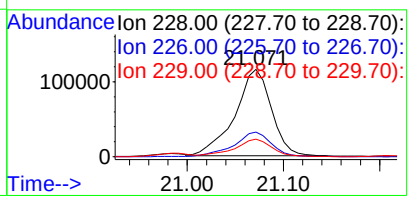


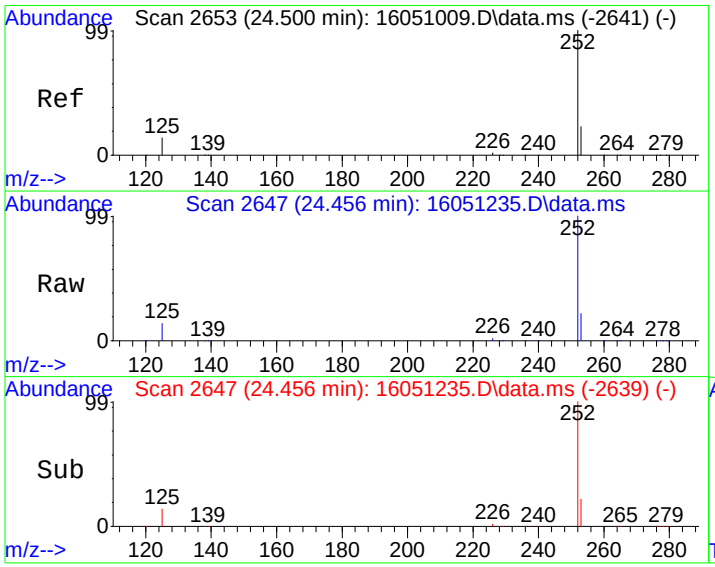


#19
Chrysene
Concen: 384.54 ug/kg
RT: 21.071 min Scan# 2185
Delta R.T. -0.030 min
Lab File: 16051235.D
Acq: 13 May 2016 6:44 am

Tgt Ion:228 Resp: 305119

Ion	Ratio	Lower	Upper
228	100		
226	28.3	8.8	48.8
229	20.0	0.5	40.5

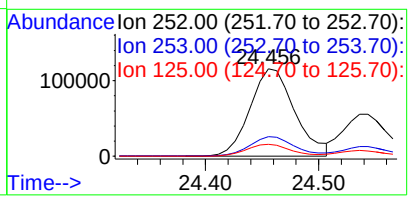


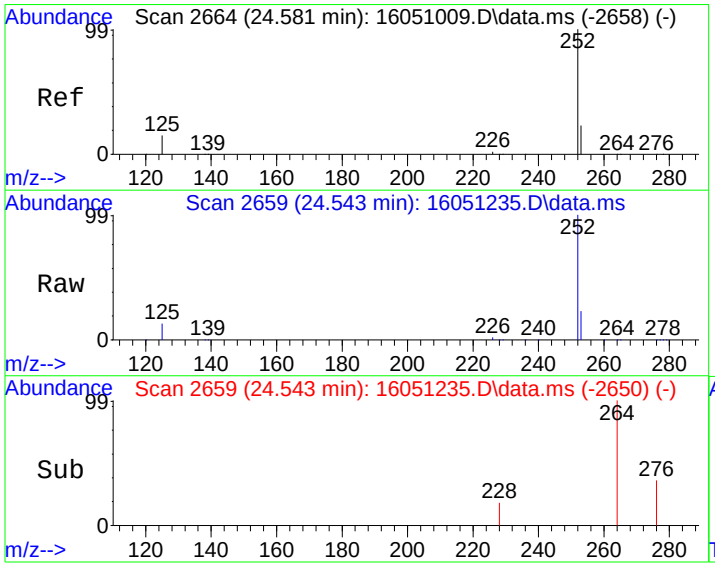


#21
Benzo[b]fluoranthene
Concen: 406.24 ug/kg
RT: 24.456 min Scan# 2647
Delta R.T. -0.044 min
Lab File: 16051235.D
Acq: 13 May 2016 6:44 am

Tgt Ion:252 Resp: 317280

Ion	Ratio	Lower	Upper
252	100		
253	22.0	2.6	42.6
125	13.6	0.0	33.8

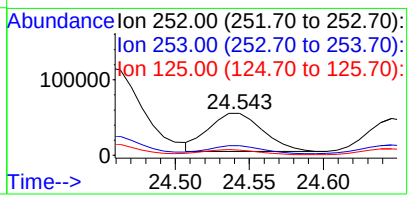


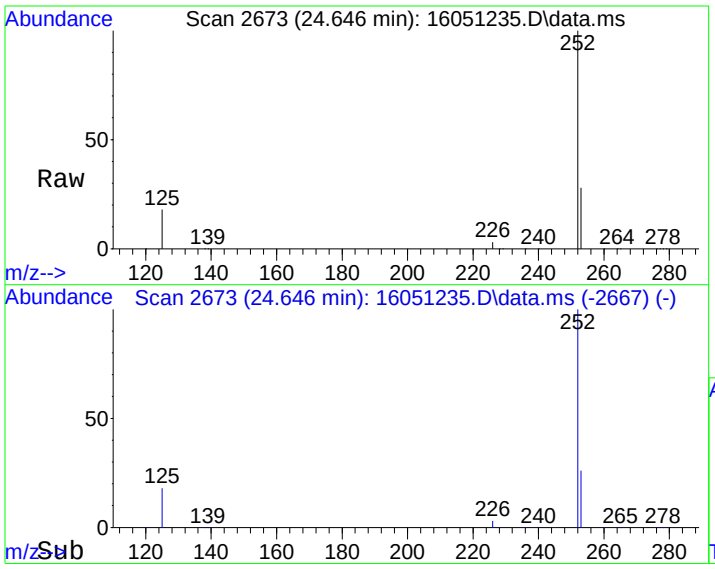


#22
Benzo[k]fluoranthene
Concen: 204.50 ug/kg
RT: 24.543 min Scan# 2659
Delta R.T. -0.037 min
Lab File: 16051235.D
Acq: 13 May 2016 6:44 am

Tgt Ion:252 Resp: 128101

Ion	Ratio	Lower	Upper
252	100		
253	20.3	2.8	42.8
125	12.1	0.0	34.7

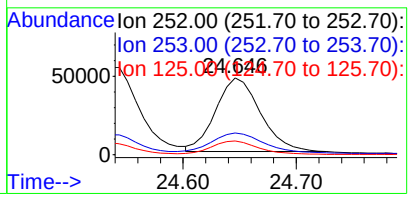


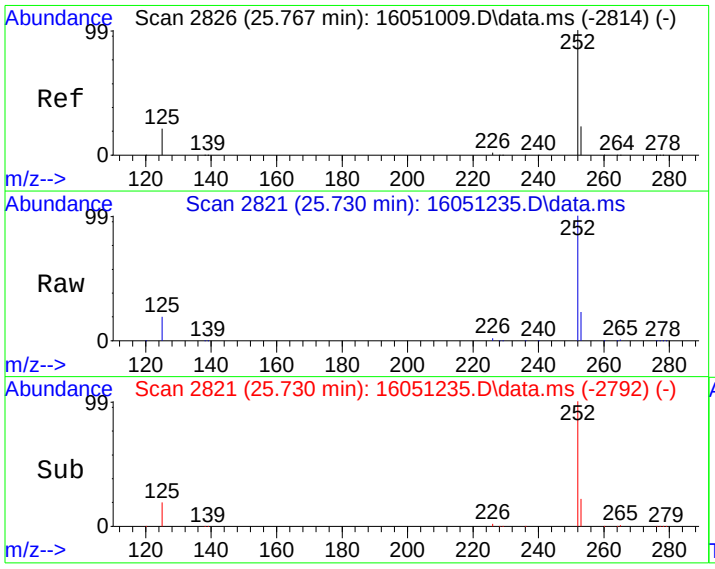


#23
Benzo(j)fluoranthene
Concen: 203.48 ug/kg
RT: 24.646 min Scan# 2673
Delta R.T. -0.044 min
Lab File: 16051235.D
Acq: 13 May 2016 6:44 am

Tgt Ion:252 Resp: 128836

Ion	Ratio	Lower	Upper
252	100		
253	30.9	2.3	42.3
125	18.4	0.0	39.2

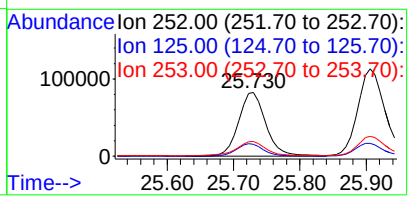


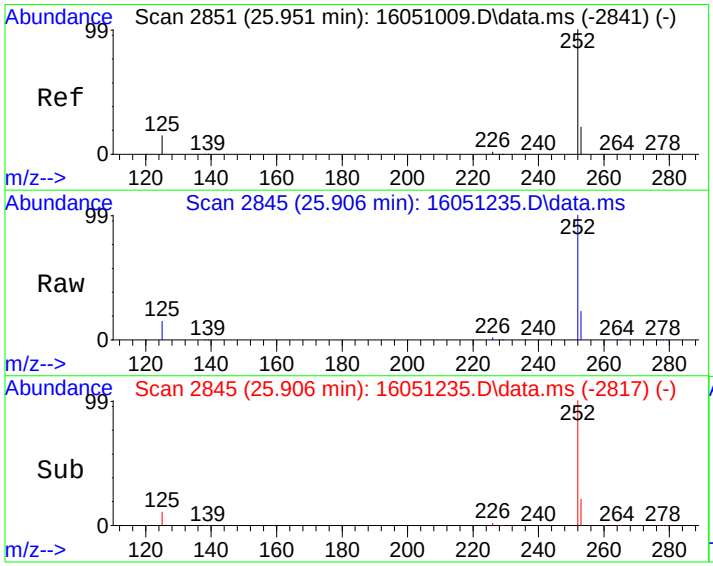


#24
Benzo(e)pyrene
Concen: 314.23 ug/kg
RT: 25.730 min Scan# 2821
Delta R.T. -0.037 min
Lab File: 16051235.D
Acq: 13 May 2016 6:44 am

Tgt Ion:252 Resp: 235551

Ion	Ratio	Lower	Upper
252	100		
125	19.5	0.8	40.8
253	24.1	2.4	42.4

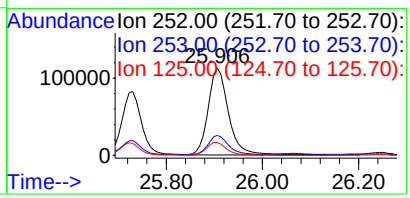


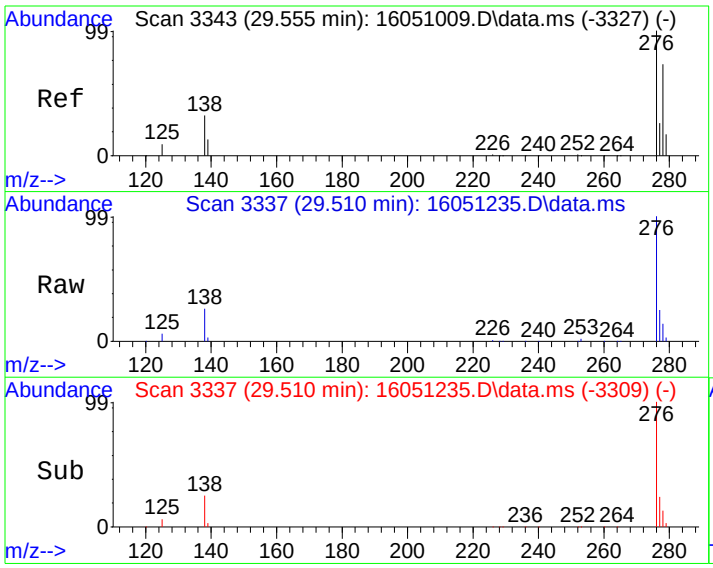


#25
Benzo[a]pyrene
Concen: 457.59 ug/kg
RT: 25.906 min Scan# 2845
Delta R.T. -0.044 min
Lab File: 16051235.D
Acq: 13 May 2016 6:44 am

Tgt Ion:252 Resp: 328468

Ion	Ratio	Lower	Upper
252	100		
253	22.2	2.5	42.5
125	14.8	0.0	35.5

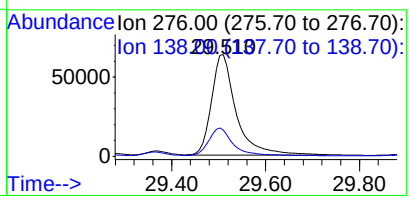


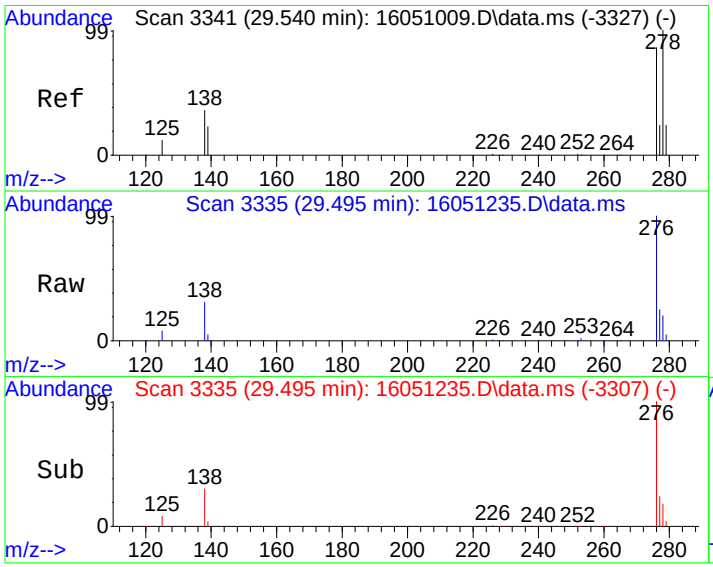


#26
Indeno[1,2,3-cd]pyrene
Concen: 290.63 ug/kg
RT: 29.510 min Scan# 3337
Delta R.T. -0.044 min
Lab File: 16051235.D
Acq: 13 May 2016 6:44 am

Tgt Ion:276 Resp: 231128

Ion	Ratio	Lower	Upper
276	100		
138	25.4	12.0	52.0

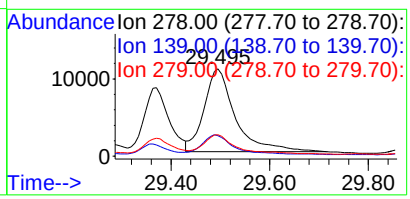


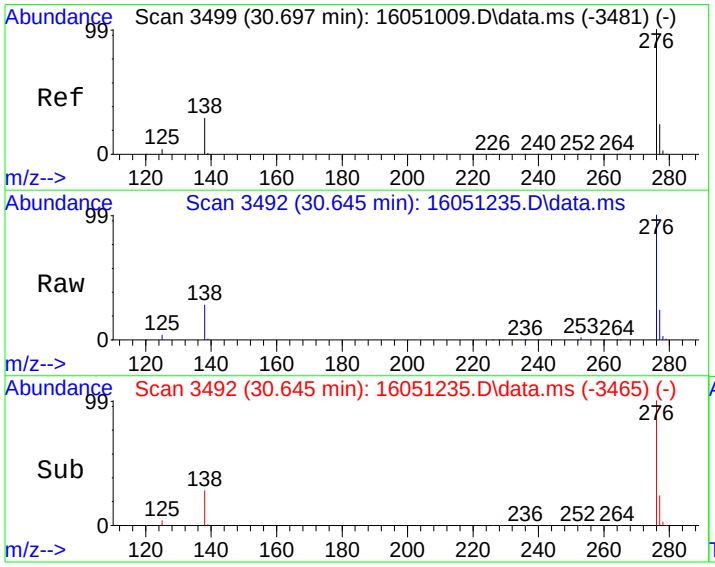


#27
Dibenz[a,h]anthracene
Concen: 72.15 ug/kg
RT: 29.495 min Scan# 3335
Delta R.T. -0.044 min
Lab File: 16051235.D
Acq: 13 May 2016 6:44 am

Tgt Ion:278 Resp: 46779

Ion	Ratio	Lower	Upper
278	100		
139	22.8	2.9	42.9
279	23.2	4.4	44.4

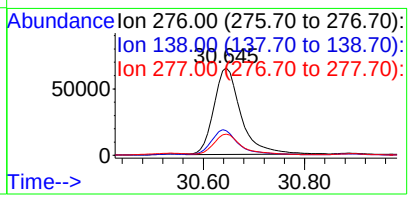




#28
Benzo[g,h,i]perylene
Concen: 351.52 ug/kg
RT: 30.645 min Scan# 3492
Delta R.T. -0.052 min
Lab File: 16051235.D
Acq: 13 May 2016 6:44 am

Tgt Ion:276 Resp: 243935

Ion	Ratio	Lower	Upper
276	100		
138	27.8	9.3	49.3
277	23.8	4.3	44.3



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051236.D
Acq On : 13 May 2016 7:21 am
Operator :
Sample : CCV1-150512
Misc : CCV
ALS Vial : 32 Sample Multiplier: 1

Quant Time: May 13 08:48:02 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	10.265	136	1420573	4000.00	ug/kg	91
6) Acenaphthene-d10	12.852	164	1050551	4000.00	ug/kg	107
11) Phenanthrene-d10	14.977	188	3110465	4000.00	ug/kg	100
16) Chrysene-d12	20.984	240	3057474	4000.00	ug/kg	87
20) Perylene-d12	26.243	264	2683783	4000.00	ug/kg	90

System Monitoring Compounds						Dev(Min)
5) 2-Fluorobiphenyl	11.754	172	330580	1184.04	ug/kg	-0.01
Spiked Amount 4000.000	Range 40 - 140		Recovery = 29.60%#			
17) 4-Terphenyl-d14	17.588	244	706934	1000.70	ug/kg	-0.03
Spiked Amount 4000.000	Range 51 - 135		Recovery = 25.02%#			

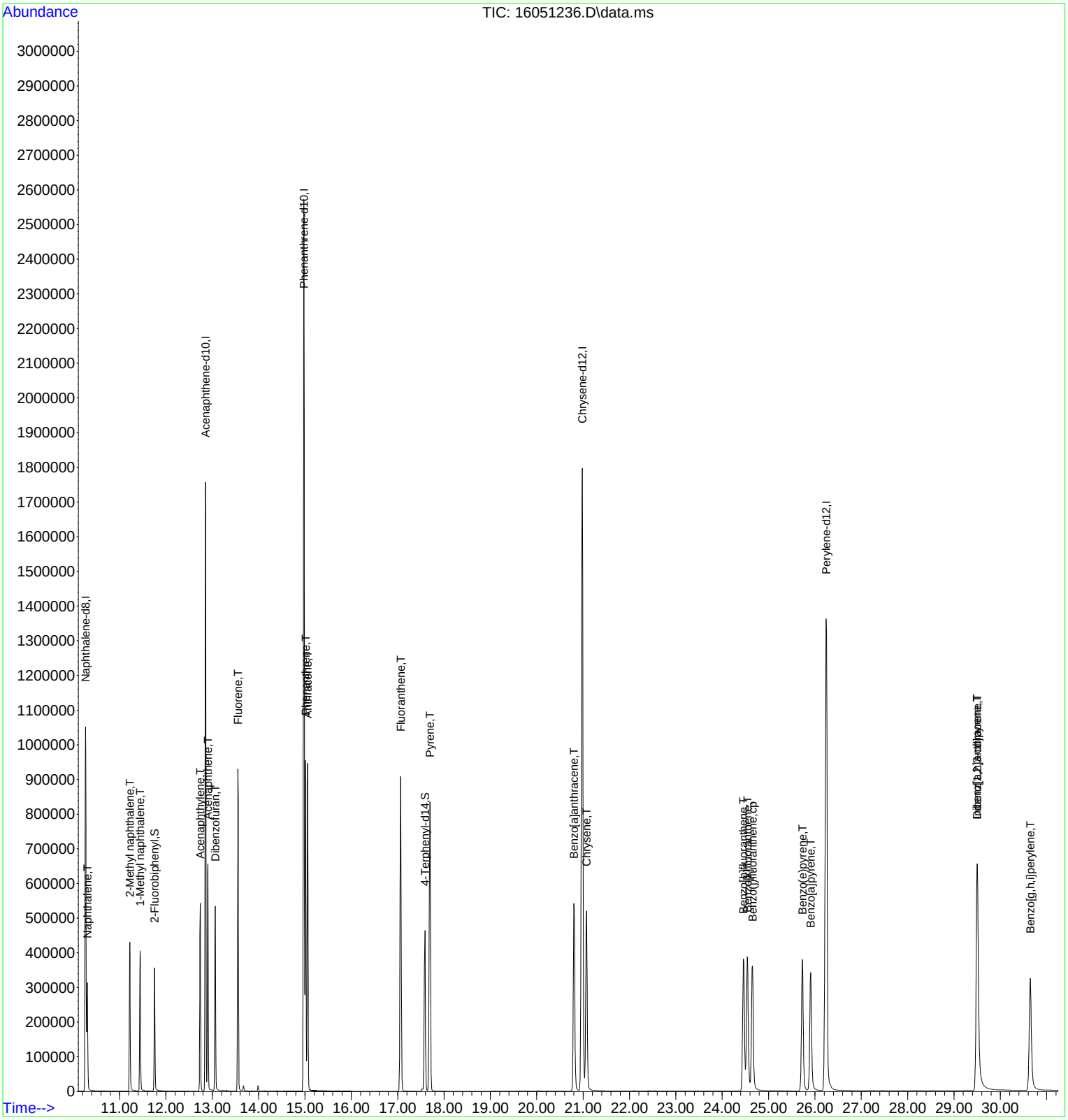
Target Compounds						Qvalue
2) Naphthalene	10.302	128	351806	1021.87	ug/kg	100
3) 2-Methyl naphthalene	11.220	142	265295	1132.53	ug/kg	98
4) 1-Methyl naphthalene	11.442	142	244068	1129.72	ug/kg	98
7) Acenaphthylene	12.739	152	507032	1027.04	ug/kg	100
8) Acenaphthene	12.906	153	316502	1013.07	ug/kg	99
9) Dibenzofuran	13.063	168	518041	1026.82	ug/kg	100
10) Fluorene	13.554	166	497942	1049.51	ug/kg	100
12) Phenanthrene	15.012	178	898225	997.76	ug/kg	99
13) Anthracene	15.057	178	938438	962.16	ug/kg	99
14) Fluoranthene	17.065	202	1030012	874.27	ug/kg	99
15) Pyrene	17.696	202	1011100	855.65	ug/kg	99
18) Benzo[a]anthracene	20.801	228	850919	990.05	ug/kg	99
19) Chrysene	21.072	228	773946	983.68	ug/kg	99
21) Benzo[b]fluoranthene	24.456	252	745926	975.95	ug/kg	99
22) Benzo[k]fluoranthene	24.544	252	666415	1087.09	ug/kg	98
23) Benzo(j)fluoranthene	24.654	252	644900	1040.82	ug/kg	99
24) Benzo(e)pyrene	25.730	252	716156	976.23	ug/kg	99
25) Benzo[a]pyrene	25.906	252	693950	987.87	ug/kg	99
26) Indeno[1,2,3-cd]pyrene	29.510	276	820826	1054.71	ug/kg	95
27) Dibenz[a,h]anthracene	29.495	278	674145	1062.53	ug/kg	97
28) Benzo[g,h,i]perylene	30.645	276	701467	1032.94	ug/kg	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\160512\
Data File : 16051236.D
Acq On : 13 May 2016 7:21 am
Operator :
Sample : CCV1-150512
Misc : CCV
ALS Vial : 32 Sample Multiplier: 1

Quant Time: May 13 08:48:02 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



GCMS8
Calibration Curve
For

DHL Work Order
1605047

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

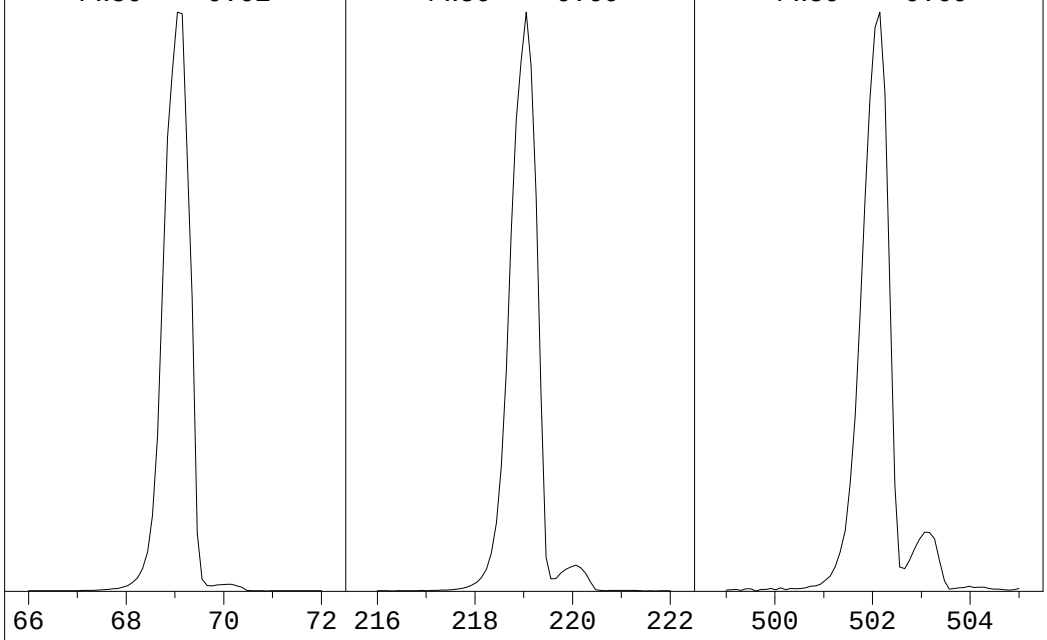
Second-Level Review: Date: 05/13/16

5973 Autotune

Tue May 10 17:43:08 2016 Instrument: GCMS #8

C:\MSDCHEM\1\5973\atune.u

Mass	Ab	Pw50
69.05	345305	0.61
219.05	158305	0.60
502.15	11191	0.60



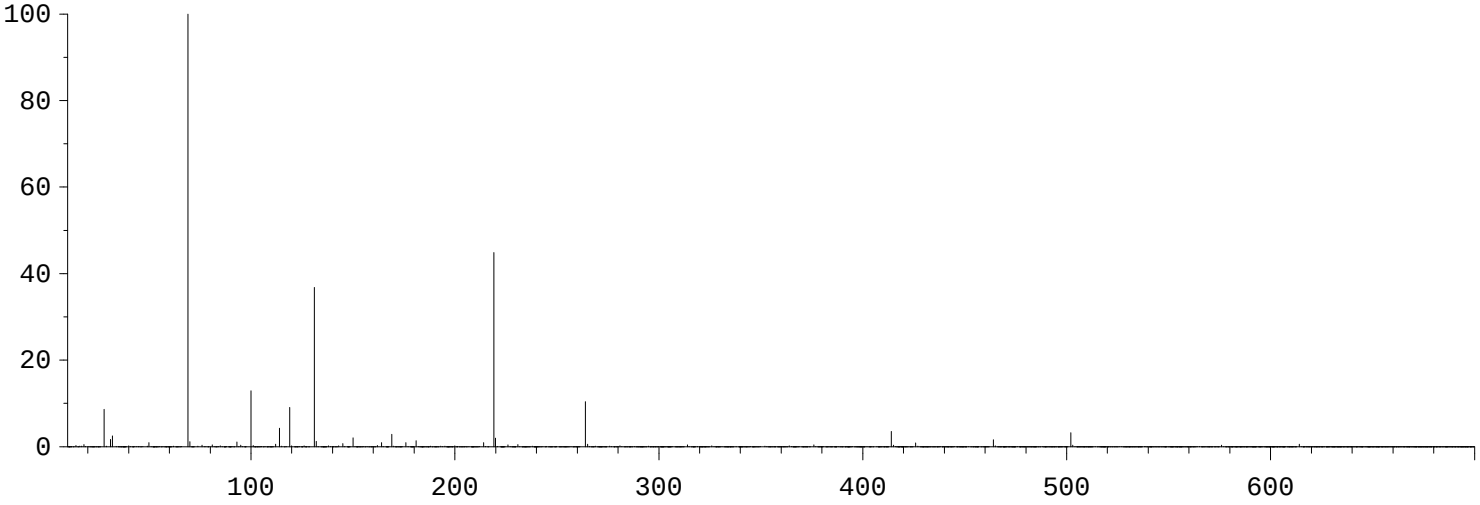
Ion Pol	POS	MassGain	48
		MassOffs	-11
Emission	34.6	AmuGain	2098
EIEnrgy	69.9	AmuOffs	132
Filament	2	Wid219	-0.001
		DC Pol	NEG
Repeller	37.83		
IonFcus	95.9	HEDEnab	ON
EntLens	12.0	EMVolts	1129
EntOffs	19.33		
		Samples	8
PFTBA	OPEN	Averages	3
		Stepsize	0.10

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

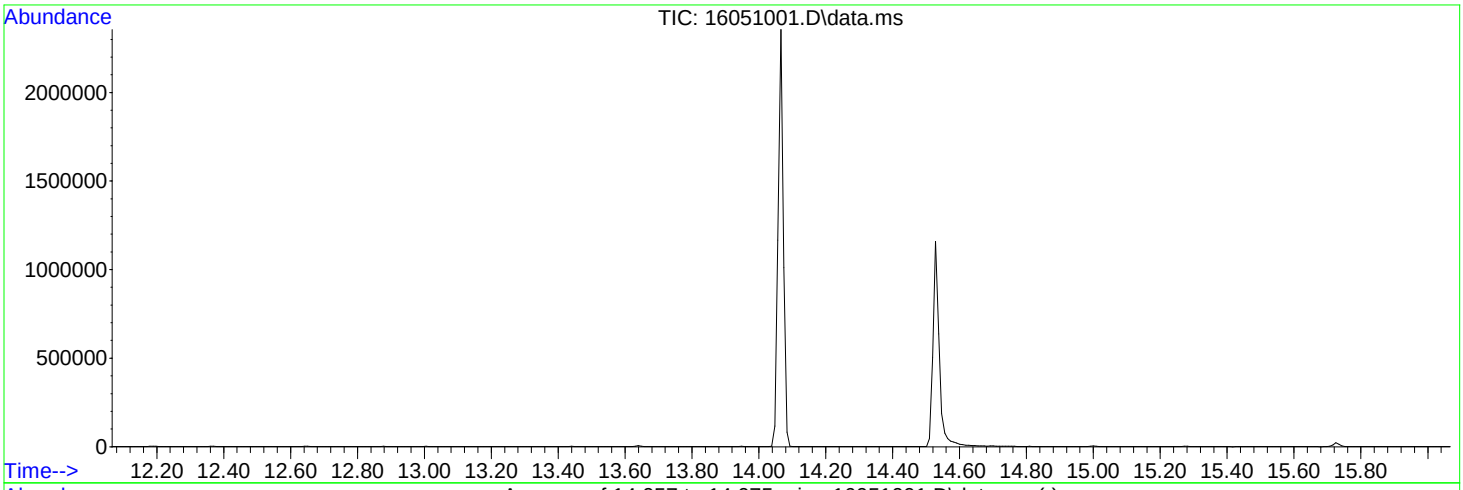
		Compound	1	2	3	4	5	6	7	8	Avg	%RSD	Fit	RSD/CF	Constant	Linear	Quad
1)	I	Naphthalene-d8	----------ISTD----------														
2)	T	Naphthalene	0.990	0.957	0.981	0.991	0.980	0.983	0.972	0.901	0.969	3.05	A	0.0305	0.0000	0.9694	0.0000
3)	T	2-Methyl napht...	0.422	0.448	0.511	0.539	0.631	0.672	0.671	0.637	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

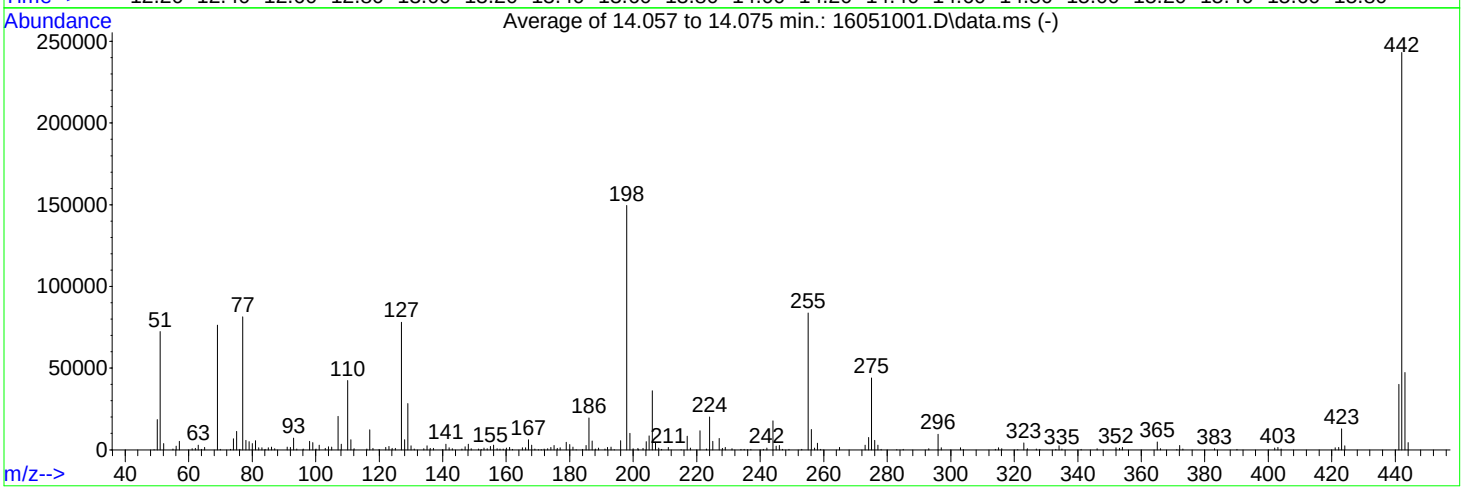
(#) = Out of Range

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





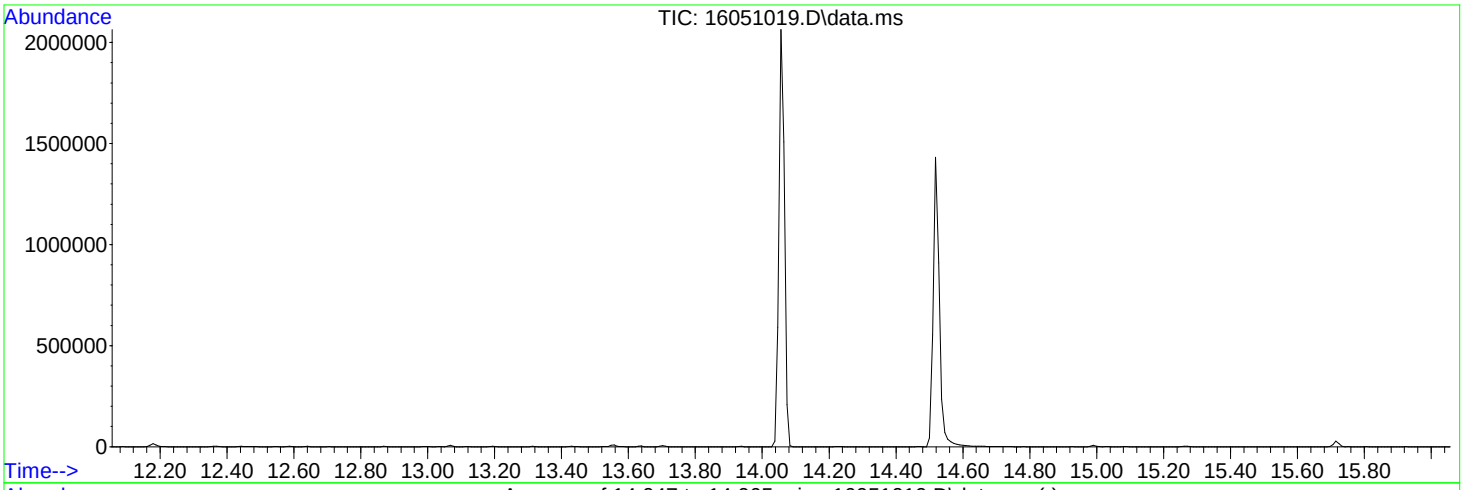
AutoFind: Scans 438, 439, 440; Background Corrected with Scan 434

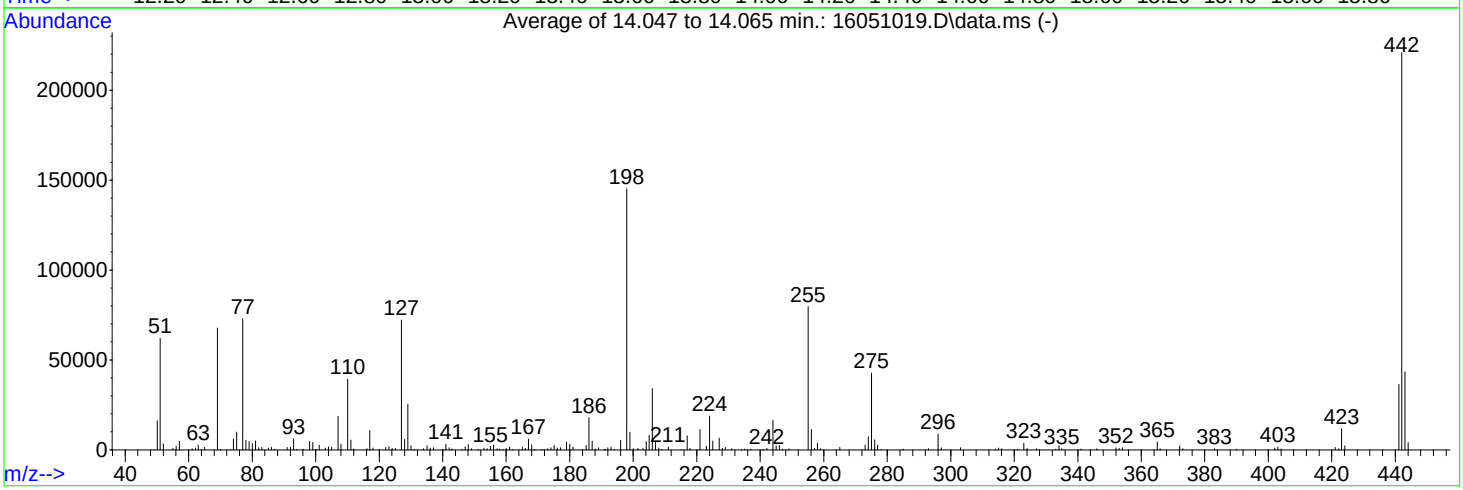
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	48.3	72280	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	50.9	76210	PASS
70	69	0.00	2	0.3	215	PASS
127	198	10	80	52.2	78125	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	149602	PASS
199	198	5	9	6.7	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%#		

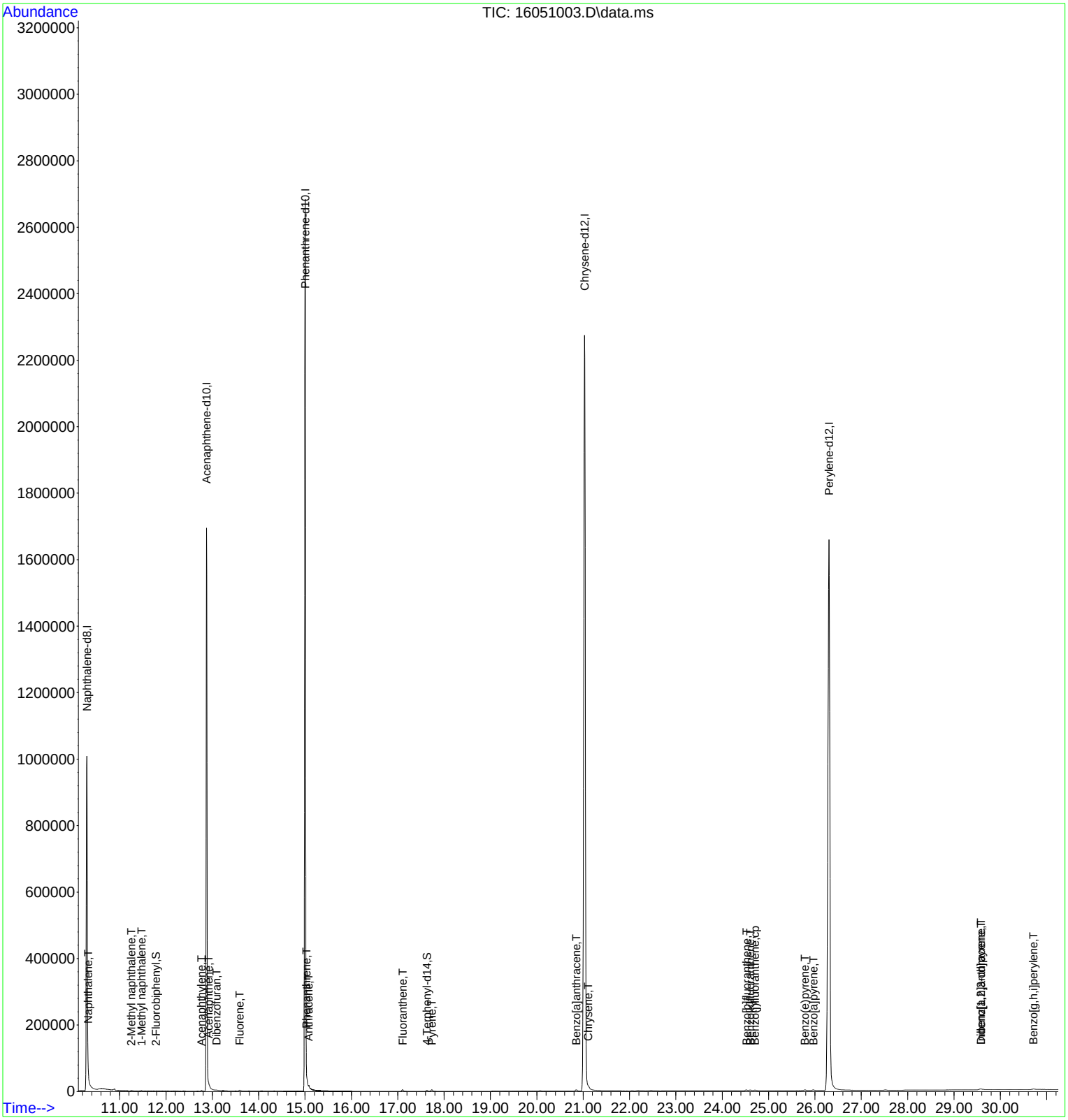
Target Compounds					Qvalue
2) Naphthalene	10.330	128	1955	5.11 ug/kg	98
3) 2-Methyl naphthalene	11.251	142	834	6.59 ug/kg	93
4) 1-Methyl naphthalene	11.469	142	1143	4.76 ug/kg	93
7) Acenaphthylene	12.763	152	2629	5.26 ug/kg	98
8) Acenaphthene	12.930	153	1663	5.26 ug/kg	98
9) Dibenzofuran	13.097	168	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%#		

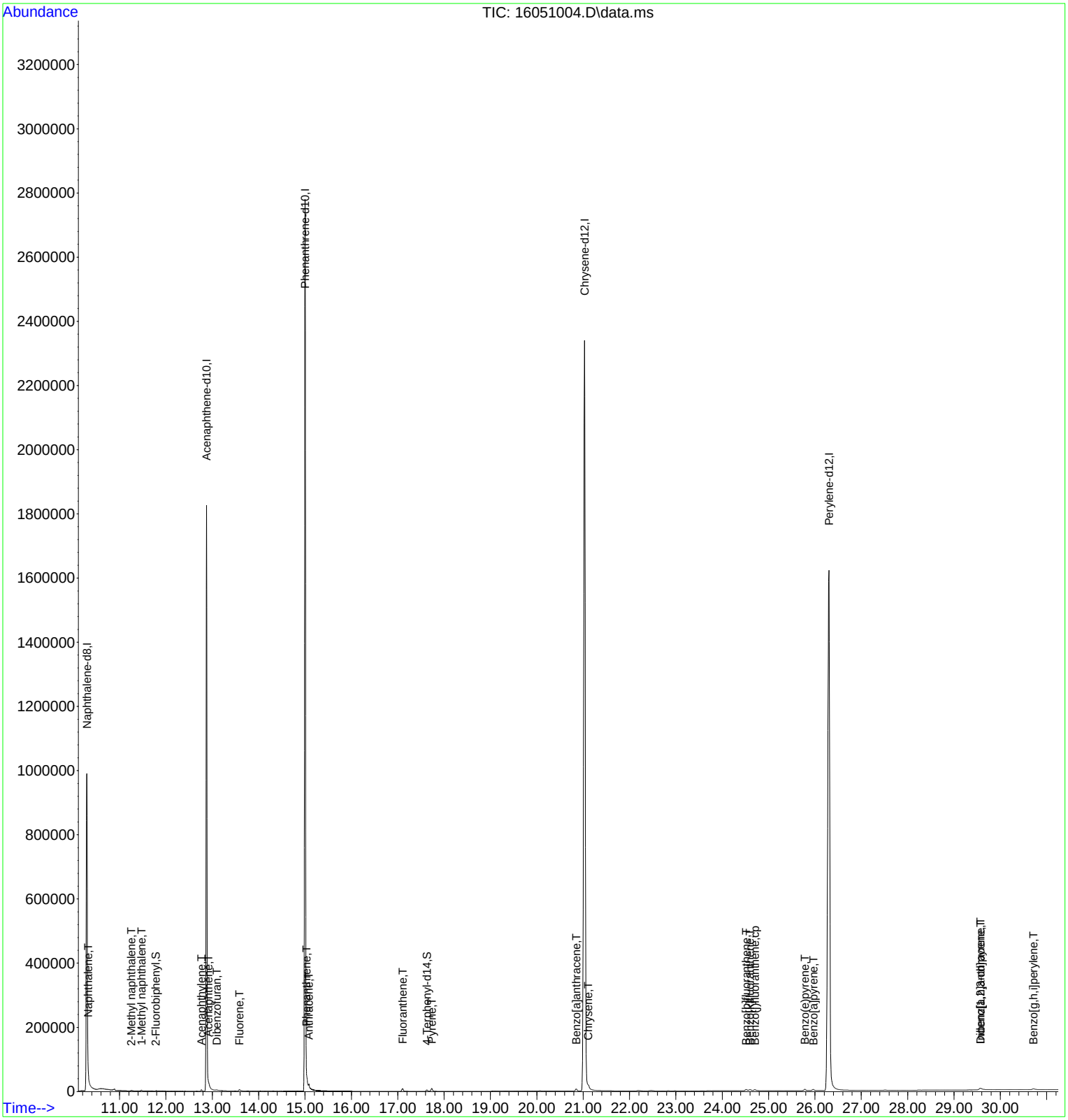
Target Compounds					Qvalue
2) Naphthalene	10.326	128	3839	9.87 ug/kg	99
3) 2-Methyl naphthalene	11.247	142	1798	10.14 ug/kg	97
4) 1-Methyl naphthalene	11.469	142	2228	9.13 ug/kg	99
7) Acenaphthylene	12.764	152	5262	10.00 ug/kg	98
8) Acenaphthene	12.926	153	3315	9.95 ug/kg	95
9) Dibenzofuran	13.093	168	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

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



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%#	

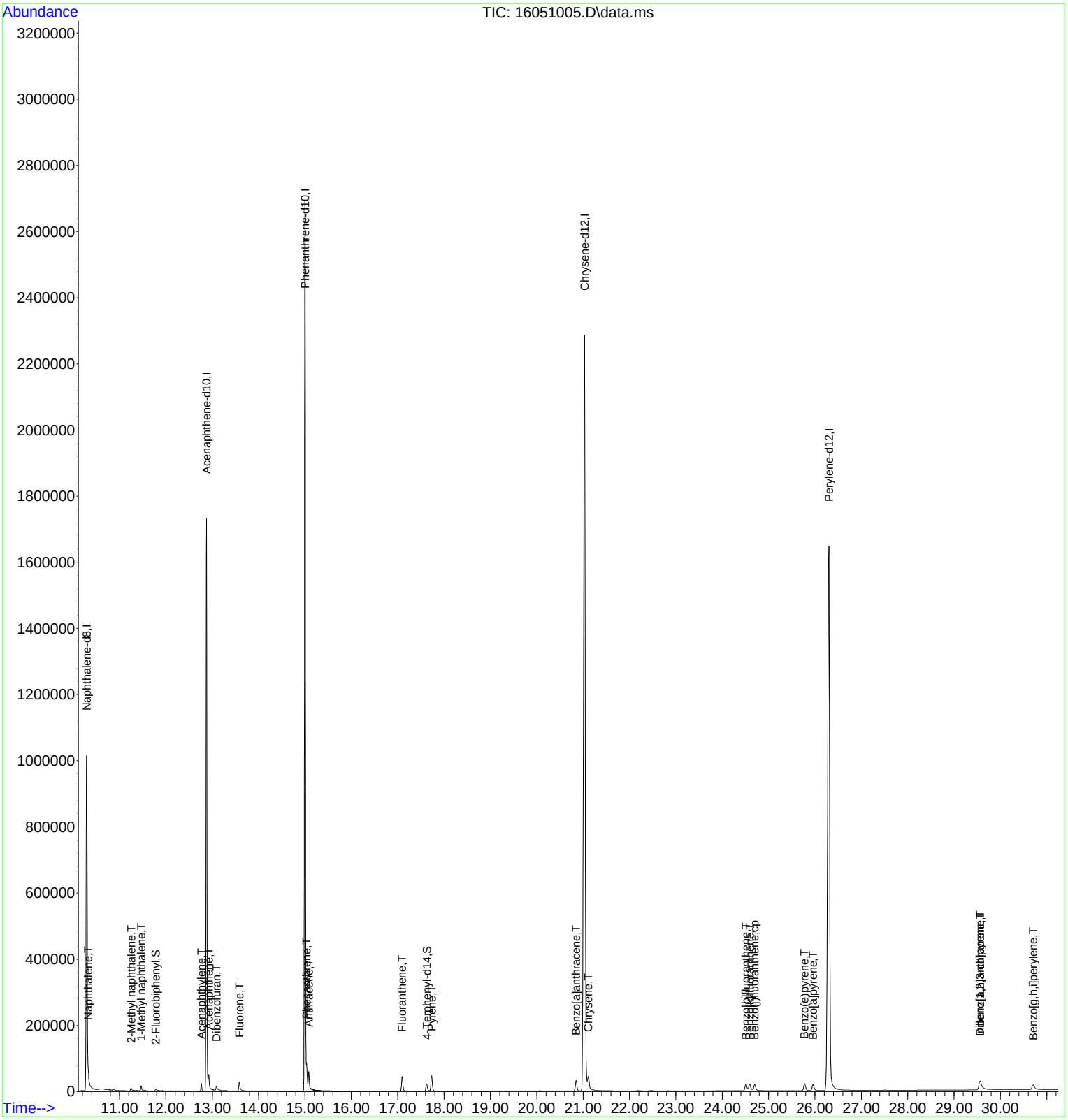
Target Compounds					Qvalue
2) Naphthalene	10.327	128	19480	50.62 ug/kg	99
3) 2-Methyl naphthalene	11.248	142	10141	41.69 ug/kg	98
4) 1-Methyl naphthalene	11.466	142	11421	47.29 ug/kg	98
7) Acenaphthylene	12.763	152	25743	50.72 ug/kg	98
8) Acenaphthene	12.925	153	16337	50.87 ug/kg	99
9) Dibenzofuran	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%#		

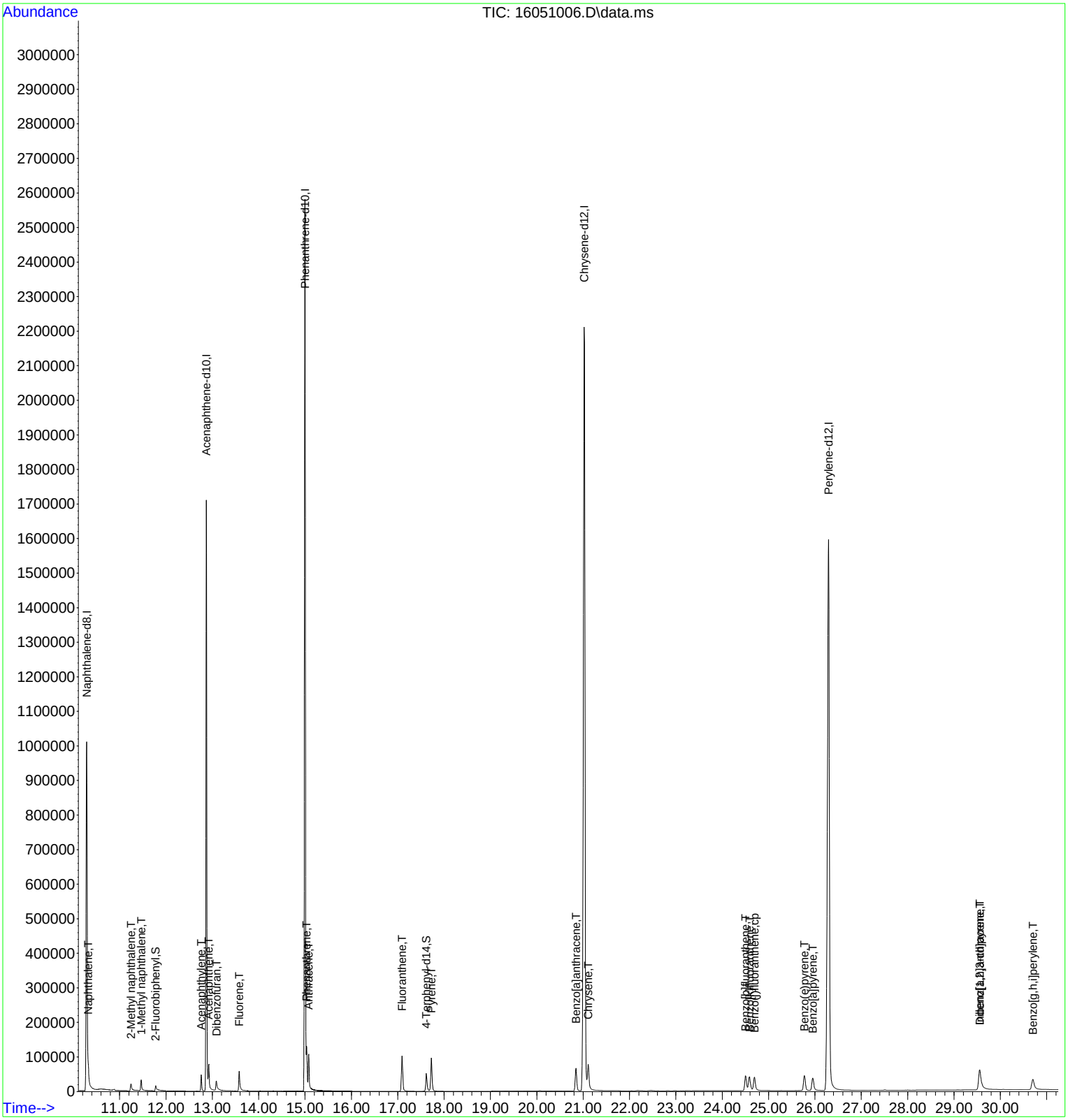
Target Compounds					Qvalue
2) Naphthalene	10.325	128	39007	102.24 ug/kg	99
3) 2-Methyl naphthalene	11.243	142	21207	84.16 ug/kg	98
4) 1-Methyl naphthalene	11.465	142	23413	97.79 ug/kg	99
7) Acenaphthylene	12.759	152	50778	102.39 ug/kg	99
8) Acenaphthene	12.925	153	32099	102.28 ug/kg	99
9) Dibenzofuran	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%#			

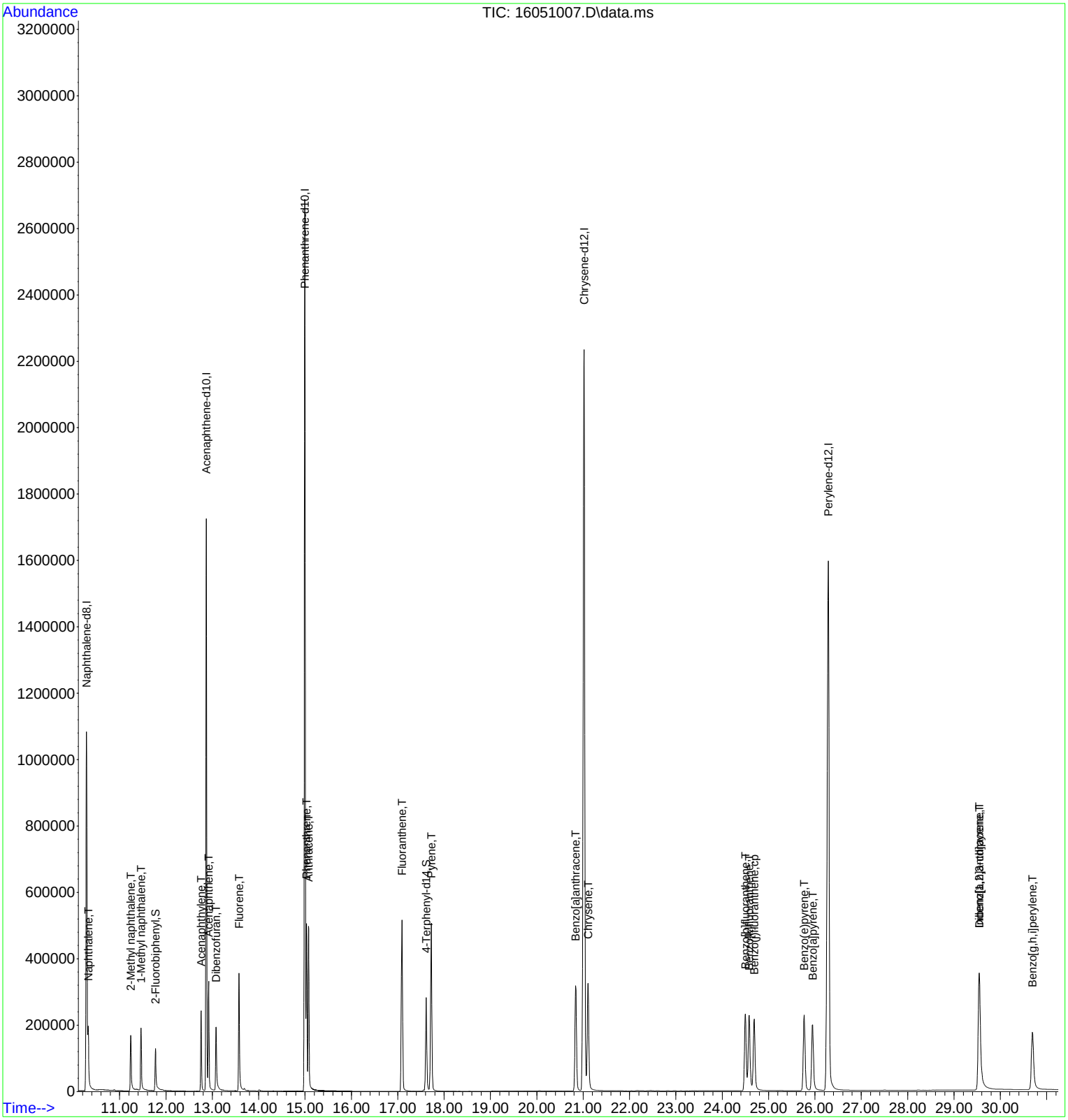
Target Compounds						Qvalue
2) Naphthalene	10.321	128	197925	505.21	ug/kg	100
3) 2-Methyl naphthalene	11.239	142	127484	477.61	ug/kg	99
4) 1-Methyl naphthalene	11.461	142	134372	546.57	ug/kg	99
7) Acenaphthylene	12.759	152	249148	503.69	ug/kg	99
8) Acenaphthene	12.921	153	156678	500.52	ug/kg	99
9) Dibenzofuran	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%#		

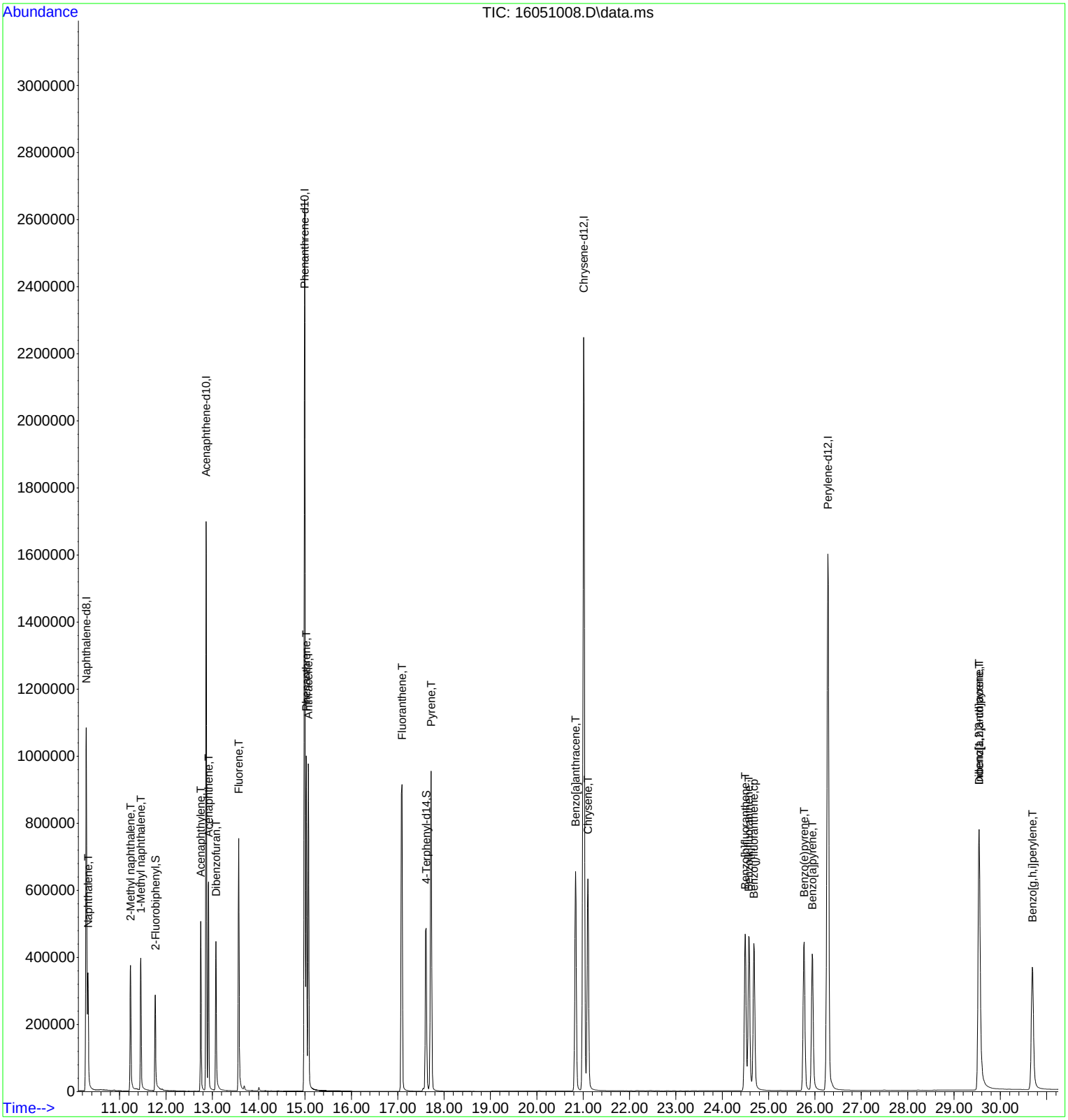
Target Compounds					Qvalue
2) Naphthalene	10.319	128	395299	1013.61 ug/kg	100
3) 2-Methyl naphthalene	11.236	142	270515	1018.82 ug/kg	99
4) 1-Methyl naphthalene	11.458	142	265900	1086.50 ug/kg	100
7) Acenaphthylene	12.753	152	492825	1004.92 ug/kg	99
8) Acenaphthene	12.920	153	313128	1008.96 ug/kg	99
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%#			

