FINAL

REMEDIAL INVESTIGATION REPORT

Remedial Investigation/Feasibility Study

For

Former Hammond Bombing and Gunnery Range
Tangipahoa Parish, Louisiana

FUDS Project No. A06LA030901

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Prepared for:

U.S. Army Corps of Engineers – Fort Worth District

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List of Acronyms

°F	Degrees Fahrenheit
#	Number
AAF	Army Airfield
AGC	Advanced Geophysical Classification
AOI	Area of Interest
APP	Accident Prevention Plan
asl	Above Sea Level
ASR	Archives Search Report
BEM	Buried Explosion Module
bgs	Below Ground Surface
BSP	Blind Seeding Program
BT1	Bomb Target #1
BT2	Bomb Target #2
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESWF	USACE Fort Worth District
CFR	Code of Federal Regulations
CMUA	Concentrated Munitions Use Area
CSM	Conceptual Site Model
DDESB	Department of Defense Explosives Safety Board
DGM	Digital Geophysical Mapping
DGPS	Differential Global Positioning System
DID	Data Item Description
DoD	Department of Defense
DQO	Data Quality Objective
EM	Engineer Manual
ESP	Explosives Site Plan
FS	Feasibility Study
FUDS	Formerly Used Defense Sites
HA	Hazard Assessment
HBGR	Hammond Bombing and Gunnery Range
HE	High Explosive
INPR	Inventory Project Report
lb	Pound
ISO	Industry Standard Object
ITS	Instrument Test Strip
LDEQ	Louisiana Department of Environmental Quality

LUC	Land Use Control
PAL	Project Action Level
PDA	Personal Digital Assistant
MC	Munitions Constituents
MD	Munitions Debris
MDAS	Material Documented As Safe
MEC	Munitions and Explosives of Concern
mg/kg	Milligrams per Kilogram
MMRP	Military Munitions Response Program
MPPEH	Material Potentially Presenting Explosive Hazard
MR	Munitions Response
MRS	Munitions Response Site
MRSPP	Munitions Response Site Prioritization Protocol
NCMUA	Non-Concentrated Munitions Use Area
RI	Remedial Investigation
RMM	Risk Management Methodology
RSL	Regional Screening Level
SI	Site Inspection
SUXOS	Senior Unexploded Ordnance Supervisor
TP	Technical Paper
TPP	Technical Project Planning
U.S.	Unites States
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
UU/UE	Unlimited Use/Unrestricted Exposure
UXO	Unexploded Ordnance
UXOQCS	Unexploded Ordnance Quality Control Specialist
UXOSO	Unexploded Ordnance Safety Officer
VSP	Visual Sample Plan
WP	Work Plan

EXECUTIVE SUMMARY

The Remedial Investigation (RI) was completed to characterize the nature and extent of MEC impacts and Munitions Constituents (MC) contamination at the Former Hammond Bombing and Gunnery Range (HBGR) Bomb Target #1 (BT1) Munitions Response Site (MRS). The RI results determine if MEC or associated MC pose a hazard to current or future receptors. Data collected during the RI at the BT1 MRS, included analog geophysical surveys, intrusive investigations of anomalies, and MC sampling. Data sufficient in quality and quantity was collected to prepare a Feasibility Study (FS).

The RI at BT1 MRS consisted of the following field activities:

- Limited vegetation removal to prepare for analog geophysical survey
- Analog geophysical surveys to identify subsurface anomalies
- Geospatial information collection of target anomalies
- Intrusive investigation of target anomalies to characterize the nature and extent of MEC
- Material Potentially Presenting Explosive Hazard (MPPEH) inspection process
- MEC treatment
- Incremental sampling and analysis of MC
- Risk characterization and analysis

The detector-aided geophysical surveys were completed at BT1. Analog geophysics was used to complete both transect and grid surveys due to the presence of site conditions not conducive to digital geophysical mapping (DGM). Approximately 199,252 linear feet (37.74 miles) of 5-foot wide transects were completed at 250-foot spacing. The actual transect paths were adjusted based on topography, vegetation, site access, and the presence of structures. All anomalies identified by the transect survey were flagged and intrusively investigated by UXO personnel.

Upon completion of the transect survey, Visual Sample Plan (VSP) was used to create an anomaly density map of MEC/MD findings. Ten 100-foot by 100-foot comprehensive coverage grids were placed within the areas identified as high density to assist in refining the nature and density of MEC related impacts. All anomalies identified within the comprehensive coverage grids were flagged and intrusively investigated by UXO personnel.

A total of 22.87 acres (i.e., 199,252 linear feet by 5 feet wide) of analog transects were completed and a total of 856 anomalies were detected and intrusively investigated. Based on the results, a total of 2.3 acres (i.e. ten 100-foot by 100-foot) 100-percent analog coverage grids were distributed within the high anomaly density areas and 549 anomalies were detected and intrusively investigated.

A total of 1,405 anomalies were investigated from the analog transects and grids. Nine MEC items and 809 MD items were recovered during intrusive investigation. In addition, other debris (e.g., nails, banding, wire) were documented during intrusive investigation. The nine recovered MEC items consisted of eight incendiary bomb pieces and one 100-lb high explosive bomb. The

809 recovered MD items consisted of fuzes, bomb components, practice bombs, expended or unidentifiable fuze components, unidentifiable munition fragments, and projectiles.

One incremental surface soil sample was collected from each of the ten 100-foot by 100-foot comprehensive grids to determine if soil was contaminated. Each incremental sample was collected using a systematic random sampling pattern from a decision unit that covered the entire comprehensive grid and were analyzed for project specific metals and explosives. MC sample results were non-detect for explosives. MC metals results were below project action levels (PALs).

The results of the intrusive investigations indicate that the potential for MEC exists within the MRS, primarily in the central portion of the site. The distribution of MD indicates the lateral extent of munitions related items do not extend beyond the MRS boundary. The presence of MEC and MD is most prevalent in the central portion of the MRS.

The BT1 MRS has been sufficiently characterized using the results from previous investigations and from this RI. MEC items were identified within the BT1 MRS and MEC related items were found throughout the MRS but concentrated near the center of the MRS. No MC contamination was identified during the RI. No further investigation for MC contamination is recommended.

Based on the results of this RI, any potential remaining MEC poses a potential hazard to current and future receptors at the BT1 MRS. Therefore, the BT1 MRS is recommended for a FS to address issues associated with MEC.

1.1 AUTHORITY

The project is being completed under the United States Army Corps of Engineers (USACE) Military Munitions Response Program (MMRP) Defense Environmental Restoration Program – Formerly Used Defense Sites (FUDS) and will be executed in accordance with federal, state, and local statutes, regulations, and guidance. Munitions and Explosives of Concern (MEC) associated work will be consistent with the provisions of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act of 1986; the National Oil and Hazardous Substances Pollution Contingency Plan (40 Code of Federal Regulations [CFR] §300); Executive Order 12580; 29 CFR §1910.120; and USACE, Department of the Army, and Department of Defense (DoD) safety requirements regarding personnel, equipment, and procedures as they pertain to MEC, obtaining permits, and making proper notifications and contacts necessary for implementation of project tasks. CERCLA has no special provisions for dealing with explosive safety; therefore, DoD's Ammunition and Explosives Safety Standards (DoD 6055.09-M) and the USACE Engineer Manual (EM) 385-1-97 (USACE 2013), were followed to address safety. In addition, all field activities were completed in compliance with the USACE Safety Manual EM 385-1-1 (USACE 2014). USACE EM 200-1-15 (USACE 2015) was used to provide technical guidance for the implementation of Remedial Investigation (RI) field activities. The Louisiana Department of Environmental Quality (LDEQ) and United States Environmental Protection Agency (USEPA) Region 6 are regulatory agencies for this project and will be asked to review and comment on several deliverables. USACE Fort Worth District (CESWF) will seek concurrence from both LDEQ and USEPA; however, it is not required as USACE is the lead agency for all FUDS projects.

1.2 PURPOSE AND SCOPE

The RI was completed to characterize the nature and extent of MEC impacts and Munitions Constituents (MC) contamination at the Former Hammond Bombing and Gunnery Range (HBGR) Bomb Target #1 (BT1) Munitions Response Site (MRS). The RI results determine if MEC or associated MC pose a hazard to current or future receptors. As part of the RI at the BT1 MRS, the contractor completed geophysical surveys, intrusive investigations, MC sampling, baseline risk assessments, and sufficient data collected to prepare a FS.

1.3 PROPERTY DESCRIPTION AND SITE BACKGROUND

1.3.1 Facility Location and History

The 15,215.9-acre property formerly known as HBGR is located in Tangipahoa Parish, approximately 5 miles east of Hammond, Louisiana. The general location and boundaries of the site are shown on **Figure 1-1**. The FUDS property boundary and the BT1 MRS boundary are shown on **Figure 1-2**. Former HBGR is located north of United States Highway 190, east of State Highway 445, and west of State Highway 1077 (Turnpike Road). The eastern boundary of Former HBGR lies along the Tangipahoa-St. Tammany Parish line. Riverdale Heights Road and Red Bird Lane run partially through Former HBGR.

The United States Government leased 15,215.9 acres of land from 20 different individuals and corporations in 1942 for use as a bombing and gunnery range. The site area was chosen due to its proximity to numerous training airfields and its low population density. The land is located in eastern Tangipahoa Parish. Historical documents note that the military used the property from August 1942 to September 1945 (USACE 2003).

In March 1943, Hammond Army Airfield (AAF) was commissioned as a sub-base of Harding AAF. Upon completion of Hammond AAF, aircraft units were transferred to the airfield temporarily for the bombing and gunnery training phase. Hammond AAF and its range complex, Former HBGR, was a sub-base of Harding AAF, Gulf Port AAF, Key Field, Stuttgart AAF, and Esler AAF.

During May 1942, Gulf Port AAF began use of Hammond AAF for high-level bombardment training (Ford 1996). Some of this training reportedly involved use of High Explosive (HE) bombs that caused explosions large enough to rattle windows in downtown Hammond (Ford 1996).

General Order Number 131, dated September 7, 1945, formally closed HBGR with an effective date of September 10, 1945. Airfield operations at the Hammond AAF were officially discontinued on September 15, 1945. Former HBGR personnel performed a site walkover in an attempt to remove ordnance items.

There were originally five MRSs within Former HBGR, and together they encompassed 6,045 acres of land. These MRSs were BT1 MRS, the Multiple Use Target MRS, Bomb Target #2 (BT2) MRS, the Rifle Range MRS, and the Gunnery Range MRS. In 2009, following the Site Inspection (SI), the SI Report (Parsons 2009) recommended completion of a RI/FS at BT1 MRS, the Multiple Use Target MRS, and BT2 MRS and No Department of Defense Action Indicated for the Rifle Range MRS, and the Gunnery Range MRS. After completing the SI Report, USACE negotiated with Former HBGR project stakeholders to revise MRS boundaries and recommendations for further investigations. The realigned BT1 MRS (Figure 1-2) included some property previously part of the Multiple Use Target, Rifle Range, and Gunnery Range MRSs, and was designated for an RI/FS. All other Former HBGR property outside the realigned BT1 MRS boundary has been determined to require no further action.

The majority of Former HBGR is currently managed as lumber production and hunting club lands. Approximately 11,279 acres (approximately 75 percent) of Former HBGR was owned for many years (until May 2008) by a trust managed by the Bennett-Peters Company. This land is currently owned by a private trust. The remaining land is owned by numerous private owners that use the land for residential, commercial, and recreational purposes. As of March 2016, there were approximately 345 parcels of property within the Former HBGR FUDS boundary (Tangipahoa Parish 2016).

1.3.2 Historical Explosives Safety Hazard

According to the Archives Search Report (ASR) Supplement (USACE 2004) the munitions reportedly used at the Former HBGR include the following:

- Bomb, 100-pound (lb), General Purpose HE, AN-M30
- Bomb, 100-lb, General Purpose HE, MK 1
- Signal, Spotting Charge, M1A1,M3,M5
- Rockets, 2.25-inch, practice, M5
- Bomb, 100-lb, concrete practice bomb, M85
- Bomb, 100-lb, practice, M38A2
- Bomb, 3-lb, practice, AN-MK4
- Bomb, 3-lb, practice, AN-MK5
- Bomb, 3-lb, practice, AN-MK23
- Bomb, 4.5-lb, practice, AN-MK43
- Small arms ammunition, 0.50-caliber, machinegun
- General small arms ammunition, 0.30-caliber, machinegun

During the April 2002 site visit in support of the ASR, USACE personnel examined Former HBGR for ordnance-related features and items. The site visit team noted HE cratering and fragments of HE bombs at BT1 and BT2 MRSs. The team also noted numerous practice bomb fragments of unknown type, M38A2 100-lb practice bombs, tail fins, suspension lug bands, parts of M1A1 spotting charges, 0.50-caliber projectiles, and 0.30-caliber projectiles.

Historical documentation for the site indicates there have been no MEC findings or any incidents involving ordnance found at Former HBGR. Deputy Sheriff Tom Davidson of the Tangipahoa Parish Sheriff's Department stated that he detonated munitions found at the site in the early 1970s. However, the Tangipahoa Parish Sheriff's Department does not have written records going back to that time.

1.4 PREVIOUS INVESTIGATIONS AND ACTIVITIES

1.4.1 1996 Inventory Project Report

In 1996, the USACE New Orleans District prepared an Inventory Project Report (INPR) (USACE 1996) that identified Former HBGR as a FUDS property. The INPR determined that Former HBGR was formerly used by the Department of War/DoD and recommended a site evaluation for possible ordnance contamination.

1.4.2 2003 Archives Search Report

In March 2003, the USACE Rock Island District completed an ASR (USACE 2003). The ASR documented the results of the April 2002 site visit, records search, and aerial photograph review, and assigned a risk assessment code to the site. The ASR also indicated that, during the 2002 site visit, several ordnance-related findings and remaining target features were identified. The

site visit team noted HE cratering and fragments of HE bombs at BT1 and BT2 MRSs. The site visit team also noted M38A2 100-lb practice bombs (Multiple Use Target MRS), parts of M1A1 spotting charges (Multiple Use Target MRS), 0.50-caliber projectiles (Multiple Use Target MRS), and 0.30-caliber projectiles (Rifle Range MRS). The team also learned that no MEC incidents had been reported at the former ranges or targets.

1.4.3 2004 Archives Search Report Supplement

In November 2004, the USACE St. Louis District completed the Former HBGR ASR Supplement (USACE 2004). It presented information concerning the munitions items potentially present at Former HBGR that were reported in the 2003 ASR. The ASR Supplement identified five MRSs covering approximately 6,045 acres at Former HBGR.

1.4.4 2008 Annual Report to Congress

The 2008 Annual Report to Congress (Defense Environmental Programs 2009) indicates Former HBGR includes MRSs totaling 6,045 acres, which is consistent with the cumulative MRS acreages reported in the ASR Supplement. It also indicates that there is restricted public access and that the site is fenced and has locked gates.

1.4.5 2009 Site Inspection Report

The objective of the Site Inspection (SI) was to determine whether Former HBGR warrants further evaluation under CERCLA. Information collection was limited exclusively to identify MEC and MC contamination and did not consider unrelated hazardous and toxic waste concerns. Former HBGR contains five MRSs: BT1, the Multiple Use Target, BT2, the Rifle Range, and the Gunnery Range. In addition to the identified MRSs, a potential Area of Interest (AOI) with possible cratering was identified during the first SI Technical Project Planning (TPP) meeting and included in the inspection. Qualitative reconnaissance and MC sampling were performed.

The qualitative MEC risk evaluation identified a potential for human receptors to come into contact with hazardous MEC at BT1, Multiple Use Target, and BT2 MRSs. Therefore, a potential explosive safety risk was associated with these MRSs. However, no explosive hazards were identified at the Rifle Range or Gunnery Range MRSs; therefore, no explosive safety risks were considered to be present at these MRSs. Based on results of the MC and MEC risk evaluations, it was recommended that BT1, Multiple Use Target, and BT2 MRSs require further evaluation as part of an RI/FS, and that the Rifle Range and Gunnery Range MRSs require no further DoD action. It was also recommended that the potential cratering AOI be investigated further, and that the location of the Multiple Use Target MRS be evaluated to see if it had been located correctly on historical maps.

As stated in Section 1.3.1, after completing the SI, USACE negotiated with Former HBGR project stakeholders to revise MRS boundaries and recommendations for further investigations. The realigned BT1 MRS (**Figure 1-2**) included some property previously part of the Multiple Use Target, Rifle Range, and Gunnery Range MRSs, and was designated for an RI/FS. All other

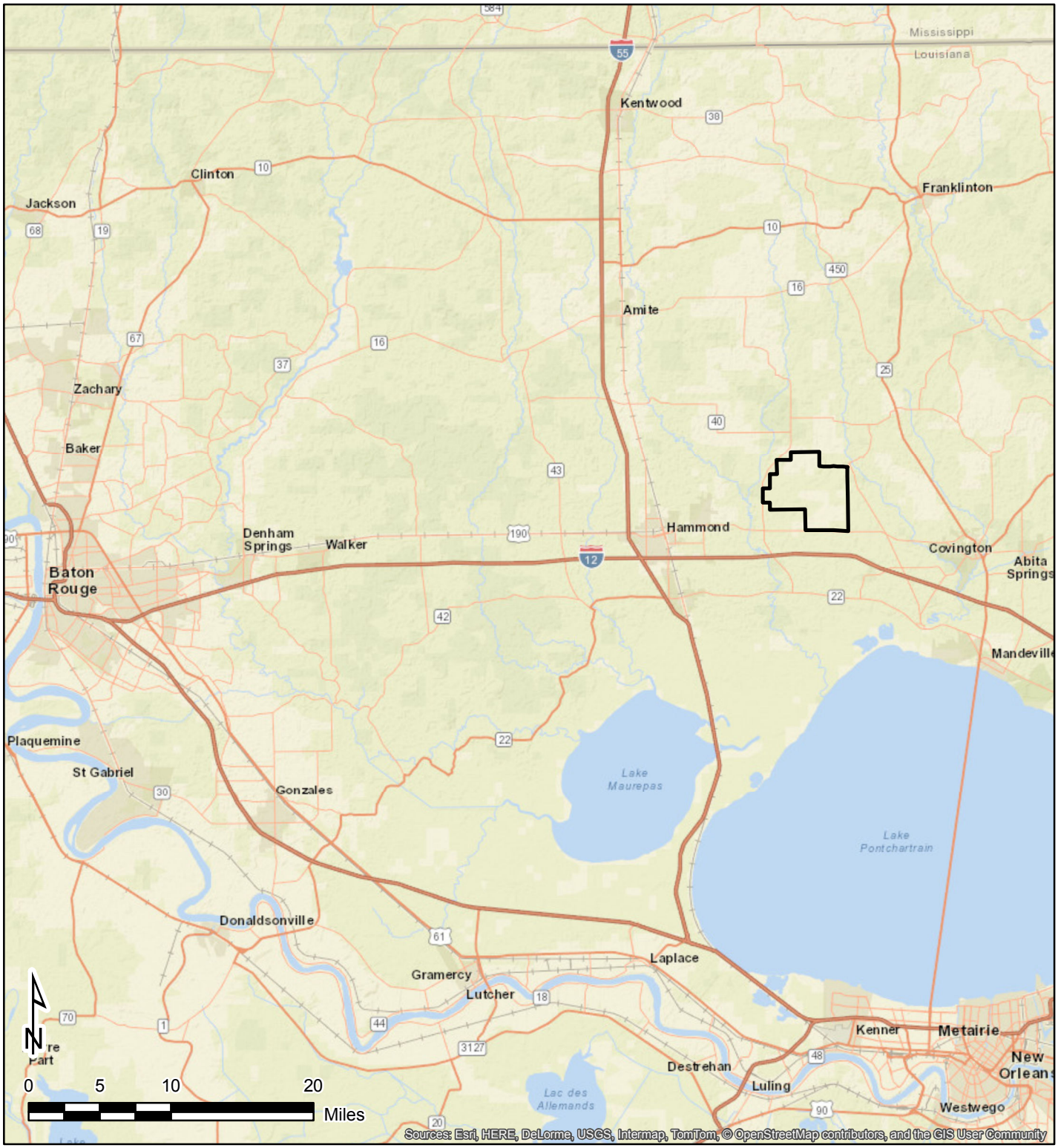
Former HBGR property outside the realigned BT1 MRS boundary has been determined to require no further action.

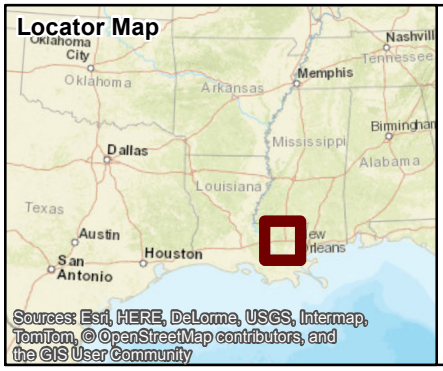
1.5 REPORT ORGANIZATION

This RI Report is generally organized in accordance with the Data Item Description (DID) WERS-001 (USACE 2008). Brief descriptions of the document chapters and appendices are presented below.

- **Section 1 – Introduction** describes the project authorization, purpose, and scope, and presents the report organization, project location, and facility description and history. Previous investigation results and the preliminary conceptual site models (CSMs) are also presented in this chapter.
- **Section 2 – General Environmental Setting** presents the general environmental setting.
- **Section 3 – Study Area Investigation** presents the RI Data Quality Objectives (DQOs) and investigation activities that were completed.
- **Section 4 – MEC Characterization** summarizes the RI results, describes the nature and extent of MEC impact at the BT1 MRS, and MEC fate and transport.
- **Section 5 – Revised CSM** revises the CSM developed during previous investigations.
- **Section 6 – Risk Management Methodology (RMM)** and Munitions Response Site Prioritization Protocol (MRSPP) addresses the RMM scoring and rationale and MRSPP score.
- **Section 7 – Summary and Conclusions** presents a summary of the findings and conclusions of this RI.
- **Section 8 – References** provides a list of references used to develop this report.
- **Appendix A – TPP Meeting Minutes** contains the TPP meeting notes that document TPP meetings held with project stakeholders.
- **Appendix B – Visual Sample Plan (VSP) Report** presents the intrusive investigation results of the RI.
- **Appendix C – MEC Accountability Log and MDAS Documentation** provides a summary of the MEC identified, tracked, and disposed during the RI.
- **Appendix D – Daily Field Management Reports** presents the daily field reports completed during RI field activities.
- **Appendix E – Target Excavation Data** presents intrusive investigation data generated during the RI.
- **Appendix F – Summary of Analytical Data** presents soil sample documentation and analytical result tables.
- **Appendix G – Data Review and Validation** provides the data review and validation findings for the RI analytical data.

- **Appendix H – RMM** presents the RMM for the MRS addressed in and recommended by this RI.
- **Appendix I – MRSPP Tables** presents the MRSPP tables for the MRS.





Legend

FUDS Property Boundary

US Army Corps of Engineers®

Installation Location
Former Hammond Bombing and Gunnery Range
RI Report
W912BV-10-D-2013-DY10

Drawn By:	Date:	
JZ	6/2/2017	**Figure 1-1**
Checked By:	Project No.	
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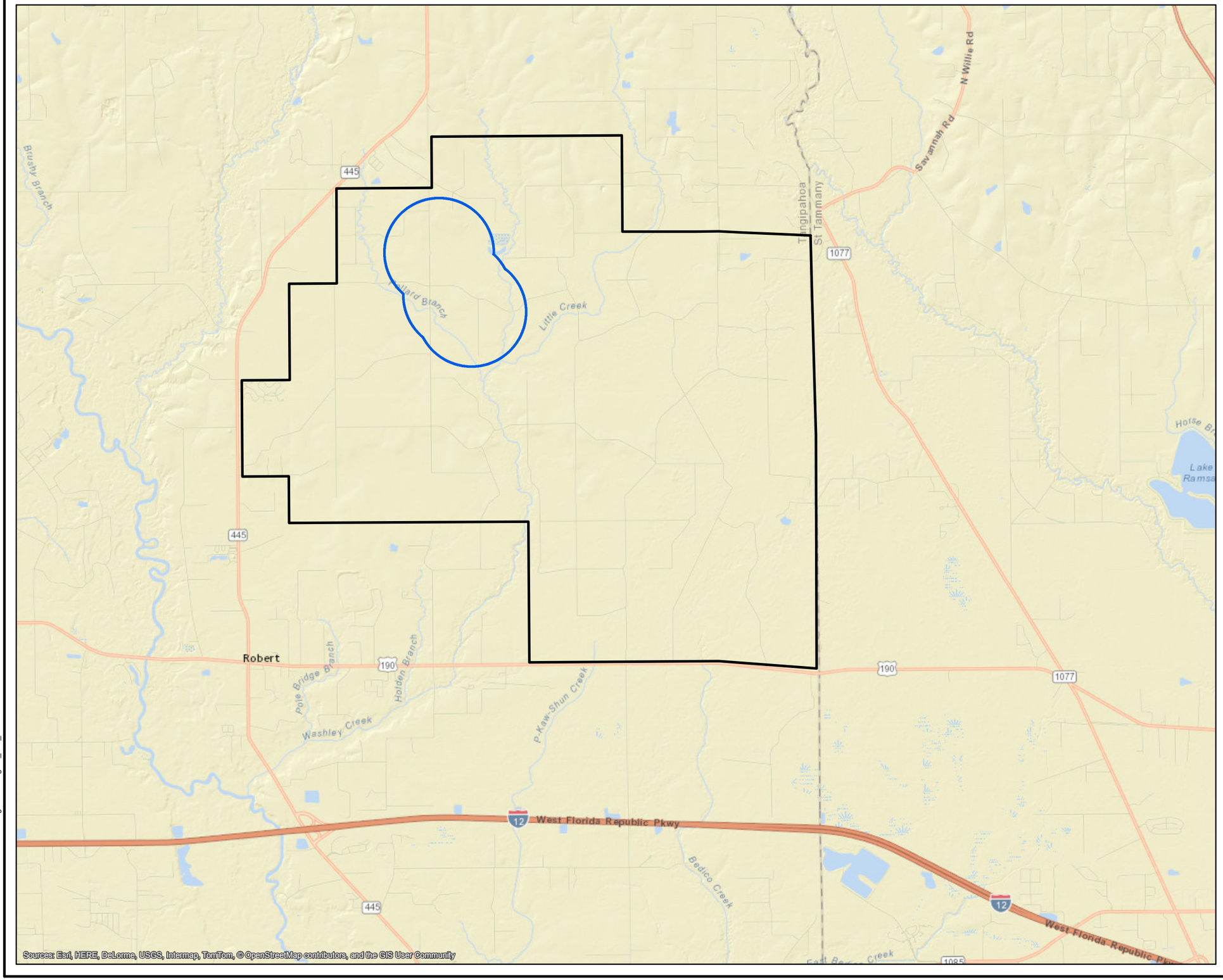

Legend

- FUDS Property Boundary
- Bomb Target #1 MRS

N

0 0.5 1 2 Miles

US Army Corps of Engineers®

MRS Location
Former Hammond Bombing and Gunnery Range
RI Report
W912BV-10-D-2013-DY10

Drawn By:	Date:	
JZ	6/2/2017	**Figure 1-2**
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2.1 PHYSIOGRAPHY, TOPOGRAPHY, AND HYDROLOGY

Several semi-developed neighborhoods are located at least partially within the Former HBGR boundary, including Willow Rivergate, Willows, Chateau Farms, Oak Hill Estates, and Louisiana Polo Farms. These subdivisions are concentrated in the northern and western portions of the site, closer to State Highway 445. Nearby unincorporated communities include Robert and Loranger.

Neighboring businesses include hotels, a campground, bed and breakfast inns, restaurants, and gas stations. There are four schools located within a few miles of the property, including two elementary schools, a primary school, and a high school. There is also a daycare facility, a Head Start Facility, and a youth shelter within three miles of the property.

Topography at Former HBGR site is nearly level, with an elevation of approximately 35 feet above sea level (asl). Elevation varies no more than 15 feet at the site. Very dense vegetation is present at the site, consisting of grasses, shrubs, and trees. The site is partially used for logging.

The site is located within the Upland Sub-Basin of the Pontchartrain Basin. Lake Ramsay is located approximately 3.5 miles to the east of Former HBGR. There are two major rivers adjacent to the property, the Tangipahoa River to the west, and the Tchefuncta River to the east. Both rivers flow southerly and empty into Lake Pontchartrain, approximately 10 miles south of the property. The majority of the property drains through tributary creeks to the Tangipahoa River.

During the wet season, the site has considerable standing water. During the SI qualitative reconnaissance completed in August 2008, the site was very wet, with standing water present across most of the central, southern, and eastern portions of the site, including roads. Several of the roads into the site were unnavigable due to standing water, even though they were topographically higher than the surrounding land (Parsons 2009).

2.2 CLIMATE AND PRECIPITATION

Former HBGR is located in southeastern Louisiana, north of the Gulf of Mexico, which provides a strong climatic influence. Winters are mild, with an average temperature of 51 degrees Fahrenheit (ºF). The record winter low temperature was 9ºF, which occurred at Amite on January 12, 1962. Summers are hot, with an average temperature of 81ºF and an average daily maximum temperature of 92ºF. The highest recorded temperature in the area, which occurred on July 1, 1954, is 104ºF.

The total annual precipitation is approximately 65 inches. Approximately 55 percent of the annual precipitation occurs from April through September. Thunderstorms occur frequently during the summer. Conversely, snowfall is very rare, with 90 percent of the winters having no accumulation. The heaviest one day snowfall on record was just over 3 inches.

The average annual relative humidity in the afternoons is about 60 percent. Humidity is higher at night, and the average at dawn is about 90 percent. Sunshine occurs approximately 70 percent

of the time in the summer and approximately 50 percent of the time in the winter. Prevailing southeast winds are the highest in the spring, averaging about 10 miles per hour.

2.3 GEOLOGY AND SOILS

Soil at Former HBGR is composed of four basic types. They are the moderately drained Toula-Tangi soil group, the poorly drained Guyton-Abita group, the somewhat poorly drained Stough-Myatt group, and the soil group of the floodplains, the Ouachita-Ochlockonee-Guyton group.

The Toula-Tangi group is located on the northern and western portions of the subject site. It is gently sloping to moderately sloping on broad to narrow ridge tops and on side slopes along drainages. Elevations for this group range from about 60 to 240 feet asl. Slopes range from 1 to 3 percent on ridge tops to 8 percent on side slopes. The Toula soil is dark grayish brown silt loam on the surface and the subsoil is light yellowish brown and is a compact and brittle fragipan. The Tangi soil is very gently sloping to moderately sloping. The surface layer is dark grayish brown silt loam with yellowish brown silt loam subsoil. The lower portion of the subsoil is a fragipan of mottled yellowish brown, yellowish red, clay loam and clay. This group is well-suited to woodlands and moderately suited to urban and recreational uses.

Like the Toula-Tangi group, the Guyton-Abita group are gently sloping to moderately sloping on broad to narrow ridge tops. Located on the southwest portion of the subject site, this soil has elevations ranging from 5 feet to 60 feet asl. Slopes are 0 to 1 percent on the flats and 0 to 5 percent in depressional areas. The Guyton soil is brown or dark grayish-brown silt loam. The subsurface layer is mottled grayish-brown, gray, and light brownish-gray silt loam. The Abita soil is somewhat poorly drained on broad slightly convex ridges and on side slopes along drainage ways. The surface layer is dark grayish brown silt loam with pale brown or light brownish gray silt loam. Soil of this group is suited to use as woodland, pasture, and small acreages for truck crops and home sites.

The Stough-Myatt soil group is found on the southern and eastern portion of the subject site. This soil is level, somewhat poorly drained, and loamy throughout. The soil is found on slightly convex ridges and broad flats and in swales and small drainage ways. Elevations range from 20 to 40 feet asl with slopes of 0 to 1 percent. The Stough soil has a dark grayish-brown fine sandy loam surface. The subsurface layer is pale brown, mottled, fine sandy loam and the subsoil is light yellowish-brown, mottled loam and light brownish-gray sandy clay loam. The poorly drained Myatt soil is found on broad flats and in swales and small drainage ways. The surface layer is very dark gray fine sandy loam with a subsurface layer of gray, mottled fine sandy loam. The subsoil is gray and light gray, mottled loam, clay loam, and sandy clay loam. This soil group is well-suited to woodland production; however, flooding is a hazard.

The Ouachita-Ochlockonee-Guyton soil group passes north-south through the center of the subject site. The soil of this group is on the floodplains of streams, and is subject to frequent flooding. Elevations for this group range from 5 to 200 feet asl with slopes from 0 to 3 percent. The Ouachita soil is gently undulating and well-drained with a dark brown silt loam. The subsoil is yellowish-brown silt loam. The Ochlockonee soil is gently undulating and well-drained on convex ridges. The surface layer is dark grayish-brown sandy loam and the underlying material

is stratified yellowish and brownish sandy loam and loamy fine sand. The Guyton soil is level and poorly drained. It is in swales and flats between the ridges. The surface layer is brown or dark grayish-brown silt loam. The subsurface layer is mottled grayish brown, gray, and light brownish gray silt loam. Wetness, low fertility, and the hazard of flooding are the main limitations. This soil is moderately well-suited to bottomland hardwoods. The soil is well-suited as habitat for deer, squirrels, rabbits, ducks, turkeys, and other small wildlife.

2.4 DEMOGRAPHICS

According to the 2010 Census, the ratio of men to women in the immediate vicinity of Former HBGR (zip codes 70446 and 70455) is approximately equal. The median age is approximately 37 years, with roughly 30 percent of the population under 20 years of age and 11 percent of the population over 65 years of age. The majority of the population identifies their race as white (90.2 percent), with the largest minority population identifying as black or African American (7.1 percent). Hispanic/Latino accounted for 2.7 percent of the area's population. Other races identified include Asian and American Indian and Alaska native (United States [U.S.] Census Bureau 2010). Approximately 73 percent of the population over age 18 graduated from high school, with 13.5 percent of the population over age 25 earning a bachelor's degree or higher (U.S. Census Bureau 2000). Of the population 5 years of age and over, an estimated 3.4 percent reported speaking a language other than English at home (U.S. Census Bureau 2014). The area is served by the Tangipahoa Parish school system.

In Hammond, the population tends to be slightly younger with a median age of 33.6. In contrast to the population's racial background in the immediate vicinity of Former HBGR, the 2010 census showed 48.6 percent of the population identified as white and 47.5 percent identified as black or African American (U.S. Census Bureau 2010).

2.5 CURRENT AND PROJECTED LAND USE

BT1 MRS is located in the northwestern portion of Former HBGR. The majority of the BT1 MRS is currently undeveloped, forested land with residential housing located in the northwestern portion of the MRS. The forested areas are logged commercially and the site is accessible by logging roads. Portions of the forested area are leased to a hunting club. Future land uses are anticipated to be consistent with current land uses at BT1 MRS.

3.1 REMEDIAL INVESTIGATION DATA QUALITY OBJECTIVES

The DQO process is a systematic planning tool that was used for establishing data quality criteria and for developing a data collection approach. The DQO process was followed for the RI to identify data needs and to collect the type, quantity, and quality of data necessary to evaluate and support decisions for the BT1 MRS. The steps of the DQO development process (USEPA 2006) include:

- State the Problem – Define the problem that necessitates the study. Review prior studies and existing information to gain a sufficient understanding to define the problem.
- Identify the Goal of the Study – State how environmental data will be used in meeting objectives and solving the problem, identifying study questions, and defining alternative outcomes.
- Identify Information Inputs – Identify data and information needed to answer study questions.
- Define the Boundaries of the Study – Specify the target population and characteristics of interest, define spatial and temporal limits, and scale of inference.
- Develop the Analytic Approach – Define the parameters of interest, specify the types of inference, and develop the logic for drawing conclusions from findings.
- Specify Performance or Acceptance Criteria – Specify probability limits for false rejection and false acceptance decision errors. Develop performance criteria for new data being collected or acceptable criteria for exiting data being considered for use.
- Develop the Detailed Plan for Obtaining Data – Select the resource effective sampling analysis plans that meet the performance criteria.

The DQO process was implemented to identify data needed to support future regulatory decisions at BT1 MRS. The DQOs developed for the BT1 MRS are in the RI Work Plan (WP) (USACE 2017b).

3.2 REMEDIAL INVESTIGATION ACTIVITIES

The RI at BT1 MRS consisted of the following field activities, which are documented in the Daily Field Management Reports (**Appendix D**):

- Vegetation removal to prepare for analog geophysical survey
- Analog geophysical surveys to identify subsurface anomalies potentially representing MEC
- Geospatial information collection of target anomalies
- Intrusive investigation of anomalies to characterize the nature and extent of MEC
- Material Potentially Presenting Explosive Hazard (MPPEH) inspection process
- MEC treatment

- Incremental sampling and analysis of MC
- Risk characterization and analysis

3.2.1 Vegetation Removal

To support the analog geophysical survey, light brush was cut manually using hand tools. The vegetation was cut in order to remain near the planned transect paths.

To support MEC treatment (i.e. destruction) of the 100-lb bomb described in **Section 3.2.10**, vegetation removal was completed by a subcontractor using a Barko 930 drum chipper. An access path to the treatment location along with a 30-foot buffer was cleared of vegetation. An unexploded ordnance (UXO) technician implemented MEC and anomaly avoidance procedures during vegetation removal activities.

3.2.2 Equipment and Personnel

UXO technicians utilized hand-held magnetometers (Schonstedt GA-52Cx) during the survey to flag any detected subsurface anomalies. A Trimble Differential Global Positioning System (DGPS) (Trimble GeoExplorer 7x) with sub-meter accuracy was used to load transects paths for the BT1 MRS and to enter an electronic record of anomaly findings. A position was recorded once daily using the hand held DGPS units to ensure accuracy requirements were met. Each team also carried a digital camera to document significant findings along the transects.

The field management team consisted of a Senior Unexploded Ordnance Supervisor (SUXOS) and a dual hat Unexploded Ordnance Quality Control Specialist (UXOQCS)/ Unexploded Ordnance Safety Officer (UXOSO). UXO team size and composition included a UXO Technician III (Team Leader) to lead each team, UXO Technician IIs and Is. UXO Technicians met or exceeded the requirements as described in Department of Defense Explosives Safety Board (DDESB) Technical Paper (TP) 18. Team members were familiar with the RI WP, Explosives Site Plan (ESP), Accident Prevention Plan (APP), site conditions, and site history prior to commencing fieldwork.

3.2.3 Instrument Test Strip

Handheld detectors (Schonstedt GA-52Cx) were tested daily to determine functionality. Each team member was responsible for performing tests on the Instrument Test Strip (ITS) to verify they could hear subsurface anomaly responses and to verify their hand-held detector was in proper working condition each morning. The morning test required each operator to locate seed items in the ITS. No instruments failed the functionality test.

Functionality checks at the ITS were documented in the Team Leader's log books and verified by the UXOQCS. The objectives of the ITS was to verify handheld detectors were operating as designed and were capable of locating/detecting subsurface anomalies.

The ITS was placed adjacent to the operation staging area on landowner property. This location was chosen as a convenient and accessible location that represented typical terrain and soil

conditions found in the entire survey area. The UXOQCS and QC Geophysicist determined ITS seed type, placement, depth and orientation. Three ISOs, with outside diameter of 1.3 inches, were buried horizontally at depths of 4.5 inches, 6 inches, and 9 inches. Prior to placement of the ISOs, the test strip area was swept to document the location of pre-existing anomalies. No pre-existing anomalies were documented near the ITS.

3.2.4 Blind Seeding Program

A Blind Seeding Program (BSP) was conducted as part of the analog survey and intrusive investigations. The main purpose of the BSP is to provide ongoing confirmation that Targets of Interest (TOIs) can be detected and recovered during the intrusive investigation process. Blind seed items were buried at locations to be surveyed at a sufficient frequency such that they were useful for quality checks. The blind seeds were buried within the expected detectable range of sensors, so failure to detect any seed would be a meaningful indication there is an unacceptable quality condition, and the operator would have required retraining by the UXOQCS. A DGPS was used to record blind seed positions. The UXOQCS conducted dynamic repeatability requirement in accordance with EM 200-1-15 Table 11-4 (page 11-27), Transect with Digging (USACE 2015). Dynamic repeatability assessment did not identify any QC failure.

Blind seed items were comprised of schedule 40 or 80 steel pipe nipples of 1-inch by 4-inch (small blind seed) and 2-inch by 8-inch in (medium blind seed) dimensions. A total of 43 blind seeds were placed throughout the ten complete coverage grids (four to five seeds per grid). All buried blind seeds were selected for final target list inclusion during the RI intrusive investigation.

3.2.5 Transect Survey

The detector-aided geophysical surveys were completed at BT1. Analog geophysics was used to complete both transect and grid surveys due to the presence of site conditions not conducive to digital geophysical mapping (DGM) (i.e., very heavy ground vegetation and densely forested). In order to collect DGM, extensive vegetation removal would have been required, however, the entire MRS is under private ownership with numerous landowners and it was preferred that vegetation removal be kept to a minimum. Approximately 199,252 linear feet (37.74 miles) of 5-foot wide transects were completed at 250-foot spacing. The preliminary transect paths planned for BT1 are depicted on **Figure 3-1**. The actual transect paths were constrained by fences, trees, and/or other surface features that impeded data collection. The actual transect path locations were adjusted based on topography, vegetation, site access, and the presence of structures as depicted on **Figure 3-2**. All anomalies identified by the transect survey were flagged and intrusively investigated by UXO personnel.

3.2.6 Comprehensive Grid Coverage

Upon completion of the transect survey, data were imported to VSP to create an anomaly density map. High anomaly density areas were identified by the VSP output (**Appendix B**); comprehensive coverage grids were completed in a portion of those areas to determine the nature and vertical extent of the MEC impact. Ten comprehensive coverage grids measured 100-foot

by 100-foot. Grids were placed in select high density areas to provide a representative area for investigation. Comprehensive coverage grids were placed in select locations identified as high anomaly density areas to further characterize the nature and vertical extent of potential MEC at the site.

3.2.7 General Field Procedures

Field procedures were followed to facilitate the collection of accurate and reliable geophysical data. Most important was the proper function and operation of the geophysical instruments, and proper function of the positioning equipment. Checks were conducted daily in conjunction with the ITS to assess those functions.

The main elements and general sequence of the field procedures were:

- The geophysical team arrived at the MRS with the RI WP and were familiar with it.
- Shape files and points of interest were uploaded into the DGPS controller so the field operator was able to see his position and the corresponding background in real time.
- A visual check of the instruments for obvious physical damage was performed, and the team confirmed that batteries were charged.
- Analog geophysical detectors and navigational instruments were assembled and deployed.
- After warming up of equipment, the operator began ITS data collection.
- Data collection with obstacles and deviations from the planned survey path were documented and recorded in the field log.
- At the end of the day, instruments were visually checked for wear, and batteries were replaced as necessary.
- Positional data were downloaded, backed up, and sent to the data manager.

3.2.8 Intrusive Investigation Plan

Intrusive activities were completed in accordance with the approved RI WP, DDESB-approved ESP, and applicable guidance documents.

3.2.8.1 General Intrusive Investigation Methodology

Field activities did not begin until the UXOQCS/SO had given a safety briefing, communications were established and the work area was determined to be clear of all non-essential personnel. Target anomaly excavations were conducted manually in accordance with EM 385-1-97 by UXO technicians meeting or exceeding DDESB TP 18 requirements. Recovered material underwent the MPPEH inspection process in accordance with the Final RI WP. The final explosive safety status determination of any discovered MEC was made by the SUXOS and the UXOQCS/SO.

3.2.8.2 Dig Sheets

Target anomaly locations selected for intrusive investigation along analog transects and grids were recorded digitally using electronic personal digital assistants (PDAs). Details of the investigated target anomalies were added to location information of the PDA record. PDA records were uploaded daily to the project database. The SUXOS and UXOQCS conducted daily and weekly inspections of the database to verify the completeness and correctness of the intrusive dig results. A complete list of target anomalies investigated is presented in **Appendix E**.

3.2.8.3 Target Anomaly Investigation

Minimum Separation Distances were established in accordance with the approved ESP prior to commencing intrusive operations. The UXO team investigated target anomalies using hand shovels and hand-held detectors. Target anomaly locations were investigated and corrective actions were implemented until the anomaly was resolved in accordance with Final RI WP requirements. All findings were documented at each of the target anomaly locations for database entry. All target anomaly findings were subjected to the MPPEH inspection process.

3.2.8.4 Target Anomaly Source Identification

As applicable, the team recorded the following information for each target anomaly finding: the standard official nomenclature (if possible), item description and condition, item and size estimates, depth of location and location coordinates.

3.2.9 MPPEH Inspection Process

MPPEH procedures were completed in accordance with DoD Instruction 4140.62 (DoD Instruction 2015) and EM 385-1-97 (USACE 2013). MPPEH was assessed and its explosive safety status determined and documented prior to transfer within or release from DoD control. Prior to release to the public, MPPEH was documented by authorized and technically-qualified personnel as material documented as safe (MDAS) after a 100 percent inspection and an independent 100 percent re-inspection to determine that it was safe from an explosives safety perspective. Details of the MPPEH inspection process, including individual responsibilities, are discussed below:

- MPPEH was initially 100 percent inspected by an UXO Technician II (or higher). The initial inspection assessed the explosive safety status of the item as MDAS or material documented as an explosive hazard. Each item was re-inspected by an UXO Technician III (or higher) to verify the initial assessment.

- The UXOQCS/SO conducted daily audits of the procedure used by the UXO teams and individuals for processing MPPEH. The UXOQCS/SO also conducted and documented random inspections of the material collected from the team to verify the explosive safety status determination. The UXOQCS/SO ensured the specific procedures and

responsibilities for processing MPPEH as well as certifying it as MDAS were being followed.

- The SUXOS performed independent checks to verify that the MDAS was free of explosive hazards necessary to complete the DD 1348-1A form. The SUXOS ensured that turned over inspected materials were placed in closed, labeled, and sealed containers at the end of each work day.

The following certification/verification statement was entered and signed by the SUXOS on each DD 1348-1A for turn-over of MDAS:

- "This certifies that the material listed has been 100 percent properly inspected and to the best of our knowledge and belief is free of explosive hazards."

- All MDAS recovered during the RI was shipped to Belson Steel in Bourbonnais, Illinois for final disposition. The DD 1348-1A forms generated during fieldwork are included in **Appendix C**.

3.2.10 MEC Treatment

During the investigation, one 100-lb bomb and eight incendiary bomb pieces were identified. The CESWF was notified of the findings and requested that the items be disposed of in a MEC treatment operation. The SUXOS and Unexploded Ordnance Safety Officer (UXOSO) determined that the 100-lb bomb was not acceptable to move for destruction. The 100-lb bomb, found and reported on February 1, 2017, was left in place and destroyed by detonation following the DDESB Buried Explosion Module (BEM) engineering control to mitigate the effects of blast and fragmentation.

Discovered MEC items that were determined to be acceptable to move by the SUXOS and UXOQCS/SO were relocated to the 100-lb bomb detonation location for treatment. The consolidated shot location was selected based upon the necessity to destroy the 100-lb bomb in place. This treatment area was selected as the most appropriate location to continue additional treatment operations following 40 CFR Part 264.601, Environmental Performance Standards. MEC treatment operations were supervised by the SUXOS and coordinated with the on-site Ordnance and Explosives Safety Specialist. All explosive operations followed the procedures outlined in EM 385-1-97 and contractor standard operating procedures. Transportation of donor explosives was conducted in accordance with applicable sections of 49 CFR Part 397.

After each MEC treatment operation was completed, the MEC Treatment Team Leader and UXOQCS/SO conducted an inspection of the treatment area to confirm that all explosives were consumed. Appropriately-qualified UXO technicians conducted an MPPEH inspection on any remaining material. The MEC Accountability Log specific to the RI fieldwork is included in **Appendix C**.

3.2.11 Soil Sampling

One incremental surface soil sample was collected from each of the ten 100-foot by 100-foot comprehensive grids in accordance with the Final RI WP to determine if MC were present in soils. The comprehensive grids were selected as sampling units because the grids were placed in areas where evidence of MEC and MD were identified, biasing the sampling to the areas most likely to have MC present. . Each incremental sample was collected using a systematic random sampling pattern from a decision unit that covered the entire comprehensive grid. A total of 50 increments of uniform volume were collected (i.e., 6-inch by 7/8-inch cylindrical core) in accordance with the standard operating procedures from the Final RI WP (USACE 2007b). The typical sampling pattern for each incremental soil sample is presented as **Figure 3-3**. Samples were analyzed for metals (7471B for mercury and 6010C for all other project specific metals) and explosives (8330B) and compared to Project Action Levels presented in **Table 3-2**.

With the exception of nitroglycerine, all chemicals limit of detection and limit of quantitation met the PAL. However, the sensitivity for nitroglycerine is the lowest achievable using the Department of Defense-Environmental Laboratory Accreditation Program and LDEQ approved Method. Nitroglycerine is associated with double and triple based propellants and no MEC items found were associated with those types of propellants. The laboratory (SGS-Accutest Orlando) has current Department of Defense-Environmental Laboratory Accreditation Program and LDEQ certification for the Methods used during this investigation.

3.2.12 Field Health and Safety

Site-specific training was conducted by the UXO management team during the initial mobilization effort prior to conducting any fieldwork. This training involved reviewing all work plans including the APP, Site Safety and Health Plan, Quality Control Plan, ESP, and project-specific Activity Hazard Analysis. The training also discussed potential MEC types, terrain, vegetation, and wildlife that pose a hazard to site personnel. Additional site safety meetings were held each morning prior to commencement of work, including when new personnel, subcontractors, or visitors arrived on site. The UXOSO performed safety audits as directed by the Munitions Response (MR) Safety Program Manager. All site safety activities were documented in Daily Health and Safety Reports, which are included in **Appendix D**, Daily Field Management Reports.

3.2.13 Quality Control

The UXOQCS conducted daily QC surveillance of project activities, final product sampling inspections, database inspections, and performed audits as directed by the MR Quality Program Manager, all QC activities were documented in Daily QC Reports, which are included in **Appendix D**, Daily Field Management Reports.

TABLE 3-1
SOIL PROJECT ACTION LEVELS
FORMER HAMMOND BOMBING AND GUNNERY RANGE

Analyte	PAL (mg/kg)
Explosives	
1,3,5-Trinitrobenzene	200
1,3-Dinitrobenzene	0.45
2,4,6-Trinitrotoluene	3.2
2,4-Dinitrotoluene	8.9
2,6-Dinitrotoluene	4.3
2-Amino-4,6-Dinitrotoluene	11
2-Nitrotoluene	2
3-Nitrotoluene	0.44
4-Amino-2,6-Dinitrotoluene	11
4-Nitrotoluene	0.23
HMX	410
Nitrobenzene	2.2
Nitroglycerin	0.44
PETN	6.6
RDX	4.3
Tetryl	27
Metals	
Aluminum	7800
Antimony	3.1
Arsenic	12
Barium	550
Beryllium	16
Cadmium	3.9
Calcium	300000
Chromium	23
Cobalt	470
Copper	310
Iron	2300
Lead	400
Magnesium	39000
Manganese	1100
Mercury	2.3
Nickel	160
Potassium	520000
Selenium	39
Silver	39
Sodium	260000
Thallium	0.55
Vanadium	55
Zinc	2300

Notes:

hmx - octahydro-1,3,5,7-tetranitrol-1,3,5,7-tetrazoeine

mg/kg - milligram per kilogram

PAL - Project Action Level

PETN - pentaerythritol tetranitrate

RDX - hexahydro-1,3,5-trinitro-1,3,5-triazine

TABLE 3-2
SUMMARY OF ANALYTICAL RESULTS
FORMER HAMMOND BOMBING AND GUNNERY RANGE

FIELD ID				HBGR-BT1-SS001-0.5						HBGR-BT1-SS101-0.5						HBGR-BT1-SS201-0.5					
DATE COLLECTED				February 28, 2017						February 28, 2017						February 28, 2017					
	CAS Number	PAL	Source	Result	LOQ	LOD	DL	Lab Qualifier	Validation Qualifier	Result	LOQ	LOD	DL	Lab Qualifier	Validation Qualifier	Result	LOQ	LOD	DL	Lab Qualifier	Validation Qualifier
EXPLOSIVES (mg/kg)																					
All explosives results nondetect																					
METALS (mg/kg)																					
Aluminum	7429-90-5	7800	RECAP	3420	12	2.9	2.1			4900	14	3.4	2.4			3860	12	3	2.1		
Antimony	7440-36-0	3.1	RECAP	<	1.2	0.29	0.076	U		0.74	1.4	0.34	0.09	J		0.18	1.2	0.3	0.078	J	
Arsenic	7440-38-2	12	RECAP	1.2	0.59	0.29	0.12			6.9	0.69	0.34	0.14			1.7	0.6	0.3	0.12		
Barium	7440-39-3	550	RECAP	17.5	12	0.12	0.059			22.2	14	0.14	0.069			18.7	12	0.12	0.06		
Beryllium	7440-41-7	16	RECAP	0.082	0.29	0.059	0.029	J		0.22	0.34	0.069	0.034	J		0.1	0.3	0.06	0.03	J	
Cadmium	7440-43-9	3.9	RECAP	<	0.24	0.059	0.029	U		<	0.28	0.069	0.034	U		<	0.24	0.06	0.03	U	
Calcium	7440-70-2	300000	RECAP	30.5	290	5.9	2.9	J		24.3	340	6.9	3.4	J		33.1	300	6	3	J	
Chromium	7440-47-3	23	RECAP	4.3	0.59	0.12	0.059		J	8	0.69	0.14	0.069		J	5.2	0.6	0.12	0.06		J
Cobalt	7440-48-4	470	RECAP	0.41	2.9	0.059	0.029	J		0.99	3.4	0.069	0.034	J		0.51	3	0.06	0.03	J	
Copper	7440-50-8	310	RECAP	0.96	1.5	0.12	0.059	J		1.6	1.7	0.14	0.069	J		1	1.5	0.12	0.06	J	
Iron	7439-89-6	2300	RECAP	3170	18	2.9	1		J	16800	21	3.4	1.2		J	4120	18	3	1		J
Lead	7439-92-1	400	RECAP	4.6	1.2	0.24	0.059			6.9	1.4	0.28	0.069			5	1.2	0.24	0.06		
Magnesium	7439-95-4	39000	RECAP	120	290	5.9	2.1	J		139	340	6.9	2.5	J		137	300	6	2.2	J	
Manganese	7439-96-5	1100	RECAP	11.1	0.88	0.059	0.029		J	33.8	1	0.069	0.034		J	16.8	0.9	0.06	0.03		J
Mercury	7439-97-6	2.3	RECAP	0.023	0.049	0.02	0.0049	J		0.04	0.055	0.022	0.0055	J		0.019	0.05	0.02	0.005	J	
Nickel	7440-02-0	160	RECAP	0.86	2.4	0.059	0.029	J		1.9	2.8	0.069	0.034	J		0.96	2.4	0.06	0.03	J	
Potassium	7440-09-7	520000	RECAP	58	590	29	12	J		69.6	690	34	14	J		67.7	600	30	12	J	
Selenium	7782-49-2	39	RECAP	<	1.2	0.29	0.14	U		<	1.4	0.34	0.17	U		0.22	1.2	0.3	0.14	J	
Silver	7440-22-4	39	RECAP	<	0.59	0.12	0.048	U		<	0.69	0.14	0.057	U		<	0.6	0.12	0.049	U	
Sodium	7440-23-5	260000	RECAP	<	590	120	29	U		<	690	140	34	U		<	600	120	30	U	
Thallium	7440-28-0	0.55	RECAP	<	0.59	0.29	0.065	U		<	0.69	0.34	0.076	U		<	0.6	0.3	0.066	U	
Vanadium	7440-62-2	55	RECAP	8.9	2.9	0.059	0.029			26	3.4	0.069	0.034			11.1	3	0.06	0.03		
Zinc	7440-66-6	2300	RECAP	2.7	1.2	0.29	0.18			3.9	1.4	0.34	0.21			3	1.2	0.3	0.18		

Notes:
< = ND at the LOD
mg/kg = milligram per kilogram
DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
PAL = Project Action Level
RECAP = Risk Evaluation Corrective Action Program
J = Estimated
U = Nondetect
UJ = Estimated Nondetect

TABLE 3-2
SUMMARY OF ANALYTICAL RESULTS
FORMER HAMMOND BOMBING AND GUNNERY RANGE

FIELD ID				HBGR-BT1-SS002-0.5						HBGR-BT1-SS003-0.5						HBGR-BT1-SS004-0.5					
DATE COLLECTED				February 28, 2017						February 28, 2017						February 28, 2017					
	CAS Number	PAL	Source	Result	LOQ	LOD	DL	Lab Qualifier	Validation Qualifier	Result	LOQ	LOD	DL	Lab Qualifier	Validation Qualifier	Result	LOQ	LOD	DL	Lab Qualifier	Validation Qualifier
EXPLOSIVES (mg/kg)																					
All explosives results nondetect																					
METALS (mg/kg)																					
Aluminum	7429-90-5	7800	RECAP	4430	12	2.9	2.1			9120	11	2.7	1.9			5150	12	3	2.1		
Antimony	7440-36-0	3.1	RECAP	0.1	1.2	0.29	0.077	J		<	1.1	0.27	0.07	U		<	1.2	0.3	0.079	U	
Arsenic	7440-38-2	12	RECAP	1.5	0.59	0.29	0.12			0.94	0.54	0.27	0.11			1.4	0.61	0.3	0.12		
Barium	7440-39-3	550	RECAP	26.4	12	0.12	0.059			38.2	11	0.11	0.054			20.9	12	0.12	0.061		
Beryllium	7440-41-7	16	RECAP	0.19	0.29	0.059	0.029	J		0.16	0.27	0.054	0.027	J		0.1	0.3	0.061	0.03	J	
Cadmium	7440-43-9	3.9	RECAP	<	0.24	0.059	0.029	U		<	0.22	0.054	0.027	U		<	0.24	0.061	0.03	U	
Calcium	7440-70-2	300000	RECAP	48.2	290	5.9	2.9	J		44.9	270	5.4	2.7	J		28.8	300	6.1	3	J	
Chromium	7440-47-3	23	RECAP	5.8	0.59	0.12	0.059			7	0.54	0.11	0.054			6.2	0.61	0.12	0.061		
Cobalt	7440-48-4	470	RECAP	1	2.9	0.059	0.029	J		0.55	2.7	0.054	0.027	J		0.61	3	0.061	0.03	J	
Copper	7440-50-8	310	RECAP	1.3	1.5	0.12	0.059	J		2.3	1.3	0.11	0.054			0.93	1.5	0.12	0.061	J	
Iron	7439-89-6	2300	RECAP	3990	18	2.9	1			2810	16	2.7	0.92			3700	18	3	1		
Lead	7439-92-1	400	RECAP	7.1	1.2	0.24	0.059			9.3	1.1	0.22	0.054			5.1	1.2	0.24	0.061		
Magnesium	7439-95-4	39000	RECAP	151	290	5.9	2.1	J		265	270	5.4	1.9	J		174	300	6.1	2.2	J	
Manganese	7439-96-5	1100	RECAP	93.8	0.88	0.059	0.029			10	0.81	0.054	0.027			33.2	0.91	0.061	0.03		
Mercury	7439-97-6	2.3	RECAP	0.037	0.05	0.02	0.005	J		0.059	0.045	0.018	0.0045			0.027	0.048	0.019	0.0048	J	
Nickel	7440-02-0	160	RECAP	1.3	2.4	0.059	0.029	J		1.8	2.2	0.054	0.027	J		1.4	2.4	0.061	0.03	J	
Potassium	7440-09-7	520000	RECAP	82.7	590	29	12	J		123	540	27	11	J		93.7	610	30	12	J	
Selenium	7782-49-2	39	RECAP	0.21	1.2	0.29	0.14	J		0.31	1.1	0.27	0.13	J		<	1.2	0.3	0.15	U	
Silver	7440-22-4	39	RECAP	<	0.59	0.12	0.048	U		<	0.54	0.11	0.044	U		<	0.61	0.12	0.05	U	
Sodium	7440-23-5	260000	RECAP	<	590	120	29	U		<	540	110	27	U		<	610	120	30	U	
Thallium	7440-28-0	0.55	RECAP	<	0.59	0.29	0.065	U		<	0.54	0.27	0.059	U		<	0.61	0.3	0.067	U	
Vanadium	7440-62-2	55	RECAP	10.5	2.9	0.059	0.029			8.7	2.7	0.054	0.027			12	3	0.061	0.03		
Zinc	7440-66-6	2300	RECAP	3.7	1.2	0.29	0.18			5.6	1.1	0.27	0.16			3.9	1.2	0.3	0.18		

Notes:
< = ND at the LOD
mg/kg = milligram per kilogram
DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
PAL = Project Action Level
RECAP = Risk Evaluation Corrective Action Program
J = Estimated
U = Nondetect
UJ = Estimated Nondetect

TABLE 3-2
SUMMARY OF ANALYTICAL RESULTS
FORMER HAMMOND BOMBING AND GUNNERY RANGE

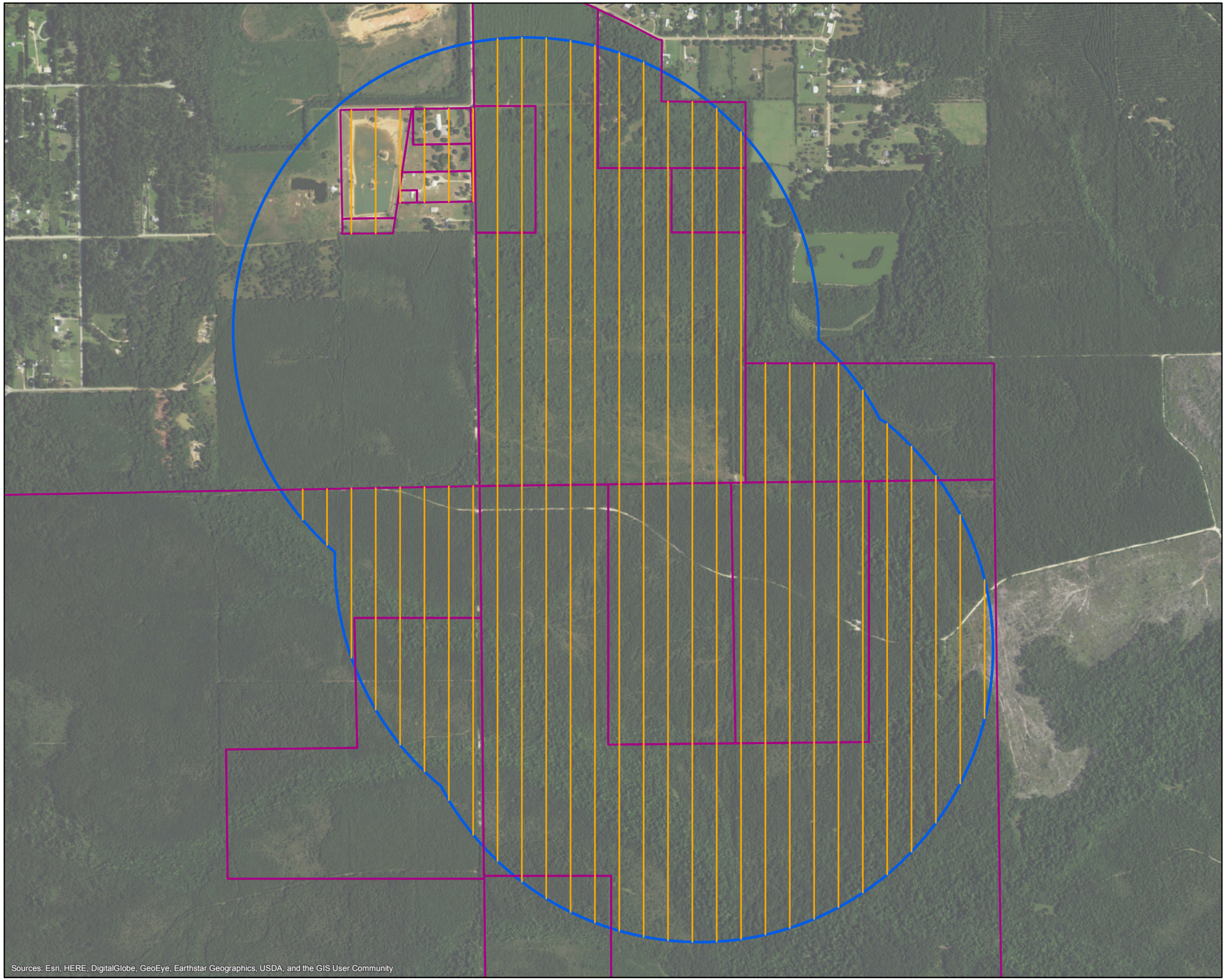
FIELD ID				HBGR-BT1-SS005-0.5						HBGR-BT1-SS006-0.5						HBGR-BT1-SS007-0.5					
DATE COLLECTED				February 28, 2017						February 28, 2017						February 28, 2017					
	CAS Number	PAL	Source	Result	LOQ	LOD	DL	Lab Qualifier	Validation Qualifier	Result	LOQ	LOD	DL	Lab Qualifier	Validation Qualifier	Result	LOQ	LOD	DL	Lab Qualifier	Validation Qualifier
EXPLOSIVES (mg/kg)																					
All explosives results nondetect																					
METALS (mg/kg)																					
Aluminum	7429-90-5	7800	RECAP	3400	13	3.2	2.2			5940	12	3.1	2.2			4640	13	3.2	2.3		
Antimony	7440-36-0	3.1	RECAP	<	1.3	0.32	0.082	U	UJ	<	1.2	0.31	0.08	U		<	1.3	0.32	0.084	U	
Arsenic	7440-38-2	12	RECAP	1.2	0.63	0.32	0.13			1.7	0.62	0.31	0.12			1.3	0.65	0.32	0.13		
Barium	7440-39-3	550	RECAP	24	13	0.13	0.063			39.4	12	0.12	0.062			34.8	13	0.13	0.065		
Beryllium	7440-41-7	16	RECAP	0.12	0.32	0.063	0.032	J		0.2	0.31	0.062	0.031	J		0.23	0.32	0.065	0.032	J	
Cadmium	7440-43-9	3.9	RECAP	<	0.25	0.063	0.032	U		<	0.25	0.062	0.031	U		<	0.26	0.065	0.032	U	
Calcium	7440-70-2	300000	RECAP	26.9	320	6.3	3.2	J		307	310	6.2	3.1	J		180	320	6.5	3.2	J	
Chromium	7440-47-3	23	RECAP	4.4	0.63	0.13	0.063			5.9	0.62	0.12	0.062			4.4	0.65	0.13	0.065		
Cobalt	7440-48-4	470	RECAP	0.47	3.2	0.063	0.032	J		0.88	3.1	0.062	0.031	J		0.57	3.2	0.065	0.032	J	
Copper	7440-50-8	310	RECAP	0.76	1.6	0.13	0.063	J		1.8	1.5	0.12	0.062			1.2	1.6	0.13	0.065	J	
Iron	7439-89-6	2300	RECAP	2980	19	3.2	1.1		J	4310	18	3.1	1			3340	19	3.2	1.1		
Lead	7439-92-1	400	RECAP	4.5	1.3	0.25	0.063			7.6	1.2	0.25	0.062			8.8	1.3	0.26	0.065		
Magnesium	7439-95-4	39000	RECAP	113	320	6.3	2.3	J		211	310	6.2	2.2	J		143	320	6.5	2.3	J	
Manganese	7439-96-5	1100	RECAP	14.2	0.95	0.063	0.032		J	68.3	0.92	0.062	0.031			18.6	0.97	0.065	0.032		
Mercury	7439-97-6	2.3	RECAP	0.03	0.051	0.021	0.0051	J		0.038	0.051	0.02	0.0051	J		0.036	0.052	0.021	0.0052	J	
Nickel	7440-02-0	160	RECAP	0.97	2.5	0.063	0.032	J		1.9	2.5	0.062	0.031	J		1.3	2.6	0.065	0.032	J	
Potassium	7440-09-7	520000	RECAP	64.3	630	32	13	J		133	620	31	12	J		82.3	650	32	13	J	
Selenium	7782-49-2	39	RECAP	<	1.3	0.32	0.15	U		<	1.2	0.31	0.15	U		<	1.3	0.32	0.16	U	
Silver	7440-22-4	39	RECAP	<	0.63	0.13	0.052	U	UJ	<	0.62	0.12	0.05	U		<	0.65	0.13	0.053	U	
Sodium	7440-23-5	260000	RECAP	<	630	130	32	U		<	620	120	31	U		<	650	130	32	U	
Thallium	7440-28-0	0.55	RECAP	<	0.63	0.32	0.07	U		<	0.62	0.31	0.068	U		<	0.65	0.32	0.071	U	
Vanadium	7440-62-2	55	RECAP	8.9	3.2	0.063	0.032			12.6	3.1	0.062	0.031			9.5	3.2	0.065	0.032		
Zinc	7440-66-6	2300	RECAP	2.5	1.3	0.32	0.19			5.9	1.2	0.31	0.18			3.8	1.3	0.32	0.19		