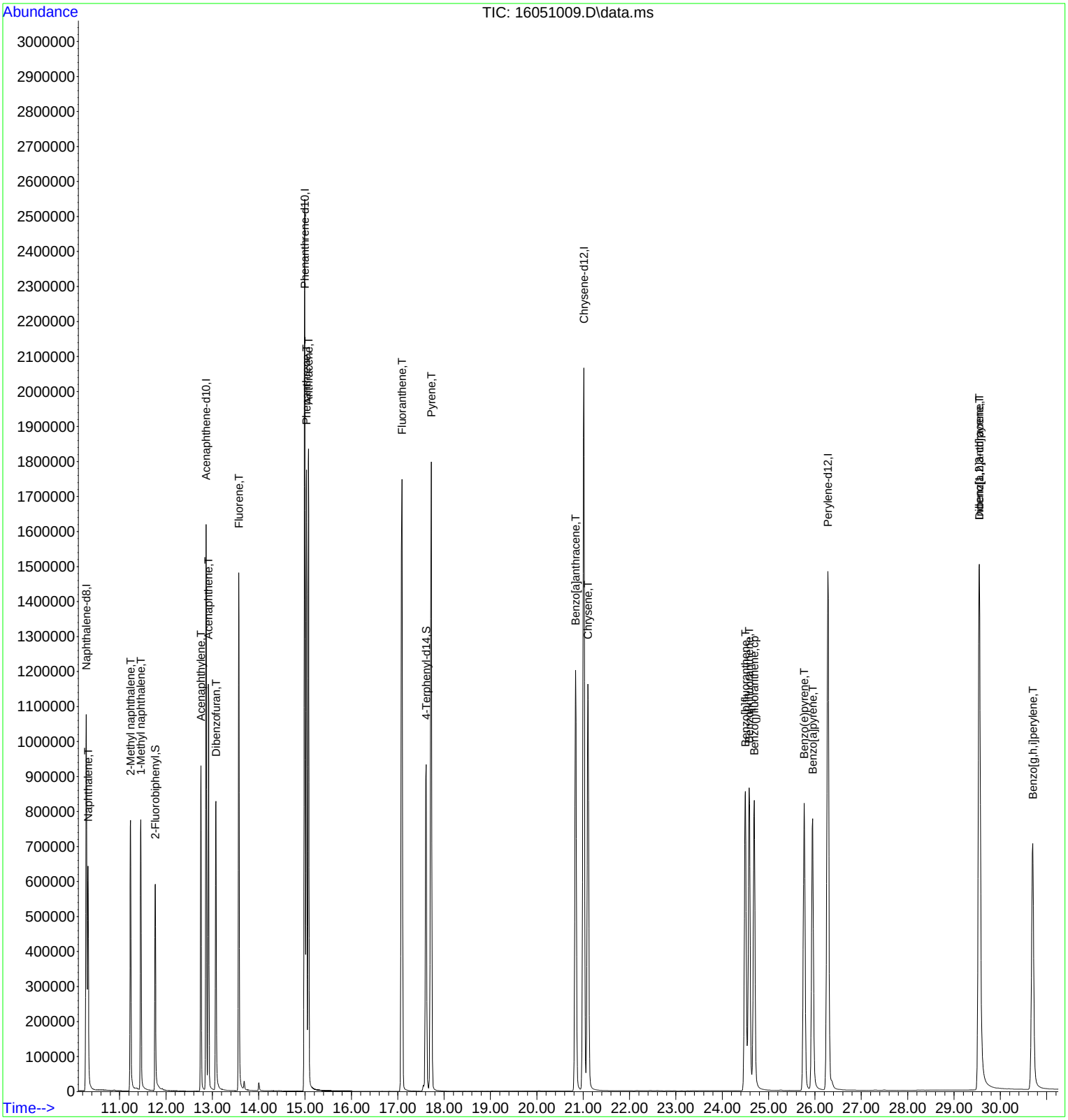
Target Compounds						Qvalue
2) Naphthalene	10.317	128	759401	2005.61	ug/kg	100
3) 2-Methyl naphthalene	11.235	142	523991	2046.89	ug/kg	100
4) 1-Methyl naphthalene	11.457	142	501831	2112.02	ug/kg	100
7) Acenaphthylene	12.754	152	915681	1993.89	ug/kg	100
8) Acenaphthene	12.916	153	576336	1983.10	ug/kg	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%		

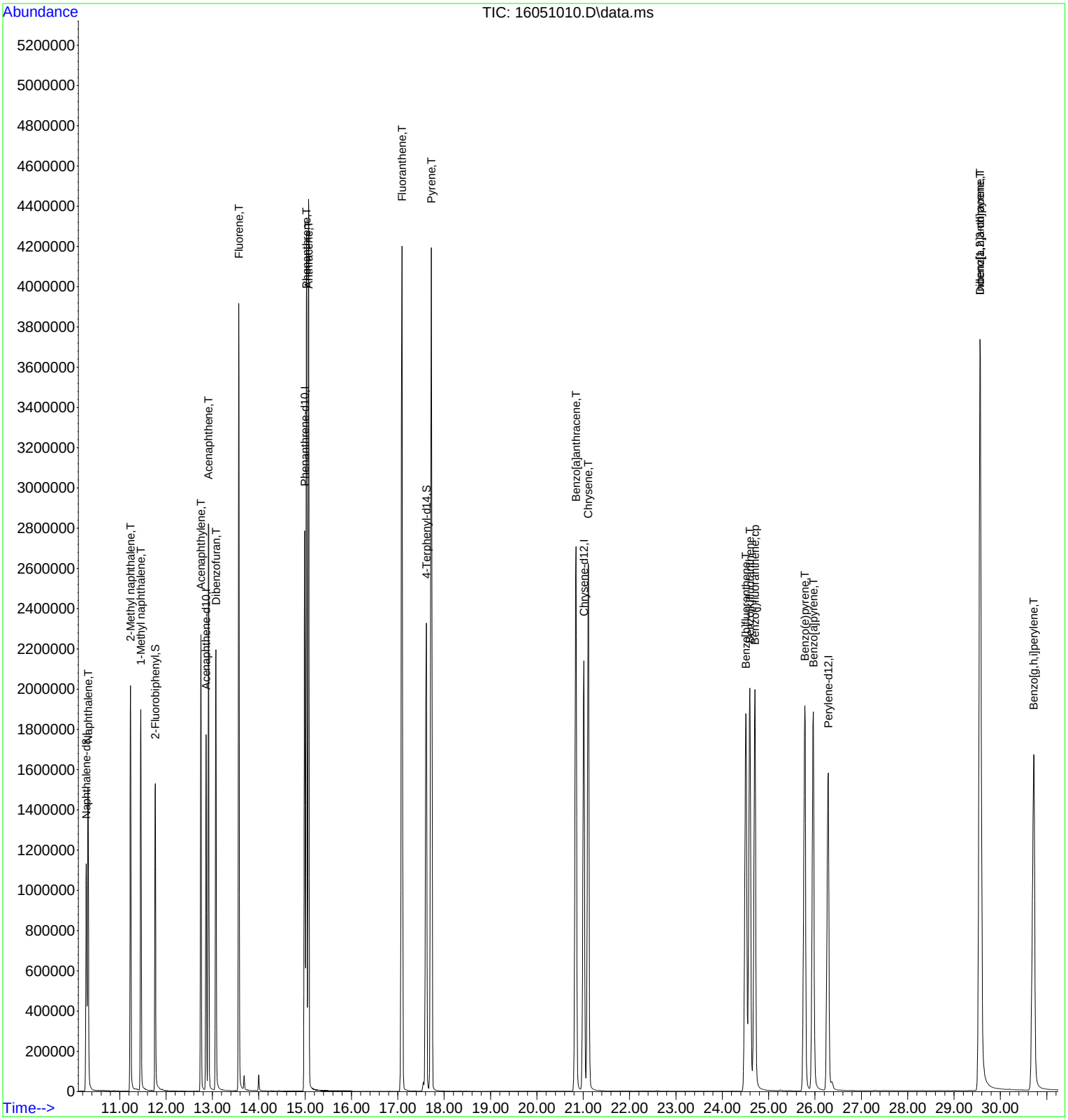
Target Compounds					Qvalue
2) Naphthalene	10.317	128	1810982	4648.57 ug/kg	99
3) 2-Methyl naphthalene	11.234	142	1280055	4979.05 ug/kg	99
4) 1-Methyl naphthalene	11.456	142	1192892	4879.47 ug/kg	99
7) Acenaphthylene	12.753	152	2220480	4504.81 ug/kg	98
8) Acenaphthene	12.915	153	1422129	4559.13 ug/kg	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%		

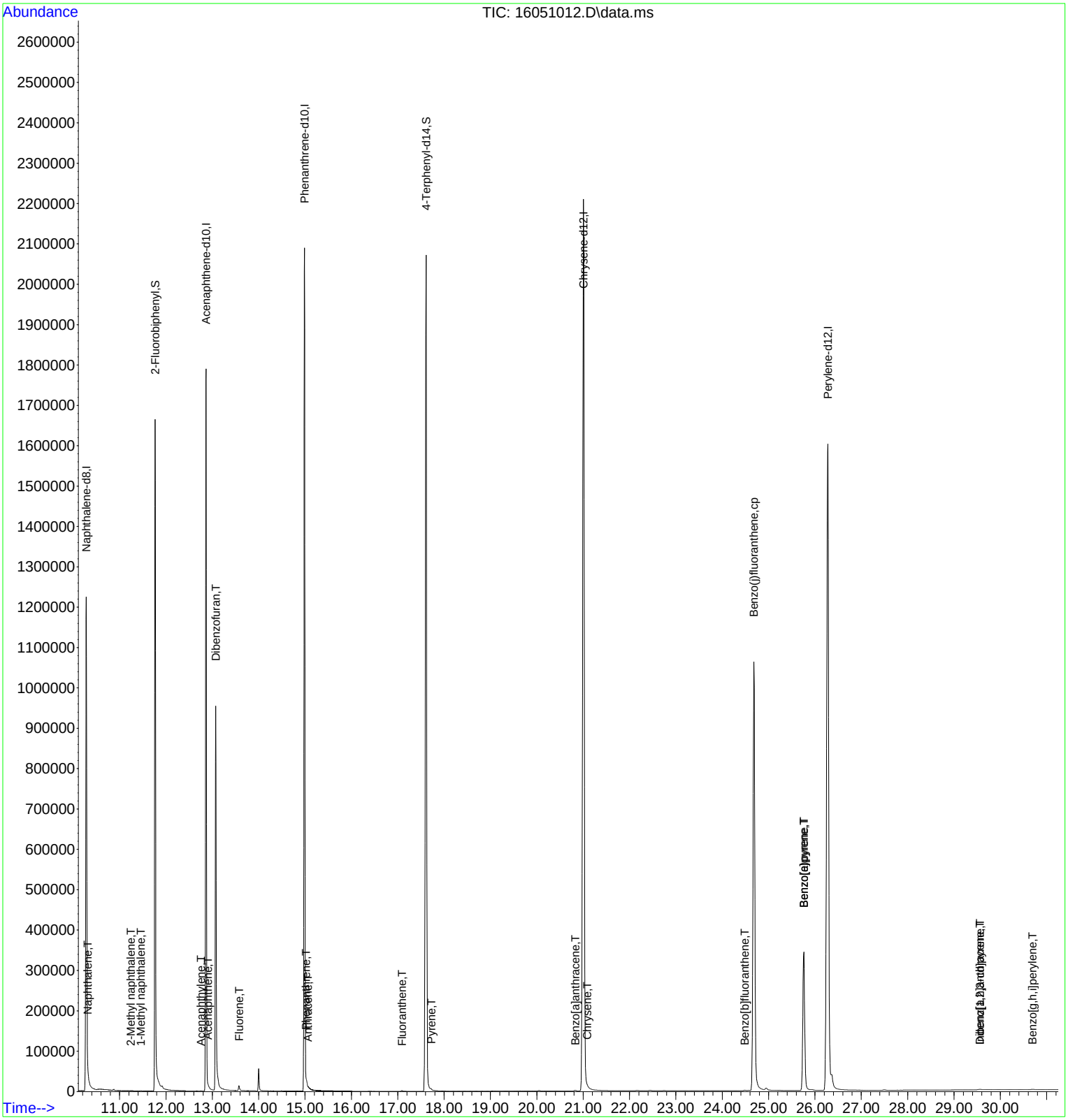
Target Compounds					Qvalue	
2) Naphthalene	10.317	128	953	2.12 ug/kg	76	
3) 2-Methyl naphthalene	11.239	142	531	5.14 ug/kg	93	
4) 1-Methyl naphthalene	11.457	142	562	1.99 ug/kg	95	
7) Acenaphthylene	12.754	152	1045	1.98 ug/kg	96	
8) Acenaphthene	12.916	153	751	2.25 ug/kg	97	
9) Dibenzofuran	13.073	168	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%			

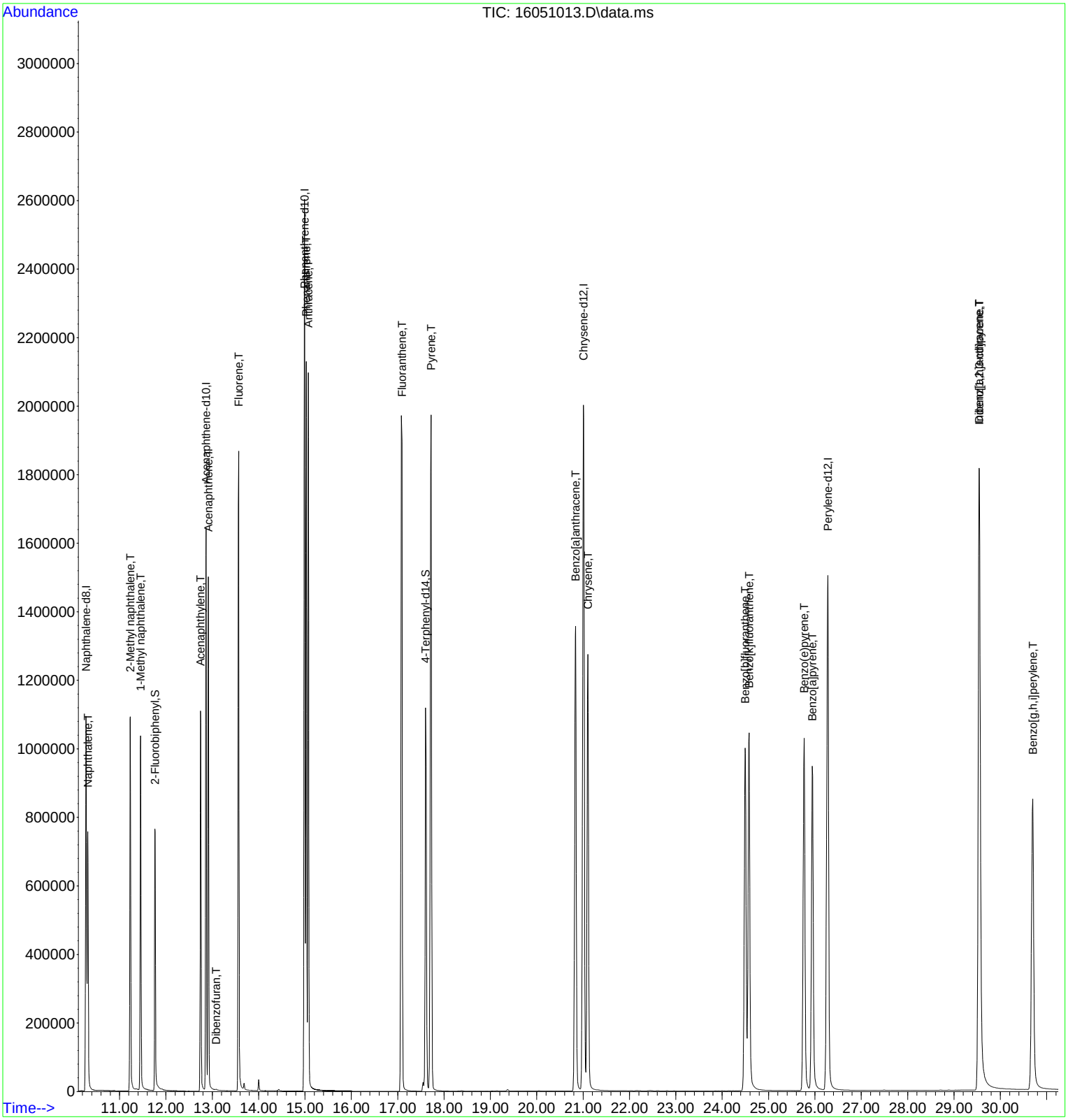
Target Compounds						Qvalue
2) Naphthalene	10.315	128	894398	2373.87	ug/kg	100
3) 2-Methyl naphthalene	11.232	142	717289	2833.51	ug/kg	100
4) 1-Methyl naphthalene	11.454	142	656912	2778.44	ug/kg	100
7) Acenaphthylene	12.748	152	1098072	2321.34	ug/kg	100
8) Acenaphthene	12.915	153	729094	2435.59	ug/kg	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%#	

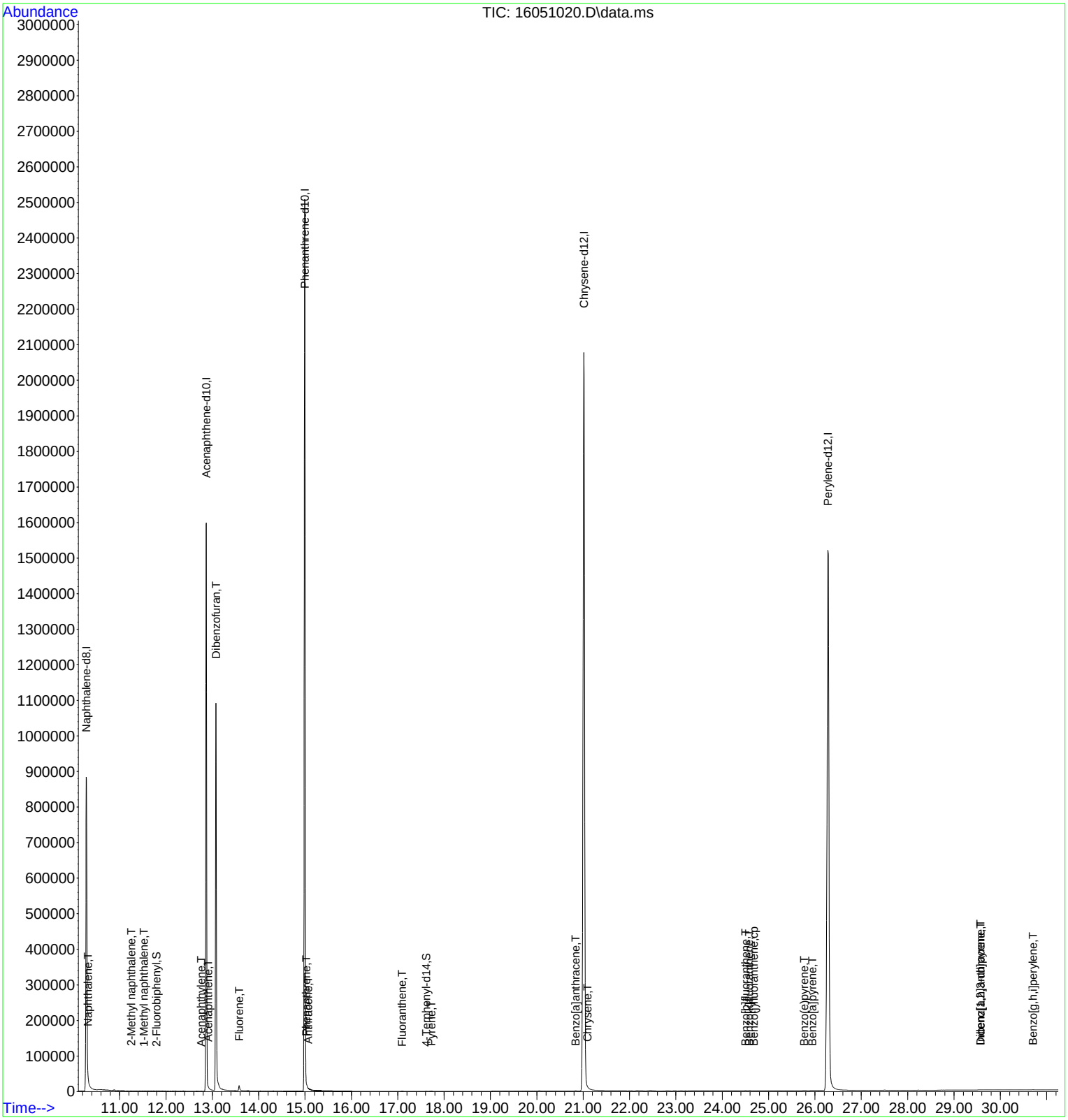
Target Compounds					Qvalue
2) Naphthalene	10.321	128	189	0.56 ug/kg	80
3) 2-Methyl naphthalene	11.243	142	73	3.74 ug/kg#	71
4) 1-Methyl naphthalene	11.527	142	17	0.08 ug/kg	96
7) Acenaphthylene	12.759	152	258	0.55 ug/kg	97
8) Acenaphthene	12.921	153	264	0.88 ug/kg	90
9) Dibenzofuran	13.078	168	1144093	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



ICP-MS4
For

DHL Work Order
1605047

ICP-MS4_160511C
For

DHL Work Order
1605047

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_160511C 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: [signature] Date of Completion: 05/12/2016

Second-Level Review: Janice Whitt Date Stamp: 5/12/2016

REVIEWED BY
By Janice Whitt at 4:50:49 PM, 5/12/2016

DHL Analytical, Inc.

Run ID: **ICP-MS4_160511C** **Run No.:** 85761

Analytical Run Date: 5/11/2016 **InstrumentID:** ICP-MS4

Analyst: Ryan Oliver

SampID	DF	TestCode	SampType	Batch ID	Analysis Date/Time	Q	Comments
BLANK STD 1	1	ICPMS_TWDOD	CAL	R85761	5/11/2016 5:22:00 PM		
L2-160511	1	ICPMS_TWDOD	CAL	R85761	5/11/2016 5:24:00 PM		
L-160511	1	ICPMS_TWDOD	CAL	R85761	5/11/2016 5:26:00 PM		
10X-160511	1	ICPMS_TWDOD	CAL	R85761	5/11/2016 5:28:00 PM		
5X-160511	1	ICPMS_TWDOD	CAL	R85761	5/11/2016 5:30:00 PM		
2X-160511	1	ICPMS_TWDOD	CAL	R85761	5/11/2016 5:32:00 PM		
H-160511	1	ICPMS_TWDOD	CAL	R85761	5/11/2016 5:34:00 PM		
H2-160511	1	ICPMS_TWDOD	CAL	R85761	5/11/2016 5:36:00 PM		
ICSA-160511	1	ICPMS_TWDOD	ICSA	R85761	5/11/2016 5:42:00 PM		
ICSAB-160511	1	ICPMS_TWDOD	ICSB	R85761	5/11/2016 5:44:00 PM		
ICV2-160511	1	ICPMS_TWDOD	ICV	R85761	5/11/2016 5:55:00 PM		
ILCVL2-160511	1	ICPMS_TWDOD	LCVL	R85761	5/11/2016 6:00:00 PM		
ICB2-160511	1	ICPMS_TWDOD	ICB	R85761	5/11/2016 6:06:00 PM		
MB-75056	5	ICPMS_TSDOD1	MBLK	75056	5/11/2016 6:08:00 PM		
LCS-75056	5	ICPMS_TSDOD1	LCS	75056	5/11/2016 6:10:00 PM		
LCSD-75056	5	ICPMS_TSDOD1	LCSD	75056	5/11/2016 6:12:00 PM		
1605071-09A	5	ICPMS_TSDOD1	SAMP	75056	5/11/2016 6:16:00 PM		
1605071-09A SD	25	ICPMS_TSDOD1	SD	75056	5/11/2016 6:18:00 PM		
1605047-33A	5	ICPMS_TSDOD1	SAMP	75056	5/11/2016 6:20:00 PM		
1605047-34A	5	ICPMS_TSDOD1	SAMP	75056	5/11/2016 6:22:00 PM		
1605047-35A	5	ICPMS_TSDOD1	SAMP	75056	5/11/2016 6:24:00 PM		
1605047-36A	5	ICPMS_TSDOD1	SAMP	75056	5/11/2016 6:26:00 PM		
1605047-37A	5	ICPMS_TSDOD1	SAMP	75056	5/11/2016 6:28:00 PM		
1605047-39A	5	ICPMS_TSDOD1	SAMP	75056	5/11/2016 6:30:00 PM		
1605047-42A	5	ICPMS_TSDOD1	SAMP	75056	5/11/2016 6:31:00 PM		
1605047-45A	50	ICPMS_TSDOD1	SAMP	75056	5/11/2016 6:33:00 PM		Ran @ 50X due to sample being very dark
1605047-46A	50	ICPMS_TSDOD1	SAMP	75056	5/11/2016 6:35:00 PM		Ran @ 50X due to sample being very dark
1605071-09A PDS	5	ICPMS_TSDOD1	PDS	75056	5/11/2016 6:37:00 PM		
1605071-09A MS	5	ICPMS_TSDOD1	MS	75056	5/11/2016 6:39:00 PM		
1605071-09A MSD	5	ICPMS_TSDOD1	MSD	75056	5/11/2016 6:41:00 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_160511C** **Run No.:** 85761

CCV1-160511	1	ICPMS_TWDOD	CCV	R85761	5/11/2016 6:43:00 PM		
LCVL1-160511	1	ICPMS_TWDOD	LCVL	R85761	5/11/2016 6:47:00 PM		
CCB1-160511	1	ICPMS_TWDOD	CCB	R85761	5/11/2016 6:49:00 PM		
1605071-01A	5	ICPMS_TSDOD1	SAMP	75056	5/11/2016 6:51:00 PM		
1605071-02A	5	ICPMS_TSDOD1	SAMP	75056	5/11/2016 6:53:00 PM		
1605071-03A	5	ICPMS_TSDOD1	SAMP	75056	5/11/2016 6:55:00 PM		
1605071-04A	5	ICPMS_TSDOD1	SAMP	75056	5/11/2016 6:57:00 PM		
1605071-05A	5	ICPMS_TSDOD1	SAMP	75056	5/11/2016 6:59:00 PM		
1605071-06A	5	ICPMS_TSDOD1	SAMP	75056	5/11/2016 7:01:00 PM		
1605071-07A	5	ICPMS_TSDOD1	SAMP	75056	5/11/2016 7:03:00 PM		
1605071-08A	5	ICPMS_TSDOD1	SAMP	75056	5/11/2016 7:05:00 PM		
1605071-10A	5	ICPMS_TSDOD1	SAMP	75056	5/11/2016 7:07:00 PM		
1605071-11A	5	ICPMS_TSDOD1	SAMP	75056	5/11/2016 7:09:00 PM		
CCV2-160511	1	ICPMS_TWDOD	CCV	R85761	5/11/2016 7:11:00 PM		
LCVL2-160511	1	ICPMS_TWDOD	LCVL	R85761	5/11/2016 7:15:00 PM		
CCB2-160511	1	ICPMS_TWDOD	CCB	R85761	5/11/2016 7:17:00 PM		
MB-75019	5	ICPMS_TSDOD1	MBLK	75019	5/11/2016 7:19:00 PM		
LCS-75019	5	ICPMS_TSDOD1	LCS	75019	5/11/2016 7:21:00 PM		
LCSD-75019	5	ICPMS_TSDOD1	LCSD	75019	5/11/2016 7:23:00 PM		
1605047-24A	5	ICPMS_TSDOD1	SAMP	75019	5/11/2016 7:27:00 PM		
1605047-24A SD	25	ICPMS_TSDOD1	SD	75019	5/11/2016 7:29:00 PM		
1605047-11A	5	ICPMS_TSDOD1	SAMP	75019	5/11/2016 7:32:00 PM		
1605047-12A	5	ICPMS_TSDOD1	SAMP	75019	5/11/2016 7:33:00 PM		
1605047-13A	5	ICPMS_TSDOD1	SAMP	75019	5/11/2016 7:35:00 PM		
1605047-14A	5	ICPMS_TSDOD1	SAMP	75019	5/11/2016 7:37:00 PM		
1605047-15A	5	ICPMS_TSDOD1	SAMP	75019	5/11/2016 7:39:00 PM		
1605047-16A	5	ICPMS_TSDOD1	SAMP	75019	5/11/2016 7:41:00 PM		
1605047-17A	5	ICPMS_TSDOD1	SAMP	75019	5/11/2016 7:43:00 PM		
1605047-18A	5	ICPMS_TSDOD1	SAMP	75019	5/11/2016 7:45:00 PM		
1605047-19A	5	ICPMS_TSDOD1	SAMP	75019	5/11/2016 7:47:00 PM		
1605047-24A PDS	5	ICPMS_TSDOD1	PDS	75019	5/11/2016 7:49:00 PM		
1605047-24A MS	5	ICPMS_TSDOD1	MS	75019	5/11/2016 7:51:00 PM		
1605047-24A MSD	5	ICPMS_TSDOD1	MSD	75019	5/11/2016 7:53:00 PM		
CCV3-160511	1	ICPMS_TWDOD	CCV	R85761	5/11/2016 7:55:00 PM		
LCVL3-160511	1	ICPMS_TWDOD	LCVL	R85761	5/11/2016 7:59:00 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_160511C** **Run No.:** 85761

CCB3-160511	1	ICPMS_TWDOD	CCB	R85761	5/11/2016 8:01:00 PM		
1605047-20A	5	ICPMS_TSDOD1	SAMP	75019	5/11/2016 8:03:00 PM		
1605047-21A	5	ICPMS_TSDOD1	SAMP	75019	5/11/2016 8:05:00 PM		
1605047-22A	5	ICPMS_TSDOD1	SAMP	75019	5/11/2016 8:07:00 PM		
1605047-23A	5	ICPMS_TSDOD1	SAMP	75019	5/11/2016 8:09:00 PM		
1605047-25A	5	ICPMS_TSDOD1	SAMP	75019	5/11/2016 8:11:00 PM		
1605047-26A	5	ICPMS_TSDOD1	SAMP	75019	5/11/2016 8:13:00 PM		
1605047-27A	5	ICPMS_TSDOD1	SAMP	75019	5/11/2016 8:15:00 PM		
1605047-28A	5	ICPMS_TSDOD1	SAMP	75019	5/11/2016 8:17:00 PM		
1605047-29A	5	ICPMS_TSDOD1	SAMP	75019	5/11/2016 8:19:00 PM		
1605047-30A	5	ICPMS_TSDOD1	SAMP	75019	5/11/2016 8:21:00 PM		
CCV4-160511	1	ICPMS_TWDOD	CCV	R85761	5/11/2016 8:23:00 PM		
LCVL4-160511	1	ICPMS_TWDOD	LCVL	R85761	5/11/2016 8:27:00 PM		
CCB4-160511	1	ICPMS_TWDOD	CCB	R85761	5/11/2016 8:43:00 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\160511.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	L2-160511	CAL ICPMS_TW	2102	
14	CCB		CAL ICPMS_TW	1102	
15	CCB		CAL ICPMS_TW	1102	
16	CCB		CAL ICPMS_TW	1103	
17	CCB		CAL ICPMS_TW	1103	
18	CCB		CAL ICPMS_TW	1103	
19	CCB		CAL ICPMS_TW	1103	
20	CalBlk	BLANK STD 1	CAL ICPMS_TW	2101	

#	Level	Dilution	Skip
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12	1		
13	2		
14			
15			
16			
17			
18			
19			

Sample List

20 1

#	Sample Type	Sample Name	Comment	Vial#	File Name
21	CalStd	L2-160511	CAL ICPMS_TW	2102	
22	CalStd	L-160511	CAL ICPMS_TW	2103	
23	CalStd	10X-160511	CAL ICPMS_TW	2104	
24	CalStd	5X-160511	CAL ICPMS_TW	2105	
25	CalStd	2X-160511	CAL ICPMS_TW	2106	
26	CalStd	H-160511	CAL ICPMS_TW	2107	
27	CalStd	H2-160511	CAL ICPMS_TW	2108	
28	ICB	BLANK	CCB ICPMS_TW	1101	
29	ICB	BLANK	CCB ICPMS_TW	1102	
30	ICSA	ICSA-160511	ICSAICPMS_TW	2109	
31	ICSB	ICSAB-160511	ICSBICPMS_TW	2110	
32	ICB	BLANK	CCB ICPMS_TW	1101	
33	ICB	BLANK	CCB ICPMS_TW	1102	
34	ICV	ICV-160511	ICV ICPMS_TW	2111	
35	ICB	ICB-160511	ICB ICPMS_TW	1101	
36	LLICV	LCVL-160511	LCVLICPMS_TW	2112	
37	ICB	ICB-160511	ICB ICPMS_TW	1102	
38	ICB	ICB-160511	ICB ICPMS_TW	1103	
39	PB_W	MB-75065	MBLK200.8	2201	
40	LCS_200	LCS-75065	LCS 200.8	2202	

#	Level	Dilution	Skip
21	2		
22	3		
23	4		
24	5		
25	6		
26	7		
27	8		
28			
29			
30			
31			
32			
33			
34			
35			
36			
37			
38			
39		1	
40		1	

#	Sample Type	Sample Name	Comment	Vial#	File Name
41	LCS_200	LCSD-75065	LCSD200.8	2203	
42	CCB	RINSE	CCB ICPMS_TW	1101	
43	AllRef	1605079-01A	SAMP200.8	2204	
44	SD	1605079-01A SD	SD 200.8	2205	
45	SAMP_W	1605077-01B	SAMP200.8	2206	

Sample List

46	SAMP_W	1605078-01A	SAMP200.8	2207
47	PDS	1605079-01A PDS	PDS 200.8	2208
48	MS_W	1605079-01A MS	MS 200.8	2209
49	MS_W	1605079-01A MSD	MSD 200.8	2210
50	CCB	RINSE	CCB ICPMS_TW	1102
51	CCB	RINSE	CCB ICPMS_TW	1103
52	CCB	RINSE	CCB ICPMS_TW	1103
53	PB_W	MB-74943	MBLK6020A_W	2301
54	LCS_W	LCS-74943	LCS 6020A_W	2302
55	LCS_W	LCSD-74943	LCSD6020A_W	2303
56	CCB	RINSE	CCB ICPMS_TW	1101
57	AllRef	1605015-02B	SAMP6020A_W	2304
58	SD	1605015-02B SD	SD 6020A_W	2305
59	SAMP_W	1605015-01B	SAMP6020A_W	2306
60	SAMP_W	1605015-03B	SAMP6020A_W	2307

#	Level	Dilution	Skip
41		1	
42			
43		1	
44		5	
45		1	
46		1	
47		1	
48		1	
49		1	
50			
51			
52			
53		1	
54		1	
55		1	
56			
57		10	
58		50	
59		10	
60		10	

#	Sample Type	Sample Name	Comment	Vial#	File Name
61	SAMP_W	1605015-04B	SAMP6020A_W	2308	
62	PDS	1605015-02B PDS	PDS 6020A_W	2309	
63	MS_W	1605015-02B MS	MS 6020A_W	2310	
64	MS_W	1605015-02B MSD	MSD 6020A_W	2311	
65	CCB	CCB1-160511	CCB ICPMS_TW	1102	
66	CCB	CCB1-160511	CCB ICPMS_TW	1103	
67	CCV	CCV1-160511	CCV ICPMS_TW	1207	
68	CCV	CCV1-160511	CCV ICPMS_TW	1207	
69	CCB	CCB1-160511	CCB ICPMS_TW	1102	
70	CCB	CCB1-160511	CCB ICPMS_TW	1103	
71	LLCCV	LCVL1-160511	LCVLICPMS_TW	2112	
72	CCB	CCB1-160511	CCB ICPMS_TW	1103	
73	PB_W	MB-75029	MBLKICPMS_TW	3101	

Sample List

74	LCS_W	LCS-75029	LCS ICPMS_TW	3102
75	LCS_W	LCSD-75029	LCSDICPMS_TW	3103
76	CCB	RINSE	CCB ICPMS_TW	1101
77	AllRef	1605045-03B	SAMPICPMS_TW	3104
78	SD	1605045-03B SD	SD ICPMS_TW	3105
79	SAMP_W	1605045-01B	SAMPICPMS_TW	3106
80	SAMP_W	1605045-02B	SAMPICPMS_TW	3107

#	Level	Dilution	Skip
61		10	
62		10	
63		10	
64		10	
65			
66			
67			
68			
69			
70			
71			
72			
73		1	
74		1	
75		1	
76			
77		100	
78		500	
79		100	
80		100	

#	Sample Type	Sample Name	Comment	Vial#	File Name
81	SAMP_W	1605045-04B	SAMPICPMS_TW	3108	
82	SAMP_W	1605045-05B	SAMPICPMS_TW	3109	
83	SAMP_W	1605045-06B	SAMPICPMS_TW	3110	
84	SAMP_W	1605045-07B	SAMPICPMS_TW	3111	
85	SAMP_W	1605045-08B	SAMPICPMS_TW	3112	
86	SAMP_W	1605070-01B	SAMPICPMS_TW	3201	
87	SAMP_W	1605070-02B	SAMPICPMS_TW	3202	
88	PDS	1605045-03B PDS	PDS ICPMS_TW	3203	
89	MS_W	1605045-03B MS	MS ICPMS_TW	3204	
90	MS_W	1605045-03B MSD	MSD ICPMS_TW	3205	
91	CCV	CCV2-160511	CCV ICPMS_TW	1207	
92	CCB	CCB2-160511	CCB ICPMS_TW	1102	
93	LLCCV	LCVL2-160511	LCVLICPMS_TW	2112	
94	CCB	CCB2-160511	CCB ICPMS_TW	1103	
95	SAMP_W	1605070-03B	SAMPICPMS_TW	3206	
96	SAMP_W	1605070-04B	SAMPICPMS_TW	3207	
97	SAMP_W	1605070-05B	SAMPICPMS_TW	3208	
98	SAMP_W	1605073-01B	SAMPICPMS_TW	3209	
99	SAMP_W	1605075-01B	SAMPICPMS_TW	3210	
100	SAMP_W	1605075-02B	SAMPICPMS_TW	3211	

Sample List

#	Level	Dilution	Skip
81		100	
82		100	
83		100	
84		100	
85		100	
86		100	
87		100	
88		100	
89		100	
90		100	
91			
92			
93			
94			
95		100	
96		100	
97		100	
98		100	
99		100	
100		100	

#	Sample Type	Sample Name	Comment	Vial#	File Name
101	SAMP_W	1605075-03B	SAMPICPMS_TW	3212	
102	SAMP_W	1605075-04B	SAMPICPMS_TW	3301	
103	SAMP_W	1605075-05B	SAMPICPMS_TW	3302	
104	SAMP_W	1605075-07B	SAMPICPMS_TW	3303	
105	CCV	CCV3-160511	CCV ICPMS_TW	1207	
106	CCB	CCB3-160511	CCB ICPMS_TW	1102	
107	LLCCV	LCVL3-160511	LCVLICPMS_TW	2512	
108	CCB	CCB3-160511	CCB ICPMS_TW	1103	
109	PB_W	MB-75012	MBLK6020A_W	3311	
110	LCS_W	LCS-75012	LCS 6020A_W	3312	
111	LCS_W	LCSD-75012	LCSD6020A_W	3401	
112	CCB	RINSE	CCB ICPMS_TW	1101	
113	AllRef	1605064-04A	SAMP6020A_W	3402	
114	SD	1605064-04A SD	SD 6020A_W	3403	

#	Level	Dilution	Skip
101		100	
102		100	
103		100	
104		100	
105			
106			
107			
108			
109		1	
110		1	
111		1	
112			
113		1	

Sample List

114 5

Unknown Samples:

Blank Samples:

Periodic Block

#	Block Name	Period	Unit	Reset By

Sublist

Sample List

Batch Folder C:\Agilent\ICPMH\1\DATA\160511Z.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	L2-160511	CAL ICPMS_TW	2102	
14	CalStd	L-160511	CAL ICPMS_TW	2103	
15	CalStd	10X-160511	CAL ICPMS_TW	2104	
16	CalStd	5X-160511	CAL ICPMS_TW	2105	
17	CalStd	2X-160511	CAL ICPMS_TW	2106	
18	CalStd	H-160511	CAL ICPMS_TW	2107	
19	CalStd	H2-160511	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

20

#	Sample Type	Sample Name	Comment	Vial#	File Name
21	ICB	BLANK	CCB ICPMS_TW	1102	
22	ICSA	ICSA-160511	ICSAICPMS_TW	2109	
23	ICSB	ICSAB-160511	ICSBICPMS_TW	2110	
24	ICB	BLANK	CCB ICPMS_TW	1101	
25	ICB	BLANK	CCB ICPMS_TW	1102	
26	ICV	ICV2-160511	ICV ICPMS_TW	2111	
27	ICB	ICB2-160511	ICB ICPMS_TW	1101	
28	LLICV	ILCVL2-160511	LCVLICPMS_TW	2112	
29	ICB	ICB2-160511	ICB ICPMS_TW	1102	
30	ICB	ICB2-160511	ICB ICPMS_TW	1103	
31	PB	MB-75056	MBLKICPMS_TSDOD	2201	
32	LCS_S	LCS-75056	LCS ICPMS_TSDOD	2202	
33	LCS_S	LCSD-75056	LCSDICPMS_TSDOD	2203	
34	CCB	RINSE	CCB ICPMS_TW	1101	
35	AllRef	1605071-09A	SAMPICPMS_TSDOD	2204	
36	SD	1605071-09A SD	SD ICPMS_TSDOD	2205	
37	Sample	1605047-33A	SAMPICPMS_TSDOD	2206	
38	Sample	1605047-34A	SAMPICPMS_TSDOD	2207	
39	Sample	1605047-35A	SAMPICPMS_TSDOD	2208	
40	Sample	1605047-36A	SAMPICPMS_TSDOD	2209	

#	Level	Dilution	Skip
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31		5	
32		5	
33		5	
34			
35		5	
36		25	
37		5	
38		5	
39		5	
40		5	

#	Sample Type	Sample Name	Comment	Vial#	File Name
41	Sample	1605047-37A	SAMPICPMS_TSDOD	2210	
42	Sample	1605047-39A	SAMPICPMS_TSDOD	2211	
43	Sample	1605047-42A	SAMPICPMS_TSDOD	2212	
44	Sample	1605047-45A	SAMPICPMS_TSDOD	2301	
45	Sample	1605047-46A	SAMPICPMS_TSDOD	2302	

Sample List

46	PDS	1605071-09A PDS	PDS ICPMS_TSDOD	2303
47	MS_S	1605071-09A MS	MS ICPMS_TSDOD	2304
48	MS_S	1605071-09A MSD	MSD ICPMS_TSDOD	2305
49	CCV	CCV1-160511	CCV ICPMS_TW	1207
50	CCB	CCB1-160511	CCB ICPMS_TW	1102
51	LLCCV	LCVL1-160511	LCVLICPMS_TW	2112
52	CCB	CCB1-160511	CCB ICPMS_TW	1103
53	Sample	1605071-01A	SAMPICPMS_TSDOD	2306
54	Sample	1605071-02A	SAMPICPMS_TSDOD	2307
55	Sample	1605071-03A	SAMPICPMS_TSDOD	2308
56	Sample	1605071-04A	SAMPICPMS_TSDOD	2309
57	Sample	1605071-05A	SAMPICPMS_TSDOD	2310
58	Sample	1605071-06A	SAMPICPMS_TSDOD	2311
59	Sample	1605071-07A	SAMPICPMS_TSDOD	2312
60	Sample	1605071-08A	SAMPICPMS_TSDOD	2401

#	Level	Dilution	Skip
41		5	
42		5	
43		5	
44		50	
45		50	
46		5	
47		5	
48		5	
49			
50			
51			
52			
53		5	
54		5	
55		5	
56		5	
57		5	
58		5	
59		5	
60		5	

#	Sample Type	Sample Name	Comment	Vial#	File Name
61	Sample	1605071-10A	SAMPICPMS_TSDOD	2402	
62	Sample	1605071-11A	SAMPICPMS_TSDOD	2403	
63	CCV	CCV2-160511	CCV ICPMS_TW	1207	
64	CCB	CCB2-160511	CCB ICPMS_TW	1102	
65	LLCCV	LCVL2-160511	LCVLICPMS_TW	2112	
66	CCB	CCB2-160511	CCB ICPMS_TW	1103	
67	PB	MB-75019	MBLKICPMS_TSDOD	3101	
68	LCS_S	LCS-75019	LCS ICPMS_TSDOD	3102	
69	LCS_S	LCSD-75019	LCSDICPMS_TSDOD	3103	
70	CCB	RINSE	CCB ICPMS_TW	1101	
71	AllRef	1605047-24A	SAMPICPMS_TSDOD	3104	
72	SD	1605047-24A SD	SD ICPMS_TSDOD	3105	
73	Sample	1605047-11A	SAMPICPMS_TSDOD	3106	

Sample List

74	Sample	1605047-12A	SAMPICPMS_TSDOD	3107
75	Sample	1605047-13A	SAMPICPMS_TSDOD	3108
76	Sample	1605047-14A	SAMPICPMS_TSDOD	3109
77	Sample	1605047-15A	SAMPICPMS_TSDOD	3110
78	Sample	1605047-16A	SAMPICPMS_TSDOD	3111
79	Sample	1605047-17A	SAMPICPMS_TSDOD	3112
80	Sample	1605047-18A	SAMPICPMS_TSDOD	3201

#	Level	Dilution	Skip
61		5	
62		5	
63			
64			
65			
66			
67		5	
68		5	
69		5	
70			
71		5	
72		25	
73		5	
74		5	
75		5	
76		5	
77		5	
78		5	
79		5	
80		5	

#	Sample Type	Sample Name	Comment	Vial#	File Name
81	Sample	1605047-19A	SAMPICPMS_TSDOD	3202	
82	PDS	1605047-24A PDS	PDS ICPMS_TSDOD	3203	
83	MS_S	1605047-24A MS	MS ICPMS_TSDOD	3204	
84	MS_S	1605047-24A MSD	MSD ICPMS_TSDOD	3205	
85	CCV	CCV3-160511	CCV ICPMS_TW	1207	
86	CCB	CCB3-160511	CCB ICPMS_TW	1102	
87	LLCCV	LCVL3-160511	LCVLICPMS_TW	2512	
88	CCB	CCB3-160511	CCB ICPMS_TW	1103	
89	Sample	1605047-20A	SAMPICPMS_TSDOD	3206	
90	Sample	1605047-21A	SAMPICPMS_TSDOD	3207	
91	Sample	1605047-22A	SAMPICPMS_TSDOD	3208	
92	Sample	1605047-23A	SAMPICPMS_TSDOD	3209	
93	Sample	1605047-25A	SAMPICPMS_TSDOD	3210	
94	Sample	1605047-26A	SAMPICPMS_TSDOD	3211	
95	Sample	1605047-27A	SAMPICPMS_TSDOD	3212	
96	Sample	1605047-28A	SAMPICPMS_TSDOD	3301	
97	Sample	1605047-29A	SAMPICPMS_TSDOD	3302	
98	Sample	1605047-30A	SAMPICPMS_TSDOD	3303	
99	CCV	CCV4-160511	CCV ICPMS_TW	1207	
100	CCB	CCB4-160511	CCB ICPMS_TW	1102	

Sample List

#	Level	Dilution	Skip
81		5	
82		5	
83		5	
84		5	
85			
86			
87			
88			
89		5	
90		5	
91		5	
92		5	
93		5	
94		5	
95		5	
96		5	
97		5	
98		5	
99			
100			

#	Sample Type	Sample Name	Comment	Vial#	File Name
101	LLCCV	LCVL4-160511	LCVLICPMS_TW	2512	
102	CCB	CCB4-160511	CCB ICPMS_TW	1102	
103	CCB	CCB4-160511	CCB ICPMS_TW	1102	
104	CCB	CCB4-160511	CCB ICPMS_TW	1102	
105	CCB	CCB4-160511	CCB ICPMS_TW	1102	
106	CCB	CCB4-160511	CCB ICPMS_TW	1103	
107	CCB	CCB4-160511	CCB ICPMS_TW	1103	
108	CCB	CCB4-160511	CCB ICPMS_TW	1103	
109	CCB	CCB4-160511	CCB ICPMS_TW	1103	

#	Level	Dilution	Skip
101			
102			
103			
104			
105			
106			
107			
108			
109			

Unknown Samples:

Blank Samples:

Periodic Block

Sample List

#	Block Name	Period	Unit	Reset By

Sublist

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/10/2016 8:30:00 AM**
Digestion: **Start: 5/10/2016 9:40:00 AM / Stop: 5/10/2016 3:10:00 PM**
Prep End Date: **5/10/2016 3:22:33 PM**

Prep Batch **75019** Prep Code: **3050_IDOD** Technician: **Cassie Van Dyke**

Prep Factor Units: **mL/g**

Equipment List
Hot Block #3
Thermometer #71
Balance #30
Pipette #P-01
Pipette#-P-09

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605047-11A	Soil		1.16	50	43.103	1 of 1	
1605047-12A	Soil		1.08	50	46.296	1 of 1	
1605047-13A	Soil		1.09	50	45.872	1 of 1	
1605047-14A	Soil		1.05	50	47.619	1 of 1	
1605047-15A	Soil		1.13	50	44.248	1 of 1	
1605047-16A	Soil		1.04	50	48.077	1 of 1	
1605047-17A	Soil		1.16	50	43.103	1 of 1	
1605047-18A	Soil		1.11	50	45.045	1 of 1	
1605047-19A	Soil		1.03	50	48.544	1 of 1	
1605047-20A	Soil		1.05	50	47.619	1 of 1	
1605047-21A	Soil		1.09	50	45.872	1 of 1	
1605047-22A	Soil		1.18	50	42.373	1 of 1	
1605047-23A	Soil		1.07	50	46.729	1 of 1	
1605047-24A	Soil		1.13	50	44.248	3 of 3	
1605047-24A MS	Soil		1	50	50.000	3 of	
1605047-24A MSD	Soil		1	50	50.000	3 of	
1605047-24A PDS	Soil		1.13	50	44.248	3 of	
1605047-24A SD	Soil		1.13	50	44.248	3 of	
1605047-25A	Soil		1.1	50	45.455	1 of 1	
1605047-26A	Soil		1.19	50	42.017	1 of 1	
1605047-27A	Soil		1.18	50	42.373	1 of 1	
1605047-28A	Soil		1.1	50	45.455	1 of 1	
1605047-29A	Soil		1.06	50	47.170	1 of 1	
1605047-30A	Soil		1.08	50	46.296	1 of 1	
LCS-75019	Soil		1	50	50.000	of	
LCSD-75019	Soil		1	50	50.000	of	
MB-75019	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-160428-05	50 PPM Custom+Sn,Ti,B,Mo,Sr CAL	LCS/MS/MSD	1	07/27/2016
MET-SPIKE-160509-4	50 PPM Sb+Ag CAL	LCS/MS/MSD	1	08/07/2016

REVIEWED BY
By Janice Whitt at 4:28:22 PM, 5/12/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/10/2016 8:30:00 AM**
Digestion:
Prep End Date:

Prep Batch **75019** Prep Code: **3050_IDOD** Technician: **Cassie Van Dyke**

Prep Factor Units: **mL/g**

Equipment List
Hot Block #3
Thermometer #71
Balance #30
Pipette #P-01
Pipette#-P-09

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605047-11A	Soil		1.16	50	50.000	1 of 1	
1605047-12A	Soil		1.08	50	50.000	1 of 1	
1605047-13A	Soil		1.09	50	50.000	1 of 1	
1605047-14A	Soil		1.05	50	50.000	1 of 1	
1605047-15A	Soil		1.13	50	50.000	1 of 1	
1605047-16A	Soil		1.04	50	50.000	1 of 1	
1605047-17A	Soil		1.16	50	50.000	1 of 1	
1605047-18A	Soil		1.11	50	50.000	1 of 1	
1605047-19A	Soil		1.03	50	50.000	1 of 1	
1605047-20A	Soil		1.05	50	50.000	1 of 1	
1605047-21A	Soil		1.09	50	50.000	1 of 1	
1605047-22A	Soil		1.18	50	50.000	1 of 1	
1605047-23A	Soil		1.07	50	50.000	1 of 1	
1605047-24A	Soil		1.13	50	50.000	3 of 3	
1605047-24AMS	Soil		1.08	50	50.000	3 of 3	
1605047-24AMSD	Soil		1.10 ~~1.08~~	50	50.000	3 of 3	
1605047-25A	Soil		1.10	50	50.000	1 of 1	
1605047-26A	Soil		1.19	50	50.000	1 of 1	
1605047-27A	Soil		1.18	50	50.000	1 of 1	
1605047-28A	Soil		1.10	50	50.000	1 of 1	
1605047-29A	Soil		1.06	50	50.000	1 of 1	
1605047-30A	Soil		1.08	50	50.000	1 of 1	
LCS-75019	Soil		1	50	50.000	of	
LCSD-75019	Soil		1	50	50.000	of	
MB-75019	Soil		1	50	50.000	of	

Number	Reagent Name	Amt	Units	Exp. Date
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	Samp Type	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-160428-05	50 PPM Custom+Sn,Ti,B,Mo,Sr CAL	LCS/MS/MSD	1	07/27/2016
MET-SPIKE-160509-4	50 PPM Sb+Ag CAL	LCS/MS/MSD	1	08/07/2016

9:40-9:50
9:58-11:58
12:37-14:37
14:55-15:10

REVIEWED BY
By Janice Whitt at 4:28:15 PM, 5/12/2016

5/10/16

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/5/2016 2:00:00 PM**
Digestion: **Start: 5/5/2016 5:00:00 PM / Stop: 5/7/2016 9:00:00 AM**
Prep End Date: **5/7/2016 3:30:00 PM**

Prep Batch **74972** Prep Code: **ISM2MM_PREP** Technician **Jennifer Barker** Prep Factor Units: **mL/**

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #			Cleanup
1605047-01A	Soil		0	0	#Num!	1	of	1	
1605047-02A	Soil		0	0	#Num!	1	of	1	
1605047-03A	Soil		0	0	#Num!		of	3	Extra sample was subsampled for MS/MSD.
1605047-04A	Soil		0	0	#Num!	1	of	1	
1605047-05A	Soil		0	0	#Num!	1	of	1	
1605047-06A	Soil		0	0	#Num!	1	of	1	
1605047-07A	Soil		0	0	#Num!	1	of	1	
1605047-08A	Soil		0	0	#Num!	1	of	1	
1605047-09A	Soil		0	0	#Num!	1	of	1	
1605047-10A	Soil		0	0	#Num!	1	of	1	
1605047-11A	Soil		0	0	#Num!	1	of	1	
1605047-12A	Soil		0	0	#Num!	1	of	1	
1605047-13A	Soil		0	0	#Num!	1	of	1	
1605047-14A	Soil		0	0	#Num!	1	of	1	
1605047-15A	Soil		0	0	#Num!	1	of	1	
1605047-16A	Soil		0	0	#Num!	1	of	1	
1605047-17A	Soil		0	0	#Num!	1	of	1	
1605047-18A	Soil		0	0	#Num!	1	of	1	
1605047-19A	Soil		0	0	#Num!	1	of	1	
1605047-20A	Soil		0	0	#Num!	1	of	1	
1605047-21A	Soil		0	0	#Num!	1	of	1	
1605047-22A	Soil		0	0	#Num!	1	of	1	
1605047-23A	Soil		0	0	#Num!	1	of	1	
1605047-24A	Soil		0	0	#Num!		of	3	Extra sample was subsampled for MS/MSD.
1605047-25A	Soil		0	0	#Num!	1	of	1	
1605047-26A	Soil		0	0	#Num!	1	of	1	
1605047-27A	Soil		0	0	#Num!	1	of	1	

REVIEWED BY
By Janice Whitt at 4:31:14 PM, 5/12/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/5/2016 2:00:00 PM**
Digestion: **Start: 5/5/2016 5:00:00 PM / Stop: 5/7/2016 9:00:00 AM**
Prep End Date: **5/7/2016 3:30:00 PM**

Prep Batch **74972** Prep Code: **ISM2MM_PREP** Technician **Jennifer Barker** Prep Factor Units: **mL/**

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605047-28A	Soil		0	0	#Num!	1 of 1	
1605047-29A	Soil		0	0	#Num!	1 of 1	
1605047-30A	Soil		0	0	#Num!	1 of 1	

REVIEWED BY
By Janice Whitt at 4:31:19 PM, 5/12/2016

MECHANICAL VOLUMETRIC PIPETTE VOLUME DAILY CHECK - DOD QSM 5.0

ANALYST:	CVD	**BALANCE #:**	26	
TEST DATE:	05/10/2016	**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**

PIPETTE ID: P-01	TEST VOLUME (mL)	TOTAL WT (g)	Volume of H_2O at °C	% TEST VOL (98-102%)	BIAS MEAN CRITERIA (± 2%)	PRECISION % RSD Calculated
1	5.00	5.0043	4.9943	99.89	PASS	RSD MUST BE ≤ 1% OF TEST VOLUME VALUE
2		5.0007	4.9907	99.81		
3		5.0013	4.9913	99.83		
AVERAGE (MEAN)		5.002	4.992	99.84		0.039
						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	0.2015	0.2011	100.55	PASS	RSD MUST BE ≤ 1% OF TEST VOLUME VALUE
2		0.2026	0.2022	101.10		
3		0.2023	0.2019	100.95		
AVERAGE (MEAN)		0.202	0.202	100.86		0.281
						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)						

5/10/16

Analyst / Date

REVIEWED BY
By Janice Whitt at 4:28:28 PM, 5/12/2016

Review and Approved / Date

X:\LOGS\Syringe and Pipetter Cal Logbook\MET-HG PREP\Pipetter Accuracy Check-CVD-05.09.16

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/10/2016 10:30:00 AM**
Digestion: **Start: 5/10/2016 1:50:00 PM / Stop: 5/10/2016 3:50:00 PM**
Prep End Date: **5/11/2016 9:25:49 AM**

Prep Batch **75056** Prep Code: **3050_IDOD** Technician: **Will Boston**

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
1605047-33A	Soil		1.05	50	47.619	1 of 1	
1605047-34A	Soil		1.07	50	46.729	1 of 1	
1605047-35A	Soil		1.03	50	48.544	1 of 1	
1605047-36A	Soil		1.12	50	44.643	1 of 1	
1605047-37A	Soil		1.08	50	46.296	1 of 1	
1605047-39A	Soil		1.19	50	42.017	1 of 1	
1605047-42A	Soil		1.06	50	47.170	1 of 1	
1605047-45A	Solid		0.44	50	113.636	1 of 1	
	J.D said to use 0.4-0.5 talk to JD before prep. PAH warning !!!						
1605047-46A	Solid		0.44	50	113.636	1 of 1	
	J.D said to use 0.4-0.5 talk to JD before prep PAH warning !!!						
1605071-01A	Soil		1.04	50	48.077	1 of 1	
1605071-02A	Soil		1.11	50	45.045	1 of 1	
1605071-03A	Soil		1.15	50	43.478	1 of 1	
1605071-04A	Soil		1.01	50	49.505	1 of 1	
1605071-05A	Soil		1.1	50	45.455	1 of 1	
1605071-06A	Soil		1.05	50	47.619	1 of 1	
1605071-07A	Soil		1.04	50	48.077	1 of 1	
1605071-08A	Soil		1.07	50	46.729	1 of 1	
1605071-09A	Soil		1.04	50	48.077	1 of 1	
1605071-09A MS	Soil		1.04	50	48.077	of	
1605071-09A MSD	Soil		1.04	50	48.077	of	
1605071-09A PDS	Soil		1.04	50	48.077	of	
1605071-09A SD	Soil		1.04	50	48.077	of	
1605071-10A	Soil		1.18	50	42.373	1 of 1	

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 4:34:32 PM, 5/12/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/10/2016 10:30:00 AM**
Digestion: **Start: 5/10/2016 1:50:00 PM / Stop: 5/10/2016 3:50:00 PM**
Prep End Date: **5/11/2016 9:25:49 AM**

Prep Batch **75056** Prep Code: **3050_IDOD** Technician: **Will Boston**

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
1605071-11A	Soil		1.03	50	48.544	1 of 1	
LCS-75056	Soil		1	50	50.000	of	
LCSD-75056	Soil		1	50	50.000	of	
MB-75056	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 4:34:34 PM, 5/12/2016

MECHANICAL VOLUMETRIC PIPETTE VOLUME DAILY CHECK - DOD QSM 5.0

ANALYST:	Ryan Oliver	**BALANCE #:**	30	
TEST DATE:	05/11/2016	**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

PIPETTE ID: P-31	TEST VOLUME (mL)	TOTAL WT (g)	Volume of H_2O at °C	% TEST VOL (98-102%)	BIAS MEAN CRITERIA (± 2%)	PRECISION % RSD Calculated
1	5.00	4.9975	4.9875	99.75	PASS	RSD MUST BE ≤ 1% OF TEST VOLUME VALUE
2		4.9941	4.9841	99.68		
3		4.9922	4.9822	99.64		
AVERAGE (MEAN)		4.995	4.985	99.69		0.054
						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	0.9933	0.9913	99.13	PASS	RSD MUST BE ≤ 1% OF TEST VOLUME VALUE
2		0.9934	0.9914	99.14		
3		0.9946	0.9926	99.26		
AVERAGE (MEAN)		0.994	0.992	99.18		0.073
						PASS

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	0.500	0.4979	0.4969	99.38	PASS	RSD MUST BE ≤ 1% OF TEST VOLUME VALUE
2		0.4980	0.4970	99.40		
3		0.4973	0.4963	99.26		
AVERAGE (MEAN)		0.498	0.497	99.35		0.076
						PASS

5/11/16

Analyst / Date

REVIEWED BY
By Janice Whitt at 4:32:50 PM, 5/12/2016

Review and Approved / Date

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/10/2016 9:05:34 AM**
Digestion:
Prep End Date:

Prep Batch **75056** Prep Code: **3050_IDOD** Technician: **Will Boston** 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
1605047-33A	Soil		1 .05	50	50.000	1 of 1	
1605047-34A	Soil		1 .07	50	50.000	1 of 1	
1605047-35A	Soil		1 .03	50	50.000	1 of 1	
1605047-36A	Soil		1 .12	50	50.000	1 of 1	
1605047-37A	Soil		1 .08	50	50.000	1 of 1	
1605047-39A	Soil		1 .19	50	50.000	1 of 1	
1605047-42A	Soil		1 .06	50	50.000	1 of 1	
1605047-45A	Solid		~0.44	50	50.000	1 of 1	JD said use 0.4-0.5
talk to JD before prep. PAH warning !!!							
1605047-46A	Solid		~0.44	50	50.000	1 of 1	" "
talk to JD before prep PAH warning !!!							
1605071-01A	Soil		1 .04	50	50.000	1 of 1	
1605071-02A	Soil		1 .11	50	50.000	1 of 1	
1605071-03A	Soil		1 .15	50	50.000	1 of 1	
1605071-04A	Soil		1 .01	50	50.000	1 of 1	
1605071-05A	Soil		1 .10	50	50.000	1 of 1	
1605071-06A	Soil		1 .05	50	50.000	1 of 1	
1605071-07A	Soil		1 .04	50	50.000	1 of 1	
1605071-08A	Soil		1 .07	50	50.000	1 of 1	
1605071-09A	Soil		1 .04	50	50.000	1 of 1	
1605071-10A	Soil		1 .18	50	50.000	1 of 1	
1605071-11A	Soil		1 .03	50	50.000	1 of 1	
LCS-75056	Soil		1	50	50.000	of	
LCSD-75056	Soil		1	50	50.000	of	
MB-75056	Soil		1	50	50.000	of	
MS			1.04				71-09A
MSD			1.04				

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-160428-05	50 PPM Custom+Sn,Ti,B,Mo,Sr CAL	LCS/MS/MSD	1	07/27/2016
MET-SPIKE-160509-4	50 PPM Sb+Ag CAL	LCS/MS/MSD	1	08/07/2016

11:00-11:10
11:13-13:13
~~14:50-16:50~~ 13:50-15:50
16:20-16:35

WB 05/11/16

REVIEWED BY
By Janice Whitt at 4:34:21 PM, 5/12/2016

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
1605071-01A	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 4:35:33 PM, 5/12/2016

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 4:35:35 PM, 5/12/2016

MECHANICAL VOLUMETRIC PIPETTE VOLUME DAILY CHECK - DOD QSM 5.0

ANALYST:	CVD	**BALANCE #:**	26	
TEST DATE:	05/10/2016	**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	5.0043	4.9943	99.89	PASS	RSD MUST BE ≤ 1% OF TEST VOLUME VALUE
2		5.0007	4.9907	99.81		
3		5.0013	4.9913	99.83		
AVERAGE (MEAN)		**5.002**	**4.992**	**99.84**		**0.039**
						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	0.2015	0.2011	100.55	PASS	RSD MUST BE ≤ 1% OF TEST VOLUME VALUE
2		0.2026	0.2022	101.10		
3		0.2023	0.2019	100.95		
AVERAGE (MEAN)		**0.202**	**0.202**	**100.86**		**0.281**
						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)						

5/10/16

Analyst / Date

REVIEWED BY
By Janice Whitt at 4:28:55 PM, 5/12/2016

Review and Approved / Date

Calibration Summary Report

Date Acquired 5/11/2016 10:46
Data Batch 160511.b

Level	Calibration File Name
1	020CALB.d
2	021CALS.d
3	022CALS.d
4	023CALS.d
5	024CALS.d
6	025CALS.d
7	026CALS.d
8	027CALS.d

Calibration Table

Ele	Corr Coef	Curve Equation
As	1.0000	y = 0.0013 * x + 4.2345E-004
Be	1.0000	y = 4.6698E-005 * x + 3.6973E-006
B	1.0000	y = 1.7987E-005 * x + 5.9119E-005
Na	1.0000	y = 7.1087E-004 * x + 0.0629
Mg	0.9999	y = 3.4930E-004 * x + 7.5045E-004
Al	1.0000	y = 1.3665E-004 * x + 3.6278E-004
K	0.9999	y = 3.8033E-004 * x + 0.0514
Ca	1.0000	y = 2.1467E-005 * x + 2.4108E-004
Ti	1.0000	y = 1.4692E-004 * x + 1.7692E-006
V	0.9999	y = 0.0045 * x + 0.0055
Cr	0.9999	y = 0.0052 * x + 0.0014
Mn	1.0000	y = 0.0030 * x + 1.4305E-004
Fe	1.0000	y = 0.0044 * x + 0.0074
Co	1.0000	y = 0.0119 * x + 9.7809E-005
Ni	1.0000	y = 0.0032 * x + 2.9974E-004
Cu	0.9999	y = 0.0084 * x + 0.0058
Zn	1.0000	y = 0.0015 * x + 5.8885E-004
Se	1.0000	y = 8.2466E-005 * x + 1.1765E-004
Sr	1.0000	y = 6.9273E-004 * x + 2.3008E-005
Mo	0.9999	y = 5.6311E-004 * x + 2.5926E-006
Ag	1.0000	y = 0.0016 * x + 7.8723E-006
Cd	1.0000	y = 2.5954E-004 * x + 1.5306E-006
Sn	1.0000	y = 5.4416E-004 * x + 5.7998E-005
Sb	0.9999	y = 8.3690E-004 * x + 1.7985E-005
Tl	1.0000	y = 0.0016 * x + 3.6568E-006
Ba	1.0000	y = 2.6551E-004 * x + 3.0521E-006
Pb	1.0000	y = 0.0022 * x + 1.0916E-004
Li	0.9999	y = 3.2350E-005 * x + 1.2177E-005

REVIEWED BY
By Janice Whitt at 9:57:18 AM, 5/12/2016

Calibration Summary Report

Level 7 Cal

Ele	Conc	Calc	%Rec
As	500	502.71	101
Be	500	508.89	102
B	500	506.46	101
Na	10000	10132.94	101
Mg	10000	10200.80	102
Al	10000	9998.54	100
K	10000	10225.57	102
Ca	10000	10028.61	100
Ti	500	512.50	103
V	500	521.87	104
Cr	500	520.41	104
Mn	500	517.18	103
Fe	10000	10013.17	100
Co	500	516.10	103
Ni	500	514.32	103
Cu	500	526.59	105
Zn	500	505.17	101
Se	500	502.90	101
Sr	500	512.23	102
Mo	500	521.58	104
Ag	500	499.26	100
Cd	500	503.22	101
Sn	500	512.67	103
Sb	500	502.51	101
Tl	500	503.89	101
Ba	500	501.97	100
Pb	500	505.18	101

Level 8 Cal

Ele	Conc	Calc	%Rec
As	2000	1999.07	100
Be	2000	1997.32	100
B	2000	1997.94	100
Na	25000	24912.41	100
Mg	25000	24885.89	100
K	25000	24875.93	100
Ca	25000		#DIV/0!
Ti	2000	1996.36	100
V	2000	1993.20	100
Cr	2000	1993.52	100
Mn	2000	1994.67	100
Co	2000	1994.53	100
Ni	2000	1994.93	100
Cu	2000	1990.81	100
Zn	2000	1997.59	100
Se	2000	1998.85	100
Sr	2000	1996.81	100
Mo	2000	1993.71	100
Cd	2000	1999.31	100
Sn	2000	1997.08	100
Tl	2000	1998.64	100
Ba	2000	2000.01	100
Pb	2000	1997.96	100
Li	2000	1994.73	100

Use Level 7 Cal. jw 5/12/2016

REVIEWED BY
By Janice Whitt at 9:57:23 AM, 5/12/2016

Calibration Summary Report

Date Acquired 5/11/2016 17:22
Data Batch 60511Z.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 + 2.9401E-004
Be	1.0000	y = 5.3023E-005 * x + 3.2874E-006
B	1.0000	y = 1.9036E-005 * x + 4.7841E-005
Na	1.0000	y = 7.8705E-004 * x + 0.0528
Mg	0.9999	y = 3.8665E-004 * x + 4.3653E-004
Al	1.0000	y = 1.5189E-004 * x + 2.6414E-004
K	0.9999	y = 4.2011E-004 * x + 0.0522
Ca	0.9998	y = 2.4419E-005 * x + 2.5448E-004
Ti	1.0000	y = 1.5669E-004 * x + 1.0966E-005
V	1.0000	y = 0.0047 * x + 0.0024
Cr	1.0000	y = 0.0058 * x + 0.0012
Mn	1.0000	y = 0.0033 * x + 3.0609E-004
Fe	1.0000	y = 0.0051 * x + 0.0052
Co	1.0000	y = 0.0129 * x + 1.2363E-004
Ni	1.0000	y = 0.0036 * x + 2.0607E-004
Cu	0.9999	y = 0.0098 * x + 0.0119
Zn	1.0000	y = 0.0017 * x + 6.0822E-004
Se	1.0000	y = 8.6939E-005 * x + 1.3075E-004
Sr	1.0000	y = 7.0651E-004 * x + 1.5528E-005
Mo	1.0000	y = 5.6578E-004 * x + 2.4894E-006
Ag	0.9999	y = 0.0017 * x + 4.9749E-006
Cd	1.0000	y = 2.5949E-004 * x + 2.0206E-006
Sn	1.0000	y = 5.3836E-004 * x + 1.3593E-004
Sb	1.0000	y = 8.3884E-004 * x + 5.2912E-005
Tl	1.0000	y = 0.0017 * x + 1.2795E-005
Ba	1.0000	y = 2.7229E-004 * x + 2.9632E-006
Pb	1.0000	y = 0.0023 * x + 3.6698E-004
Li	1.0000	y = 3.8183E-005 * x + 4.1863E-006

REVIEWED BY
By Janice Whitt at 9:58:00 AM, 5/12/2016

Calibration Summary Report

Level 7 Cal

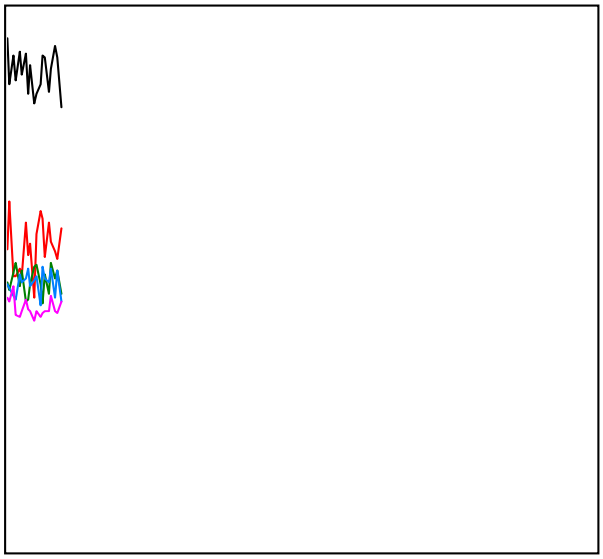
Ele	Conc	Calc	%Rec
As	500	501.34	100
Be	500	501.27	100
B	500	506.16	101
Na	10000	9905.40	99
Mg	10000	10185.41	102
Al	10000	9980.98	100
K	10000	10255.99	103
Ca	10000	9578.37	96
Ti	500	492.57	99
V	500	497.99	100
Cr	500	500.89	100
Mn	500	501.51	100
Fe	10000	9989.85	100
Co	500	516.92	103
Ni	500	509.97	102
Cu	500	517.15	103
Zn	500	507.09	101
Se	500	508.59	102
Sr	500	493.32	99
Mo	500	499.54	100
Ag	500	497.87	100
Cd	500	496.64	99
Sn	500	502.93	101
Sb	500	499.29	100
Tl	500	482.08	96
Ba	500	493.10	99
Pb	500	493.36	99

Level 8 Cal

Ele	Conc	Calc	%Rec
As	2000	1999.75	100
Be	2000	1999.07	100
B	2000	1997.50	100
Na	25000	25018.07	100
Mg	25000	24885.15	100
K	25000	24856.03	101
Ca	25000	25220.76	99
Ti	2000	2002.18	100
V	2000	2000.60	100
Cr	2000	1999.47	100
Mn	2000	1999.52	100
Co	2000	1994.24	100
Ni	2000	1996.43	100
Cu	2000	1994.00	100
Zn	2000	1997.44	100
Se	2000	1997.50	100
Sr	2000	2002.13	100
Mo	2000	2000.14	100
Cd	2000	2000.84	100
Sn	2000	1999.13	100
Tl	2000	2005.07	100
Ba	2000	2002.22	100
Pb	2000	2002.01	100
Li	2000	1996.93	100

REVIEWED BY
By Janice Whitt at 9:58:06 AM, 5/12/2016

Current Signal



Mass	Range	Count	Avg. Count	RSD [%]
51	500	296	279.6	8.45
59	2000	948	993.2	4.97
89	2000	918	985.2	4.34
140	5000	2292	2235.1	3.57
205	2000	1634	1763.3	4.32
156/140	1	0.262 %	0.423 %	40.90
75	50	9	12.1	37.67
78	50	13	13.0	43.59
56	1000	841	822.0	3.94
31	100	72	69.7	15.06

Integration Time [sec] 0.10

Plasma Parameters

RF Power	1550	Carrier Gas	0.60
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	6.9
Extract 2	-200.0	Cell Entrance	-40
Omega Bias	-90	Cell Exit	-60
Deflect	1.6		

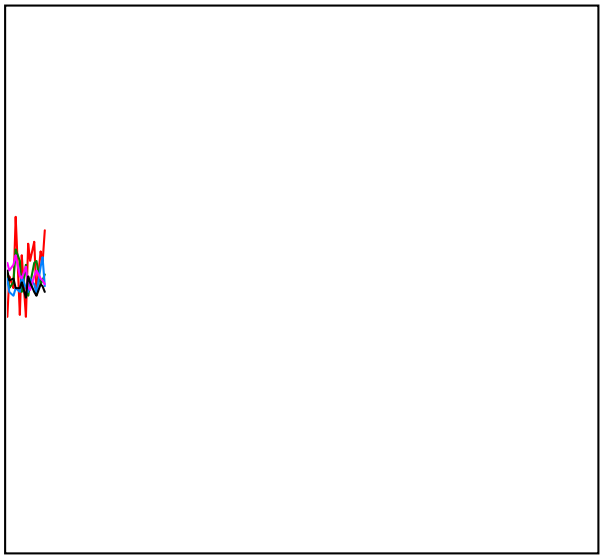
Cell Parameters

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	2.34E+2	Pa	Carrier Gas(BP)	2.21E+2	kPa
Analyzer Press	2.17E-4	Pa	Reflected Power	1	W
Forward Power	1552	W			

Current Signal



Mass	Range	Count	Avg. Count	RSD [%]
51	200	118	103.7	11.62
59	2000	1019	1015.0	4.86
89	2000	973	984.2	3.96
140	5000	2456	2544.2	3.46
205	5000	2394	2447.4	2.81
156/140	1	0.285 %	0.223 %	45.19
75	20	9	8.1	28.03
78	20	8	8.4	39.44
56	1000	724	697.5	3.41
31	50	13	22.6	30.33

Integration Time [sec] 0.10

Plasma Parameters

RF Power	1550	Carrier Gas	0.50
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	6.0
Extract 2	-200.0	Cell Entrance	-40
Omega Bias	-90	Cell Exit	-60
Deflect	1.6		

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	2.49E+2	Pa	Carrier Gas(BP)	1.54E+2	kPa
Analyzer Press	2.18E-4	Pa	Reflected Power	3	W
Forward Power	1549	W			

Current Signal

Mass	Range	Count	Avg. Count	RSD [%]
7	1000	897	869.4	2.50
59	2000	1525	1476.0	3.61
89	5000	2328	2302.3	2.87
140	5000	2070	2057.7	4.74
205	2000	1260	1247.4	3.05
156/140	2	1.401 %	1.252 %	17.19
78	2000	1897	1936.3	2.07
63	2000	1624	1591.2	2.31
75	10000	8953	9016.2	1.82

Integration Time [sec] 0.10

Plasma Parameters

RF Power	1550	Carrier Gas	0.60
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	6.9
Extract 2	-200.0	Cell Entrance	-40
Omega Bias	-90	Cell Exit	-60
Deflect	7.0		

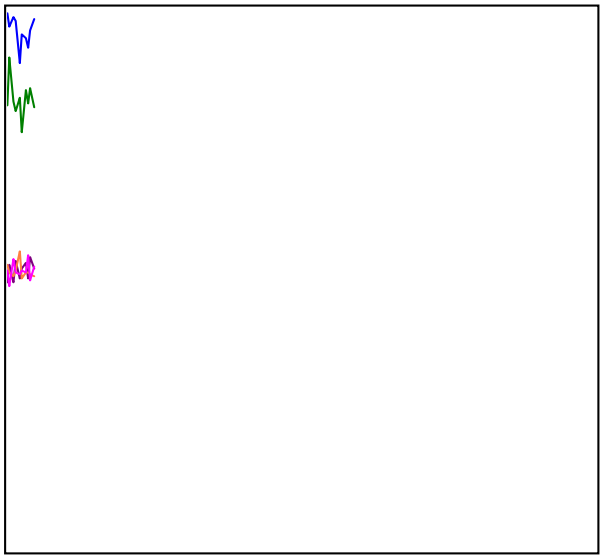
Cell Parameters

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	2.32E+2	Pa	Carrier Gas(BP)	2.22E+2	kPa
Analyzer Press	1.19E-4	Pa	Reflected Power	1	W
Forward Power	1551	W			

Current Signal



Mass	Range	Count	Avg. Count	RSD [%]
7	2000	1040	1031.8	3.22
59	2000	1636	1661.2	4.23
89	5000	2521	2571.9	2.86
140	5000	2610	2575.3	3.21
205	5000	1994	1883.7	4.64
156/140	1	0.958 %	0.659 %	27.38
78	2000	1475	1419.0	3.24
63	1000	977	956.7	2.94
75	5000	4118	3988.8	1.94

Integration Time [sec] 0.10

Plasma Parameters

RF Power	1550	Carrier Gas	0.50
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	6.0
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	2.48E+2	Pa	Carrier Gas(BP)	1.55E+2	kPa
Analyzer Press	1.31E-4	Pa	Reflected Power	3	W
Forward Power	1549	W			

US EPA Tune Check Sample Report

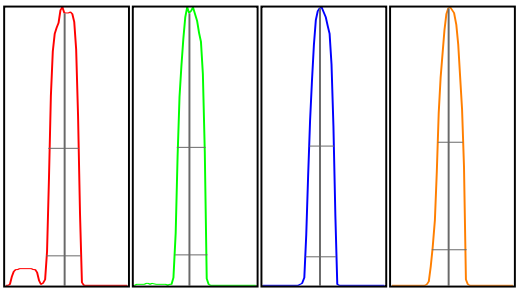
Batch Folder C:\Agilent\ICPMH\1\DATA\DHL TEMPLATE Li.b
Report Comment
Instrument Name ICPMS4 JP12361998

[No gas]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
7	574203	0.38	5.00	
59	894110	0.40	5.00	
115	1115083	0.50	5.00	
205	886120	0.53	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
7	577002	572278	573568	572215	575949
59	895993	898582	891973	894541	889461
115	1112362	1115650	1111602	1111296	1124503
205	888713	892357	885682	880225	883622

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	Width-X% (Flag)
7	83717	7.00	6.9 - 7.1		0.837	0.850	
59	144972	58.90	58.9 - 59.1		0.765	0.850	
115	197650	114.95	114.9 - 115.1		0.756	0.850	
205	151893	204.95	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	0.60	L/min	Makeup/Dilution Gas	0.45	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	6.9	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	%			

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By Janice Whitt at 9:58:13 AM, 5/12/2016

US EPA Tune Check Sample Report

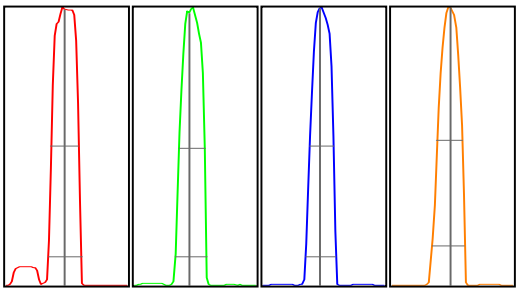
Batch Folder C:\Agilent\ICPMH\1\DATA\DHL TEMPLATE Li.b
Report Comment
Instrument Name ICPMS4 JP12361998

[No gas]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
7	707447	0.39	5.00	
59	952283	0.33	5.00	
115	1282120	0.23	5.00	
205	1162756	1.56	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
7	704004	705517	707480	709440	710793
59	955151	955428	952702	949810	948322
115	1284744	1282397	1284625	1277690	1281143
205	1193586	1163687	1155952	1151693	1148861

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	Width-X% (Flag)
7	108499	7.00	6.9 - 7.1		0.804	0.850	
59	160996	58.90	58.9 - 59.1		0.746	0.850	
115	234880	114.95	114.9 - 115.1		0.743	0.850	
205	201781	205.00	204.9 - 205.1		0.794	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	0.50	L/min	Makeup/Dilution Gas	0.55	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	6.0	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 9:58:18 AM, 5/12/2016

P/A Factor Tuning Report

========== Current Sample ==========
Sample Name: BLANK STD 1
Data File: 020CALB.d
Acquired: 05/11/2016 10:46:55

========= Detector Parameters and P/A Factors =========
Discriminator: 5.7 mV
AnalogHV: 1710 V
PulseHV: 1243 V

Acquired: 05/11/2016 09:56:35

Mass[u]	Element	P/A Factor
6	Li	0.110975
9	Be	0.121942
23	Na	0.128564
24	Mg	0.130632
27	Al	0.130742
39	K	0.135131
45	Sc	0.135581
48		0.136359
51	V	0.136317
52	Cr	0.138370
55	Mn	0.138873
59	Co	0.139472
60	Ni	0.137025
63	Cu	0.137778
66	Zn	0.140997
72		0.138972
74	Ge	0.140559
75	As	0.141415
88	Sr	0.140779
89		0.141422
95		0.139136
97	Mo	0.140129
98	Mo	0.141565
99	[Mo]	0.140325
101		0.139897
105		0.141940
111	Cd	0.139749
114	Cd	0.141412
115	In	0.141622
118	Sn	0.142212
121		0.142119
123	Sb	0.141946
135	Ba	0.141657
138		0.141575
175		0.141782
193		0.142357
205	Tl	0.141181
206	[Pb]	0.141865
207	[Pb]	0.139740
208	Pb	0.141177
209	Bi	0.141388
232		0.141810
238	U	0.142487
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 9:58:24 AM, 5/12/2016

P/A Factor Tuning Report

========== Current Sample ==========
Sample Name: CCB4-160511
Data File: 109_CCB.d
Acquired: 05/11/2016 20:43:53

========= Detector Parameters and P/A Factors =========
Discriminator: 4.5 mV
AnalogHV: 1765 V
PulseHV: 1212 V

Acquired: 05/11/2016 16:49:34

Mass[u]	Element	P/A Factor
6	Li	0.098606
9	Be	0.110992
23	Na	0.119443
24	Mg	0.124175
27	Al	0.128068
39	K	0.129332
45	Sc	0.131211
48		0.132280
51	V	0.133711
52	Cr	0.136599
55	Mn	0.138683
59	Co	0.142289
60	Ni	0.144604
63	Cu	0.145226
66	Zn	0.145305
72		0.143984
74	Ge	0.144770
75	As	0.144212
88	Sr	0.146041
89		0.144068
95		0.143632
97	Mo	0.144028
98	Mo	0.145065
99	[Mo]	0.146271
101		0.147360
105		0.149322
111	Cd	0.151923
114	Cd	0.151546
115	In	0.151630
118	Sn	0.150245
121		0.150467
123	Sb	0.151118
135	Ba	0.150839
138		0.152311
175		0.156213
193		0.157197
205	Tl	0.157791
206	[Pb]	0.158716
207	[Pb]	0.159203
208	Pb	0.159394
209	Bi	0.159468
232		0.159474
238	U	0.159032
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 9:58:31 AM, 5/12/2016

Calibration Blank Report

Date Acquired	5/11/2016 17:22	Sample Name	BLANK STD 1
Data Batch	60511Z.b	Comment	CAL ICPMS_TW
Data File Name	012CALB.d	Dilution	1

Mass	Name	IS	CPS	%RSD
7	Li	45	5	44.61
9	Be	45	4	78.73
11	B	45	53	55.56
23	Na	45	58873	0.56
24	Mg	45	487	6.28
27	Al	45	294	18.30
39	K	45	58135	0.07
44	Ca	45	284	12.62
47	Ti	45	12	15.73
51	V	45	2632	1.90
52	Cr	45	1328	5.40
55	Mn	45	341	14.24
56	Fe	45	5762	2.67
59	Co	72	93	14.29
60	Ni	72	156	29.25
63	Cu	72	9005	3.18
66	Zn	72	459	26.49
75	As	72	222	6.19
78	Se	72	99	3.03
88	Sr	115	111	37.03
95	Mo	115	18	28.64
107	Ag	115	36	23.58
111	Cd	115	14	53.28
118	Sn	115	971	4.41
121	Sb	115	378	12.36
137	Ba	115	21	36.45
205	Tl	209	188	19.95
208	Pb	209	5382	1.35

QC ISTD Table

Mass	Name	CPS	%RSD
45	Sc	1114717	0.40
72	Ge	754800	0.29
115	In	7144493	1.16
209	Bi	14670662	1.93

Calibration Standard Report

Date Acquired	5/11/2016 17:24	Sample Name	L2-160511
Data Batch	60511Z.b	Comment	CAL ICPMS_TW
Data File Name	013CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
7	Li	45	53	9.74
9	Be	45	56	20.82
11	B	45	74	6.84
23	Na	45	76477	1.50
24	Mg	45	8771	2.19
27	Al	45	3616	4.10
39	K	45	67708	2.01
44	Ca	45	832	15.52
47	Ti	45	183	7.27
51	V	45	7707	1.19
52	Cr	45	7744	2.98
55	Mn	45	3861	7.82
56	Fe	45	113436	0.51
59	Co	72	10147	2.48
60	Ni	72	2954	5.83
63	Cu	72	16555	0.81
66	Zn	72	1736	12.20
75	As	72	1243	2.64
78	Se	72	149	14.10
88	Sr	115	4617	0.40
95	Mo	115	3916	2.63
107	Ag	115	12176	1.87
111	Cd	115	1776	11.55
118	Sn	115	4413	2.42
121	Sb	115	6237	1.79
137	Ba	115	1928	2.86
205	Tl	209	23337	0.19
208	Pb	209	36313	1.19

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	1111555	1.44	1114717	99.72	70	120	
72	Ge	744279	0.56	754800	98.61	70	120	
115	In	7054192	1.67	7144493	98.74	70	120	
209	Bi	14659871	0.48	14670662	99.93	70	120	

Calibration Standard Report

Date Acquired	5/11/2016 17:26	Sample Name	L-160511
Data Batch	60511Z.b	Comment	CAL ICPMS_TW
Data File Name	014CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
7	Li	45	438	5.27
9	Be	45	581	5.16
11	B	45	271	23.98
23	Na	45	230517	0.90
24	Mg	45	85394	1.89
27	Al	45	32474	1.33
39	K	45	149350	1.09
44	Ca	45	5536	7.36
47	Ti	45	1656	11.38
51	V	45	52750	1.23
52	Cr	45	64094	0.33
55	Mn	45	36821	0.24
56	Fe	45	1098267	0.46
59	Co	72	99039	0.73
60	Ni	72	27003	1.51
63	Cu	72	84183	0.66
66	Zn	72	12842	3.12
75	As	72	10323	1.01
78	Se	72	772	1.91
88	Sr	115	47592	1.08
95	Mo	115	38312	1.81
107	Ag	115	119599	1.29
111	Cd	115	17532	0.73
118	Sn	115	37679	1.10
121	Sb	115	57356	1.56
137	Ba	115	18167	1.16
205	Tl	209	234281	0.54
208	Pb	209	319505	1.12

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	1111543	0.58	1114717	99.72	70	120	
72	Ge	740376	0.52	754800	98.09	70	120	
115	In	7127923	2.10	7144493	99.77	70	120	
209	Bi	14493184	0.74	14670662	98.79	70	120	

Calibration Standard Report

Date Acquired	5/11/2016 17:28	Sample Name	10X-160511
Data Batch	60511Z.b	Comment	CAL ICPMS_TW
Data File Name	015CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
7	Li	45	2123	2.63
9	Be	45	2922	2.57
11	B	45	1108	9.37
23	Na	45	910308	0.17
24	Mg	45	430256	0.93
27	Al	45	164064	0.48
39	K	45	520733	0.28
44	Ca	45	25595	1.68
47	Ti	45	8416	2.12
51	V	45	255984	0.77
52	Cr	45	313459	0.75
55	Mn	45	181518	0.20
56	Fe	45	5532980	0.90
59	Co	72	489655	0.89
60	Ni	72	135549	1.27
63	Cu	72	384882	0.76
66	Zn	72	64079	0.81
75	As	72	51108	0.67
78	Se	72	3365	2.96
88	Sr	115	237661	2.00
95	Mo	115	190865	1.68
107	Ag	115	599360	0.69
111	Cd	115	87967	1.16
118	Sn	115	182274	0.62
121	Sb	115	283975	1.60
137	Ba	115	90461	0.73
205	Tl	209	1176842	0.50
208	Pb	209	1584243	1.24

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	1113441	1.53	1114717	99.89	70	120	
72	Ge	742002	0.52	754800	98.30	70	120	
115	In	7065171	0.77	7144493	98.89	70	120	
209	Bi	14516191	0.85	14670662	98.95	70	120	

Calibration Standard Report

Date Acquired	5/11/2016 17:30	Sample Name	5X-160511
Data Batch	60511Z.b	Comment	CAL ICPMS_TW
Data File Name	016CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
7	Li	45	4291	0.32
9	Be	45	5847	1.28
11	B	45	2175	2.31
23	Na	45	1804903	0.55
24	Mg	45	878931	1.26
27	Al	45	333293	0.61
39	K	45	1005961	0.59
44	Ca	45	51826	1.03
47	Ti	45	16984	2.18
51	V	45	515091	0.38
52	Cr	45	636480	0.41
55	Mn	45	365694	1.14
56	Fe	45	11115504	0.77
59	Co	72	1003879	0.24
60	Ni	72	273896	1.05
63	Cu	72	767223	1.16
66	Zn	72	129823	2.06
75	As	72	103111	0.47
78	Se	72	6615	1.55
88	Sr	115	480990	0.46
95	Mo	115	388876	0.22
107	Ag	115	1218034	0.54
111	Cd	115	180000	0.44
118	Sn	115	372902	0.91
121	Sb	115	579418	0.20
137	Ba	115	185381	0.27
205	Tl	209	2391186	0.48
208	Pb	209	3198901	0.46

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	1103490	0.48	1114717	98.99	70	120	
72	Ge	734604	1.60	754800	97.32	70	120	
115	In	6995475	2.22	7144493	97.91	70	120	
209	Bi	14484882	0.95	14670662	98.73	70	120	

Calibration Standard Report

Date Acquired	5/11/2016 17:32	Sample Name	2X-160511
Data Batch	60511Z.b	Comment	CAL ICPMS_TW
Data File Name	017CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
7	Li	45	10720	1.39
9	Be	45	14722	1.23
11	B	45	5381	5.75
23	Na	45	4425678	0.74
24	Mg	45	2180090	0.18
27	Al	45	834994	0.12
39	K	45	2430279	0.44
44	Ca	45	127519	0.66
47	Ti	45	42386	1.71
51	V	45	1290905	0.47
52	Cr	45	1584505	0.99
55	Mn	45	906956	0.47
56	Fe	45	27648015	0.58
59	Co	72	2479293	0.45
60	Ni	72	678679	0.58
63	Cu	72	1902792	0.27
66	Zn	72	319812	0.67
75	As	72	255497	0.33
78	Se	72	16320	1.16
88	Sr	115	1208123	0.26
95	Mo	115	979445	0.33
107	Ag	115	3032940	0.58
111	Cd	115	448897	0.83
118	Sn	115	937205	1.61
121	Sb	115	1460976	0.58
137	Ba	115	465391	0.29
205	Tl	209	6000442	0.30
208	Pb	209	8040887	0.27

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	1088228	0.47	1114717	97.62	70	120	
72	Ge	740905	0.89	754800	98.16	70	120	
115	In	6900708	2.28	7144493	96.59	70	120	
209	Bi	14172729	1.21	14670662	96.61	70	120	

Calibration Standard Report

Date Acquired	5/11/2016 17:34	Sample Name	H-160511
Data Batch	60511Z.b	Comment	CAL ICPMS_TW
Data File Name	018CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
7	Li	45	21072	0.62
9	Be	45	28870	0.30
11	B	45	10517	1.96
23	Na	45	8524667	2.67
24	Mg	45	4277639	0.73
27	Al	45	1646805	0.45
39	K	45	4736214	0.53
44	Ca	45	254299	0.88
47	Ti	45	83836	0.19
51	V	45	2560579	0.56
52	Cr	45	3133002	0.64
55	Mn	45	1807523	0.18
56	Fe	45	54830032	2.05
59	Co	72	4864736	0.76
60	Ni	72	1328821	1.41
63	Cu	72	3704228	0.08
66	Zn	72	627224	1.40
75	As	72	506804	1.02
78	Se	72	32370	1.49
88	Sr	115	2385790	0.58
95	Mo	115	1934659	0.56
107	Ag	115	5894894	0.48
111	Cd	115	882367	1.41
118	Sn	115	1854544	0.74
121	Sb	115	2867683	0.84
137	Ba	115	919107	0.42
205	Tl	209	11719468	0.68
208	Pb	209	15958020	1.63

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	1086078	0.35	1114717	97.43	70	120	
72	Ge	729958	1.01	754800	96.71	70	120	
115	In	6847038	1.87	7144493	95.84	70	120	
209	Bi	14200997	2.34	14670662	96.80	70	120	

Calibration Standard Report

Date Acquired	5/11/2016 17:36	Sample Name	H2-160511
Data Batch	60511Z.b	Comment	CAL ICPMS_TW
Data File Name	019CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
7	Li	45	81140	0.58
9	Be	45	112790	0.23
11	B	45	40511	0.62
23	Na	45	21008402	1.16
24	Mg	45	10238561	1.86
27	Al	45	2425	17.68
39	K	45	11167648	1.92
44	Ca	45	655559	0.80
47	Ti	45	333831	0.44
51	V	45	10070731	0.33
52	Cr	45	12248891	0.79
55	Mn	45	7059171	1.34
56	Fe	45	50426	20.33
59	Co	72	18826878	1.30
60	Ni	72	5217831	1.15
63	Cu	72	14302971	0.87
66	Zn	72	2476974	0.81
75	As	72	2027215	0.75
78	Se	72	127256	0.79
88	Sr	115	9551032	0.46
95	Mo	115	7640619	0.68
107	Ag	115	2609	19.19
111	Cd	115	3505672	1.06
118	Sn	115	7268490	1.39
121	Sb	115	3844	8.57
137	Ba	115	3680737	0.85
205	Tl	209	47348280	1.28
208	Pb	209	62894444	2.15

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	1064084	0.68	1114717	95.46	70	120	
72	Ge	732226	0.38	754800	97.01	70	120	
115	In	6752757	1.49	7144493	94.52	70	120	
209	Bi	13790953	0.48	14670662	94.00	70	120	

Interference Check Solution A (ICS-A) Report

Date Acquired	5/11/2016 17:42	Sample Name	ICSA-160511
Data Batch	60511Z.b	Comment	ICSAICPMS_TW
Data File Name	022ICSA.d	Dilution	1

Mass	Name	Conc	CPS	%RSD	MDL S	MDL Aq	QC Flag
9	Be	-0.033	2	91.7	1.2	0.8	
11	B	34.613	764	8.6	30	30	FailAq FailSoil
51	V	-0.088	2102	0.6	10	10	
52	Cr	0.447	4071	3.4	8	5	
55	Mn	1.399	5351	1.8	8	10	
59	Co	0.589	5555	2.5	8	10	
60	Ni	0.479	1379	11.7	8	10	
63	Cu	0.565	12572	1.5	8	10	
66	Zn	1.972	2841	2.7	10	5	
75	As	0.727	936	5.4	4	5	
78	Se	0.155	104	17.2	2	5	
88	Sr	1.473	7054	2.4	10	10	
107	Ag	0.158	1853	3.4	0.8	2	
111	Cd	0.537	943	5.6	1.2	1	
118	Sn	0.949	4315	4.9	10	10	
121	Sb	0.436	2794	5.0	4	2.5	
137	Ba	0.371	693	13.8	8	10	
205	Tl	0.099	2472	10.1	4	1.5	
208	Pb	0.443	18592	4.4	1.2	1	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1081601	0.21	1114717	97.03	70	120	
72	Ge	719920	1.00	754800	95.38	70	120	
115	In	6676749	1.71	7144493	93.45	70	120	
209	Bi	13514542	0.62	14670662	92.12	70	120	

Interference Check Solution AB (ICS-AB) Report

Date Acquired	5/11/2016 17:44	Sample Name	ICSAB-160511
Data Batch	60511Z.b	Comment	ICSBICPMS_TW
Data File Name	023ICSB.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
51	V	45	39.932	210176	0.62	40	99.8	80	120	
52	Cr	45	20.966	133966	0.93	20	104.8	80	120	
55	Mn	45	19.735	72306	0.31	20	98.7	80	120	
59	Co	72	41.833	394459	0.16	40	104.6	80	120	
60	Ni	72	38.985	101891	0.71	40	97.5	80	120	
63	Cu	72	21.000	159060	0.82	20	105.0	80	120	
66	Zn	72	20.741	26126	1.60	20	103.7	80	120	
75	As	72	20.620	21086	1.30	20	103.1	80	120	
78	Se	72	20.901	1425	3.77	20	104.5	80	120	
107	Ag	115	18.714	220884	0.46	20	93.6	80	120	
111	Cd	115	9.944	17619	1.37	10	99.4	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1099119	0.36	1114717	98.60	70	120	
72	Ge	731234	0.82	754800	96.88	70	120	
115	In	6823320	0.87	7144493	95.50	70	120	
209	Bi	13568729	0.61	14670662	92.49	70	120	

Initial Calibration Verification (ICV) Report

Date Acquired	5/11/2016 17:55	Sample Name	ICV2-160511
Data Batch	60511Z.b	Comment	ICV ICPMS_TW
Data File Name	026_ICV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	104.446	4442	1.79	100	104.4	90	110	
9	Be	45	103.980	6137	0.73	100	104.0	90	110	
11	B	45	109.128	2365	5.26	100	109.1	90	110	
23	Na	45	2651.656	2380556	0.79	2500	106.1	90	110	
24	Mg	45	2613.634	1124723	0.30	2500	104.5	90	110	
27	Al	45	2515.978	425440	0.84	2500	100.6	90	110	
39	K	45	2599.012	1272759	0.83	2500	104.0	90	110	
44	Ca	45	2359.378	64380	1.88	2500	94.4	90	110	
47	Ti	45	101.570	17718	0.41	100	101.6	90	110	
51	V	45	101.934	538979	0.28	100	101.9	90	110	
52	Cr	45	107.318	688658	0.84	100	107.3	90	110	
55	Mn	45	101.633	375483	0.66	100	101.6	90	110	
56	Fe	45	2534.894	14256058	0.62	2500	101.4	90	110	
59	Co	72	109.244	1042299	0.31	100	109.2	90	110	
60	Ni	72	109.756	290018	0.98	100	109.8	90	110	
63	Cu	72	104.829	768243	0.18	100	104.8	90	110	
66	Zn	72	105.526	132675	1.04	100	105.5	90	110	
75	As	72	102.184	104889	0.30	100	102.2	90	110	
78	Se	72	102.832	6713	1.60	100	102.8	90	110	
88	Sr	115	101.404	495294	0.78	100	101.4	90	110	
95	Mo	115	100.357	392481	0.77	100	100.4	90	110	
107	Ag	115	99.652	1191268	0.25	100	99.7	90	110	
111	Cd	115	100.314	179925	0.18	100	100.3	90	110	
118	Sn	115	104.518	389842	0.42	100	104.5	90	110	
121	Sb	115	100.606	583661	0.25	100	100.6	90	110	
137	Ba	115	99.599	187446	1.25	100	99.6	90	110	
205	Tl	209	99.602	2396293	1.38	100	99.6	90	110	
208	Pb	209	101.025	3237599	0.21	100	101.0	90	110	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1112522	0.49	1114717	99.80	70	120	
72	Ge	739992	0.74	754800	98.04	70	120	
115	In	6912204	1.16	7144493	96.75	70	120	
209	Bi	14049365	1.42	14670662	95.77	70	120	

Low Level Calibration Verification (LLCV) Report

Date Acquired	5/11/2016 18:00	Sample Name	ILCVL2-160511
Data Batch	60511Z.b	Comment	LCVLICPMS_TW
Data File Name	028LICV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	10.290	449	7.14	10	102.9	70	130	
9	Be	45	1.010	64	18.02	1	101.0	70	130	
11	B	45	26.227	619	16.52	20	131.1	70	130	Fail
23	Na	45	108.974	156624	0.88	100	109.0	70	130	
24	Mg	45	100.772	44528	2.31	100	100.8	70	130	
27	Al	45	95.707	16728	1.09	100	95.7	70	130	
39	K	45	110.782	111544	0.40	100	110.8	70	130	
44	Ca	45	90.677	2791	3.62	100	90.7	70	130	
47	Ti	45	4.967	892	8.76	5	99.3	70	130	
51	V	45	0.996	7992	2.09	1	99.6	70	130	
52	Cr	45	5.076	34377	0.26	5	101.5	70	130	
55	Mn	45	4.837	18482	1.70	5	96.7	70	130	
56	Fe	45	97.211	560988	1.30	100	97.2	70	130	
59	Co	72	5.178	50613	0.33	5	103.6	70	130	
60	Ni	72	5.278	14411	2.07	5	105.6	70	130	
63	Cu	72	4.839	44874	1.57	5	96.8	70	130	
66	Zn	72	5.045	6924	4.91	5	100.9	70	130	
75	As	72	5.005	5465	1.23	5	100.1	70	130	
78	Se	72	5.257	445	4.96	5	105.1	70	130	
88	Sr	115	4.932	24377	0.95	5	98.6	70	130	
95	Mo	115	4.894	19303	2.73	5	97.9	70	130	
107	Ag	115	1.952	23553	2.51	2	97.6	70	130	
111	Cd	115	1.000	1823	6.12	1	100.0	70	130	
118	Sn	115	5.224	20531	2.81	5	104.5	70	130	
121	Sb	115	1.927	11625	1.40	2	96.3	70	130	
137	Ba	115	4.938	9390	2.13	5	98.8	70	130	
205	Tl	209	0.970	23829	2.01	1	97.0	70	130	
208	Pb	209	1.015	38155	1.14	1	101.5	70	130	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1130290	0.91	1114717	101.40	70	120	
72	Ge	756712	0.16	754800	100.25	70	120	
115	In	6966990	1.63	7144493	97.52	70	120	
209	Bi	14239939	0.88	14670662	97.06	70	120	

Initial Calibration Blank (ICB) Report

Date Acquired	5/11/2016 18:06	Sample Name	ICB2-160511
Data Batch	60511Z.b	Comment	ICB ICPMS_TW
Data File Name	030_ICB.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	MDL S	MDL Aq	QC Flag
7	Li	45	0.184	13	26.6	2	5	
9	Be	45	-0.057	0	173.2	0.4	0.3	
11	B	45	7.518	221	3.5	10	10	
23	Na	45	4.509	65261	1.2	50	100	
24	Mg	45	-0.866	118	5.9	50	100	
27	Al	45	-0.569	206	21.1	50	10	
39	K	45	6.066	63345	2.0	50	100	
44	Ca	45	0.084	297	6.2	50	100	
47	Ti	45	-0.046	4	114.6	4	3	
51	V	45	-0.017	2645	6.0	4	3	
52	Cr	45	-0.004	1356	2.3	2	2	
55	Mn	45	-0.011	312	1.6	2	3	
56	Fe	45	0.076	6428	3.2	50	50	
59	Co	72	-0.006	34	39.1	2	3	
60	Ni	72	-0.027	86	35.4	2	3	
63	Cu	72	-0.445	5832	4.8	2	2	
66	Zn	72	-0.218	184	12.0	4	2	
75	As	72	-0.042	182	6.7	2	2	
78	Se	72	0.029	103	13.6	1	2	
88	Sr	115	-0.004	89	5.7	4	3	
95	Mo	115	0.008	50	24.0	2	2	
107	Ag	115	0.008	133	28.4	0.4	1	
111	Cd	115	0.007	27	37.5	0.4	0.3	
118	Sn	115	0.138	1502	4.2	4	3	
121	Sb	115	-0.025	230	13.8	2	0.8	
137	Ba	115	-0.002	17	60.0	2	3	
205	Tl	209	0.002	241	19.2	2	0.5	
208	Pb	209	0.031	6451	5.1	0.4	0.3	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1158022	1.10	1114717	103.88	70	120	
72	Ge	769766	0.45	754800	101.98	70	120	
115	In	7149260	0.30	7144493	100.07	70	120	
209	Bi	14707297	2.12	14670662	100.25	70	120	

Method Blank Report

Date Acquired	5/11/16 6:08 PM	Sample Name	MB-75056
Data Batch	60511Z.b	Comment	MBLKICPMS_TSDOD
Data File Name	031_PB.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	0.098	9	61.86		
9	Be	45	-0.018	3	78.06		
11	B	45	5.412	171	14.75		
23	Na	45	15.560	73783	0.47		
24	Mg	45	2.062	1399	1.07		
27	Al	45	4.454	1067	2.71		
39	K	45	13.208	65435	0.88		
44	Ca	45	46.129	1566	0.61		
47	Ti	45	0.180	44	31.23		
51	V	45	0.074	3076	3.41		
52	Cr	45	0.172	2475	3.58		
55	Mn	45	0.685	2924	5.83		
56	Fe	45	3.454	25655	0.86		
59	Co	72	0.002	111	42.46		
60	Ni	72	0.101	429	10.92		
63	Cu	72	-0.257	7128	2.70		
66	Zn	72	1.589	2497	2.70		
75	As	72	-0.011	211	18.16		
78	Se	72	-0.133	90	10.71		
88	Sr	115	0.063	427	5.12		
95	Mo	115	0.027	124	20.81		
107	Ag	115	0.009	144	17.01		
111	Cd	115	0.000	13	108.98		
118	Sn	115	4.141	16824	1.79		J
121	Sb	115	-0.031	190	12.28		
137	Ba	115	0.023	66	22.93		
205	Tl	209	0.004	287	3.49		
208	Pb	209	0.103	8803	1.03		

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1134035	0.12	1114717	101.73	70	120	
72	Ge	756996	0.33	754800	100.29	70	120	
115	In	7112358	1.58	7144493	99.55	70	120	
209	Bi	14633686	1.50	14670662	99.75	70	120	

Laboratory Control Sample (LCS) Report

Date Acquired	5/11/2016 18:10	Sample Name	LCS-75056
Data Batch	60511Z.b	Comment	LCS ICPMS_TSDOD
Data File Name	032_LS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	201.221	8637	2.36	200	100.6	80	120	
9	Be	45	202.420	12064	2.03	200	101.2	80	120	
11	B	45	199.366	4318	3.31	200	99.7	80	120	
23	Na	45	4963.811	4448849	0.50	1000	496.4	80	120	Fail
24	Mg	45	4968.946	2159203	0.54	1000	496.9	80	120	Fail
27	Al	45	955.956	163441	0.30	1000	95.6	80	120	
39	K	45	4929.240	2385338	0.62	1000	492.9	80	120	Fail
44	Ca	45	4550.985	125152	0.67	1000	455.1	80	120	Fail
47	Ti	45	190.513	33554	0.99	200	95.3	80	120	
51	V	45	195.805	1043218	1.08	200	97.9	80	120	
52	Cr	45	196.849	1274642	0.43	200	98.4	80	120	
55	Mn	45	193.771	722732	0.26	200	96.9	80	120	
56	Fe	45	966.612	5493934	0.26	1000	96.7	80	120	
59	Co	72	205.351	1995337	0.60	200	102.7	80	120	
60	Ni	72	201.647	542582	0.99	200	100.8	80	120	
63	Cu	72	202.901	1506051	0.20	200	101.5	80	120	
66	Zn	72	211.216	269996	0.70	200	105.6	80	120	
75	As	72	195.592	204276	0.22	200	97.8	80	120	
78	Se	72	195.509	12908	1.41	200	97.8	80	120	
88	Sr	115	188.492	940777	0.09	200	94.2	80	120	
95	Mo	115	193.031	771521	0.90	200	96.5	80	120	
107	Ag	115	193.729	2366842	0.41	200	96.9	80	120	
111	Cd	115	192.329	352567	0.87	200	96.2	80	120	
118	Sn	115	199.402	759272	0.47	200	99.7	80	120	
121	Sb	115	188.655	1118237	0.38	200	94.3	80	120	
137	Ba	115	186.992	359669	0.66	200	93.5	80	120	
205	Tl	209	192.955	4691630	0.15	200	96.5	80	120	
208	Pb	209	192.435	6229281	0.59	200	96.2	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1123622	0.68	1114717	100.80	70	120	
72	Ge	753661	0.61	754800	99.85	70	120	
115	In	7064378	1.25	7144493	98.88	70	120	
209	Bi	14201093	1.37	14670662	96.80	70	120	

Laboratory Control Sample (LCS) Report

Date Acquired	5/11/2016 18:12	Sample Name	LCSD-75056
Data Batch	60511Z.b	Comment	LCSDICPMS_TSDOD
Data File Name	033_LS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	207.853	8923	0.50	200	103.9	80	120	
9	Be	45	207.096	12343	1.17	200	103.5	80	120	
11	B	45	203.743	4412	3.60	200	101.9	80	120	
23	Na	45	5115.276	4583376	0.16	1000	511.5	80	120	Fail
24	Mg	45	5162.358	2243453	0.83	1000	516.2	80	120	Fail
27	Al	45	984.319	168304	0.77	1000	98.4	80	120	
39	K	45	5141.854	2486019	0.30	1000	514.2	80	120	Fail
44	Ca	45	4671.354	128472	1.46	1000	467.1	80	120	Fail
47	Ti	45	197.375	34766	0.62	200	98.7	80	120	
51	V	45	200.865	1070216	0.97	200	100.4	80	120	
52	Cr	45	203.125	1315367	0.57	200	101.6	80	120	
55	Mn	45	200.565	748137	0.31	200	100.3	80	120	
56	Fe	45	1011.514	5749331	0.82	1000	101.2	80	120	
59	Co	72	213.635	2068447	0.74	200	106.8	80	120	
60	Ni	72	210.833	565244	0.57	200	105.4	80	120	
63	Cu	72	212.323	1569892	1.13	200	106.2	80	120	
66	Zn	72	206.863	263490	0.58	200	103.4	80	120	
75	As	72	200.404	208542	0.07	200	100.2	80	120	
78	Se	72	199.807	13142	1.51	200	99.9	80	120	
88	Sr	115	200.994	965695	0.35	200	100.5	80	120	
95	Mo	115	208.036	800306	0.54	200	104.0	80	120	
107	Ag	115	204.878	2409438	0.37	200	102.4	80	120	
111	Cd	115	204.652	361135	1.10	200	102.3	80	120	
118	Sn	115	211.887	776522	1.03	200	105.9	80	120	
121	Sb	115	201.754	1151093	0.66	200	100.9	80	120	
137	Ba	115	199.920	370157	1.18	200	100.0	80	120	
205	Tl	209	199.547	4770734	0.56	200	99.8	80	120	
208	Pb	209	200.751	6389021	0.55	200	100.4	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1123724	0.40	1114717	100.81	70	120	
72	Ge	750942	0.48	754800	99.49	70	120	
115	In	6800692	1.57	7144493	95.19	70	120	
209	Bi	13961956	0.59	14670662	95.17	70	120	

Dilution Sample (Dil) Report

Date Acquired	5/11/2016 18:18	Sample Name	1605071-09A SD
Data Batch	60511Z.b	Comment	SD ICPMS_TSDOD
Data File Name	036_SD.d	Dilution	25

Mass	Name	IS	Conc	CPS	%RSD	Ref Value	%Rec	Low	High	Flag
7	Li	45	15.194	680	5.51	75.6	100.5	110	90	Good
9	Be	45	0.419	30	9.73	2.5	84.6	110	90	
11	B	45	40.321	949	6.29	175.4	114.9	110	90	
23	Na	45	3352.979	3132430	0.65	17014.7	98.5	110	90	Good
24	Mg	45	3610.999	1625249	0.63	18104.9	99.7	110	90	Good
27	Al	45	12954.846	2290087	0.75	65881.0	98.3	110	90	Good
39	K	45	2550.208	1307416	0.31	12780.4	99.8	110	90	Good
44	Ca	45	21647.997	615455	0.80	111145.9	97.4	110	90	Good
47	Ti	45	73.911	13490	1.31	382.3	96.7	110	90	Good
51	V	45	20.511	115641	1.00	105.9	96.8	110	90	Good
52	Cr	45	16.976	115093	1.45	86.5	98.1	110	90	Good
55	Mn	45	101.468	392093	0.86	517.0	98.1	110	90	Good
56	Fe	45	11692.507	68755217	2.76	59479.2	98.3	110	90	Good
59	Co	72	4.276	42817	1.39	21.8	98.3	110	90	Good
60	Ni	72	9.805	27275	1.11	50.2	97.6	110	90	Good
63	Cu	72	4.406	42667	0.55	22.4	98.1	110	90	Good
66	Zn	72	37.258	49355	0.86	186.4	99.9	110	90	Good
75	As	72	3.515	3999	1.89	18.0	97.5	110	90	Good
78	Se	72	0.782	154	9.64	4.7	84.0	110	90	
88	Sr	115	80.770	414974	0.66	426.1	94.8	110	90	Good
95	Mo	115	0.947	3911	1.93	5.2	91.5	110	90	Good
107	Ag	115	0.021	303	15.27	0.1	192.6	110	90	
111	Cd	115	0.074	154	8.99	0.4	93.0	110	90	Good
118	Sn	115	1.018	4970	3.69	5.6	90.8	110	90	Good
121	Sb	115	0.047	671	10.04	0.4	60.2	110	90	
137	Ba	115	190.070	376286	0.72	1005.3	94.5	110	90	Good
205	Tl	209	0.124	3200	5.68	0.6	100.9	110	90	Good
208	Pb	209	5.530	184652	0.56	28.3	97.6	110	90	Good

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1163760	1.19	1114717	104.40	70	120	
72	Ge	774884	0.71	754800	102.66	70	120	
115	In	7271344	1.94	7144493	101.78	70	120	
209	Bi	14246127	1.30	14670662	97.11	70	120	

Sample Report

Date Acquired	5/11/16 6:20 PM	Sample Name	1605047-33A
Data Batch	60511Z.b	Comment	SAMPICPMS_TSDOD
Data File Name	037SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	57.674	2573	3.56	2000	>RL
9	Be	45	2.563	162	7.11	2000	>RL
11	B	45	84.470	1931	4.85	2000	>RL
23	Na	45	725.506	727527	1.28	25000	>RL
24	Mg	45	13013.881	5868836	0.85	25000	>RL
27	Al	45	62002.787	10983712	0.70	10000	OUTCAL
39	K	45	15343.351	7578611	0.83	25000	>RL
44	Ca	45	55743.837	1587790	1.11	25000	OUTCAL
47	Ti	45	229.508	41953	1.14	2000	>RL
51	V	45	95.749	530909	0.13	2000	>RL
52	Cr	45	59.238	399113	0.42	2000	>RL
55	Mn	45	641.669	2483380	0.27	2000	>RL
56	Fe	45	57457.236	338621249	0.99	10000	OUTCAL
59	Co	72	22.523	219217	0.46	2000	>RL
60	Ni	72	37.268	100528	0.14	2000	>RL
63	Cu	72	48.312	365912	0.43	2000	>RL
66	Zn	72	340.897	436040	0.98	2000	>RL
75	As	72	17.420	18418	0.28	2000	>RL
78	Se	72	4.793	413	4.48	2000	>RL
88	Sr	115	272.498	1332437	0.63	2000	>RL
95	Mo	115	1.620	6359	2.18	2000	
107	Ag	115	0.168	2041	5.80	500	
111	Cd	115	0.669	1215	8.53	2000	>RL
118	Sn	115	6.299	24410	0.43	2000	>RL
121	Sb	115	3.585	21178	1.59	500	>RL
137	Ba	115	389.837	734655	0.34	2000	>RL
205	Tl	209	0.534	12759	2.36	2000	
208	Pb	209	218.999	6868528	1.08	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1166274	0.28	1114717	104.63	70	120	
72	Ge	754607	0.70	754800	99.97	70	120	
115	In	6921059	0.92	7144493	96.87	70	120	
209	Bi	13759516	0.49	14670662	93.79	70	120	

Sample Report

Date Acquired	5/11/16 6:22 PM	Sample Name	1605047-34A
Data Batch	60511Z.b	Comment	SAMPICPMS_TSDOD
Data File Name	038SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	55.970	2511	2.97	2000	>RL
9	Be	45	2.506	160	5.33	2000	>RL
11	B	45	79.204	1823	4.01	2000	>RL
23	Na	45	1238.585	1204866	0.54	25000	>RL
24	Mg	45	13327.276	6042341	1.48	25000	>RL
27	Al	45	60661.435	10802915	1.09	10000	OUTCAL
39	K	45	13902.347	6909240	1.73	25000	>RL
44	Ca	45	112272.455	3214702	1.05	25000	OUTCAL
47	Ti	45	249.235	45802	1.30	2000	>RL
51	V	45	106.932	595716	0.22	2000	>RL
52	Cr	45	63.508	430048	0.45	2000	>RL
55	Mn	45	837.559	3258594	0.96	2000	>RL
56	Fe	45	64518.596	382250714	1.02	10000	OUTCAL
59	Co	72	24.030	233694	0.87	2000	>RL
60	Ni	72	39.481	106395	1.34	2000	>RL
63	Cu	72	46.646	353304	0.41	2000	>RL
66	Zn	72	376.967	481746	0.86	2000	>RL
75	As	72	21.446	22607	1.61	2000	>RL
78	Se	72	4.907	420	4.79	2000	>RL
88	Sr	115	306.098	1479938	0.52	2000	>RL
95	Mo	115	1.751	6794	3.46	2000	
107	Ag	115	0.207	2487	3.42	500	
111	Cd	115	0.788	1412	3.32	2000	>RL
118	Sn	115	5.620	21631	2.18	2000	>RL
121	Sb	115	2.433	14328	4.42	500	>RL
137	Ba	115	489.670	912394	0.06	2000	>RL
205	Tl	209	0.524	12522	1.54	2000	
208	Pb	209	116.236	3650901	0.51	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1172468	0.68	1114717	105.18	70	120	
72	Ge	754042	1.07	754800	99.90	70	120	
115	In	6842962	0.67	7144493	95.78	70	120	
209	Bi	13770796	0.51	14670662	93.87	70	120	

Sample Report

Date Acquired	5/11/16 6:24 PM	Sample Name	1605047-35A
Data Batch	60511Z.b	Comment	SAMPICPMS_TSDOD
Data File Name	039SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	64.119	2985	2.69	2000	>RL
9	Be	45	2.769	183	1.67	2000	>RL
11	B	45	93.028	2214	1.05	2000	>RL
23	Na	45	810.739	840884	1.22	25000	>RL
24	Mg	45	13656.442	6426883	0.52	25000	>RL
27	Al	45	65078.634	12032876	3.32	10000	OUTCAL
39	K	45	15774.129	8129053	1.18	25000	>RL
44	Ca	45	47351.387	1407616	0.60	25000	OUTCAL
47	Ti	45	228.389	43567	0.55	2000	>RL
51	V	45	113.376	655541	1.15	2000	>RL
52	Cr	45	62.643	440383	0.82	2000	>RL
55	Mn	45	718.275	2900998	0.38	2000	>RL
56	Fe	45	67784.931	416893219	0.70	10000	OUTCAL
59	Co	72	26.697	266283	0.63	2000	>RL
60	Ni	72	41.001	113339	1.13	2000	>RL
63	Cu	72	55.804	431753	0.58	2000	>RL
66	Zn	72	2804.709	3673336	0.44	2000	OUTCAL
75	As	72	20.508	22184	1.42	2000	>RL
78	Se	72	5.174	449	4.83	2000	>RL
88	Sr	115	296.516	1472629	0.97	2000	>RL
95	Mo	115	1.634	6516	2.76	2000	
107	Ag	115	0.107	1336	5.62	500	
111	Cd	115	0.483	894	8.74	2000	>RL
118	Sn	115	5.214	20685	0.43	2000	>RL
121	Sb	115	2.112	12828	3.01	500	>RL
137	Ba	115	384.472	735866	0.32	2000	>RL
205	Tl	209	0.539	12888	2.77	2000	
208	Pb	209	103.198	3243978	0.16	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1217140	0.81	1114717	109.19	70	120	
72	Ge	773389	0.45	754800	102.46	70	120	
115	In	7029026	0.74	7144493	98.38	70	120	
209	Bi	13786849	2.87	14670662	93.98	70	120	

Sample Report

Date Acquired	5/11/16 6:26 PM	Sample Name	1605047-36A
Data Batch	60511Z.b	Comment	SAMPICPMS_TSDOD
Data File Name	040SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	72.887	3348	0.99	2000	>RL
9	Be	45	3.654	237	8.39	2000	>RL
11	B	45	106.401	2490	4.34	2000	>RL
23	Na	45	1136.855	1138083	0.39	25000	>RL
24	Mg	45	26039.813	12093075	0.63	25000	OUTCAL
27	Al	45	77780.077	14189712	0.26	10000	OUTCAL
39	K	45	19776.801	10041621	0.58	25000	>RL
44	Ca	45	87432.706	2564588	0.67	25000	OUTCAL
47	Ti	45	325.818	61330	0.95	2000	>RL
51	V	45	132.261	754151	0.53	2000	>RL
52	Cr	45	105.729	732481	0.33	2000	>RL
55	Mn	45	763.058	3041203	0.14	2000	>RL
56	Fe	45	73596.545	446667431	0.59	10000	OUTCAL
59	Co	72	29.363	292837	0.13	2000	>RL
60	Ni	72	45.150	124768	0.85	2000	>RL
63	Cu	72	32.587	255931	1.20	2000	>RL
66	Zn	72	278.680	365362	0.51	2000	>RL
75	As	72	22.040	23820	0.70	2000	>RL
78	Se	72	5.826	493	2.60	2000	>RL
88	Sr	115	471.385	2359256	1.10	2000	>RL
95	Mo	115	2.119	8510	0.84	2000	>RL
107	Ag	115	0.112	1403	3.59	500	
111	Cd	115	1.037	1919	2.07	2000	>RL
118	Sn	115	5.089	20374	2.98	2000	>RL
121	Sb	115	2.759	16768	1.49	500	>RL
137	Ba	115	522.252	1007307	0.38	2000	>RL
205	Tl	209	0.647	15530	1.83	2000	
208	Pb	209	135.720	4285383	0.41	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1201060	0.19	1114717	107.75	70	120	
72	Ge	773285	0.45	754800	102.45	70	120	
115	In	7084940	2.05	7144493	99.17	70	120	
209	Bi	13851880	2.69	14670662	94.42	70	120	

Sample Report

Date Acquired	5/11/16 6:28 PM	Sample Name	1605047-37A
Data Batch	60511Z.b	Comment	SAMPICPMS_TSDOD
Data File Name	041SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	54.135	2506	1.90	2000	>RL
9	Be	45	2.281	150	7.71	2000	>RL
11	B	45	77.862	1851	2.50	2000	>RL
23	Na	45	612.980	647673	0.60	25000	>RL
24	Mg	45	11866.079	5552096	0.96	25000	>RL
27	Al	45	56793.214	10437316	1.93	10000	OUTCAL
39	K	45	14892.260	7633614	0.83	25000	>RL
44	Ca	45	59049.803	1745052	0.47	25000	OUTCAL
47	Ti	45	211.545	40120	0.65	2000	>RL
51	V	45	87.109	501367	0.55	2000	>RL
52	Cr	45	57.651	403015	0.96	2000	>RL
55	Mn	45	703.013	2822683	0.45	2000	>RL
56	Fe	45	56771.358	347132875	1.17	10000	OUTCAL
59	Co	72	22.333	226388	1.30	2000	>RL
60	Ni	72	35.996	101133	0.32	2000	>RL
63	Cu	72	35.194	280165	0.62	2000	>RL
66	Zn	72	279.845	372876	0.32	2000	>RL
75	As	72	22.900	25144	1.36	2000	>RL
78	Se	72	4.541	413	3.43	2000	>RL
88	Sr	115	233.498	1187953	0.63	2000	>RL
95	Mo	115	1.419	5799	3.60	2000	
107	Ag	115	0.152	1926	6.06	500	
111	Cd	115	0.587	1111	8.23	2000	>RL
118	Sn	115	4.875	19874	2.24	2000	>RL
121	Sb	115	3.042	18758	1.64	500	>RL
137	Ba	115	406.745	797533	0.47	2000	>RL
205	Tl	209	0.497	12089	2.39	2000	
208	Pb	209	91.041	2905026	0.68	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1210036	0.79	1114717	108.55	70	120	
72	Ge	785905	0.40	754800	104.12	70	120	
115	In	7200955	0.92	7144493	100.79	70	120	
209	Bi	13984685	0.47	14670662	95.32	70	120	

Sample Report

Date Acquired	5/11/16 6:30 PM	Sample Name	1605047-39A
Data Batch	60511Z.b	Comment	SAMPICPMS_TSDOD
Data File Name	042SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	44.945	2039	2.03	2000	>RL
9	Be	45	2.154	139	8.07	2000	>RL
11	B	45	65.201	1529	10.11	2000	>RL
23	Na	45	1366.510	1337794	1.10	25000	>RL
24	Mg	45	12103.460	5549461	2.53	25000	>RL
27	Al	45	52604.478	9473437	1.06	10000	OUTCAL
39	K	45	12584.239	6330189	1.53	25000	>RL
44	Ca	45	95929.053	2777635	0.86	25000	OUTCAL
47	Ti	45	432.440	80353	1.39	2000	>RL
51	V	45	85.434	481852	0.35	2000	>RL
52	Cr	45	57.050	390779	1.11	2000	>RL
55	Mn	45	562.218	2211929	0.52	2000	>RL
56	Fe	45	44691.183	267720389	2.75	10000	OUTCAL
59	Co	72	16.355	162467	0.73	2000	>RL
60	Ni	72	33.599	92508	0.22	2000	>RL
63	Cu	72	41.770	324091	0.62	2000	>RL
66	Zn	72	237.042	309553	0.89	2000	>RL
75	As	72	17.612	19001	1.12	2000	>RL
78	Se	72	3.524	337	3.97	2000	>RL
88	Sr	115	374.860	1875402	0.40	2000	>RL
95	Mo	115	1.890	7591	2.35	2000	
107	Ag	115	0.323	3991	2.06	500	
111	Cd	115	0.958	1775	1.58	2000	>RL
118	Sn	115	4.825	19357	0.35	2000	>RL
121	Sb	115	7.357	44072	1.42	500	>RL
137	Ba	115	701.786	1353115	0.42	2000	>RL
205	Tl	209	0.590	14309	1.98	2000	
208	Pb	209	147.441	4702980	0.51	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1185632	0.73	1114717	106.36	70	120	
72	Ge	770090	0.53	754800	102.03	70	120	
115	In	7081031	0.85	7144493	99.11	70	120	
209	Bi	13989788	0.94	14670662	95.36	70	120	