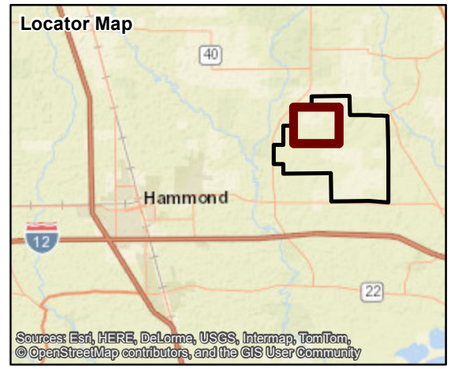
Notes:
< = ND at the LOD
mg/kg = milligram per kilogram
DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
PAL = Project Action Level
RECAP = Risk Evaluation Corrective Action Program
J = Estimated
U = Nondetect
UJ = Estimated Nondetect

TABLE 3-2
SUMMARY OF ANALYTICAL RESULTS
FORMER HAMMOND BOMBING AND GUNNERY RANGE

FIELD ID				HBGR-BT1-SS008-0.5						HBGR-BT1-SS009-0.5						HBGR-BT1-SS010-0.5					
DATE COLLECTED				February 28, 2017						February 28, 2017						February 28, 2017					
	CAS Number	PAL	Source	Result	LOQ	LOD	DL	Lab Qualifier	Validation Qualifier	Result	LOQ	LOD	DL	Lab Qualifier	Validation Qualifier	Result	LOQ	LOD	DL	Lab Qualifier	Validation Qualifier
EXPLOSIVES (mg/kg)																					
All explosives results nondetect																					
METALS (mg/kg)																					
Aluminum	7429-90-5	7800	RECAP	8220	12	3	2.1			5500	12	2.9	2			5050	13	3.4	2.4		
Antimony	7440-36-0	3.1	RECAP	<	1.2	0.3	0.078	U		<	1.2	0.29	0.075	U		<	1.3	0.34	0.087	U	
Arsenic	7440-38-2	12	RECAP	2.1	0.6	0.3	0.12			1.5	0.58	0.29	0.12			1.5	0.67	0.34	0.13		
Barium	7440-39-3	550	RECAP	57.9	12	0.12	0.06			35.9	12	0.12	0.058			33.1	13	0.13	0.067		
Beryllium	7440-41-7	16	RECAP	0.31	0.3	0.06	0.03			0.19	0.29	0.058	0.029	J		0.15	0.34	0.067	0.034	J	
Cadmium	7440-43-9	3.9	RECAP	<	0.24	0.06	0.03	U		<	0.23	0.058	0.029	U		<	0.27	0.067	0.034	U	
Calcium	7440-70-2	300000	RECAP	241	300	6	3	J		315	290	5.8	2.9			127	340	6.7	3.4	J	
Chromium	7440-47-3	23	RECAP	7.4	0.6	0.12	0.06			6	0.58	0.12	0.058			5.8	0.67	0.13	0.067		
Cobalt	7440-48-4	470	RECAP	1.4	3	0.06	0.03	J		1.1	2.9	0.058	0.029	J		0.8	3.4	0.067	0.034	J	
Copper	7440-50-8	310	RECAP	2.2	1.5	0.12	0.06			1.5	1.4	0.12	0.058			1.2	1.7	0.13	0.067	J	
Iron	7439-89-6	2300	RECAP	5040	18	3	1			4060	17	2.9	0.98			3050	20	3.4	1.1		
Lead	7439-92-1	400	RECAP	7.6	1.2	0.24	0.06			5.3	1.2	0.23	0.058			7.6	1.3	0.27	0.067		
Magnesium	7439-95-4	39000	RECAP	278	300	6	2.2	J		203	290	5.8	2.1	J		175	340	6.7	2.4	J	
Manganese	7439-96-5	1100	RECAP	173	0.9	0.06	0.03			53.6	0.87	0.058	0.029			57.6	1	0.067	0.034		
Mercury	7439-97-6	2.3	RECAP	0.034	0.049	0.019	0.0049	J		0.029	0.051	0.02	0.0051	J		0.033	0.052	0.021	0.0052	J	
Nickel	7440-02-0	160	RECAP	2.9	2.4	0.06	0.03			1.7	2.3	0.058	0.029	J		1.4	2.7	0.067	0.034	J	
Potassium	7440-09-7	520000	RECAP	176	600	30	12	J		102	580	29	12	J		110	670	34	13	J	
Selenium	7782-49-2	39	RECAP	<	1.2	0.3	0.14	U		<	1.2	0.29	0.14	U		0.17	1.3	0.34	0.16	J	
Silver	7440-22-4	39	RECAP	<	0.6	0.12	0.049	U		<	0.58	0.12	0.047	U		<	0.67	0.13	0.055	U	
Sodium	7440-23-5	260000	RECAP	<	600	120	30	U		<	580	120	29	U		<	670	130	34	U	
Thallium	7440-28-0	0.55	RECAP	<	0.6	0.3	0.066	U		<	0.58	0.29	0.064	U		<	0.67	0.34	0.074	U	
Vanadium	7440-62-2	55	RECAP	14	3	0.06	0.03			11.2	2.9	0.058	0.029			9.3	3.4	0.067	0.034		
Zinc	7440-66-6	2300	RECAP	7.1	1.2	0.3	0.18			4.7	1.2	0.29	0.17			4.4	1.3	0.34	0.2		

Notes:
< = ND at the LOD
mg/kg = milligram per kilogram
DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
PAL = Project Action Level
RECAP = Risk Evaluation Corrective Action Program
J = Estimated
U = Nondetect
UJ = Estimated Nondetect





Legend

- FUDS Property Boundary
- Bomb Target #1 MRS
- Approved ROE Parcel
- Planned Transect (within ROE parcel)

N

0 500 1,000 2,000 Feet

US Army Corps of Engineers®

Planned Geophysical Survey Transects
Former Hammond Bombing and Gunnery Range
RI Report
W912BV-10-D-2013-DY10

Drawn By:	Date:	
JZ	6/2/2017	**Figure 3-1**
Checked By:	Project No.	
BC	60442953	

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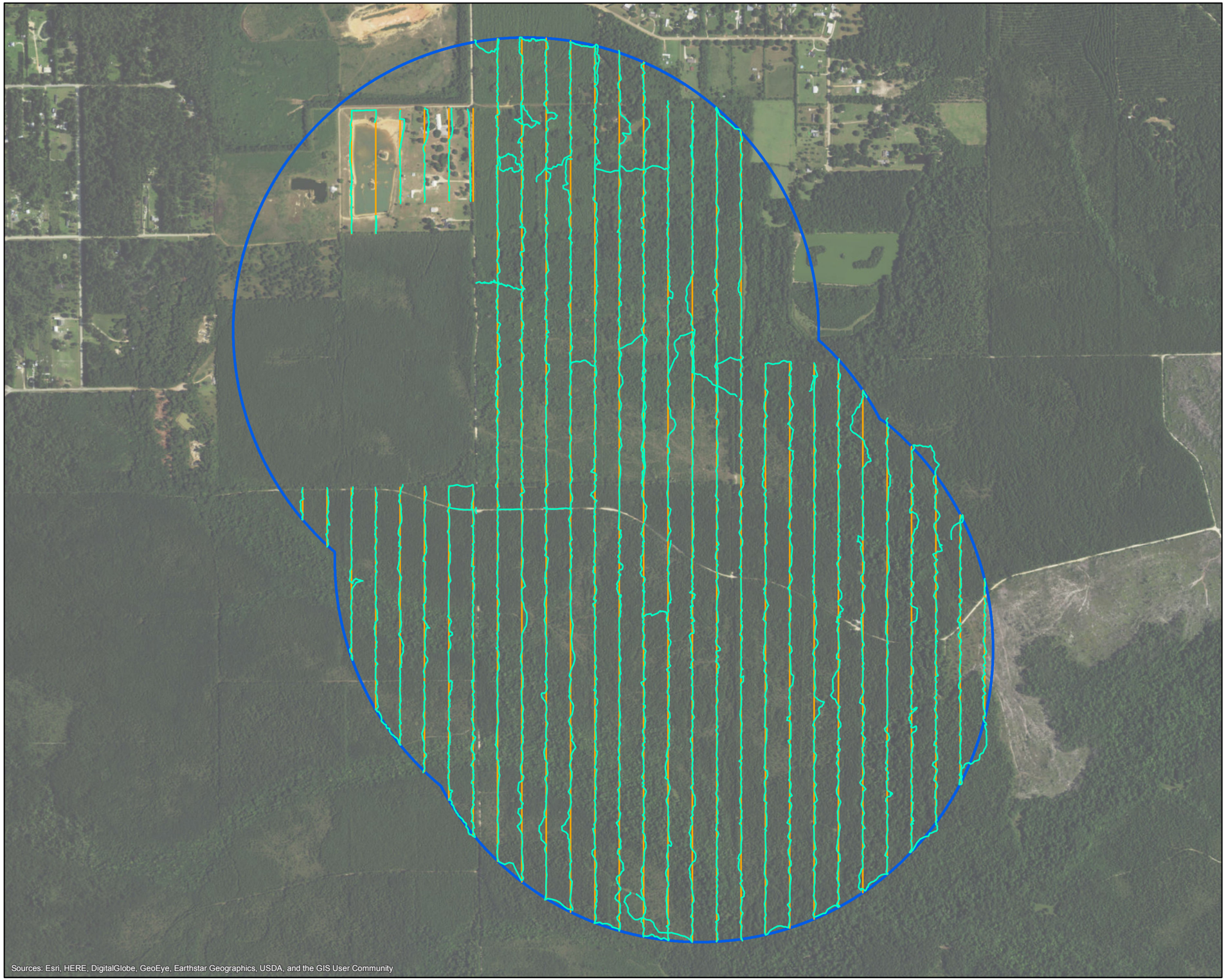

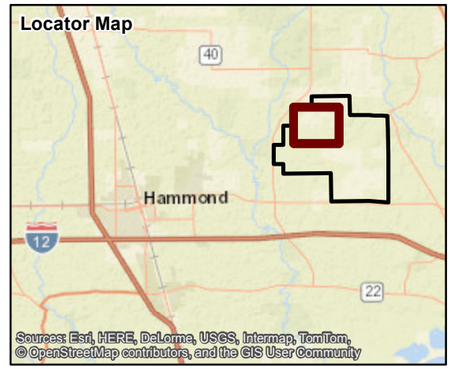

Legend

- FUDS Property Boundary
- Bomb Target #1 MRS
- Planned Transect (within ROE parcel)
- Transect Path GPS Tracklog

N

0 500 1,000 2,000 Feet

US Army Corps of Engineers®

Geophysical Survey Tracklog
Former Hammond Bombing and Gunnery Range
RI Report
W912BV-10-D-2013-DY10

Drawn By:	Date:	
JZ	6/2/2017	**Figure 3-2**
Checked By:	Project No.	
BC	60442953	

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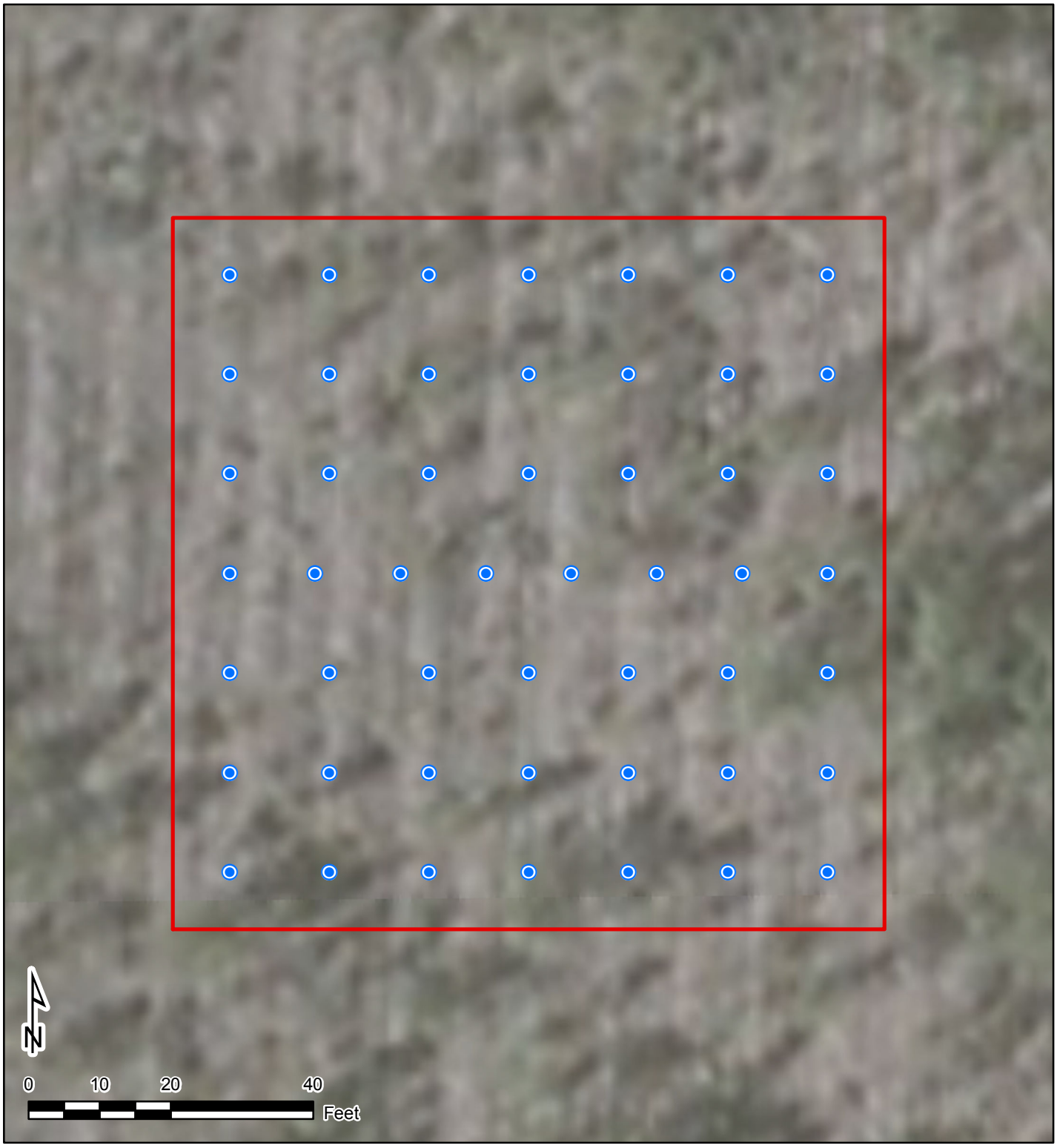

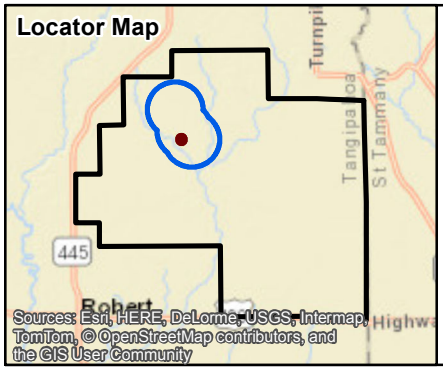

Legend

- FUDS Property Boundary
- MRS
- Mag-dig Grid
- Incremental Sample (representative location)

US Army Corps of Engineers®

Incremental Soil Sampling Strategy
Former Hammond Bombing and Gunnery Range
RI Report
W912BV-10-D-2013-DY10

Drawn By:	Date:	
JZ	6/2/2017	**Figure 3-3**
Checked By:	Project No.	
BC	60442953	

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4.1 NATURE AND EXTENT OF MEC

The RI investigated properties with executed rights of entry (945 acres) within the 1,154-acre BT1 MRS (**Figure 3-2**) using a combination of analog transects, analog 100-percent coverage grids, and intrusive investigation of target anomalies. The results of the RI field activities are presented below.

4.1.1 Analog Geophysical Survey Results

A total of 22.87 acres (i.e., 199,252 linear feet by 5 feet wide) of analog transects were completed as part of the RI. A total of 856 anomalies were detected during the analog survey and all were intrusively investigated. Analog transects are shown on **Figure 3-2**. The results of the analog transect surveys were interpreted using VSP to create an initial anomaly density map from the transect data using the geostatistical mapping of anomaly density feature. The initial anomaly density map output from VSP yielded the estimated boundaries of high anomaly density areas (i.e., greater than 18 anomalies/acre). Based on the results, ten 100-foot by 100-foot, 100-percent analog coverage grids (0.23 acres) were distributed within the high anomaly density areas and were intrusively investigated. A total of 549 anomalies were identified for investigation within grids. Following intrusive investigation of the of the targets, the VSP geostatistical mapping of anomaly density feature was rerun using only MEC and munitions debris (MD) in the evaluation to provide a more accurate estimate of high density MEC and MD areas. A cutoff between high anomaly density and low anomaly density was defined at the 18 anomalies per acre contour (**Appendix B**). The locations of items recovered during the intrusive investigations of the transects and grids are depicted on **Figure 4-1**.

4.1.2 Intrusive Investigation Results

Intrusive investigation operations along transects and in grids were conducted from January 25 through February 27, 2017. A combined total of 1,405 anomalies were investigated on both analog transects and analog grids. A total of nine MEC items and 809 MD items were recovered during intrusive investigation. In addition, other debris (e.g., nails, banding, wire) were documented during intrusive investigation. The locations of items recovered during the intrusive investigations of each grid are depicted on **Figures 4-2a** through **4-2j**.

Table 4-1 presents a list of MEC and MD items recovered, as well as the quantity of each type. The nine recovered MEC items consisted of eight incendiary bomb pieces (containing the incendiary pyrotechnic composition, thermate) and one 100-lb bomb. The 809 recovered MD items consisted of fuzes, bomb components, practice bombs, expended or unidentifiable fuze components, unidentifiable munition fragments, and projectiles. All MD items (totaling approximately 339 lbs) were recovered from 593 separate intrusive investigation locations. A summary of intrusive investigation results is provided in **Table 4-2**.

4.1.3 Nature and Extent of MEC Conclusions

The results of the intrusive investigations (**Figure 4-1**) indicate that the potential for MEC exists within the 1,154-acre MRS, primarily in the central portion of the site. The evaluation of the

lateral extent of MEC was limited to parcels with approved rights of entry. Although MD was recovered up to the boundary of approved rights of entry, the distribution of MD indicates the lateral extent of munitions related items do not extend beyond the MRS boundary. MEC items recovered from intrusive investigations were located in the subsurface with depths ranging from 3 to 10 inches below ground surface (bgs), while MD was recovered from 0 to 48 inches bgs. A complete list of target anomalies investigated, including non-munitions related material is presented in **Appendix E**.

The results of intrusive investigations indicate the potential for MEC and MD is most prevalent in the central portion of the MRS. Based on the expected release mechanism (practice bombing) identified in the CSM, a central distribution of MEC and MD within the MRS is to be expected.

In accordance with the DQOs established in the TPP meetings (**Appendix A**), the results of the geophysical survey and intrusive investigations were used to calculate the average number of MEC items per acre within the low anomaly density area. Using UXO Estimator, it was determined with a 95 percent confidence level that no more than 0.5 MEC items per acre exist within the low anomaly density area of the MRS. Input parameters to this calculation were 963 acres of low anomaly density area, 18.8 acres of geophysical coverage in the low anomaly density area, and zero MEC finds within this area. The use of UXO Estimator to calculate MEC density is not recommended in high anomaly density areas; therefore, a MEC density was not calculated for the high anomaly density portion of the MRS.

While traversing to an analog transect in the north central portion of the MRS, the intrusive investigation team identified five MEC items (one 100-lb bomb and four incendiary bomb pieces). While completing one of the 100 percent analog coverage grids near the center of the MRS, the intrusive investigation team identified four MEC items (four incendiary bomb pieces). All items were recorded using a handheld DGPS unit and marked with high visibility flagging. The CESWF was notified of the findings and requested that the items be disposed of in a MEC treatment operation. The SUXOS and UXOSO determined that the 100-lb bomb was not acceptable to move for destruction. The 100-lb bomb, found and reported on February 1, 2017, was left in place and destroyed by detonation using the DDESB BEM engineering control to mitigate the effects of blast and fragmentation. Four incendiary bomb pieces, found and reported on February 9, 2017, were transported to treatment location and destroyed with the 100-lb bomb. Four incendiary bomb pieces, found and reported on February 21, 2017, were transported to treatment location and also destroyed by detonation using the DDESB BEM. All MEC locations are shown on **Figure 4-1**.

Based on the VSP results, the high density area, which is the area located within the 18 anomalies per acre line (**Figure 4-3**), is considered to be a Concentrated Munitions Use Area (CMUA). The Non-Concentrated Munitions Use Area (NCMUA) is located outside the 18 anomalies per acre line. Per Engineer Manual (EM) 200-1-15, "CMUAs are MRSs or areas within MRSs where there is a high likelihood of finding UXO or discarded military munitions and that have a high amount of munitions debris within them as a result of historical munitions use and fragmentation. CMUAs are most commonly target areas on ranges; however, they also include explosion sites, OB/OD areas, and potentially even disposal sites where munitions have been disposed of over a relatively large area (i.e., not small, isolated burial pits)." The BT1 MRS

is considered to meet the EM 200-1-15 definition of a CMUA based on the following: 1) the BT1 MRS was historically used as a bombing range, and 2) nine MEC items were recovered during the RI; therefore, it is likely MEC still remains at the MRS. The non-right of entry areas are also shown on **Figure 4-3** These areas are data gaps for the RI.

4.2 FATE AND TRANSPORT OF MEC

Natural physical processes, including soil erosion, may cause MEC to move within the environment following the primary release. Erosion of soil caused by wind and water (precipitation and runoff) can, over time, result in exposure of buried MEC by removal of the overlying soil. In locations where the precipitation concentrates, small washouts and gullies can form that have flows with sufficient energy to move MEC items in the downstream flow.

Human activities, including site workers or construction activities, may also cause MEC to move within the environment. Recent construction activities in the area included soil excavations adjacent to several MRSs.

4.3 SOIL SAMPLING

One incremental sample was collected from each of 10 grids consisting of 50 increments of surface soil in a systematic random sampling pattern and analyzed for metals (7471B for mercury and 6010C for all other project specific metals) and explosives (8330B) identified in the RI WP (USACE 2017b). A summary of incremental samples collected is presented in **Table 4-3**. Sample results indicated that all explosives constituents were below the limit of detection and all metals except iron were below the Project Action Levels (PALs) listed in Worksheet #15 of the Uniform Federal Policy – Quality Assurance Project Plan (Appendix E of the RI WP [USACE 2017b]). Sampling results are presented in **Appendix F**. Data review and validation findings for the incremental sampling are presented in **Appendix G**.

4.4 FATE AND TRANSPORT OF MC

MC sample results were nondetect for explosives. MC metals results were below PALs except for iron. Although iron was detected above the PAL in all samples, the detections are below average background concentrations in Tangipahoa Parish, Louisiana (USGS 2016) and below the USEPA Regional Screening Level (RSL) (USEPA 2017) and not considered to be related to munitions or bombing activities. The average background concentration for iron in Tangipahoa Parish is 0.753 percent (by weight), which is 75,300 milligrams per kilogram (mg/kg), the USEPA RSL for resident soil is 55,000 mg/kg, and the max concentration of iron detected during the RI is 16,800 mg/kg. No further MC risk assessment is warranted at the BT1 MRS because all identified potential MC sources have been investigated (i.e., soil samples collected and laboratory analyzed) and determined to be nondetect or otherwise insignificant.

TABLE 4-1
TYPES OF MEC AND MD RECOVERED
FORMER HAMMOND BOMBING AND GUNNERY RANGE

Type	Item Recovered	Quantity		
		Transects	Grids	Total
MEC	M50 Incendiary Bomb Piece	4	4	8
MEC	AN-M30A1 100-lb. GP Bomb	1	0	1
MD	.50 Caliber	2	2	4
MD	M50 Bomb Components	2	26	28
MD	M38 Bomb Components	4	0	4
MD	Unknown Bomb Components	2	8	10
MD	M50 Practice Bomb Components	3	0	3
MD	M38 Practice Bomb Components	20	27	47
MD	100-lb Sand Bomb	2	0	2
MD	Unknown Practice Bomb Components	17	24	41
MD	Unknown Fuze	5	0	5
MD	Indeterminate Fragment	240	414	654
MD	Other (i.e., rust in soil)	6	5	11

Notes:

lb. - pound

GP - general purpose

MD - munitions debris

MEC - munitions and explosives of concern

TABLE 4-2
SUMMARY OF INTRUSIVE INVESTIGATION RESULTS
FORMER HAMMOND BOMBING AND GUNNERY RANGE

Surveyed Investigation Areas	MEC	MD
Analog Transects (22.87 acres / 199,252 LF)	5	303
Analog Grids (2.30 acres)	4	506

Notes:

LF - linear feet

MD - munitions debris

MEC - munitions and explosives of concern

TABLE 4-3
SUMMARY OF COLLECTED INCREMENTAL SOIL SAMPLES
FORMER HAMMOND BOMBING AND GUNNERY RANGE

Sample ID	Sample Date	Analysis	
		Metals (6010C and 7471B)	Explosives (8330B)
HBGR-BT1-SS201-0.5 [1]	2/28/2017	x	x
HBGR-BT1-SS002-0.5	2/28/2017	x	x
HBGR-BT1-SS003-0.5	2/28/2017	x	x
HBGR-BT1-SS004-0.5	2/28/2017	x	x
HBGR-BT1-SS005-0.5 [2]	2/28/2017	x	x
HBGR-BT1-SS007-0.5	2/28/2017	x	x
HBGR-BT1-SS010-0.5	2/28/2017	x	x
HBGR-BT1-SS001-0.5	2/28/2017	x	x
HBGR-BT1-SS101-0.5 [3]	2/28/2017	x	x
HBGR-BT1-SS006-0.5	2/28/2017	x	x
HBGR-BT1-SS008-0.5	2/28/2017	x	x
HBGR-BT1-SS009-0.5	2/28/2017	x	x

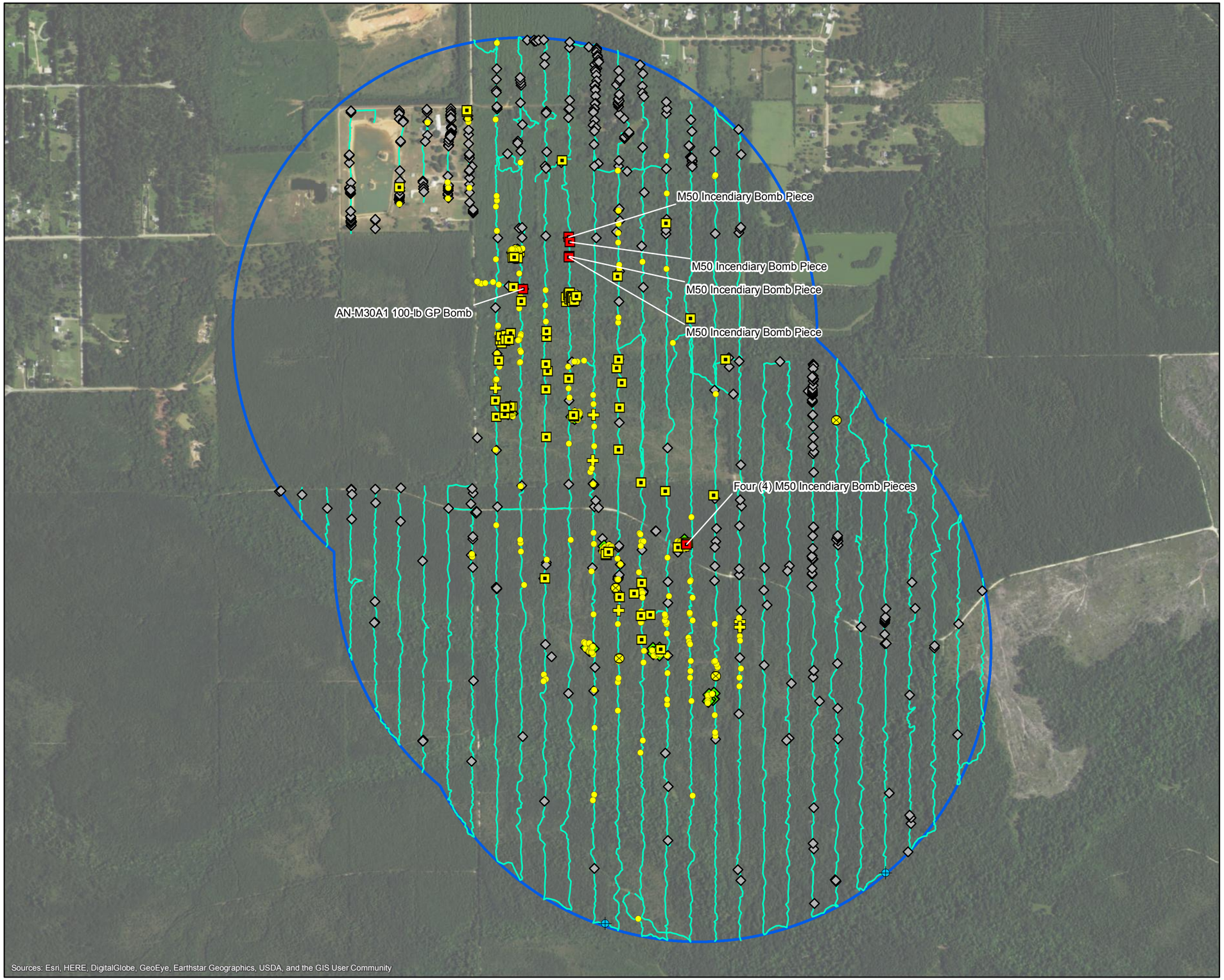
Notes:

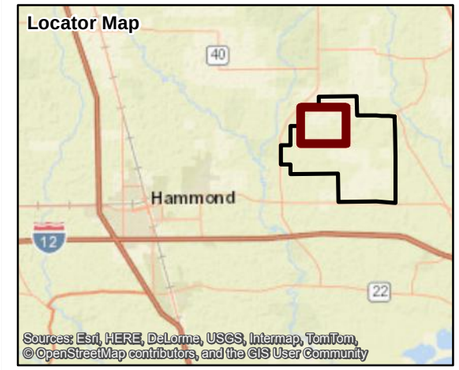
[1] Triplicate sample collected from grid #1

[2] MS/MSD sample collected at this location

[3] Duplicate sample collected from grid #1

ID - identification





Legend

- FUDS Property Boundary
- Bomb Target #1 MRS
- Transect Path GPS Tracklog
- MEC
- MD - Practice Bomb
- MD - Fuze
- MD - Indeterminate Frag
- MD - Other
- Small Arms Debris
- QC Seed
- Non-munitions Related Debris

N

0 500 1,000 2,000 Feet

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Dig Results
Former Hammond Bombing and Gunnery Range
RI Report
W912BV-10-D-2013-DY10

Drawn By:	Date:	
JZ	8/10/2017	**Figure 4-1**
Checked By:	Project No.	
BC	60442953	

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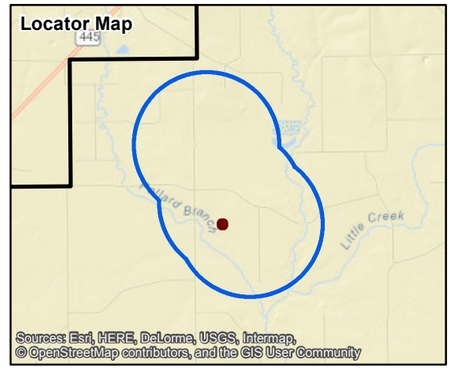

Legend

- FUDS Property Boundary
- MRS
- Mag-dig Grid
- Transect Path GPS Tracklog
- MD - Indeterminate Frag
- QC Seed

N

0 10 20 40 Feet

US Army Corps of Engineers®

Grid G-1 Dig Results
Former Hammond Bombing and Gunnery Range
RI Report
W912BV-10-D-2013-DY10

Drawn By:	Date:	
JZ	6/2/2017	**Figure 4-2a**
Checked By:	Project No.	
BC	60442953	

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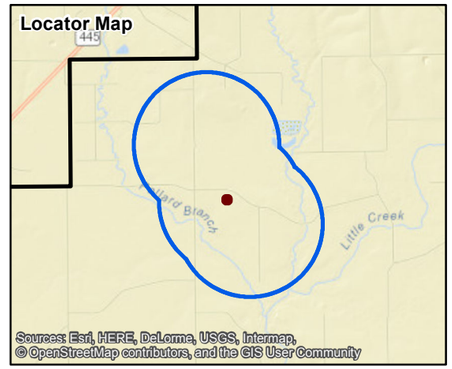

Legend

- FUDS Property Boundary
- MRS
- Mag-dig Grid
- Transect Path GPS Tracklog
- MD - Practice Bomb
- MD - Indeterminate Frag
- QC Seed
- Non-munitions Related Debris

N

0 10 20 40 Feet

US Army Corps of Engineers®

Grid G-2 Dig Results
Former Hammond Bombing and Gunnery Range
RI Report
W912BV-10-D-2013-DY10

Drawn By:	Date:	
JZ	6/2/2017	**Figure 4-2b**
Checked By:	Project No.	
BC	60442953	

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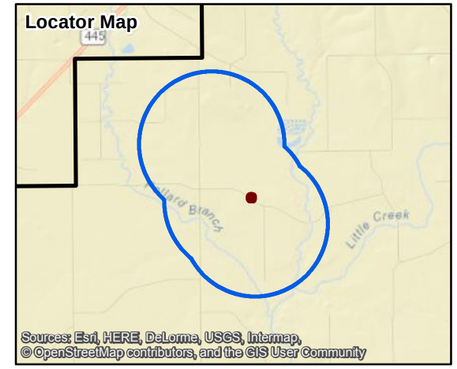

Legend

- FUDS Property Boundary
- MRS
- Mag-dig Grid
- Transect Path GPS Tracklog
- MEC
- MD - Practice Bomb
- MD - Indeterminate Frag
- MD - Other
- QC Seed
- Non-munitions Related Debris

N

0 10 20 40 Feet

US Army Corps of Engineers®

Grid G-3 Dig Results
Former Hammond Bombing and Gunnery Range
RI Report
W912BV-10-D-2013-DY10

Drawn By:	Date:	
JZ	8/10/2017	**Figure 4-2c**
Checked By:	Project No.	
BC	60442953	

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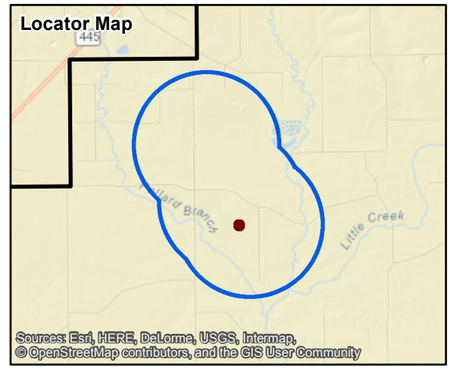

Legend

- FUDS Property Boundary
- MRS
- Mag-dig Grid
- Transect Path GPS Tracklog
- MD - Practice Bomb
- MD - Indeterminate Frag
- QC Seed

N

0 10 20 40 Feet

US Army Corps of Engineers®

Grid G-4 Dig Results
Former Hammond Bombing and Gunnery Range
RI Report
W912BV-10-D-2013-DY10

Drawn By:	Date:	
JZ	6/2/2017	**Figure 4-2d**
Checked By:	Project No.	
BC	60442953	

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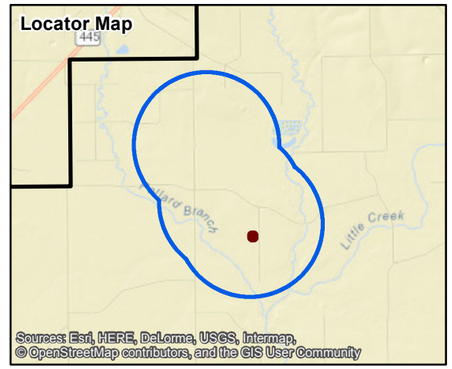

Legend

- FUDS Property Boundary
- MRS
- Mag-dig Grid
- Transect Path GPS Tracklog
- MD - Indeterminate Frag
- QC Seed
- Non-munitions Related Debris

N

0 10 20 40 Feet

US Army Corps of Engineers®

Grid G-5 Dig Results
Former Hammond Bombing and Gunnery Range
RI Report
W912BV-10-D-2013-DY10

Drawn By:	Date:	
JZ	6/2/2017	**Figure 4-2e**
Checked By:	Project No.	
BC	60442953	

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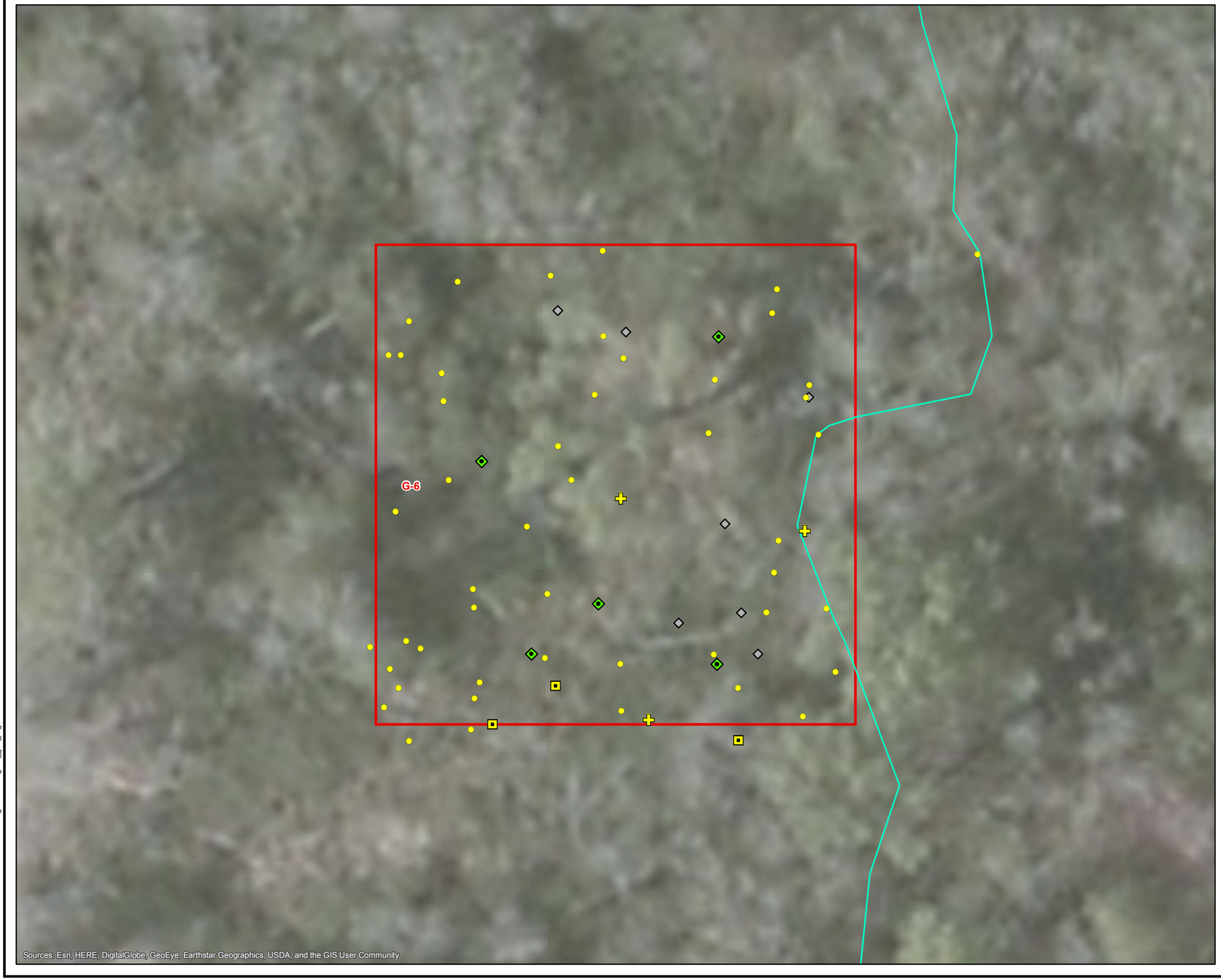

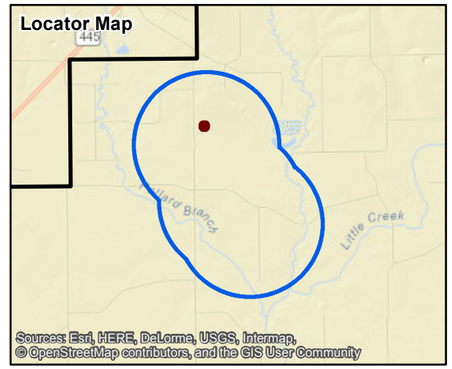

Legend

- FUDS Property Boundary
- MRS
- Mag-dig Grid
- Transect Path GPS Tracklog
- MD - Practice Bomb
- MD - Indeterminate Frag
- MD - Other
- QC Seed
- Non-munitions Related Debris

N

0 10 20 40 Feet

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Grid G-6 Dig Results
Former Hammond Bombing and Gunnery Range
RI Report
W912BV-10-D-2013-DY10

Drawn By:	Date:	
JZ	6/2/2017	**Figure 4-2f**
Checked By:	Project No.	
BC	60442953	

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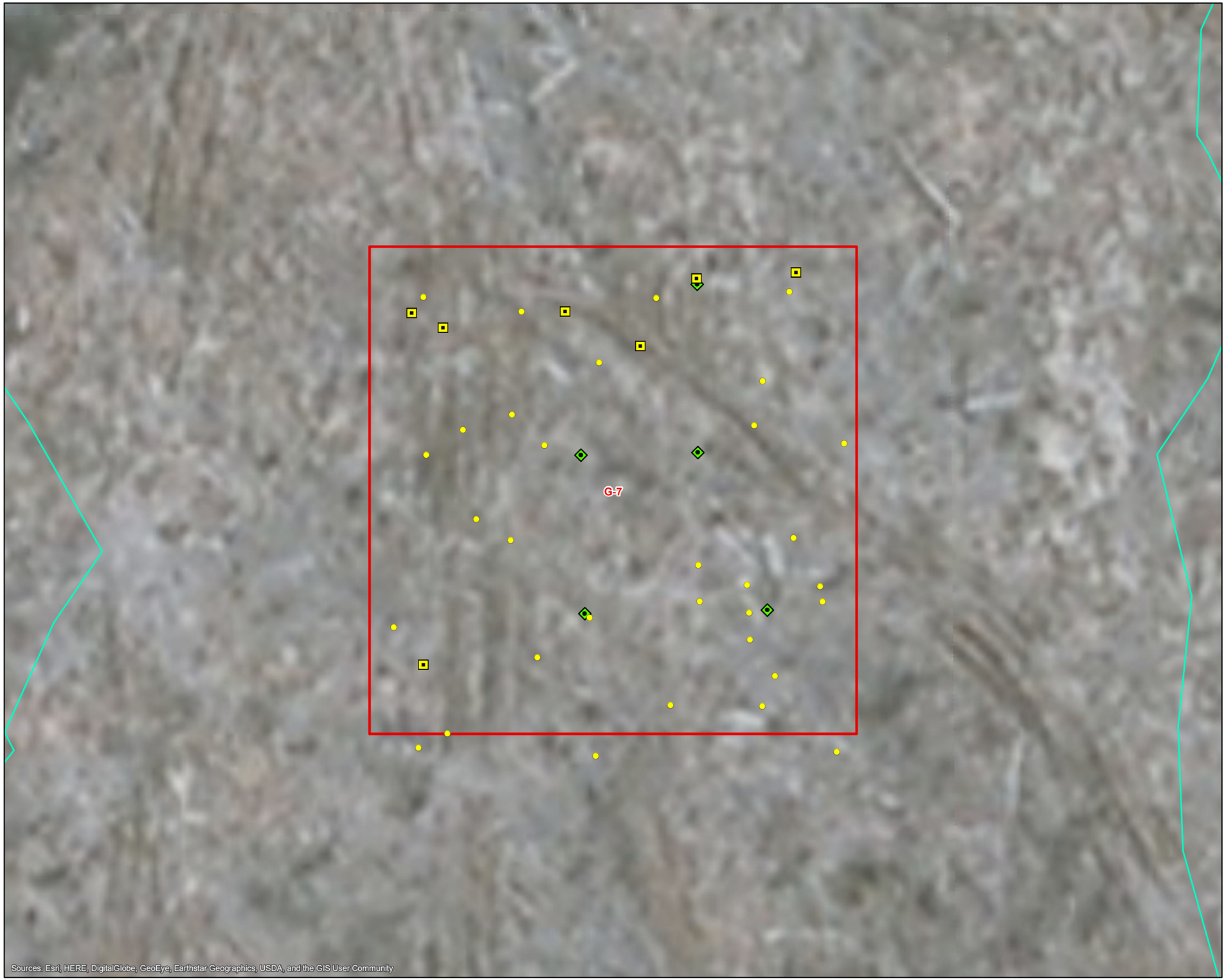

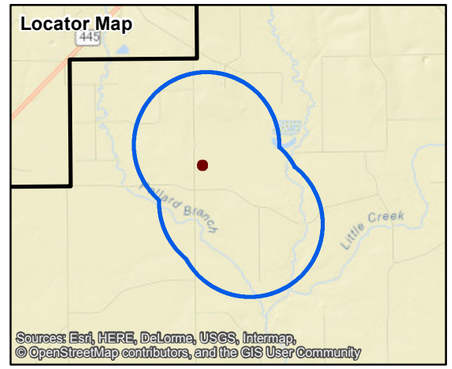

Legend

- FUDS Property Boundary
- MRS
- Mag-dig Grid
- Transect Path GPS Tracklog
- MD - Practice Bomb
- MD - Indeterminate Frag
- QC Seed

N

0 10 20 40 Feet

US Army Corps of Engineers®

Grid G-7 Dig Results
Former Hammond Bombing and Gunnery Range
RI Report
W912BV-10-D-2013-DY10

Drawn By:	Date:	
JZ	6/2/2017	**Figure 4-2g**
Checked By:	Project No.	
BC	60442953	

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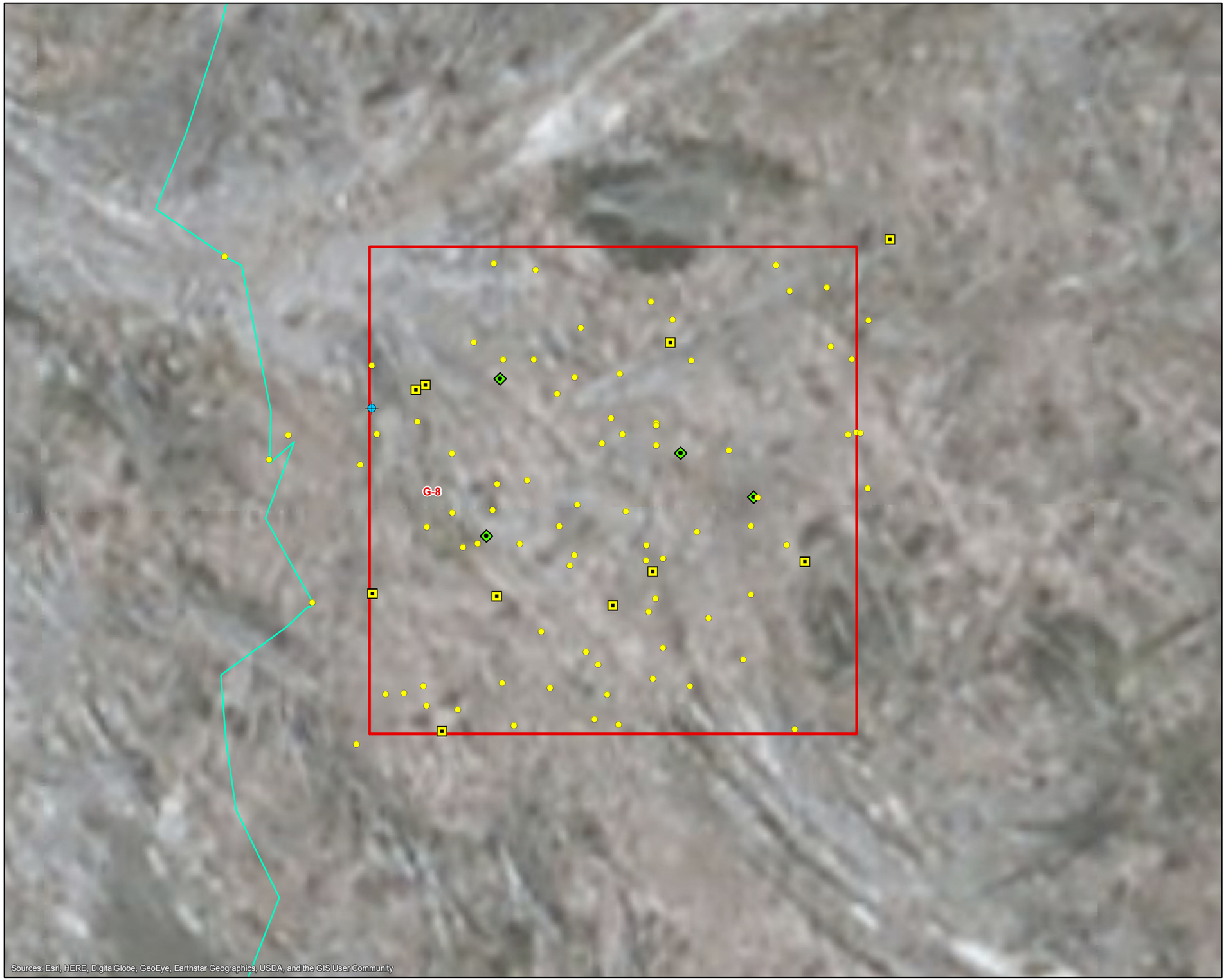

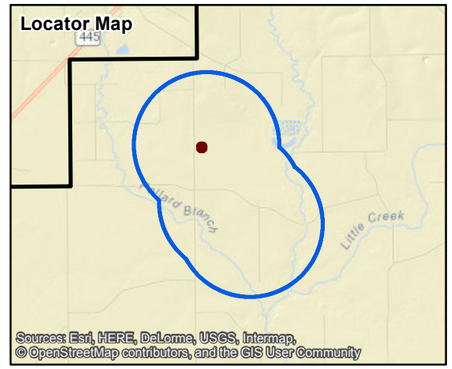

Legend

- FUDS Property Boundary
- MRS
- Mag-dig Grid
- Transect Path GPS Tracklog
- MD - Practice Bomb
- MD - Indeterminate Frag
- Small Arms Debris
- QC Seed

N

0 10 20 40 Feet

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Grid G-8 Dig Results
Former Hammond Bombing and Gunnery Range
RI Report
W912BV-10-D-2013-DY10

Drawn By:	Date:	
JZ	6/2/2017	**Figure 4-2h**
Checked By:	Project No.	
BC	60442953	

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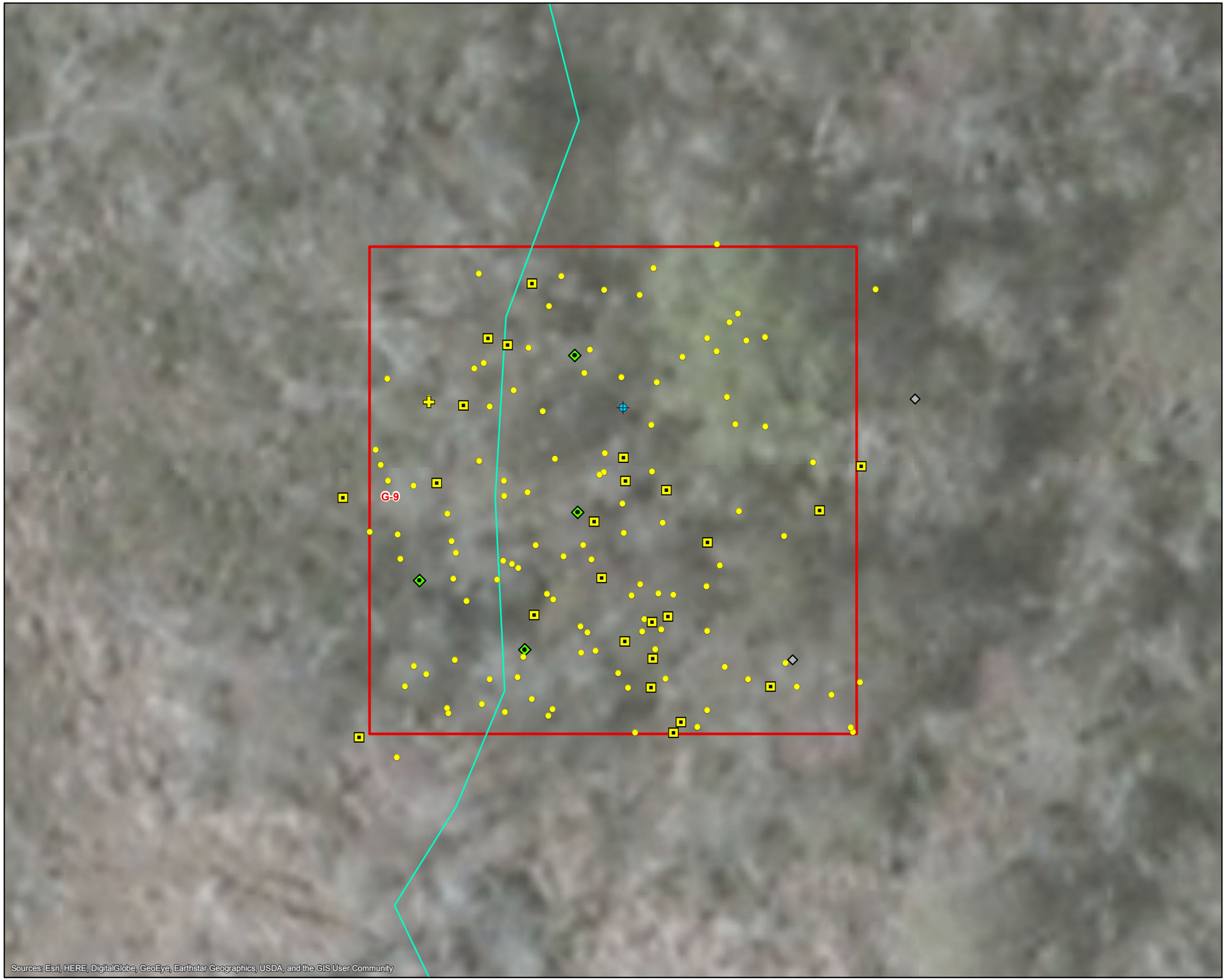

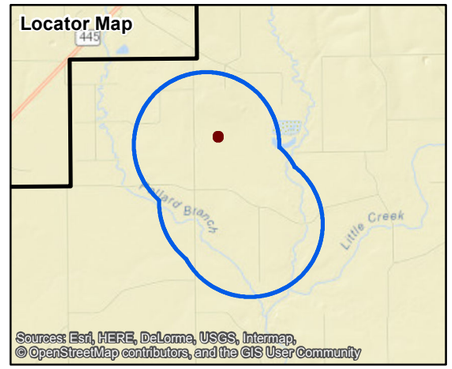

Legend

- FUDS Property Boundary
- MRS
- Mag-dig Grid
- Transect Path GPS Tracklog
- MD - Practice Bomb
- MD - Indeterminate Frag
- MD - Other
- Small Arms Debris
- QC Seed
- Non-munitions Related Debris

N

0 10 20 40 Feet

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Grid G-9 Dig Results
Former Hammond Bombing and Gunnery Range
RI Report
W912BV-10-D-2013-DY10

Drawn By:	Date:	
JZ	6/2/2017	**Figure 4-2i**
Checked By:	Project No.	
BC	60442953	

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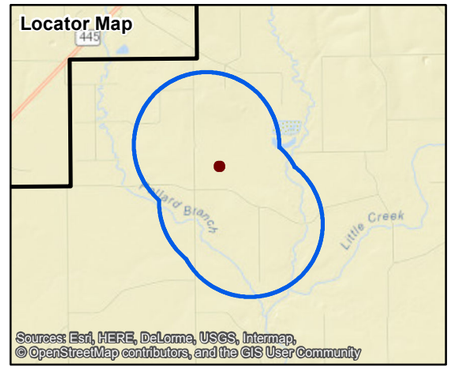

Legend

- FUDS Property Boundary
- MRS
- Mag-dig Grid
- Transect Path GPS Tracklog
- MD - Practice Bomb
- MD - Indeterminate Frag
- QC Seed

N

0 10 20 40 Feet

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Grid G-10 Dig Results
Former Hammond Bombing and Gunnery Range
RI Report
W912BV-10-D-2013-DY10

Drawn By:	Date:	
JZ	6/2/2017	**Figure 4-2j**
Checked By:	Project No.	
BC	60442953	

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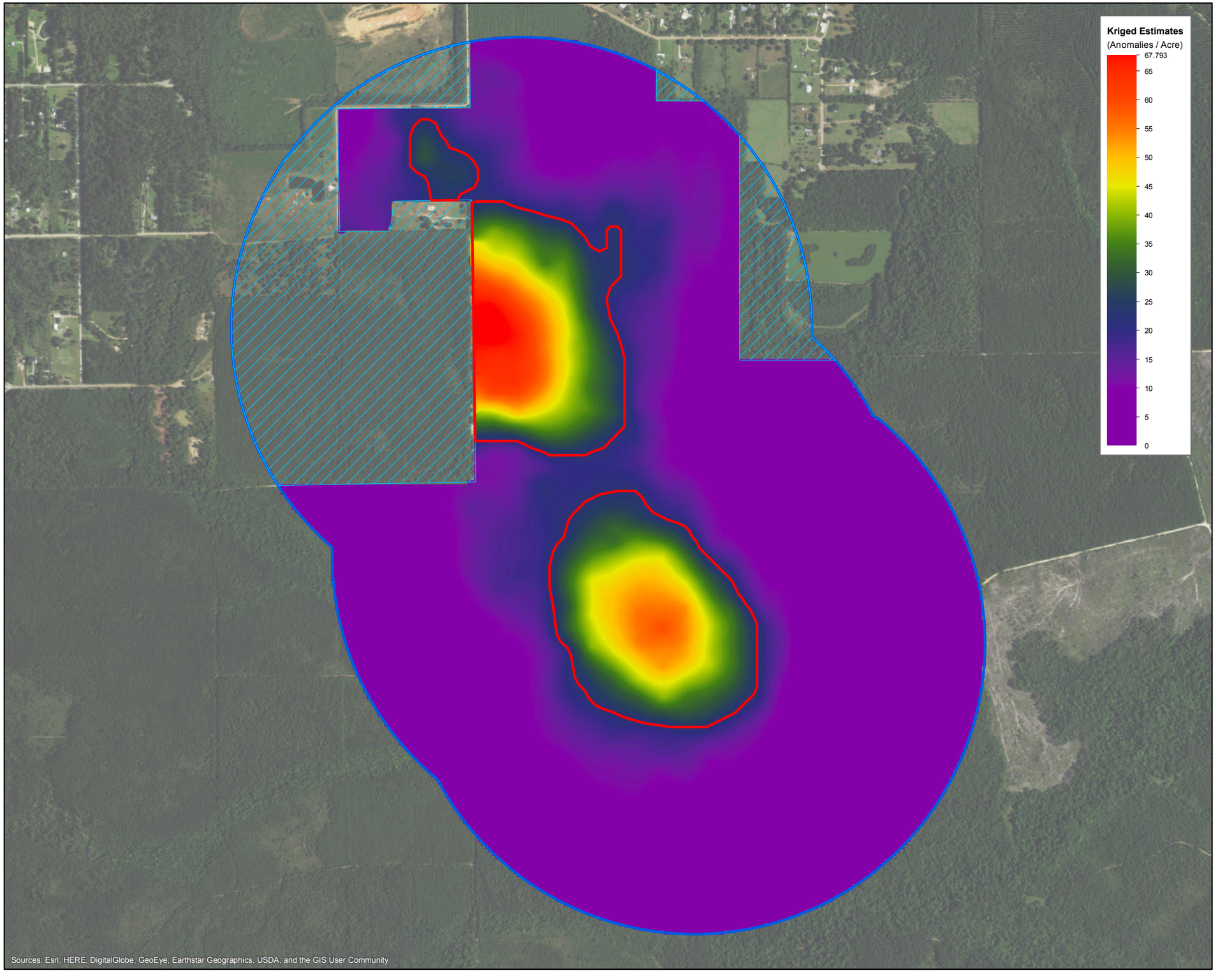

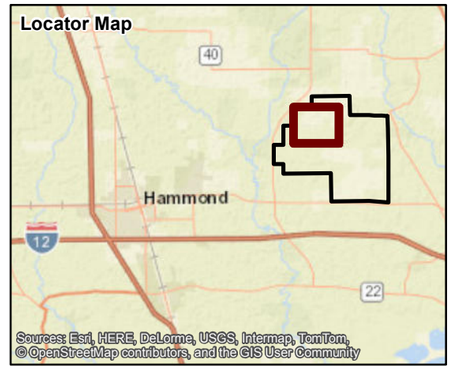

Legend

- FUDS Property Boundary
- Bomb Target #1 MRS
- High Anomaly Density Area Boundary (>18 Anomalies/Acre)
- Non Right of Entry Area

N

0 500 1,000 2,000 Feet

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Geostatistical Anomaly Density Map
Former Hammond Bombing and Gunnery Range
FS Report
W912BV-10-D-2013-DY10

Drawn By:	Date:	
JZ	8/17/2017	**Figure 4-3**
Checked By:	Project No.	
BC	60442953	

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5.1 REVISED MEC CSM

RI activities at the BT1 MRS were designed to provide data to assess hazards associated with potential MEC impacts. The MEC CSM for the BT1 MRS was revised based on results from this RI and information from previous investigations. The recovery of MEC and knowledge of potential human receptors confirms that risk associated with potential exposure to MEC exists within the BT1 MRS.

5.1.1 MEC Exposure Analysis

As discussed in Chapter 12, Hazard and Risk Assessment, of EM 200-1-15 (USACE 2015), MEC exposure pathways and potential explosives safety hazards are directly dependent on three critical elements:

- MEC presence and source
- MEC exposure receptors
- Interaction between source and receptor

A completed pathway, indicating a MEC hazard, can only exist if all three elements are present. Risk management response actions can be developed and implemented effectively based on each of the three elements; therefore, an understanding of these elements as they pertain to the MRS where MEC was encountered is necessary. These elements are discussed in more detail below.