Sample Report

Date Acquired	5/11/16 6:31 PM	Sample Name	1605047-42A
Data Batch	60511Z.b	Comment	SAMPICPMS_TSDOD
Data File Name	043SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	68.157	3112	1.58	2000	>RL
9	Be	45	2.565	166	9.02	2000	>RL
11	B	45	97.917	2282	2.02	2000	>RL
23	Na	45	2683.573	2584692	0.32	25000	>RL
24	Mg	45	11906.244	5496480	1.55	25000	>RL
27	Al	45	58107.260	10537823	0.86	10000	OUTCAL
39	K	45	14352.607	7261010	1.04	25000	>RL
44	Ca	45	85501.512	2492993	0.29	25000	OUTCAL
47	Ti	45	133.617	25009	1.17	2000	>RL
51	V	45	97.455	553116	0.26	2000	>RL
52	Cr	45	61.591	424743	1.44	2000	>RL
55	Mn	45	516.307	2045646	0.46	2000	>RL
56	Fe	45	65393.130	394499264	2.00	10000	OUTCAL
59	Co	72	23.793	237364	0.64	2000	>RL
60	Ni	72	34.228	94660	1.95	2000	>RL
63	Cu	72	16.764	136177	0.50	2000	>RL
66	Zn	72	169.929	223035	0.77	2000	>RL
75	As	72	19.924	21561	0.51	2000	>RL
78	Se	72	5.040	440	6.98	2000	>RL
88	Sr	115	424.547	2106203	1.01	2000	>RL
95	Mo	115	1.568	6246	1.99	2000	
107	Ag	115	0.067	848	4.47	500	
111	Cd	115	0.393	730	5.48	2000	
118	Sn	115	5.063	20090	0.92	2000	>RL
121	Sb	115	1.282	7922	0.88	500	
137	Ba	115	532.192	1017448	1.48	2000	>RL
205	Tl	209	0.468	11083	3.16	2000	
208	Pb	209	38.694	1203862	0.39	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1193918	0.39	1114717	107.11	70	120	
72	Ge	773538	1.15	754800	102.48	70	120	
115	In	7022259	1.33	7144493	98.29	70	120	
209	Bi	13603057	0.65	14670662	92.72	70	120	

Sample Report

Date Acquired	5/11/16 6:33 PM	Sample Name	1605047-45A
Data Batch	60511Z.b	Comment	SAMPICPMS_TSDOD
Data File Name	044SMPL.d	Dilution	50

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	0.702	37	22.12	2000	
9	Be	45	-0.036	2	34.64	2000	
11	B	45	9.039	262	34.40	2000	
23	Na	45	24.728	86244	1.10	25000	
24	Mg	45	661.575	305737	0.37	25000	>RL
27	Al	45	511.749	93062	0.20	10000	>RL
39	K	45	145.081	134954	0.36	25000	>RL
44	Ca	45	17559.287	511922	0.54	25000	>RL
47	Ti	45	7.008	1323	1.51	2000	>RL
51	V	45	0.815	7415	2.30	2000	
52	Cr	45	0.797	6894	2.87	2000	
55	Mn	45	42.568	168894	0.72	2000	>RL
56	Fe	45	885.348	5344317	1.90	10000	>RL
59	Co	72	0.427	4446	3.60	2000	
60	Ni	72	1.099	3263	4.14	2000	
63	Cu	72	1.058	17614	1.85	2000	
66	Zn	72	12.929	17781	3.36	2000	>RL
75	As	72	1.981	2399	2.65	2000	
78	Se	72	0.356	128	4.22	2000	
88	Sr	115	12.017	62485	1.40	2000	>RL
95	Mo	115	0.157	670	6.03	2000	
107	Ag	115	0.015	228	24.06	500	
111	Cd	115	0.601	1160	3.74	2000	>RL
118	Sn	115	0.338	2335	4.86	2000	
121	Sb	115	-0.011	322	26.20	500	
137	Ba	115	7.115	14255	0.42	2000	>RL
205	Tl	209	0.199	5173	0.77	2000	
208	Pb	209	5.980	204786	1.31	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1193226	0.68	1114717	107.04	70	120	
72	Ge	790221	0.56	754800	104.69	70	120	
115	In	7346448	0.50	7144493	102.83	70	120	
209	Bi	14641851	0.36	14670662	99.80	70	120	

Sample Report

Date Acquired	5/11/16 6:35 PM	Sample Name	1605047-46A
Data Batch	60511Z.b	Comment	SAMPICPMS_TSDOD
Data File Name	045SMPL.d	Dilution	50

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	0.560	31	16.73	2000	
9	Be	45	0.042	7	56.79	2000	
11	B	45	6.319	202	24.30	2000	
23	Na	45	23.084	85242	0.73	25000	
24	Mg	45	1130.354	525351	0.36	25000	>RL
27	Al	45	640.981	117236	0.47	10000	>RL
39	K	45	149.815	138213	0.75	25000	>RL
44	Ca	45	15360.888	450793	1.23	25000	>RL
47	Ti	45	8.416	1596	8.12	2000	>RL
51	V	45	1.224	9791	2.67	2000	
52	Cr	45	1.218	9850	1.92	2000	
55	Mn	45	26.640	106500	1.08	2000	>RL
56	Fe	45	919.179	5583430	0.88	10000	>RL
59	Co	72	0.427	4471	2.26	2000	
60	Ni	72	1.126	3357	0.26	2000	
63	Cu	72	0.891	16414	1.03	2000	
66	Zn	72	13.806	19055	2.07	2000	>RL
75	As	72	1.639	2037	3.95	2000	
78	Se	72	0.654	149	2.37	2000	>RL
88	Sr	115	12.807	65969	2.21	2000	>RL
95	Mo	115	0.190	800	6.05	2000	
107	Ag	115	0.028	387	13.87	500	
111	Cd	115	0.433	832	4.78	2000	>RL
118	Sn	115	0.431	2680	4.70	2000	
121	Sb	115	-0.017	280	19.49	500	
137	Ba	115	8.185	16239	1.23	2000	>RL
205	Tl	209	0.182	4790	4.46	2000	
208	Pb	209	13.024	442947	0.31	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1201049	1.60	1114717	107.74	70	120	
72	Ge	794655	1.10	754800	105.28	70	120	
115	In	7278430	1.61	7144493	101.87	70	120	
209	Bi	14749312	0.66	14670662	100.54	70	120	

Post Digestion Spike Sample (PDS) Report

Date Acquired	5/11/2016 18:37	Sample Name	1605071-09A PDS
Data Batch	60511Z.b	Comment	PDS ICPMS_TSDOD
Data File Name	046_PDS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
7	Li	45	266.749	11971	0.31	75.6	200	95.6	75	125	
9	Be	45	197.110	12283	1.85	2.5	200	97.3	75	125	
11	B	45	350.284	7890	2.93	175.4	200	87.4	75	125	
23	Na	45	21683.971	20111934	0.74	17014.7	5000	93.4	75	125	
24	Mg	45	22593.722	10262957	2.05	18104.9	5000	89.8	75	125	
27	Al	45	68421.197	12209438	1.21	65881.0	5000	50.8	75	125	Fail
39	K	45	17568.017	8732055	0.42	12780.4	5000	95.8	75	125	
44	Ca	45	########	3267162	0.36	111145.9	5000	54.6	75	125	Fail
47	Ti	45	571.316	105179	1.22	382.3	200	94.5	75	125	
51	V	45	298.954	1663891	1.15	105.9	200	96.5	75	125	
52	Cr	45	278.550	1885286	0.27	86.5	200	96.0	75	125	
55	Mn	45	690.390	2691432	0.62	517.0	200	86.7	75	125	
56	Fe	45	61584.796	365593239	1.70	59479.2	5000	42.1	75	125	Fail
59	Co	72	224.448	2195153	0.59	21.8	200	101.3	75	125	
60	Ni	72	243.855	660410	0.70	50.2	200	96.8	75	125	
63	Cu	72	215.386	1608648	0.24	22.4	200	96.5	75	125	
66	Zn	72	379.846	488377	0.74	186.4	200	96.7	75	125	
75	As	72	215.048	226051	0.56	18.0	200	98.5	75	125	
78	Se	72	200.043	13291	1.13	4.7	200	97.7	75	125	
88	Sr	115	639.500	3039591	0.88	426.1	200	106.7	75	125	
95	Mo	115	205.380	781783	0.50	5.2	200	100.1	75	125	
107	Ag	115	184.037	2141449	0.92	0.1	200	92.0	75	125	
111	Cd	115	193.263	337439	1.27	0.4	200	96.4	75	125	
118	Sn	115	213.593	774545	0.41	5.6	200	104.0	75	125	
121	Sb	115	203.089	1146595	0.58	0.4	200	101.3	75	125	
137	Ba	115	1218.194	2231672	0.27	1005.3	200	106.4	75	125	
205	Tl	209	197.059	4427527	0.46	0.6	200	98.2	75	125	
208	Pb	209	226.291	6767672	0.23	28.3	200	99.0	75	125	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1174814	0.34	1114717	105.39	70	120	
72	Ge	758611	0.79	754800	100.50	70	120	
115	In	6729186	1.65	7144493	94.19	70	120	
209	Bi	13121167	0.55	14670662	89.44	70	120	

Matrix Spike Sample (MS) Report

Date Acquired	5/11/2016 18:39	Sample Name	1605071-09A MS
Data Batch	60511Z.b	Comment	MS ICPMS_TSDOD
Data File Name	047_MSS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
7	Li	45	267.554	11921	0.55	75.6	200	96.0	80	120	
9	Be	45	197.443	12214	1.19	2.5	200	97.5	80	120	
11	B	45	369.408	8258	0.83	175.4	200	97.0	80	120	
23	Na	45	22987.312	21162189	1.91	17014.7	1000	597.3	80	120	Fail
24	Mg	45	24189.744	10908913	1.40	18104.9	1000	608.5	80	120	Fail
27	Al	45	71523.508	12671079	1.12	65881.0	1000	564.2	80	120	Fail
39	K	45	18757.871	9252169	0.77	12780.4	1000	597.7	80	120	Fail
44	Ca	45	########	3152015	0.18	111145.9	1000	-48.9	80	120	Fail
47	Ti	45	571.592	104483	1.19	382.3	200	94.7	80	120	
51	V	45	304.840	1684464	1.04	105.9	200	99.5	80	120	
52	Cr	45	272.186	1829089	0.43	86.5	200	92.8	80	120	
55	Mn	45	724.802	2805374	0.16	517.0	200	103.9	80	120	
56	Fe	45	62752.943	369877585	1.31	59479.2	1000	327.4	80	120	Fail
59	Co	72	222.318	2172578	0.49	21.8	200	100.3	80	120	
60	Ni	72	243.405	658622	0.55	50.2	200	96.6	80	120	
63	Cu	72	218.125	1627562	1.08	22.4	200	97.8	80	120	
66	Zn	72	386.240	496154	0.32	186.4	200	99.9	80	120	
75	As	72	214.917	225718	0.28	18.0	200	98.4	80	120	
78	Se	72	200.970	13342	0.93	4.7	200	98.2	80	120	
88	Sr	115	647.063	3086986	0.69	426.1	200	110.5	80	120	
95	Mo	115	192.403	735064	0.55	5.2	200	93.6	80	120	
107	Ag	115	189.692	2215592	0.68	0.1	200	94.8	80	120	
111	Cd	115	195.603	342787	0.89	0.4	200	97.6	80	120	
118	Sn	115	206.183	750495	0.44	5.6	200	100.3	80	120	
121	Sb	115	69.157	392096	0.45	0.4	200	34.4	80	120	Fail
137	Ba	115	1116.892	2053533	0.59	1005.3	200	55.8	80	120	Fail
205	Tl	209	196.513	4477217	1.25	0.6	200	97.9	80	120	
208	Pb	209	223.741	6785785	0.21	28.3	200	97.7	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1166419	0.65	1114717	104.64	70	120	
72	Ge	757953	0.43	754800	100.42	70	120	
115	In	6753540	1.44	7144493	94.53	70	120	
209	Bi	13306500	0.93	14670662	90.70	70	120	

Matrix Spike Sample (MS) Report

Date Acquired	5/11/2016 18:41	Sample Name	1605071-09A MSD
Data Batch	60511Z.b	Comment	MSD ICPMS_TSDOD
Data File Name	048_MSS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
7	Li	45	267.003	12037	1.07	75.6	200	95.7	80	120	
9	Be	45	193.920	12139	0.58	2.5	200	95.7	80	120	
11	B	45	365.297	8263	1.11	175.4	200	94.9	80	120	
23	Na	45	21252.515	19803532	1.24	17014.7	1000	423.8	80	120	Fail
24	Mg	45	23266.010	10617301	0.78	18104.9	1000	516.1	80	120	Fail
27	Al	45	69014.828	12373902	2.32	65881.0	1000	313.4	80	120	Fail
39	K	45	18031.630	9002773	1.89	12780.4	1000	525.1	80	120	Fail
44	Ca	45	########	3208538	1.10	111145.9	1000	16.8	80	120	Fail
47	Ti	45	546.588	101091	0.73	382.3	200	82.2	80	120	
51	V	45	299.478	1674475	0.21	105.9	200	96.8	80	120	
52	Cr	45	267.435	1818487	0.04	86.5	200	90.4	80	120	
55	Mn	45	701.741	2748273	0.79	517.0	200	92.4	80	120	
56	Fe	45	61351.800	365856412	3.19	59479.2	1000	187.3	80	120	Fail
59	Co	72	218.885	2169245	1.19	21.8	200	98.6	80	120	
60	Ni	72	239.146	656291	0.38	50.2	200	94.5	80	120	
63	Cu	72	212.850	1611141	0.70	22.4	200	95.2	80	120	
66	Zn	72	377.723	492147	0.59	186.4	200	95.7	80	120	
75	As	72	210.388	224097	0.71	18.0	200	96.2	80	120	
78	Se	72	195.797	13185	1.89	4.7	200	95.6	80	120	
88	Sr	115	656.338	3141362	0.41	426.1	200	115.1	80	120	
95	Mo	115	190.378	729666	0.63	5.2	200	92.6	80	120	
107	Ag	115	190.010	2226338	0.48	0.1	200	95.0	80	120	
111	Cd	115	194.863	342567	0.36	0.4	200	97.2	80	120	
118	Sn	115	205.620	750793	1.09	5.6	200	100.0	80	120	
121	Sb	115	67.677	384911	1.05	0.4	200	33.6	80	120	Fail
137	Ba	115	1488.913	2746471	0.68	1005.3	200	241.8	80	120	Fail
205	Tl	209	197.562	4437845	1.39	0.6	200	98.5	80	120	
208	Pb	209	223.482	6682312	0.09	28.3	200	97.6	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1180283	0.78	1114717	105.88	70	120	
72	Ge	768805	1.32	754800	101.86	70	120	
115	In	6774752	0.97	7144493	94.82	70	120	
209	Bi	13120550	1.62	14670662	89.43	70	120	

Continuing Calibration Verification (CCV) Report

Date Acquired	5/11/2016 18:43	Sample Name	CCV1-160511
Data Batch	60511Z.b	Comment	CCV ICPMS_TW
Data File Name	049_CCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	204.041	9365	2.68	200	102.0	90	110	
9	Be	45	199.704	12725	2.89	200	99.9	90	110	
11	B	45	213.175	4933	2.68	200	106.6	90	110	
23	Na	45	4896.295	4693138	1.12	5000	97.9	90	110	
24	Mg	45	4889.205	2271664	0.23	5000	97.8	90	110	
27	Al	45	4830.538	881815	0.25	5000	96.6	90	110	
39	K	45	4987.907	2580184	0.54	5000	99.8	90	110	
44	Ca	45	4492.236	132096	0.43	5000	89.8	90	110	Fail
47	Ti	45	197.972	37280	1.77	200	99.0	90	110	
51	V	45	197.514	1125143	0.92	200	98.8	90	110	
52	Cr	45	198.144	1371862	1.06	200	99.1	90	110	
55	Mn	45	197.795	788825	0.68	200	98.9	90	110	
56	Fe	45	4788.768	29077872	2.38	5000	95.8	90	110	
59	Co	72	207.208	2129974	0.25	200	103.6	90	110	
60	Ni	72	204.740	582777	0.98	200	102.4	90	110	
63	Cu	72	206.794	1623589	0.40	200	103.4	90	110	
66	Zn	72	200.146	270675	0.61	200	100.1	90	110	
75	As	72	200.383	221389	0.73	200	100.2	90	110	
78	Se	72	200.464	13999	1.42	200	100.2	90	110	
88	Sr	115	202.948	1020751	0.44	200	101.5	90	110	
95	Mo	115	205.151	826195	0.91	200	102.6	90	110	
107	Ag	115	189.961	2338683	0.24	200	95.0	90	110	
111	Cd	115	199.037	367660	0.66	200	99.5	90	110	
118	Sn	115	203.128	779366	0.50	200	101.6	90	110	
121	Sb	115	195.289	1166456	0.82	200	97.6	90	110	
137	Ba	115	194.543	377087	0.81	200	97.3	90	110	
205	Tl	209	200.374	4709730	0.57	200	100.2	90	110	
208	Pb	209	201.600	6308388	0.62	200	100.8	90	110	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1201427	0.33	1114717	107.78	70	120	
72	Ge	797277	0.56	754800	105.63	70	120	
115	In	7120616	2.22	7144493	99.67	70	120	
209	Bi	13729696	1.69	14670662	93.59	70	120	

Low Level Calibration Verification (LLCV) Report

Date Acquired	5/11/2016 18:47	Sample Name	LCVL1-160511
Data Batch	60511Z.b	Comment	LCVLICPMS_TW
Data File Name	051LCCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	10.845	514	7.58	10	108.5	70	130	
9	Be	45	0.817	57	19.21	1	81.7	70	130	
11	B	45	36.748	919	7.27	20	183.7	70	130	Fail
23	Na	45	108.631	170025	0.29	100	108.6	70	130	
24	Mg	45	98.496	47348	1.94	100	98.5	70	130	
27	Al	45	97.231	18480	1.91	100	97.2	70	130	
39	K	45	112.212	122055	1.11	100	112.2	70	130	
44	Ca	45	93.040	3106	3.37	100	93.0	70	130	
47	Ti	45	5.082	992	8.24	5	101.6	70	130	
51	V	45	0.872	7974	2.52	1	87.2	70	130	
52	Cr	45	4.956	36538	1.62	5	99.1	70	130	
55	Mn	45	4.803	19966	1.34	5	96.1	70	130	
56	Fe	45	94.982	596353	0.36	100	95.0	70	130	
59	Co	72	5.203	54476	0.97	5	104.1	70	130	
60	Ni	72	5.125	14996	2.00	5	102.5	70	130	
63	Cu	72	5.150	50550	1.16	5	103.0	70	130	
66	Zn	72	4.877	7187	0.51	5	97.5	70	130	
75	As	72	4.943	5785	0.43	5	98.9	70	130	
78	Se	72	5.405	487	3.75	5	108.1	70	130	
88	Sr	115	4.980	25455	1.97	5	99.6	70	130	
95	Mo	115	5.020	20477	1.03	5	100.4	70	130	
107	Ag	115	1.978	24681	0.51	2	98.9	70	130	
111	Cd	115	1.000	1885	5.25	1	100.0	70	130	
118	Sn	115	5.090	20718	1.76	5	101.8	70	130	
121	Sb	115	1.915	11954	1.18	2	95.8	70	130	
137	Ba	115	4.810	9457	2.13	5	96.2	70	130	
205	Tl	209	0.983	23985	0.81	1	98.3	70	130	
208	Pb	209	1.062	39418	1.06	1	106.2	70	130	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1229299	0.63	1114717	110.28	70	120	
72	Ge	810680	0.34	754800	107.40	70	120	
115	In	7203930	0.80	7144493	100.83	70	120	
209	Bi	14151487	1.97	14670662	96.46	70	120	

Continuing Calibration Blank (CCB) Report

Date Acquired	5/11/2016 18:49	Sample Name	CCB1-160511
Data Batch	60511Z.b	Comment	CCB ICPMS_TW
Data File Name	052_CCB.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	MDL S	MDL Aq	QC Flag
7	Li	45	0.188	14	25.8	2	5	
9	Be	45	-0.042	1	43.3	0.4	0.3	
11	B	45	14.739	404	5.8	10	10	FailAq FailSoil
23	Na	45	8.527	73316	0.8	50	100	
24	Mg	45	-0.779	167	13.1	50	100	
27	Al	45	-0.076	311	4.5	50	10	
39	K	45	8.816	68795	0.9	50	100	
44	Ca	45	0.822	338	11.9	50	100	
47	Ti	45	0.028	19	44.4	4	3	
51	V	45	-0.147	2051	3.0	4	3	
52	Cr	45	0.010	1539	7.3	2	2	
55	Mn	45	-0.022	289	10.3	2	3	
56	Fe	45	0.400	8855	6.1	50	50	
59	Co	72	0.000	100	40.6	2	3	
60	Ni	72	-0.020	108	15.3	2	3	
63	Cu	72	-0.061	9188	0.5	2	2	
66	Zn	72	-0.169	261	11.5	4	2	
75	As	72	-0.042	192	3.6	2	2	
78	Se	72	0.236	123	25.8	1	2	
88	Sr	115	0.000	111	25.5	4	3	
95	Mo	115	0.007	44	15.6	2	2	
107	Ag	115	0.020	288	6.4	0.4	1	
111	Cd	115	0.002	19	40.7	0.4	0.3	
118	Sn	115	0.052	1179	2.7	4	3	
121	Sb	115	-0.007	337	15.9	2	0.8	
137	Ba	115	0.005	31	6.2	2	3	
205	Tl	209	0.019	640	5.4	2	0.5	
208	Pb	209	0.055	6953	2.6	0.4	0.3	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1231632	0.15	1114717	110.49	70	120	
72	Ge	810374	0.36	754800	107.36	70	120	
115	In	7185745	0.62	7144493	100.58	70	120	
209	Bi	14096450	0.99	14670662	96.09	70	120	

Continuing Calibration Verification (CCV) Report

Date Acquired	5/11/2016 19:11	Sample Name	CCV2-160511
Data Batch	60511Z.b	Comment	CCV ICPMS_TW
Data File Name	063_CCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	201.912	9234	0.52	200	101.0	90	110	
9	Be	45	200.717	12744	0.41	200	100.4	90	110	
11	B	45	200.213	4620	3.58	200	100.1	90	110	
23	Na	45	4958.505	4734979	1.25	5000	99.2	90	110	
24	Mg	45	4913.621	2274734	0.72	5000	98.3	90	110	
27	Al	45	4775.189	868563	1.22	5000	95.5	90	110	
39	K	45	5048.153	2601146	0.53	5000	101.0	90	110	
44	Ca	45	4570.924	133913	0.35	5000	91.4	90	110	
47	Ti	45	196.767	36918	1.32	200	98.4	90	110	
51	V	45	195.942	1112159	0.58	200	98.0	90	110	
52	Cr	45	196.907	1358377	0.43	200	98.5	90	110	
55	Mn	45	193.964	770738	0.20	200	97.0	90	110	
56	Fe	45	4779.788	28918546	4.43	5000	95.6	90	110	
59	Co	72	207.383	2117054	0.39	200	103.7	90	110	
60	Ni	72	200.974	568121	1.03	200	100.5	90	110	
63	Cu	72	203.173	1584342	0.57	200	101.6	90	110	
66	Zn	72	197.313	265008	0.75	200	98.7	90	110	
75	As	72	199.683	219091	0.12	200	99.8	90	110	
78	Se	72	196.928	13660	2.54	200	98.5	90	110	
88	Sr	115	200.305	999690	1.20	200	100.2	90	110	
95	Mo	115	199.393	796882	0.25	200	99.7	90	110	
107	Ag	115	186.150	2274213	0.57	200	93.1	90	110	
111	Cd	115	195.306	358027	1.05	200	97.7	90	110	
118	Sn	115	199.374	759208	1.42	200	99.7	90	110	
121	Sb	115	190.424	1128756	0.91	200	95.2	90	110	
137	Ba	115	190.080	365619	0.61	200	95.0	90	110	
205	Tl	209	199.499	4456811	1.10	200	99.7	90	110	
208	Pb	209	198.110	5891712	0.44	200	99.1	90	110	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1197072	0.57	1114717	107.39	70	120	
72	Ge	791767	0.48	754800	104.90	70	120	
115	In	7064526	1.52	7144493	98.88	70	120	
209	Bi	13046174	0.20	14670662	88.93	70	120	

Low Level Calibration Verification (LLCV) Report

Date Acquired	5/11/2016 19:15	Sample Name	LCVL2-160511
Data Batch	60511Z.b	Comment	LCVLICPMS_TW
Data File Name	065LCCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	10.366	478	4.59	10	103.7	70	130	
9	Be	45	0.968	65	23.83	1	96.8	70	130	
11	B	45	26.942	670	9.05	20	134.7	70	130	Fail
23	Na	45	117.651	173731	0.48	100	117.7	70	130	
24	Mg	45	102.014	47645	0.92	100	102.0	70	130	
27	Al	45	99.511	18373	2.15	100	99.5	70	130	
39	K	45	124.018	124561	0.40	100	124.0	70	130	
44	Ca	45	105.806	3391	3.00	100	105.8	70	130	
47	Ti	45	4.615	877	13.60	5	92.3	70	130	
51	V	45	0.875	7762	4.28	1	87.5	70	130	
52	Cr	45	5.033	36043	1.62	5	100.7	70	130	
55	Mn	45	4.765	19254	1.52	5	95.3	70	130	
56	Fe	45	99.236	605219	2.63	100	99.2	70	130	
59	Co	72	5.135	52514	0.92	5	102.7	70	130	
60	Ni	72	5.109	14601	2.64	5	102.2	70	130	
63	Cu	72	5.295	50493	0.51	5	105.9	70	130	
66	Zn	72	4.867	7006	2.52	5	97.3	70	130	
75	As	72	4.999	5712	0.82	5	100.0	70	130	
78	Se	72	5.170	459	5.37	5	103.4	70	130	
88	Sr	115	5.077	24591	1.84	5	101.5	70	130	
95	Mo	115	5.011	19372	0.49	5	100.2	70	130	
107	Ag	115	1.979	23396	1.91	2	98.9	70	130	
111	Cd	115	1.042	1861	2.90	1	104.2	70	130	
118	Sn	115	5.053	19503	0.88	5	101.1	70	130	
121	Sb	115	1.945	11503	2.10	2	97.2	70	130	
137	Ba	115	4.945	9212	3.27	5	98.9	70	130	
205	Tl	209	1.040	23369	0.62	1	104.0	70	130	
208	Pb	209	1.037	35583	2.26	1	103.7	70	130	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1194830	0.82	1114717	107.19	70	120	
72	Ge	791801	0.57	754800	104.90	70	120	
115	In	6828844	1.67	7144493	95.58	70	120	
209	Bi	13034225	0.24	14670662	88.85	70	120	

Continuing Calibration Blank (CCB) Report

Date Acquired	5/11/2016 19:17	Sample Name	CCB2-160511
Data Batch	60511Z.b	Comment	CCB ICPMS_TW
Data File Name	066_CCB.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	MDL S	MDL Aq	QC Flag
7	Li	45	0.255	17	24.2	2	5	
9	Be	45	0.001	4	43.3	0.4	0.3	
11	B	45	6.925	216	25.0	10	10	
23	Na	45	15.750	78161	0.1	50	100	
24	Mg	45	0.156	594	42.2	50	100	
27	Al	45	2.452	762	22.3	50	10	
39	K	45	17.467	71301	1.9	50	100	
44	Ca	45	7.895	536	24.3	50	100	
47	Ti	45	0.072	27	21.7	4	3	
51	V	45	-0.151	1977	3.9	4	3	
52	Cr	45	0.027	1610	10.2	2	2	
55	Mn	45	0.010	408	21.7	2	3	
56	Fe	45	2.727	22681	29.3	50	50	
59	Co	72	0.024	341	36.7	2	3	
60	Ni	72	0.008	184	21.4	2	3	
63	Cu	72	0.221	11136	2.1	2	2	
66	Zn	72	-0.187	230	13.3	4	2	
75	As	72	-0.041	187	7.5	2	2	
78	Se	72	0.480	136	14.5	1	2	
88	Sr	115	0.045	321	25.3	4	3	
95	Mo	115	0.032	141	59.4	2	2	
107	Ag	115	0.029	374	7.6	0.4	1	
111	Cd	115	0.029	64	29.4	0.4	0.3	
118	Sn	115	0.018	994	9.7	4	3	
121	Sb	115	0.006	394	36.8	2	0.8	
137	Ba	115	0.045	103	28.7	2	3	
205	Tl	209	0.031	844	31.8	2	0.5	
208	Pb	209	0.006	4868	5.1	0.4	0.3	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1198598	0.66	1114717	107.52	70	120	
72	Ge	790041	0.17	754800	104.67	70	120	
115	In	6824265	1.39	7144493	95.52	70	120	
209	Bi	12793769	0.44	14670662	87.21	70	120	

Method Blank Report

Date Acquired	5/11/16 7:19 PM	Sample Name	MB-75019
Data Batch	60511Z.b	Comment	MBLKICPMS_TSDOD
Data File Name	067_PB.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	0.232	16	35.15		
9	Be	45	-0.031	2	132.29		
11	B	45	7.246	223	7.46		
23	Na	45	26.077	88164	0.97		
24	Mg	45	2.646	1755	4.15		
27	Al	45	7.030	1601	8.23		
39	K	45	25.480	75564	1.16		
44	Ca	45	29.392	1169	1.83		
47	Ti	45	0.201	51	58.82		
51	V	45	-0.135	2070	1.32		
52	Cr	45	0.230	3026	3.94		
55	Mn	45	0.259	1402	4.70		
56	Fe	45	8.241	56275	4.09		
59	Co	72	0.014	236	17.69		
60	Ni	72	0.904	2710	3.91		
63	Cu	72	0.791	15534	1.12		
66	Zn	72	1.429	2391	5.61		
75	As	72	-0.024	206	5.32		
78	Se	72	0.297	124	7.14		
88	Sr	115	0.081	509	9.94		
95	Mo	115	0.031	140	21.82		
107	Ag	115	0.017	237	17.59		
111	Cd	115	0.012	36	37.89		
118	Sn	115	3.893	15608	6.81		
121	Sb	115	-0.014	286	15.24		
137	Ba	115	0.049	114	26.90		
205	Tl	209	0.012	448	20.95		
208	Pb	209	0.076	7093	1.60		

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1202146	0.18	1114717	107.84	70	120	
72	Ge	789512	0.89	754800	104.60	70	120	
115	In	6990675	2.03	7144493	97.85	70	120	
209	Bi	13174609	3.48	14670662	89.80	70	120	

Laboratory Control Sample (LCS) Report

Date Acquired	5/11/2016 19:21	Sample Name	LCS-75019
Data Batch	60511Z.b	Comment	LCS ICPMS_TSDOD
Data File Name	068_LS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	207.277	9464	1.42	200	103.6	80	120	
9	Be	45	205.812	13047	1.99	200	102.9	80	120	
11	B	45	202.013	4653	6.35	200	101.0	80	120	
23	Na	45	5178.801	4934129	2.61	1000	517.9	80	120	Fail
24	Mg	45	5164.989	2387227	0.57	1000	516.5	80	120	Fail
27	Al	45	983.455	178853	1.43	1000	98.3	80	120	
39	K	45	5317.812	2732407	0.45	1000	531.8	80	120	Fail
44	Ca	45	4686.628	137088	1.66	1000	468.7	80	120	Fail
47	Ti	45	195.967	36713	2.34	200	98.0	80	120	
51	V	45	201.738	1143137	0.26	200	100.9	80	120	
52	Cr	45	200.642	1381906	0.27	200	100.3	80	120	
55	Mn	45	198.476	787409	0.14	200	99.2	80	120	
56	Fe	45	960.358	5805796	1.69	1000	96.0	80	120	
59	Co	72	210.994	2131651	0.54	200	105.5	80	120	
60	Ni	72	206.374	577337	0.47	200	103.2	80	120	
63	Cu	72	206.143	1590815	1.30	200	103.1	80	120	
66	Zn	72	202.162	268715	1.52	200	101.1	80	120	
75	As	72	203.713	221198	0.96	200	101.9	80	120	
78	Se	72	199.163	13670	1.20	200	99.6	80	120	
88	Sr	115	203.957	986636	1.04	200	102.0	80	120	
95	Mo	115	206.106	798383	1.13	200	103.1	80	120	
107	Ag	115	201.872	2390406	0.62	200	100.9	80	120	
111	Cd	115	199.817	355015	0.58	200	99.9	80	120	
118	Sn	115	206.848	763364	0.71	200	103.4	80	120	
121	Sb	115	198.421	1139933	0.45	200	99.2	80	120	
137	Ba	115	195.513	364490	0.72	200	97.8	80	120	
205	Tl	209	204.832	4447201	0.44	200	102.4	80	120	
208	Pb	209	204.251	5903407	0.03	200	102.1	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1195168	0.67	1114717	107.22	70	120	
72	Ge	783598	0.89	754800	103.82	70	120	
115	In	6846667	0.74	7144493	95.83	70	120	
209	Bi	12679856	0.78	14670662	86.43	70	120	

Laboratory Control Sample (LCS) Report

Date Acquired	5/11/2016 19:23	Sample Name	LCSD-75019
Data Batch	60511Z.b	Comment	LCSDICPMS_TSDOD
Data File Name	069_LS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	209.706	9648	1.73	200	104.9	80	120	
9	Be	45	209.945	13410	0.84	200	105.0	80	120	
11	B	45	201.511	4677	4.27	200	100.8	80	120	
23	Na	45	5297.941	5085129	1.19	1000	529.8	80	120	Fail
24	Mg	45	5245.440	2442929	0.22	1000	524.5	80	120	Fail
27	Al	45	990.787	181553	0.77	1000	99.1	80	120	
39	K	45	5390.557	2790013	0.65	1000	539.1	80	120	Fail
44	Ca	45	4719.676	139095	0.87	1000	472.0	80	120	Fail
47	Ti	45	200.652	37876	1.04	200	100.3	80	120	
51	V	45	203.625	1162632	0.31	200	101.8	80	120	
52	Cr	45	205.184	1423932	0.40	200	102.6	80	120	
55	Mn	45	205.082	819821	0.48	200	102.5	80	120	
56	Fe	45	1014.393	6179124	1.43	1000	101.4	80	120	
59	Co	72	213.905	2193701	0.83	200	107.0	80	120	
60	Ni	72	209.329	594461	1.09	200	104.7	80	120	
63	Cu	72	208.912	1636359	0.58	200	104.5	80	120	
66	Zn	72	205.244	276922	0.51	200	102.6	80	120	
75	As	72	206.741	227876	0.59	200	103.4	80	120	
78	Se	72	199.981	13933	0.51	200	100.0	80	120	
88	Sr	115	204.325	1006529	0.38	200	102.2	80	120	
95	Mo	115	204.751	807645	1.56	200	102.4	80	120	
107	Ag	115	202.197	2438143	0.93	200	101.1	80	120	
111	Cd	115	204.306	369627	0.45	200	102.2	80	120	
118	Sn	115	211.093	793252	0.17	200	105.5	80	120	
121	Sb	115	200.617	1173617	0.28	200	100.3	80	120	
137	Ba	115	197.280	374531	0.40	200	98.6	80	120	
205	Tl	209	204.460	4544659	0.59	200	102.2	80	120	
208	Pb	209	205.293	6074960	0.71	200	102.6	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1204273	0.26	1114717	108.03	70	120	
72	Ge	795462	0.63	754800	105.39	70	120	
115	In	6971805	0.22	7144493	97.58	70	120	
209	Bi	12983376	1.71	14670662	88.50	70	120	

Sample Report

Date Acquired	5/11/16 7:27 PM	Sample Name	1605047-24A
Data Batch	60511Z.b	Comment	SAMPICPMS_TSDOD
Data File Name	071_ARF.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	171.473	8008	1.94	2000	>RL
9	Be	45	3.882	256	15.95	2000	>RL
11	B	45	134.263	3181	1.42	2000	>RL
23	Na	45	3680.144	3604322	0.61	25000	>RL
24	Mg	45	14398.261	6804060	0.60	25000	>RL
27	Al	45	60713.180	11269909	1.91	10000	OUTCAL
39	K	45	12055.827	6254423	3.94	25000	>RL
44	Ca	45	99951.013	2983079	0.87	25000	OUTCAL
47	Ti	45	185.246	35483	2.21	2000	>RL
51	V	45	109.792	637475	0.74	2000	>RL
52	Cr	45	64.548	455535	0.93	2000	>RL
55	Mn	45	1197.018	4853978	0.87	2000	>RL
56	Fe	45	87741.359	541794734	1.82	10000	OUTCAL
59	Co	72	51.076	521912	1.62	2000	>RL
60	Ni	72	81.536	230767	1.37	2000	>RL
63	Cu	72	10.283	89211	1.57	2000	>RL
66	Zn	72	306.110	411188	0.74	2000	>RL
75	As	72	27.970	30912	0.15	2000	>RL
78	Se	72	6.143	527	1.79	2000	>RL
88	Sr	115	678.383	3291822	0.87	2000	>RL
95	Mo	115	2.693	10484	1.19	2000	>RL
107	Ag	115	0.066	819	16.10	500	
111	Cd	115	0.179	333	15.87	2000	
118	Sn	115	4.723	18399	0.26	2000	>RL
121	Sb	115	0.299	2085	3.01	500	
137	Ba	115	315.675	590372	0.55	2000	>RL
205	Tl	209	0.503	11417	1.64	2000	
208	Pb	209	35.600	1063095	0.04	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1222167	1.18	1114717	109.64	70	120	
72	Ge	792388	0.91	754800	104.98	70	120	
115	In	6868278	0.51	7144493	96.13	70	120	
209	Bi	13052585	1.10	14670662	88.97	70	120	

Dilution Sample (Dil) Report

Date Acquired	5/11/2016 19:29	Sample Name	1605047-24A SD
Data Batch	60511Z.b	Comment	SD ICPMS_TSDOD
Data File Name	072_SD.d	Dilution	25

Mass	Name	IS	Conc	CPS	%RSD	Ref Value	%Rec	Low	High	Flag
7	Li	45	35.201	1675	0.87	171.5	102.6	110	90	Good
9	Be	45	0.677	49	26.50	3.9	87.2	110	90	
11	B	45	39.535	994	3.74	134.3	147.2	110	90	
23	Na	45	756.633	805611	0.62	3680.1	102.8	110	90	Good
24	Mg	45	3007.787	1445663	1.67	14398.3	104.4	110	90	Good
27	Al	45	12371.123	2335219	0.43	60713.2	101.9	110	90	Good
39	K	45	2485.024	1362090	0.76	12055.8	103.1	110	90	Good
44	Ca	45	20219.063	613817	0.57	99951.0	101.1	110	90	Good
47	Ti	45	36.438	7109	4.28	185.2	98.4	110	90	Good
51	V	45	21.846	131319	0.36	109.8	99.5	110	90	Good
52	Cr	45	13.140	95469	1.78	64.5	101.8	110	90	Good
55	Mn	45	243.165	1002906	0.19	1197.0	101.6	110	90	Good
56	Fe	45	18102.162	113661744	1.98	87741.4	103.2	110	90	Good
59	Co	72	10.472	109565	0.86	51.1	102.5	110	90	Good
60	Ni	72	16.608	48226	0.87	81.5	101.8	110	90	Good
63	Cu	72	1.907	24812	1.11	10.3	92.7	110	90	Good
66	Zn	72	63.563	87753	0.38	306.1	103.8	110	90	Good
75	As	72	5.638	6566	1.52	28.0	100.8	110	90	Good
78	Se	72	1.676	224	7.00	6.1	136.4	110	90	
88	Sr	115	135.815	683194	0.85	678.4	100.1	110	90	Good
95	Mo	115	0.536	2178	1.25	2.7	99.6	110	90	Good
107	Ag	115	0.027	364	22.87	0.1	202.7	110	90	
111	Cd	115	0.033	74	33.61	0.2	91.1	110	90	Good
118	Sn	115	0.833	4158	4.09	4.7	88.1	110	90	
121	Sb	115	0.038	604	7.81	0.3	63.8	110	90	
137	Ba	115	62.336	120865	0.53	315.7	98.7	110	90	Good
205	Tl	209	0.097	2431	9.07	0.5	96.0	110	90	Good
208	Pb	209	7.130	226600	0.62	35.6	100.1	110	90	Good

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1242612	0.61	1114717	111.47	70	120	
72	Ge	810751	0.30	754800	107.41	70	120	
115	In	7120684	1.70	7144493	99.67	70	120	
209	Bi	13646018	1.21	14670662	93.02	70	120	

Sample Report

Date Acquired	5/11/16 7:32 PM	Sample Name	1605047-11A
Data Batch	60511Z.b	Comment	SAMPICPMS_TSDOD
Data File Name	073SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	64.355	3058	0.90	2000	>RL
9	Be	45	2.817	190	4.73	2000	>RL
11	B	45	85.111	2072	10.43	2000	>RL
23	Na	45	2061.559	2081104	0.40	25000	>RL
24	Mg	45	13438.911	6455004	0.82	25000	>RL
27	Al	45	66335.160	12515921	1.07	10000	OUTCAL
39	K	45	15737.475	8277443	0.64	25000	>RL
44	Ca	45	50673.300	1537365	0.92	25000	OUTCAL
47	Ti	45	379.662	73910	0.54	2000	>RL
51	V	45	103.247	609508	0.37	2000	>RL
52	Cr	45	86.109	617254	0.82	2000	>RL
55	Mn	45	713.050	2939209	0.56	2000	>RL
56	Fe	45	64521.522	405002571	0.31	10000	OUTCAL
59	Co	72	26.004	265324	1.50	2000	>RL
60	Ni	72	41.339	116887	0.84	2000	>RL
63	Cu	72	25.326	205584	0.03	2000	>RL
66	Zn	72	247.282	331723	0.33	2000	>RL
75	As	72	32.582	35913	0.48	2000	>RL
78	Se	72	5.270	466	6.57	2000	>RL
88	Sr	115	332.171	1635581	0.35	2000	>RL
95	Mo	115	3.241	12799	0.80	2000	>RL
107	Ag	115	0.291	3544	5.07	500	
111	Cd	115	0.740	1352	3.35	2000	>RL
118	Sn	115	4.869	19216	0.83	2000	>RL
121	Sb	115	8.385	49385	0.86	500	>RL
137	Ba	115	424.585	805709	0.25	2000	>RL
205	Tl	209	0.592	13376	2.81	2000	
208	Pb	209	662.233	19670945	0.73	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1242187	0.31	1114717	111.44	70	120	
72	Ge	791122	0.80	754800	104.81	70	120	
115	In	6970381	1.67	7144493	97.56	70	120	
209	Bi	13038382	0.98	14670662	88.87	70	120	

Sample Report

Date Acquired	5/11/16 7:33 PM	Sample Name	1605047-12A
Data Batch	60511Z.b	Comment	SAMPICPMS_TSDOD
Data File Name	074SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	62.331	2904	1.81	2000	>RL
9	Be	45	2.849	188	1.41	2000	>RL
11	B	45	90.612	2159	6.89	2000	>RL
23	Na	45	4966.625	4825887	1.25	25000	>RL
24	Mg	45	15613.267	7354095	0.93	25000	>RL
27	Al	45	68926.005	12753162	1.23	10000	OUTCAL
39	K	45	15956.522	8228909	2.78	25000	>RL
44	Ca	45	221001.911	6574460	1.65	25000	OUTCAL
47	Ti	45	272.191	51964	2.56	2000	>RL
51	V	45	112.901	653347	0.70	2000	>RL
52	Cr	45	65.602	461510	0.33	2000	>RL
55	Mn	45	1179.565	4768066	0.82	2000	>RL
56	Fe	45	65893.274	405625771	1.40	10000	OUTCAL
59	Co	72	28.510	282680	1.57	2000	>RL
60	Ni	72	42.667	117232	1.14	2000	>RL
63	Cu	72	16.072	130132	1.18	2000	>RL
66	Zn	72	172.363	224830	0.52	2000	>RL
75	As	72	24.360	26149	0.63	2000	>RL
78	Se	72	5.375	460	4.54	2000	>RL
88	Sr	115	526.970	2513940	0.83	2000	>RL
95	Mo	115	1.537	5890	5.16	2000	
107	Ag	115	0.123	1477	16.13	500	
111	Cd	115	0.479	852	4.95	2000	>RL
118	Sn	115	4.519	17347	1.49	2000	>RL
121	Sb	115	4.013	23085	1.35	500	>RL
137	Ba	115	511.499	940415	0.53	2000	>RL
205	Tl	209	0.578	12836	3.53	2000	
208	Pb	209	443.799	12952627	0.81	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1218184	0.53	1114717	109.28	70	120	
72	Ge	768756	0.51	754800	101.85	70	120	
115	In	6752228	0.88	7144493	94.51	70	120	
209	Bi	12809078	0.84	14670662	87.31	70	120	

Sample Report

Date Acquired	5/11/16 7:35 PM	Sample Name	1605047-13A
Data Batch	60511Z.b	Comment	SAMPICPMS_TSDOD
Data File Name	075SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	60.918	2814	3.79	2000	>RL
9	Be	45	2.474	162	8.76	2000	>RL
11	B	45	93.931	2217	3.21	2000	>RL
23	Na	45	4298.226	4149301	1.36	25000	>RL
24	Mg	45	13197.412	6163199	1.78	25000	>RL
27	Al	45	49858.594	9145840	1.11	10000	OUTCAL
39	K	45	14306.759	7321599	0.77	25000	>RL
44	Ca	45	136008.593	4011129	0.58	25000	OUTCAL
47	Ti	45	133.047	25191	2.47	2000	>RL
51	V	45	98.716	566711	1.34	2000	>RL
52	Cr	45	61.420	428457	0.97	2000	>RL
55	Mn	45	781.622	3132242	0.41	2000	>RL
56	Fe	45	65383.680	399002357	1.99	10000	OUTCAL
59	Co	72	25.607	256491	0.55	2000	>RL
60	Ni	72	35.199	97734	1.21	2000	>RL
63	Cu	72	8.102	70873	1.60	2000	>RL
66	Zn	72	139.551	183994	0.78	2000	>RL
75	As	72	18.689	20321	0.62	2000	>RL
78	Se	72	5.156	450	7.89	2000	>RL
88	Sr	115	348.145	1632570	0.31	2000	>RL
95	Mo	115	2.012	7571	2.92	2000	>RL
107	Ag	115	0.039	487	14.83	500	
111	Cd	115	0.174	313	2.81	2000	
118	Sn	115	4.478	16905	2.58	2000	>RL
121	Sb	115	0.107	947	4.97	500	
137	Ba	115	415.292	750464	0.89	2000	>RL
205	Tl	209	0.350	7858	1.80	2000	
208	Pb	209	24.185	712069	0.60	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1207665	0.71	1114717	108.34	70	120	
72	Ge	776667	0.77	754800	102.90	70	120	
115	In	6637493	1.28	7144493	92.90	70	120	
209	Bi	12842236	1.20	14670662	87.54	70	120	

Sample Report

Date Acquired	5/11/16 7:37 PM	Sample Name	1605047-14A
Data Batch	60511Z.b	Comment	SAMPICPMS_TSDOD
Data File Name	076SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	88.837	4074	1.13	2000	>RL
9	Be	45	3.329	216	14.61	2000	>RL
11	B	45	119.972	2797	7.23	2000	>RL
23	Na	45	3776.008	3628421	0.59	25000	>RL
24	Mg	45	14432.016	6694360	0.93	25000	>RL
27	Al	45	52615.426	9587247	0.61	10000	OUTCAL
39	K	45	15398.223	7822726	2.63	25000	>RL
44	Ca	45	94445.617	2766876	1.12	25000	OUTCAL
47	Ti	45	116.078	21832	1.06	2000	>RL
51	V	45	105.364	600626	0.43	2000	>RL
52	Cr	45	69.385	480596	1.42	2000	>RL
55	Mn	45	379.978	1512751	0.62	2000	>RL
56	Fe	45	78726.584	477220834	1.83	10000	OUTCAL
59	Co	72	27.829	276861	0.65	2000	>RL
60	Ni	72	46.743	128857	1.04	2000	>RL
63	Cu	72	6.885	61197	1.01	2000	>RL
66	Zn	72	175.773	230056	0.68	2000	>RL
75	As	72	19.680	21241	1.48	2000	>RL
78	Se	72	6.800	557	4.32	2000	>RL
88	Sr	115	285.591	1367906	0.78	2000	>RL
95	Mo	115	2.586	9934	0.41	2000	>RL
107	Ag	115	0.029	378	15.01	500	
111	Cd	115	0.143	264	13.48	2000	
118	Sn	115	4.603	17720	0.77	2000	>RL
121	Sb	115	0.088	860	5.97	500	
137	Ba	115	136.613	252230	1.08	2000	>RL
205	Tl	209	0.343	7765	3.54	2000	
208	Pb	209	24.966	740156	0.39	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1199593	0.04	1114717	107.61	70	120	
72	Ge	771400	0.35	754800	102.20	70	120	
115	In	6780463	1.53	7144493	94.90	70	120	
209	Bi	12932378	0.32	14670662	88.15	70	120	

Sample Report

Date Acquired	5/11/16 7:39 PM	Sample Name	1605047-15A
Data Batch	60511Z.b	Comment	SAMPICPMS_TSDOD
Data File Name	077SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	118.544	5364	0.87	2000	>RL
9	Be	45	3.798	242	4.30	2000	>RL
11	B	45	133.902	3075	5.59	2000	>RL
23	Na	45	3499.679	3323516	0.65	25000	>RL
24	Mg	45	14275.221	6535072	1.31	25000	>RL
27	Al	45	55701.371	10017101	0.74	10000	OUTCAL
39	K	45	18227.733	9127949	1.42	25000	>RL
44	Ca	45	121429.659	3510964	0.74	25000	OUTCAL
47	Ti	45	124.146	23043	0.39	2000	>RL
51	V	45	102.593	577277	0.85	2000	>RL
52	Cr	45	75.736	517634	1.27	2000	>RL
55	Mn	45	370.218	1454715	0.79	2000	>RL
56	Fe	45	84791.180	507301722	2.16	10000	OUTCAL
59	Co	72	32.610	322116	0.37	2000	>RL
60	Ni	72	50.489	138175	0.37	2000	>RL
63	Cu	72	6.348	56737	0.79	2000	>RL
66	Zn	72	226.716	294494	0.32	2000	>RL
75	As	72	20.029	21462	1.14	2000	>RL
78	Se	72	6.724	548	10.20	2000	>RL
88	Sr	115	419.690	1949680	0.74	2000	>RL
95	Mo	115	3.029	11289	2.40	2000	>RL
107	Ag	115	0.028	357	7.30	500	
111	Cd	115	0.107	196	15.47	2000	
118	Sn	115	4.667	17419	2.80	2000	>RL
121	Sb	115	0.056	660	9.64	500	
137	Ba	115	102.996	184438	0.91	2000	>RL
205	Tl	209	0.476	10622	0.37	2000	
208	Pb	209	23.778	699011	0.46	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1183962	0.56	1114717	106.21	70	120	
72	Ge	765950	0.86	754800	101.48	70	120	
115	In	6576973	1.80	7144493	92.06	70	120	
209	Bi	12821856	1.85	14670662	87.40	70	120	

Sample Report

Date Acquired	5/11/16 7:41 PM	Sample Name	1605047-16A
Data Batch	60511Z.b	Comment	SAMPICPMS_TSDOD
Data File Name	078SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	72.167	3317	2.68	2000	>RL
9	Be	45	2.721	177	16.50	2000	>RL
11	B	45	81.940	1932	5.30	2000	>RL
23	Na	45	772.404	794139	0.46	25000	>RL
24	Mg	45	14600.781	6786001	1.82	25000	>RL
27	Al	45	71967.256	13138167	0.48	10000	OUTCAL
39	K	45	18207.318	9256764	2.37	25000	>RL
44	Ca	45	56053.643	1645449	0.88	25000	OUTCAL
47	Ti	45	229.976	43324	2.30	2000	>RL
51	V	45	108.529	619786	1.00	2000	>RL
52	Cr	45	67.227	466601	1.03	2000	>RL
55	Mn	45	650.030	2592652	0.95	2000	>RL
56	Fe	45	73359.222	445536596	0.08	10000	OUTCAL
59	Co	72	29.459	293987	0.71	2000	>RL
60	Ni	72	44.844	124010	0.80	2000	>RL
63	Cu	72	30.421	239692	1.29	2000	>RL
66	Zn	72	241.753	317228	0.67	2000	>RL
75	As	72	22.112	23912	1.61	2000	>RL
78	Se	72	5.526	473	5.01	2000	>RL
88	Sr	115	314.444	1473275	0.89	2000	>RL
95	Mo	115	2.201	8276	1.47	2000	>RL
107	Ag	115	0.152	1780	4.48	500	
111	Cd	115	0.473	828	5.64	2000	>RL
118	Sn	115	4.697	17674	2.39	2000	>RL
121	Sb	115	1.595	9223	1.44	500	
137	Ba	115	426.910	770866	0.43	2000	>RL
205	Tl	209	0.552	12240	4.23	2000	
208	Pb	209	75.476	2200018	0.61	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1201914	0.58	1114717	107.82	70	120	
72	Ge	773824	0.46	754800	102.52	70	120	
115	In	6632704	1.65	7144493	92.84	70	120	
209	Bi	12770731	1.27	14670662	87.05	70	120	

Sample Report

Date Acquired	5/11/16 7:43 PM	Sample Name	1605047-17A
Data Batch	60511Z.b	Comment	SAMPICPMS_TSDOD
Data File Name	079SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	77.591	3546	0.93	2000	>RL
9	Be	45	2.598	169	10.76	2000	>RL
11	B	45	78.258	1838	1.09	2000	>RL
23	Na	45	1873.822	1825940	0.41	25000	>RL
24	Mg	45	15052.178	6956946	1.10	25000	>RL
27	Al	45	61702.289	11202691	0.46	10000	OUTCAL
39	K	45	14119.270	7152847	1.81	25000	>RL
44	Ca	45	168039.457	4905262	1.32	25000	OUTCAL
47	Ti	45	272.560	51065	1.79	2000	>RL
51	V	45	125.492	712295	1.17	2000	>RL
52	Cr	45	65.840	454479	0.28	2000	>RL
55	Mn	45	530.418	2103987	0.87	2000	>RL
56	Fe	45	79686.671	481295572	0.78	10000	OUTCAL
59	Co	72	35.664	355804	0.30	2000	>RL
60	Ni	72	48.570	134265	0.39	2000	>RL
63	Cu	72	13.805	113781	0.32	2000	>RL
66	Zn	72	217.158	284923	0.35	2000	>RL
75	As	72	21.619	23380	0.92	2000	>RL
78	Se	72	5.381	463	5.26	2000	>RL
88	Sr	115	431.779	2077519	0.28	2000	>RL
95	Mo	115	1.179	4561	0.38	2000	
107	Ag	115	0.079	964	1.86	500	
111	Cd	115	0.386	696	3.53	2000	
118	Sn	115	4.067	15838	0.60	2000	>RL
121	Sb	115	0.234	1698	5.85	500	
137	Ba	115	722.450	1339718	0.49	2000	>RL
205	Tl	209	0.425	9412	1.93	2000	
208	Pb	209	30.124	876233	0.46	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1195330	0.81	1114717	107.23	70	120	
72	Ge	773599	0.29	754800	102.49	70	120	
115	In	6811312	1.59	7144493	95.34	70	120	
209	Bi	12702925	0.97	14670662	86.59	70	120	

Sample Report

Date Acquired	5/11/16 7:45 PM	Sample Name	1605047-18A
Data Batch	60511Z.b	Comment	SAMPICPMS_TSDOD
Data File Name	080SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	99.568	4582	0.68	2000	>RL
9	Be	45	2.188	144	4.48	2000	>RL
11	B	45	90.918	2141	3.74	2000	>RL
23	Na	45	2726.543	2647213	0.53	25000	>RL
24	Mg	45	12913.659	6012005	1.09	25000	>RL
27	Al	45	47173.210	8626911	1.10	10000	OUTCAL
39	K	45	9899.045	5069733	0.38	25000	>RL
44	Ca	45	115300.361	3390073	0.29	25000	OUTCAL
47	Ti	45	196.903	37159	0.52	2000	>RL
51	V	45	101.405	580271	0.84	2000	>RL
52	Cr	45	61.588	428307	1.03	2000	>RL
55	Mn	45	344.295	1375719	0.77	2000	>RL
56	Fe	45	64058.493	389713033	2.40	10000	OUTCAL
59	Co	72	31.264	315575	0.69	2000	>RL
60	Ni	72	40.697	113849	1.05	2000	>RL
63	Cu	72	6.805	61478	1.17	2000	>RL
66	Zn	72	201.382	267361	1.50	2000	>RL
75	As	72	17.779	19494	0.95	2000	>RL
78	Se	72	5.216	457	5.38	2000	>RL
88	Sr	115	372.580	1797579	0.46	2000	>RL
95	Mo	115	1.689	6544	3.02	2000	
107	Ag	115	0.034	436	3.85	500	
111	Cd	115	0.109	208	11.27	2000	
118	Sn	115	4.106	16024	0.33	2000	>RL
121	Sb	115	0.049	641	2.86	500	
137	Ba	115	983.970	1829610	0.88	2000	>RL
205	Tl	209	0.211	4834	0.14	2000	
208	Pb	209	24.527	725591	1.11	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1203968	0.18	1114717	108.01	70	120	
72	Ge	782684	0.44	754800	103.69	70	120	
115	In	6828595	0.58	7144493	95.58	70	120	
209	Bi	12902994	0.48	14670662	87.95	70	120	

Sample Report

Date Acquired	5/11/16 7:47 PM	Sample Name	1605047-19A
Data Batch	60511Z.b	Comment	SAMPICPMS_TSDOD
Data File Name	081SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	145.362	6740	3.02	2000	>RL
9	Be	45	3.306	217	1.92	2000	>RL
11	B	45	121.321	2860	5.48	2000	>RL
23	Na	45	2947.093	2878552	0.48	25000	>RL
24	Mg	45	13086.939	6140294	0.26	25000	>RL
27	Al	45	52433.868	9664087	0.81	10000	OUTCAL
39	K	45	10868.881	5603843	1.32	25000	>RL
44	Ca	45	133864.402	3966667	0.33	25000	OUTCAL
47	Ti	45	188.724	35895	1.25	2000	>RL
51	V	45	94.615	545855	0.98	2000	>RL
52	Cr	45	56.824	398381	0.42	2000	>RL
55	Mn	45	423.726	1706300	1.29	2000	>RL
56	Fe	45	69916.824	428700845	1.84	10000	OUTCAL
59	Co	72	31.696	321477	1.31	2000	>RL
60	Ni	72	53.730	150980	0.34	2000	>RL
63	Cu	72	7.127	64254	0.83	2000	>RL
66	Zn	72	240.704	321012	0.44	2000	>RL
75	As	72	19.418	21371	0.79	2000	>RL
78	Se	72	5.284	464	6.80	2000	>RL
88	Sr	115	824.500	4043558	0.20	2000	>RL
95	Mo	115	1.308	5154	2.40	2000	
107	Ag	115	0.031	403	2.86	500	
111	Cd	115	0.101	197	1.69	2000	
118	Sn	115	4.400	17383	1.30	2000	>RL
121	Sb	115	0.049	654	3.69	500	
137	Ba	115	658.299	1244352	0.67	2000	>RL
205	Tl	209	0.310	7081	1.69	2000	
208	Pb	209	24.677	737406	0.35	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1213392	0.11	1114717	108.85	70	120	
72	Ge	786449	0.40	754800	104.19	70	120	
115	In	6943466	2.22	7144493	97.19	70	120	
209	Bi	13034926	0.54	14670662	88.85	70	120	

Post Digestion Spike Sample (PDS) Report

Date Acquired	5/11/2016 19:49	Sample Name	1605047-24A PDS
Data Batch	60511Z.b	Comment	PDS ICPMS_TSDOD
Data File Name	082_PDS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
7	Li	45	358.689	16747	0.71	171.5	200	93.6	75	125	
9	Be	45	192.557	12484	0.44	3.9	200	94.3	75	125	
11	B	45	324.999	7621	1.60	134.3	200	95.4	75	125	
23	Na	45	8540.846	8281529	1.66	3680.1	5000	97.2	75	125	
24	Mg	45	19313.567	9128721	1.92	14398.3	5000	98.3	75	125	
27	Al	45	66089.782	12271132	1.28	60713.2	5000	107.5	75	125	
39	K	45	16991.451	8789392	0.57	12055.8	5000	98.7	75	125	
44	Ca	45	########	3140801	0.27	99951.0	5000	105.2	75	125	
47	Ti	45	374.596	71760	0.86	185.2	200	94.7	75	125	
51	V	45	307.139	1778552	0.51	109.8	200	98.7	75	125	
52	Cr	45	260.399	1833898	0.13	64.5	200	97.9	75	125	
55	Mn	45	1397.560	5668628	0.78	1197.0	200	100.3	75	125	
56	Fe	45	92872.598	573651924	1.52	87741.4	5000	102.6	75	125	
59	Co	72	252.271	2572128	0.67	51.1	200	100.6	75	125	
60	Ni	72	273.927	773341	1.12	81.5	200	96.2	75	125	
63	Cu	72	198.661	1547429	0.25	10.3	200	94.2	75	125	
66	Zn	72	497.762	666988	1.02	306.1	200	95.8	75	125	
75	As	72	229.243	251182	0.56	28.0	200	100.6	75	125	
78	Se	72	202.423	14020	1.35	6.1	200	98.1	75	125	
88	Sr	115	904.901	4374860	1.23	678.4	200	113.3	75	125	
95	Mo	115	202.665	784663	1.35	2.7	200	100.0	75	125	
107	Ag	115	184.964	2189121	1.06	0.1	200	92.4	75	125	
111	Cd	115	193.374	343376	0.87	0.2	200	96.6	75	125	
118	Sn	115	211.967	781756	0.33	4.7	200	103.6	75	125	
121	Sb	115	204.325	1173150	0.25	0.3	200	102.0	75	125	
137	Ba	115	520.837	970434	0.63	315.7	200	102.6	75	125	
205	Tl	209	199.039	4377482	0.74	0.5	200	99.3	75	125	
208	Pb	209	233.960	6849053	0.85	35.6	200	99.2	75	125	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1222376	0.24	1114717	109.66	70	120	
72	Ge	790808	0.86	754800	104.77	70	120	
115	In	6842872	0.96	7144493	95.78	70	120	
209	Bi	12843778	0.94	14670662	87.55	70	120	

Matrix Spike Sample (MS) Report

Date Acquired	5/11/2016 19:51	Sample Name	1605047-24A MS
Data Batch	60511Z.b	Comment	MS ICPMS_TSDOD
Data File Name	083_MSS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
7	Li	45	355.728	16548	0.55	171.5	200	92.1	80	120	
9	Be	45	198.726	12838	0.68	3.9	200	97.4	80	120	
11	B	45	327.990	7663	1.98	134.3	200	96.9	80	120	
23	Na	45	8645.098	8351555	1.13	3680.1	1000	496.5	80	120	Fail
24	Mg	45	19868.476	9356780	1.06	14398.3	1000	547.0	80	120	Fail
27	Al	45	63836.673	11810345	2.05	60713.2	1000	312.3	80	120	Fail
39	K	45	17274.548	8902325	1.07	12055.8	1000	521.9	80	120	Fail
44	Ca	45	91333.735	2716664	0.29	99951.0	1000	-861.7	80	120	Fail
47	Ti	45	344.312	65723	1.06	185.2	200	79.5	80	120	Fail
51	V	45	310.566	1791864	0.28	109.8	200	100.4	80	120	
52	Cr	45	261.666	1836139	0.50	64.5	200	98.6	80	120	
55	Mn	45	1363.263	5509351	0.86	1197.0	200	83.1	80	120	
56	Fe	45	88238.142	543075961	0.85	87741.4	1000	49.7	80	120	Fail
59	Co	72	254.068	2597919	0.55	51.1	200	101.5	80	120	
60	Ni	72	273.184	773463	0.24	81.5	200	95.8	80	120	
63	Cu	72	206.877	1615747	0.53	10.3	200	98.3	80	120	
66	Zn	72	484.656	651325	0.27	306.1	200	89.3	80	120	
75	As	72	226.723	249153	0.78	28.0	200	99.4	80	120	
78	Se	72	203.371	14126	0.97	6.1	200	98.6	80	120	
88	Sr	115	904.893	4336472	0.20	678.4	200	113.3	80	120	
95	Mo	115	195.728	751154	0.26	2.7	200	96.5	80	120	
107	Ag	115	199.988	2346275	0.71	0.1	200	100.0	80	120	
111	Cd	115	200.672	353177	0.94	0.2	200	100.2	80	120	
118	Sn	115	208.352	761674	0.64	4.7	200	101.8	80	120	
121	Sb	115	63.160	359739	0.87	0.3	200	31.4	80	120	Fail
137	Ba	115	674.520	1245734	0.40	315.7	200	179.4	80	120	Fail
205	Tl	209	201.524	4450769	0.35	0.5	200	100.5	80	120	
208	Pb	209	232.133	6824233	0.52	35.6	200	98.3	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1217971	0.45	1114717	109.26	70	120	
72	Ge	793120	0.67	754800	105.08	70	120	
115	In	6784003	1.70	7144493	94.95	70	120	
209	Bi	12898656	1.03	14670662	87.92	70	120	

Matrix Spike Sample (MS) Report

Date Acquired	5/11/2016 19:53	Sample Name	1605047-24A MSD
Data Batch	60511Z.b	Comment	MSD ICPMS_TSDOD
Data File Name	084_MSS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
7	Li	45	362.579	16852	0.86	171.5	200	95.6	80	120	
9	Be	45	201.081	12977	0.59	3.9	200	98.6	80	120	
11	B	45	326.165	7613	3.14	134.3	200	96.0	80	120	
23	Na	45	8299.827	8013530	0.93	3680.1	1000	462.0	80	120	Fail
24	Mg	45	19340.908	9100840	1.41	14398.3	1000	494.3	80	120	Fail
27	Al	45	62996.247	11644771	2.11	60713.2	1000	228.3	80	120	Fail
39	K	45	17918.917	9224086	1.52	12055.8	1000	586.3	80	120	Fail
44	Ca	45	85700.934	2546910	0.65	99951.0	1000	#####	80	120	Fail
47	Ti	45	349.114	66582	1.14	185.2	200	81.9	80	120	
51	V	45	310.750	1791239	0.95	109.8	200	100.5	80	120	
52	Cr	45	262.872	1842941	1.48	64.5	200	99.2	80	120	
55	Mn	45	1390.490	5614295	0.54	1197.0	200	96.7	80	120	
56	Fe	45	93165.377	572884386	1.68	87741.4	1000	542.4	80	120	Fail
59	Co	72	253.336	2571225	0.44	51.1	200	101.1	80	120	
60	Ni	72	278.921	783801	0.54	81.5	200	98.7	80	120	
63	Cu	72	209.359	1622819	0.35	10.3	200	99.5	80	120	
66	Zn	72	507.675	677212	0.97	306.1	200	100.8	80	120	
75	As	72	230.945	251902	0.61	28.0	200	101.5	80	120	
78	Se	72	206.864	14260	1.05	6.1	200	100.4	80	120	
88	Sr	115	986.570	4822213	1.10	678.4	200	154.1	80	120	Fail
95	Mo	115	197.758	774078	0.53	2.7	200	97.5	80	120	
107	Ag	115	197.237	2359938	0.90	0.1	200	98.6	80	120	
111	Cd	115	198.277	355990	1.60	0.2	200	99.0	80	120	
118	Sn	115	206.023	768233	0.29	4.7	200	100.6	80	120	
121	Sb	115	64.088	372267	1.09	0.3	200	31.9	80	120	Fail
137	Ba	115	635.332	1196734	0.13	315.7	200	159.8	80	120	Fail
205	Tl	209	201.001	4449187	0.94	0.5	200	100.2	80	120	
208	Pb	209	234.395	6905650	0.24	35.6	200	99.4	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1216904	0.87	1114717	109.17	70	120	
72	Ge	787274	1.35	754800	104.30	70	120	
115	In	6920363	2.48	7144493	96.86	70	120	
209	Bi	12928657	1.92	14670662	88.13	70	120	

Continuing Calibration Verification (CCV) Report

Date Acquired	5/11/2016 19:55	Sample Name	CCV3-160511
Data Batch	60511Z.b	Comment	CCV ICPMS_TW
Data File Name	085_CCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	202.579	9327	1.07	200	101.3	90	110	
9	Be	45	200.954	12847	1.99	200	100.5	90	110	
11	B	45	196.774	4572	3.31	200	98.4	90	110	
23	Na	45	4880.751	4693138	0.42	5000	97.6	90	110	
24	Mg	45	4866.627	2268316	0.80	5000	97.3	90	110	
27	Al	45	4750.094	869879	1.12	5000	95.0	90	110	
39	K	45	5038.208	2613831	0.84	5000	100.8	90	110	
44	Ca	45	4503.286	132823	0.51	5000	90.1	90	110	
47	Ti	45	195.201	36879	2.40	200	97.6	90	110	
51	V	45	197.153	1126712	1.39	200	98.6	90	110	
52	Cr	45	196.851	1367255	0.92	200	98.4	90	110	
55	Mn	45	196.071	784390	0.47	200	98.0	90	110	
56	Fe	45	4890.170	29784214	1.01	5000	97.8	90	110	
59	Co	72	207.598	2136593	0.91	200	103.8	90	110	
60	Ni	72	202.146	576100	0.45	200	101.1	90	110	
63	Cu	72	202.134	1589233	1.13	200	101.1	90	110	
66	Zn	72	198.485	268774	1.14	200	99.2	90	110	
75	As	72	200.102	221341	0.81	200	100.1	90	110	
78	Se	72	198.514	13881	1.09	200	99.3	90	110	
88	Sr	115	202.381	1006182	0.70	200	101.2	90	110	
95	Mo	115	200.514	798209	0.70	200	100.3	90	110	
107	Ag	115	188.426	2292937	0.95	200	94.2	90	110	
111	Cd	115	196.640	359027	0.90	200	98.3	90	110	
118	Sn	115	201.408	763839	0.82	200	100.7	90	110	
121	Sb	115	193.841	1144422	0.50	200	96.9	90	110	
137	Ba	115	193.961	371633	1.11	200	97.0	90	110	
205	Tl	209	197.028	4483164	0.68	200	98.5	90	110	
208	Pb	209	197.829	5992507	0.55	200	98.9	90	110	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1205287	1.45	1114717	108.12	70	120	
72	Ge	798261	0.67	754800	105.76	70	120	
115	In	7036334	0.81	7144493	98.49	70	120	
209	Bi	13289990	1.23	14670662	90.59	70	120	

Low Level Calibration Verification (LLCV) Report

Date Acquired	5/11/2016 19:59	Sample Name	LCVL3-160511
Data Batch	60511Z.b	Comment	LCVLICPMS_TW
Data File Name	087LCCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	10.271	470	4.55	10	102.7	70	130	
9	Be	45	1.030	69	13.53	1	103.0	70	130	
11	B	45	29.998	734	4.41	20	150.0	70	130	Fail
23	Na	45	115.164	170193	0.71	100	115.2	70	130	
24	Mg	45	104.332	48367	3.65	100	104.3	70	130	
27	Al	45	111.072	20320	7.48	100	111.1	70	130	
39	K	45	116.945	120171	0.62	100	116.9	70	130	
44	Ca	45	117.914	3716	7.45	100	117.9	70	130	
47	Ti	45	4.584	864	11.24	5	91.7	70	130	
51	V	45	0.901	7858	3.52	1	90.1	70	130	
52	Cr	45	5.030	35767	1.48	5	100.6	70	130	
55	Mn	45	4.933	19780	1.53	5	98.7	70	130	
56	Fe	45	116.891	706526	8.33	100	116.9	70	130	
59	Co	72	5.289	53566	1.58	5	105.8	70	130	
60	Ni	72	5.238	14822	1.28	5	104.8	70	130	
63	Cu	72	4.995	47706	1.03	5	99.9	70	130	
66	Zn	72	4.838	6900	4.00	5	96.8	70	130	
75	As	72	4.958	5612	1.30	5	99.2	70	130	
78	Se	72	5.107	451	4.04	5	102.1	70	130	
88	Sr	115	5.175	25532	3.48	5	103.5	70	130	
95	Mo	115	4.931	19416	3.10	5	98.6	70	130	
107	Ag	115	1.979	23825	0.68	2	98.9	70	130	
111	Cd	115	1.084	1970	6.47	1	108.4	70	130	
118	Sn	115	4.956	19493	1.19	5	99.1	70	130	
121	Sb	115	1.968	11844	2.61	2	98.4	70	130	
137	Ba	115	4.894	9283	0.74	5	97.9	70	130	
205	Tl	209	1.072	24254	2.90	1	107.2	70	130	
208	Pb	209	1.049	36164	2.54	1	104.9	70	130	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1186522	1.01	1114717	106.44	70	120	
72	Ge	784177	0.11	754800	103.89	70	120	
115	In	6951937	1.33	7144493	97.30	70	120	
209	Bi	13120210	1.01	14670662	89.43	70	120	

Continuing Calibration Blank (CCB) Report

Date Acquired	5/11/2016 20:01	Sample Name	CCB3-160511
Data Batch	60511Z.b	Comment	CCB ICPMS_TW
Data File Name	088_CCB.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	MDL S	MDL Aq	QC Flag
7	Li	45	0.521	29	19.2	2	5	
9	Be	45	0.049	7	51.5	0.4	0.3	
11	B	45	9.875	281	8.4	10	10	
23	Na	45	16.505	78430	3.1	50	100	
24	Mg	45	8.425	4403	69.7	50	100	
27	Al	45	32.677	6229	57.9	50	10	FailAq
39	K	45	15.788	70058	1.4	50	100	
44	Ca	45	43.176	1560	53.1	50	100	
47	Ti	45	0.168	44	78.8	4	3	
51	V	45	-0.016	2724	29.3	4	3	
52	Cr	45	0.182	2669	26.0	2	2	
55	Mn	45	0.399	1942	58.1	2	3	
56	Fe	45	40.562	250436	59.8	50	50	
59	Co	72	0.157	1709	60.2	2	3	
60	Ni	72	0.141	564	49.4	2	3	
63	Cu	72	0.097	10251	9.4	2	2	
66	Zn	72	0.069	577	34.0	4	2	
75	As	72	0.058	298	28.5	2	2	
78	Se	72	0.594	145	19.9	1	2	
88	Sr	115	0.340	1737	63.3	4	3	
95	Mo	115	0.159	630	57.0	2	2	
107	Ag	115	0.088	1069	59.9	0.4	1	
111	Cd	115	0.104	197	71.2	0.4	0.3	
118	Sn	115	0.108	1322	23.3	4	3	
121	Sb	115	0.108	976	54.4	2	0.8	
137	Ba	115	0.312	598	68.3	2	3	
205	Tl	209	0.141	3312	51.2	2	0.5	
208	Pb	209	0.118	8282	34.8	0.4	0.3	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1191802	0.58	1114717	106.92	70	120	
72	Ge	796232	0.89	754800	105.49	70	120	
115	In	6817025	1.73	7144493	95.42	70	120	
209	Bi	13080120	1.37	14670662	89.16	70	120	

Sample Report

Date Acquired	5/11/16 8:03 PM	Sample Name	1605047-20A
Data Batch	60511Z.b	Comment	SAMPICPMS_TSDOD
Data File Name	089SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	116.161	5363	0.57	2000	>RL
9	Be	45	3.388	221	5.65	2000	>RL
11	B	45	121.680	2856	2.89	2000	>RL
23	Na	45	3454.761	3348325	1.52	25000	>RL
24	Mg	45	11479.897	5362112	3.04	25000	>RL
27	Al	45	52208.383	9579452	0.98	10000	OUTCAL
39	K	45	9535.557	4902071	0.59	25000	>RL
44	Ca	45	125744.429	3709361	0.47	25000	OUTCAL
47	Ti	45	146.338	27711	0.23	2000	>RL
51	V	45	90.286	518671	0.16	2000	>RL
52	Cr	45	53.583	374062	0.20	2000	>RL
55	Mn	45	612.263	2454283	0.18	2000	>RL
56	Fe	45	82264.852	502141740	1.18	10000	OUTCAL
59	Co	72	34.850	354787	0.77	2000	>RL
60	Ni	72	50.857	143461	0.95	2000	>RL
63	Cu	72	8.690	76581	0.87	2000	>RL
66	Zn	72	229.260	306950	1.20	2000	>RL
75	As	72	19.308	21332	0.29	2000	>RL
78	Se	72	5.383	472	14.87	2000	>RL
88	Sr	115	1676.350	8072420	1.02	2000	>RL
95	Mo	115	1.894	7321	3.08	2000	
107	Ag	115	0.060	742	14.02	500	
111	Cd	115	0.092	177	37.12	2000	
118	Sn	115	4.664	18041	1.74	2000	>RL
121	Sb	115	0.123	1063	17.39	500	
137	Ba	115	91.599	170026	0.41	2000	>RL
205	Tl	209	0.406	8996	4.03	2000	
208	Pb	209	26.154	761942	0.25	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1207957	0.13	1114717	108.36	70	120	
72	Ge	789481	1.00	754800	104.59	70	120	
115	In	6816527	0.97	7144493	95.41	70	120	
209	Bi	12713908	1.38	14670662	86.66	70	120	

Sample Report

Date Acquired	5/11/16 8:05 PM	Sample Name	1605047-21A
Data Batch	60511Z.b	Comment	SAMPICPMS_TSDOD
Data File Name	090SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	68.156	3163	0.85	2000	>RL
9	Be	45	2.623	173	5.63	2000	>RL
11	B	45	80.836	1925	4.46	2000	>RL
23	Na	45	1126.847	1140052	1.32	25000	>RL
24	Mg	45	15481.986	7263765	1.14	25000	>RL
27	Al	45	71231.965	13128698	2.02	10000	OUTCAL
39	K	45	17828.001	9149927	2.45	25000	>RL
44	Ca	45	83324.446	2469019	0.72	25000	OUTCAL
47	Ti	45	369.401	70235	2.30	2000	>RL
51	V	45	111.578	643122	1.29	2000	>RL
52	Cr	45	70.038	490638	0.38	2000	>RL
55	Mn	45	647.979	2608761	1.09	2000	>RL
56	Fe	45	66811.569	409614357	1.18	10000	OUTCAL
59	Co	72	29.664	298771	0.77	2000	>RL
60	Ni	72	46.649	130181	1.47	2000	>RL
63	Cu	72	35.972	284327	1.55	2000	>RL
66	Zn	72	257.313	340714	1.34	2000	>RL
75	As	72	20.878	22800	1.08	2000	>RL
78	Se	72	5.599	482	3.86	2000	>RL
88	Sr	115	356.912	1714914	0.79	2000	>RL
95	Mo	115	2.961	11412	4.33	2000	>RL
107	Ag	115	0.187	2232	6.77	500	
111	Cd	115	0.545	976	9.50	2000	>RL
118	Sn	115	4.888	18822	4.00	2000	>RL
121	Sb	115	12.728	72990	11.04	500	>RL
137	Ba	115	490.929	909058	0.19	2000	>RL
205	Tl	209	0.627	13702	6.25	2000	
208	Pb	209	52.891	1525584	1.31	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1213345	0.81	1114717	108.85	70	120	
72	Ge	781038	1.02	754800	103.48	70	120	
115	In	6800393	0.49	7144493	95.18	70	120	
209	Bi	12626955	2.27	14670662	86.07	70	120	

Sample Report

Date Acquired	5/11/16 8:07 PM	Sample Name	1605047-22A
Data Batch	60511Z.b	Comment	SAMPICPMS_TSDOD
Data File Name	091SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	80.502	3712	3.37	2000	>RL
9	Be	45	2.899	189	3.52	2000	>RL
11	B	45	83.730	1980	11.65	2000	>RL
23	Na	45	1976.378	1939807	0.49	25000	>RL
24	Mg	45	15293.780	7132411	2.26	25000	>RL
27	Al	45	61540.300	11274912	1.83	10000	OUTCAL
39	K	45	13961.166	7136788	1.79	25000	>RL
44	Ca	45	160541.088	4728691	1.19	25000	OUTCAL
47	Ti	45	269.143	50878	1.00	2000	>RL
51	V	45	123.588	707901	2.08	2000	>RL
52	Cr	45	67.329	468958	1.84	2000	>RL
55	Mn	45	472.663	1891975	1.53	2000	>RL
56	Fe	45	71725.041	437150463	0.89	10000	OUTCAL
59	Co	72	33.679	340302	1.29	2000	>RL
60	Ni	72	49.091	137445	0.93	2000	>RL
63	Cu	72	12.582	105858	0.76	2000	>RL
66	Zn	72	217.325	288800	0.68	2000	>RL
75	As	72	21.389	23430	0.57	2000	>RL
78	Se	72	4.914	437	2.14	2000	>RL
88	Sr	115	430.361	2053630	0.58	2000	>RL
95	Mo	115	1.041	3999	6.74	2000	
107	Ag	115	0.115	1383	20.43	500	
111	Cd	115	0.398	711	5.14	2000	
118	Sn	115	4.301	16560	1.39	2000	>RL
121	Sb	115	0.254	1798	16.81	500	
137	Ba	115	987.651	1816469	0.58	2000	>RL
205	Tl	209	0.468	10234	9.50	2000	
208	Pb	209	27.888	803419	0.19	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1206123	0.68	1114717	108.20	70	120	
72	Ge	783558	0.72	754800	103.81	70	120	
115	In	6757378	2.58	7144493	94.58	70	120	
209	Bi	12577190	1.46	14670662	85.73	70	120	

Sample Report

Date Acquired	5/11/16 8:09 PM	Sample Name	1605047-23A
Data Batch	60511Z.b	Comment	SAMPICPMS_TSDOD
Data File Name	092SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	161.839	7508	0.78	2000	>RL
9	Be	45	2.572	170	12.04	2000	>RL
11	B	45	119.216	2814	2.41	2000	>RL
23	Na	45	3762.481	3659675	0.56	25000	>RL
24	Mg	45	18057.478	8478162	1.34	25000	>RL
27	Al	45	64040.014	11810815	1.83	10000	OUTCAL
39	K	45	10891.602	5619164	0.57	25000	>RL
44	Ca	45	239497.461	7101479	1.46	25000	OUTCAL
47	Ti	45	217.431	41379	1.07	2000	>RL
51	V	45	122.597	706914	0.68	2000	>RL
52	Cr	45	67.280	471739	0.70	2000	>RL
55	Mn	45	741.832	2988900	0.22	2000	>RL
56	Fe	45	75225.184	461537013	1.02	10000	OUTCAL
59	Co	72	37.259	374164	0.45	2000	>RL
60	Ni	72	46.804	130248	0.44	2000	>RL
63	Cu	72	9.190	79353	1.61	2000	>RL
66	Zn	72	193.322	255382	0.27	2000	>RL
75	As	72	20.949	22811	0.82	2000	>RL
78	Se	72	5.437	470	6.63	2000	>RL
88	Sr	115	696.090	3322355	0.54	2000	>RL
95	Mo	115	1.298	4974	5.06	2000	
107	Ag	115	0.046	569	15.19	500	
111	Cd	115	0.263	473	12.28	2000	
118	Sn	115	4.589	17609	0.62	2000	>RL
121	Sb	115	0.079	803	13.43	500	
137	Ba	115	844.957	1554013	0.63	2000	>RL
205	Tl	209	0.404	8943	2.61	2000	
208	Pb	209	30.839	896703	0.25	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1214207	0.54	1114717	108.93	70	120	
72	Ge	778733	0.47	754800	103.17	70	120	
115	In	6757266	2.29	7144493	94.58	70	120	
209	Bi	12701639	1.61	14670662	86.58	70	120	

Sample Report

Date Acquired	5/11/16 8:11 PM	Sample Name	1605047-25A
Data Batch	60511Z.b	Comment	SAMPICPMS_TSDOD
Data File Name	093SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	130.577	6145	3.85	2000	>RL
9	Be	45	3.660	243	8.55	2000	>RL
11	B	45	128.249	3065	1.80	2000	>RL
23	Na	45	3477.649	3435198	0.18	25000	>RL
24	Mg	45	11773.636	5605198	2.10	25000	>RL
27	Al	45	54109.115	10120315	0.81	10000	OUTCAL
39	K	45	10319.116	5402099	1.49	25000	>RL
44	Ca	45	123210.648	3704876	0.22	25000	OUTCAL
47	Ti	45	157.040	30312	0.83	2000	>RL
51	V	45	90.803	531676	1.29	2000	>RL
52	Cr	45	56.467	401723	0.40	2000	>RL
55	Mn	45	455.180	1859888	1.09	2000	>RL
56	Fe	45	75602.081	470395288	0.27	10000	OUTCAL
59	Co	72	42.152	435559	0.47	2000	>RL
60	Ni	72	60.386	172871	0.75	2000	>RL
63	Cu	72	7.528	68616	1.83	2000	>RL
66	Zn	72	253.078	343860	1.03	2000	>RL
75	As	72	17.396	19532	0.82	2000	>RL
78	Se	72	5.573	493	9.71	2000	>RL
88	Sr	115	1236.146	6013114	0.14	2000	>RL
95	Mo	115	1.284	5018	1.46	2000	
107	Ag	115	0.046	577	20.54	500	
111	Cd	115	0.057	116	20.47	2000	
118	Sn	115	4.623	18073	1.03	2000	>RL
121	Sb	115	0.072	778	5.44	500	
137	Ba	115	115.283	216150	0.89	2000	>RL
205	Tl	209	0.319	7242	1.40	2000	
208	Pb	209	24.753	735913	0.90	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1231329	0.62	1114717	110.46	70	120	
72	Ge	801336	1.09	754800	106.17	70	120	
115	In	6885704	1.15	7144493	96.38	70	120	
209	Bi	12974073	2.21	14670662	88.44	70	120	

Sample Report

Date Acquired	5/11/16 8:13 PM	Sample Name	1605047-26A
Data Batch	60511Z.b	Comment	SAMPICPMS_TSDOD
Data File Name	094SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	82.939	3912	3.37	2000	>RL
9	Be	45	2.920	195	17.83	2000	>RL
11	B	45	90.374	2182	9.32	2000	>RL
23	Na	45	1141.937	1174136	0.24	25000	>RL
24	Mg	45	16724.793	7979775	0.60	25000	>RL
27	Al	45	78066.185	14631690	1.74	10000	OUTCAL
39	K	45	19448.180	10146001	1.62	25000	>RL
44	Ca	45	94302.894	2841721	0.29	25000	OUTCAL
47	Ti	45	259.054	50096	2.04	2000	>RL
51	V	45	120.370	705385	0.41	2000	>RL
52	Cr	45	74.294	529204	0.56	2000	>RL
55	Mn	45	854.323	3498000	0.31	2000	>RL
56	Fe	45	74714.755	465864195	0.70	10000	OUTCAL
59	Co	72	33.035	336812	0.49	2000	>RL
60	Ni	72	50.611	142966	0.87	2000	>RL
63	Cu	72	43.062	342707	0.48	2000	>RL
66	Zn	72	271.836	364363	0.38	2000	>RL
75	As	72	22.218	24546	0.60	2000	>RL
78	Se	72	6.256	533	1.33	2000	>RL
88	Sr	115	421.161	2035352	0.15	2000	>RL
95	Mo	115	2.606	10100	1.83	2000	>RL
107	Ag	115	0.176	2120	4.46	500	
111	Cd	115	0.540	972	0.71	2000	>RL
118	Sn	115	4.993	19314	1.91	2000	>RL
121	Sb	115	1.525	9115	1.39	500	
137	Ba	115	498.006	927608	0.44	2000	>RL
205	Tl	209	0.615	13726	0.79	2000	
208	Pb	209	65.754	1933935	0.46	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1233916	0.46	1114717	110.69	70	120	
72	Ge	790576	0.60	754800	104.74	70	120	
115	In	6842342	2.27	7144493	95.77	70	120	
209	Bi	12886547	2.69	14670662	87.84	70	120	

Sample Report

Date Acquired	5/11/16 8:15 PM	Sample Name	1605047-27A
Data Batch	60511Z.b	Comment	SAMPICPMS_TSDOD
Data File Name	095SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	72.856	3467	2.71	2000	>RL
9	Be	45	2.420	164	19.10	2000	>RL
11	B	45	79.502	1942	1.91	2000	>RL
23	Na	45	1457.414	1492929	0.42	25000	>RL
24	Mg	45	12714.912	6116940	0.74	25000	>RL
27	Al	45	47990.826	9070921	1.34	10000	OUTCAL
39	K	45	12253.278	6469604	0.39	25000	>RL
44	Ca	45	60914.082	1851189	1.04	25000	OUTCAL
47	Ti	45	205.121	40006	1.20	2000	>RL
51	V	45	106.039	626944	0.28	2000	>RL
52	Cr	45	60.545	435157	0.65	2000	>RL
55	Mn	45	316.805	1308188	0.85	2000	>RL
56	Fe	45	68720.233	432064009	1.35	10000	OUTCAL
59	Co	72	32.612	337242	1.16	2000	>RL
60	Ni	72	47.956	137407	0.43	2000	>RL
63	Cu	72	8.717	77990	0.64	2000	>RL
66	Zn	72	248.436	337795	0.37	2000	>RL
75	As	72	17.388	19535	1.49	2000	>RL
78	Se	72	5.046	457	3.70	2000	>RL
88	Sr	115	234.819	1165200	1.13	2000	>RL
95	Mo	115	0.792	3164	3.73	2000	
107	Ag	115	0.048	616	6.25	500	
111	Cd	115	0.165	314	18.03	2000	
118	Sn	115	3.818	15389	0.66	2000	
121	Sb	115	0.138	1186	2.89	500	
137	Ba	115	563.539	1077663	0.60	2000	>RL
205	Tl	209	0.223	5127	1.33	2000	
208	Pb	209	23.438	698122	0.60	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1244349	1.26	1114717	111.63	70	120	
72	Ge	801884	0.96	754800	106.24	70	120	
115	In	7023143	0.90	7144493	98.30	70	120	
209	Bi	12987979	0.96	14670662	88.53	70	120	

Sample Report

Date Acquired	5/11/16 8:17 PM	Sample Name	1605047-28A
Data Batch	60511Z.b	Comment	SAMPICPMS_TSDOD
Data File Name	096SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	106.817	4889	5.14	2000	>RL
9	Be	45	2.264	148	9.61	2000	>RL
11	B	45	99.469	2325	5.66	2000	>RL
23	Na	45	2248.285	2181927	0.56	25000	>RL
24	Mg	45	13555.916	6276222	1.37	25000	>RL
27	Al	45	46927.096	8534327	2.34	10000	OUTCAL
39	K	45	10141.722	5163840	0.79	25000	>RL
44	Ca	45	106541.535	3115333	0.33	25000	OUTCAL
47	Ti	45	193.959	36402	1.81	2000	>RL
51	V	45	106.482	605820	1.05	2000	>RL
52	Cr	45	64.668	447176	0.59	2000	>RL
55	Mn	45	557.034	2213309	0.35	2000	>RL
56	Fe	45	76970.125	465693137	1.20	10000	OUTCAL
59	Co	72	32.457	328236	0.80	2000	>RL
60	Ni	72	46.799	131150	0.75	2000	>RL
63	Cu	72	7.738	68760	1.17	2000	>RL
66	Zn	72	203.450	270626	0.94	2000	>RL
75	As	72	19.444	21338	0.29	2000	>RL
78	Se	72	4.933	439	5.00	2000	>RL
88	Sr	115	354.971	1694918	0.69	2000	>RL
95	Mo	115	2.729	10451	0.94	2000	>RL
107	Ag	115	0.041	513	10.21	500	
111	Cd	115	0.123	229	21.62	2000	
118	Sn	115	4.116	15894	0.92	2000	>RL
121	Sb	115	0.075	781	6.41	500	
137	Ba	115	807.079	1485141	1.09	2000	>RL
205	Tl	209	0.238	5391	2.41	2000	
208	Pb	209	26.423	776209	0.86	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1197352	0.34	1114717	107.41	70	120	
72	Ge	784246	1.19	754800	103.90	70	120	
115	In	6757862	0.43	7144493	94.59	70	120	
209	Bi	12819815	0.93	14670662	87.38	70	120	

Sample Report

Date Acquired	5/11/16 8:19 PM	Sample Name	1605047-29A
Data Batch	60511Z.b	Comment	SAMPICPMS_TSDOD
Data File Name	097SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	158.216	7182	1.14	2000	>RL
9	Be	45	3.055	196	4.62	2000	>RL
11	B	45	114.150	2638	3.26	2000	>RL
23	Na	45	3308.102	3155772	1.63	25000	>RL
24	Mg	45	14705.387	6754638	3.08	25000	>RL
27	Al	45	58618.274	10577363	3.01	10000	OUTCAL
39	K	45	10510.248	5307529	1.59	25000	>RL
44	Ca	45	122610.622	3557066	0.70	25000	OUTCAL
47	Ti	45	166.760	31054	1.48	2000	>RL
51	V	45	108.717	613645	0.66	2000	>RL
52	Cr	45	66.004	452821	0.91	2000	>RL
55	Mn	45	1257.556	4957221	1.00	2000	>RL
56	Fe	45	71405.657	428649307	0.40	10000	OUTCAL
59	Co	72	44.382	443865	0.37	2000	>RL
60	Ni	72	70.971	196610	0.85	2000	>RL
63	Cu	72	9.438	80909	1.14	2000	>RL
66	Zn	72	221.130	290854	0.35	2000	>RL
75	As	72	22.163	24021	0.59	2000	>RL
78	Se	72	5.902	499	4.89	2000	>RL
88	Sr	115	1046.743	4984373	0.04	2000	>RL
95	Mo	115	2.178	8323	1.57	2000	>RL
107	Ag	115	0.033	417	5.54	500	
111	Cd	115	0.148	273	8.79	2000	
118	Sn	115	4.579	17529	0.95	2000	>RL
121	Sb	115	0.061	700	9.20	500	
137	Ba	115	628.696	1153771	0.76	2000	>RL
205	Tl	209	0.398	8837	1.70	2000	
208	Pb	209	32.266	939248	0.26	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1187962	0.30	1114717	106.57	70	120	
72	Ge	775538	0.13	754800	102.75	70	120	
115	In	6740151	0.91	7144493	94.34	70	120	
209	Bi	12717851	1.14	14670662	86.69	70	120	

Sample Report

Date Acquired	5/11/16 8:21 PM	Sample Name	1605047-30A
Data Batch	60511Z.b	Comment	SAMPICPMS_TSDOD
Data File Name	098SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	140.193	6263	1.55	2000	>RL
9	Be	45	3.875	244	2.13	2000	>RL
11	B	45	116.139	2640	3.77	2000	>RL
23	Na	45	3319.895	3116077	0.26	25000	>RL
24	Mg	45	11701.748	5289379	0.80	25000	>RL
27	Al	45	52853.574	9384857	1.85	10000	OUTCAL
39	K	45	10204.357	5072256	0.34	25000	>RL
44	Ca	45	115793.147	3305571	0.61	25000	OUTCAL
47	Ti	45	159.895	29299	1.24	2000	>RL
51	V	45	91.740	509965	0.61	2000	>RL
52	Cr	45	56.017	378354	0.35	2000	>RL
55	Mn	45	776.943	3013815	1.05	2000	>RL
56	Fe	45	78085.573	461253084	1.36	10000	OUTCAL
59	Co	72	46.218	459496	1.13	2000	>RL
60	Ni	72	66.789	183947	0.95	2000	>RL
63	Cu	72	7.520	65964	0.51	2000	>RL
66	Zn	72	270.642	353798	0.25	2000	>RL
75	As	72	18.998	20505	0.77	2000	>RL
78	Se	72	5.529	471	7.12	2000	>RL
88	Sr	115	834.181	3943503	0.09	2000	>RL
95	Mo	115	1.867	7083	2.22	2000	
107	Ag	115	0.039	480	18.09	500	
111	Cd	115	0.053	106	14.59	2000	
118	Sn	115	4.530	17228	1.98	2000	>RL
121	Sb	115	0.049	628	4.29	500	
137	Ba	115	71.153	129654	0.83	2000	>RL
205	Tl	209	0.336	7391	2.64	2000	
208	Pb	209	27.615	794043	0.40	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1168956	0.37	1114717	104.87	70	120	
72	Ge	771056	0.87	754800	102.15	70	120	
115	In	6691150	0.46	7144493	93.65	70	120	
209	Bi	12552218	1.23	14670662	85.56	70	120	

Continuing Calibration Verification (CCV) Report

Date Acquired	5/11/2016 20:23	Sample Name	CCV4-160511
Data Batch	60511Z.b	Comment	CCV ICPMS_TW
Data File Name	099_CCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	202.244	8808	1.72	200	101.1	90	110	
9	Be	45	196.195	11862	0.46	200	98.1	90	110	
11	B	45	192.561	4233	1.30	200	96.3	90	110	
23	Na	45	4867.419	4427045	0.29	5000	97.3	90	110	
24	Mg	45	4802.292	2117080	0.16	5000	96.0	90	110	
27	Al	45	4731.336	819496	0.32	5000	94.6	90	110	
39	K	45	5017.573	2462292	0.53	5000	100.4	90	110	
44	Ca	45	4545.068	126808	1.11	5000	90.9	90	110	
47	Ti	45	192.262	34354	0.87	200	96.1	90	110	
51	V	45	196.789	1063637	1.20	200	98.4	90	110	
52	Cr	45	195.317	1283058	1.15	200	97.7	90	110	
55	Mn	45	193.148	730870	0.84	200	96.6	90	110	
56	Fe	45	4810.967	27718661	2.22	5000	96.2	90	110	
59	Co	72	202.032	1975760	0.14	200	101.0	90	110	
60	Ni	72	197.183	533966	0.11	200	98.6	90	110	
63	Cu	72	198.168	1480565	0.61	200	99.1	90	110	
66	Zn	72	196.297	252573	0.96	200	98.1	90	110	
75	As	72	198.669	208825	0.70	200	99.3	90	110	
78	Se	72	195.464	12988	0.10	200	97.7	90	110	
88	Sr	115	201.414	942634	0.33	200	100.7	90	110	
95	Mo	115	202.222	757806	0.34	200	101.1	90	110	
107	Ag	115	187.710	2150415	0.39	200	93.9	90	110	
111	Cd	115	194.822	334875	0.77	200	97.4	90	110	
118	Sn	115	199.819	713391	0.69	200	99.9	90	110	
121	Sb	115	191.909	1066546	1.22	200	96.0	90	110	
137	Ba	115	190.538	343654	0.63	200	95.3	90	110	
205	Tl	209	194.563	4168749	1.09	200	97.3	90	110	
208	Pb	209	193.319	5514096	0.09	200	96.7	90	110	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1139929	0.44	1114717	102.26	70	120	
72	Ge	758517	0.82	754800	100.49	70	120	
115	In	6623879	1.06	7144493	92.71	70	120	
209	Bi	12516401	2.18	14670662	85.32	70	120	

Low Level Calibration Verification (LLCV) Report

Date Acquired	5/11/2016 20:27	Sample Name	LCVL4-160511
Data Batch	60511Z.b	Comment	LCVLICPMS_TW
Data File Name	101LCCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
7	Li	45	10.353	463	5.62	10	103.5	70	130	
9	Be	45	1.327	85	9.40	1	132.7	70	130	Fail
11	B	45	28.669	688	8.84	20	143.3	70	130	Fail
23	Na	45	114.945	166053	1.29	100	114.9	70	130	
24	Mg	45	101.655	46056	1.62	100	101.7	70	130	
27	Al	45	101.572	18186	3.56	100	101.6	70	130	
39	K	45	122.645	120152	1.09	100	122.6	70	130	
44	Ca	45	103.937	3236	4.50	100	103.9	70	130	
47	Ti	45	4.703	867	5.00	5	94.1	70	130	
51	V	45	0.863	7470	5.55	1	86.3	70	130	
52	Cr	45	4.990	34671	0.84	5	99.8	70	130	
55	Mn	45	4.789	18768	0.49	5	95.8	70	130	
56	Fe	45	101.123	598195	3.23	100	101.1	70	130	
59	Co	72	5.120	51248	1.62	5	102.4	70	130	
60	Ni	72	5.068	14175	5.08	5	101.4	70	130	
63	Cu	72	5.327	49661	0.70	5	106.5	70	130	
66	Zn	72	4.668	6596	2.12	5	93.4	70	130	
75	As	72	4.937	5525	3.77	5	98.7	70	130	
78	Se	72	5.593	478	0.31	5	111.9	70	130	
88	Sr	115	5.216	24712	2.00	5	104.3	70	130	
95	Mo	115	5.018	18977	1.39	5	100.4	70	130	
107	Ag	115	1.947	22521	1.16	2	97.4	70	130	
111	Cd	115	1.099	1917	12.26	1	109.9	70	130	
118	Sn	115	4.997	18871	0.88	5	99.9	70	130	
121	Sb	115	1.926	11141	2.04	2	96.3	70	130	
137	Ba	115	4.883	8898	4.29	5	97.7	70	130	
205	Tl	209	1.037	22763	0.60	1	103.7	70	130	
208	Pb	209	0.915	31190	5.28	1	91.5	70	130	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1158900	0.24	1114717	103.96	70	120	
72	Ge	774918	0.52	754800	102.67	70	120	
115	In	6677706	0.47	7144493	93.47	70	120	
209	Bi	12726293	1.25	14670662	86.75	70	120	

Continuing Calibration Blank (CCB) Report

Date Acquired	5/11/2016 20:43	Sample Name	CCB4-160511
Data Batch	60511Z.b	Comment	CCB ICPMS_TW
Data File Name	109_CCB.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	MDL S	MDL Aq	QC Flag
7	Li	45	0.094	9	22.2	2	5	
9	Be	45	-0.046	1	173.2	0.4	0.3	
11	B	45	2.905	119	27.7	10	10	
23	Na	45	13.992	73634	1.3	50	100	
24	Mg	45	-0.321	360	20.8	50	100	
27	Al	45	1.321	536	28.0	50	10	
39	K	45	15.400	67624	0.7	50	100	
44	Ca	45	5.941	461	11.2	50	100	
47	Ti	45	0.004	13	66.2	4	3	
51	V	45	-0.181	1735	2.5	4	3	
52	Cr	45	0.003	1391	6.8	2	2	
55	Mn	45	-0.012	306	36.7	2	3	
56	Fe	45	3.072	23834	35.4	50	50	
59	Co	72	0.000	93	37.8	2	3	
60	Ni	72	-0.024	92	21.8	2	3	
63	Cu	72	-0.337	6578	0.4	2	2	
66	Zn	72	-0.237	158	23.2	4	2	
75	As	72	-0.082	138	5.7	2	2	
78	Se	72	0.415	127	2.4	1	2	
88	Sr	115	0.024	217	34.9	4	3	
95	Mo	115	0.005	36	32.9	2	2	
107	Ag	115	0.011	153	7.8	0.4	1	
111	Cd	115	-0.003	9	94.4	0.4	0.3	
118	Sn	115	-0.123	462	7.9	4	3	
121	Sb	115	-0.036	148	7.9	2	0.8	
137	Ba	115	0.026	66	40.8	2	3	
205	Tl	209	0.001	186	10.5	2	0.5	
208	Pb	209	-0.107	1550	12.1	0.4	0.3	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1153596	0.75	1114717	103.49	70	120	
72	Ge	761849	0.27	754800	100.93	70	120	
115	In	6615665	0.87	7144493	92.60	70	120	
209	Bi	12550325	0.68	14670662	85.55	70	120	

ICP-MS4_160516B
For

DHL Work Order
1605047

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

DHL Analytical, Inc.

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

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

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#	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-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: **5/9/2016 10:24:29 AM**
Digestion:
Prep End Date:

Prep Batch **75009** Prep Code: **3050_IDOD** Technician: **Will Boston**

Prep Factor Units: mL/g

Equipment List
Hot Block #3
Thermometer #71
Balance #30
Pipette #P-01
Pipette#-P-09

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #			Cleanup
1605034-21A	Soil		1 .03	50	50.000	1	of	1	
1605034-22A	Soil		1 .04	50	50.000	1	of	1	
1605034-23A	Soil		1 .13	50	50.000	1	of	1	
1605034-24A	Soil		1 .10	50	50.000	1	of	1	
1605034-25A	Soil		1 .12	50	50.000	1	of	1	
1605034-26A	Soil		1 .11	50	50.000	1	of	1	
1605034-27A	Soil		1 .19	50	50.000	1	of	1	
1605034-28A	Soil		1 .17	50	50.000	1	of	1	
1605034-29A	Soil		1 .01	50	50.000	1	of	1	
1605034-30A	Soil		1 .03	50	50.000	1	of	1	
1605047-01A	Soil		1 .13	50	50.000	1	of	1	
1605047-02A	Soil		1 .07	50	50.000	1	of	1	
1605047-03A	Soil		1 .13	50	50.000	2	of	3	
1605047-03AMS	Soil		1 .18	50	50.000	2	of	3	
1605047-03AMSD	Soil		1 .20	50	50.000	2	of	3	
1605047-04A	Soil		1 .14	50	50.000	1	of	1	
1605047-05A	Soil		1 .16	50	50.000	1	of	1	
1605047-06A	Soil		1 .02	50	50.000	1	of	1	
1605047-07A	Soil		1 .01	50	50.000	1	of	1	
1605047-08A	Soil		1 .03	50	50.000	1	of	1	
1605047-09A	Soil		1 .19	50	50.000	1	of	1	
WB 05/09 1605047-10A	Soil		1 ~~.19~~ .17	50	50.000	1	of	1	
LCS-75009	Soil		1	50	50.000		of		
LCSD-75009	Soil		1	50	50.000		of		
MB-75009	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-160428-05	50 PPM Custom+Sn,Ti,B,Mo,Sr CAL	LCS/MS/MSD	1	07/27/2016
MET-SPIKE-160509-4	50 PPM Sb+Ag CAL	LCS/MS/MSD	1	08/07/2016

11:58 - 12:08
12:11 - 14:11
14:40 - 16:40
~~17:00 - 17:15~~
17:04 - 17:19

REVIEWED BY
By Janice Whitt at 10:07:20 AM, 5/17/2016

WBoston 5/9/16

[signature] 5/9/16

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/4/2016 2:45:00 PM**
Digestion: **Start: 5/4/2016 3:45:00 PM / Stop: 5/6/2016 9:30:00 AM**
Prep End Date: **5/6/2016 5:00:00 PM**

Prep Batch **74956** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker** Prep Factor Units: **mL/**

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #			Cleanup
1605034-01A	Soil		0	0	#Num!	1	of	1	
1605034-02A	Soil		0	0	#Num!	1	of	1	
1605034-03A	Soil		0	0	#Num!	1	of	1	
1605034-04A	Soil		0	0	#Num!	1	of	1	
1605034-05A	Soil		0	0	#Num!	1	of	1	
1605034-06A	Soil		0	0	#Num!	1	of	1	
1605034-07A	Soil		0	0	#Num!	1	of	1	
1605034-08A	Soil		0	0	#Num!	1	of	1	
1605034-09A	Soil		0	0	#Num!		of	3	
1605034-10A	Soil		0	0	#Num!	1	of	1	
1605034-11A	Soil		0	0	#Num!	1	of	1	
1605034-12A	Soil		0	0	#Num!	1	of	1	
1605034-13A	Soil		0	0	#Num!	1	of	1	
1605034-14A	Soil		0	0	#Num!	1	of	1	
1605034-15A	Soil		0	0	#Num!	1	of	1	
1605034-16A	Soil		0	0	#Num!	1	of	1	
1605034-17A	Soil		0	0	#Num!	1	of	1	
1605034-18A	Soil		0	0	#Num!	1	of	1	
1605034-19A	Soil		0	0	#Num!	1	of	1	
1605034-20A	Soil		0	0	#Num!	1	of	1	
1605034-21A	Soil		0	0	#Num!	1	of	1	
1605034-22A	Soil		0	0	#Num!	1	of	1	
1605034-23A	Soil		0	0	#Num!	1	of	1	
1605034-24A	Soil		0	0	#Num!	1	of	1	
1605034-25A	Soil		0	0	#Num!	1	of	1	
1605034-26A	Soil		0	0	#Num!	1	of	1	
1605034-27A	Soil		0	0	#Num!	1	of	1	

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By Janice Whitt at 10:07:26 AM, 5/17/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/4/2016 2:45:00 PM**
Digestion: **Start: 5/4/2016 3:45:00 PM / Stop: 5/6/2016 9:30:00 AM**
Prep End Date: **5/6/2016 5:00:00 PM**

Prep Batch **74956** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker** Prep Factor Units: **mL/**

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605034-28A	Soil		0	0	#Num!	1 of 1	
1605034-29A	Soil		0	0	#Num!	1 of 1	
1605034-30A	Soil		0	0	#Num!	1 of 1	

REVIEWED BY
By Janice Whitt at 10:07:28 AM, 5/17/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/5/2016 2:00:00 PM**
Digestion: **Start: 5/5/2016 5:00:00 PM / Stop: 5/7/2016 9:00:00 AM**
Prep End Date: **5/7/2016 3:30:00 PM**

Prep Batch **74972** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker** Prep Factor Units: **mL/**

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #			Cleanup
1605047-01A	Soil		0	0	#Num!	1	of	1	
1605047-02A	Soil		0	0	#Num!	1	of	1	
1605047-03A	Soil		0	0	#Num!		of	3	
1605047-04A	Soil		0	0	#Num!	1	of	1	
1605047-05A	Soil		0	0	#Num!	1	of	1	
1605047-06A	Soil		0	0	#Num!	1	of	1	
1605047-07A	Soil		0	0	#Num!	1	of	1	
1605047-08A	Soil		0	0	#Num!	1	of	1	
1605047-09A	Soil		0	0	#Num!	1	of	1	
1605047-10A	Soil		0	0	#Num!	1	of	1	
1605047-11A	Soil		0	0	#Num!	1	of	1	
1605047-12A	Soil		0	0	#Num!	1	of	1	
1605047-13A	Soil		0	0	#Num!	1	of	1	
1605047-14A	Soil		0	0	#Num!	1	of	1	
1605047-15A	Soil		0	0	#Num!	1	of	1	
1605047-16A	Soil		0	0	#Num!	1	of	1	
1605047-17A	Soil		0	0	#Num!	1	of	1	
1605047-18A	Soil		0	0	#Num!	1	of	1	
1605047-19A	Soil		0	0	#Num!	1	of	1	
1605047-20A	Soil		0	0	#Num!	1	of	1	
1605047-21A	Soil		0	0	#Num!	1	of	1	
1605047-22A	Soil		0	0	#Num!	1	of	1	
1605047-23A	Soil		0	0	#Num!	1	of	1	
1605047-24A	Soil		0	0	#Num!		of	3	
1605047-25A	Soil		0	0	#Num!	1	of	1	
1605047-26A	Soil		0	0	#Num!	1	of	1	
1605047-27A	Soil		0	0	#Num!	1	of	1	

REVIEWED BY
By Janice Whitt at 10:07:32 AM, 5/17/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/5/2016 2:00:00 PM**
Digestion: **Start: 5/5/2016 5:00:00 PM / Stop: 5/7/2016 9:00:00 AM**
Prep End Date: **5/7/2016 3:30:00 PM**

Prep Batch **74972** Prep Code: **ISM2MM_PREP** Technician: **Jennifer Barker** Prep Factor Units: **mL/**

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Cleanup
1605047-28A	Soil		0	0	#Num!	1 of 1	
1605047-29A	Soil		0	0	#Num!	1 of 1	
1605047-30A	Soil		0	0	#Num!	1 of 1	

REVIEWED BY
By Janice Whitt at 10:07:36 AM, 5/17/2016

MECHANICAL VOLUMETRIC PIPETTE VOLUME DAILY CHECK - DOD QSM 5.0

ANALYST:	CVD	BALANCE #:	26	
TEST DATE:	05/09/2016	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

PIPETTE ID: P-01	TEST VOLUME (mL)	TOTAL WT (g)	Volume of H_2O at °C	% TEST VOL (98-102%)	BIAS MEAN CRITERIA (± 2%)	PRECISION % RSD Calculated
1	5.00	5.0082	4.9982	99.96	PASS	RSD MUST BE ≤ 1% OF TEST VOLUME VALUE
2		5.0095	4.9995	99.99		
3		5.0106	5.0006	100.01		
AVERAGE (MEAN)		5.009	4.999	99.99		0.024
						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	0.2037	0.2033	101.65	PASS	RSD MUST BE ≤ 1% OF TEST VOLUME VALUE
2		0.2026	0.2022	101.10		
3		0.2031	0.2027	101.35		
AVERAGE (MEAN)		0.203	0.203	101.36		0.271
						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)						

5/9/16

Analyst / Date

REVIEWED BY
By Janice Whitt at 10:07:40 AM, 5/17/2016

Review and Approved / Date

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/9/2016 10:24:29 AM**
Digestion: **Start: 5/9/2016 11:58:00 AM / Stop: 5/9/2016 5:19:00 PM**
Prep End Date: **5/9/2016 5:21:08 PM**

Prep Batch **75009** Prep Code: **3050_IDOD** Technician: **Will Boston**

Prep Factor Units: **mL/g**

Equipment List
Hot Block #3
Thermometer #71
Balance #30
Pipette #P-01
Pipette#-P-09

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #			Cleanup
1605034-21A	Soil		1.03	50	48.544	1	of	1	
1605034-22A	Soil		1.04	50	48.077	1	of	1	
1605034-23A	Soil		1.13	50	44.248	1	of	1	
1605034-24A	Soil		1.1	50	45.455	1	of	1	
1605034-25A	Soil		1.12	50	44.643	1	of	1	
1605034-26A	Soil		1.11	50	45.045	1	of	1	
1605034-27A	Soil		1.19	50	42.017	1	of	1	
1605034-28A	Soil		1.17	50	42.735	1	of	1	
1605034-29A	Soil		1.01	50	49.505	1	of	1	
1605034-30A	Soil		1.03	50	48.544	1	of	1	
1605047-01A	Soil		1.13	50	44.248	1	of	1	
1605047-02A	Soil		1.07	50	46.729	1	of	1	
1605047-03A	Soil		1.13	50	44.248	2	of	3	
1605047-03A MS	Soil		1.18	50	42.373	2	of		
1605047-03A MSD	Soil		1.2	50	41.667	2	of		
1605047-03A PDS	Soil		1.13	50	44.248	2	of		
1605047-03A SD	Soil		1.13	50	44.248	2	of		
1605047-04A	Soil		1.14	50	43.860	1	of	1	
1605047-05A	Soil		1.16	50	43.103	1	of	1	
1605047-06A	Soil		1.02	50	49.020	1	of	1	
1605047-07A	Soil		1.01	50	49.505	1	of	1	
1605047-08A	Soil		1.03	50	48.544	1	of	1	
1605047-09A	Soil		1.19	50	42.017	1	of	1	
1605047-10A	Soil		1.17	50	42.735	1	of	1	
LCS-75009	Soil		1	50	50.000		of		
LCSD-75009	Soil		1	50	50.000		of		
MB-75009	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-160428-05	50 PPM Custom+Sn,Ti,B,Mo,Sr CAL	LCS/MS/MSD	1	07/27/2016
MET-SPIKE-160509-4	50 PPM Sb+Ag CAL	LCS/MS/MSD	1	08/07/2016

REVIEWED BY
By Janice Whitt at 10:07:47 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

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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

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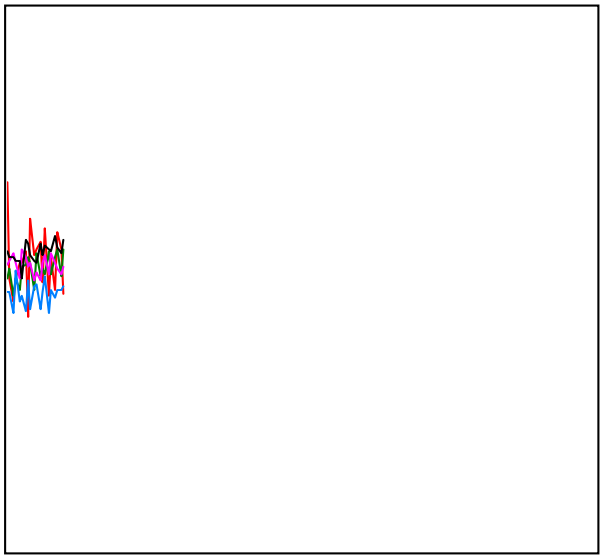
Current Signal



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		

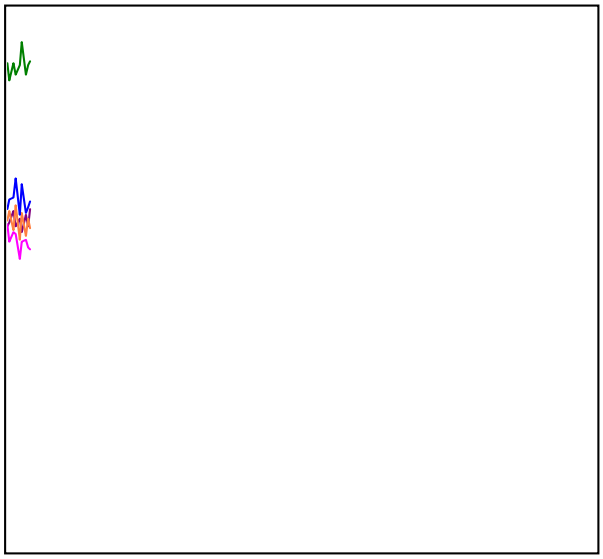
Cell Parameters

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

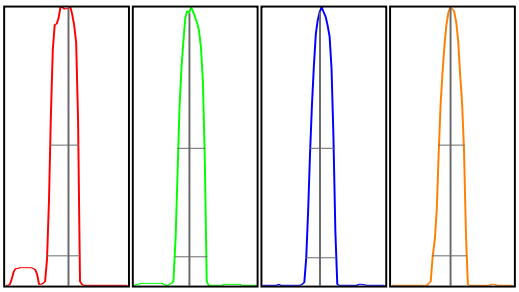
Batch Folder C:\Agilent\ICPMH\1\DATA\DHL TEMPLATE Li.b
Report Comment
Instrument Name ICPMS4 JP12361998

[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

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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

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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	

Sample Report

Date Acquired	5/16/16 2:40 PM	Sample Name	1605047-03A
Data Batch	160516.b	Comment	SAMPICPMS_TSDOD1
Data File Name	096_ARF.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	68.144	2979	2.50	2000	>RL
9	Be	45	3.022	176	6.60	2000	>RL
11	B	45	101.589	1992	2.92	2000	>RL
23	Na	45	4220.580	2932698	0.54	25000	>RL
24	Mg	45	13257.348	4480300	0.68	25000	>RL
27	Al	45	47192.965	5695958	1.03	10000	OUTCAL
39	K	45	13489.017	4642881	0.35	25000	>RL
44	Ca	45	174560.534	3390815	1.18	25000	OUTCAL
47	Ti	45	144.638	18833	0.93	2000	>RL
51	V	45	94.514	423485	0.57	2000	>RL
52	Cr	45	62.522	335911	0.52	2000	>RL
55	Mn	45	1054.277	3027421	0.24	2000	>RL
56	Fe	45	63420.987	290588068	1.73	10000	OUTCAL
59	Co	72	26.018	220989	0.36	2000	>RL
60	Ni	72	36.344	85412	1.21	2000	>RL
63	Cu	72	8.408	57540	0.60	2000	>RL
66	Zn	72	134.448	141239	0.27	2000	>RL
75	As	72	18.075	16178	0.44	2000	>RL
78	Se	72	5.007	316	3.82	2000	>RL
88	Sr	115	418.908	1577391	1.22	2000	>RL
95	Mo	115	1.985	6915	1.66	2000	
107	Ag	115	0.039	516	9.88	500	
111	Cd	115	0.199	321	11.43	2000	
118	Sn	115	4.154	14464	1.16	2000	>RL
121	Sb	115	0.200	1180	7.90	500	
137	Ba	115	473.709	744928	0.35	2000	>RL
205	Tl	209	0.366	8367	3.03	2000	
208	Pb	209	23.477	707243	1.34	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	894283	1.45	989663	90.36	70	120	
72	Ge	658930	0.77	739879	89.06	70	120	
115	In	5845472	2.33	6565136	89.04	70	120	
209	Bi	13810913	1.21	15222533	90.73	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	

Sample Report

Date Acquired	5/16/16 3:18 PM	Sample Name	1605047-01A
Data Batch	160516.b	Comment	SAMPICPMS_TSDOD1
Data File Name	115SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	73.267	3038	2.73	2000	>RL
9	Be	45	2.857	158	4.93	2000	>RL
11	B	45	92.357	1730	7.66	2000	>RL
23	Na	45	2204.022	1474970	0.67	25000	>RL
24	Mg	45	14578.551	4674896	0.58	25000	>RL
27	Al	45	69110.940	7915657	0.50	10000	OUTCAL
39	K	45	16295.362	5313012	2.37	25000	>RL
44	Ca	45	81726.287	1506399	0.82	25000	OUTCAL
47	Ti	45	294.004	36325	1.27	2000	>RL
51	V	45	114.501	486384	0.82	2000	>RL
52	Cr	45	77.477	394586	0.54	2000	>RL
55	Mn	45	691.130	1883569	0.24	2000	>RL
56	Fe	45	72725.421	316243890	1.96	10000	OUTCAL
59	Co	72	27.365	224092	0.97	2000	>RL
60	Ni	72	41.201	93304	0.88	2000	>RL
63	Cu	72	21.005	133910	0.50	2000	>RL
66	Zn	72	236.235	239067	0.57	2000	>RL
75	As	72	31.451	27042	1.21	2000	>RL
78	Se	72	6.348	369	5.85	2000	>RL
88	Sr	115	348.391	1274541	0.35	2000	>RL
95	Mo	115	2.318	7839	1.42	2000	>RL
107	Ag	115	0.265	2891	2.10	500	
111	Cd	115	0.658	1012	4.39	2000	>RL
118	Sn	115	4.809	16109	0.20	2000	>RL
121	Sb	115	11.358	55173	2.35	500	>RL
137	Ba	115	440.905	673721	0.66	2000	>RL
205	Tl	209	0.608	13696	2.78	2000	
208	Pb	209	758.569	22627910	0.59	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	848516	0.37	989663	85.74	70	120	
72	Ge	635310	0.78	739879	85.87	70	120	
115	In	5678991	1.52	6565136	86.50	70	120	
209	Bi	13759438	1.06	15222533	90.39	70	120	

Sample Report

Date Acquired	5/16/16 3:20 PM	Sample Name	1605047-02A
Data Batch	160516.b	Comment	SAMPICPMS_TSDOD1
Data File Name	116SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	68.572	2879	1.89	2000	>RL
9	Be	45	3.106	173	4.91	2000	>RL
11	B	45	96.948	1832	4.97	2000	>RL
23	Na	45	4682.438	3120115	0.97	25000	>RL
24	Mg	45	16399.506	5323347	3.03	25000	>RL
27	Al	45	72678.736	8425842	0.34	10000	OUTCAL
39	K	45	16491.735	5442792	1.96	25000	>RL
44	Ca	45	207417.080	3869684	0.76	25000	OUTCAL
47	Ti	45	247.295	30927	1.35	2000	>RL
51	V	45	116.724	501837	0.41	2000	>RL
52	Cr	45	68.784	354788	0.66	2000	>RL
55	Mn	45	1370.918	3781087	0.58	2000	>RL
56	Fe	45	71628.129	315284361	2.24	10000	OUTCAL
59	Co	72	27.949	228972	0.82	2000	>RL
60	Ni	72	44.443	100666	0.57	2000	>RL
63	Cu	72	16.114	103501	1.36	2000	>RL
66	Zn	72	190.080	192497	0.62	2000	>RL
75	As	72	19.787	17070	1.11	2000	>RL
78	Se	72	5.071	308	4.97	2000	>RL
88	Sr	115	529.294	1918328	0.51	2000	>RL
95	Mo	115	1.577	5297	1.29	2000	
107	Ag	115	0.107	1202	4.74	500	
111	Cd	115	0.452	692	9.15	2000	>RL
118	Sn	115	4.798	15925	1.55	2000	>RL
121	Sb	115	0.729	3672	3.03	500	
137	Ba	115	661.380	1001243	0.92	2000	>RL
205	Tl	209	0.587	13069	2.02	2000	
208	Pb	209	62.184	1837393	0.42	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	858879	0.55	989663	86.78	70	120	
72	Ge	635571	0.24	739879	85.90	70	120	
115	In	5625853	0.85	6565136	85.69	70	120	
209	Bi	13599101	0.31	15222533	89.34	70	120	

Sample Report

Date Acquired	5/16/16 3:22 PM	Sample Name	1605047-04A
Data Batch	160516.b	Comment	SAMPICPMS_TSDOD1
Data File Name	117SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	108.037	4559	0.76	2000	>RL
9	Be	45	3.355	188	9.05	2000	>RL
11	B	45	126.523	2368	1.99	2000	>RL
23	Na	45	4027.369	2708997	0.82	25000	>RL
24	Mg	45	15488.224	5062972	0.44	25000	>RL
27	Al	45	56956.572	6650407	0.85	10000	OUTCAL
39	K	45	15770.831	5243632	0.78	25000	>RL
44	Ca	45	166209.011	3122895	0.33	25000	OUTCAL
47	Ti	45	130.950	16494	0.97	2000	>RL
51	V	45	117.686	509545	0.53	2000	>RL
52	Cr	45	74.273	385673	0.41	2000	>RL
55	Mn	45	506.035	1406074	0.68	2000	>RL
56	Fe	45	78490.921	347944004	1.86	10000	OUTCAL
59	Co	72	37.346	311561	0.83	2000	>RL
60	Ni	72	48.413	111649	0.34	2000	>RL
63	Cu	72	6.873	46792	1.00	2000	>RL
66	Zn	72	181.794	187518	0.11	2000	>RL
75	As	72	21.085	18517	0.59	2000	>RL
78	Se	72	6.748	396	5.34	2000	>RL
88	Sr	115	418.406	1553510	0.81	2000	>RL
95	Mo	115	2.926	10036	2.65	2000	>RL
107	Ag	115	0.029	400	16.73	500	
111	Cd	115	0.217	346	12.29	2000	
118	Sn	115	4.457	15227	0.80	2000	>RL
121	Sb	115	0.121	776	12.97	500	
137	Ba	115	517.358	802308	0.23	2000	>RL
205	Tl	209	0.389	8906	2.14	2000	
208	Pb	209	26.188	790105	0.57	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	864990	0.65	989663	87.40	70	120	
72	Ge	647309	0.37	739879	87.49	70	120	
115	In	5763025	1.19	6565136	87.78	70	120	
209	Bi	13845124	2.30	15222533	90.95	70	120	

Sample Report

Date Acquired	5/16/16 3:24 PM	Sample Name	1605047-05A
Data Batch	160516.b	Comment	SAMPICPMS_TSDOD1
Data File Name	118SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	149.708	6394	0.65	2000	>RL
9	Be	45	4.449	253	12.62	2000	>RL
11	B	45	163.657	3065	2.57	2000	>RL
23	Na	45	3748.986	2557939	0.18	25000	>RL
24	Mg	45	15755.198	5217638	1.04	25000	>RL
27	Al	45	63820.812	7548911	0.39	10000	OUTCAL
39	K	45	19256.127	6476097	2.67	25000	>RL
44	Ca	45	118177.054	2249462	0.55	25000	OUTCAL
47	Ti	45	147.039	18761	0.22	2000	>RL
51	V	45	122.996	539385	0.72	2000	>RL
52	Cr	45	85.522	449626	0.92	2000	>RL
55	Mn	45	367.534	1034809	0.68	2000	>RL
56	Fe	45	96099.136	431549405	1.34	10000	OUTCAL
59	Co	72	40.849	345271	1.35	2000	>RL
60	Ni	72	54.303	126832	0.68	2000	>RL
63	Cu	72	6.754	46639	0.71	2000	>RL
66	Zn	72	260.513	272139	0.73	2000	>RL
75	As	72	21.944	19518	0.42	2000	>RL
78	Se	72	7.563	442	9.88	2000	>RL
88	Sr	115	487.689	1842154	0.27	2000	>RL
95	Mo	115	3.123	10893	3.31	2000	>RL
107	Ag	115	0.021	320	16.27	500	
111	Cd	115	0.109	180	6.68	2000	
118	Sn	115	4.755	16459	0.81	2000	>RL
121	Sb	115	0.108	724	6.78	500	
137	Ba	115	120.965	190879	0.66	2000	>RL
205	Tl	209	0.481	11208	1.50	2000	
208	Pb	209	27.275	842272	0.41	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	876293	0.94	989663	88.54	70	120	
72	Ge	655882	1.24	739879	88.65	70	120	
115	In	5862925	0.29	6565136	89.30	70	120	
209	Bi	14171278	1.20	15222533	93.09	70	120	