5.1.1.1 Presence and Source of MEC

Primary factors affecting hazards associated with MEC are the quantity and density of MEC. The more MEC that is present, the greater the probability of it interacting with a receptor. During the RI fieldwork at the BT1 MRS, nine MEC items were recovered during intrusive investigations. MEC items encountered during the RI at the BT1 MRS included one 100-lb HE bomb and eight incendiary bomb pieces.

A source of MEC at the BT1 MRS is practice bombing completed at the site between 1942 and 1945. Intrusive investigations performed during the RI confirmed the presence of MEC on the surface and in the subsurface of the BT1 MRS.

5.1.1.2 Receptors and Access

MEC exposure receptors were considered by weighing the exposure media and accessibility against the range of potential activities and uses that are likely to occur at the MRS. These receptors include site workers (i.e., employees), hunters, visitor/trespassers, and construction workers. It is assumed that a hunter or a visitor/trespasser would only be exposed for short durations over irregular periods of time, while a site worker would work in the area every day for a longer duration, thus exposures would be different. The MRS is not completely fenced and visitors/trespassers could potentially access the site. However, access is very limited due to swampy conditions.

5.1.1.3 Interaction between Source and Receptor

The site worker and employee exposure activities leading to an interaction with surface and subsurface MEC may include planting, harvesting, and tilling to an anticipated maximum depth of 24 inches. The construction worker exposure activities leading to an interaction with surface and subsurface MEC may include constructing and maintaining infrastructure to depths of 24 inches or more. The visitor and trespasser exposure activities may include recreation (e.g., camping and hunting). Site visitors and trespassers may be exposed to surface and subsurface MEC.

The interaction potential between receptors and MEC is affected by depth of MEC, site stability, depth of receptor activity, and the number of receptor hours. RI results indicate that MEC is present is surface and shallow subsurface soil (i.e., less than 10 inches bgs), which falls within the probable depths of receptor activities. The maximum depths of receptor activities are assumed to be 24 inches bgs for planting, harvesting, and tilling. Recreational receptor activities are assumed to be mostly limited to the surface; however, subsurface activities may occur in a limited capacity (e.g., hunters driving in tent stakes). Construction worker exposure activities may occur at depths greater than 24 inches bgs resulting in the potential for interaction with MEC in the subsurface. Although MEC is present within the MRS and the observed MEC depth falls within the maximum depth of intrusive receptor activities, the number of receptor hours is low. Therefore, the probability of interaction between a receptor and MEC is considered low.

5.1.2 MEC Exposure Conclusions

Data collected during this RI were used to revise the current CSM for the BT1 MRS and to identify all complete, potentially complete, or incomplete source-receptor interactions for current and anticipated future land uses. Based on the RI results, explosive hazards associated with MEC are present at the site on the surface and in the subsurface soil. Complete pathways were identified for all potential receptors accessing surface and subsurface soil. The revised MEC CSM presenting the exposure pathway analysis for the BT1 MRS is presented as **Figure 5-1**.

The results of the RI were entered into UXO Estimator (Analyze Field Data Module) to provide a confidence statement regarding the MEC density in the low anomaly density areas. UXO Estimator indicates we can be 99.99% confident that there is less than or equal to 0.5 MEC/acre in the NCMUA and that sampling was adequate to be 95.0% confident there is less than 0.157 MEC/acre in the NCMUA.

5.1.3 Uncertainties with Revised MEC CSM

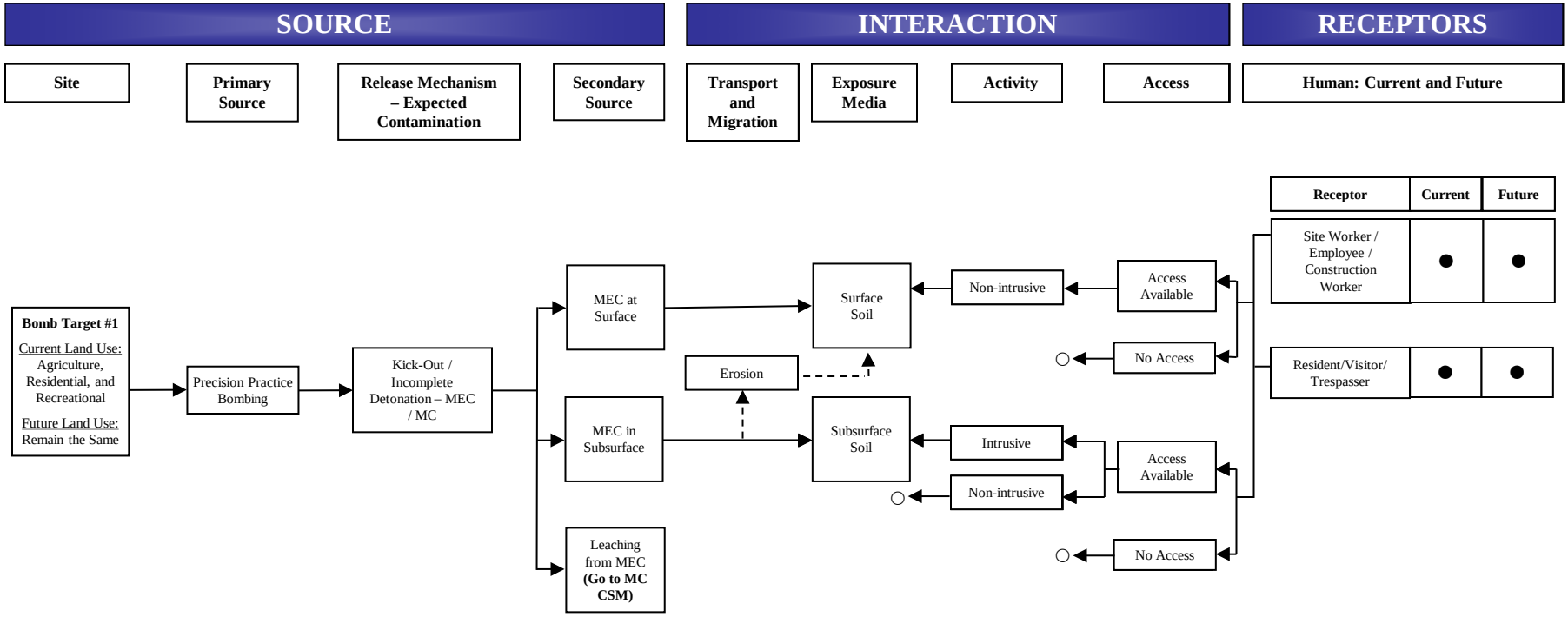
The purpose of the DQO process is to develop a plan to collect data of the right type, quality, and quantity to support defensible site decisions. Extensive effort was undertaken during the TPP process and meetings to ensure that proper DQOs were developed prior to the RI fieldwork. Project DQOs and data quality standards developed for the RI were achieved. All principal MEC and MC study questions identified in Step 2 of the DQO process were answered using the information inputs of the investigation and in accordance with Step 5 of the DQO process. Analog coverage and transect spacing met or exceeded the requirements described in Step 7 of

the DQO process (e.g., 199,252 linear feet of coverage at 250-foot spacing). These results eliminate any uncertainty as to whether MEC is still present at the BT1 MRS following the previously completed Site Investigation (Parsons 2009). RI intrusive investigation results documented MEC to a depth of 10 inches bgs; however, MD was documented to a maximum depth of 48 inches bgs. It is possible that MEC may be present in BT1 at depths greater than 10 inches bgs based on the observed depths of MD. The areas not investigated within the BT1 MRS due to rights of entry not granted are data gaps for the RI.

5.2 REVISED MC CSM

RI activities at the BT1 MRS were also designed to provide data to support an assessment of risks associated with potential MC. The revised MC CSM identifies only incomplete pathways between MC sources and receptors at the MRS. The MC CSM for the BT1 MRS was revised based on results from this RI. Only incomplete pathways exist because no MC contamination was identified at the BT1 MRS during the RI (**Section 4.3**). The revised MC CSM presenting the exposure pathway analysis for the BT1 MRS is presented as **Figure 5-2**.

Figure 5-1
MEC Conceptual Site Model



POTENTIAL EXPOSURE ROUTES

Receptor	Potential Exposure Activity	Hazard
Site Worker/Employee/ Construction Worker	Planting, harvesting, maintaining and constructing infrastructures, burns, tilling	Detonation
Resident/Visitor/Trespasser	Hunting, camping, trail activities	Detonation

LEGEND

- Flow-chart continues
- Partial/Possible Flow
- ● Potentially Complete Pathway
- ○ Incomplete Pathway

Former Hammond Bombing and Gunnery Range
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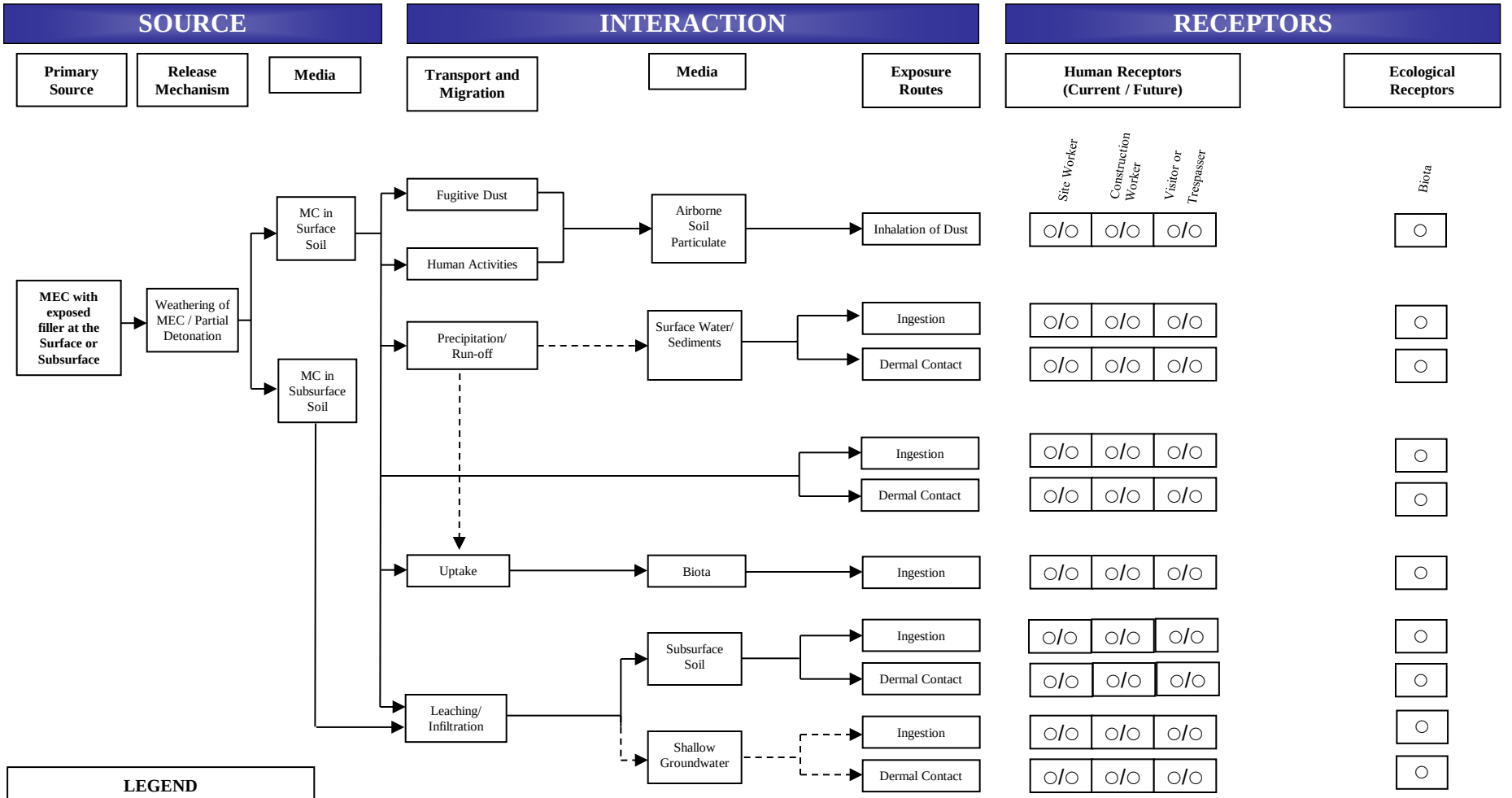
Figure 5-2
MC Conceptual Site Model



LEGEND

- Flow-chart continues
- Partial/Possible Flow
- ● Potentially Complete Pathway
- ○ Incomplete Pathway

POTENTIAL EXPOSURE ROUTES

Receptor	Potential Exposure Activity	Hazard
Site Worker/ Employee/ Construction Worker	Planting, harvesting, maintaining and constructing infrastructures, burns, tilling	MC
Resident/Visitor/Trespasser	Hunting, camping, trail activities	MC

Former Hammond Bombing and Gunnery Range
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6.1 RISK MANAGEMENT METHODOLOGY

The January 2017 Trial Period for Risk Management Methodology (RMM) at FUDS MMRP Projects (USACE 2017a) was developed to provide USACE FUDS project delivery teams with decision logic to differentiate acceptable versus unacceptable site conditions at MRSs, to establish a systematic approach for developing RAOs, and to assist in developing acceptable response alternatives to meet the RAOs. The strength in the Army risk assessment approach is that it is intended to address potentially acute hazard scenarios by factoring real site conditions to establish risk. The RMM was used to evaluate the CMUA and the NCMUA at the BT1 MRS. The RMM worksheets are included in **Appendix H**. RMM results for the CMUA and the NCMUA are summarized below and in **Table 6-1**.

6.1.1 CMUA Baseline Conditions

6.1.1.1 Matrix 1: Likelihood of Encounter.

The former Hammond BGR is not completely fenced and visitors/trespassers could potentially access the site with relative ease. The northern portion of the BT1 MRS is accessible by the general public. A gate and fencing is located on Riverdale Heights Road that separates the residential area from the timber and hunting area within the MRS. Therefore, the "Access Condition" is scored as "Often." The amount of MEC and access conditions within BT1 MRS gives a score result of "Likelihood of Encounter" rating of "Likely" under baseline conditions.

- Rating – Likely

6.1.1.2 Matrix 2: Severity of Incident

MEC items identified during the RI included 8 pieces of M50 Incendiary Bomb and 1 100-lb GP Bomb. These types of MEC contain high explosives (HE). Based on the potential for HE containing MEC items, the "Severity Associated with Specific Munitions Items" is scored in the most serious condition, as "Catastrophic/Critical." The previously determined Matrix 1 result of "Likely" in combination with the severity score of "Catastrophic/Critical" results in a "Severity of Incident" of "A" for the BT1 MRS under baseline conditions.

- Rating – A

6.1.1.3 Matrix 3: Likelihood of Detonation

It is noted that most of the BT1 MRS is used for hunting and logging of trees, as well as the northwest corner having residential locations. With no history of incidents, the rank "Likelihood to Impart Energy on an Item" is scored as "modest." The sensitivity and likelihood to impart energy scores result in a "Likelihood of Detonation" of "2" for the BT1 MRS under baseline conditions.

- Rating – 2

6.1.1.4 Matrix 4: Acceptable and Unacceptable Site Conditions

The Matrix 2 "Severity of Incident" result is "A." The Matrix 3 "Likelihood of Detonation" result is "2." Based on the previously determined matrix results, the BT1 MRS is judged to have "Unacceptable" baseline site conditions.

- Rating – Unacceptable

6.1.2 NCMUA Baseline Conditions

6.1.2.1 Matrix 1: Likelihood of Encounter.

Outside of the CMUA there were no MEC items discovered, only small MD items, (Fuzes, Indeterminate frag pieces, etc.). Since no MEC was found in the NCMUA then "Amount of MEC" rating would be "Investigation of MRS did not identify evidence of MEC presence." The former Hammond BGR is not completely fenced and visitors/trespassers could potentially access the site with relative ease. The northern portion of the BT1 MRS is accessible by the general public. A gate and fencing is located on Riverdale Heights Road that separates the residential area from the timber and hunting area within the MRS. Therefore, the "Access Condition" is scored as "Often." The amount of MEC and access conditions within NCMUA gives a score result of "Likelihood of Encounter" rating of "Unlikely" under baseline conditions.

- Rating – Unlikely

6.1.2.2 Matrix 2: Severity of Incident

Outside of the CMUA there were no MEC items discovered, only small MD items (Fuzes, Indeterminate frag pieces, etc.). Although these are not explosives, some Fuzes along with left over black powder may still be left in some items. Since decommissioning Hammond, there have been no incidents relating to injury from MEC/MD items at the site. So the "Severity" rank would be given an "Improbable." The previously determined Matrix 1 result of "Unlikely" in combination with the severity score of "Minor" results in a "Severity of Incident" of "D" for the NCMUA under baseline conditions.

- Rating – D

6.1.2.3 Matrix 3: Likelihood of Detonation

Outside of the CMUA there were no MEC items discovered, only small MD items (Fuzes, Indeterminate frag pieces, etc.). Although these are not explosives, some Fuzes along with left over black powder may still be left in some items. Therefore the "Sensitivity" is scored as "Low." It is noted that most of the NCMUA is used for hunting and logging of trees. These activities have been conducted for years without incident. With a history of no incidents the rank "Likelihood to Impart Energy on an Item" is scored as "Modest." The sensitivity and likelihood to impart energy scores result in a "Likelihood of Detonation" of "3" for the NCMUA under baseline conditions.

- Rating – 3

6.1.2.4 Matrix 4: Acceptable and Unacceptable Site Conditions

The Matrix 2 "Severity of Incident" result is "C." The Matrix 3 "Likelihood of Detonation" result is "2." Based on the previously determined matrix results, the NCMUA is judged to have "Acceptable" baseline site conditions.

- Rating – Acceptable

6.2 MUNITIONS RESPONSE SITE PRIORITIZATION PROTOCOL

The DoD proposed the MRSPP (32 CFR Part 179) to assign a relative risk priority to each MRS in the MMRP Inventory for response activities. This priority is based on the overall condition of each MRS and takes into consideration various factors related to explosive and environmental hazards. Relative priorities are assigned on a scale ranging from 1 to 8. Priority 1 indicates the highest potential hazard and Priority 8 indicates the lowest potential hazard. Under certain circumstances, a non-numerical alternative priority rating may also be assigned to an MRS. The overall MRSPP priorities for the BT1 MRS are as follows: the Explosive Hazard Evaluation Module rating was B, the CWM Hazard Evaluation Module rating was No Known or Suspected CWM Hazard, and the Health Hazard Evaluation Module rating was No Known or Suspected MC Hazard. Therefore, the overall MRSPP priority is 3, the second highest relative priority rating for an MRS without CWM. The MRSPP worksheet scores for BT1 MRS are summarized in **Appendix I**.

TABLE 6-1
SUMMARY OF RISK MATRIX METHODOLODY RESULTS
FORMER HAMMOND BOMBING AND GUNNERY RANGE

Alternative Selected	Likelihood of Encounter	Severity of Incident	Likelihood of Detonation	Acceptable and Unacceptable Site Conditions
CMUA Baseline Conditions	Likely	A	2	Unacceptable
NCMUA Baseline Conditions	Unlikely	D	3	Acceptable

Notes:

AGC - Advanced Geophysical Classification

CMUA - Concentrated Munitions Use Area

LUC - Land Use Controls

MEC - Munitions and Explosives of Concern

NCMUA - Non-Concentrated Munitions Use Area

UU/UE - Unlimited Use/Unrestricted Exposure

7.1 SUMMARY OF RI ACTIVITIES

This RI compiled and evaluated information about the BT1 MRS relating to the nature and extent of MEC impact and associated contamination of environmental media from MC. The RI included evaluation of previously collected data, vegetation clearance, geophysical surveys, and intrusive investigation of anomalies. This information was evaluated and used to determine if MEC are present, interpret the nature and extent of MEC and MC (if present), refine the CSMs for potential exposures to MEC and MC, assess MEC hazards, and update the MRSPP tables.

7.2 SUMMARY OF RI FINDINGS

The RI resulted in the collection, synthesis, and evaluation of a large quantity of information regarding past military munitions-related activities at the BT1 MRS, current on-site conditions with respect to the nature and extent of MEC and MC, and physical setting and land use. A summary of the findings for the BT1 MRS is provided below.

- Type: Practice Bombing
- Size: 1,154 acres
- Ownership: Private
- Topography: Flat
- Vegetative Cover: Very dense vegetation, consisting of grasses, shrubs, and trees
- Soil Type: Sandy silt
- Features: Residential housing in the northwest portion of the MRS
- Access: Moderate
- Geophysical Survey: 22.87 acres of analog transects, and 2.3 acres of DGM grids were completed.
- Target Anomaly Density: High anomaly density was defined as greater than 18 anomalies per acre based on VSP output.
- Intrusive Investigation: A total of 593 intrusive investigations were completed; MEC and MD were identified throughout the MRS with higher concentrations near the center.
- MEC/MDAS: MEC and MD were recovered on the surface and in the subsurface soil.
- MC Sampling Media: No explosives or metals were detected above project action levels.
- RMM CMUA Score: Unacceptable
- RMM NCMUA Score: Acceptable MRSPP Score: B (3)

7.3 CONCLUSIONS

The BT1 MRS has been sufficiently characterized using the results from previous investigations and from this RI. MEC items were identified in soil at the BT1 MRS to a maximum depth of 10 inches bgs. The results of the intrusive investigations indicate MEC exists within the MRS. MEC and MD items were found throughout the MRS but concentrated near the center of the MRS. The RMM score for the CMUA of the BT1 MRS is unacceptable and the score for the NCMUA of the BT1 MRS is acceptable. The MRSPP rating is B, which corresponds to a priority of 3.

No MC contamination was identified during the RI fieldwork investigation. No other potential sources of MC contamination (e.g., MEC items with exposed explosive filler) were identified during RI fieldwork. No further investigation for MC contamination is recommended.

7.3.1 BT1 MRS Designations

- BT1 MRS – This 407-acre area includes the CMUA located within the 18 anomalies per acre line (194 acres) and the non-right of entry areas (213 acres) shown on **Figure 4-3**. Based on the results of this RI, there is an unacceptable risk due to the presence of MEC hazards (100 lb. bombs and incendiary pieces containing thermate) to current and future receptors. Therefore, the CMUA of the BT1 MRS is recommended for an FS to evaluate remedial alternatives.

- BT1a MRS – This 747-acre area includes the NCMUA located outside the 18 anomalies per acre line shown on **Figure 4-3**. Based on the results of this RI, there is no unacceptable risk due to the presence of MEC hazards to current and future receptors at the NCMUA of the BT1 MRS. Therefore, the NCMUA of the BT1 MRS is recommended for no further action.

7.4 RECOMMENDATIONS

Results of the RI were used to provide recommendations for the HBGR MRS. These recommendations are summarized below:

- No further action/site closeout for the following MRS:
    - BT1a
- NFA for MC, but additional evaluation, remedial action, and/or restrictions (e.g., LUCs) for potential MEC at the following MRS:
    - BT1

Defense Environmental Programs. 2009. Defense Environmental Programs Annual Report to Congress for Fiscal Year 2008. http://deparc.xservices.com/do/mmrp. Data current as of September 30, 2008. Accessed November 18, 2009.

DOD Instruction. 2015. DOD Instruction 4140.62, Material Potentially Presenting an Explosive Hazard. 20 August.

Ford. 1996. Hammond Army Air Field and Early Aviation in the Hammond Area. Judge Leon Ford III.

Parsons. 2009. Final Site Inspection Report, Hammond Bombing and Gunnery Range, Tangipahoa Parish, Louisiana, FUDS Project Number A06LA030901, In Support of FUDS MMRP Site Inspections Project. Prepared for USACE, Fort Worth District. June.

Tangipahoa Parish. 2016. Parcel Boundary and Ownership Data. Tangipahoa Parish GIS/Mapping Department, Office of Community Development. March.

United States Army Corps of Engineers (USACE). 1996. Inventory Project Report for Hammond Bombing and Gunnery Range, Tangipahoa Parish, Louisiana, FUDS Project A06LA030901. USACE, Galveston District.

USACE. 2003. Archives Search Report for Hammond Bombing and Gunnery Range. USACE, Rock Island District. March.

USACE. 2004. Archives Search Report Supplement for Hammond Bombing and Gunnery Range. USACE, St. Louis District. November.

USACE. 2008b. DID WERS-001 Work Plans.

USACE. 2013. EM 385-1-97. Explosives - Safety and Health Requirements Manual. 17 May.

USACE. 2014. EM 385-1-1. Safety and Health Requirements Manual. 30 November.

USACE. 2015. EM 200-1-15. Technical Guidance for Military Munitions Response Actions. 30 October.

USACE. 2017a. Memorandum: Trial Period for Risk Management Methodology at Formerly Used Defense Sites Military Munitions Response Program Projects. January.

USACE. 2017b. Remedial Investigation Work Plan for Hammond Bombing and Gunnery Range. USACE, Fort Worth District. 5 January.

USGS. 2016. https://mrdata.usgs.gov/geochem/county.php?place=f22105&el=As&rf=southeastern

United States Census Bureau. 2010. QuickFacts, Tangipahoa Parish and Hammond City, Louisiana. Available at https://www.census.gov/quickfacts/table/PST045215/22105,2232755. Accessed March 11, 2016.

United States Census Bureau. 2014. American FactFinder, 2010-2014 American Community Survey 5-Year Estimates. Available at http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_14_5YR_S1601&prodType=table. Accessed March 11, 2016

United States Environmental Protection Agency (USEPA). 2006. Guidance on Systematic Planning using the Data Quality Objectives Process. February.

USEPA. 2017 https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables-june-2017

TPP MEETING 1
MEETING MEMORANDUM
HAMMOND BOMBING AND GUNNERY RANGE
MARCH 1, 2016

Meeting Duration: 9:17 AM - 11:00 AM CST

1. **Purpose:** This TPP Memorandum is a record of the first TPP meeting for the Remedial Investigation (RI) Feasibility Study (FS) at Hammond Bombing and Gunnery Range, Tangipahoa Parish, Louisiana. This RI/FS will be implemented as part of the United States Army Corps of Engineers (USACE) Military Munitions Response Program (MMRP) Defense Environmental Restoration Program (DERP) – Formerly Used Defense Sites (FUDS). The TPP meeting was held on March 1, 2016 at the Solomon Episcopal Center in Loranger, Louisiana. The TPP Team members in attendance are shown on the attached sign-in sheet.

   The TPP Team discussed the preliminary RI approach during the TPP meeting, resulting in Data Quality Objectives (DQOs) and a technical approach that reflects the consensus reached at the meeting that will be the basis for the RI Work Plan, which will also be submitted to the TPP Team for review. Following is a record of the TPP meeting, with summaries of discussion items organized in accordance with the meeting agenda items. Presentation slides used during the meeting are attached.

Participants:

Participant	Contact Information
LDEQ	
Mike Miller	225.219.3797
Tangipahoa Parrish Government	
Alyson Lapuma	985.340.9028
Landowners	
Carl Schneider	985.345.6224
Joey & Susie Lamonte	985.507.6648
Reimers Company	
Jeanine Connelley	985.878.8022
USACE	
Carlos Duarte	817.886.1884
Chris Graber	817.403.1069
OA Systems Corporation	
Steve Gunzelman	806.354.8218
Trish Spaine	970.988.0400
URS Group, Inc.	
John Carson	402.334.8181
Ben Christensen	402.334.8181
Troy Brumfield	225.922.5700
Jeny Mitchell	402.334.8181

Introductions: John Carson began the meeting and led the introductions. Individuals in attendance introduced themselves.

Agenda, Meeting Objectives, and Site Background: John Carson presented the agenda and the objectives of the TPP. He indicated the intent of the TPP meeting is to present the overall approach to the RI, as well as the initial DQOs, and the schedule to the project stakeholders. Mr. Carson presented the status of the project and previous investigations.

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) terminology and process was outlined. The scope of work for this project ends at the Proposed Plan/Decision Document phase.

Carl Schneider asked if there is a timeframe for this work to be completed; if it is months, years, or centuries. John Carson stated the investigation is scheduled to be completed this time next year. The planning documents are scheduled to be completed at the end this summer/start of the fall and the fieldwork is scheduled to begin in December 2016. If the process is streamlined, the work under this contract could be completed in two years.

John Carson presented the results of the SI report and discussed the recommendations for two areas to move forward with No Further Action (NFA) and three areas for further investigation. The government and the landowners reached an agreement in 2013 to focus the investigation at Bomb Target #1 Munitions Response Site (MRS) and the rest of the area met the criteria for NFA.

The work being conducted under this contract involves the updating of the Public Involvement Plan to promote public involvement. This document will discuss the various ways to disseminate information and the preference of the community. Interviews have been completed with various stakeholders and the plan should be ready to be submitted to the Army for review next week.

Fieldwork will include the collection of mag and dig data and analytical data. The team has identified December – February as the best time to complete the work due to vegetation growth and weather. Coordination with the landowners will be imperative in completing the work. Although the majority of the MRS is uninhabited, coordination with the hunting club will be completed for the safety of hunters and the field teams.

Data Quality Objectives: John Carson presented the preliminary DQOs developed by the project team. A discussion ensued about the mag and dig process. The objective is to investigate all items identified during collection of data from transect and grid locations.

Carlos Duarte asked how the team would proceed if pavement was encountered during the investigation and if the equipment being used can penetrate the pavement. John Carson stated the equipment will be able to penetrate; however, if the area is paved with concrete containing rebar, individual anomalies beneath the pavement would be difficult to identify. If the area around the pavement is free of anomalies, then we will assume the paved over area is the same; the assumption will be made conversely if the surrounding area has a concentration of anomalies. Pavements will not be removed during the investigation. If evidence of past munitions use is identified, the recommended remedy will address the issue; however, any remedial work will be

done by others. Carl Schneider asked how deep the equipment is able to penetrate. Mr. Carson explained the depth is a function of the size of buried item. Chris Graber noted that historically the hand-held units have been able to penetrate six to eight feet below the surface.

Alyson Lapuma asked if there are any houses in the MRS boundary. Carl Schneider and Jeanine Connelley referred Alyson to the figure provided as a handout showing the northwest corner of the MRS and the subdivision there and stated there is a new subdivision being built currently. Carl Schneider asked about deed restrictions being put on properties. Carlos Duarte stated the Army has no authority to place restrictions on property the government does not own.

Soil samples will be collected if a munition that has exposed filler is found or if an area high in munitions density is identified. Statistical analysis is being conducted to help develop the plan of how and where to execute the work to meet the project goals. The project team is developing the detailed plan outlining the work and plan to have the draft to the Army in April for review.

Collection of Data: Mr. Carson stated limited vegetation removal may be required, but the team will be very careful how and where it would be completed. The team will design the mag and dig data collection using the UXO Estimator and VSP tools to determine the placement and number of transects and grids. Transect data will be collected using 250 foot spacing. The team will investigate grids as needed to meet acreage requirements and define any munitions or explosives of concern (MEC) impacts in high-density areas. Anomalies will be investigated on transects and grids. Alyson asked if GPS units will be used to identify location of anomalies. John Carson confirmed that, GPS units will be used.

Munitions constituents (MC) soil samples will be collected where MEC items with exposed fillers are found or high anomaly density areas. The number and locations of samples will be based on the results of the intrusive investigations.

The investigation coverage will be dependent on the landowner rights-of-entry (ROEs) received. The team cannot investigate a property unless permission from the landowners is given. Any property the team is not granted access to will be a gap in the data.

Questions and Discussion: Alyson Lapuma stated she counted 21 parcels in the boundary area and asked if that number is correct. Jeanine invited her to come to the trust office and look at the maps they have in the office. John Carson stated the project team used the Parrish Assessors Office and determined there are 12 separate landowners in the MRS footprint. All landowners were sent a letter invitation to this meeting.

Alyson Lapuma asked if the investigations outside of the MRS found anything. Mr. Carson stated past investigations located 50-caliber ammunition, which is not considered MEC and during the archive search in 2013 a crater was allegedly found. Mike Miller asked if the project team has reviewed aerial photos to confirm. Carl Schneider stated a full set is available for review, but the quality is not the best. The current work will be contained within the boundary of the Bomb Target #1 MRS and all other areas outside this are documented as NFA. Mike Miller

pointed out if anything is found outside the Bomb Target #1 MRS, the government will have to conduct further investigation.

Alyson Lapuma asked if there are current land use restrictions on the property and the group answered nobody is aware of restrictions.

Trish Spaine asked what would happen if a MEC item was located during the investigation and would residents be evacuated. Mr. Carson explained the work would be done during the day when the majority of residents would be at work and school. If that is not possible, arrangements would need to be made so residents would be out of the area. Chris Graber stated there has never been an unintentional detonation in the field. The UXO technicians performing the work are highly qualified and most are former military EOD personnel. Mike Miller again stated the biggest possible hurdle could be obtaining ROEs from the landowners.

Carl Schneider stated he is glad things are moving forward and the work will begin. As a landowner, he is hoping for one of two things; either something is found and the path forward is laid out or nothing is found and the work is done. The uncertainty is what concerns the landowners.

The meeting ended at 11:00 am.

TECHNIAL PROJECT PLANNING MEETING NO. 1
ATTENDANCE SIGN-IN SHEET
MARCH 1, 2016

NAME	ORGANIZATION/ADDRESS	PHONE NUMBER	EMAIL ADDRESS	SIGNATURE
John Carson	URS Group, Inc. 12120 Shamrock Plaza Omaha, NE 68154	402-334-8181	john.c.carson@aecom.com	
Ben Christensen	URS Group, Inc. 12120 Shamrock Plaza Omaha, NE 68154	402-334-8181	ben.christensen@aecom.com	
Steve Gunzelman	OA Systems Corporation 2201 Civic Circle, Suite 511 Amarillo, TX 79109	806-354-8218	gunzelman@oasystems.net	
Trish Spaine	OA Systems Corporation 2201 Civic Circle, Suite 511 Amarillo, TX 79109	970-988-0400	patricia.spaine@gmail.com	
Jeny Mitchell	URS Group 12120 Shamrock Plz	402-334-8181	jeny.mitchell@aecom.com	
Mike Miller	LDEQ Baton Rouge, LA	225 219 3191	michael.miller@la.gov	
TROY BRUMFIELD	URS 7389 FLORIDA BLVD. BATON ROUGE LA	(225) 922-5700	TROY.BRUMFIELD@AECOM.COM	
CARL SCHNEIDER	REIMERS TRUST	985-345-6224	Z20i-55.com	
Joey + Susie LAMONTE	PO Box 786 Ponchatoula LA 70454	985-507-6648	slamo@att.net	
CHRIS GRABER	USACE FtWorth	817-703-1069	christopher.m.graber@usace.army.mil	
Allyson Lapuma	Tangipahoa Parish Gov. 14585 W. Club Deluge Rd Hammond, LA 70403	985-340-9028	alapuma@tangipahoa.org	
Carlos Duarte	USACE	817-886-1884	Carlos.m.duarte@usace.army.mil	
Jeanine Connelley	Reimers Co LLC 23107 Zemurray Gardens Dr Loranger LA 70446	985-878-8022	jeanineconnelley@charter.net	

Remedial Investigation and Feasibility Study

Hammond Bombing and Gunnery Range at Tangipahoa Parish, Louisiana

Technical Project Planning Meeting 1

01 March 2016

US Army Corps of Engineers

BUILDING STRONG®

Agenda

- Introductions and Terminology
- Background
- RI/FS
- Deliverables and Schedule

Introductions

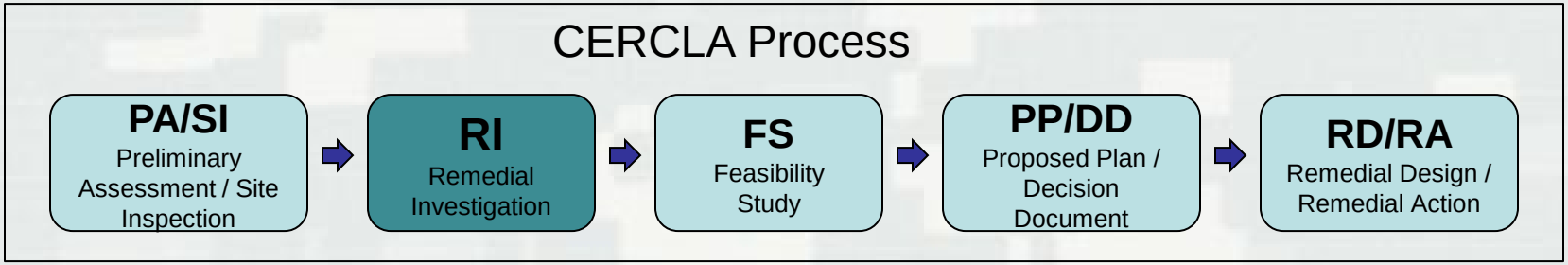
- U.S. Army Environmental Command
- U.S Army Corps of Engineers
  - Carlos Duarte, PM
  - Steve Martin, COR
  - Jackie Smith, Safety
- Louisiana Department of Environmental Quality
  - Mike Miller
- U.S. Environmental Protection Agency, Region 6
- OA Systems Corporation/URS
  - Steve Gunzelman, PM
  - John Carson, RI Lead

Technical Project Planning (TPP)

- TPP Meeting 1 covers pre-work plan activities:
  - Review previous investigations and actions.
  - Prepare current conceptual site models (CSMs).
  - Develop data quality objectives (DQOs) using seven step process.
  - Establish field activities.
- TPP Meeting 2 will finalize the UFP-QAPP.
- TPP Meeting 3 will finalize the RI Report.

CERCLA Terminology

- CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act
  - Federal law enacted in 1980 (amended in 1986 by the Superfund Amendments and Reauthorization Act) that addresses funding for and remediation of abandoned and uncontrolled hazardous waste sites. Establishes criteria for the PA/SI, RI, FS, PP/DD, and RD/RA.



CERCLA Terminology

- **RI – Remedial Investigation**
  - An exploratory inspection conducted at a site to define the nature and extent of contamination and assess hazards/risks.
- **FS – Feasibility Study**
  - An evaluation of possible remedies using information generated during an RI, typically becomes the basis for selection of a remedy that eliminates the threat posed by site contaminants.
- **PP – Proposed Plan**
  - A plan that identifies the preferred remedial alternative for a site, and made available to the public for review and comment.
- **DD –Decision Document**
  - Records the selected remedy and reasoning used to arrive at the selected remedy, demonstrating that all CERCLA requirements were adhered to.
- **RD/RA – Remedial Design/Remedial Action**
  - Design and implementation based on the DD selected remedy.

MMRP Terminology

- *Military Response Terminology Memorandum*, Department of Army, Office of the Assistant Secretary Installations and Environment (April 21, 2009)
- **MMRP – Military Munitions Response Program**
  - Directs environmental cleanup at locations where MEC and MC are known or suspected
- **MEC – Munitions and Explosives of Concern**
  - Distinguishes specific categories of military munitions that may pose unique explosive safety risks:
    - UXO – Unexploded Ordnance. Military munitions that (A) have been primed, fuzed, armed, or otherwise prepared for action; (B) have been fired, dropped, launched, projected, or placed in such a manner as to constitute a hazard to operations, installations, personnel, or material; and (C) remain unexploded whether by malfunction, design, or an other cause. [10 U.S.C. 101e(5)]
    - DMM – Discarded Military Munitions. Military munitions that have been abandoned without proper disposal or removed from storage in a military magazine or other storage area for the purpose of disposal. [10 U.S.C. 2710(e)(2)]
    - MC – Munitions Constituents (e.g., TNT, RDX), as defined by 10 U.S.C. 2710(e)(3), present in high enough concentrations to pose explosive hazard.
- **MC – Munitions Constituents**
  - Any material originating from UXO, DMM, or other military munitions, including explosive and non-explosive material, and emissions, degradation, or breakdown elements of ordnance or munitions. [10 U.S.C. 2710(e)(3)]

MMRP Terminology

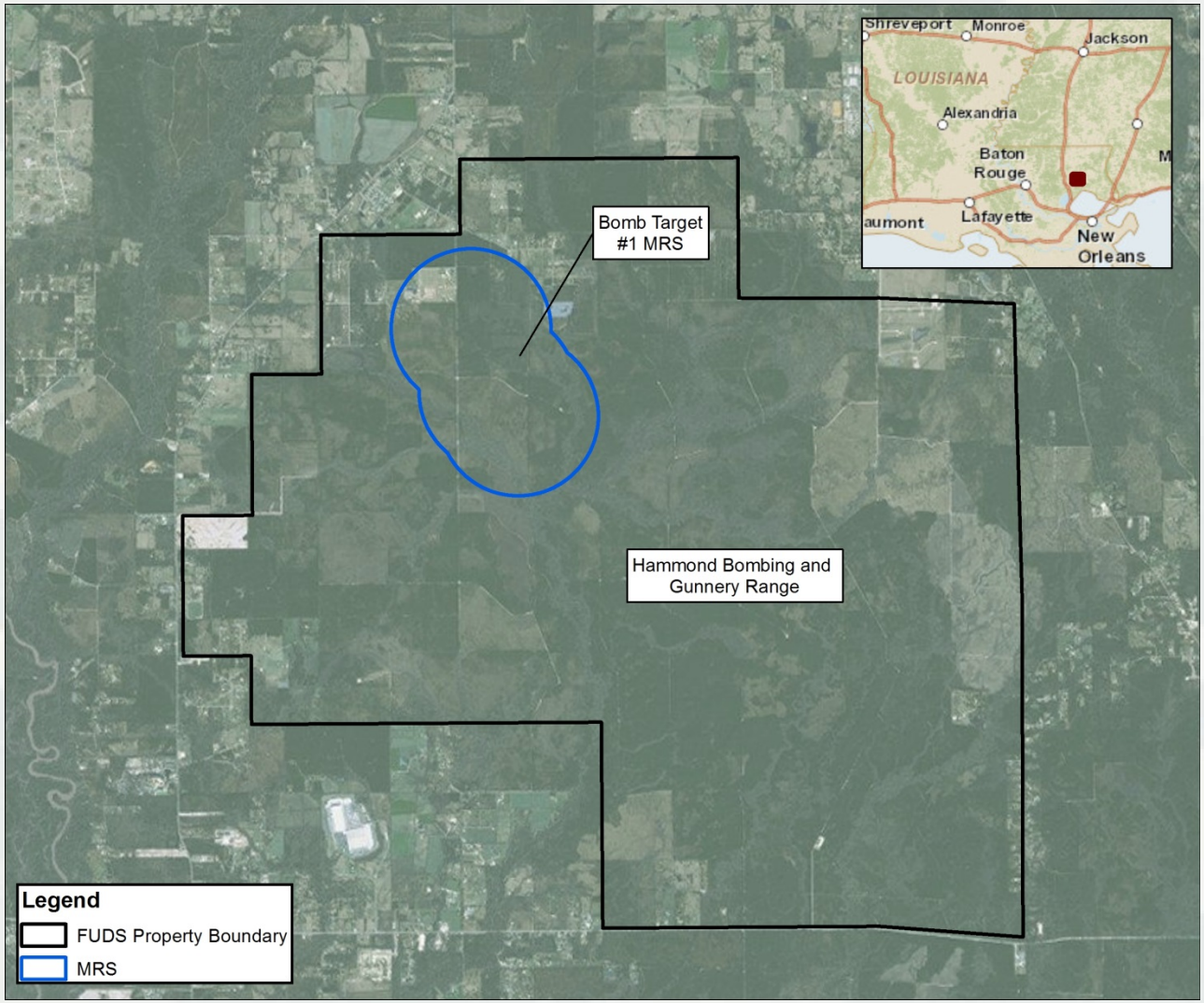
- **MPPEH – Material Potentially Presenting an Explosive Hazard**
  - Material potentially containing explosives or munitions (e.g., munitions containers and packaging; munitions debris remaining after munitions use, demilitarization, or disposal; and range-related debris), or material potentially containing a high enough concentration of explosives such that the material presents explosive hazard.
- **MDAS – Material Documented as Safe**
  - MPPEH that has been assessed and documented by appropriate UXO-qualified personnel as not presenting an explosive hazard.
- **MD – Munitions Debris**
  - Remnants of munitions (e.g., fragments, penetrators, projectiles, shell casings, links, fins,) remaining after munitions use, demilitarization, or disposal.
- **MDEH – Material Documented as an Explosive Hazard**
  - MPPEH that cannot be documented as MDAS, that has been assessed and documented as to the maximum explosive hazards the material is known or suspected to present, and for which the chain of custody has been established and maintained. This material is no longer considered to be MPPEH.
- **Mag and Dig**
  - Utilize a handheld magnetometer to identify and locate subsurface anomalies. Expose the anomaly for investigation and characterization.

Background

Hammond B&GR Overview

- Former bombing and gunnery range in Tangipahoa Parish, LA.
- Operated from August 1942 until September 1945.
- Hammond Bombing and Gunnery Range (B&GR) was constructed to provide gunnery, rocket, and bombing practice for pilots deploying overseas.
- Bomb Target No. 1, the subject of this investigation, was a precision bomb target located in the northern portion of Hammond BG&R.
- Hammond BG&R was returned to the previous owners after its military use.
- Today, the majority of the land is managed as lumber production land and hunting clubs, and access is very limited due to swampy conditions. The land along the boundary of the site is used for private residences and small business properties.

Hammond B&GR Overview



FUDS – Formerly Used Defense Sites

MRS – Munitions Response Site

Previous Work Completed

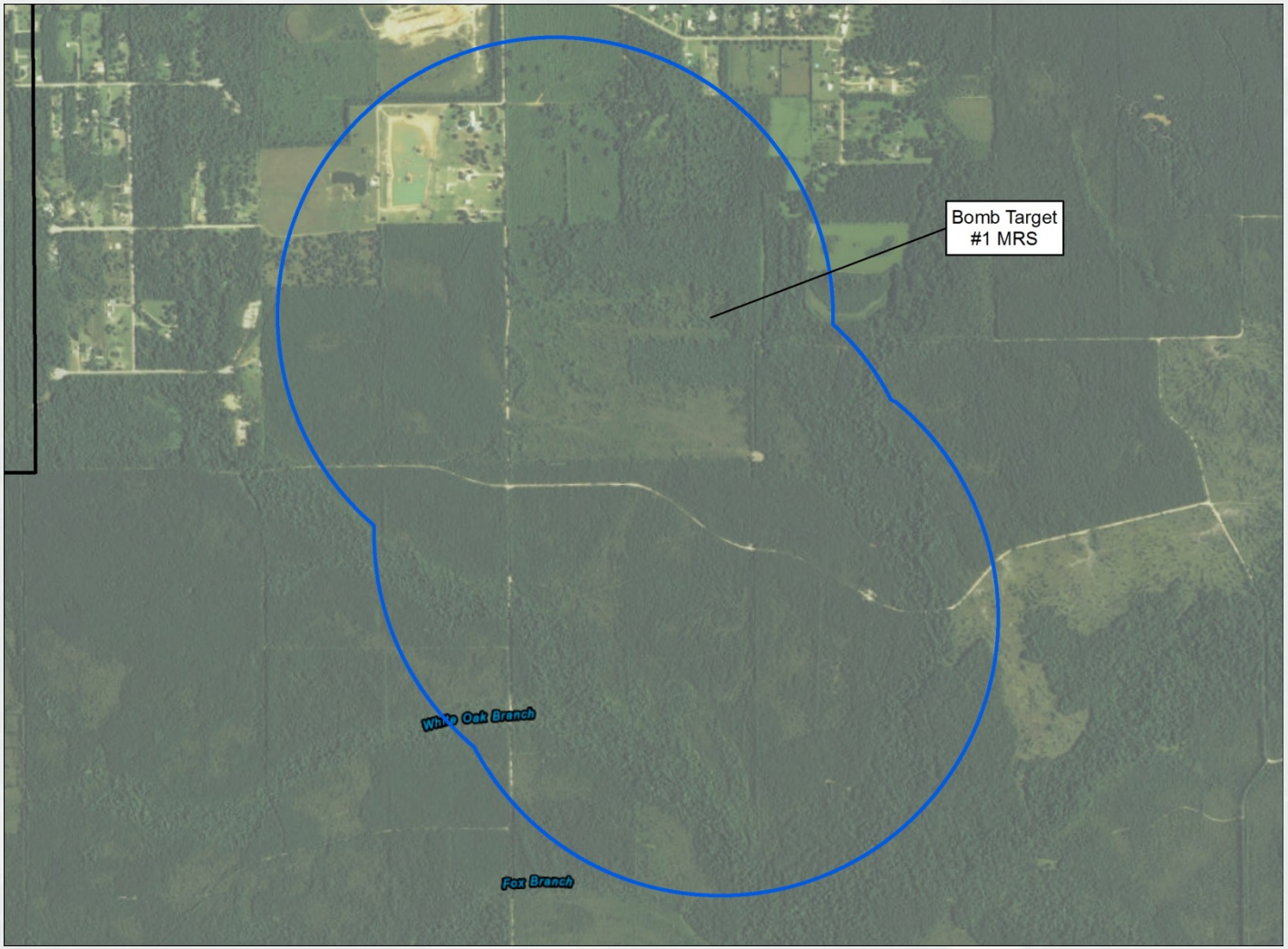
- Inventory Project Report (USACE, 1996)
- Archives Search Report (USACE, 2003)
- Site Investigation and Report (Parsons, 2009)
- Public Involvement Plan (Parsons, 2010)

Scope of The Project

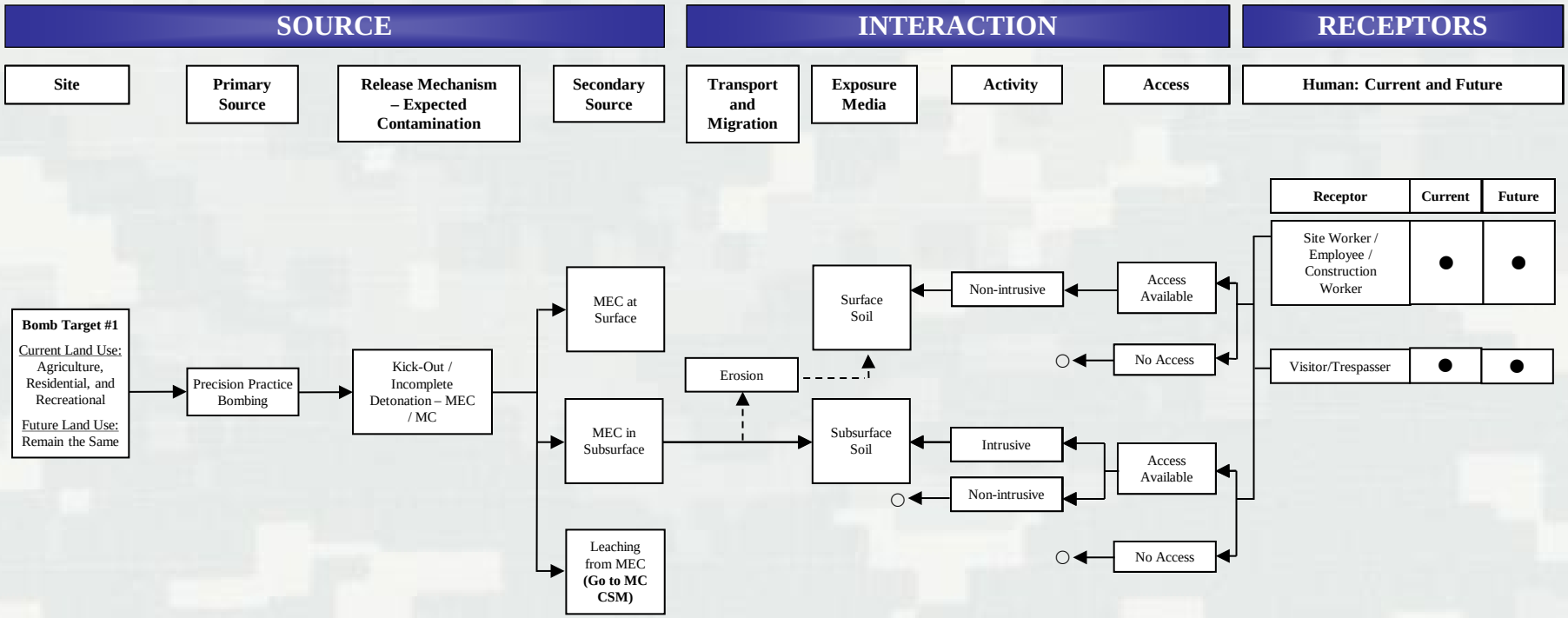
- **Typical Site Conditions (October 2015)**

- **Community Relations Plan – promote public participation by sharing timely and accurate information among all concerned parties**
- **RI fieldwork to include collection of mag and dig data along with analytical data**
- **Remedial Investigation Report – to include baseline risk assessment**
- **Feasibility Study – evaluate potential remediation alternatives**
- **Proposed Plan – provides rationale for selection of preferred alternative**
- **Decision Document – the final decision regarding selected remedy**

Bomb Target No. 1 Site Map



MEC Conceptual Site Model



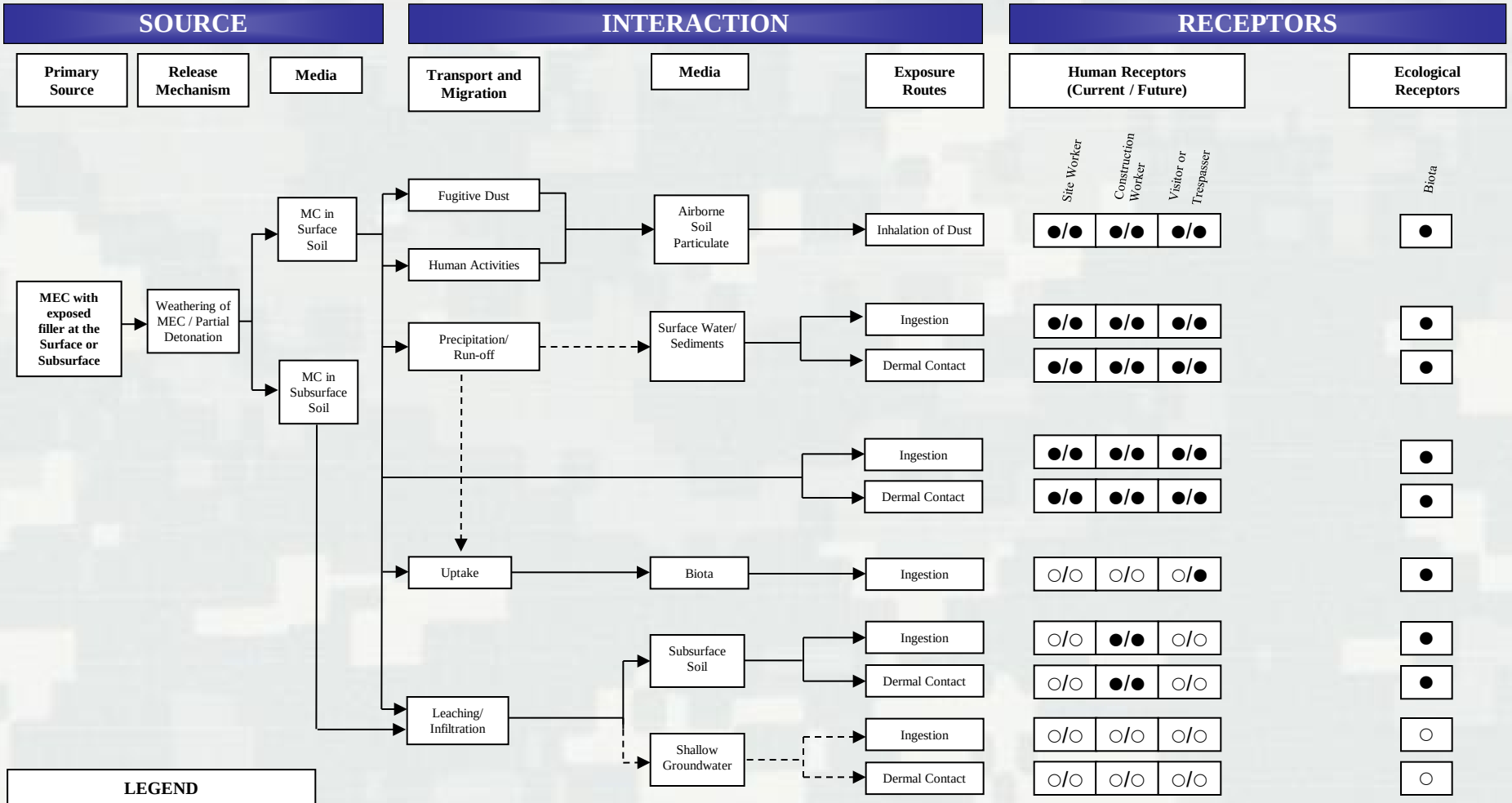
POTENTIAL EXPOSURE ROUTES

Receptor	Potential Exposure Activity	Hazard
Site Worker/Employee/ Construction Worker	Planting, harvesting, maintaining and constructing infrastructures, burns, tilling	Detonation
Visitor/Trespasser	Hunting and camping	Detonation

LEGEND

- Flow-chart continues
- Partial/Possible Flow
- ● Potentially Complete Pathway
- ○ Incomplete Pathway

MC Conceptual Site Model



LEGEND

- Flow-chart continues
- Partial/Possible Flow
- ● Potentially Complete Pathway
- ○ Incomplete Pathway

POTENTIAL EXPOSURE ROUTES

Receptor	Potential Exposure Activity	Hazard
Site Worker/ Employee/ Construction Worker	Planting, harvesting, maintaining and constructing infrastructures, burns, tilling	MC
Visitor/Trespasser	Field trips, camping, trail activities	MC

RI Data Quality Objectives

Bomb Target No. 1 – 1,154 acres

1. **State the problem**
   - MEC and associated MC contamination are potential risks to current and future site workers, construction workers, visitors/trespassers, and ecological receptors.
2. **Identify the Goal of the Study**
   - Determine if further munitions response action is needed or if a No Further Action (NFA) recommendation for Bomb Target No. 1 is appropriate.
3. **Identify Information Inputs**
   - Historical use of site and most reasonably anticipated future land use.
   - Previous aerial photo analysis and investigations.
   - New mag and dig survey and MC samples – part of this RI.
4. **Define the Boundaries of the Study**
   - Bomb Target No. 1 – 1,154 acres to depth of instrument detection.
   - Target analytes from the SI to the RI will remain the same.

RI Data Quality Objectives

Bomb Target No. 1 – 1,154 acres

5. Develop the Analytic Approach

- If an anomaly detected meets anomaly selection criteria then intrusively investigate a certain number of anomalies per unit of distance (determined in the Uniform Federal Policy – Quality Assurance Project Plan [UFP-QAPP]).
- If transect survey results identify high density areas, then 100% coverage grids will be completed. The definition of low and high density areas (e.g., ≥50 items/acre above background) will be determined by the project team using Visual Sample Plan (VSP) statistical tools with data from the transect survey.
- If MEC items with exposed filler or high anomaly density areas are discovered, then collect discrete MC soil samples.
- If MC soil result exceeds the soil screening level and background concentration, then collect additional MC soil sample(s) to delineate contamination.

RI Data Quality Objectives

Bomb Target No. 1 – 1,154 acres

6. Specify Performance or Acceptance Criteria

- UXO Estimator inputs to provide 95% confidence level and a MEC density for minor public use (i.e., ≤1.0 MEC item/acre).
- MC sample results meet the precision, accuracy, representativeness, completeness, comparability and sensitivity (PARCCS) parameters criteria listed in the UFP-QAPP for data to be used for decision making purposes.

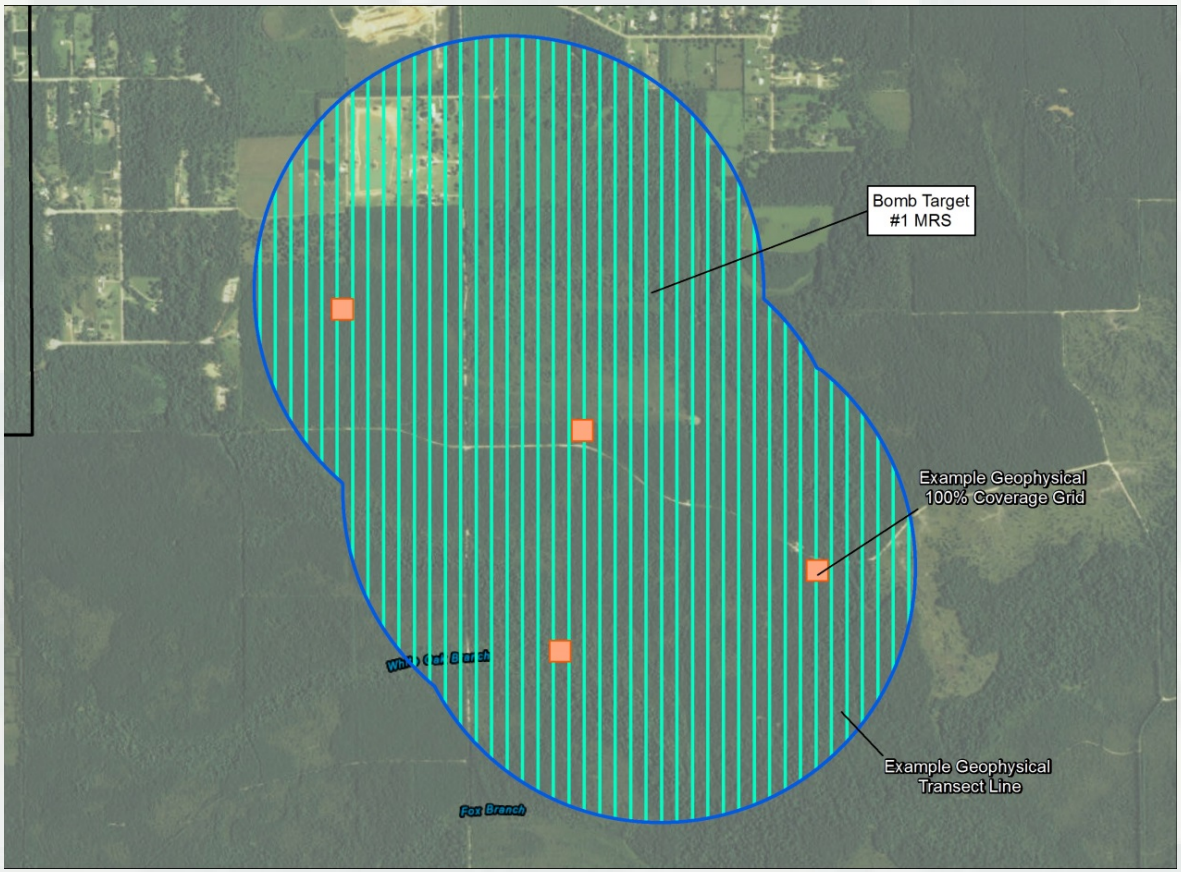
7. Develop the Detailed Plan for Obtaining Data

- Complete limited vegetation removal and install instrument test strip.
- Design mag and dig data collection using UXO Estimator and VSP to determine placement/number of transects, and grids.
  - Collect transect data using 250 foot spacing presented in the UFP-QAPP.
  - Investigate grids (e.g., 100 ft x 100 ft) as necessary to satisfy acreage requirements of UXO Estimator and define MEC impacts in high density areas.
  - Intrusively investigate anomalies on transects and grids. The numbers of anomalies investigated will vary according to the anomaly density detected in the area.

RI Data Quality Objectives

Bomb Target No. 1 – 1,154 acres

7. Develop the Detailed Plan for Obtaining Data (Continued)



- Collect MC soil samples at locations where MEC items with exposed filler are found (i.e., release source) or high anomaly density areas.
- Determine the number and location of MC samples based on the results of intrusive investigations.

Deliverables and Schedule

- RI/FS/PP/DD
  - Draft UFP-QAPP to Army — April 2016
  - Draft Final UFP-QAPP to Regulator — June 2016
  - TPP2 — August 2016
  - Final UFP-QAPP — September 2016
  - RI Field Effort — December 2016 - February 2017
  - Draft RI Report to Army — June 2017
  - Draft Final RI Report to Regulator — August 2017
  - TPP3 — October 2017
  - Final RI Report — November 2017
  - Draft FS to Army — January 2018
  - Draft Final FS to Regulator — February 2018
  - Final FS — April 2018
  - Draft Proposed Plan to Army — May 2018
  - Draft Final Proposed Plan to Regulator — July 2018
  - Public Review — September 2018
  - Final Proposed Plan — September 2018
  - Draft DD to Army — November 2018
  - Draft Final DD to Regulator — January 2019
  - Final DD — April 2019

Discussion

TPP MEETING 2
MEETING MEMORANDUM
HAMMOND BOMBING AND GUNNERY RANGE
DECEMBER 2, 2016

Meeting Duration: 9:25 AM - 10:47 AM CST

1. **Purpose:** This TPP Memorandum is a record of the second TPP meeting for the Remedial Investigation (RI) Feasibility Study (FS) at Hammond Bombing and Gunnery Range, Tangipahoa Parish, Louisiana. This RI/FS will be implemented as part of the United States Army Corps of Engineers (USACE) Military Munitions Response Program (MMRP) Defense Environmental Restoration Program (DERP) – Formerly Used Defense Sites (FUDS). The TPP meeting was held on December 2, 2016 at the Solomon Episcopal Center in Loranger, Louisiana. The TPP Team members in attendance are shown on the attached sign-in sheet.

   The TPP Team discussed the preliminary RI approach during the TPP meeting, resulting in Data Quality Objectives (DQOs) and a technical approach that reflects what was presented in the RI Work Plan. Following is a record of the TPP meeting, with summaries of discussion items organized in accordance with the meeting agenda items. Presentation slides used during the meeting are attached.