Sample Report

Date Acquired	5/16/16 3:26 PM	Sample Name	1605047-06A
Data Batch	160516.b	Comment	SAMPICPMS_TSDOD1
Data File Name	119SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	61.043	2694	0.47	2000	>RL
9	Be	45	2.402	141	13.89	2000	>RL
11	B	45	84.002	1685	4.11	2000	>RL
23	Na	45	1384.744	1003060	0.55	25000	>RL
24	Mg	45	11536.149	3932493	0.18	25000	>RL
27	Al	45	58961.016	7179220	0.61	10000	OUTCAL
39	K	45	13682.991	4750386	0.72	25000	>RL
44	Ca	45	41329.548	810022	1.23	25000	OUTCAL
47	Ti	45	285.158	37459	2.55	2000	>RL
51	V	45	96.572	436452	0.67	2000	>RL
52	Cr	45	59.811	324267	0.95	2000	>RL
55	Mn	45	540.871	1567259	0.86	2000	>RL
56	Fe	45	64317.230	297310264	0.80	10000	OUTCAL
59	Co	72	25.414	220253	0.26	2000	>RL
60	Ni	72	38.025	91174	1.02	2000	>RL
63	Cu	72	19.089	129113	2.07	2000	>RL
66	Zn	72	221.930	237734	1.47	2000	>RL
75	As	72	30.807	28034	0.58	2000	>RL
78	Se	72	4.312	288	6.33	2000	>RL
88	Sr	115	250.112	991619	0.91	2000	>RL
95	Mo	115	2.190	8030	1.61	2000	>RL
107	Ag	115	0.267	3153	3.24	500	
111	Cd	115	0.507	848	11.69	2000	>RL
118	Sn	115	4.301	15730	0.90	2000	>RL
121	Sb	115	9.377	49386	1.67	500	>RL
137	Ba	115	397.534	658249	1.82	2000	>RL
205	Tl	209	0.498	11933	1.00	2000	
208	Pb	209	534.362	16882228	0.69	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	902118	1.51	989663	91.15	70	120	
72	Ge	672413	1.43	739879	90.88	70	120	
115	In	6153814	0.99	6565136	93.73	70	120	
209	Bi	14571201	1.20	15222533	95.72	70	120	

Sample Report

Date Acquired	5/16/16 3:28 PM	Sample Name	1605047-07A
Data Batch	160516.b	Comment	SAMPICPMS_TSDOD1
Data File Name	120SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	59.139	2547	1.29	2000	>RL
9	Be	45	2.876	165	5.90	2000	>RL
11	B	45	90.170	1756	11.36	2000	>RL
23	Na	45	3900.106	2671001	0.95	25000	>RL
24	Mg	45	14541.428	4836797	0.81	25000	>RL
27	Al	45	63774.472	7577232	0.49	10000	OUTCAL
39	K	45	14691.489	4973575	0.44	25000	>RL
44	Ca	45	234565.349	4484665	0.29	25000	OUTCAL
47	Ti	45	263.964	33830	1.06	2000	>RL
51	V	45	104.505	460679	0.52	2000	>RL
52	Cr	45	62.312	329550	0.22	2000	>RL
55	Mn	45	1576.806	4456695	0.66	2000	>RL
56	Fe	45	62900.992	283730771	0.59	10000	OUTCAL
59	Co	72	26.562	221080	0.65	2000	>RL
60	Ni	72	40.138	92401	0.43	2000	>RL
63	Cu	72	13.945	91428	0.60	2000	>RL
66	Zn	72	163.908	168678	0.35	2000	>RL
75	As	72	18.348	16090	1.19	2000	>RL
78	Se	72	5.052	312	7.40	2000	>RL
88	Sr	115	498.274	1868675	0.60	2000	>RL
95	Mo	115	1.286	4480	1.75	2000	
107	Ag	115	0.078	933	6.20	500	
111	Cd	115	0.448	710	2.15	2000	>RL
118	Sn	115	4.171	14464	1.42	2000	>RL
121	Sb	115	1.455	7404	1.40	500	
137	Ba	115	463.804	726563	0.58	2000	>RL
205	Tl	209	0.485	11306	1.72	2000	
208	Pb	209	109.070	3353691	0.41	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	880258	1.25	989663	88.95	70	120	
72	Ge	645714	0.51	739879	87.27	70	120	
115	In	5821157	0.64	6565136	88.67	70	120	
209	Bi	14165997	0.61	15222533	93.06	70	120	

Sample Report

Date Acquired	5/16/16 3:30 PM	Sample Name	1605047-08A
Data Batch	160516.b	Comment	SAMPICPMS_TSDOD1
Data File Name	121SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	66.172	2805	1.99	2000	>RL
9	Be	45	2.856	161	9.76	2000	>RL
11	B	45	100.658	1915	5.29	2000	>RL
23	Na	45	4464.814	3004724	0.22	25000	>RL
24	Mg	45	13312.476	4361072	0.52	25000	>RL
27	Al	45	49045.066	5738643	1.38	10000	OUTCAL
39	K	45	13098.398	4371850	0.25	25000	>RL
44	Ca	45	171127.832	3222204	0.27	25000	OUTCAL
47	Ti	45	138.770	17516	1.50	2000	>RL
51	V	45	97.147	421904	0.66	2000	>RL
52	Cr	45	63.011	328172	0.79	2000	>RL
55	Mn	45	1181.404	3288698	0.93	2000	>RL
56	Fe	45	64619.639	287053606	0.77	10000	OUTCAL
59	Co	72	38.600	322398	0.58	2000	>RL
60	Ni	72	41.266	95333	0.51	2000	>RL
63	Cu	72	8.598	57801	0.92	2000	>RL
66	Zn	72	137.999	142577	0.36	2000	>RL
75	As	72	17.285	15223	1.05	2000	>RL
78	Se	72	4.968	309	13.28	2000	>RL
88	Sr	115	370.966	1415962	0.34	2000	>RL
95	Mo	115	2.530	8923	2.44	2000	>RL
107	Ag	115	0.027	383	17.97	500	
111	Cd	115	0.208	340	17.43	2000	
118	Sn	115	3.960	14030	1.23	2000	
121	Sb	115	0.142	902	12.30	500	
137	Ba	115	555.776	886132	1.00	2000	>RL
205	Tl	209	0.376	8626	3.41	2000	
208	Pb	209	26.814	810866	0.76	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	866825	0.25	989663	87.59	70	120	
72	Ge	648061	0.33	739879	87.59	70	120	
115	In	5924949	1.45	6565136	90.25	70	120	
209	Bi	13877393	1.39	15222533	91.16	70	120	

Sample Report

Date Acquired	5/16/16 3:33 PM	Sample Name	1605047-09A
Data Batch	160516.b	Comment	SAMPICPMS_TSDOD1
Data File Name	122SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	114.612	4839	2.01	2000	>RL
9	Be	45	3.428	193	5.22	2000	>RL
11	B	45	123.291	2312	3.84	2000	>RL
23	Na	45	4137.489	2783795	1.15	25000	>RL
24	Mg	45	15830.054	5178283	1.15	25000	>RL
27	Al	45	57108.192	6672443	1.37	10000	OUTCAL
39	K	45	16595.473	5518559	1.55	25000	>RL
44	Ca	45	87424.264	1643774	0.62	25000	OUTCAL
47	Ti	45	105.233	13263	0.49	2000	>RL
51	V	45	114.490	496111	1.51	2000	>RL
52	Cr	45	80.396	417598	0.62	2000	>RL
55	Mn	45	368.537	1024917	0.30	2000	>RL
56	Fe	45	84756.192	375937238	1.49	10000	OUTCAL
59	Co	72	30.213	250087	0.92	2000	>RL
60	Ni	72	52.655	120440	0.42	2000	>RL
63	Cu	72	7.339	49353	0.99	2000	>RL
66	Zn	72	189.270	193674	0.60	2000	>RL
75	As	72	22.144	19286	1.65	2000	>RL
78	Se	72	6.894	400	3.57	2000	>RL
88	Sr	115	301.457	1118934	0.82	2000	>RL
95	Mo	115	2.473	8480	2.70	2000	>RL
107	Ag	115	0.018	281	10.09	500	
111	Cd	115	0.143	230	18.10	2000	
118	Sn	115	4.292	14698	1.70	2000	>RL
121	Sb	115	0.097	658	7.38	500	
137	Ba	115	214.159	332025	0.18	2000	>RL
205	Tl	209	0.364	8285	3.33	2000	
208	Pb	209	25.730	770060	0.86	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	865560	0.67	989663	87.46	70	120	
72	Ge	642188	0.12	739879	86.80	70	120	
115	In	5761599	1.51	6565136	87.76	70	120	
209	Bi	13728786	0.48	15222533	90.19	70	120	

Sample Report

Date Acquired	5/16/16 3:34 PM	Sample Name	1605047-10A
Data Batch	160516.b	Comment	SAMPICPMS_TSDOD1
Data File Name	123SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	146.859	6108	0.56	2000	>RL
9	Be	45	4.468	247	3.46	2000	>RL
11	B	45	156.815	2865	4.01	2000	>RL
23	Na	45	3907.006	2594188	0.36	25000	>RL
24	Mg	45	15461.336	4986473	3.36	25000	>RL
27	Al	45	58014.592	6682983	1.15	10000	OUTCAL
39	K	45	19030.708	6233798	2.39	25000	>RL
44	Ca	45	119970.023	2223941	0.60	25000	OUTCAL
47	Ti	45	110.491	13730	1.52	2000	>RL
51	V	45	116.409	497281	0.41	2000	>RL
52	Cr	45	84.134	430773	0.56	2000	>RL
55	Mn	45	397.299	1089291	0.42	2000	>RL
56	Fe	45	94676.289	414020864	0.72	10000	OUTCAL
59	Co	72	41.504	340412	0.96	2000	>RL
60	Ni	72	57.632	130603	1.32	2000	>RL
63	Cu	72	6.809	45606	1.54	2000	>RL
66	Zn	72	264.038	267671	1.50	2000	>RL
75	As	72	21.656	18694	0.58	2000	>RL
78	Se	72	7.020	402	5.07	2000	>RL
88	Sr	115	430.837	1555935	0.44	2000	>RL
95	Mo	115	3.079	10269	1.33	2000	>RL
107	Ag	115	0.020	291	21.92	500	
111	Cd	115	0.135	212	11.79	2000	
118	Sn	115	4.442	14765	0.63	2000	>RL
121	Sb	115	0.082	567	10.73	500	
137	Ba	115	184.989	279070	0.60	2000	>RL
205	Tl	209	0.484	10985	3.90	2000	
208	Pb	209	24.902	749440	0.12	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	853371	0.50	989663	86.23	70	120	
72	Ge	636457	0.99	739879	86.02	70	120	
115	In	5605717	0.84	6565136	85.39	70	120	
209	Bi	13802785	0.16	15222533	90.67	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	

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
1605047

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: [signature] 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

20

#	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-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

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

9:54 - 15:33

REVIEWED BY
By Janice Whitt at 2:45:04 PM, 5/23/2016

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**

PIPETTE ID: P-01	**TEST VOLUME (mL)**	**TOTAL WT (g)**	**Volume of H_2O at °C**	**% TEST VOL (98-102%)**	**BIAS MEAN CRITERIA (± 2%)**	**PRECISION % 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	
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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

PIPETTE ID: P-31	TEST VOLUME (mL)	TOTAL WT (g)	Volume of H_2O at °C	% TEST VOL (98-102%)	BIAS MEAN CRITERIA (± 2%)	PRECISION % 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

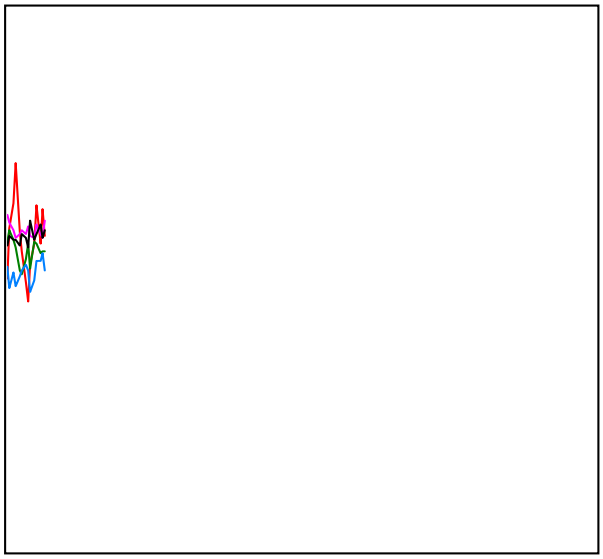
Ele	Conc	Calc	%Rec
As	500	494.27	99
Be	500	507.25	101
B	500	512.43	102
Na	10000	10274.86	103
Mg	10000	10243.18	102
Al	10000	9999.22	100
K	10000	10218.11	102
Ca	10000	9805.32	98
Ti	500	501.17	100
V	500	507.40	101
Cr	500	509.33	102
Mn	500	509.95	102
Fe	10000	9967.53	100
Co	500	512.00	102
Ni	500	505.16	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		

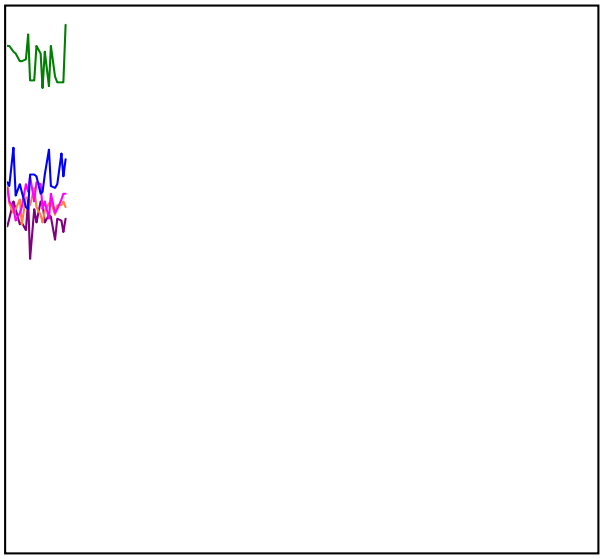
Cell Parameters

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

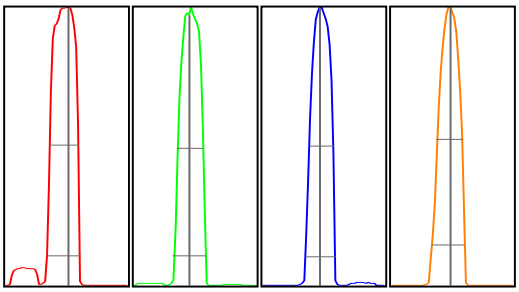
Batch Folder C:\Agilent\ICPMH\1\DATA\DHL TEMPLATE Li.b
Report Comment
Instrument Name ICPMS4 JP12361998

[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 1:34 PM	Sample Name	1605047-31A
Data Batch	160520.b	Comment	SAMPICPMS_TWDOD
Data File Name	076_WS.d	Dilution	1

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	0.342	29	12.25	2000	
9	Be	45	0.047	6	92.52	2000	
11	B	45	43.844	973	10.88	2000	>RL
23	Na	45	514.538	405492	0.96	25000	>RL
24	Mg	45	29.751	11570	1.63	25000	
27	Al	45	125.910	16523	9.85	10000	>RL
39	K	45	65.220	66987	1.11	25000	
44	Ca	45	202.110	4232	2.11	25000	>RL
47	Ti	45	1.080	149	13.12	2000	
51	V	45	0.542	5151	1.25	2000	
52	Cr	45	4.270	24674	0.79	2000	J
55	Mn	45	2.567	7712	2.43	2000	
56	Fe	45	302.684	1434222	1.06	10000	>RL
59	Co	72	0.122	1237	2.30	2000	
60	Ni	72	2.670	7141	3.23	2000	
63	Cu	72	1.631	13606	1.02	2000	
66	Zn	72	17.901	20890	1.93	2000	>RL
75	As	72	0.075	204	4.55	2000	
78	Se	72	0.046	70	14.18	2000	
88	Sr	115	1.095	4770	2.54	2000	
95	Mo	115	6.067	23936	0.96	2000	>RL
107	Ag	115	0.010	180	13.98	500	
111	Cd	115	0.004	18	47.19	2000	
118	Sn	115	0.132	933	6.44	2000	
121	Sb	115	0.066	530	13.25	500	
137	Ba	115	2.526	4803	3.99	2000	
205	Tl	209	0.004	152	18.63	2000	
208	Pb	209	0.184	7240	2.78	2000	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	872904	1.11	900744	96.91	70	120	
72	Ge	682846	0.19	691836	98.70	70	120	
115	In	6498992	0.48	6634288	97.96	70	120	
209	Bi	16029735	0.32	16365010	97.95	70	120	

Sample Report

Date Acquired	5/20/16 1:36 PM	Sample Name	1605047-32A
Data Batch	160520.b	Comment	SAMPICPMS_TWDOD
Data File Name	077_WS.d	Dilution	1

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	2.294	119	3.36	2000	
9	Be	45	0.074	8	69.60	2000	
11	B	45	32.845	749	5.72	2000	>RL
23	Na	45	399.372	324962	1.30	25000	>RL
24	Mg	45	249.418	90907	0.94	25000	>RL
27	Al	45	990.594	128677	1.07	10000	>RL
39	K	45	406.471	186942	1.06	25000	>RL
44	Ca	45	2043.330	41059	0.21	25000	>RL
47	Ti	45	11.450	1566	7.35	2000	>RL
51	V	45	2.526	14462	1.69	2000	
52	Cr	45	13.222	74958	1.64	2000	>RL
55	Mn	45	17.796	53150	0.32	2000	>RL
56	Fe	45	1457.508	6921985	1.40	10000	>RL
59	Co	72	0.657	6119	1.76	2000	
60	Ni	72	3.016	7978	1.22	2000	J
63	Cu	72	2.067	16563	1.22	2000	J
66	Zn	72	6.690	7932	2.70	2000	>RL
75	As	72	0.302	424	3.22	2000	
78	Se	72	0.364	87	5.33	2000	
88	Sr	115	8.290	34447	1.24	2000	J
95	Mo	115	9.446	36976	0.25	2000	>RL
107	Ag	115	0.012	203	18.25	500	
111	Cd	115	0.005	19	53.91	2000	
118	Sn	115	0.581	2660	4.23	2000	
121	Sb	115	0.077	591	11.83	500	
137	Ba	115	4.586	8637	1.50	2000	J
205	Tl	209	0.011	351	5.80	2000	
208	Pb	209	0.632	24026	2.47	2000	J

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	878144	0.52	900744	97.49	70	120	
72	Ge	679829	0.86	691836	98.26	70	120	
115	In	6453863	2.32	6634288	97.28	70	120	
209	Bi	16087367	1.97	16365010	98.30	70	120	

Sample Report

Date Acquired	5/20/16 1:38 PM	Sample Name	1605047-38A
Data Batch	160520.b	Comment	SAMPICPMS_TWDOD
Data File Name	078_WS.d	Dilution	1

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
7	Li	45	0.569	40	18.03	2000	
9	Be	45	0.028	5	10.83	2000	
11	B	45	37.089	853	5.75	2000	>RL
23	Na	45	380.102	316754	0.36	25000	>RL
24	Mg	45	70.414	26794	2.07	25000	
27	Al	45	276.571	36814	0.41	10000	>RL
39	K	45	133.840	93086	1.17	25000	>RL
44	Ca	45	381.262	7981	3.37	25000	>RL
47	Ti	45	2.992	418	19.12	2000	
51	V	45	0.761	6318	3.79	2000	
52	Cr	45	3.623	21585	1.39	2000	J
55	Mn	45	3.037	9327	1.98	2000	J
56	Fe	45	377.864	1832398	1.30	10000	>RL
59	Co	72	0.139	1399	10.74	2000	
60	Ni	72	2.290	6238	3.07	2000	
63	Cu	72	0.760	7631	0.83	2000	
66	Zn	72	6.165	7427	0.97	2000	>RL
75	As	72	0.098	228	10.12	2000	
78	Se	72	0.177	78	13.94	2000	
88	Sr	115	2.994	12740	2.60	2000	
95	Mo	115	6.025	23889	0.75	2000	>RL
107	Ag	115	0.012	204	3.39	500	
111	Cd	115	0.002	13	25.01	2000	
118	Sn	115	0.216	1268	3.88	2000	
121	Sb	115	0.046	416	6.48	500	
137	Ba	115	1.596	3059	4.84	2000	
205	Tl	209	0.003	130	13.57	2000	
208	Pb	209	0.229	9037	1.81	2000	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	894143	0.90	900744	99.27	70	120	
72	Ge	689063	0.35	691836	99.60	70	120	
115	In	6533108	1.98	6634288	98.47	70	120	
209	Bi	16291833	0.71	16365010	99.55	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	

Pmoist
For

DHL Work Order
1605047

PMOIST_160509A
For

DHL Work Order
1605047

DHL Analytical, Inc.

Run ID: **PMOIST_160509A** **Run No.:** 85702

Analytical Run Date: 5/9/2016 **InstrumentID:** Pmoist

Analyst: Will Boston

SampID	DF	TestCode	SampType	Batch ID	Analysis Date/Time	Q	Comments
1605031-17A	1	PMOIST	SAMP	74986	5/10/2016 8:40:00 AM		
1605031-18A	1	PMOIST	SAMP	74986	5/10/2016 8:40:00 AM		
1605031-19A	1	PMOIST	SAMP	74986	5/10/2016 8:40:00 AM		
1605031-20A	1	PMOIST	SAMP	74986	5/10/2016 8:40:00 AM		
1605031-21A	1	PMOIST	SAMP	74986	5/10/2016 8:40:00 AM		
1605031-22A	1	PMOIST	SAMP	74986	5/10/2016 8:40:00 AM		
1605031-23A	1	PMOIST	SAMP	74986	5/10/2016 8:40:00 AM		
1605031-24A	1	PMOIST	SAMP	74986	5/10/2016 8:40:00 AM		
1605031-25A	1	PMOIST	SAMP	74986	5/10/2016 8:40:00 AM		
1605033-01C	1	PMOIST	SAMP	74986	5/10/2016 8:40:00 AM		
1605033-02C	1	PMOIST	SAMP	74986	5/10/2016 8:40:00 AM		
1605033-03C	1	PMOIST	SAMP	74986	5/10/2016 8:40:00 AM		
1605033-04C	1	PMOIST	SAMP	74986	5/10/2016 8:40:00 AM		
1605033-05C	1	PMOIST	SAMP	74986	5/10/2016 8:40:00 AM		
1605033-06C	1	PMOIST	SAMP	74986	5/10/2016 8:40:00 AM		
1605033-07C	1	PMOIST	SAMP	74986	5/10/2016 8:40:00 AM		
1605033-08C	1	PMOIST	SAMP	74986	5/10/2016 8:40:00 AM		
1605047-33A	1	PMOIST	SAMP	74986	5/10/2016 8:40:00 AM		
1605047-34A	1	PMOIST	SAMP	74986	5/10/2016 8:40:00 AM		
1605047-35A	1	PMOIST	SAMP	74986	5/10/2016 8:40:00 AM		
1605047-35A DUP	1	PMOIST	DUP	74986	5/10/2016 8:40:00 AM		

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/9/2016 1:24:00 PM**
Digestion: **Start: 5/9/2016 4:06:00 PM / Stop: 5/9/2016 8:40:00 AM**
Prep End Date: **5/10/2016 12:02:11 PM**

Prep Batch **74986** 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
1605031-17A	Soil		10	10	1.000	1 of 1	
1605031-18A	Soil		10	10	1.000	1 of 1	
1605031-19A	Soil		10	10	1.000	1 of 1	
1605031-20A	Soil		10	10	1.000	1 of 1	
1605031-21A	Soil		10	10	1.000	1 of 1	
1605031-22A	Soil		10	10	1.000	1 of 1	
1605031-23A	Soil		10	10	1.000	1 of 1	
1605031-24A	Soil		10	10	1.000	1 of 1	
1605031-25A	Soil		10	10	1.000	1 of 1	
1605033-01C	Soil		10	10	1.000	1 of 1	
1605033-02C	Soil		10	10	1.000	1 of 1	
1605033-03C	Soil		10	10	1.000	1 of 1	
1605033-04C	Soil		10	10	1.000	1 of 1	
1605033-05C	Soil		10	10	1.000	1 of 1	
1605033-06C	Soil		10	10	1.000	1 of 1	
1605033-07C	Soil		10	10	1.000	1 of 1	
1605033-08C	Soil		10	10	1.000	1 of 1	
1605047-33A	Soil		10	10	1.000	1 of 1	
1605047-34A	Soil		10	10	1.000	1 of 1	
1605047-35A	Soil		10	10	1.000	1 of 1	
1605047-35A DUP	Soil		10	10	1.000	of	

REVIEWED BY
By Janice Whitt at 4:18:42 PM, 5/10/2016

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:	160509 PMOIST ~~B~~				
Date Started:	05/09/2016	Date Ended:	05/10/2016	Date Ended:	
Time Started:	16:06	Time Ended:	08:40	Time Ended:	
Analyst Start:	WB	Analyst End:	WB	Analyst End:	
Balance #	20	Balance #	20	Balance #	
Oven #	FISHER-2	Thermometer # / Correction Factor	81 / 0.0	2nd Weighing - if 1st dry is <12 hrs	
Initial Temperature	107.6°C	Final Temperature	107.6°C		

Sample ID	Tare Wt (g)	Tare + Sample (g)	Final Wt (g)	2nd Weight	<0.1% (Y/N)
SampID					
1605031-17A	1.00	12.40	8.84		
1605031-18A	1.00	12.08	8.42		
1605031-19A	1.02	12.05	9.01		
1605031-20A	1.01	12.29	9.31		
1605031-21A	1.00	13.05	9.83		
1605031-22A	1.00	13.56	10.48		
1605031-23A	1.00	12.21	8.59		
1605031-24A	1.02	13.03	10.17		
1605031-25A	1.01	12.07	9.44		
1605033-01C	1.01	12.16	10.60		
1605033-02C	1.01	13.64	11.86		
1605033-03C	1.00	12.21	11.09		
1605033-04C	1.00	12.46	10.67		
1605033-05C	1.01	12.29	11.14		
1605033-06C	1.00	9.59	8.80		
1605033-07C	1.02	12.34	10.54		
1605033-08C	1.02	14.64	13.00		
1605047-33A	1.01	12.86	10.20		
1605047-34A	0.99	12.88	10.91		
1605047-35A	1.01	12.10	~~9.73~~ 9.76		
1605047-35A DUP	1.00	12.10	9.86		

Insufficient sample in Bottle

WB 05/10

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: WBa Date: 05/10/2016

Second-Level Review: Janice Whitt Date: 5/10/2016

REVIEWED BY
By Janice Whitt at 4:21:44 PM, 5/10/2016

PMOIST_160510A
For

DHL Work Order
1605047

DHL Analytical, Inc.

Run ID: **PMOIST_160510A** **Run No.:** 85742

Analytical Run Date: 5/10/2016 **InstrumentID:** Pmoist

Analyst: Will Boston

SampID	DF	TestCode	SampType	Batch ID	Analysis Date/Time	Q	Comments
1605037-01A	1	PMOIST	SAMP	75073	5/11/2016 9:30:00 AM		
1605037-02A	1	PMOIST	SAMP	75073	5/11/2016 9:30:00 AM		
1605037-03A	1	PMOIST	SAMP	75073	5/11/2016 9:30:00 AM		
1605037-04A	1	PMOIST	SAMP	75073	5/11/2016 9:30:00 AM		
1605037-05A	1	PMOIST	SAMP	75073	5/11/2016 9:30:00 AM		
1605037-06A	1	PMOIST	SAMP	75073	5/11/2016 9:30:00 AM		
1605037-07A	1	PMOIST	SAMP	75073	5/11/2016 9:30:00 AM		
1605037-08A	1	PMOIST	SAMP	75073	5/11/2016 9:30:00 AM		
1605038-01C	1	PMOIST	SAMP	75073	5/11/2016 9:30:00 AM		
1605047-36A	1	PMOIST	SAMP	75073	5/11/2016 9:30:00 AM		
1605047-37A	1	PMOIST	SAMP	75073	5/11/2016 9:30:00 AM		
1605047-39A	1	PMOIST	SAMP	75073	5/11/2016 9:30:00 AM		
1605047-42A	1	PMOIST	SAMP	75073	5/11/2016 9:30:00 AM		
1605047-45A	1	PMOIST	SAMP	75073	5/11/2016 9:30:00 AM		
1605047-46A	1	PMOIST	SAMP	75073	5/11/2016 9:30:00 AM		
1605048-01E	1	PMOIST	SAMP	75073	5/11/2016 9:30:00 AM		
1605048-02E	1	PMOIST	SAMP	75073	5/11/2016 9:30:00 AM		
1605071-31A	1	PMOIST	SAMP	75073	5/11/2016 9:30:00 AM		
1605071-33A	1	PMOIST	SAMP	75073	5/11/2016 9:30:00 AM		
1605071-34A	1	PMOIST	SAMP	75073	5/11/2016 9:30:00 AM		
1605071-34A-DUP	1	PMOIST	DUP	75073	5/11/2016 9:30:00 AM		

REVIEWED/APPROVED

By Sherri Herschmann at 2:56:58 PM, 5/11/2016

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **5/10/2016 12:16:24 PM**
Digestion: **Start: 5/10/2016 3:47:00 PM / Stop: 5/11/2016 9:30:00 AM**
Prep End Date: **5/11/2016 2:33:31 PM**

Prep Batch **75073** 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
1605037-01A	Soil		10	10	1.000	1 of 1	
1605037-02A	Soil		10	10	1.000	1 of 1	
1605037-03A	Soil		10	10	1.000	1 of 1	
1605037-04A	Soil		10	10	1.000	1 of 1	
1605037-05A	Soil		10	10	1.000	1 of 1	
1605037-06A	Soil		10	10	1.000	1 of 1	
1605037-07A	Soil		10	10	1.000	1 of 1	
1605037-08A	Soil		10	10	1.000	1 of 1	
1605038-01C	Soil		10	10	1.000	1 of 1	
1605047-36A	Soil		10	10	1.000	1 of 1	
1605047-37A	Soil		10	10	1.000	1 of 1	
1605047-39A	Soil		10	10	1.000	1 of 1	
1605047-42A	Soil		10	10	1.000	1 of 1	
1605047-45A	Solid		10	10	1.000	1 of 1	
talk to JD before prep. PAH warning !!!							
1605047-46A	Solid		10	10	1.000	1 of 1	
talk to JD before prep PAH warning !!!							
1605048-01E	Soil		10	10	1.000	1 of 1	
1605048-02E	Soil		10	10	1.000	1 of 1	
1605071-31A	Soil		10	10	1.000	1 of 1	
1605071-33A	Soil		10	10	1.000	1 of 1	
1605071-34A	Soil		10	10	1.000	1 of 1	
1605071-34A-DUP	Soil		10	10	1.000	of	

REVIEWED/APPROVED

By Sherri Herschmann at 2:57:06 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 Weight1) / (Final Weight1)] x 100%

RUN ID:	160510 PMOIST A				
Date Started:	05/10/2016	Date Ended:	05/11/16	Date Ended:	
Time Started:	15:47	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	108.0°C	Final Temperature	107.9		

Sample ID	Tare Wt (g)	Tare + Sample (g)	Final Wt (g)	2nd Weight	<0.1% (Y/N)
Sample ID					
1605037-01A	1.01	13.25	10.79		
1605037-02A	1.01	12.67	9.86		
1605037-03A	0.98	13.66	10.74		
1605037-04A	1.07	13.22	10.59		
1605037-05A	1.01	12.06	9.43		
1605037-06A	1.00	12.82	10.39		
1605037-07A	0.99	13.02	10.74		
1605037-08A	0.99	13.08	11.13		
1605038-01C	0.99	13.96	11.15		
1605047-36A	1.00	12.69	11.43		
1605047-37A	0.99	12.99	11.62		
1605047-39A	1.00	13.67	9.85		
1605047-42A	0.99	15.76	14.09		
1605047-45A	0.99	12.22	12.15		
1605047-46A	1.01	12.37	12.30		
1605048-01E	0.99	13.22	11.32		
1605048-02E	1.02	11.37	9.93		
1605071-31A	0.99	13.71	11.95		
1605071-33A	1.01	13.48	11.62		
1605071-34A	1.02	13.24	12.18		
1605071-34A DUP	0.99	13.28	12.22		

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: WBoden Date: 05/11/16

Second-Level Review: Sherri Herschmann Date: 05/11/2016

REVIEWED/APPROVED

By Sherri Herschmann at 2:57:11 PM, 5/11/2016

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ARCADIS Design & Consultancy for natural and built assets

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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

№ 71108

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.Oenkenberger@arcadis.com

DATE: May 5, 2016 PAGE 1 OF 4
PO #: 04285081.0000.00044 DHL WORK ORDER #: 1600507-1
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=SOIL

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-DU038(0-2)-A	01	5-5-16	1027	S	Bag	1				X						X						X									
SGR-DU038(2-4)-A	02	5-5-16	1031	S	Bag	1				X						X						X									
SGR-DU038(4-6)-A	03	5-5-16	1034	S	Bag	1				X						X						X									
SGR-DU038(6-8)-A	04	5-5-16	1038	S	Bag	1				X						X						X									
SGR-DU038(8-10)-A	05	5-5-16	1045	S	Bag	1				X						X						X									
SGR-DU038(0-2)-B	06	5-5-16	1049	S	Bag	1				X						X						X									
SGR-DU038(2-4)-B	07	5-5-16	1051	S	Bag	1				X						X						X									
SGR-DU038(4-6)-B	08	5-5-16	1052	S	Bag	1				X						X						X									
SGR-DU038(6-8)-B	09	5-5-16	1056	S	Bag	1				X						X						X									
SGR-DU038(8-10)-B	10	5-5-16	1057	S	Bag	1				X						X						X									
SGR-DU038(0-2)-C	11	5-5-16	1100	S	Bag	1				X						X						X									
SGR-DU038(2-4)-C	12	5-5-16	1101	S	Bag	1				X						X						X									
SGR-DU038(4-6)-C	13	5-5-16	1102	S	Bag	1				X						X						X									
SGR-DU038(6-8)-C	14	5-5-16	1103	S	Bag	1				X						X						X									
SGR-DU038(8-10)-C	15	5-5-16	1104	S	Bag	1				X						X						X									

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[signature]	5-5-16/1800	[signature]
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
[signature]	5/6/16 1000	[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, 2.1, 3.8 THERM #: 1.9, 2.1 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

№ 71109

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 5, 2016 PAGE 2 OF 4
PO #: 04285081.0000.00044 DHL WORK ORDER #: 16005071
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 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 ☐ Pb METALS 6020 ☐ TX11 ☐ 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 Sample I.D.	DHL Lab #	Date	Time	Matrix	Container Type	# of Containers	HCl	HNO_3	H_2SO_4	ICE	UNPRESERVED																							FIELD NOTES
SGR-DU038-A	16	5-5-16	0910	S	Bag	1				X							X						X											
SGR-DU038-B	17	5-5-16	0940	S	Bag	1				X							X						X											
SGR-DU038-C	18	5-5-16	1020	S	Bag	1				X							X						X											
9 SGR-DU044-SPLIT 1	~~1000~~ 1000	5-5-16	1000	S	4oz Glass	1				X							X						X											
0 SGR-DU044-SPLIT 2	~~1005~~ 1005	5-5-16	1005	S	4oz Glass	1				X							X						X											
1 SGR-DU044-SPLIT 3	~~1010~~ 1010	5-5-16	1010	S	4oz Glass	1				X							X						X											
2 SGR-DU044-SPLIT 4	~~1015~~ 1015	5-5-16	1015	S	4oz Glass	1				X							X						X											
3 SGR-DU044-SPLIT 5	~~1020~~ 1020	5-5-16	1020	S	4oz Glass	1				X							X						X											
SGR-DU038-SPLIT 1	24	5-5-16	1035	S	4oz Glass	1				X							X						X											
SGR-DU038-SPLIT 2	25	5-5-16	1040	S	4oz Glass	1				X							X						X											
SGR-DU038-SPLIT 3	26	5-5-16	1045	S	4oz Glass	1				X							X						X											
SGR-DU038-SPLIT 4	27	5-5-16	1050	S	4oz Glass	1				X							X						X											
EB04(20160505)	28	5-5-16	1115	W	Glass/Poly	2		X		X							X						X											
EB05(20160505)	29	5-5-16	1445	W	Glass/Poly	2		X		X							X						X											
DUP01(20160505)	30	5-5-16	1030	S	4oz Glass	1				X							X						X											

RELINQUISHED BY: (Signature) DATE/TIME 5-5-16/1800 RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature) DATE/TIME 5/6/16 1000 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: 14.2, 4.3, 3.8, 1.9, 2.1 THERM #: 78
CUSTODY SEALS: ☐ BROKEN ☒ INTACT ☐ NOT USED
CARRIER: ☐ LONE STAR ☒ FEDEX ☐ UPS ☐ OTHER
☐ COURIER DELIVERY
☐ HAND DELIVERED

DHL ANALYTICAL
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Phone (512) 388-8222 ■ FAX (512) 388-8229
Web: www.dhlanalytical.com
E-Mail: login@dhlanalytical.com

№ 71110

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 5, 2016 PAGE 3 OF 4
PO #: 04285081.0000.00044 DHL WORK ORDER #: 1L605071
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 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 ☐ 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 Sample I.D.	DHL Lab #	Date	Time	Matrix	Container Type	# of Containers	HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESERVED	BTEX	TPH 1005	GRO [METHOD 8015]	VOC 8260	SVOC 8270	8270 PEST	8270 O-P PEST	8321 HERB	METALS 6020	RCRA	PH	CHLORIDE	TCLP-SVOC	TCLP-METALS	RCI	TDS	FIELD NOTES
ROW-03(0-0.5)	31	5-5-16	1215	S	4oz Jar	1				X					X				X									
ROW-03(0.5-2.0)	32	5-5-16	1230	S	4oz Jar	1				X					(X)				(X)									O = Extract & Hold PAH
ROW-04(0-0.5)	33	5-5-16	1245	S	4oz Jar	1				X					X				X									Hold Metals & pmoist
ROW-05(0-0.5)	34	5-5-16	1350	S	4oz Jar	1				X					X				X									O - A. Walter 5/9/16
ROW-05(0.5-2.0)	35	5-5-16	1355	S	4oz Jar	1				X					(X)				(X)									
ROW-05(2.0-4.0)	36	5-5-16	1400	S	4oz Jar	1				X					(X)				(X)									
ROW-06(0.0-0.5)	37	5-5-16	1420	S	4oz Jar	1				X					X				X									
ROW-06(0.5-2.0)	38	5-5-16	1435	S	4oz Jar	1				X					(X)				(X)									
ROW-06(2.0-4.0)	39	5-5-16	1445	S	4oz Jar	1				X					(X)				(X)									

(X) added per A Walters 5/17/16 @ 4:39 - afo

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[signature]	5/6/16 1000	[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, 2.4, 3.3, 1.9, 2.1, 7.8 THERM #: ___
CUSTODY SEALS: ☐ BROKEN ☒ INTACT ☐ NOT USED
CARRIER: ☐ LONE STAR ☒ FEDEX ☐ UPS ☐ OTHER
☐ COURIER DELIVERY
☐ HAND DELIVERED

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Web: www.dhlanalytical.com
E-Mail: login@dhlanalytical.com

№ 70006

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 5, 2016 PAGE 4 OF 4
PO #: 04245081.0000.00044 DHL WORK ORDER #: 1605071
PROJECT LOCATION OR NAME: Laredo SGR
CLENT PROJECT #: 04245081.0000.00044 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 ☐ [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 PCB ☐	8270 O-P PEST ☐ 8082 PCB ☐	8321 HERB ☐ T PHOS, AMMONIA ☐	METALS 6020 ☐ METALS 200.8 ☐ DISS. METALS ☐	RCRA ☐ TX1 1 ☐ 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-DU040(0-2)-A	40	5-5-16	1358	S	Bag	1				X							X					X								
SGR-DU040(2-4)-A	41	5-5-16	1402	S	Bag	1				X							X					X								
SGR-DU040(4-6)-A	42	5-5-16	1405	S	Bag	1				X							X					X								
SGR-DU040(6-8)-A	43	5-5-16	1407	S	Bag	1				X							X					X								
SGR-DU040(8-10)-A	44	5-5-16	1410	S	Bag	1				X							X					X								
SGR-DU040(0-2)-B	45	5-5-16	1413	S	Bag	1				X							X					X								
SGR-DU040(2-4)-B	46	5-5-16	1415	S	Bag	1				X							X					X								
SGR-DU040(4-6)-B	47	5-5-16	1418	S	Bag	1				X							X					X								
SGR-DU040(6-8)-B	48	5-5-16	1422	S	Bag	1				X							X					X								
SGR-DU040(8-10)-B	49	5-5-16	1424	S	Bag	1				X							X					X								
SGR-DU040(0-2)-C	50	5-5-16	1425	S	Bag	1				X							X					X								
SGR-DU040(2-4)-C	51	5-5-16	1429	S	Bag	1				X							X					X								
SGR-DU040(4-6)-C	52	5-5-16	1431	S	Bag	1				X							X					X								
SGR-DU040(6-8)-C	53	5-5-16	1434	S	Bag	1				X							X					X								
SGR-DU040(8-10)-C	54	5-5-16	1436	S	Bag	1				X							X					X								

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
[signature]	5-5-16 / 1800	[signature]
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
[signature]	5/6/16 0900	[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: 3.3, 1.9, 2.1, 2.8
RECEIVING TEMP: 1.4, 2.1 THERM #: 78
CUSTODY SEALS: ☐ BROKEN ☒ INTACT ☐ NOT USED
CARRIER: ☐ LONE STAR ☒ FEDEX ☐ UPS ☐ OTHER
☐ COURIER DELIVERY
☐ HAND DELIVERED

DHL Analytical, Inc.

Date: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU038(0-2)-A
Project:	Laredo SGR	**Lab ID:**	1605071-01
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 10:27 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	14.1	0.0962	0.288	0.144		mg/Kg-dry	5	05/11/16 06:51 PM
IS: Bismuth	93.9	0	30-120	0		%REC	5	05/11/16 06:51 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/13/16 10:43 AM
Acenaphthylene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/13/16 10:43 AM
Anthracene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/13/16 10:43 AM
Benzo[a]anthracene	0.224	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/13/16 10:43 AM
Benzo[a]pyrene	0.276	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/13/16 10:43 AM
Benzo[b]fluoranthene	0.262	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/13/16 10:43 AM
Benzo[e]pyrene	0.213	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/13/16 10:43 AM
Benzo[g,h,i]perylene	0.220	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/13/16 10:43 AM
Benzo[j]fluoranthene	0.136	0.0498	0.0996	0.0747	N	mg/Kg-dry	10	05/13/16 10:43 AM
Benzo[k]fluoranthene	0.137	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/13/16 10:43 AM
Chrysene	0.264	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/13/16 10:43 AM
Dibenz[a,h]anthracene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/13/16 10:43 AM
Fluoranthene	0.396	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/13/16 10:43 AM
Fluorene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/13/16 10:43 AM
Indeno[1,2,3-cd]pyrene	0.178	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/13/16 10:43 AM
Phenanthrene	0.163	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/13/16 10:43 AM
Pyrene	0.341	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/13/16 10:43 AM
IS: Acenaphthene-d10	78.1	0	50-200	0		%REC	10	05/13/16 10:43 AM
IS: Chrysene-d12	85.4	0	50-200	0		%REC	10	05/13/16 10:43 AM
IS: Naphthalene-d8	123	0	50-200	0		%REC	10	05/13/16 10:43 AM
IS: Perylene-d12	87.9	0	50-200	0		%REC	10	05/13/16 10:43 AM
IS: Phenanthrene-d10	84.0	0	50-200	0		%REC	10	05/13/16 10:43 AM
Surr: 2-Fluorobiphenyl	77.7	0	46-115	0		%REC	10	05/13/16 10:43 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU038(0-2)-A
Project:	Laredo SGR	**Lab ID:**	1605071-01
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 10:27 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	67.9	0	58-133	0		%REC	10	05/13/16 10:43 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU038(2-4)-A
Project:	Laredo SGR	**Lab ID:**	1605071-02
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 10:31 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	12.4	0.0901	0.270	0.135		mg/Kg-dry	5	05/11/16 06:53 PM
IS: Bismuth	91.8	0	30-120	0		%REC	5	05/11/16 06:53 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.369	0.246	0.492	0.369	U	mg/Kg-dry	50	05/13/16 11:23 AM
Acenaphthylene	0.369	0.246	0.492	0.369	U	mg/Kg-dry	50	05/13/16 11:23 AM
Anthracene	0.369	0.246	0.492	0.369	U	mg/Kg-dry	50	05/13/16 11:23 AM
Benzo[a]anthracene	0.831	0.246	0.492	0.369		mg/Kg-dry	50	05/13/16 11:23 AM
Benzo[a]pyrene	0.854	0.246	0.492	0.369		mg/Kg-dry	50	05/13/16 11:23 AM
Benzo[b]fluoranthene	0.800	0.246	0.492	0.369		mg/Kg-dry	50	05/13/16 11:23 AM
Benzo[e]pyrene	0.611	0.246	0.492	0.369		mg/Kg-dry	50	05/13/16 11:23 AM
Benzo[g,h,i]perylene	0.569	0.246	0.492	0.369		mg/Kg-dry	50	05/13/16 11:23 AM
Benzo[j]fluoranthene	0.431	0.246	0.492	0.369	JN	mg/Kg-dry	50	05/13/16 11:23 AM
Benzo[k]fluoranthene	0.431	0.246	0.492	0.369	J	mg/Kg-dry	50	05/13/16 11:23 AM
Chrysene	0.914	0.246	0.492	0.369		mg/Kg-dry	50	05/13/16 11:23 AM
Dibenz[a,h]anthracene	0.369	0.246	0.492	0.369	U	mg/Kg-dry	50	05/13/16 11:23 AM
Fluoranthene	1.68	0.246	0.492	0.369		mg/Kg-dry	50	05/13/16 11:23 AM
Fluorene	0.369	0.246	0.492	0.369	U	mg/Kg-dry	50	05/13/16 11:23 AM
Indeno[1,2,3-cd]pyrene	0.479	0.246	0.492	0.369	J	mg/Kg-dry	50	05/13/16 11:23 AM
Phenanthrene	0.789	0.246	0.492	0.369		mg/Kg-dry	50	05/13/16 11:23 AM
Pyrene	1.37	0.246	0.492	0.369		mg/Kg-dry	50	05/13/16 11:23 AM
IS: Acenaphthene-d10	75.6	0	50-200	0		%REC	50	05/13/16 11:23 AM
IS: Chrysene-d12	81.0	0	50-200	0		%REC	50	05/13/16 11:23 AM
IS: Naphthalene-d8	120	0	50-200	0		%REC	50	05/13/16 11:23 AM
IS: Perylene-d12	81.5	0	50-200	0		%REC	50	05/13/16 11:23 AM
IS: Phenanthrene-d10	79.4	0	50-200	0		%REC	50	05/13/16 11:23 AM
Surr: 2-Fluorobiphenyl	89.1	0	46-115	0		%REC	50	05/13/16 11:23 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU038(2-4)-A
Project:	Laredo SGR	**Lab ID:**	1605071-02
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 10:31 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	77.2	0	58-133	0		%REC	50	05/13/16 11:23 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU038(4-6)-A
Project:	Laredo SGR	**Lab ID:**	1605071-03
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 10:34 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	9.16	0.0870	0.261	0.130		mg/Kg-dry	5	05/11/16 06:55 PM
IS: Bismuth	90.6	0	30-120	0		%REC	5	05/11/16 06:55 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.355	0.237	0.473	0.355	U	mg/Kg-dry	50	05/13/16 12:02 PM
Acenaphthylene	0.355	0.237	0.473	0.355	U	mg/Kg-dry	50	05/13/16 12:02 PM
Anthracene	0.355	0.237	0.473	0.355	U	mg/Kg-dry	50	05/13/16 12:02 PM
Benzo[a]anthracene	0.490	0.237	0.473	0.355		mg/Kg-dry	50	05/13/16 12:02 PM
Benzo[a]pyrene	0.638	0.237	0.473	0.355		mg/Kg-dry	50	05/13/16 12:02 PM
Benzo[b]fluoranthene	0.609	0.237	0.473	0.355		mg/Kg-dry	50	05/13/16 12:02 PM
Benzo[e]pyrene	0.481	0.237	0.473	0.355		mg/Kg-dry	50	05/13/16 12:02 PM
Benzo[g,h,i]perylene	0.467	0.237	0.473	0.355	J	mg/Kg-dry	50	05/13/16 12:02 PM
Benzo[j]fluoranthene	0.316	0.237	0.473	0.355	JN	mg/Kg-dry	50	05/13/16 12:02 PM
Benzo[k]fluoranthene	0.313	0.237	0.473	0.355	J	mg/Kg-dry	50	05/13/16 12:02 PM
Chrysene	0.573	0.237	0.473	0.355		mg/Kg-dry	50	05/13/16 12:02 PM
Dibenz[a,h]anthracene	0.355	0.237	0.473	0.355	U	mg/Kg-dry	50	05/13/16 12:02 PM
Fluoranthene	0.706	0.237	0.473	0.355		mg/Kg-dry	50	05/13/16 12:02 PM
Fluorene	0.355	0.237	0.473	0.355	U	mg/Kg-dry	50	05/13/16 12:02 PM
Indeno[1,2,3-cd]pyrene	0.377	0.237	0.473	0.355	J	mg/Kg-dry	50	05/13/16 12:02 PM
Phenanthrene	0.260	0.237	0.473	0.355	J	mg/Kg-dry	50	05/13/16 12:02 PM
Pyrene	0.615	0.237	0.473	0.355		mg/Kg-dry	50	05/13/16 12:02 PM
IS: Acenaphthene-d10	77.0	0	50-200	0		%REC	50	05/13/16 12:02 PM
IS: Chrysene-d12	79.9	0	50-200	0		%REC	50	05/13/16 12:02 PM
IS: Naphthalene-d8	116	0	50-200	0		%REC	50	05/13/16 12:02 PM
IS: Perylene-d12	79.9	0	50-200	0		%REC	50	05/13/16 12:02 PM
IS: Phenanthrene-d10	80.0	0	50-200	0		%REC	50	05/13/16 12:02 PM
Surr: 2-Fluorobiphenyl	82.6	0	46-115	0		%REC	50	05/13/16 12:02 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU038(4-6)-A
Project:	Laredo SGR	**Lab ID:**	1605071-03
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 10:34 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	70.5	0	58-133	0		%REC	50	05/13/16 12:02 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU038(6-8)-A
Project:	Laredo SGR	**Lab ID:**	1605071-04
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 10:38 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	7.29	0.0990	0.297	0.149		mg/Kg-dry	5	05/11/16 06:57 PM
IS: Bismuth	89.4	0	30-120	0		%REC	5	05/11/16 06:57 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/13/16 12:42 PM
Acenaphthylene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/13/16 12:42 PM
Anthracene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/13/16 12:42 PM
Benzo[a]anthracene	0.0957	0.0496	0.0992	0.0744	J	mg/Kg-dry	10	05/13/16 12:42 PM
Benzo[a]pyrene	0.107	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/13/16 12:42 PM
Benzo[b]fluoranthene	0.101	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/13/16 12:42 PM
Benzo[e]pyrene	0.0793	0.0496	0.0992	0.0744	J	mg/Kg-dry	10	05/13/16 12:42 PM
Benzo[g,h,i]perylene	0.0826	0.0496	0.0992	0.0744	J	mg/Kg-dry	10	05/13/16 12:42 PM
Benzo[j]fluoranthene	0.0547	0.0496	0.0992	0.0744	JN	mg/Kg-dry	10	05/13/16 12:42 PM
Benzo[k]fluoranthene	0.0556	0.0496	0.0992	0.0744	J	mg/Kg-dry	10	05/13/16 12:42 PM
Chrysene	0.117	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/13/16 12:42 PM
Dibenz[a,h]anthracene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/13/16 12:42 PM
Fluoranthene	0.175	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/13/16 12:42 PM
Fluorene	0.0744	0.0496	0.0992	0.0744	U	mg/Kg-dry	10	05/13/16 12:42 PM
Indeno[1,2,3-cd]pyrene	0.0647	0.0496	0.0992	0.0744	J	mg/Kg-dry	10	05/13/16 12:42 PM
Phenanthrene	0.0840	0.0496	0.0992	0.0744	J	mg/Kg-dry	10	05/13/16 12:42 PM
Pyrene	0.153	0.0496	0.0992	0.0744		mg/Kg-dry	10	05/13/16 12:42 PM
IS: Acenaphthene-d10	76.9	0	50-200	0		%REC	10	05/13/16 12:42 PM
IS: Chrysene-d12	84.2	0	50-200	0		%REC	10	05/13/16 12:42 PM
IS: Naphthalene-d8	116	0	50-200	0		%REC	10	05/13/16 12:42 PM
IS: Perylene-d12	82.5	0	50-200	0		%REC	10	05/13/16 12:42 PM
IS: Phenanthrene-d10	85.5	0	50-200	0		%REC	10	05/13/16 12:42 PM
Surr: 2-Fluorobiphenyl	79.7	0	46-115	0		%REC	10	05/13/16 12:42 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU038(6-8)-A
Project:	Laredo SGR	**Lab ID:**	1605071-04
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 10:38 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	69.3	0	58-133	0		%REC	10	05/13/16 12:42 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU038(8-10)-A
Project:	Laredo SGR	**Lab ID:**	1605071-05
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 10:45 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	4.18	0.0909	0.273	0.136		mg/Kg-dry	5	05/11/16 06:59 PM
IS: Bismuth	90.3	0	30-120	0		%REC	5	05/11/16 06:59 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/13/16 01:22 PM
Acenaphthylene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/13/16 01:22 PM
Anthracene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/13/16 01:22 PM
Benzo[a]anthracene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/13/16 01:22 PM
Benzo[a]pyrene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/13/16 01:22 PM
Benzo[b]fluoranthene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/13/16 01:22 PM
Benzo[e]pyrene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/13/16 01:22 PM
Benzo[g,h,i]perylene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/13/16 01:22 PM
Benzo[j]fluoranthene	0.0743	0.0495	0.0990	0.0743	NU	mg/Kg-dry	10	05/13/16 01:22 PM
Benzo[k]fluoranthene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/13/16 01:22 PM
Chrysene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/13/16 01:22 PM
Dibenz[a,h]anthracene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/13/16 01:22 PM
Fluoranthene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/13/16 01:22 PM
Fluorene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/13/16 01:22 PM
Indeno[1,2,3-cd]pyrene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/13/16 01:22 PM
Phenanthrene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/13/16 01:22 PM
Pyrene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/13/16 01:22 PM
IS: Acenaphthene-d10	79.3	0	50-200	0		%REC	10	05/13/16 01:22 PM
IS: Chrysene-d12	84.4	0	50-200	0		%REC	10	05/13/16 01:22 PM
IS: Naphthalene-d8	122	0	50-200	0		%REC	10	05/13/16 01:22 PM
IS: Perylene-d12	87.2	0	50-200	0		%REC	10	05/13/16 01:22 PM
IS: Phenanthrene-d10	85.2	0	50-200	0		%REC	10	05/13/16 01:22 PM
Surr: 2-Fluorobiphenyl	77.7	0	46-115	0		%REC	10	05/13/16 01:22 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU038(8-10)-A
Project:	Laredo SGR	**Lab ID:**	1605071-05
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 10:45 AM
Lab Order:	1605071	**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	05/13/16 01:22 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU038(0-2)-B
Project:	Laredo SGR	**Lab ID:**	1605071-06
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 10:49 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	11.1	0.0952	0.286	0.143		mg/Kg-dry	5	05/11/16 07:01 PM
IS: Bismuth	89.3	0	30-120	0		%REC	5	05/11/16 07:01 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0735	0.0490	0.0980	0.0735	U	mg/Kg-dry	10	05/13/16 02:01 PM
Acenaphthylene	0.0735	0.0490	0.0980	0.0735	U	mg/Kg-dry	10	05/13/16 02:01 PM
Anthracene	0.0659	0.0490	0.0980	0.0735	J	mg/Kg-dry	10	05/13/16 02:01 PM
Benzo[a]anthracene	0.337	0.0490	0.0980	0.0735		mg/Kg-dry	10	05/13/16 02:01 PM
Benzo[a]pyrene	0.363	0.0490	0.0980	0.0735		mg/Kg-dry	10	05/13/16 02:01 PM
Benzo[b]fluoranthene	0.352	0.0490	0.0980	0.0735		mg/Kg-dry	10	05/13/16 02:01 PM
Benzo[e]pyrene	0.279	0.0490	0.0980	0.0735		mg/Kg-dry	10	05/13/16 02:01 PM
Benzo[g,h,i]perylene	0.262	0.0490	0.0980	0.0735		mg/Kg-dry	10	05/13/16 02:01 PM
Benzo[j]fluoranthene	0.187	0.0490	0.0980	0.0735	N	mg/Kg-dry	10	05/13/16 02:01 PM
Benzo[k]fluoranthene	0.182	0.0490	0.0980	0.0735		mg/Kg-dry	10	05/13/16 02:01 PM
Chrysene	0.390	0.0490	0.0980	0.0735		mg/Kg-dry	10	05/13/16 02:01 PM
Dibenz[a,h]anthracene	0.0613	0.0490	0.0980	0.0735	J	mg/Kg-dry	10	05/13/16 02:01 PM
Fluoranthene	0.681	0.0490	0.0980	0.0735		mg/Kg-dry	10	05/13/16 02:01 PM
Fluorene	0.0735	0.0490	0.0980	0.0735	U	mg/Kg-dry	10	05/13/16 02:01 PM
Indeno[1,2,3-cd]pyrene	0.219	0.0490	0.0980	0.0735		mg/Kg-dry	10	05/13/16 02:01 PM
Phenanthrene	0.323	0.0490	0.0980	0.0735		mg/Kg-dry	10	05/13/16 02:01 PM
Pyrene	0.556	0.0490	0.0980	0.0735		mg/Kg-dry	10	05/13/16 02:01 PM
IS: Acenaphthene-d10	75.1	0	50-200	0		%REC	10	05/13/16 02:01 PM
IS: Chrysene-d12	80.9	0	50-200	0		%REC	10	05/13/16 02:01 PM
IS: Naphthalene-d8	118	0	50-200	0		%REC	10	05/13/16 02:01 PM
IS: Perylene-d12	83.0	0	50-200	0		%REC	10	05/13/16 02:01 PM
IS: Phenanthrene-d10	81.6	0	50-200	0		%REC	10	05/13/16 02:01 PM
Surr: 2-Fluorobiphenyl	83.5	0	46-115	0		%REC	10	05/13/16 02:01 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU038(0-2)-B
Project:	Laredo SGR	**Lab ID:**	1605071-06
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 10:49 AM
Lab Order:	1605071	**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	05/13/16 02:01 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU038(2-4)-B
Project:	Laredo SGR	**Lab ID:**	1605071-07
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 10:51 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	11.9	0.0962	0.288	0.144		mg/Kg-dry	5	05/11/16 07:03 PM
IS: Bismuth	90.8	0	30-120	0		%REC	5	05/11/16 07:03 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.756	0.504	1.01	0.756	U	mg/Kg-dry	100	05/13/16 02:41 PM
Acenaphthylene	0.756	0.504	1.01	0.756	U	mg/Kg-dry	100	05/13/16 02:41 PM
Anthracene	0.756	0.504	1.01	0.756	U	mg/Kg-dry	100	05/13/16 02:41 PM
Benzo[a]anthracene	0.891	0.504	1.01	0.756	J	mg/Kg-dry	100	05/13/16 02:41 PM
Benzo[a]pyrene	1.35	0.504	1.01	0.756		mg/Kg-dry	100	05/13/16 02:41 PM
Benzo[b]fluoranthene	1.15	0.504	1.01	0.756		mg/Kg-dry	100	05/13/16 02:41 PM
Benzo[e]pyrene	0.942	0.504	1.01	0.756	J	mg/Kg-dry	100	05/13/16 02:41 PM
Benzo[g,h,i]perylene	1.02	0.504	1.01	0.756		mg/Kg-dry	100	05/13/16 02:41 PM
Benzo[j]fluoranthene	0.615	0.504	1.01	0.756	JN	mg/Kg-dry	100	05/13/16 02:41 PM
Benzo[k]fluoranthene	0.625	0.504	1.01	0.756	J	mg/Kg-dry	100	05/13/16 02:41 PM
Chrysene	1.06	0.504	1.01	0.756		mg/Kg-dry	100	05/13/16 02:41 PM
Dibenz[a,h]anthracene	0.756	0.504	1.01	0.756	U	mg/Kg-dry	100	05/13/16 02:41 PM
Fluoranthene	1.15	0.504	1.01	0.756		mg/Kg-dry	100	05/13/16 02:41 PM
Fluorene	0.756	0.504	1.01	0.756	U	mg/Kg-dry	100	05/13/16 02:41 PM
Indeno[1,2,3-cd]pyrene	0.852	0.504	1.01	0.756	J	mg/Kg-dry	100	05/13/16 02:41 PM
Phenanthrene	0.756	0.504	1.01	0.756	U	mg/Kg-dry	100	05/13/16 02:41 PM
Pyrene	1.05	0.504	1.01	0.756		mg/Kg-dry	100	05/13/16 02:41 PM
IS: Acenaphthene-d10	79.1	0	50-200	0		%REC	100	05/13/16 02:41 PM
IS: Chrysene-d12	81.5	0	50-200	0		%REC	100	05/13/16 02:41 PM
IS: Naphthalene-d8	118	0	50-200	0		%REC	100	05/13/16 02:41 PM
IS: Perylene-d12	83.1	0	50-200	0		%REC	100	05/13/16 02:41 PM
IS: Phenanthrene-d10	81.8	0	50-200	0		%REC	100	05/13/16 02:41 PM
Surr: 2-Fluorobiphenyl	83.4	0	46-115	0		%REC	100	05/13/16 02:41 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU038(2-4)-B
Project:	Laredo SGR	**Lab ID:**	1605071-07
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 10:51 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	74.7	0	58-133	0		%REC	100	05/13/16 02:41 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU038(4-6)-B
Project:	Laredo SGR	**Lab ID:**	1605071-08
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 10:52 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	97.5	0.0935	0.280	0.140		mg/Kg-dry	5	05/11/16 07:05 PM
IS: Bismuth	91.4	0	30-120	0		%REC	5	05/11/16 07:05 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/13/16 03:21 PM
Acenaphthylene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/13/16 03:21 PM
Anthracene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/13/16 03:21 PM
Benzo[a]anthracene	0.219	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/13/16 03:21 PM
Benzo[a]pyrene	0.399	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/13/16 03:21 PM
Benzo[b]fluoranthene	0.379	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/13/16 03:21 PM
Benzo[e]pyrene	0.314	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/13/16 03:21 PM
Benzo[g,h,i]perylene	0.353	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/13/16 03:21 PM
Benzo[j]fluoranthene	0.176	0.0498	0.0995	0.0746	N	mg/Kg-dry	10	05/13/16 03:21 PM
Benzo[k]fluoranthene	0.179	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/13/16 03:21 PM
Chrysene	0.305	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/13/16 03:21 PM
Dibenz[a,h]anthracene	0.0758	0.0498	0.0995	0.0746	J	mg/Kg-dry	10	05/13/16 03:21 PM
Fluoranthene	0.272	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/13/16 03:21 PM
Fluorene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/13/16 03:21 PM
Indeno[1,2,3-cd]pyrene	0.268	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/13/16 03:21 PM
Phenanthrene	0.0736	0.0498	0.0995	0.0746	J	mg/Kg-dry	10	05/13/16 03:21 PM
Pyrene	0.275	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/13/16 03:21 PM
IS: Acenaphthene-d10	75.0	0	50-200	0		%REC	10	05/13/16 03:21 PM
IS: Chrysene-d12	79.6	0	50-200	0		%REC	10	05/13/16 03:21 PM
IS: Naphthalene-d8	124	0	50-200	0		%REC	10	05/13/16 03:21 PM
IS: Perylene-d12	79.3	0	50-200	0		%REC	10	05/13/16 03:21 PM
IS: Phenanthrene-d10	76.9	0	50-200	0		%REC	10	05/13/16 03:21 PM
Surr: 2-Fluorobiphenyl	88.0	0	46-115	0		%REC	10	05/13/16 03:21 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU038(4-6)-B
Project:	Laredo SGR	**Lab ID:**	1605071-08
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 10:52 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	76.1	0	58-133	0		%REC	10	05/13/16 03:21 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU038(6-8)-B
Project:	Laredo SGR	**Lab ID:**	1605071-09
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 10:56 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	6.81	0.0962	0.288	0.144		mg/Kg-dry	5	05/11/16 06:16 PM
IS: Bismuth	92.3	0	30-120	0		%REC	5	05/11/16 06:16 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/13/16 04:01 PM
Acenaphthylene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/13/16 04:01 PM
Anthracene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/13/16 04:01 PM
Benzo[a]anthracene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/13/16 04:01 PM
Benzo[a]pyrene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/13/16 04:01 PM
Benzo[b]fluoranthene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/13/16 04:01 PM
Benzo[e]pyrene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/13/16 04:01 PM
Benzo[g,h,i]perylene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/13/16 04:01 PM
Benzo[j]fluoranthene	0.0746	0.0498	0.0995	0.0746	NU	mg/Kg-dry	10	05/13/16 04:01 PM
Benzo[k]fluoranthene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/13/16 04:01 PM
Chrysene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/13/16 04:01 PM
Dibenz[a,h]anthracene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/13/16 04:01 PM
Fluoranthene	0.0697	0.0498	0.0995	0.0746	J	mg/Kg-dry	10	05/13/16 04:01 PM
Fluorene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/13/16 04:01 PM
Indeno[1,2,3-cd]pyrene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/13/16 04:01 PM
Phenanthrene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/13/16 04:01 PM
Pyrene	0.0550	0.0498	0.0995	0.0746	J	mg/Kg-dry	10	05/13/16 04:01 PM
IS: Acenaphthene-d10	74.8	0	50-200	0		%REC	10	05/13/16 04:01 PM
IS: Chrysene-d12	77.6	0	50-200	0		%REC	10	05/13/16 04:01 PM
IS: Naphthalene-d8	117	0	50-200	0		%REC	10	05/13/16 04:01 PM
IS: Perylene-d12	79.3	0	50-200	0		%REC	10	05/13/16 04:01 PM
IS: Phenanthrene-d10	77.1	0	50-200	0		%REC	10	05/13/16 04:01 PM
Surr: 2-Fluorobiphenyl	86.9	0	46-115	0		%REC	10	05/13/16 04:01 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU038(6-8)-B
Project:	Laredo SGR	**Lab ID:**	1605071-09
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 10:56 AM
Lab Order:	1605071	**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	05/13/16 04:01 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU038(8-10)-B
Project:	Laredo SGR	**Lab ID:**	1605071-10
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 10:57 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	4.70	0.0847	0.254	0.127		mg/Kg-dry	5	05/11/16 07:07 PM
IS: Bismuth	89.1	0	30-120	0		%REC	5	05/11/16 07:07 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0718	0.0478	0.0957	0.0718	U	mg/Kg-dry	10	05/13/16 04:40 PM
Acenaphthylene	0.0718	0.0478	0.0957	0.0718	U	mg/Kg-dry	10	05/13/16 04:40 PM
Anthracene	0.0718	0.0478	0.0957	0.0718	U	mg/Kg-dry	10	05/13/16 04:40 PM
Benzo[a]anthracene	0.0679	0.0478	0.0957	0.0718	J	mg/Kg-dry	10	05/13/16 04:40 PM
Benzo[a]pyrene	0.0748	0.0478	0.0957	0.0718	J	mg/Kg-dry	10	05/13/16 04:40 PM
Benzo[b]fluoranthene	0.0675	0.0478	0.0957	0.0718	J	mg/Kg-dry	10	05/13/16 04:40 PM
Benzo[e]pyrene	0.0528	0.0478	0.0957	0.0718	J	mg/Kg-dry	10	05/13/16 04:40 PM
Benzo[g,h,i]perylene	0.0506	0.0478	0.0957	0.0718	J	mg/Kg-dry	10	05/13/16 04:40 PM
Benzo[j]fluoranthene	0.0718	0.0478	0.0957	0.0718	NU	mg/Kg-dry	10	05/13/16 04:40 PM
Benzo[k]fluoranthene	0.0718	0.0478	0.0957	0.0718	U	mg/Kg-dry	10	05/13/16 04:40 PM
Chrysene	0.0750	0.0478	0.0957	0.0718	J	mg/Kg-dry	10	05/13/16 04:40 PM
Dibenz[a,h]anthracene	0.0718	0.0478	0.0957	0.0718	U	mg/Kg-dry	10	05/13/16 04:40 PM
Fluoranthene	0.153	0.0478	0.0957	0.0718		mg/Kg-dry	10	05/13/16 04:40 PM
Fluorene	0.0718	0.0478	0.0957	0.0718	U	mg/Kg-dry	10	05/13/16 04:40 PM
Indeno[1,2,3-cd]pyrene	0.0718	0.0478	0.0957	0.0718	U	mg/Kg-dry	10	05/13/16 04:40 PM
Phenanthrene	0.0811	0.0478	0.0957	0.0718	J	mg/Kg-dry	10	05/13/16 04:40 PM
Pyrene	0.124	0.0478	0.0957	0.0718		mg/Kg-dry	10	05/13/16 04:40 PM
IS: Acenaphthene-d10	77.6	0	50-200	0		%REC	10	05/13/16 04:40 PM
IS: Chrysene-d12	80.7	0	50-200	0		%REC	10	05/13/16 04:40 PM
IS: Naphthalene-d8	120	0	50-200	0		%REC	10	05/13/16 04:40 PM
IS: Perylene-d12	83.1	0	50-200	0		%REC	10	05/13/16 04:40 PM
IS: Phenanthrene-d10	79.1	0	50-200	0		%REC	10	05/13/16 04:40 PM
Surr: 2-Fluorobiphenyl	82.6	0	46-115	0		%REC	10	05/13/16 04:40 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU038(8-10)-B
Project:	Laredo SGR	**Lab ID:**	1605071-10
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 10:57 AM
Lab Order:	1605071	**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	05/13/16 04:40 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU038(0-2)-C
Project:	Laredo SGR	**Lab ID:**	1605071-11
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 11:00 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	13.8	0.0971	0.291	0.146		mg/Kg-dry	5	05/11/16 07:09 PM
IS: Bismuth	89.5	0	30-120	0		%REC	5	05/11/16 07:09 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/13/16 09:16 PM
Acenaphthylene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/13/16 09:16 PM
Anthracene	0.0705	0.0495	0.0990	0.0743	J	mg/Kg-dry	10	05/13/16 09:16 PM
Benzo[a]anthracene	0.349	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/13/16 09:16 PM
Benzo[a]pyrene	0.379	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/13/16 09:16 PM
Benzo[b]fluoranthene	0.364	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/13/16 09:16 PM
Benzo[e]pyrene	0.288	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/13/16 09:16 PM
Benzo[g,h,i]perylene	0.280	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/13/16 09:16 PM
Benzo[j]fluoranthene	0.198	0.0495	0.0990	0.0743	N	mg/Kg-dry	10	05/13/16 09:16 PM
Benzo[k]fluoranthene	0.190	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/13/16 09:16 PM
Chrysene	0.412	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/13/16 09:16 PM
Dibenz[a,h]anthracene	0.0733	0.0495	0.0990	0.0743	J	mg/Kg-dry	10	05/13/16 09:16 PM
Fluoranthene	0.663	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/13/16 09:16 PM
Fluorene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/13/16 09:16 PM
Indeno[1,2,3-cd]pyrene	0.232	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/13/16 09:16 PM
Phenanthrene	0.350	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/13/16 09:16 PM
Pyrene	0.537	0.0495	0.0990	0.0743		mg/Kg-dry	10	05/13/16 09:16 PM
IS: Acenaphthene-d10	74.2	0	50-200	0		%REC	10	05/13/16 09:16 PM
IS: Chrysene-d12	78.4	0	50-200	0		%REC	10	05/13/16 09:16 PM
IS: Naphthalene-d8	115	0	50-200	0		%REC	10	05/13/16 09:16 PM
IS: Perylene-d12	81.4	0	50-200	0		%REC	10	05/13/16 09:16 PM
IS: Phenanthrene-d10	78.5	0	50-200	0		%REC	10	05/13/16 09:16 PM
Surr: 2-Fluorobiphenyl	83.9	0	46-115	0		%REC	10	05/13/16 09:16 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU038(0-2)-C
Project:	Laredo SGR	**Lab ID:**	1605071-11
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 11:00 AM
Lab Order:	1605071	**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	05/13/16 09:16 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU038(2-4)-C
Project:	Laredo SGR	**Lab ID:**	1605071-12
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 11:01 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	18.3	0.0917	0.275	0.138		mg/Kg-dry	5	05/16/16 04:46 PM
IS: Bismuth	97.0	0	30-120	0		%REC	5	05/16/16 04:46 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.249	0.249	0.497	0.373	J	mg/Kg-dry	50	05/13/16 09:56 PM
Acenaphthylene	0.373	0.249	0.497	0.373	U	mg/Kg-dry	50	05/13/16 09:56 PM
Anthracene	1.48	0.249	0.497	0.373		mg/Kg-dry	50	05/13/16 09:56 PM
Benzo[a]anthracene	4.54	0.249	0.497	0.373		mg/Kg-dry	50	05/13/16 09:56 PM
Benzo[a]pyrene	4.48	0.249	0.497	0.373		mg/Kg-dry	50	05/13/16 09:56 PM
Benzo[b]fluoranthene	4.18	0.249	0.497	0.373		mg/Kg-dry	50	05/13/16 09:56 PM
Benzo[e]pyrene	3.14	0.249	0.497	0.373		mg/Kg-dry	50	05/13/16 09:56 PM
Benzo[g,h,i]perylene	2.80	0.249	0.497	0.373		mg/Kg-dry	50	05/13/16 09:56 PM
Benzo[j]fluoranthene	2.26	0.249	0.497	0.373	N	mg/Kg-dry	50	05/13/16 09:56 PM
Benzo[k]fluoranthene	2.15	0.249	0.497	0.373		mg/Kg-dry	50	05/13/16 09:56 PM
Chrysene	4.95	0.249	0.497	0.373		mg/Kg-dry	50	05/13/16 09:56 PM
Dibenz[a,h]anthracene	0.735	0.249	0.497	0.373		mg/Kg-dry	50	05/13/16 09:56 PM
Fluoranthene	9.72	0.249	0.497	0.373		mg/Kg-dry	50	05/13/16 09:56 PM
Fluorene	0.307	0.249	0.497	0.373	J	mg/Kg-dry	50	05/13/16 09:56 PM
Indeno[1,2,3-cd]pyrene	2.45	0.249	0.497	0.373		mg/Kg-dry	50	05/13/16 09:56 PM
Phenanthrene	5.88	0.249	0.497	0.373		mg/Kg-dry	50	05/13/16 09:56 PM
Pyrene	7.42	0.249	0.497	0.373		mg/Kg-dry	50	05/13/16 09:56 PM
IS: Acenaphthene-d10	78.4	0	50-200	0		%REC	50	05/13/16 09:56 PM
IS: Chrysene-d12	83.6	0	50-200	0		%REC	50	05/13/16 09:56 PM
IS: Naphthalene-d8	124	0	50-200	0		%REC	50	05/13/16 09:56 PM
IS: Perylene-d12	83.8	0	50-200	0		%REC	50	05/13/16 09:56 PM
IS: Phenanthrene-d10	79.6	0	50-200	0		%REC	50	05/13/16 09:56 PM
Surr: 2-Fluorobiphenyl	80.8	0	46-115	0		%REC	50	05/13/16 09:56 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU038(2-4)-C
Project:	Laredo SGR	**Lab ID:**	1605071-12
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 11:01 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	72.0	0	58-133	0		%REC	50	05/13/16 09:56 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU038(4-6)-C
Project:	Laredo SGR	**Lab ID:**	1605071-13
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 11:02 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	10.3	0.0943	0.283	0.142		mg/Kg-dry	5	05/16/16 04:48 PM
IS: Bismuth	96.6	0	30-120	0		%REC	5	05/16/16 04:48 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0694	0.0463	0.0925	0.0694	U	mg/Kg-dry	10	05/13/16 10:36 PM
Acenaphthylene	0.0694	0.0463	0.0925	0.0694	U	mg/Kg-dry	10	05/13/16 10:36 PM
Anthracene	0.0694	0.0463	0.0925	0.0694	U	mg/Kg-dry	10	05/13/16 10:36 PM
Benzo[a]anthracene	0.117	0.0463	0.0925	0.0694		mg/Kg-dry	10	05/13/16 10:36 PM
Benzo[a]pyrene	0.132	0.0463	0.0925	0.0694		mg/Kg-dry	10	05/13/16 10:36 PM
Benzo[b]fluoranthene	0.127	0.0463	0.0925	0.0694		mg/Kg-dry	10	05/13/16 10:36 PM
Benzo[e]pyrene	0.100	0.0463	0.0925	0.0694		mg/Kg-dry	10	05/13/16 10:36 PM
Benzo[g,h,i]perylene	0.101	0.0463	0.0925	0.0694		mg/Kg-dry	10	05/13/16 10:36 PM
Benzo[j]fluoranthene	0.0662	0.0463	0.0925	0.0694	JN	mg/Kg-dry	10	05/13/16 10:36 PM
Benzo[k]fluoranthene	0.0658	0.0463	0.0925	0.0694	J	mg/Kg-dry	10	05/13/16 10:36 PM
Chrysene	0.133	0.0463	0.0925	0.0694		mg/Kg-dry	10	05/13/16 10:36 PM
Dibenz[a,h]anthracene	0.0694	0.0463	0.0925	0.0694	U	mg/Kg-dry	10	05/13/16 10:36 PM
Fluoranthene	0.224	0.0463	0.0925	0.0694		mg/Kg-dry	10	05/13/16 10:36 PM
Fluorene	0.0694	0.0463	0.0925	0.0694	U	mg/Kg-dry	10	05/13/16 10:36 PM
Indeno[1,2,3-cd]pyrene	0.0824	0.0463	0.0925	0.0694	J	mg/Kg-dry	10	05/13/16 10:36 PM
Phenanthrene	0.101	0.0463	0.0925	0.0694		mg/Kg-dry	10	05/13/16 10:36 PM
Pyrene	0.185	0.0463	0.0925	0.0694		mg/Kg-dry	10	05/13/16 10:36 PM
IS: Acenaphthene-d10	75.2	0	50-200	0		%REC	10	05/13/16 10:36 PM
IS: Chrysene-d12	79.4	0	50-200	0		%REC	10	05/13/16 10:36 PM
IS: Naphthalene-d8	114	0	50-200	0		%REC	10	05/13/16 10:36 PM
IS: Perylene-d12	79.3	0	50-200	0		%REC	10	05/13/16 10:36 PM
IS: Phenanthrene-d10	79.7	0	50-200	0		%REC	10	05/13/16 10:36 PM
Surr: 2-Fluorobiphenyl	80.3	0	46-115	0		%REC	10	05/13/16 10:36 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU038(4-6)-C
Project:	Laredo SGR	**Lab ID:**	1605071-13
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 11:02 AM
Lab Order:	1605071	**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	05/13/16 10:36 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU038(6-8)-C
Project:	Laredo SGR	**Lab ID:**	1605071-14
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 11:03 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	11.5	0.0855	0.256	0.128		mg/Kg-dry	5	05/16/16 04:50 PM
IS: Bismuth	95.2	0	30-120	0		%REC	5	05/16/16 04:50 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.208	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/13/16 11:16 PM
Acenaphthylene	0.0730	0.0486	0.0973	0.0730	U	mg/Kg-dry	10	05/13/16 11:16 PM
Anthracene	0.311	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/13/16 11:16 PM
Benzo[a]anthracene	2.46	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/13/16 11:16 PM
Benzo[a]pyrene	2.93	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/13/16 11:16 PM
Benzo[b]fluoranthene	2.05	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/13/16 11:16 PM
Benzo[e]pyrene	1.71	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/13/16 11:16 PM
Benzo[g,h,i]perylene	1.61	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/13/16 11:16 PM
Benzo[j]fluoranthene	1.48	0.0486	0.0973	0.0730	N	mg/Kg-dry	10	05/13/16 11:16 PM
Benzo[k]fluoranthene	1.34	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/13/16 11:16 PM
Chrysene	3.28	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/13/16 11:16 PM
Dibenz[a,h]anthracene	0.440	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/13/16 11:16 PM
Fluoranthene	3.96	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/13/16 11:16 PM
Fluorene	0.0883	0.0486	0.0973	0.0730	J	mg/Kg-dry	10	05/13/16 11:16 PM
Indeno[1,2,3-cd]pyrene	1.42	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/13/16 11:16 PM
Phenanthrene	1.58	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/13/16 11:16 PM
Pyrene	4.19	0.0486	0.0973	0.0730		mg/Kg-dry	10	05/13/16 11:16 PM
IS: Acenaphthene-d10	75.2	0	50-200	0		%REC	10	05/13/16 11:16 PM
IS: Chrysene-d12	80.7	0	50-200	0		%REC	10	05/13/16 11:16 PM
IS: Naphthalene-d8	114	0	50-200	0		%REC	10	05/13/16 11:16 PM
IS: Perylene-d12	81.9	0	50-200	0		%REC	10	05/13/16 11:16 PM
IS: Phenanthrene-d10	80.4	0	50-200	0		%REC	10	05/13/16 11:16 PM
Surr: 2-Fluorobiphenyl	79.2	0	46-115	0		%REC	10	05/13/16 11:16 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU038(6-8)-C
Project:	Laredo SGR	**Lab ID:**	1605071-14
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 11:03 AM
Lab Order:	1605071	**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	05/13/16 11:16 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU038(8-10)-C
Project:	Laredo SGR	**Lab ID:**	1605071-15
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 11:04 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	4.49	0.0971	0.291	0.146		mg/Kg-dry	5	05/16/16 04:52 PM
IS: Bismuth	90.7	0	30-120	0		%REC	5	05/16/16 04:52 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0704	0.0469	0.0939	0.0704	U	mg/Kg-dry	10	05/13/16 11:56 PM
Acenaphthylene	0.0704	0.0469	0.0939	0.0704	U	mg/Kg-dry	10	05/13/16 11:56 PM
Anthracene	0.0704	0.0469	0.0939	0.0704	U	mg/Kg-dry	10	05/13/16 11:56 PM
Benzo[a]anthracene	0.0704	0.0469	0.0939	0.0704	U	mg/Kg-dry	10	05/13/16 11:56 PM
Benzo[a]pyrene	0.0704	0.0469	0.0939	0.0704	U	mg/Kg-dry	10	05/13/16 11:56 PM
Benzo[b]fluoranthene	0.0704	0.0469	0.0939	0.0704	U	mg/Kg-dry	10	05/13/16 11:56 PM
Benzo[e]pyrene	0.0704	0.0469	0.0939	0.0704	U	mg/Kg-dry	10	05/13/16 11:56 PM
Benzo[g,h,i]perylene	0.0704	0.0469	0.0939	0.0704	U	mg/Kg-dry	10	05/13/16 11:56 PM
Benzo[j]fluoranthene	0.0704	0.0469	0.0939	0.0704	NU	mg/Kg-dry	10	05/13/16 11:56 PM
Benzo[k]fluoranthene	0.0704	0.0469	0.0939	0.0704	U	mg/Kg-dry	10	05/13/16 11:56 PM
Chrysene	0.0704	0.0469	0.0939	0.0704	U	mg/Kg-dry	10	05/13/16 11:56 PM
Dibenz[a,h]anthracene	0.0704	0.0469	0.0939	0.0704	U	mg/Kg-dry	10	05/13/16 11:56 PM
Fluoranthene	0.0704	0.0469	0.0939	0.0704	U	mg/Kg-dry	10	05/13/16 11:56 PM
Fluorene	0.0704	0.0469	0.0939	0.0704	U	mg/Kg-dry	10	05/13/16 11:56 PM
Indeno[1,2,3-cd]pyrene	0.0704	0.0469	0.0939	0.0704	U	mg/Kg-dry	10	05/13/16 11:56 PM
Phenanthrene	0.0704	0.0469	0.0939	0.0704	U	mg/Kg-dry	10	05/13/16 11:56 PM
Pyrene	0.0704	0.0469	0.0939	0.0704	U	mg/Kg-dry	10	05/13/16 11:56 PM
IS: Acenaphthene-d10	76.4	0	50-200	0		%REC	10	05/13/16 11:56 PM
IS: Chrysene-d12	79.5	0	50-200	0		%REC	10	05/13/16 11:56 PM
IS: Naphthalene-d8	118	0	50-200	0		%REC	10	05/13/16 11:56 PM
IS: Perylene-d12	81.3	0	50-200	0		%REC	10	05/13/16 11:56 PM
IS: Phenanthrene-d10	78.9	0	50-200	0		%REC	10	05/13/16 11:56 PM
Surr: 2-Fluorobiphenyl	78.9	0	46-115	0		%REC	10	05/13/16 11:56 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU038(8-10)-C
Project:	Laredo SGR	**Lab ID:**	1605071-15
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 11:04 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	67.2	0	58-133	0		%REC	10	05/13/16 11:56 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU038-A
Project:	Laredo SGR	**Lab ID:**	1605071-16
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 09:10 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	10.3	0.0962	0.288	0.144		mg/Kg-dry	5	05/16/16 04:54 PM
IS: Bismuth	92.1	0	30-120	0		%REC	5	05/16/16 04:54 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/13/16 04:17 AM
Acenaphthylene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/13/16 04:17 AM
Anthracene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/13/16 04:17 AM
Benzo[a]anthracene	0.289	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/13/16 04:17 AM
Benzo[a]pyrene	0.390	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/13/16 04:17 AM
Benzo[b]fluoranthene	0.346	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/13/16 04:17 AM
Benzo[e]pyrene	0.293	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/13/16 04:17 AM
Benzo[g,h,i]perylene	0.312	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/13/16 04:17 AM
Benzo[j]fluoranthene	0.183	0.0498	0.0996	0.0747	N	mg/Kg-dry	10	05/13/16 04:17 AM
Benzo[k]fluoranthene	0.175	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/13/16 04:17 AM
Chrysene	0.353	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/13/16 04:17 AM
Dibenz[a,h]anthracene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/13/16 04:17 AM
Fluoranthene	0.462	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/13/16 04:17 AM
Fluorene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/13/16 04:17 AM
Indeno[1,2,3-cd]pyrene	0.246	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/13/16 04:17 AM
Phenanthrene	0.200	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/13/16 04:17 AM
Pyrene	0.435	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/13/16 04:17 AM
IS: Acenaphthene-d10	116	0	50-200	0		%REC	10	05/13/16 04:17 AM
IS: Chrysene-d12	96.6	0	50-200	0		%REC	10	05/13/16 04:17 AM
IS: Naphthalene-d8	98.1	0	50-200	0		%REC	10	05/13/16 04:17 AM
IS: Perylene-d12	102	0	50-200	0		%REC	10	05/13/16 04:17 AM
IS: Phenanthrene-d10	102	0	50-200	0		%REC	10	05/13/16 04:17 AM
Surr: 2-Fluorobiphenyl	82.4	0	46-115	0		%REC	10	05/13/16 04:17 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU038-A
Project:	Laredo SGR	**Lab ID:**	1605071-16
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 09:10 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	77.4	0	58-133	0		%REC	10	05/13/16 04:17 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU038-B
Project:	Laredo SGR	**Lab ID:**	1605071-17
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 09:40 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	10.3	0.0862	0.259	0.129		mg/Kg-dry	5	05/16/16 04:42 PM
IS: Bismuth	95.8	0	30-120	0		%REC	5	05/16/16 04:42 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/13/16 04:53 AM
Acenaphthylene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/13/16 04:53 AM
Anthracene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/13/16 04:53 AM
Benzo[a]anthracene	0.319	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/13/16 04:53 AM
Benzo[a]pyrene	0.395	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/13/16 04:53 AM
Benzo[b]fluoranthene	0.379	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/13/16 04:53 AM
Benzo[e]pyrene	0.307	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/13/16 04:53 AM
Benzo[g,h,i]perylene	0.320	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/13/16 04:53 AM
Benzo[j]fluoranthene	0.197	0.0495	0.0989	0.0742	N	mg/Kg-dry	10	05/13/16 04:53 AM
Benzo[k]fluoranthene	0.192	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/13/16 04:53 AM
Chrysene	0.408	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/13/16 04:53 AM
Dibenz[a,h]anthracene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/13/16 04:53 AM
Fluoranthene	0.541	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/13/16 04:53 AM
Fluorene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/13/16 04:53 AM
Indeno[1,2,3-cd]pyrene	0.255	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/13/16 04:53 AM
Phenanthrene	0.237	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/13/16 04:53 AM
Pyrene	0.466	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/13/16 04:53 AM
IS: Acenaphthene-d10	114	0	50-200	0		%REC	10	05/13/16 04:53 AM
IS: Chrysene-d12	89.5	0	50-200	0		%REC	10	05/13/16 04:53 AM
IS: Naphthalene-d8	92.9	0	50-200	0		%REC	10	05/13/16 04:53 AM
IS: Perylene-d12	92.5	0	50-200	0		%REC	10	05/13/16 04:53 AM
IS: Phenanthrene-d10	99.9	0	50-200	0		%REC	10	05/13/16 04:53 AM
Surr: 2-Fluorobiphenyl	86.7	0	46-115	0		%REC	10	05/13/16 04:53 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU038-B
Project:	Laredo SGR	**Lab ID:**	1605071-17
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 09:40 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	79.8	0	58-133	0		%REC	10	05/13/16 04:53 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU038-C
Project:	Laredo SGR	**Lab ID:**	1605071-18
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 10:20 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	11.2	0.0971	0.291	0.146		mg/Kg-dry	5	05/16/16 04:56 PM
IS: Bismuth	91.9	0	30-120	0		%REC	5	05/16/16 04:56 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/13/16 05:30 AM
Acenaphthylene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/13/16 05:30 AM
Anthracene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/13/16 05:30 AM
Benzo[a]anthracene	0.250	0.0494	0.0988	0.0741		mg/Kg-dry	10	05/13/16 05:30 AM
Benzo[a]pyrene	0.321	0.0494	0.0988	0.0741		mg/Kg-dry	10	05/13/16 05:30 AM
Benzo[b]fluoranthene	0.305	0.0494	0.0988	0.0741		mg/Kg-dry	10	05/13/16 05:30 AM
Benzo[e]pyrene	0.245	0.0494	0.0988	0.0741		mg/Kg-dry	10	05/13/16 05:30 AM
Benzo[g,h,i]perylene	0.272	0.0494	0.0988	0.0741		mg/Kg-dry	10	05/13/16 05:30 AM
Benzo[j]fluoranthene	0.159	0.0494	0.0988	0.0741	N	mg/Kg-dry	10	05/13/16 05:30 AM
Benzo[k]fluoranthene	0.155	0.0494	0.0988	0.0741		mg/Kg-dry	10	05/13/16 05:30 AM
Chrysene	0.319	0.0494	0.0988	0.0741		mg/Kg-dry	10	05/13/16 05:30 AM
Dibenz[a,h]anthracene	0.0566	0.0494	0.0988	0.0741	J	mg/Kg-dry	10	05/13/16 05:30 AM
Fluoranthene	0.419	0.0494	0.0988	0.0741		mg/Kg-dry	10	05/13/16 05:30 AM
Fluorene	0.0741	0.0494	0.0988	0.0741	U	mg/Kg-dry	10	05/13/16 05:30 AM
Indeno[1,2,3-cd]pyrene	0.211	0.0494	0.0988	0.0741		mg/Kg-dry	10	05/13/16 05:30 AM
Phenanthrene	0.184	0.0494	0.0988	0.0741		mg/Kg-dry	10	05/13/16 05:30 AM
Pyrene	0.361	0.0494	0.0988	0.0741		mg/Kg-dry	10	05/13/16 05:30 AM
IS: Acenaphthene-d10	116	0	50-200	0		%REC	10	05/13/16 05:30 AM
IS: Chrysene-d12	90.8	0	50-200	0		%REC	10	05/13/16 05:30 AM
IS: Naphthalene-d8	95.0	0	50-200	0		%REC	10	05/13/16 05:30 AM
IS: Perylene-d12	94.2	0	50-200	0		%REC	10	05/13/16 05:30 AM
IS: Phenanthrene-d10	101	0	50-200	0		%REC	10	05/13/16 05:30 AM
Surr: 2-Fluorobiphenyl	87.4	0	46-115	0		%REC	10	05/13/16 05:30 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU038-C
Project:	Laredo SGR	**Lab ID:**	1605071-18
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 10:20 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	78.3	0	58-133	0		%REC	10	05/13/16 05:30 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU044-STRAT1
Project:	Laredo SGR	**Lab ID:**	1605071-19
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 10:00 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	15.7	0.113	0.338	0.169		mg/Kg-dry	5	05/16/16 04:58 PM
IS: Bismuth	91.3	0	30-120	0		%REC	5	05/16/16 04:58 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0925	0.0617	0.123	0.0925	U	mg/Kg-dry	10	05/14/16 12:35 AM
Acenaphthylene	0.0925	0.0617	0.123	0.0925	U	mg/Kg-dry	10	05/14/16 12:35 AM
Anthracene	0.148	0.0617	0.123	0.0925		mg/Kg-dry	10	05/14/16 12:35 AM
Benzo[a]anthracene	0.813	0.0617	0.123	0.0925		mg/Kg-dry	10	05/14/16 12:35 AM
Benzo[a]pyrene	0.907	0.0617	0.123	0.0925		mg/Kg-dry	10	05/14/16 12:35 AM
Benzo[b]fluoranthene	0.856	0.0617	0.123	0.0925		mg/Kg-dry	10	05/14/16 12:35 AM
Benzo[e]pyrene	0.677	0.0617	0.123	0.0925		mg/Kg-dry	10	05/14/16 12:35 AM
Benzo[g,h,i]perylene	0.603	0.0617	0.123	0.0925		mg/Kg-dry	10	05/14/16 12:35 AM
Benzo[j]fluoranthene	0.475	0.0617	0.123	0.0925	N	mg/Kg-dry	10	05/14/16 12:35 AM
Benzo[k]fluoranthene	0.464	0.0617	0.123	0.0925		mg/Kg-dry	10	05/14/16 12:35 AM
Chrysene	0.983	0.0617	0.123	0.0925		mg/Kg-dry	10	05/14/16 12:35 AM
Dibenz[a,h]anthracene	0.153	0.0617	0.123	0.0925		mg/Kg-dry	10	05/14/16 12:35 AM
Fluoranthene	1.53	0.0617	0.123	0.0925		mg/Kg-dry	10	05/14/16 12:35 AM
Fluorene	0.0925	0.0617	0.123	0.0925	U	mg/Kg-dry	10	05/14/16 12:35 AM
Indeno[1,2,3-cd]pyrene	0.525	0.0617	0.123	0.0925		mg/Kg-dry	10	05/14/16 12:35 AM
Phenanthrene	0.727	0.0617	0.123	0.0925		mg/Kg-dry	10	05/14/16 12:35 AM
Pyrene	1.27	0.0617	0.123	0.0925		mg/Kg-dry	10	05/14/16 12:35 AM
IS: Acenaphthene-d10	76.4	0	50-200	0		%REC	10	05/14/16 12:35 AM
IS: Chrysene-d12	80.0	0	50-200	0		%REC	10	05/14/16 12:35 AM
IS: Naphthalene-d8	115	0	50-200	0		%REC	10	05/14/16 12:35 AM
IS: Perylene-d12	81.3	0	50-200	0		%REC	10	05/14/16 12:35 AM
IS: Phenanthrene-d10	79.8	0	50-200	0		%REC	10	05/14/16 12:35 AM
Surr: 2-Fluorobiphenyl	75.7	0	46-115	0		%REC	10	05/14/16 12:35 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU044-STRAT1
Project:	Laredo SGR	**Lab ID:**	1605071-19
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 10:00 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	66.9	0	58-133	0		%REC	10	05/14/16 12:35 AM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	21.5	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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU044-STRAT2
Project:	Laredo SGR	**Lab ID:**	1605071-20
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 10:05 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result		DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID				**SW6020A**					Analyst: **RO**
Lead	20.4		0.117	0.351	0.175		mg/Kg-dry	5	05/16/16 05:00 PM
IS: Bismuth	91.5		0	30-120	0		%REC	5	05/16/16 05:00 PM
PAHS: GC/MS				**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.116		0.0616	0.123	0.0924	J	mg/Kg-dry	10	05/13/16 05:20 PM
Acenaphthylene	0.0924		0.0616	0.123	0.0924	U	mg/Kg-dry	10	05/13/16 05:20 PM
Anthracene	0.761	JL	0.0616	0.123	0.0924		mg/Kg-dry	10	05/13/16 05:20 PM
Benzo[a]anthracene	3.39		0.0616	0.123	0.0924		mg/Kg-dry	10	05/13/16 05:20 PM
Benzo[a]pyrene	3.07		0.0616	0.123	0.0924		mg/Kg-dry	10	05/13/16 05:20 PM
Benzo[b]fluoranthene	2.98		0.0616	0.123	0.0924		mg/Kg-dry	10	05/13/16 05:20 PM
Benzo[e]pyrene	2.23		0.0616	0.123	0.0924		mg/Kg-dry	10	05/13/16 05:20 PM
Benzo[g,h,i]perylene	1.91		0.0616	0.123	0.0924		mg/Kg-dry	10	05/13/16 05:20 PM
Benzo[j]fluoranthene	1.65		0.0616	0.123	0.0924	N	mg/Kg-dry	10	05/13/16 05:20 PM
Benzo[k]fluoranthene	1.57		0.0616	0.123	0.0924		mg/Kg-dry	10	05/13/16 05:20 PM
Chrysene	3.70		0.0616	0.123	0.0924		mg/Kg-dry	10	05/13/16 05:20 PM
Dibenz[a,h]anthracene	0.474		0.0616	0.123	0.0924		mg/Kg-dry	10	05/13/16 05:20 PM
Fluoranthene	7.66		0.0616	0.123	0.0924		mg/Kg-dry	10	05/13/16 05:20 PM
Fluorene	0.0924		0.0616	0.123	0.0924	U	mg/Kg-dry	10	05/13/16 05:20 PM
Indeno[1,2,3-cd]pyrene	1.73	JL	0.0616	0.123	0.0924		mg/Kg-dry	10	05/13/16 05:20 PM
Phenanthrene	3.92	JL	0.0616	0.123	0.0924		mg/Kg-dry	10	05/13/16 05:20 PM
Pyrene	6.02		0.0616	0.123	0.0924		mg/Kg-dry	10	05/13/16 05:20 PM
IS: Acenaphthene-d10	74.7		0	50-200	0		%REC	10	05/13/16 05:20 PM
IS: Chrysene-d12	79.0		0	50-200	0		%REC	10	05/13/16 05:20 PM
IS: Naphthalene-d8	113		0	50-200	0		%REC	10	05/13/16 05:20 PM
IS: Perylene-d12	81.2		0	50-200	0		%REC	10	05/13/16 05:20 PM
IS: Phenanthrene-d10	79.8		0	50-200	0		%REC	10	05/13/16 05:20 PM
Surr: 2-Fluorobiphenyl	78.1		0	46-115	0		%REC	10	05/13/16 05:20 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU044-STRAT2
Project:	Laredo SGR	**Lab ID:**	1605071-20
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 10:05 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	66.5	0	58-133	0		%REC	10	05/13/16 05:20 PM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	19.3	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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU044-STRAT3
Project:	Laredo SGR	**Lab ID:**	1605071-21
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 10:10 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	33.5	0.108	0.324	0.162		mg/Kg-dry	5	05/16/16 05:02 PM
IS: Bismuth	93.9	0	30-120	0		%REC	5	05/16/16 05:02 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.136	0.0577	0.115	0.0865		mg/Kg-dry	10	05/14/16 01:15 AM
Acenaphthylene	0.0865	0.0577	0.115	0.0865	U	mg/Kg-dry	10	05/14/16 01:15 AM
Anthracene	0.161	0.0577	0.115	0.0865		mg/Kg-dry	10	05/14/16 01:15 AM
Benzo[a]anthracene	3.10	0.0577	0.115	0.0865		mg/Kg-dry	10	05/14/16 01:15 AM
Benzo[a]pyrene	4.17	0.0577	0.115	0.0865		mg/Kg-dry	10	05/14/16 01:15 AM
Benzo[b]fluoranthene	3.85	0.0577	0.115	0.0865		mg/Kg-dry	10	05/14/16 01:15 AM
Benzo[e]pyrene	3.14	0.0577	0.115	0.0865		mg/Kg-dry	10	05/14/16 01:15 AM
Benzo[g,h,i]perylene	2.97	0.0577	0.115	0.0865		mg/Kg-dry	10	05/14/16 01:15 AM
Benzo[j]fluoranthene	2.05	0.0577	0.115	0.0865	N	mg/Kg-dry	10	05/14/16 01:15 AM
Benzo[k]fluoranthene	1.97	0.0577	0.115	0.0865		mg/Kg-dry	10	05/14/16 01:15 AM
Chrysene	3.81	0.0577	0.115	0.0865		mg/Kg-dry	10	05/14/16 01:15 AM
Dibenz[a,h]anthracene	0.649	0.0577	0.115	0.0865		mg/Kg-dry	10	05/14/16 01:15 AM
Fluoranthene	4.13	0.0577	0.115	0.0865		mg/Kg-dry	10	05/14/16 01:15 AM
Fluorene	0.0865	0.0577	0.115	0.0865	U	mg/Kg-dry	10	05/14/16 01:15 AM
Indeno[1,2,3-cd]pyrene	2.45	0.0577	0.115	0.0865		mg/Kg-dry	10	05/14/16 01:15 AM
Phenanthrene	0.819	0.0577	0.115	0.0865		mg/Kg-dry	10	05/14/16 01:15 AM
Pyrene	3.88	0.0577	0.115	0.0865		mg/Kg-dry	10	05/14/16 01:15 AM
IS: Acenaphthene-d10	77.0	0	50-200	0		%REC	10	05/14/16 01:15 AM
IS: Chrysene-d12	82.6	0	50-200	0		%REC	10	05/14/16 01:15 AM
IS: Naphthalene-d8	114	0	50-200	0		%REC	10	05/14/16 01:15 AM
IS: Perylene-d12	84.6	0	50-200	0		%REC	10	05/14/16 01:15 AM
IS: Phenanthrene-d10	80.6	0	50-200	0		%REC	10	05/14/16 01:15 AM
Surr: 2-Fluorobiphenyl	73.4	0	46-115	0		%REC	10	05/14/16 01:15 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU044-STRAT3
Project:	Laredo SGR	**Lab ID:**	1605071-21
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 10:10 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	65.5	0	58-133	0		%REC	10	05/14/16 01:15 AM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	19.4	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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU044-STRAT4
Project:	Laredo SGR	**Lab ID:**	1605071-22
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 10:15 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	16.6	0.116	0.347	0.174		mg/Kg-dry	5	05/16/16 05:18 PM
IS: Bismuth	89.9	0	30-120	0		%REC	5	05/16/16 05:18 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0945	0.0630	0.126	0.0945	U	mg/Kg-dry	10	05/14/16 01:54 AM
Acenaphthylene	0.0945	0.0630	0.126	0.0945	U	mg/Kg-dry	10	05/14/16 01:54 AM
Anthracene	0.0945	0.0630	0.126	0.0945	U	mg/Kg-dry	10	05/14/16 01:54 AM
Benzo[a]anthracene	0.132	0.0630	0.126	0.0945		mg/Kg-dry	10	05/14/16 01:54 AM
Benzo[a]pyrene	0.167	0.0630	0.126	0.0945		mg/Kg-dry	10	05/14/16 01:54 AM
Benzo[b]fluoranthene	0.164	0.0630	0.126	0.0945		mg/Kg-dry	10	05/14/16 01:54 AM
Benzo[e]pyrene	0.133	0.0630	0.126	0.0945		mg/Kg-dry	10	05/14/16 01:54 AM
Benzo[g,h,i]perylene	0.132	0.0630	0.126	0.0945		mg/Kg-dry	10	05/14/16 01:54 AM
Benzo[j]fluoranthene	0.0835	0.0630	0.126	0.0945	JN	mg/Kg-dry	10	05/14/16 01:54 AM
Benzo[k]fluoranthene	0.0832	0.0630	0.126	0.0945	J	mg/Kg-dry	10	05/14/16 01:54 AM
Chrysene	0.162	0.0630	0.126	0.0945		mg/Kg-dry	10	05/14/16 01:54 AM
Dibenz[a,h]anthracene	0.0945	0.0630	0.126	0.0945	U	mg/Kg-dry	10	05/14/16 01:54 AM
Fluoranthene	0.236	0.0630	0.126	0.0945		mg/Kg-dry	10	05/14/16 01:54 AM
Fluorene	0.0945	0.0630	0.126	0.0945	U	mg/Kg-dry	10	05/14/16 01:54 AM
Indeno[1,2,3-cd]pyrene	0.111	0.0630	0.126	0.0945	J	mg/Kg-dry	10	05/14/16 01:54 AM
Phenanthrene	0.0869	0.0630	0.126	0.0945	J	mg/Kg-dry	10	05/14/16 01:54 AM
Pyrene	0.201	0.0630	0.126	0.0945		mg/Kg-dry	10	05/14/16 01:54 AM
IS: Acenaphthene-d10	74.8	0	50-200	0		%REC	10	05/14/16 01:54 AM
IS: Chrysene-d12	78.8	0	50-200	0		%REC	10	05/14/16 01:54 AM
IS: Naphthalene-d8	112	0	50-200	0		%REC	10	05/14/16 01:54 AM
IS: Perylene-d12	81.5	0	50-200	0		%REC	10	05/14/16 01:54 AM
IS: Phenanthrene-d10	77.4	0	50-200	0		%REC	10	05/14/16 01:54 AM
Surr: 2-Fluorobiphenyl	70.0	0	46-115	0		%REC	10	05/14/16 01:54 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU044-STRAT4
Project:	Laredo SGR	**Lab ID:**	1605071-22
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 10:15 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	61.5	0	58-133	0		%REC	10	05/14/16 01:54 AM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	24.2	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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU044-STRAT5
Project:	Laredo SGR	**Lab ID:**	1605071-23
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 10:20 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	26.9	0.114	0.342	0.171		mg/Kg-dry	5	05/16/16 05:20 PM
IS: Bismuth	93.0	0	30-120	0		%REC	5	05/16/16 05:20 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0863	0.0575	0.115	0.0863	U	mg/Kg-dry	10	05/14/16 02:33 AM
Acenaphthylene	0.0863	0.0575	0.115	0.0863	U	mg/Kg-dry	10	05/14/16 02:33 AM
Anthracene	0.0863	0.0575	0.115	0.0863	U	mg/Kg-dry	10	05/14/16 02:33 AM
Benzo[a]anthracene	0.180	0.0575	0.115	0.0863		mg/Kg-dry	10	05/14/16 02:33 AM
Benzo[a]pyrene	0.240	0.0575	0.115	0.0863		mg/Kg-dry	10	05/14/16 02:33 AM
Benzo[b]fluoranthene	0.246	0.0575	0.115	0.0863		mg/Kg-dry	10	05/14/16 02:33 AM
Benzo[e]pyrene	0.201	0.0575	0.115	0.0863		mg/Kg-dry	10	05/14/16 02:33 AM
Benzo[g,h,i]perylene	0.198	0.0575	0.115	0.0863		mg/Kg-dry	10	05/14/16 02:33 AM
Benzo[j]fluoranthene	0.126	0.0575	0.115	0.0863	N	mg/Kg-dry	10	05/14/16 02:33 AM
Benzo[k]fluoranthene	0.122	0.0575	0.115	0.0863		mg/Kg-dry	10	05/14/16 02:33 AM
Chrysene	0.235	0.0575	0.115	0.0863		mg/Kg-dry	10	05/14/16 02:33 AM
Dibenz[a,h]anthracene	0.0863	0.0575	0.115	0.0863	U	mg/Kg-dry	10	05/14/16 02:33 AM
Fluoranthene	0.317	0.0575	0.115	0.0863		mg/Kg-dry	10	05/14/16 02:33 AM
Fluorene	0.0863	0.0575	0.115	0.0863	U	mg/Kg-dry	10	05/14/16 02:33 AM
Indeno[1,2,3-cd]pyrene	0.164	0.0575	0.115	0.0863		mg/Kg-dry	10	05/14/16 02:33 AM
Phenanthrene	0.113	0.0575	0.115	0.0863	J	mg/Kg-dry	10	05/14/16 02:33 AM
Pyrene	0.275	0.0575	0.115	0.0863		mg/Kg-dry	10	05/14/16 02:33 AM
IS: Acenaphthene-d10	77.2	0	50-200	0		%REC	10	05/14/16 02:33 AM
IS: Chrysene-d12	80.7	0	50-200	0		%REC	10	05/14/16 02:33 AM
IS: Naphthalene-d8	113	0	50-200	0		%REC	10	05/14/16 02:33 AM
IS: Perylene-d12	83.5	0	50-200	0		%REC	10	05/14/16 02:33 AM
IS: Phenanthrene-d10	79.5	0	50-200	0		%REC	10	05/14/16 02:33 AM
Surr: 2-Fluorobiphenyl	71.7	0	46-115	0		%REC	10	05/14/16 02:33 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU044-STRAT5
Project:	Laredo SGR	**Lab ID:**	1605071-23
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 10:20 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	62.2	0	58-133	0		%REC	10	05/14/16 02:33 AM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	19.6	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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU038-STRAT1
Project:	Laredo SGR	**Lab ID:**	1605071-24
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 10:35 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	13.6	0.100	0.301	0.150		mg/Kg-dry	5	05/16/16 05:22 PM
IS: Bismuth	94.2	0	30-120	0		%REC	5	05/16/16 05:22 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0863	0.0575	0.115	0.0863	U	mg/Kg-dry	10	05/13/16 04:06 PM
Acenaphthylene	0.0863	0.0575	0.115	0.0863	U	mg/Kg-dry	10	05/13/16 04:06 PM
Anthracene	0.0863	0.0575	0.115	0.0863	U	mg/Kg-dry	10	05/13/16 04:06 PM
Benzo[a]anthracene	0.0991	0.0575	0.115	0.0863	J	mg/Kg-dry	10	05/13/16 04:06 PM
Benzo[a]pyrene	0.149	0.0575	0.115	0.0863		mg/Kg-dry	10	05/13/16 04:06 PM
Benzo[b]fluoranthene	0.153	0.0575	0.115	0.0863		mg/Kg-dry	10	05/13/16 04:06 PM
Benzo[e]pyrene	0.120	0.0575	0.115	0.0863		mg/Kg-dry	10	05/13/16 04:06 PM
Benzo[g,h,i]perylene	0.133	0.0575	0.115	0.0863		mg/Kg-dry	10	05/13/16 04:06 PM
Benzo[j]fluoranthene	0.0789	0.0575	0.115	0.0863	JN	mg/Kg-dry	10	05/13/16 04:06 PM
Benzo[k]fluoranthene	0.0811	0.0575	0.115	0.0863	J	mg/Kg-dry	10	05/13/16 04:06 PM
Chrysene	0.132	0.0575	0.115	0.0863		mg/Kg-dry	10	05/13/16 04:06 PM
Dibenz[a,h]anthracene	0.0863	0.0575	0.115	0.0863	U	mg/Kg-dry	10	05/13/16 04:06 PM
Fluoranthene	0.168	0.0575	0.115	0.0863		mg/Kg-dry	10	05/13/16 04:06 PM
Fluorene	0.0863	0.0575	0.115	0.0863	U	mg/Kg-dry	10	05/13/16 04:06 PM
Indeno[1,2,3-cd]pyrene	0.115	0.0575	0.115	0.0863		mg/Kg-dry	10	05/13/16 04:06 PM
Phenanthrene	0.0863	0.0575	0.115	0.0863	U	mg/Kg-dry	10	05/13/16 04:06 PM
Pyrene	0.153	0.0575	0.115	0.0863		mg/Kg-dry	10	05/13/16 04:06 PM
IS: Acenaphthene-d10	97.1	0	50-200	0		%REC	10	05/13/16 04:06 PM
IS: Chrysene-d12	98.2	0	50-200	0		%REC	10	05/13/16 04:06 PM
IS: Naphthalene-d8	96.4	0	50-200	0		%REC	10	05/13/16 04:06 PM
IS: Perylene-d12	96.4	0	50-200	0		%REC	10	05/13/16 04:06 PM
IS: Phenanthrene-d10	85.5	0	50-200	0		%REC	10	05/13/16 04:06 PM
Surr: 2-Fluorobiphenyl	78.0	0	46-115	0		%REC	10	05/13/16 04:06 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU038-STRAT1
Project:	Laredo SGR	**Lab ID:**	1605071-24
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 10:35 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	80.7	0	58-133	0		%REC	10	05/13/16 04:06 PM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	14.1	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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU038-STRAT2
Project:	Laredo SGR	**Lab ID:**	1605071-25
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 10:40 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	13.9	0.112	0.335	0.167		mg/Kg-dry	5	05/16/16 05:24 PM
IS: Bismuth	95.6	0	30-120	0		%REC	5	05/16/16 05:24 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0830	0.0553	0.111	0.0830	U	mg/Kg-dry	10	05/13/16 04:43 PM
Acenaphthylene	0.0830	0.0553	0.111	0.0830	U	mg/Kg-dry	10	05/13/16 04:43 PM
Anthracene	0.0830	0.0553	0.111	0.0830	U	mg/Kg-dry	10	05/13/16 04:43 PM
Benzo[a]anthracene	0.243 J	0.0553	0.111	0.0830		mg/Kg-dry	10	05/13/16 04:43 PM
Benzo[a]pyrene	0.333	0.0553	0.111	0.0830		mg/Kg-dry	10	05/13/16 04:43 PM
Benzo[b]fluoranthene	0.320	0.0553	0.111	0.0830		mg/Kg-dry	10	05/13/16 04:43 PM
Benzo[e]pyrene	0.255	0.0553	0.111	0.0830		mg/Kg-dry	10	05/13/16 04:43 PM
Benzo[g,h,i]perylene	0.277	0.0553	0.111	0.0830		mg/Kg-dry	10	05/13/16 04:43 PM
Benzo[j]fluoranthene	0.173	0.0553	0.111	0.0830	N	mg/Kg-dry	10	05/13/16 04:43 PM
Benzo[k]fluoranthene	0.174	0.0553	0.111	0.0830		mg/Kg-dry	10	05/13/16 04:43 PM
Chrysene	0.312 J	0.0553	0.111	0.0830		mg/Kg-dry	10	05/13/16 04:43 PM
Dibenz[a,h]anthracene	0.0705	0.0553	0.111	0.0830	J	mg/Kg-dry	10	05/13/16 04:43 PM
Fluoranthene	0.427 J	0.0553	0.111	0.0830		mg/Kg-dry	10	05/13/16 04:43 PM
Fluorene	0.0830	0.0553	0.111	0.0830	U	mg/Kg-dry	10	05/13/16 04:43 PM
Indeno[1,2,3-cd]pyrene	0.228 J	0.0553	0.111	0.0830		mg/Kg-dry	10	05/13/16 04:43 PM
Phenanthrene	0.137	0.0553	0.111	0.0830		mg/Kg-dry	10	05/13/16 04:43 PM
Pyrene	0.387 J	0.0553	0.111	0.0830		mg/Kg-dry	10	05/13/16 04:43 PM
IS: Acenaphthene-d10	95.7	0	50-200	0		%REC	10	05/13/16 04:43 PM
IS: Chrysene-d12	94.1	0	50-200	0		%REC	10	05/13/16 04:43 PM
IS: Naphthalene-d8	94.4	0	50-200	0		%REC	10	05/13/16 04:43 PM
IS: Perylene-d12	94.4	0	50-200	0		%REC	10	05/13/16 04:43 PM
IS: Phenanthrene-d10	86.6	0	50-200	0		%REC	10	05/13/16 04:43 PM
Surr: 2-Fluorobiphenyl	74.3	0	46-115	0		%REC	10	05/13/16 04:43 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU038-STRAT2
Project:	Laredo SGR	**Lab ID:**	1605071-25
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 10:40 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	77.3	0	58-133	0		%REC	10	05/13/16 04:43 PM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	13.0	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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU038-STRAT3
Project:	Laredo SGR	**Lab ID:**	1605071-26
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 10:45 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	12.7	0.110	0.330	0.165		mg/Kg-dry	5	05/16/16 05:26 PM
IS: Bismuth	93.2	0	30-120	0		%REC	5	05/16/16 05:26 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0870	0.0580	0.116	0.0870	U	mg/Kg-dry	10	05/13/16 05:20 PM
Acenaphthylene	0.0870	0.0580	0.116	0.0870	U	mg/Kg-dry	10	05/13/16 05:20 PM
Anthracene	0.0870	0.0580	0.116	0.0870	U	mg/Kg-dry	10	05/13/16 05:20 PM
Benzo[a]anthracene	0.0870	0.0580	0.116	0.0870	U	mg/Kg-dry	10	05/13/16 05:20 PM
Benzo[a]pyrene	0.0870	0.0580	0.116	0.0870	U	mg/Kg-dry	10	05/13/16 05:20 PM
Benzo[b]fluoranthene	0.0870	0.0580	0.116	0.0870	U	mg/Kg-dry	10	05/13/16 05:20 PM
Benzo[e]pyrene	0.0870	0.0580	0.116	0.0870	U	mg/Kg-dry	10	05/13/16 05:20 PM
Benzo[g,h,i]perylene	0.0870	0.0580	0.116	0.0870	U	mg/Kg-dry	10	05/13/16 05:20 PM
Benzo[j]fluoranthene	0.0870	0.0580	0.116	0.0870	NU	mg/Kg-dry	10	05/13/16 05:20 PM
Benzo[k]fluoranthene	0.0870	0.0580	0.116	0.0870	U	mg/Kg-dry	10	05/13/16 05:20 PM
Chrysene	0.0870	0.0580	0.116	0.0870	U	mg/Kg-dry	10	05/13/16 05:20 PM
Dibenz[a,h]anthracene	0.0870	0.0580	0.116	0.0870	U	mg/Kg-dry	10	05/13/16 05:20 PM
Fluoranthene	0.0602	0.0580	0.116	0.0870	J	mg/Kg-dry	10	05/13/16 05:20 PM
Fluorene	0.0870	0.0580	0.116	0.0870	U	mg/Kg-dry	10	05/13/16 05:20 PM
Indeno[1,2,3-cd]pyrene	0.0870	0.0580	0.116	0.0870	U	mg/Kg-dry	10	05/13/16 05:20 PM
Phenanthrene	0.0870	0.0580	0.116	0.0870	U	mg/Kg-dry	10	05/13/16 05:20 PM
Pyrene	0.0870	0.0580	0.116	0.0870	U	mg/Kg-dry	10	05/13/16 05:20 PM
IS: Acenaphthene-d10	98.9	0	50-200	0		%REC	10	05/13/16 05:20 PM
IS: Chrysene-d12	97.6	0	50-200	0		%REC	10	05/13/16 05:20 PM
IS: Naphthalene-d8	98.0	0	50-200	0		%REC	10	05/13/16 05:20 PM
IS: Perylene-d12	98.8	0	50-200	0		%REC	10	05/13/16 05:20 PM
IS: Phenanthrene-d10	90.0	0	50-200	0		%REC	10	05/13/16 05:20 PM
Surr: 2-Fluorobiphenyl	71.3	0	46-115	0		%REC	10	05/13/16 05:20 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU038-STRAT3
Project:	Laredo SGR	**Lab ID:**	1605071-26
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 10:45 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	76.1	0	58-133	0		%REC	10	05/13/16 05:20 PM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	14.9	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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU038-STRAT4
Project:	Laredo SGR	**Lab ID:**	1605071-27
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 10:50 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	9.95	0.0946	0.284	0.142		mg/Kg-dry	5	05/16/16 05:28 PM
IS: Bismuth	92.6	0	30-120	0		%REC	5	05/16/16 05:28 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0842	0.0561	0.112	0.0842	U	mg/Kg-dry	10	05/13/16 05:57 PM
Acenaphthylene	0.0842	0.0561	0.112	0.0842	U	mg/Kg-dry	10	05/13/16 05:57 PM
Anthracene	0.0842	0.0561	0.112	0.0842	U	mg/Kg-dry	10	05/13/16 05:57 PM
Benzo[a]anthracene	0.0842	0.0561	0.112	0.0842	U	mg/Kg-dry	10	05/13/16 05:57 PM
Benzo[a]pyrene	0.0632	0.0561	0.112	0.0842	J	mg/Kg-dry	10	05/13/16 05:57 PM
Benzo[b]fluoranthene	0.0653	0.0561	0.112	0.0842	J	mg/Kg-dry	10	05/13/16 05:57 PM
Benzo[e]pyrene	0.0842	0.0561	0.112	0.0842	U	mg/Kg-dry	10	05/13/16 05:57 PM
Benzo[g,h,i]perylene	0.0569	0.0561	0.112	0.0842	J	mg/Kg-dry	10	05/13/16 05:57 PM
Benzo[j]fluoranthene	0.0842	0.0561	0.112	0.0842	NU	mg/Kg-dry	10	05/13/16 05:57 PM
Benzo[k]fluoranthene	0.0842	0.0561	0.112	0.0842	U	mg/Kg-dry	10	05/13/16 05:57 PM
Chrysene	0.0641	0.0561	0.112	0.0842	J	mg/Kg-dry	10	05/13/16 05:57 PM
Dibenz[a,h]anthracene	0.0842	0.0561	0.112	0.0842	U	mg/Kg-dry	10	05/13/16 05:57 PM
Fluoranthene	0.0864	0.0561	0.112	0.0842	J	mg/Kg-dry	10	05/13/16 05:57 PM
Fluorene	0.0842	0.0561	0.112	0.0842	U	mg/Kg-dry	10	05/13/16 05:57 PM
Indeno[1,2,3-cd]pyrene	0.0842	0.0561	0.112	0.0842	U	mg/Kg-dry	10	05/13/16 05:57 PM
Phenanthrene	0.0842	0.0561	0.112	0.0842	U	mg/Kg-dry	10	05/13/16 05:57 PM
Pyrene	0.0768	0.0561	0.112	0.0842	J	mg/Kg-dry	10	05/13/16 05:57 PM
IS: Acenaphthene-d10	90.9	0	50-200	0		%REC	10	05/13/16 05:57 PM
IS: Chrysene-d12	86.9	0	50-200	0		%REC	10	05/13/16 05:57 PM
IS: Naphthalene-d8	90.9	0	50-200	0		%REC	10	05/13/16 05:57 PM
IS: Perylene-d12	86.9	0	50-200	0		%REC	10	05/13/16 05:57 PM
IS: Phenanthrene-d10	81.4	0	50-200	0		%REC	10	05/13/16 05:57 PM
Surr: 2-Fluorobiphenyl	71.1	0	46-115	0		%REC	10	05/13/16 05:57 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU038-STRAT4
Project:	Laredo SGR	**Lab ID:**	1605071-27
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 10:50 AM
Lab Order:	1605071	**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	05/13/16 05:57 PM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	11.2	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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	EB04(20160505)
Project:	Laredo SGR	**Lab ID:**	1605071-28
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 11:15 AM
Lab Order:	1605071	**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 01:40 PM
IS: Bismuth		100	0	30-120	0		%REC	1	05/20/16 01:40 PM
PAHS: GC/MS				**SW8270D-LL**					Analyst: **KL**
Acenaphthene	UJL	0.0000613	0.0000383	0.0000766	0.0000613	U	mg/L	1	05/09/16 11:07 PM
Acenaphthylene		0.0000613	0.0000383	0.0000766	0.0000613	U	mg/L	1	05/09/16 11:07 PM
Anthracene		0.0000613	0.0000383	0.0000766	0.0000613	U	mg/L	1	05/09/16 11:07 PM
Benzo[a]anthracene		0.0000613	0.0000383	0.0000766	0.0000613	U	mg/L	1	05/09/16 11:07 PM
Benzo[a]pyrene		0.0000613	0.0000383	0.0000766	0.0000613	U	mg/L	1	05/09/16 11:07 PM
Benzo[b]fluoranthene		0.0000613	0.0000383	0.0000766	0.0000613	U	mg/L	1	05/09/16 11:07 PM
Benzo[e]pyrene		0.0000613	0.0000383	0.0000766	0.0000613	U	mg/L	1	05/09/16 11:07 PM
Benzo[g,h,i]perylene		0.0000613	0.0000383	0.0000766	0.0000613	U	mg/L	1	05/09/16 11:07 PM
Benzo[j]fluoranthene		0.0000613	0.0000383	0.0000766	0.0000613	NU	mg/L	1	05/09/16 11:07 PM
Benzo[k]fluoranthene		0.0000613	0.0000383	0.0000766	0.0000613	U	mg/L	1	05/09/16 11:07 PM
Chrysene		0.0000613	0.0000383	0.0000766	0.0000613	U	mg/L	1	05/09/16 11:07 PM
Dibenz[a,h]anthracene		0.0000613	0.0000383	0.0000766	0.0000613	U	mg/L	1	05/09/16 11:07 PM
Fluoranthene		0.0000613	0.0000383	0.0000766	0.0000613	U	mg/L	1	05/09/16 11:07 PM
Fluorene		0.0000613	0.0000383	0.0000766	0.0000613	U	mg/L	1	05/09/16 11:07 PM
Indeno[1,2,3-cd]pyrene		0.0000613	0.0000383	0.0000766	0.0000613	U	mg/L	1	05/09/16 11:07 PM
Phenanthrene		0.0000613	0.0000383	0.0000766	0.0000613	U	mg/L	1	05/09/16 11:07 PM
Pyrene		0.0000613	0.0000383	0.0000766	0.0000613	U	mg/L	1	05/09/16 11:07 PM
IS: Acenaphthene-d10		74.3	0	50-200	0		%REC	1	05/09/16 11:07 PM
IS: Chrysene-d12		82.2	0	50-200	0		%REC	1	05/09/16 11:07 PM
IS: Naphthalene-d8		128	0	50-200	0		%REC	1	05/09/16 11:07 PM
IS: Perylene-d12		90.0	0	50-200	0		%REC	1	05/09/16 11:07 PM
IS: Phenanthrene-d10		88.7	0	50-200	0		%REC	1	05/09/16 11:07 PM
Surr: 2-Fluorobiphenyl		64.1	0	53-106	0		%REC	1	05/09/16 11:07 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	EB04(20160505)
Project:	Laredo SGR	**Lab ID:**	1605071-28
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 11:15 AM
Lab Order:	1605071	**Matrix:**	EQUIP BLANK

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	57.4	0	58-132	0	S	%REC	1	05/09/16 11:07 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	EB05(20160505)
Project:	Laredo SGR	**Lab ID:**	1605071-29
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 02:45 PM
Lab Order:	1605071	**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 01:42 PM
IS: Bismuth	98.2	0	30-120	0		%REC	1	05/20/16 01:42 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0000615	0.0000384	0.0000768	0.0000615	U	mg/L	1	05/09/16 11:47 PM
Acenaphthylene	0.0000615	0.0000384	0.0000768	0.0000615	U	mg/L	1	05/09/16 11:47 PM
Anthracene	0.0000615	0.0000384	0.0000768	0.0000615	U	mg/L	1	05/09/16 11:47 PM
Benzo[a]anthracene	0.0000615	0.0000384	0.0000768	0.0000615	U	mg/L	1	05/09/16 11:47 PM
Benzo[a]pyrene	0.0000615	0.0000384	0.0000768	0.0000615	U	mg/L	1	05/09/16 11:47 PM
Benzo[b]fluoranthene	0.0000615	0.0000384	0.0000768	0.0000615	U	mg/L	1	05/09/16 11:47 PM
Benzo[e]pyrene	0.0000615	0.0000384	0.0000768	0.0000615	U	mg/L	1	05/09/16 11:47 PM
Benzo[g,h,i]perylene	0.0000615	0.0000384	0.0000768	0.0000615	U	mg/L	1	05/09/16 11:47 PM
Benzo[j]fluoranthene	0.0000615	0.0000384	0.0000768	0.0000615	NU	mg/L	1	05/09/16 11:47 PM
Benzo[k]fluoranthene	0.0000615	0.0000384	0.0000768	0.0000615	U	mg/L	1	05/09/16 11:47 PM
Chrysene	0.0000615	0.0000384	0.0000768	0.0000615	U	mg/L	1	05/09/16 11:47 PM
Dibenz[a,h]anthracene	0.0000615	0.0000384	0.0000768	0.0000615	U	mg/L	1	05/09/16 11:47 PM
Fluoranthene	0.0000615	0.0000384	0.0000768	0.0000615	U	mg/L	1	05/09/16 11:47 PM
Fluorene	0.0000615	0.0000384	0.0000768	0.0000615	U	mg/L	1	05/09/16 11:47 PM
Indeno[1,2,3-cd]pyrene	0.0000615	0.0000384	0.0000768	0.0000615	U	mg/L	1	05/09/16 11:47 PM
Phenanthrene	0.0000615	0.0000384	0.0000768	0.0000615	U	mg/L	1	05/09/16 11:47 PM
Pyrene	0.0000615	0.0000384	0.0000768	0.0000615	U	mg/L	1	05/09/16 11:47 PM
IS: Acenaphthene-d10	66.8	0	50-200	0		%REC	1	05/09/16 11:47 PM
IS: Chrysene-d12	75.3	0	50-200	0		%REC	1	05/09/16 11:47 PM
IS: Naphthalene-d8	114	0	50-200	0		%REC	1	05/09/16 11:47 PM
IS: Perylene-d12	78.2	0	50-200	0		%REC	1	05/09/16 11:47 PM
IS: Phenanthrene-d10	78.3	0	50-200	0		%REC	1	05/09/16 11:47 PM
Surr: 2-Fluorobiphenyl	71.2	0	53-106	0		%REC	1	05/09/16 11:47 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	EB05(20160505)
Project:	Laredo SGR	**Lab ID:**	1605071-29
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 02:45 PM
Lab Order:	1605071	**Matrix:**	EQUIP BLANK