Participants:

Participant	Contact Information
LDEQ	
Mike Miller	225.219.3797
Bob Harris	337.262.1373
Tangipahoa Parrish Government	
Lauren Brinkman	985.340.9028
Reimers Company	
Jeanine Connelley	985.878.8022
USACE	
Carlos Duarte	817.886.1884
Chris Graber	817.403.1069
OA Systems Corporation	
Steve Gunzelman	806.354.8218
URS Group, Inc.	
John Carson	402.334.8181
Ben Christensen	402.334.8181
Troy Brumfield	225.922.5700
Jeny Mitchell	402.334.8181

Introductions: John Carson began the meeting and led the introductions. Individuals in attendance introduced themselves.

Agenda, Meeting Objectives, and Site Background: Ben Christensen presented the agenda and the objectives of the TPP. He indicated the intent of the TPP meeting is to present the

overall approach to the RI, as well as the initial DQOs, and the schedule to the project stakeholders. Mr. Christensen presented the status of the project and previous investigations.

The project objectives were presented. Mike Miller asked if the Feasibility Study will evaluate various alternatives and present a recommendation. John Carson stated that, yes the study would recommend an alternative.

Data Quality Objectives: Ben Christensen presented the DQOs developed by the project team. A discussion ensued about the mag and dig process.

Collection of Data: Carlos Duarte asked if there are other triggers to collect soil samples other reason than staining. John Carson stated if evidence of munitions use is discovered, samples will be collected. Chris Graber concurred with the statement.

Mike Miller asked if post-BIP sampling would be conducted and noted the LDEQ would consider any exceedances a new release. Carlos Duarte will look into the USACE view of post-BIP sampling exceedances.

Mike Miller asked about the instrument test strip the crew will set up. John Carson explained there will be various sizes of pipe buried at different depths to verify the functionality of the instruments.

Jeanine Connelley asked what process would be used for vegetation removal. John Carson stated the process would be mostly brush removal. If a more aggressive removal would be required, that would be discussed with the landowners and a mutual agreement would be reached before any removal began.

Bob Harris asked if the density of the vegetation cover could affect the GPS data collected. John Carson indicated a base station could be brought in to help and LSU has a real time correction system that could be used (for a fee) if necessary.

Jeanine Connelley asked if the investigation would be conducted in the areas where no right-of-entry (ROE) has been received. John Carson stated if the landowner has not signed an ROE, the property cannot be entered. Carlos Duarte stated USACE will continue to contact the landowners to try and obtain an ROE.

Questions and Discussion: Troy Brumfield asked if the Decision Document is an LDEQ document to sign or an Army document. Carlos Duarte stated the document is an Army document and will be signed by USACE management. Mike Miller stated the LDEQ is usually provided a courtesy copy of the signed document to formalize the decision made for remediation.

Mike Miller asked if the areas unable to be investigated will remain open indefinitely. Carlos Duarte reiterated USACE will continue to ask property owners for ROEs.

Lauren Brinkman asked if a property owner whose land was cleared is next to land where access was not granted and they want to sell their land what should they do. John Carson explained the

cleared landowner can say there is no risk on their own land, but there will be possible risk on the adjacent land. Mike Miller stated when property is sold, law requires disclosure of risks. Lauren Brinkman asked if USACE could add a deed restriction on the land where ROEs are not granted so the risks would be communicated if the property is sold. Jeanine Connelley stated, in previous conversations with USACE, the landowners were told USACE does not do deed restrictions.

Lauren Brinkman asked if the land outside the MRS was cleared. John Carson discussed the project history and how the MRS boundary was ultimately agreed upon with the current landowners and USACE and Jeanine Connelley stated USACE has assigned NFA status to the areas outside the MRS.

The meeting ended at 10:47 am.

TECHNIAL PROJECT PLANNING MEETING NO. 2
ATTENDANCE SIGN-IN SHEET
DECEMBER 2, 2016

NAME	ORGANIZATION/ADDRESS	PHONE NUMBER	EMAIL ADDRESS	SIGNATURE
John Carson	URS Group, Inc. 12120 Shamrock Plaza Omaha, NE 68154	402-334-8181	john.c.carson@aecom.com	
Ben Christensen	URS Group, Inc. 12120 Shamrock Plaza Omaha, NE 68154	402-334-8181	ben.christensen@aecom.com	
Steve Gunzelman	OA Systems Corporation 2201 Civic Circle, Suite 511 Amarillo, TX 79109	806-354-8218	gunzelman@oasystems.net	
Chris Graber	USACE FT WORTH DISTRICT OESS	817-403-1069	Christopher.M.Graber@USACE.Army.mil	
Troy Brumfield	AECOM 7389 Florida Blvd Baton Rouge, LA	(225)922-5700	Troy.Brumfield@AECOM.Com	
Carlos Duarte	USACE Ft Worth	(817)886-1884	carlos.m.duarte@usace.army.mil	Carlos M. Duarte
Lauren Brinkman	Tangipahoa Parish Planning Department	(985) 340-9028	lbrinkman@tangipahoa.org	Lauren Brinkman
Jeanine Connelley	Marietta + Warren Trusts	985-878-8022	jeanineconnelley@charter.net	Jeanine Connelley
Mike Miller	LDEQ-USTRD	225-219 3791	Mike.Miller7@la.gov	
Robert Harris	LDEQ-USTRD	337-262-1373 ~~985~~	RobertT.Harris3@la.gov	

Remedial Investigation and Feasibility Study

Hammond Bombing and Gunnery Range at Tangipahoa Parish, Louisiana

Technical Project Planning Meeting 2

December 2, 2016

US Army Corps of Engineers
BUILDING STRONG®

Agenda

Background

Project Objectives

Remedial Investigation Daily Quality Objectives

Remedial Investigation/Feasibility Study Activities

- Site Reconnaissance
- Mag/Flag and Dig
- Grid Placement and Statistics
- MEC Disposal, Soil Sampling
- Reporting

Schedule

Terminology

BSP - Blind Seeding Program

DQO - Data Quality Objective

DGPS - Differential Global Positioning System

DD - Decision Document

FS - Feasibility Study

HA - Hazard Assessment

ITS - Instrument Test Strip

MC - Munitions Constituents

MD - Munitions Debris

MEC - Munitions and Explosives of Concern

MMRP - Military Munitions Response Program

MPPEH - Material Potentially Presenting Explosive Hazard

MRS - Munitions Response Site

MRSPP - Munitions Response Site Prioritization Protocol

MSD - Minimum Separation Distances

NFA - No Further Action

OESS - Ordnance and Explosives Safety Specialist

PARCCS - Precision, accuracy, representatives, completeness, comparability, and sensitivity

PP - Proposed Plan

RI - Remedial Investigation

ROE - Right of Entry

RRD - Range Related Debris

SI - Site Inspection

SUXOS - Senior Unexploded Ordnance Supervisor

TPP - Technical Project Planning

UFP - QAPP-Uniform Federal Policy

USACE - United States Army Corps of Engineers

UXO - Unexploded Ordnance

UXOQCS - Unexploded Ordnance Quality Control Specialist

UXOSO - Unexploded Ordnance Safety Officer

VSP - Visual Sample Plan

WP - Work Plan

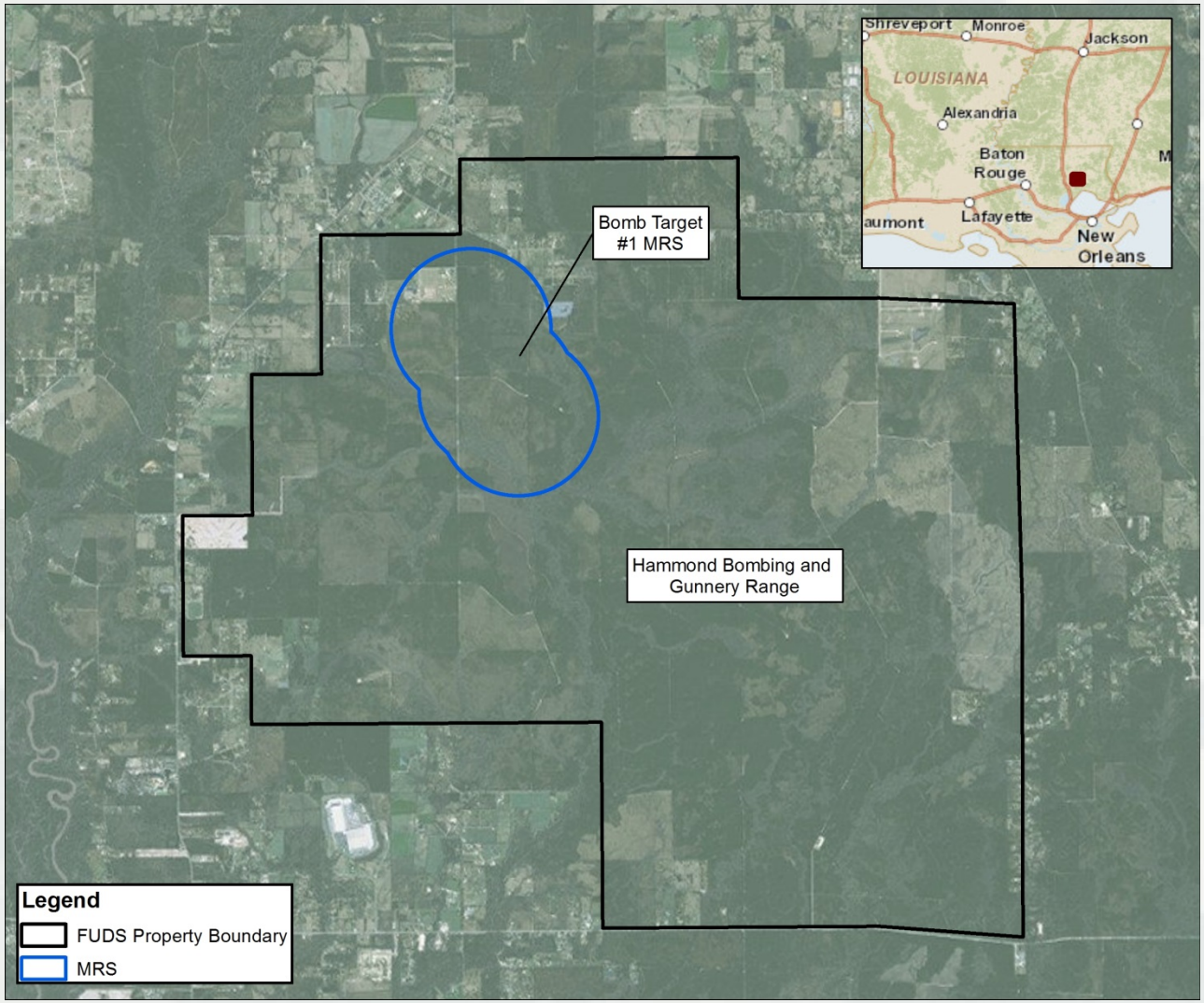
Background

- Former bombing and gunnery range in Tangipahoa Parish, LA.
- Operated from August 1942 until September 1945.
- Hammond Bombing and Gunnery Range (B&GR) was constructed to provide gunnery, rocket, and bombing practice for pilots deploying overseas.
- Bomb Target No. 1, the subject of this investigation, was a precision bomb target located in the northern portion of Hammond BG&R.
- Hammond BG&R was returned to the previous owners after its military use.
- Today, the majority of the land is managed as lumber production land and hunting clubs, and access is very limited due to swampy conditions. The land along the boundary of the site is used for private residences and small business properties.

Background

- Inventory Project Report (USACE, 1996)
- Archives Search Report (USACE, 2003)
- Site Investigation and Report (Parsons, 2009)
- Public Involvement Plan (Parsons, 2010)

Background



FUDS – Formerly Used Defense Sites

MRS – Munitions Response Site

Project Objectives

The overall objective of this Remedial Investigation (RI) will be met when the following have been accomplished:

- Prepare and obtain approval of RI Work Plan
- Sufficiently characterize the nature and extent of MEC and MC within the MRS
- Prepare and gain approval of the RI Report, including risk screen
- Prepare and obtain approval of an FS, PP, and DD

RI Data Quality Objectives

1. State the problem

- MEC and associated MC contamination are potential risks to current and future site workers, construction workers, visitors/trespassers, and ecological receptors.

2. Identify the Goal of the Study

- Determine if further munitions response action is needed or if a No Further Action (NFA) recommendation for Bomb Target No. 1 is appropriate.

3. Identify Information Inputs

- Known/suspected munitions-related activities or types, topography, and environmental setting.
- Analog transect and grid surveys (number, location, and magnitude of anomalies).
- Intrusive investigations of anomalies.
- MC sample analytical results (if appropriate).

RI Data Quality Objectives (cont.)

4. Define the Boundaries of the Study

- The BT1 MRS boundaries are depicted on slide 18 (Figure 3-1 from the WP)

5. Develop the Analytic Approach

- If an anomaly is detected during the analog transect survey then the location of the anomaly will be flagged. A UXO team will intrusively investigate all flagged anomalies.
- If transect survey results identify high density areas, then 100% coverage grids will be completed. The definition of low and high density areas (e.g., ≥50 items/acre above background) will be determined by the project team using Visual Sample Plan (VSP) statistical tools with data from the transect survey.
- If MEC items with exposed filler or high anomaly density areas are discovered, then collect discrete MC soil samples.
- If MC soil result exceeds the soil screening level and background concentration, then collect additional MC soil sample(s) to delineate contamination.

RI Data Quality Objectives (cont.)

6. Specify Performance or Acceptance Criteria

- UXO Estimator inputs to provide 95% confidence level and a MEC density for minor public use (i.e., ≤1.0 MEC item/acre).
- MC sample results meet the precision, accuracy, representativeness, completeness, comparability and sensitivity (PARCCS) parameters for data to be used for decision making purposes.

7. Develop the Detailed Plan for Obtaining Data

- Complete limited vegetation removal and install instrument test strip.
- Design mag and dig data collection using UXO Estimator and VSP to determine placement/number of transects, and grids.
  - Collect transect data using 250 foot spacing.
  - Place and investigate grids (e.g., 100-ft x 100-ft) as required to satisfy acreage requirements of UXO Estimator and define MEC impacts in high density areas.
  - Intrusively investigate anomalies on transects and grids. The numbers of anomalies investigated within grids will vary according to the anomaly density detected in the area.

RI Data Quality Objectives (cont.)

7. Develop the Detailed Plan for Obtaining Data (cont.)
   - Collect MC soil samples at locations where MEC items with exposed filler are found or high densities if MD are identified.
   - Determine the number and location of MC samples based on the results of intrusive investigations.

RI/FS Activities

Site Reconnaissance

Mag/Flag and Dig

Grid Placement and Statistics

MEC Disposal

Soil Sampling

Reporting

Site Reconnaissance

- Identify equipment and staging areas for completing field work.
- Determine access roads and entry points for completing field work.
- Mark out MRS Boundary.
- Mark off areas without right of entry.
- Coordinate with landowners.

Mag/Flag and Dig

- Vegetation Removal
  - Vegetation removal is not anticipated; however, if vegetation is present at sufficient density to impede data collection and landowner permission is granted, it will be removed as necessary.
  - Areas planned for vegetation removal will be communicated to the landowner by phone, email, or personal visit prior to commencing the removal.
- Instrument Test Strip (ITS)
  - The objectives of the ITS are to verify handheld detectors are operating as designed and are capable of locating subsurface anomalies.
  - Daily testing will be performed on an ITS to verify instrument functionality.
  - At a minimum, the ITS will consist of one small/shallow ISO and one medium/deep ISO.

Mag/Flag and Dig (cont.)

- Transects
  - Will be completed across all accessible portions of the MRS at 250 foot intervals (see slide 18 - Figure 3-1 from the work plan).
  - The actual transect path locations will be adjusted based on topography, vegetation, site access, and the presence of structures.
  - All anomalies identified by the transect survey will be flagged and intrusively investigated by UXO personnel.
  - Will be completed by UXO techs utilizing hand-held magnetometers to flag any detected subsurface anomalies.
  - A Trimble Differential Global Positioning System with sub-meter accuracy, or equivalent, will be used to load transect paths.

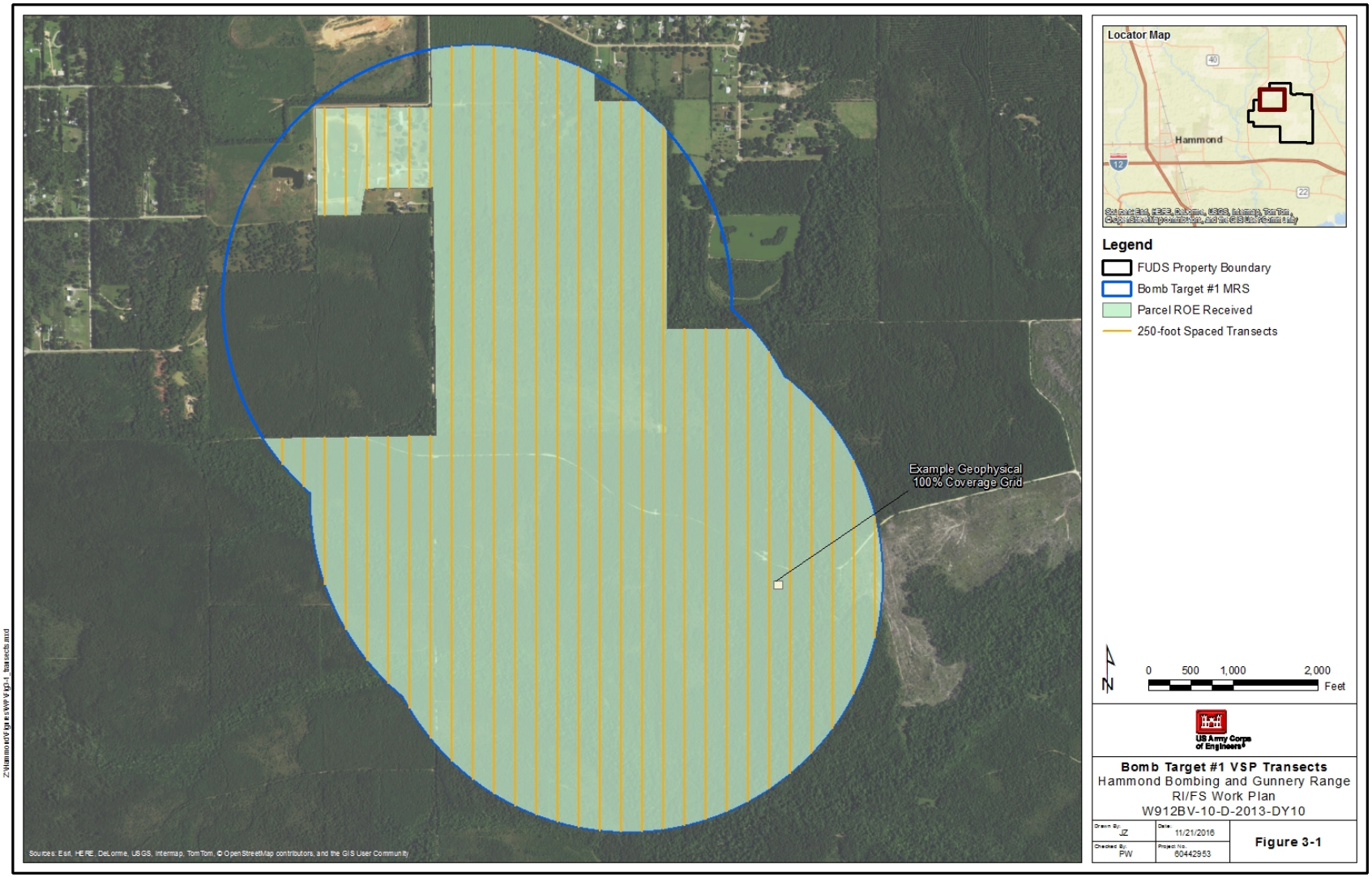
Mag/Flag and Dig (cont.)

- Blind Seeding Program (BSP)
  - A BSP will be utilized for quality checks of equipment.
  - The purpose of the BSP is to provide ongoing confirmation that targets can be detected and recovered during the intrusive investigation process.
  - A DGPS will be used to record blind seed locations.
  - The blind seeds will be buried within the expected detectable range of sensors, so failure to detect any seed will be a meaningful indication there is an unacceptable quality condition.

Mag/Flag and Dig (cont.)

- Intrusive Investigation
  - Intrusive activities will be completed following the flagging of anomalies.
  - A UXO dig team will manually excavate to depth of instrument detection at target anomalies identified on transects and grids. Hand excavation will be the primary method.
  - Recovered material will undergo the MPPEH inspection process.
  - The UXOSO will ensure that appropriate MSDs for non-essential and essential personnel are properly established and maintained

Planned Transects



Grid Placement and Statistics

- Visual Sample Plan (VSP) will be used to complete statistical analysis of the transect survey data and identify areas of elevated anomaly density across the investigation area.
- Areas with elevated anomaly density will be further investigated with comprehensive coverage grids.

Grid Placement and Statistics (cont.)

- The comprehensive coverage grids are anticipated to measure 100-foot by 100-foot, but they may be smaller depending on the interpreted size and concentration of the high density area being investigated.
- Grids will be placed in select high density areas as modeled by VSP to provide a representative area for investigation.

MEC Disposal

- MEC encountered during RI activities that have been determined to be unacceptable to move by the SUXOS and UXOSO will be blown-in-place.
- All explosive operations will be supervised by the SUXOS and coordinated with the USACE OESS.
- Sandbag mitigation may be utilized to reduce the intentional detonation MSD for permitted MEC items.

Soil Sampling

- MC samples were collected during the SI. All MC analyte concentrations (explosives and metals) were below residential screening levels and/or background concentrations.
- No additional MC samples will be collected during the RI unless:
  - MEC with exposed explosive filler is identified in a transect or grid during the survey and/or subsurface investigations of anomalies.
  - Survey results indicate an elevated level of MD (identified during surveys and/or subsurface investigations) when modeled using VSP.

Reporting

- The RI report will follow United States Army MMRP RI/FS Guidance and applicable federal, state, and local statutes, regulations, and guidance. The RI Report will present the following:
  - Summary of RI field activities
  - Locations and density of MEC, munitions debris (MD), and range-related debris (RRD)
  - Nature and extent of MEC and MC
  - Updated Conceptual Site Model
  - Contaminant fate and transport
  - Risk Screen
  - MEC Hazard Assessment (HA)
  - Scoring of each MRS using the Munitions Response Site Prioritization Protocol (MRSPP)

Schedule

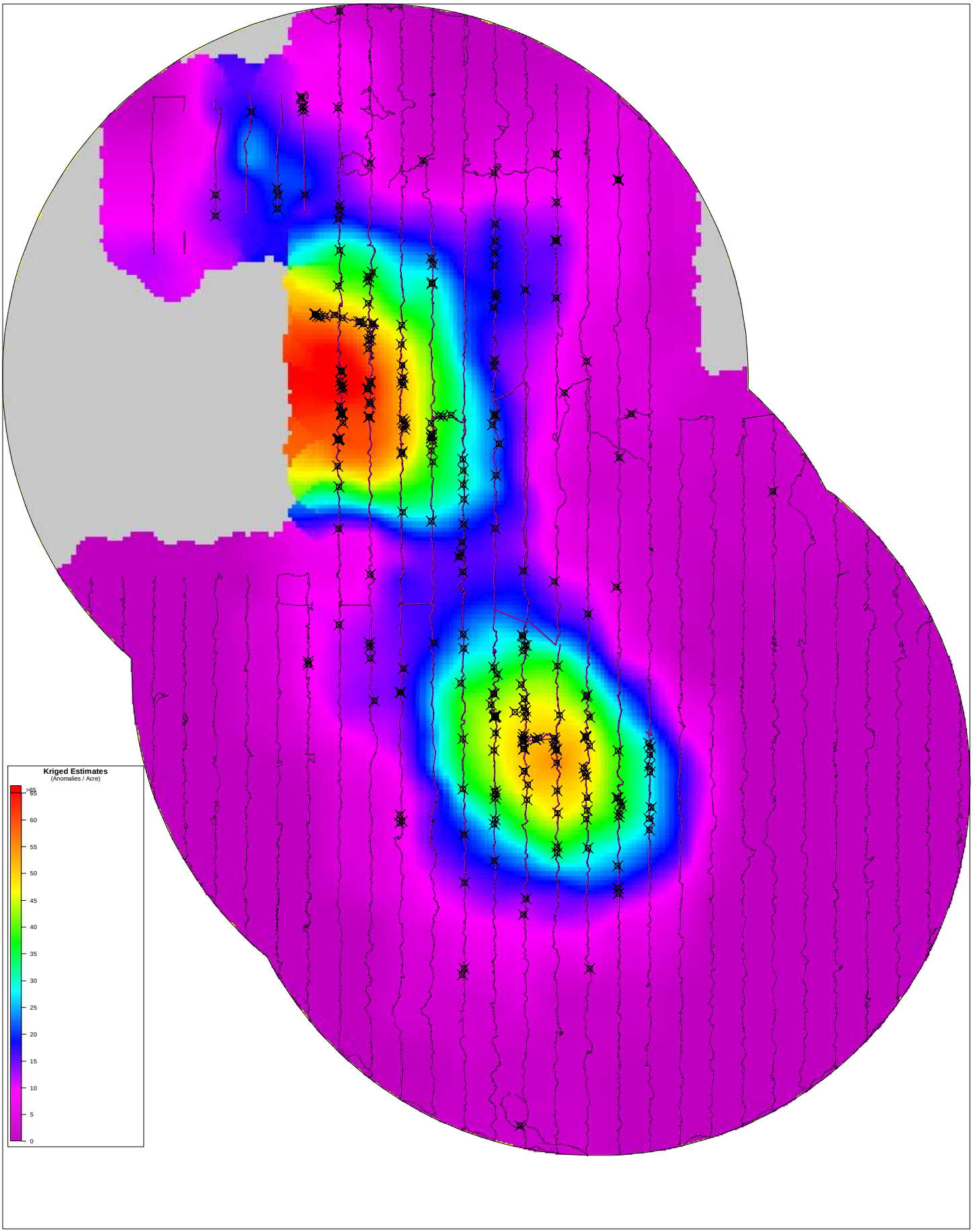
One Year Outlook

► Finalize the Work Plan and UFP-QAPP	December 2016 - January 2017
► Complete RI Field Effort	January - March 2017
► Submit Draft RI Report to Army	June 2017
► Draft Final RI Report to Regulator	August 2017
► TPP3	October 2017
► Final RI Report	November 2017

December 2017 and Beyond

- Prepare and obtain approval of the Feasibility Study, Proposed Plan and Decision Document

Discussion


Kriged Estimates
(Anomalies / Acre)
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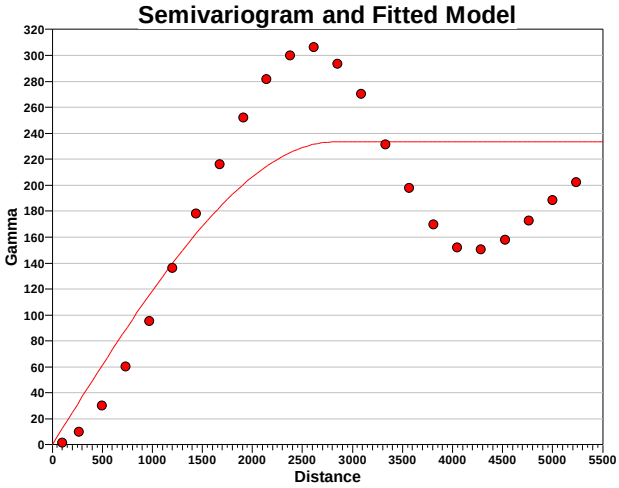
Geostatistical Estimation of Anomaly Density

Summary
This report summarizes the parameters and processes used to generate kriging estimates of anomaly density from transect survey samples. The underlying variogram analyses for these results were performed using the GAM/GAMV codes[1]. The graphical user interface for these codes, GAM/GAMV GUI was developed by Sandia National Laboratories.

Variogram
The following table and figure summarize the variogram analysis and model used in the kriging estimation.

SUMMARY OF VARIOGRAM ANALYSIS	
Run Mode	Automatic
Variogram Data Field	Anomaly Density
Window Diameter	1428 feet
Variogram Control Parameters	
Distance Between Lags	238 feet
Lag Tolerance Length	119 feet
Number of Lags	24
Variogram Model	
Nugget	0
Model type 1	Spherical
Range 1	2827.27 feet
Sill 1	233.475

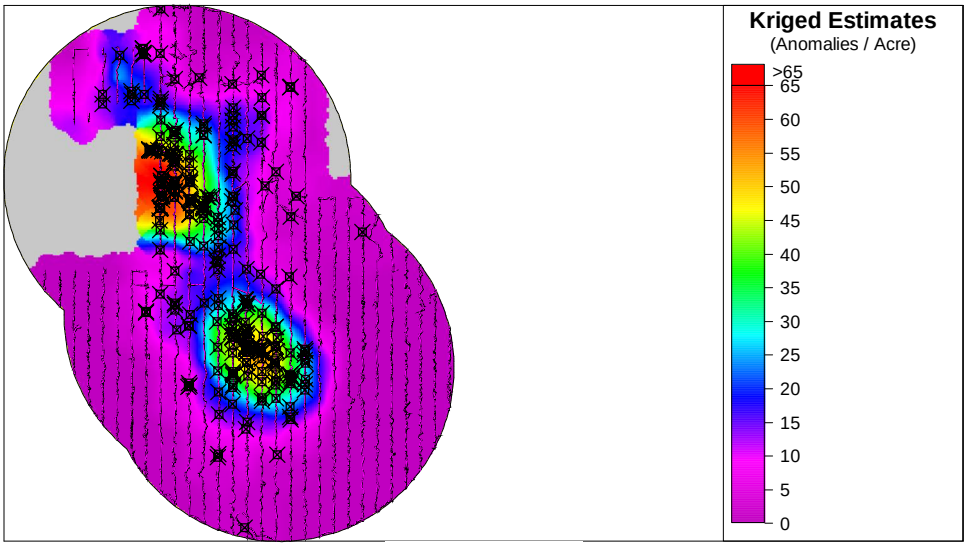


SUMMARY OF KRIGING ESTIMATION	
Run Mode	Automatic
Window Diameter	1428 feet
Estimation Type	Anomaly Density
Grid	
Number of X Nodes	211
Number of Y Nodes	251
X Origin	3599887.75

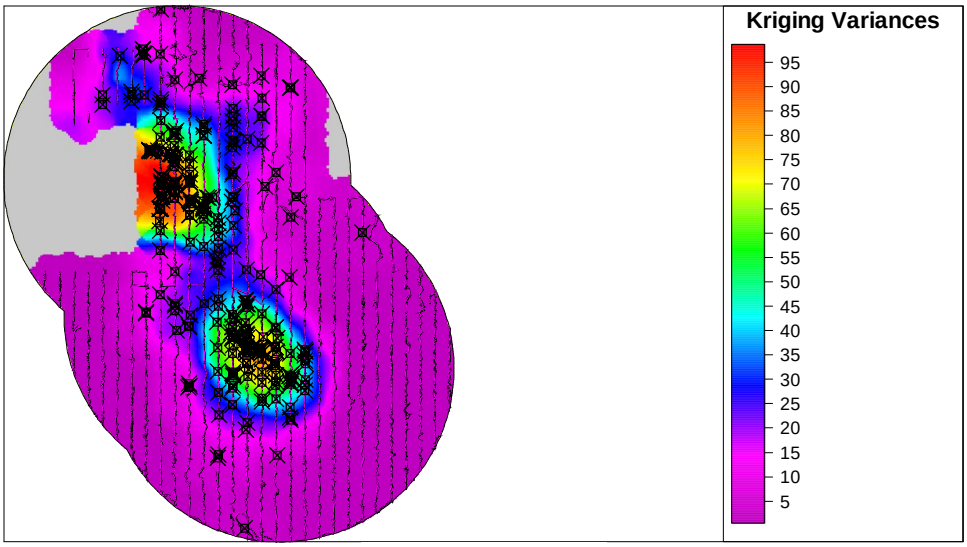
Y Origin	747155.61
X Block Size	37 feet
Y Block Size	37 feet
Search/Discretization	
Use Octant Search	True
Max Number of Neighbors	8
Kriging Minimum	2
Kriging Maximum	50
Max Search Radius	444.444 feet
Min Search Radius	444.444 feet
Reset Negative Values	True

Site Map With Kriging Results

The following figures show the results from the kriging estimation. The maps shown are from the active (most recently created) kriging estimation. The top figure shows the estimate values with the variance of the estimates shown in the lower figure. Areas within the sample area but without color-shading indicate areas where estimation was not possible due to lack of data within the search neighborhood.