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	61.1	0	58-132	0		%REC	1	05/09/16 11:47 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	DUP01(20160505)
Project:	Laredo SGR	**Lab ID:**	1605071-30
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 10:30 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	10.2	0.0722	0.217	0.108		mg/Kg-dry	5	05/16/16 05:30 PM R
IS: Bismuth	91.2	0	30-120	0		%REC	5	05/16/16 05:30 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.105	0.0703	0.141	0.105	U	mg/Kg-dry	10	05/13/16 06:33 PM R
Acenaphthylene	0.105	0.0703	0.141	0.105	U	mg/Kg-dry	10	05/13/16 06:33 PM
Anthracene	0.105	0.0703	0.141	0.105	U	mg/Kg-dry	10	05/13/16 06:33 PM
Benzo[a]anthracene	0.0728	0.0703	0.141	0.105	J	mg/Kg-dry	10	05/13/16 06:33 PM
Benzo[a]pyrene	0.0843	0.0703	0.141	0.105	J	mg/Kg-dry	10	05/13/16 06:33 PM
Benzo[b]fluoranthene	0.0841	0.0703	0.141	0.105	J	mg/Kg-dry	10	05/13/16 06:33 PM
Benzo[e]pyrene	0.105	0.0703	0.141	0.105	U	mg/Kg-dry	10	05/13/16 06:33 PM
Benzo[g,h,i]perylene	0.0707	0.0703	0.141	0.105	J	mg/Kg-dry	10	05/13/16 06:33 PM
Benzo[j]fluoranthene	0.105	0.0703	0.141	0.105	NU	mg/Kg-dry	10	05/13/16 06:33 PM
Benzo[k]fluoranthene	0.105	0.0703	0.141	0.105	U	mg/Kg-dry	10	05/13/16 06:33 PM
Chrysene	0.0917	0.0703	0.141	0.105	J	mg/Kg-dry	10	05/13/16 06:33 PM
Dibenz[a,h]anthracene	0.105	0.0703	0.141	0.105	U	mg/Kg-dry	10	05/13/16 06:33 PM
Fluoranthene	0.157	0.0703	0.141	0.105		mg/Kg-dry	10	05/13/16 06:33 PM
Fluorene	0.105	0.0703	0.141	0.105	U	mg/Kg-dry	10	05/13/16 06:33 PM
Indeno[1,2,3-cd]pyrene	0.105	0.0703	0.141	0.105	U	mg/Kg-dry	10	05/13/16 06:33 PM
Phenanthrene	0.0709	0.0703	0.141	0.105	J	mg/Kg-dry	10	05/13/16 06:33 PM
Pyrene	0.134	0.0703	0.141	0.105	J	mg/Kg-dry	10	05/13/16 06:33 PM
IS: Acenaphthene-d10	101	0	50-200	0		%REC	10	05/13/16 06:33 PM
IS: Chrysene-d12	95.0	0	50-200	0		%REC	10	05/13/16 06:33 PM
IS: Naphthalene-d8	98.6	0	50-200	0		%REC	10	05/13/16 06:33 PM
IS: Perylene-d12	95.9	0	50-200	0		%REC	10	05/13/16 06:33 PM
IS: Phenanthrene-d10	90.9	0	50-200	0		%REC	10	05/13/16 06:33 PM
Surr: 2-Fluorobiphenyl	68.9	0	46-115	0		%REC	10	05/13/16 06:33 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	DUP01(20160505)
Project:	Laredo SGR	**Lab ID:**	1605071-30
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 10:30 AM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	74.6	0	58-133	0		%REC	10	05/13/16 06:33 PM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	31.5	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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	ROW-03(0-0.5)
Project:	Laredo SGR	**Lab ID:**	1605071-31
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 12:15 PM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	10.6	0.113	0.338	0.169		mg/Kg-dry	5	05/16/16 05:32 PM
IS: Bismuth	92.6	0	30-120	0		%REC	5	05/16/16 05:32 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0809	0.0539	0.108	0.0809	U	mg/Kg-dry	10	05/11/16 09:48 PM
Acenaphthylene	0.0809	0.0539	0.108	0.0809	U	mg/Kg-dry	10	05/11/16 09:48 PM
Anthracene	0.0750	0.0539	0.108	0.0809	J	mg/Kg-dry	10	05/11/16 09:48 PM
Benzo[a]anthracene	0.836	0.0539	0.108	0.0809		mg/Kg-dry	10	05/11/16 09:48 PM
Benzo[a]pyrene	1.10	0.0539	0.108	0.0809		mg/Kg-dry	10	05/11/16 09:48 PM
Benzo[b]fluoranthene	1.02	0.0539	0.108	0.0809		mg/Kg-dry	10	05/11/16 09:48 PM
Benzo[e]pyrene	0.835	0.0539	0.108	0.0809		mg/Kg-dry	10	05/11/16 09:48 PM
Benzo[g,h,i]perylene	0.793	0.0539	0.108	0.0809		mg/Kg-dry	10	05/11/16 09:48 PM
Benzo[j]fluoranthene	0.545	0.0539	0.108	0.0809	N	mg/Kg-dry	10	05/11/16 09:48 PM
Benzo[k]fluoranthene	0.526	0.0539	0.108	0.0809		mg/Kg-dry	10	05/11/16 09:48 PM
Chrysene	1.01	0.0539	0.108	0.0809		mg/Kg-dry	10	05/11/16 09:48 PM
Dibenz[a,h]anthracene	0.166	0.0539	0.108	0.0809		mg/Kg-dry	10	05/11/16 09:48 PM
Fluoranthene	1.28	0.0539	0.108	0.0809		mg/Kg-dry	10	05/11/16 09:48 PM
Fluorene	0.0809	0.0539	0.108	0.0809	U	mg/Kg-dry	10	05/11/16 09:48 PM
Indeno[1,2,3-cd]pyrene	0.650	0.0539	0.108	0.0809		mg/Kg-dry	10	05/11/16 09:48 PM
Phenanthrene	0.356	0.0539	0.108	0.0809		mg/Kg-dry	10	05/11/16 09:48 PM
Pyrene	1.15	0.0539	0.108	0.0809		mg/Kg-dry	10	05/11/16 09:48 PM
IS: Acenaphthene-d10	71.4	0	50-200	0		%REC	10	05/11/16 09:48 PM
IS: Chrysene-d12	79.9	0	50-200	0		%REC	10	05/11/16 09:48 PM
IS: Naphthalene-d8	116	0	50-200	0		%REC	10	05/11/16 09:48 PM
IS: Perylene-d12	81.2	0	50-200	0		%REC	10	05/11/16 09:48 PM
IS: Phenanthrene-d10	79.2	0	50-200	0		%REC	10	05/11/16 09:48 PM
Surr: 2-Fluorobiphenyl	85.6	0	46-115	0		%REC	10	05/11/16 09:48 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	ROW-03(0-0.5)
Project:	Laredo SGR	**Lab ID:**	1605071-31
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 12:15 PM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	76.5	0	58-133	0		%REC	10	05/11/16 09:48 PM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	13.8	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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	ROW-03(0.5-2.0)
Project:	Laredo SGR	**Lab ID:**	1605071-32
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 12:30 PM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	20.8	0.128	0.385	0.192		mg/Kg-dry	5	05/23/16 06:24 PM
IS: Bismuth	97.3	0	30-120	0		%REC	5	05/23/16 06:24 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.103	0.0687	0.137	0.103	U	mg/Kg-dry	10	05/19/16 02:22 AM
Acenaphthylene	0.103	0.0687	0.137	0.103	U	mg/Kg-dry	10	05/19/16 02:22 AM
Anthracene	0.103	0.0687	0.137	0.103	U	mg/Kg-dry	10	05/19/16 02:22 AM
Benzo[a]anthracene	0.496	0.0687	0.137	0.103		mg/Kg-dry	10	05/19/16 02:22 AM
Benzo[a]pyrene	0.618	0.0687	0.137	0.103		mg/Kg-dry	10	05/19/16 02:22 AM
Benzo[b]fluoranthene	0.589	0.0687	0.137	0.103		mg/Kg-dry	10	05/19/16 02:22 AM
Benzo[e]pyrene	0.467	0.0687	0.137	0.103		mg/Kg-dry	10	05/19/16 02:22 AM
Benzo[g,h,i]perylene	0.412	0.0687	0.137	0.103		mg/Kg-dry	10	05/19/16 02:22 AM
Benzo[j]fluoranthene	0.321	0.0687	0.137	0.103	N	mg/Kg-dry	10	05/19/16 02:22 AM
Benzo[k]fluoranthene	0.314	0.0687	0.137	0.103		mg/Kg-dry	10	05/19/16 02:22 AM
Chrysene	0.604	0.0687	0.137	0.103		mg/Kg-dry	10	05/19/16 02:22 AM
Dibenz[a,h]anthracene	0.0709	0.0687	0.137	0.103	J	mg/Kg-dry	10	05/19/16 02:22 AM
Fluoranthene	0.677	0.0687	0.137	0.103		mg/Kg-dry	10	05/19/16 02:22 AM
Fluorene	0.103	0.0687	0.137	0.103	U	mg/Kg-dry	10	05/19/16 02:22 AM
Indeno[1,2,3-cd]pyrene	0.350	0.0687	0.137	0.103		mg/Kg-dry	10	05/19/16 02:22 AM
Phenanthrene	0.212	0.0687	0.137	0.103		mg/Kg-dry	10	05/19/16 02:22 AM
Pyrene	0.614	0.0687	0.137	0.103		mg/Kg-dry	10	05/19/16 02:22 AM
IS: Acenaphthene-d10	99.7	0	50-200	0		%REC	10	05/19/16 02:22 AM
IS: Chrysene-d12	94.8	0	50-200	0		%REC	10	05/19/16 02:22 AM
IS: Naphthalene-d8	95.5	0	50-200	0		%REC	10	05/19/16 02:22 AM
IS: Perylene-d12	97.1	0	50-200	0		%REC	10	05/19/16 02:22 AM
IS: Phenanthrene-d10	90.1	0	50-200	0		%REC	10	05/19/16 02:22 AM
Surr: 2-Fluorobiphenyl	82.1	0	46-115	0		%REC	10	05/19/16 02:22 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	ROW-03(0.5-2.0)
Project:	Laredo SGR	**Lab ID:**	1605071-32
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 12:30 PM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	81.3	0	58-133	0		%REC	10	05/19/16 02:22 AM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	29.7	0	0	0		WT%	1	05/20/16 09:12 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	ROW-04(0-0.5)
Project:	Laredo SGR	**Lab ID:**	1605071-33
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 12:45 PM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	28.8	0.100	0.301	0.151		mg/Kg-dry	5	05/16/16 05:34 PM
IS: Bismuth	92.1	0	30-120	0		%REC	5	05/16/16 05:34 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0844	0.0562	0.112	0.0844	U	mg/Kg-dry	10	05/11/16 10:27 PM
Acenaphthylene	0.0844	0.0562	0.112	0.0844	U	mg/Kg-dry	10	05/11/16 10:27 PM
Anthracene	0.0698	0.0562	0.112	0.0844	J	mg/Kg-dry	10	05/11/16 10:27 PM
Benzo[a]anthracene	0.667	0.0562	0.112	0.0844		mg/Kg-dry	10	05/11/16 10:27 PM
Benzo[a]pyrene	0.903	0.0562	0.112	0.0844		mg/Kg-dry	10	05/11/16 10:27 PM
Benzo[b]fluoranthene	0.863	0.0562	0.112	0.0844		mg/Kg-dry	10	05/11/16 10:27 PM
Benzo[e]pyrene	0.738	0.0562	0.112	0.0844		mg/Kg-dry	10	05/11/16 10:27 PM
Benzo[g,h,i]perylene	0.761	0.0562	0.112	0.0844		mg/Kg-dry	10	05/11/16 10:27 PM
Benzo[j]fluoranthene	0.469	0.0562	0.112	0.0844	N	mg/Kg-dry	10	05/11/16 10:27 PM
Benzo[k]fluoranthene	0.449	0.0562	0.112	0.0844		mg/Kg-dry	10	05/11/16 10:27 PM
Chrysene	0.876	0.0562	0.112	0.0844		mg/Kg-dry	10	05/11/16 10:27 PM
Dibenz[a,h]anthracene	0.161	0.0562	0.112	0.0844		mg/Kg-dry	10	05/11/16 10:27 PM
Fluoranthene	1.21	0.0562	0.112	0.0844		mg/Kg-dry	10	05/11/16 10:27 PM
Fluorene	0.0844	0.0562	0.112	0.0844	U	mg/Kg-dry	10	05/11/16 10:27 PM
Indeno[1,2,3-cd]pyrene	0.625	0.0562	0.112	0.0844		mg/Kg-dry	10	05/11/16 10:27 PM
Phenanthrene	0.395	0.0562	0.112	0.0844		mg/Kg-dry	10	05/11/16 10:27 PM
Pyrene	1.04	0.0562	0.112	0.0844		mg/Kg-dry	10	05/11/16 10:27 PM
IS: Acenaphthene-d10	72.3	0	50-200	0		%REC	10	05/11/16 10:27 PM
IS: Chrysene-d12	80.1	0	50-200	0		%REC	10	05/11/16 10:27 PM
IS: Naphthalene-d8	113	0	50-200	0		%REC	10	05/11/16 10:27 PM
IS: Perylene-d12	82.1	0	50-200	0		%REC	10	05/11/16 10:27 PM
IS: Phenanthrene-d10	80.3	0	50-200	0		%REC	10	05/11/16 10:27 PM
Surr: 2-Fluorobiphenyl	87.1	0	46-115	0		%REC	10	05/11/16 10:27 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	ROW-04(0-0.5)
Project:	Laredo SGR	**Lab ID:**	1605071-33
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 12:45 PM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	74.2	0	58-133	0		%REC	10	05/11/16 10:27 PM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	14.9	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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	ROW-05(0-0.5)
Project:	Laredo SGR	**Lab ID:**	1605071-34
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 01:50 PM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	12.3	0.106	0.319	0.159		mg/Kg-dry	5	05/16/16 05:36 PM
IS: Bismuth	89.3	0	30-120	0		%REC	5	05/16/16 05:36 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0810	0.0540	0.108	0.0810	U	mg/Kg-dry	10	05/11/16 11:07 PM
Acenaphthylene	0.0810	0.0540	0.108	0.0810	U	mg/Kg-dry	10	05/11/16 11:07 PM
Anthracene	0.0810	0.0540	0.108	0.0810	U	mg/Kg-dry	10	05/11/16 11:07 PM
Benzo[a]anthracene	0.0632	0.0540	0.108	0.0810	J	mg/Kg-dry	10	05/11/16 11:07 PM
Benzo[a]pyrene	0.0659	0.0540	0.108	0.0810	J	mg/Kg-dry	10	05/11/16 11:07 PM
Benzo[b]fluoranthene	0.0666	0.0540	0.108	0.0810	J	mg/Kg-dry	10	05/11/16 11:07 PM
Benzo[e]pyrene	0.0557	0.0540	0.108	0.0810	J	mg/Kg-dry	10	05/11/16 11:07 PM
Benzo[g,h,i]perylene	0.0810	0.0540	0.108	0.0810	U	mg/Kg-dry	10	05/11/16 11:07 PM
Benzo[j]fluoranthene	0.0810	0.0540	0.108	0.0810	NU	mg/Kg-dry	10	05/11/16 11:07 PM
Benzo[k]fluoranthene	0.0810	0.0540	0.108	0.0810	U	mg/Kg-dry	10	05/11/16 11:07 PM
Chrysene	0.0730	0.0540	0.108	0.0810	J	mg/Kg-dry	10	05/11/16 11:07 PM
Dibenz[a,h]anthracene	0.0810	0.0540	0.108	0.0810	U	mg/Kg-dry	10	05/11/16 11:07 PM
Fluoranthene	0.125	0.0540	0.108	0.0810		mg/Kg-dry	10	05/11/16 11:07 PM
Fluorene	0.0810	0.0540	0.108	0.0810	U	mg/Kg-dry	10	05/11/16 11:07 PM
Indeno[1,2,3-cd]pyrene	0.0810	0.0540	0.108	0.0810	U	mg/Kg-dry	10	05/11/16 11:07 PM
Phenanthrene	0.0580	0.0540	0.108	0.0810	J	mg/Kg-dry	10	05/11/16 11:07 PM
Pyrene	0.0810	0.0540	0.108	0.0810	U	mg/Kg-dry	10	05/11/16 11:07 PM
IS: Acenaphthene-d10	75.1	0	50-200	0		%REC	10	05/11/16 11:07 PM
IS: Chrysene-d12	82.6	0	50-200	0		%REC	10	05/11/16 11:07 PM
IS: Naphthalene-d8	119	0	50-200	0		%REC	10	05/11/16 11:07 PM
IS: Perylene-d12	85.6	0	50-200	0		%REC	10	05/11/16 11:07 PM
IS: Phenanthrene-d10	82.8	0	50-200	0		%REC	10	05/11/16 11:07 PM
Surr: 2-Fluorobiphenyl	85.8	0	46-115	0		%REC	10	05/11/16 11:07 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	ROW-05(0-0.5)
Project:	Laredo SGR	**Lab ID:**	1605071-34
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 01:50 PM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	74.4	0	58-133	0		%REC	10	05/11/16 11:07 PM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	8.67	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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	ROW-06(0.0-0.5)
Project:	Laredo SGR	**Lab ID:**	1605071-37
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 02:20 PM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	12.3	0.0944	0.283	0.142		mg/Kg-dry	5	05/16/16 05:59 PM
IS: Bismuth	88.8	0	30-120	0		%REC	5	05/16/16 05:59 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0791	0.0527	0.105	0.0791	U	mg/Kg-dry	10	05/11/16 11:47 PM
Acenaphthylene	0.0791	0.0527	0.105	0.0791	U	mg/Kg-dry	10	05/11/16 11:47 PM
Anthracene	0.184	0.0527	0.105	0.0791		mg/Kg-dry	10	05/11/16 11:47 PM
Benzo[a]anthracene	0.811	0.0527	0.105	0.0791		mg/Kg-dry	10	05/11/16 11:47 PM
Benzo[a]pyrene	0.782	0.0527	0.105	0.0791		mg/Kg-dry	10	05/11/16 11:47 PM
Benzo[b]fluoranthene	0.793	0.0527	0.105	0.0791		mg/Kg-dry	10	05/11/16 11:47 PM
Benzo[e]pyrene	0.635	0.0527	0.105	0.0791		mg/Kg-dry	10	05/11/16 11:47 PM
Benzo[g,h,i]perylene	0.596	0.0527	0.105	0.0791		mg/Kg-dry	10	05/11/16 11:47 PM
Benzo[j]fluoranthene	0.415	0.0527	0.105	0.0791	N	mg/Kg-dry	10	05/11/16 11:47 PM
Benzo[k]fluoranthene	0.400	0.0527	0.105	0.0791		mg/Kg-dry	10	05/11/16 11:47 PM
Chrysene	0.929	0.0527	0.105	0.0791		mg/Kg-dry	10	05/11/16 11:47 PM
Dibenz[a,h]anthracene	0.133	0.0527	0.105	0.0791		mg/Kg-dry	10	05/11/16 11:47 PM
Fluoranthene	1.93	0.0527	0.105	0.0791		mg/Kg-dry	10	05/11/16 11:47 PM
Fluorene	0.0791	0.0527	0.105	0.0791	U	mg/Kg-dry	10	05/11/16 11:47 PM
Indeno[1,2,3-cd]pyrene	0.497	0.0527	0.105	0.0791		mg/Kg-dry	10	05/11/16 11:47 PM
Phenanthrene	0.951	0.0527	0.105	0.0791		mg/Kg-dry	10	05/11/16 11:47 PM
Pyrene	1.52	0.0527	0.105	0.0791		mg/Kg-dry	10	05/11/16 11:47 PM
IS: Acenaphthene-d10	78.4	0	50-200	0		%REC	10	05/11/16 11:47 PM
IS: Chrysene-d12	83.4	0	50-200	0		%REC	10	05/11/16 11:47 PM
IS: Naphthalene-d8	120	0	50-200	0		%REC	10	05/11/16 11:47 PM
IS: Perylene-d12	84.4	0	50-200	0		%REC	10	05/11/16 11:47 PM
IS: Phenanthrene-d10	79.4	0	50-200	0		%REC	10	05/11/16 11:47 PM
Surr: 2-Fluorobiphenyl	89.0	0	46-115	0		%REC	10	05/11/16 11:47 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	ROW-06(0.0-0.5)
Project:	Laredo SGR	**Lab ID:**	1605071-37
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 02:20 PM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	76.7	0	58-133	0		%REC	10	05/11/16 11:47 PM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	7.90	0	0	0		WT%	1	05/13/16 12:52 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	ROW-06(0.5-2.0)
Project:	Laredo SGR	**Lab ID:**	1605071-38
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 02:35 PM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	11.4	0.104	0.313	0.157		mg/Kg-dry	5	05/23/16 06:26 PM
IS: Bismuth	97.6	0	30-120	0		%REC	5	05/23/16 06:26 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0835	0.0557	0.111	0.0835	U	mg/Kg-dry	10	05/19/16 01:45 AM
Acenaphthylene	0.0835	0.0557	0.111	0.0835	U	mg/Kg-dry	10	05/19/16 01:45 AM
Anthracene	0.0835	0.0557	0.111	0.0835	U	mg/Kg-dry	10	05/19/16 01:45 AM
Benzo[a]anthracene	0.0835	0.0557	0.111	0.0835	U	mg/Kg-dry	10	05/19/16 01:45 AM
Benzo[a]pyrene	0.0835	0.0557	0.111	0.0835	U	mg/Kg-dry	10	05/19/16 01:45 AM
Benzo[b]fluoranthene	0.0835	0.0557	0.111	0.0835	U	mg/Kg-dry	10	05/19/16 01:45 AM
Benzo[e]pyrene	0.0835	0.0557	0.111	0.0835	U	mg/Kg-dry	10	05/19/16 01:45 AM
Benzo[g,h,i]perylene	0.0835	0.0557	0.111	0.0835	U	mg/Kg-dry	10	05/19/16 01:45 AM
Benzo[j]fluoranthene	0.0835	0.0557	0.111	0.0835	NU	mg/Kg-dry	10	05/19/16 01:45 AM
Benzo[k]fluoranthene	0.0835	0.0557	0.111	0.0835	U	mg/Kg-dry	10	05/19/16 01:45 AM
Chrysene	0.0835	0.0557	0.111	0.0835	U	mg/Kg-dry	10	05/19/16 01:45 AM
Dibenz[a,h]anthracene	0.0835	0.0557	0.111	0.0835	U	mg/Kg-dry	10	05/19/16 01:45 AM
Fluoranthene	0.0835	0.0557	0.111	0.0835	U	mg/Kg-dry	10	05/19/16 01:45 AM
Fluorene	0.0835	0.0557	0.111	0.0835	U	mg/Kg-dry	10	05/19/16 01:45 AM
Indeno[1,2,3-cd]pyrene	0.0835	0.0557	0.111	0.0835	U	mg/Kg-dry	10	05/19/16 01:45 AM
Phenanthrene	0.0835	0.0557	0.111	0.0835	U	mg/Kg-dry	10	05/19/16 01:45 AM
Pyrene	0.0835	0.0557	0.111	0.0835	U	mg/Kg-dry	10	05/19/16 01:45 AM
IS: Acenaphthene-d10	101	0	50-200	0		%REC	10	05/19/16 01:45 AM
IS: Chrysene-d12	94.3	0	50-200	0		%REC	10	05/19/16 01:45 AM
IS: Naphthalene-d8	94.5	0	50-200	0		%REC	10	05/19/16 01:45 AM
IS: Perylene-d12	96.5	0	50-200	0		%REC	10	05/19/16 01:45 AM
IS: Phenanthrene-d10	88.6	0	50-200	0		%REC	10	05/19/16 01:45 AM
Surr: 2-Fluorobiphenyl	68.2	0	46-115	0		%REC	10	05/19/16 01:45 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	ROW-06(0.5-2.0)
Project:	Laredo SGR	**Lab ID:**	1605071-38
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 02:35 PM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	81.5	0	58-133	0		%REC	10	05/19/16 01:45 AM
PERCENT MOISTURE			**D2216**					Analyst: **WB**
Percent Moisture	16.7	0	0	0		WT%	1	05/20/16 09:12 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU040(0-2)-A
Project:	Laredo SGR	**Lab ID:**	1605071-40
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 01:58 PM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	44.3	0.0980	0.294	0.147		mg/Kg-dry	5	05/16/16 06:01 PM
IS: Bismuth	93.3	0	30-120	0		%REC	5	05/16/16 06:01 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0996	0.0485	0.0970	0.0727		mg/Kg-dry	10	05/13/16 07:10 PM
Acenaphthylene	0.0727	0.0485	0.0970	0.0727	U	mg/Kg-dry	10	05/13/16 07:10 PM
Anthracene	0.572	0.0485	0.0970	0.0727		mg/Kg-dry	10	05/13/16 07:10 PM
Benzo[a]anthracene	3.28	0.0485	0.0970	0.0727		mg/Kg-dry	10	05/13/16 07:10 PM
Benzo[a]pyrene	3.90	0.0485	0.0970	0.0727		mg/Kg-dry	10	05/13/16 07:10 PM
Benzo[b]fluoranthene	3.73	0.0485	0.0970	0.0727		mg/Kg-dry	10	05/13/16 07:10 PM
Benzo[e]pyrene	2.75	0.0485	0.0970	0.0727		mg/Kg-dry	10	05/13/16 07:10 PM
Benzo[g,h,i]perylene	2.87	0.0485	0.0970	0.0727		mg/Kg-dry	10	05/13/16 07:10 PM
Benzo[j]fluoranthene	1.99	0.0485	0.0970	0.0727	N	mg/Kg-dry	10	05/13/16 07:10 PM
Benzo[k]fluoranthene	2.07	0.0485	0.0970	0.0727		mg/Kg-dry	10	05/13/16 07:10 PM
Chrysene	3.97	0.0485	0.0970	0.0727		mg/Kg-dry	10	05/13/16 07:10 PM
Dibenz[a,h]anthracene	0.673	0.0485	0.0970	0.0727		mg/Kg-dry	10	05/13/16 07:10 PM
Fluoranthene	5.63	0.0485	0.0970	0.0727		mg/Kg-dry	10	05/13/16 07:10 PM
Fluorene	0.0568	0.0485	0.0970	0.0727	J	mg/Kg-dry	10	05/13/16 07:10 PM
Indeno[1,2,3-cd]pyrene	2.50	0.0485	0.0970	0.0727		mg/Kg-dry	10	05/13/16 07:10 PM
Phenanthrene	2.97	0.0485	0.0970	0.0727		mg/Kg-dry	10	05/13/16 07:10 PM
Pyrene	4.69	0.0485	0.0970	0.0727		mg/Kg-dry	10	05/13/16 07:10 PM
IS: Acenaphthene-d10	100	0	50-200	0		%REC	10	05/13/16 07:10 PM
IS: Chrysene-d12	90.2	0	50-200	0		%REC	10	05/13/16 07:10 PM
IS: Naphthalene-d8	97.5	0	50-200	0		%REC	10	05/13/16 07:10 PM
IS: Perylene-d12	93.1	0	50-200	0		%REC	10	05/13/16 07:10 PM
IS: Phenanthrene-d10	91.8	0	50-200	0		%REC	10	05/13/16 07:10 PM
Surr: 2-Fluorobiphenyl	78.3	0	46-115	0		%REC	10	05/13/16 07:10 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU040(0-2)-A
Project:	Laredo SGR	**Lab ID:**	1605071-40
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 01:58 PM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	82.8	0	58-133	0		%REC	10	05/13/16 07:10 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU040(2-4)-A
Project:	Laredo SGR	**Lab ID:**	1605071-41
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 02:02 PM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	7.64	0.0901	0.270	0.135		mg/Kg-dry	5	05/16/16 06:03 PM
IS: Bismuth	92.7	0	30-120	0		%REC	5	05/16/16 06:03 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/13/16 07:47 PM
Acenaphthylene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/13/16 07:47 PM
Anthracene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/13/16 07:47 PM
Benzo[a]anthracene	0.277	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/13/16 07:47 PM
Benzo[a]pyrene	0.405	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/13/16 07:47 PM
Benzo[b]fluoranthene	0.369	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/13/16 07:47 PM
Benzo[e]pyrene	0.287	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/13/16 07:47 PM
Benzo[g,h,i]perylene	0.321	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/13/16 07:47 PM
Benzo[j]fluoranthene	0.194	0.0498	0.0996	0.0747	N	mg/Kg-dry	10	05/13/16 07:47 PM
Benzo[k]fluoranthene	0.199	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/13/16 07:47 PM
Chrysene	0.351	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/13/16 07:47 PM
Dibenz[a,h]anthracene	0.0687	0.0498	0.0996	0.0747	J	mg/Kg-dry	10	05/13/16 07:47 PM
Fluoranthene	0.426	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/13/16 07:47 PM
Fluorene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/13/16 07:47 PM
Indeno[1,2,3-cd]pyrene	0.260	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/13/16 07:47 PM
Phenanthrene	0.128	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/13/16 07:47 PM
Pyrene	0.378	0.0498	0.0996	0.0747		mg/Kg-dry	10	05/13/16 07:47 PM
IS: Acenaphthene-d10	94.0	0	50-200	0		%REC	10	05/13/16 07:47 PM
IS: Chrysene-d12	88.6	0	50-200	0		%REC	10	05/13/16 07:47 PM
IS: Naphthalene-d8	91.8	0	50-200	0		%REC	10	05/13/16 07:47 PM
IS: Perylene-d12	88.9	0	50-200	0		%REC	10	05/13/16 07:47 PM
IS: Phenanthrene-d10	85.2	0	50-200	0		%REC	10	05/13/16 07:47 PM
Surr: 2-Fluorobiphenyl	83.6	0	46-115	0		%REC	10	05/13/16 07:47 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU040(2-4)-A
Project:	Laredo SGR	**Lab ID:**	1605071-41
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 02:02 PM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	83.2	0	58-133	0		%REC	10	05/13/16 07:47 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU040(4-6)-A
Project:	Laredo SGR	**Lab ID:**	1605071-42
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 02:05 PM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	5.71	0.0952	0.286	0.143		mg/Kg-dry	5	05/16/16 06:05 PM
IS: Bismuth	91.6	0	30-120	0		%REC	5	05/16/16 06:05 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/13/16 08:24 PM
Acenaphthylene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/13/16 08:24 PM
Anthracene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/13/16 08:24 PM
Benzo[a]anthracene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/13/16 08:24 PM
Benzo[a]pyrene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/13/16 08:24 PM
Benzo[b]fluoranthene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/13/16 08:24 PM
Benzo[e]pyrene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/13/16 08:24 PM
Benzo[g,h,i]perylene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/13/16 08:24 PM
Benzo[j]fluoranthene	0.0745	0.0497	0.0993	0.0745	NU	mg/Kg-dry	10	05/13/16 08:24 PM
Benzo[k]fluoranthene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/13/16 08:24 PM
Chrysene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/13/16 08:24 PM
Dibenz[a,h]anthracene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/13/16 08:24 PM
Fluoranthene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/13/16 08:24 PM
Fluorene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/13/16 08:24 PM
Indeno[1,2,3-cd]pyrene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/13/16 08:24 PM
Phenanthrene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/13/16 08:24 PM
Pyrene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/13/16 08:24 PM
IS: Acenaphthene-d10	101	0	50-200	0		%REC	10	05/13/16 08:24 PM
IS: Chrysene-d12	93.4	0	50-200	0		%REC	10	05/13/16 08:24 PM
IS: Naphthalene-d8	97.9	0	50-200	0		%REC	10	05/13/16 08:24 PM
IS: Perylene-d12	94.0	0	50-200	0		%REC	10	05/13/16 08:24 PM
IS: Phenanthrene-d10	92.1	0	50-200	0		%REC	10	05/13/16 08:24 PM
Surr: 2-Fluorobiphenyl	75.1	0	46-115	0		%REC	10	05/13/16 08:24 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU040(4-6)-A
Project:	Laredo SGR	**Lab ID:**	1605071-42
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 02:05 PM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	80.0	0	58-133	0		%REC	10	05/13/16 08:24 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU040(6-8)-A
Project:	Laredo SGR	**Lab ID:**	1605071-43
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 02:07 PM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	4.47	0.0952	0.286	0.143		mg/Kg-dry	5	05/16/16 06:07 PM
IS: Bismuth	94.0	0	30-120	0		%REC	5	05/16/16 06:07 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0729	0.0486	0.0972	0.0729	U	mg/Kg-dry	10	05/13/16 09:00 PM
Acenaphthylene	0.0729	0.0486	0.0972	0.0729	U	mg/Kg-dry	10	05/13/16 09:00 PM
Anthracene	0.0729	0.0486	0.0972	0.0729	U	mg/Kg-dry	10	05/13/16 09:00 PM
Benzo[a]anthracene	0.0488	0.0486	0.0972	0.0729	J	mg/Kg-dry	10	05/13/16 09:00 PM
Benzo[a]pyrene	0.0706	0.0486	0.0972	0.0729	J	mg/Kg-dry	10	05/13/16 09:00 PM
Benzo[b]fluoranthene	0.0698	0.0486	0.0972	0.0729	J	mg/Kg-dry	10	05/13/16 09:00 PM
Benzo[e]pyrene	0.0565	0.0486	0.0972	0.0729	J	mg/Kg-dry	10	05/13/16 09:00 PM
Benzo[g,h,i]perylene	0.0635	0.0486	0.0972	0.0729	J	mg/Kg-dry	10	05/13/16 09:00 PM
Benzo[j]fluoranthene	0.0729	0.0486	0.0972	0.0729	NU	mg/Kg-dry	10	05/13/16 09:00 PM
Benzo[k]fluoranthene	0.0729	0.0486	0.0972	0.0729	U	mg/Kg-dry	10	05/13/16 09:00 PM
Chrysene	0.0678	0.0486	0.0972	0.0729	J	mg/Kg-dry	10	05/13/16 09:00 PM
Dibenz[a,h]anthracene	0.0729	0.0486	0.0972	0.0729	U	mg/Kg-dry	10	05/13/16 09:00 PM
Fluoranthene	0.0777	0.0486	0.0972	0.0729	J	mg/Kg-dry	10	05/13/16 09:00 PM
Fluorene	0.0729	0.0486	0.0972	0.0729	U	mg/Kg-dry	10	05/13/16 09:00 PM
Indeno[1,2,3-cd]pyrene	0.0549	0.0486	0.0972	0.0729	J	mg/Kg-dry	10	05/13/16 09:00 PM
Phenanthrene	0.0729	0.0486	0.0972	0.0729	U	mg/Kg-dry	10	05/13/16 09:00 PM
Pyrene	0.0745	0.0486	0.0972	0.0729	J	mg/Kg-dry	10	05/13/16 09:00 PM
IS: Acenaphthene-d10	101	0	50-200	0		%REC	10	05/13/16 09:00 PM
IS: Chrysene-d12	89.9	0	50-200	0		%REC	10	05/13/16 09:00 PM
IS: Naphthalene-d8	98.2	0	50-200	0		%REC	10	05/13/16 09:00 PM
IS: Perylene-d12	92.8	0	50-200	0		%REC	10	05/13/16 09:00 PM
IS: Phenanthrene-d10	90.7	0	50-200	0		%REC	10	05/13/16 09:00 PM
Surr: 2-Fluorobiphenyl	79.1	0	46-115	0		%REC	10	05/13/16 09:00 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU040(6-8)-A
Project:	Laredo SGR	**Lab ID:**	1605071-43
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 02:07 PM
Lab Order:	1605071	**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	05/13/16 09:00 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU040(8-10)-A
Project:	Laredo SGR	**Lab ID:**	1605071-44
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 02:10 PM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	3.80	0.0962	0.288	0.144		mg/Kg-dry	5	05/16/16 06:09 PM
IS: Bismuth	93.1	0	30-120	0		%REC	5	05/16/16 06:09 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/13/16 09:37 PM
Acenaphthylene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/13/16 09:37 PM
Anthracene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/13/16 09:37 PM
Benzo[a]anthracene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/13/16 09:37 PM
Benzo[a]pyrene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/13/16 09:37 PM
Benzo[b]fluoranthene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/13/16 09:37 PM
Benzo[e]pyrene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/13/16 09:37 PM
Benzo[g,h,i]perylene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/13/16 09:37 PM
Benzo[j]fluoranthene	0.0745	0.0497	0.0993	0.0745	NU	mg/Kg-dry	10	05/13/16 09:37 PM
Benzo[k]fluoranthene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/13/16 09:37 PM
Chrysene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/13/16 09:37 PM
Dibenz[a,h]anthracene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/13/16 09:37 PM
Fluoranthene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/13/16 09:37 PM
Fluorene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/13/16 09:37 PM
Indeno[1,2,3-cd]pyrene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/13/16 09:37 PM
Phenanthrene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/13/16 09:37 PM
Pyrene	0.0745	0.0497	0.0993	0.0745	U	mg/Kg-dry	10	05/13/16 09:37 PM
IS: Acenaphthene-d10	103	0	50-200	0		%REC	10	05/13/16 09:37 PM
IS: Chrysene-d12	92.4	0	50-200	0		%REC	10	05/13/16 09:37 PM
IS: Naphthalene-d8	100	0	50-200	0		%REC	10	05/13/16 09:37 PM
IS: Perylene-d12	94.3	0	50-200	0		%REC	10	05/13/16 09:37 PM
IS: Phenanthrene-d10	93.7	0	50-200	0		%REC	10	05/13/16 09:37 PM
Surr: 2-Fluorobiphenyl	72.8	0	46-115	0		%REC	10	05/13/16 09:37 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU040(8-10)-A
Project:	Laredo SGR	**Lab ID:**	1605071-44
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 02:10 PM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	77.7	0	58-133	0		%REC	10	05/13/16 09:37 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU040(0-2)-B
Project:	Laredo SGR	**Lab ID:**	1605071-45
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 02:13 PM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	51.4	0.0980	0.294	0.147		mg/Kg-dry	5	05/16/16 06:11 PM
IS: Bismuth	96.7	0	30-120	0		%REC	5	05/16/16 06:11 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.464	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/13/16 10:13 PM
Acenaphthylene	0.0748	0.0499	0.0997	0.0748	U	mg/Kg-dry	10	05/13/16 10:13 PM
Anthracene	2.58	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/13/16 10:13 PM
Benzo[a]anthracene	10.3	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/13/16 10:13 PM
Benzo[a]pyrene	10.6	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/13/16 10:13 PM
Benzo[b]fluoranthene	9.75	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/13/16 10:13 PM
Benzo[e]pyrene	7.04	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/13/16 10:13 PM
Benzo[g,h,i]perylene	6.90	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/13/16 10:13 PM
Benzo[j]fluoranthene	5.53	0.0499	0.0997	0.0748	N	mg/Kg-dry	10	05/13/16 10:13 PM
Benzo[k]fluoranthene	5.72	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/13/16 10:13 PM
Chrysene	11.8	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/13/16 10:13 PM
Dibenz[a,h]anthracene	1.78	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/13/16 10:13 PM
Fluoranthene	18.3	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/13/16 10:13 PM
Fluorene	0.435	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/13/16 10:13 PM
Indeno[1,2,3-cd]pyrene	6.24	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/13/16 10:13 PM
Phenanthrene	11.2	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/13/16 10:13 PM
Pyrene	15.0	0.0499	0.0997	0.0748		mg/Kg-dry	10	05/13/16 10:13 PM
IS: Acenaphthene-d10	101	0	50-200	0		%REC	10	05/13/16 10:13 PM
IS: Chrysene-d12	88.0	0	50-200	0		%REC	10	05/13/16 10:13 PM
IS: Naphthalene-d8	96.5	0	50-200	0		%REC	10	05/13/16 10:13 PM
IS: Perylene-d12	91.9	0	50-200	0		%REC	10	05/13/16 10:13 PM
IS: Phenanthrene-d10	91.3	0	50-200	0		%REC	10	05/13/16 10:13 PM
Surr: 2-Fluorobiphenyl	77.2	0	46-115	0		%REC	10	05/13/16 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU040(0-2)-B
Project:	Laredo SGR	**Lab ID:**	1605071-45
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 02:13 PM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	80.3	0	58-133	0		%REC	10	05/13/16 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU040(2-4)-B
Project:	Laredo SGR	**Lab ID:**	1605071-46
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 02:15 PM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	8.89	0.0962	0.288	0.144		mg/Kg-dry	5	05/16/16 06:13 PM
IS: Bismuth	95.4	0	30-120	0		%REC	5	05/16/16 06:13 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/13/16 10:50 PM
Acenaphthylene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/13/16 10:50 PM
Anthracene	0.121	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/13/16 10:50 PM
Benzo[a]anthracene	0.410	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/13/16 10:50 PM
Benzo[a]pyrene	0.365	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/13/16 10:50 PM
Benzo[b]fluoranthene	0.348	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/13/16 10:50 PM
Benzo[e]pyrene	0.255	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/13/16 10:50 PM
Benzo[g,h,i]perylene	0.264	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/13/16 10:50 PM
Benzo[j]fluoranthene	0.206	0.0498	0.0995	0.0746	N	mg/Kg-dry	10	05/13/16 10:50 PM
Benzo[k]fluoranthene	0.209	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/13/16 10:50 PM
Chrysene	0.472	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/13/16 10:50 PM
Dibenz[a,h]anthracene	0.0615	0.0498	0.0995	0.0746	J	mg/Kg-dry	10	05/13/16 10:50 PM
Fluoranthene	0.924	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/13/16 10:50 PM
Fluorene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/13/16 10:50 PM
Indeno[1,2,3-cd]pyrene	0.221	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/13/16 10:50 PM
Phenanthrene	0.587	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/13/16 10:50 PM
Pyrene	0.703	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/13/16 10:50 PM
IS: Acenaphthene-d10	101	0	50-200	0		%REC	10	05/13/16 10:50 PM
IS: Chrysene-d12	87.4	0	50-200	0		%REC	10	05/13/16 10:50 PM
IS: Naphthalene-d8	95.8	0	50-200	0		%REC	10	05/13/16 10:50 PM
IS: Perylene-d12	89.7	0	50-200	0		%REC	10	05/13/16 10:50 PM
IS: Phenanthrene-d10	88.7	0	50-200	0		%REC	10	05/13/16 10:50 PM
Surr: 2-Fluorobiphenyl	82.1	0	46-115	0		%REC	10	05/13/16 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU040(2-4)-B
Project:	Laredo SGR	**Lab ID:**	1605071-46
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 02:15 PM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	80.3	0	58-133	0		%REC	10	05/13/16 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU040(4-6)-B
Project:	Laredo SGR	**Lab ID:**	1605071-47
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 02:18 PM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	6.08	0.0952	0.286	0.143		mg/Kg-dry	5	05/16/16 06:15 PM
IS: Bismuth	93.7	0	30-120	0		%REC	5	05/16/16 06:15 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/14/16 02:31 AM
Acenaphthylene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/14/16 02:31 AM
Anthracene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/14/16 02:31 AM
Benzo[a]anthracene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/14/16 02:31 AM
Benzo[a]pyrene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/14/16 02:31 AM
Benzo[b]fluoranthene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/14/16 02:31 AM
Benzo[e]pyrene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/14/16 02:31 AM
Benzo[g,h,i]perylene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/14/16 02:31 AM
Benzo[j]fluoranthene	0.0743	0.0495	0.0990	0.0743	NU	mg/Kg-dry	10	05/14/16 02:31 AM
Benzo[k]fluoranthene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/14/16 02:31 AM
Chrysene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/14/16 02:31 AM
Dibenz[a,h]anthracene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/14/16 02:31 AM
Fluoranthene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/14/16 02:31 AM
Fluorene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/14/16 02:31 AM
Indeno[1,2,3-cd]pyrene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/14/16 02:31 AM
Phenanthrene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/14/16 02:31 AM
Pyrene	0.0743	0.0495	0.0990	0.0743	U	mg/Kg-dry	10	05/14/16 02:31 AM
IS: Acenaphthene-d10	103	0	50-200	0		%REC	10	05/14/16 02:31 AM
IS: Chrysene-d12	85.7	0	50-200	0		%REC	10	05/14/16 02:31 AM
IS: Naphthalene-d8	95.9	0	50-200	0		%REC	10	05/14/16 02:31 AM
IS: Perylene-d12	89.5	0	50-200	0		%REC	10	05/14/16 02:31 AM
IS: Phenanthrene-d10	92.1	0	50-200	0		%REC	10	05/14/16 02:31 AM
Surr: 2-Fluorobiphenyl	79.4	0	46-115	0		%REC	10	05/14/16 02:31 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU040(4-6)-B
Project:	Laredo SGR	**Lab ID:**	1605071-47
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 02:18 PM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	79.4	0	58-133	0		%REC	10	05/14/16 02:31 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU040(6-8)-B
Project:	Laredo SGR	**Lab ID:**	1605071-48
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 02:22 PM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	4.52	0.0952	0.286	0.143		mg/Kg-dry	5	05/16/16 06:31 PM
IS: Bismuth	92.3	0	30-120	0		%REC	5	05/16/16 06:31 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/14/16 03:08 AM
Acenaphthylene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/14/16 03:08 AM
Anthracene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/14/16 03:08 AM
Benzo[a]anthracene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/14/16 03:08 AM
Benzo[a]pyrene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/14/16 03:08 AM
Benzo[b]fluoranthene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/14/16 03:08 AM
Benzo[e]pyrene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/14/16 03:08 AM
Benzo[g,h,i]perylene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/14/16 03:08 AM
Benzo[j]fluoranthene	0.0746	0.0498	0.0995	0.0746	NU	mg/Kg-dry	10	05/14/16 03:08 AM
Benzo[k]fluoranthene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/14/16 03:08 AM
Chrysene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/14/16 03:08 AM
Dibenz[a,h]anthracene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/14/16 03:08 AM
Fluoranthene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/14/16 03:08 AM
Fluorene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/14/16 03:08 AM
Indeno[1,2,3-cd]pyrene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/14/16 03:08 AM
Phenanthrene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/14/16 03:08 AM
Pyrene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/14/16 03:08 AM
IS: Acenaphthene-d10	99.0	0	50-200	0		%REC	10	05/14/16 03:08 AM
IS: Chrysene-d12	83.5	0	50-200	0		%REC	10	05/14/16 03:08 AM
IS: Naphthalene-d8	92.1	0	50-200	0		%REC	10	05/14/16 03:08 AM
IS: Perylene-d12	86.0	0	50-200	0		%REC	10	05/14/16 03:08 AM
IS: Phenanthrene-d10	91.4	0	50-200	0		%REC	10	05/14/16 03:08 AM
Surr: 2-Fluorobiphenyl	78.6	0	46-115	0		%REC	10	05/14/16 03:08 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU040(6-8)-B
Project:	Laredo SGR	**Lab ID:**	1605071-48
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 02:22 PM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	79.8	0	58-133	0		%REC	10	05/14/16 03:08 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU040(8-10)-B
Project:	Laredo SGR	**Lab ID:**	1605071-49
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 02:24 PM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	3.83	0.0971	0.291	0.146		mg/Kg-dry	5	05/16/16 06:33 PM
IS: Bismuth	94.1	0	30-120	0		%REC	5	05/16/16 06:33 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Acenaphthene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/14/16 03:45 AM
Acenaphthylene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/14/16 03:45 AM
Anthracene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/14/16 03:45 AM
Benzo[a]anthracene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/14/16 03:45 AM
Benzo[a]pyrene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/14/16 03:45 AM
Benzo[b]fluoranthene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/14/16 03:45 AM
Benzo[e]pyrene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/14/16 03:45 AM
Benzo[g,h,i]perylene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/14/16 03:45 AM
Benzo[j]fluoranthene	0.0738	0.0492	0.0984	0.0738	NU	mg/Kg-dry	10	05/14/16 03:45 AM
Benzo[k]fluoranthene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/14/16 03:45 AM
Chrysene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/14/16 03:45 AM
Dibenz[a,h]anthracene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/14/16 03:45 AM
Fluoranthene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/14/16 03:45 AM
Fluorene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/14/16 03:45 AM
Indeno[1,2,3-cd]pyrene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/14/16 03:45 AM
Phenanthrene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/14/16 03:45 AM
Pyrene	0.0738	0.0492	0.0984	0.0738	U	mg/Kg-dry	10	05/14/16 03:45 AM
IS: Acenaphthene-d10	107	0	50-200	0		%REC	10	05/14/16 03:45 AM
IS: Chrysene-d12	93.0	0	50-200	0		%REC	10	05/14/16 03:45 AM
IS: Naphthalene-d8	99.4	0	50-200	0		%REC	10	05/14/16 03:45 AM
IS: Perylene-d12	95.3	0	50-200	0		%REC	10	05/14/16 03:45 AM
IS: Phenanthrene-d10	95.7	0	50-200	0		%REC	10	05/14/16 03:45 AM
Surr: 2-Fluorobiphenyl	74.7	0	46-115	0		%REC	10	05/14/16 03:45 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU040(8-10)-B
Project:	Laredo SGR	**Lab ID:**	1605071-49
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 02:24 PM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **KL**
Surr: 4-Terphenyl-d14	75.2	0	58-133	0		%REC	10	05/14/16 03:45 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU040(0-2)-C
Project:	Laredo SGR	**Lab ID:**	1605071-50
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 02:25 PM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	52.8	0.0847	0.254	0.127		mg/Kg-dry	5	05/16/16 06:35 PM
IS: Bismuth	94.4	0	30-120	0		%REC	5	05/16/16 06:35 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.248	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/15/16 01:55 PM
Acenaphthylene	0.0742	0.0495	0.0989	0.0742	U	mg/Kg-dry	10	05/15/16 01:55 PM
Anthracene	1.21	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/15/16 01:55 PM
Benzo[a]anthracene	6.46	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/15/16 01:55 PM
Benzo[a]pyrene	7.12	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/15/16 01:55 PM
Benzo[b]fluoranthene	6.76	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/15/16 01:55 PM
Benzo[e]pyrene	5.20	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/15/16 01:55 PM
Benzo[g,h,i]perylene	4.91	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/15/16 01:55 PM
Benzo[j]fluoranthene	3.62	0.0495	0.0989	0.0742	N	mg/Kg-dry	10	05/15/16 01:55 PM
Benzo[k]fluoranthene	3.46	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/15/16 01:55 PM
Chrysene	6.95	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/15/16 01:55 PM
Dibenz[a,h]anthracene	1.12	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/15/16 01:55 PM
Fluoranthene	12.0	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/15/16 01:55 PM
Fluorene	0.200	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/15/16 01:55 PM
Indeno[1,2,3-cd]pyrene	3.96	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/15/16 01:55 PM
Phenanthrene	5.21	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/15/16 01:55 PM
Pyrene	9.60	0.0495	0.0989	0.0742		mg/Kg-dry	10	05/15/16 01:55 PM
IS: Acenaphthene-d10	67.3	0	50-200	0		%REC	10	05/15/16 01:55 PM
IS: Chrysene-d12	73.0	0	50-200	0		%REC	10	05/15/16 01:55 PM
IS: Naphthalene-d8	109	0	50-200	0		%REC	10	05/15/16 01:55 PM
IS: Perylene-d12	70.2	0	50-200	0		%REC	10	05/15/16 01:55 PM
IS: Phenanthrene-d10	73.5	0	50-200	0		%REC	10	05/15/16 01:55 PM
Surr: 2-Fluorobiphenyl	85.0	0	46-115	0		%REC	10	05/15/16 01:55 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU040(0-2)-C
Project:	Laredo SGR	**Lab ID:**	1605071-50
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 02:25 PM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	73.2	0	58-133	0		%REC	10	05/15/16 01:55 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU040(2-4)-C
Project:	Laredo SGR	**Lab ID:**	1605071-51
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 02:29 PM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	7.60	0.0971	0.291	0.146		mg/Kg-dry	5	05/16/16 06:37 PM
IS: Bismuth	94.3	0	30-120	0		%REC	5	05/16/16 06:37 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0728	0.0485	0.0971	0.0728	U	mg/Kg-dry	10	05/15/16 02:35 PM
Acenaphthylene	0.0728	0.0485	0.0971	0.0728	U	mg/Kg-dry	10	05/15/16 02:35 PM
Anthracene	0.0728	0.0485	0.0971	0.0728	U	mg/Kg-dry	10	05/15/16 02:35 PM
Benzo[a]anthracene	0.389	0.0485	0.0971	0.0728		mg/Kg-dry	10	05/15/16 02:35 PM
Benzo[a]pyrene	0.537	0.0485	0.0971	0.0728		mg/Kg-dry	10	05/15/16 02:35 PM
Benzo[b]fluoranthene	0.491	0.0485	0.0971	0.0728		mg/Kg-dry	10	05/15/16 02:35 PM
Benzo[e]pyrene	0.386	0.0485	0.0971	0.0728		mg/Kg-dry	10	05/15/16 02:35 PM
Benzo[g,h,i]perylene	0.381	0.0485	0.0971	0.0728		mg/Kg-dry	10	05/15/16 02:35 PM
Benzo[j]fluoranthene	0.260	0.0485	0.0971	0.0728	N	mg/Kg-dry	10	05/15/16 02:35 PM
Benzo[k]fluoranthene	0.246	0.0485	0.0971	0.0728		mg/Kg-dry	10	05/15/16 02:35 PM
Chrysene	0.463	0.0485	0.0971	0.0728		mg/Kg-dry	10	05/15/16 02:35 PM
Dibenz[a,h]anthracene	0.0809	0.0485	0.0971	0.0728	J	mg/Kg-dry	10	05/15/16 02:35 PM
Fluoranthene	0.637	0.0485	0.0971	0.0728		mg/Kg-dry	10	05/15/16 02:35 PM
Fluorene	0.0728	0.0485	0.0971	0.0728	U	mg/Kg-dry	10	05/15/16 02:35 PM
Indeno[1,2,3-cd]pyrene	0.299	0.0485	0.0971	0.0728		mg/Kg-dry	10	05/15/16 02:35 PM
Phenanthrene	0.163	0.0485	0.0971	0.0728		mg/Kg-dry	10	05/15/16 02:35 PM
Pyrene	0.575	0.0485	0.0971	0.0728		mg/Kg-dry	10	05/15/16 02:35 PM
IS: Acenaphthene-d10	70.2	0	50-200	0		%REC	10	05/15/16 02:35 PM
IS: Chrysene-d12	78.3	0	50-200	0		%REC	10	05/15/16 02:35 PM
IS: Naphthalene-d8	109	0	50-200	0		%REC	10	05/15/16 02:35 PM
IS: Perylene-d12	75.8	0	50-200	0		%REC	10	05/15/16 02:35 PM
IS: Phenanthrene-d10	77.6	0	50-200	0		%REC	10	05/15/16 02:35 PM
Surr: 2-Fluorobiphenyl	78.6	0	46-115	0		%REC	10	05/15/16 02:35 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU040(2-4)-C
Project:	Laredo SGR	**Lab ID:**	1605071-51
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 02:29 PM
Lab Order:	1605071	**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	05/15/16 02:35 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU040(4-6)-C
Project:	Laredo SGR	**Lab ID:**	1605071-52
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 02:31 PM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	6.40	0.0917	0.275	0.138		mg/Kg-dry	5	05/16/16 06:39 PM
IS: Bismuth	91.9	0	30-120	0		%REC	5	05/16/16 06:39 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/15/16 03:15 PM
Acenaphthylene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/15/16 03:15 PM
Anthracene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/15/16 03:15 PM
Benzo[a]anthracene	0.113	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/15/16 03:15 PM
Benzo[a]pyrene	0.131	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/15/16 03:15 PM
Benzo[b]fluoranthene	0.129	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/15/16 03:15 PM
Benzo[e]pyrene	0.103	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/15/16 03:15 PM
Benzo[g,h,i]perylene	0.0971	0.0498	0.0995	0.0746	J	mg/Kg-dry	10	05/15/16 03:15 PM
Benzo[j]fluoranthene	0.0694	0.0498	0.0995	0.0746	JN	mg/Kg-dry	10	05/15/16 03:15 PM
Benzo[k]fluoranthene	0.0648	0.0498	0.0995	0.0746	J	mg/Kg-dry	10	05/15/16 03:15 PM
Chrysene	0.129	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/15/16 03:15 PM
Dibenz[a,h]anthracene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/15/16 03:15 PM
Fluoranthene	0.201	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/15/16 03:15 PM
Fluorene	0.0746	0.0498	0.0995	0.0746	U	mg/Kg-dry	10	05/15/16 03:15 PM
Indeno[1,2,3-cd]pyrene	0.0757	0.0498	0.0995	0.0746	J	mg/Kg-dry	10	05/15/16 03:15 PM
Phenanthrene	0.0952	0.0498	0.0995	0.0746	J	mg/Kg-dry	10	05/15/16 03:15 PM
Pyrene	0.169	0.0498	0.0995	0.0746		mg/Kg-dry	10	05/15/16 03:15 PM
IS: Acenaphthene-d10	69.9	0	50-200	0		%REC	10	05/15/16 03:15 PM
IS: Chrysene-d12	79.5	0	50-200	0		%REC	10	05/15/16 03:15 PM
IS: Naphthalene-d8	111	0	50-200	0		%REC	10	05/15/16 03:15 PM
IS: Perylene-d12	77.1	0	50-200	0		%REC	10	05/15/16 03:15 PM
IS: Phenanthrene-d10	78.6	0	50-200	0		%REC	10	05/15/16 03:15 PM
Surr: 2-Fluorobiphenyl	78.4	0	46-115	0		%REC	10	05/15/16 03:15 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		

DHL Analytical, Inc.

Date: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU040(4-6)-C
Project:	Laredo SGR	**Lab ID:**	1605071-52
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 02:31 PM
Lab Order:	1605071	**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	05/15/16 03:15 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		

DHL Analytical, Inc.

Date: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU040(6-8)-C
Project:	Laredo SGR	**Lab ID:**	1605071-53
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 02:34 PM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	4.18	0.0952	0.286	0.143		mg/Kg-dry	5	05/16/16 05:54 PM
IS: Bismuth	91.1	0	30-120	0		%REC	5	05/16/16 05:54 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/15/16 03:55 PM
Acenaphthylene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/15/16 03:55 PM
Anthracene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/15/16 03:55 PM
Benzo[a]anthracene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/15/16 03:55 PM
Benzo[a]pyrene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/15/16 03:55 PM
Benzo[b]fluoranthene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/15/16 03:55 PM
Benzo[e]pyrene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/15/16 03:55 PM
Benzo[g,h,i]perylene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/15/16 03:55 PM
Benzo[j]fluoranthene	0.0749	0.0499	0.0998	0.0749	NU	mg/Kg-dry	10	05/15/16 03:55 PM
Benzo[k]fluoranthene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/15/16 03:55 PM
Chrysene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/15/16 03:55 PM
Dibenz[a,h]anthracene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/15/16 03:55 PM
Fluoranthene	0.0816	0.0499	0.0998	0.0749	J	mg/Kg-dry	10	05/15/16 03:55 PM
Fluorene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/15/16 03:55 PM
Indeno[1,2,3-cd]pyrene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/15/16 03:55 PM
Phenanthrene	0.0749	0.0499	0.0998	0.0749	U	mg/Kg-dry	10	05/15/16 03:55 PM
Pyrene	0.0690	0.0499	0.0998	0.0749	J	mg/Kg-dry	10	05/15/16 03:55 PM
IS: Acenaphthene-d10	72.6	0	50-200	0		%REC	10	05/15/16 03:55 PM
IS: Chrysene-d12	80.0	0	50-200	0		%REC	10	05/15/16 03:55 PM
IS: Naphthalene-d8	112	0	50-200	0		%REC	10	05/15/16 03:55 PM
IS: Perylene-d12	78.4	0	50-200	0		%REC	10	05/15/16 03:55 PM
IS: Phenanthrene-d10	78.5	0	50-200	0		%REC	10	05/15/16 03:55 PM
Surr: 2-Fluorobiphenyl	77.7	0	46-115	0		%REC	10	05/15/16 03:55 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU040(6-8)-C
Project:	Laredo SGR	**Lab ID:**	1605071-53
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 02:34 PM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	69.4	0	58-133	0		%REC	10	05/15/16 03:55 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU040(8-10)-C
Project:	Laredo SGR	**Lab ID:**	1605071-54
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 02:36 PM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID			**SW6020A**					Analyst: **RO**
Lead	3.82	0.0971	0.291	0.146		mg/Kg-dry	5	05/16/16 06:41 PM
IS: Bismuth	95.2	0	30-120	0		%REC	5	05/16/16 06:41 PM
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Acenaphthene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/15/16 04:34 PM
Acenaphthylene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/15/16 04:34 PM
Anthracene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/15/16 04:34 PM
Benzo[a]anthracene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/15/16 04:34 PM
Benzo[a]pyrene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/15/16 04:34 PM
Benzo[b]fluoranthene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/15/16 04:34 PM
Benzo[e]pyrene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/15/16 04:34 PM
Benzo[g,h,i]perylene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/15/16 04:34 PM
Benzo[j]fluoranthene	0.0747	0.0498	0.0996	0.0747	NU	mg/Kg-dry	10	05/15/16 04:34 PM
Benzo[k]fluoranthene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/15/16 04:34 PM
Chrysene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/15/16 04:34 PM
Dibenz[a,h]anthracene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/15/16 04:34 PM
Fluoranthene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/15/16 04:34 PM
Fluorene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/15/16 04:34 PM
Indeno[1,2,3-cd]pyrene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/15/16 04:34 PM
Phenanthrene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/15/16 04:34 PM
Pyrene	0.0747	0.0498	0.0996	0.0747	U	mg/Kg-dry	10	05/15/16 04:34 PM
IS: Acenaphthene-d10	68.9	0	50-200	0		%REC	10	05/15/16 04:34 PM
IS: Chrysene-d12	76.2	0	50-200	0		%REC	10	05/15/16 04:34 PM
IS: Naphthalene-d8	107	0	50-200	0		%REC	10	05/15/16 04:34 PM
IS: Perylene-d12	75.0	0	50-200	0		%REC	10	05/15/16 04:34 PM
IS: Phenanthrene-d10	75.7	0	50-200	0		%REC	10	05/15/16 04:34 PM
Surr: 2-Fluorobiphenyl	82.2	0	46-115	0		%REC	10	05/15/16 04:34 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: *26-May-16*

CLIENT:	Arcadis	**Client Sample ID:**	SGR-DU040(8-10)-C
Project:	Laredo SGR	**Lab ID:**	1605071-54
Project No:	04285081.0000.00044	**Collection Date:**	05/05/16 02:36 PM
Lab Order:	1605071	**Matrix:**	SOIL

Analyses	Result	DL	RL	LOD	Qual	Units	DF	Date Analyzed
PAHS: GC/MS			**SW8270D-LL**					Analyst: **DEW**
Surr: 4-Terphenyl-d14	73.9	0	58-133	0		%REC	10	05/15/16 04:34 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		