Kriged Estimates

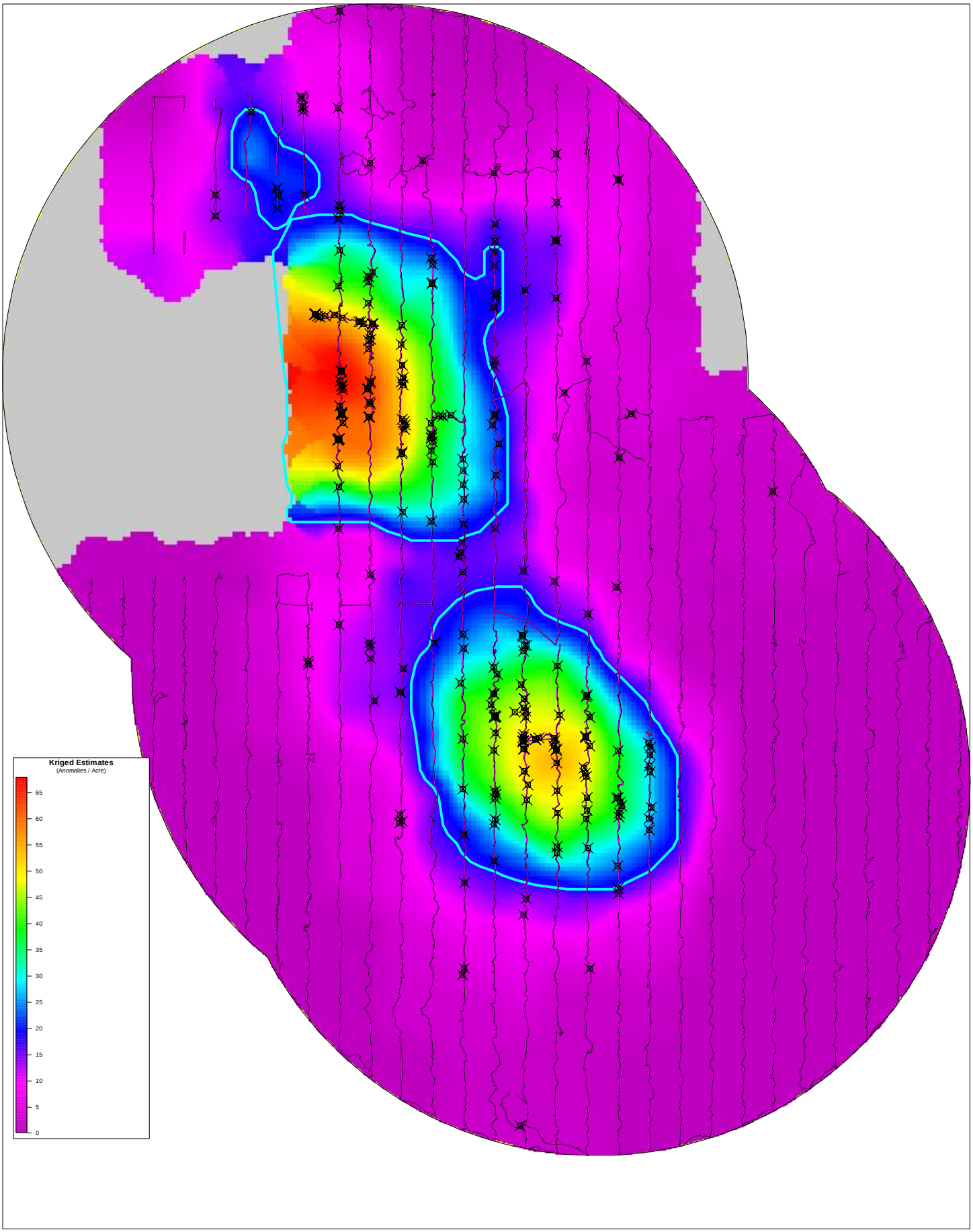


Estimation Variances

Primary Analysis Objective
The primary purpose of this analysis is to generate a continuous estimate of anomaly density for the entire sample site based on limited geophysical transect data

Analytical Approach
The kriging estimate is developed using observational data collected from field surveys along limited sampling transects. Prior to kriging, the observation data are transformed from location values to density values. This is done using a moving window which is translated along each sample transect. The total anomaly count and total transect sample area within the window area are used to compute a sample anomaly density value at a spacing of 1/6th the averaging window diameter along the transects. These sample anomaly density values are then used as conditioning data within the kriging estimator to estimate anomaly density values at un-sampled locations. The underlying spatial correlation of the sample anomaly density data is modeled with a variogram. The variogram model is then used within the Ordinary Kriging estimator to generate estimates with minimized variance. No estimate is generated for locations with insufficient sample data within the kriging search radius. Estimated anomaly density values are in the units of anomalies per acre.

References
[1]Deutsch, C.V. and A.G. Journel. 1998. *GSLIB Geostatistical Software Library and User's Guide*, 2nd Edition, Applied Geostatistics Series, Oxford University Press, Inc. New York, NY.


Kriged Estimates
(Anomalies / Acre)
65
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MEC ACCOUNTABILITY LOG
FORMER HAMMOND BOMBING AND GUNNERY RANGE

ITEM DESCRIPTION	ITEM COUNT	DATE FOUND	NORTHING	EASTING	DATE DESTROYED
AN-M30A1 General Purpose Bomb	1	1-Feb-17	753858.9812	3602873.342	11-Feb-17
AN-M50 series incendiary bomb pieces	1	9-Feb-17	754390.7312	3603345.067	11-Feb-17
AN-M50 series incendiary bomb pieces	1	9-Feb-17	754339.3028	3603355.651	11-Feb-17
AN-M50 series incendiary bomb pieces	1	9-Feb-17	754192.2171	3603351.504	11-Feb-17
AN-M50 series incendiary bomb pieces	1	9-Feb-17	754184.3753	3603347.975	11-Feb-17
AN-M50 series incendiary bomb pieces	4	21-Feb-17	751236.1089	3604556.139	22-Feb-17

Notes

Projected coordinate system, NAD83 state plane, Louisiana south, feet

Belson Steel Center Scrap, Inc.

1685 N. Route 50
Bourbonnais, Illinois 60914

Phone (815) 932-7416
Fax (815) 932-7436

March 6, 2017

URS Corporation
12120 Shamrock Plaza
Omaha, NE 68154

Subject: Certificate of Destruction

To Whom It May Concern:

Belson Steel Center Scrap, Inc. received 530 lbs. of "MDAS scrap" on the date of 3/6/2017, your seal# 1699310 and 843867; our ticket# 80695. All material was processed beyond re-use, will be melted in an electric arc furnace, and delivered to Nucor Steel, Bourbonnais, IL.

Regards,

Zac Upstone
Belson Steel Center Scrap, Inc.
(815) 932-7416 ext. 227
zupstone@belsonsteel.com

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI/FS at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 001 Date: 1-24-17

DAILY SITE REPORT

Site Operating Hours: 0700-1630

Work Performed: UXOSO conducted site-specific safety briefing. Reviewed all project-specific Activity Hazard Analyses (AHAs). UXOSO/QCS presented of the following AECOM University required courses: Safety for Life, Hazard Communications, Ergonomics, Task Hazard Awareness, and Driver Safety. All UXO personnel participated in a medical emergency evacuation exercise and drove the designated route to the local hospital.

Munitions and Explosives of Concern (MEC) Encountered: None

Disposition of MEC Items Encountered: None

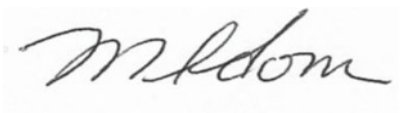
Munitions Debris (MD) Encountered: None

Material Documented as Safe (MDAS) Shipping Information: None

Changed Conditions/Delays/Conflicts Encountered: None

Other comments or additional information: None

Contractor's Verification: On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.



Senior UXO Supervisor
01-24-17

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 001 Date: 01-24-17

Project Personnel

URS Project Manager: John Carson	**URS MR Safety Program Manager:** Mac Reed
URS SUXOS: Tim Idom (10)	**URS MR Quality Program Manager:** Andreas Kothleitner
URS UXOSO/QCS: Randy Burrington (14)	**USACE Project Manager:** Carlos Duarte
URS Project GEO: Garrick Marcoux	**USACE OESS:** Shawn Meek
URS GEOQC:	**USACE GEO Manager:**

Field Staff

Name	Technician Level	Hrs. Worked	Role
Mitch Waters	UXO Tech III	8.5	Team Leader
Daniel Kur	UXO Tech III	10	Team Leader
Jason Birchfield	UXO Tech III	8.5	Team Member
Trevor Brown	UXO Tech II	8.5	Team Member
Eric Charlton	UXO Tech II	8.5	Team Member
Alan Turpin	UXO Tech II	8.5	Team Member
Josh Faust	UXO Tech II	8.5	Team Member
JR Castor	UXO Tech II	8.5	Team Member
Will Bush	UXO Tech II	8.5	Team Member

Subcontractors

Name	Company	Hrs. Worked	Role

Visitors

Name	Organization	Role
Ben Christensen	AECOM	DPM

Site Photos

Emergency evacuation drill

Site-specific safety brief

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI/FS at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 002 Date: 1-25-17

DAILY SITE REPORT

Site Operating Hours: 0700-1630

Work Performed: UXO teams walked MRS for familiarization purposes. Roads within the MRS allowing access to all areas within the MRS footprint were identified. Conducted data input and navigational training on Trimble GEO-7X PDAs.

Munitions and Explosives of Concern (MEC) Encountered: None

Disposition of MEC Items Encountered: None

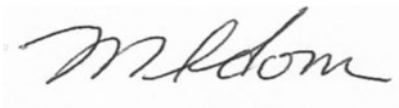
Munitions Debris (MD) Encountered: None

Material Documented as Safe (MDAS) Shipping Information: None

Changed Conditions/Delays/Conflicts Encountered: None

Other comments or additional information: None

Contractor's Verification: On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.



Senior UXO Supervisor
01-25-17

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 002 Date: 01-25-17

Project Personnel

URS Project Manager: John Carson	**URS MR Safety Program Manager:** Mac Reed
URS SUXOS: Tim Idom (10)	**URS MR Quality Program Manager:** Andreas Kothleitner
URS UXOSO/QCS: Randy Burrington (10.5)	**USACE Project Manager:** Carlos Duarte (on-site)
URS Project GEO: Garrick Marcoux	**USACE OESS:** Shawn Meek
URS GEOQC:	**USACE GEO Manager:**

Field Staff

Name	Technician Level	Hrs. Worked	Role
Mitch Waters	UXO Tech III	9	Team Leader
Daniel Kur	UXO Tech III	9	Team Leader
Jason Birchfield	UXO Tech III	9	Team Member
Trevor Brown	UXO Tech II	9	Team Member
Eric Charlton	UXO Tech II	9	Team Member
Alan Turpin	UXO Tech II	9	Team Member
Josh Faust	UXO Tech II	9	Team Member
JR Castor	UXO Tech II	9	Team Member
Will Bush	UXO Tech II	9	Team Member

Subcontractors

Name	Company	Hrs. Worked	Role

Visitors

Name	Organization	Role
Ben Christensen	URS Group, Inc.	DPM
Patricia Spaine	OA systems	Prime Contractor
Steve Gunzelman	OA systems	Prime Contractor
Troy Brumfield	URS Group, Inc.	

Site Photos

Morning safety briefing

Trimble training

Trimble training

Site Familiarization

Control point collection

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI/FS at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 003 Date: 1-26-17

DAILY SITE REPORT

Site Operating Hours: 0700-1630

Work Performed: UXO Teams conducted analog mag and dig intrusive operations in the below transects.
UXO TM1: Completed transects T-01, T-02, T-03, T-04, T-05, and T-06. Partial transects: T-07 and T-08 70% complete.
UXO TM2: Completed transects T-26, T-27, T-28, and T-29.

Munitions and Explosives of Concern (MEC) Encountered: None

Disposition of MEC Items Encountered: None

Munitions Debris (MD) Encountered: None

Material Documented as Safe (MDAS) Shipping Information: None

Changed Conditions/Delays/Conflicts Encountered: None

Other comments or additional information: With permission from landowners and Right of Entry documentation in hand Ben Christensen and SUXOS walked the Northern transects (T-03N, T-04N, T-05N, T-06N, T-07N, and, T-08N for planning purposes only.

Contractor's Verification: On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.

Senior UXO Supervisor
01-26-17

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 003 Date: 01-26-17

Project Personnel

URS Project Manager: John Carson	**URS MR Safety Program Manager:** Mac Reed
URS SUXOS: Tim Idom (10)	**URS MR Quality Program Manager:** Andreas Kothleitner
URS UXOSO/QCS: Randy Burrington (10)	**USACE Project Manager:** Carlos Duarte (on-site)
URS Project GEO: Garrick Marcoux	**USACE OESS:** Shawn Meek
URS GEOQC:	**USACE GEO Manager:**

Field Staff

Name	Technician Level	Hrs. Worked	Role
Mitch Waters	UXO Tech III	9	Team Leader
Daniel Kur	UXO Tech III	9	Team Leader
Jason Birchfield	UXO Tech III	9	Team Member
Trevor Brown	UXO Tech II	9	Team Member
Eric Charlton	UXO Tech II	9	Team Member
Alan Turpin	UXO Tech II	9	Team Member
Josh Faust	UXO Tech II	9	Team Member
JR Castor	UXO Tech II	9	Team Member
Will Bush	UXO Tech II	9	Team Member

Subcontractors

Name	Company	Hrs. Worked	Role

Visitors

Name	Organization	Role
Ben Christensen	URS Group, Inc.	DPM
Patricia Spaine	OA systems	Prime Contractor
Steve Gunzelman	OA systems	Prime Contractor
Troy Brumfield	URS Group, Inc.	

Site Photos

Status Map

Transect T-26

Transect T-5

Track log operations

Intrusive investigation

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI/FS at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 004 Date: 1-27-17

DAILY SITE REPORT

Site Operating Hours: 0700-1630

Work Performed: UXO Teams conducted analog mag and dig intrusive operations in the below transects.
UXO TM1: Completed transects T-07 and T-08. Partial transects: T-09, T-10, T-11, and T-12. Transects were completed to the MRS east west centerline road.
UXO TM2: Completed transects T-24 and T-25. Partial transects: T-22 and T-23.

Munitions and Explosives of Concern (MEC) Encountered: None

Disposition of MEC Items Encountered: None

Munitions Debris (MD) Encountered: UXO TM1: 2lbs, UXO TM2: 4lbs

Material Documented as Safe (MDAS) Shipping Information: None

Changed Conditions/Delays/Conflicts Encountered: None

Other comments or additional information: UXO TM2 identified a railroad system of some type in Transect T-22. After speaking to property owners and the local hunt club President, it was confirmed that in the late 1800's tracks were installed the entire length of the MRS for logging purposes. A portion of these tracks have been removed over the years.

Contractor's Verification: On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.

Senior UXO Supervisor
01-27-17

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 004 Date: 01-27-17

Project Personnel

URS Project Manager: John Carson	**URS MR Safety Program Manager:** Mac Reed
URS SUXOS: Tim Idom (10)	**URS MR Quality Program Manager:** Andreas Kothleitner
URS UXOSO/QCS: R. Burrington (10)	**USACE Project Manager:** Carlos Duarte
URS Project GEO: Garrick Marcoux	**USACE OESS:** Shawn Meek
URS GEOQC:	**USACE GEO Manager:**

Field Staff

Name	Technician Level	Hrs. Worked	Role
Mitch Waters	UXO Tech III	9	Team Leader
Daniel Kur	UXO Tech III	9	Team Leader
Jason Birchfield	UXO Tech III	9	Team Member
Trevor Brown	UXO Tech II	9	Team Member
Eric Charlton	UXO Tech II	9	Team Member
Alan Turpin	UXO Tech II	9	Team Member
Josh Faust	UXO Tech II	9	Team Member
JR Castor	UXO Tech II	9	Team Member
Will Bush	UXO Tech II	9	Team Member

Subcontractors

Name	Company	Hrs. Worked	Role

Visitors

Name	Organization	Role

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI/FS at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 005 Date: 1-30-17

DAILY SITE REPORT

Site Operating Hours: 0630-1600

Work Performed: UXO teams conducted analog mag and dig intrusive operations in the following transects.
UXO TM1: Partial transects: T-13 and T-14 were completed to the MRS east west centerline road. Commenced operations in T-15 and T-16.
UXO TM2: Completed transects T-20, T-21, and T-23. 50% completed in T-22.

Munitions and Explosives of Concern (MEC) Encountered: None

Disposition of MEC Items Encountered: None

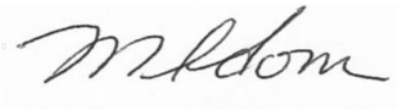
Munitions Debris (MD) Encountered: UXO TM1: 20 lbs. UXO TM2: None

Material Documented as Safe (MDAS) Shipping Information: None

Changed Conditions/Delays/Conflicts Encountered: None

Other comments or additional information: None

Contractor's Verification: On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.



Senior UXO Supervisor
01-30-17

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 005 Date: 01-30-17

Project Personnel

URS Project Manager: John Carson	**URS MR Safety Program Manager:** Mac Reed
URS SUXOS: Tim Idom (10)	**URS MR Quality Program Manager:** Andreas Kothleitner
URS UXOSO/QCS: R. Burrington (10)	**USACE Project Manager:** Carlos Duarte
URS Project GEO: Garrick Marcoux	**USACE OESS:** Shawn Meek
URS GEOQC:	**USACE GEO Manager:**

Field Staff

Name	Technician Level	Hrs. Worked	Role
Mitch Waters	UXO Tech III	9	Team Leader
Daniel Kur	UXO Tech III	9	Team Leader
Jason Birchfield	UXO Tech III	9	Team Member
Trevor Brown	UXO Tech II	9	Team Member
Eric Charlton	UXO Tech II	9	Team Member
Alan Turpin	UXO Tech II	9	Team Member
Josh Faust	UXO Tech II	9	Team Member
JR Castor	UXO Tech II	9	Team Member
Will Bush	UXO Tech II	9	Team Member

Subcontractors

Name	Company	Hrs. Worked	Role

Visitors

Name	Organization	Role

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI/FS at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 006 Date: 1-31-17

DAILY SITE REPORT

Site Operating Hours: 0630-1600

Work Performed: UXO teams conducted analog mag and dig intrusive operations in the below transects.

UXO TM1: Partial transects: T-15, T-16, and T-17 were completed to the MRS east west centerline road.

UXO TM2: Partial transects: Intrusive operations were conducted onT-18 (1,500 ft.) and T-19 (6,000 ft.)

Munitions and Explosives of Concern (MEC) Encountered: None

Disposition of MEC Items Encountered: None

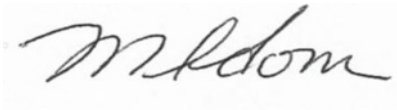
Munitions Debris (MD) Encountered: UXO TM1: 10 lbs., UXO TM2: 45 lbs.

Material Documented as Safe (MDAS) Shipping Information: None

Changed Conditions/Delays/Conflicts Encountered: None

Other comments or additional information: None

Contractor's Verification: On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.



Senior UXO Supervisor
01-31-17

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI/FS at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 006 Date: 01-31-17

Project Personnel

URS Project Manager: John Carson	**URS MR Safety Program Manager:** Mac Reed
URS SUXOS: Tim Idom (10)	**URS MR Quality Program Manager:** Andreas Kothleitner
URS UXOSO/QCS: R. Burrington (10)	**USACE Project Manager:** Carlos Duarte
URS Project GEO: Garrick Marcoux	**USACE OESS:** Shawn Meek
URS GEOQC:	**USACE GEO Manager:**

Field Staff

Name	Technician Level	Hrs. Worked	Role
Mitch Waters	UXO Tech III	9	Team Leader
Daniel Kur	UXO Tech III	9	Team Leader
Jason Birchfield	UXO Tech III	9	Team Member
Trevor Brown	UXO Tech II	9	Team Member
Eric Charlton	UXO Tech II	9	Team Member
Alan Turpin	UXO Tech II	9	Team Member
Josh Faust	UXO Tech II	9	Team Member
JR Castor	UXO Tech II	9	Team Member
Will Bush	UXO Tech II	9	Team Member

Subcontractors

Name	Company	Hrs. Worked	Role

Visitors

Name	Organization	Role

Site photos

Intrusive investigation

Intrusive investigation

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI/FS at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 007 Date: 2-1-17

DAILY SITE REPORT

Site Operating Hours: 0630-1600

Work Performed: UXO Teams conducted analog mag and dig intrusive operations in the below transects.

UXO TM1: Partial transects: T-09 and T-10

UXO TM2: Partial transect: T18 and relocated transect deviations for description purposes.

Munitions and Explosives of Concern (MEC) Encountered: UXO TM1 located (1) fuzed AN-M30A1 100 lb. General Purpose bomb in Transect T-10.

Disposition of MEC Items Encountered: (1) AN-M30A1 was left in place.

Munitions Debris (MD) Encountered: UXO TM1: 80 lbs., UXO TM2: 12 lbs.

Material Documented as Safe (MDAS) Shipping Information: None

Changed Conditions/Delays/Conflicts Encountered: None

Other comments or additional information: None

Contractor's Verification: On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.

Senior UXO Supervisor
02-1-17

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 007 Date: 02-1-17

Project Personnel

URS Project Manager: John Carson	**URS MR Safety Program Manager:** Mac Reed
URS SUXOS: Tim Idom (12)	**URS MR Quality Program Manager:** Andreas Kothleitner
URS UXOSO/QCS: R. Burrington (11.5)	**USACE Project Manager:** Carlos Duarte
URS Project GEO: Garrick Marcoux	**USACE OESS:** Shawn Meek
URS GEOQC:	**USACE GEO Manager:**

Field Staff

Name	Technician Level	Hrs. Worked	Role
Mitch Waters	UXO Tech III	10	Team Leader
Daniel Kur	UXO Tech III	10	Team Leader
Jason Birchfield	UXO Tech III	10	Team Member
Trevor Brown	UXO Tech II	11	Team Member
Eric Charlton	UXO Tech II	10	Team Member
Alan Turpin	UXO Tech II	10	Team Member
Josh Faust	UXO Tech II	10	Team Member
JR Castor	UXO Tech II	17	Team Member/Night watch
Will Bush	UXO Tech II	10	Team Member

Subcontractors

Name	Company	Hrs. Worked	Role

Visitors

Name	Organization	Role

Site photos

Fuzed AN-M30A1 GP Bomb

Fuzed AN-M30A1 GP Bomb

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI/FS at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 008 Date: 2-2-17

DAILY SITE REPORT

Site Operating Hours: 0630-1600

Work Performed: UXO teams conducted analog mag and dig intrusive operations in the below transects.

UXO TM1: Partial transects: T-09 and T-11.

UXO TM2: Completed transects: T-18, T-19, and T-22 were completed. Relocated Transect 3 deviations for description purposes.

Munitions and Explosives of Concern (MEC) Encountered: None

Disposition of MEC Items Encountered: AN-M30A1 100 lb. GP Bomb located and left in place on 01 February 2017 in Transect T-10.

Munitions Debris (MD) Encountered: UXO TM1: 30 lbs., UXO TM2: 7 lbs.

Material Documented as Safe (MDAS) Shipping Information: None

Changed Conditions/Delays/Conflicts Encountered: AN-M30A1, located on 01 February, was identified to be fuzed; however, the exact Tail Fuze nomenclature is unknown. After further investigation of the Tail Fuze, exact identification cannot not be accomplished due to degradation of the Fuze body. Without a positive identification of the Fuze we are required to observe all safety procedures and precautions associated with the M100 series of Fuzes.

Other comments or additional information:

Notified Deputy Sheriff Dawson Grimes of the Emergency Management Coordinator with Tangipahoa Sheriff's Department of the situation.

Implemented 24-hour security/over watch of the area until MEC disposal operations have been conducted.

Contractor's Verification: On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.

Senior UXO Supervisor
2-2-17

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 008 Date: 2-2-17

Project Personnel

URS Project Manager: John Carson	**URS MR Safety Program Manager:** Mac Reed
URS SUXOS: Tim Idom (12)	**URS MR Quality Program Manager:** Andreas Kothleitner
URS UXOSO/QCS: R. Burrington (11)	**USACE Project Manager:** Carlos Duarte
URS Project GEO: Garrick Marcoux	**USACE OESS:** Shawn Meek
URS GEOQC:	**USACE GEO Manager:**

Field Staff

Name	Technician Level	Hrs. Worked	Role
Mitch Waters	UXO Tech III	9	Team Leader
Daniel Kur	UXO Tech III	9	Team Leader
Jason Birchfield	UXO Tech III	9	Team Member
Trevor Brown	UXO Tech II	9	Team Member
Eric Charlton	UXO Tech II	9	Team Member
Alan Turpin	UXO Tech II	9	Team Member
Josh Faust	UXO Tech II	9	Team Member
JR Castor	UXO Tech II	7	Team Member
Will Bush	UXO Tech II	9	Team Member

Subcontractors

Name	Company	Hrs. Worked	Role
Sam Long	Inner Parish Security Corp	1.5	Supervisor
Shawn Davis	Inner Parish Security Corp	15.5	Security Guard

Visitors

Name	Organization	Role

MEC photos

AN-M30A1 GP Bomb

Tail Fuze

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI/FS at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 009 Date: 2-3-17

DAILY SITE REPORT

Site Operating Hours: 0630-1600

Work Performed: UXO teams conducted analog mag and dig intrusive operations in the below transects.

UXO TM1: Partial transects: T-09, T-10, T-11, T-12, and T-13.

UXO TM2: Partial transects: T-14, T-15, T-16, and T-17.

Munitions and Explosives of Concern (MEC) Encountered: None

Disposition of MEC Items Encountered: AN-M30A1 100 lb. GP Bomb, located and left in place on 1 February 2017, in Transect T-10.

Munitions Debris (MD) Encountered: UXO TM1: 6 lbs., UXO TM2: 53 lbs.

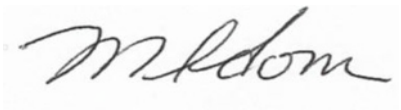
Material Documented as Safe (MDAS) Shipping Information: None

Changed Conditions/Delays/Conflicts Encountered: None

Other comments or additional information:

24-hour security/over watch of the area until MEC disposal operations have been conducted.

Contractor's Verification: On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.



Senior UXO Supervisor
2-3-17

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 008 Date: 2-3-17

Project Personnel

URS Project Manager: John Carson	**URS MR Safety Program Manager:** Mac Reed
URS SUXOS: Tim Idom (10)	**URS MR Quality Program Manager:** Andreas Kothleitner
URS UXOSO/QCS: R. Burrington (10)	**USACE Project Manager:** Carlos Duarte
URS Project GEO: Garrick Marcoux	**USACE OESS:** Shawn Meek
URS GEOQC:	**USACE GEO Manager:**

Field Staff

Name	Technician Level	Hrs. Worked	Role
Mitch Waters	UXO Tech III	9	Team Leader
Daniel Kur	UXO Tech III	9	Team Leader
Jason Birchfield	UXO Tech III	9	Team Member
Trevor Brown	UXO Tech II	9	Team Member
Eric Charlton	UXO Tech II	9	Team Member
Alan Turpin	UXO Tech II	9	Team Member
Josh Faust	UXO Tech II	9	Team Member
JR Castor	UXO Tech II	9	Team Member
Will Bush	UXO Tech II	9	Team Member

Subcontractors

Name	Company	Hrs. Worked	Role
Shawn Davis	Inner Parish Security Corp	12	Security Guard

Visitors

Name	Organization	Role

MEC photos

Sand filled practice bomb

Site restoration

Intrusive investigation

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI/FS at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 010 Date: 2-6-17

DAILY SITE REPORT

Site Operating Hours: 0630-1600

Work Performed: UXO teams conducted analog mag and dig intrusive operations in the below transects.

UXO TM1: Partial transects: T-12 and T-13 cleared access route to AN-M30A1 for vegetation removal activities.

UXO TM2: Partial transects: T-13, T-14, T-15, T-16, and T-17.

Munitions and Explosives of Concern (MEC) Encountered: None

Disposition of MEC Items Encountered: AN-M30A1 100 lb. GP Bomb located and left in place on 1 February 2017 in Transect T-10.

Munitions Debris (MD) Encountered: UXO TM1: 50 lbs., UXO TM2: 1 lbs.

Material Documented as Safe (MDAS) Shipping Information: None

Changed Conditions/Delays/Conflicts Encountered: None

Other comments or additional information:

24-hour security/over watch of the area until MEC disposal operations have been conducted.

Contractor's Verification: On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.

Senior UXO Supervisor
2-6-17

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 010 Date: 2-6-17

Project Personnel

URS Project Manager: John Carson	**URS MR Safety Program Manager:** Mac Reed
URS SUXOS: Tim Idom (10)	**URS MR Quality Program Manager:** Andreas Kothleitner
URS UXOSO/QCS: R. Burrington (10)	**USACE Project Manager:** Carlos Duarte
URS Project GEO: Garrick Marcoux	**USACE OESS:** Shawn Meek
URS GEOQC:	**USACE GEO Manager:**

Field Staff

Name	Technician Level	Hrs. Worked	Role
Mitch Waters	UXO Tech III	9	Team Leader
Daniel Kur	UXO Tech III	9	Team Leader
Jason Birchfield	UXO Tech III	9	Team Member
Trevor Brown	UXO Tech II	9	Team Member
Eric Charlton	UXO Tech II	9	Team Member
Alan Turpin	UXO Tech II	9	Team Member
Josh Faust	UXO Tech II	9	Team Member
JR Castor	UXO Tech II	9	Team Member
Will Bush	UXO Tech II	9	Team Member

Subcontractors

Name	Company	Hrs. Worked	Role
Shawn Davis	Inner Parish Security Corp	12	Security Guard
Tyreece Jones	Inner Parish Security Corp	24	Security Guard
Mike Noduin	Inner Parish Security Corp	24	Security Guard

Visitors

Name	Organization	Role

Site photos

Mag and flag operations near inhabited buildings

Mag and flag operations near inhabited buildings

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI/FS at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 011 Date: 2-7-17

DAILY SITE REPORT

Site Operating Hours: 0630-1300

Work Performed: Demolition team members traveled to Baton Rouge to obtain Louisiana Blasters Licenses. Remaining personnel cleared access route to AN-M30A1 disposal location.

Munitions and Explosives of Concern (MEC) Encountered: None

Disposition of MEC Items Encountered: AN-M30A1 100 lb. GP Bomb located and Left in place on 1 February 2017 in Transect T-10.

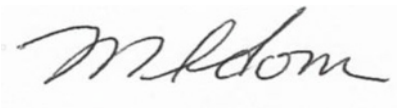
Munitions Debris (MD) Encountered: UXO TM1: None

Material Documented as Safe (MDAS) Shipping Information: None

Changed Conditions/Delays/Conflicts Encountered: None

Other comments or additional information: Site operations were secured due to adverse weather. 24-hour security/over watch of the area until MEC disposal operations have been conducted.

Contractor's Verification: On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.



Senior UXO Supervisor
2-7-17

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 011 Date: 2-7-17

Project Personnel

URS Project Manager: John Carson	**URS MR Safety Program Manager:** Mac Reed
URS SUXOS: Tim Idom (10)	**URS MR Quality Program Manager:** Andreas Kothleitner
URS UXOSO/QCS: R. Burrington (10.5)	**USACE Project Manager:** Carlos Duarte
URS Project GEO: Garrick Marcoux	**USACE OESS:** Shawn Meek
URS GEOQC:	**USACE GEO Manager:**

Field Staff

Name	Technician Level	Hrs. Worked	Role
Mitch Waters	UXO Tech III	6.5	Team Leader
Daniel Kur	UXO Tech III	6.5	Team Leader
Jason Birchfield	UXO Tech III	6.5	Team Member
Trevor Brown	UXO Tech II	6.5	Team Member
Eric Charlton	UXO Tech II	6.5	Team Member
Alan Turpin	UXO Tech II	6.5	Team Member
Josh Faust	UXO Tech II	6.5	Team Member
JR Castor	UXO Tech II	6.5	Team Member
Will Bush	UXO Tech II	6.5	Team Member

Subcontractors

Name	Company	Hrs. Worked	Role
Shawn Davis	Inner Parish Security Corp	14	Security Guard
Tyreece Jones	Inner Parish Security Corp		Security Guard
Mike Noduin	Inner Parish Security Corp		Security Guard

Visitors

Name	Organization	Role

OA Systems Corporation
Contract#: W912BV-10-D-2013

Project Name: RI/FS at Bomb Target #1
Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana
Report No: 012
Date: 2-8-17

DAILY SITE REPORT

Site Operating Hours: 0630-1600

Work Performed: UXO teams conducted analog mag and dig intrusive operations in the below transects.
UXO TM1: Completed transects: T-16 and T-17 cleared access route and 30' buffer area around AN-M30A1 for mechanical vegetation removal activities.
UXO TM2: Completed transects: T-14 and T-15

Munitions and Explosives of Concern (MEC) Encountered: None

Disposition of MEC Items Encountered: AN-M30A1 100 lb. GP Bomb located and left in place on 1 February 2017 in Transect T-10.

Munitions Debris (MD) Encountered: UXO TM1: 20 lbs., UXO TM2: 46 lbs.

Material Documented as Safe (MDAS) Shipping Information: None

Changed Conditions/Delays/Conflicts Encountered: None

Other comments or additional information:
24-hour security/over watch of the area until MEC disposal operations have been conducted.

Contractor's Verification: On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.

Senior UXO Supervisor
2-8-17

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 012 Date: 2-8-17

Project Personnel

URS Project Manager: John Carson	**URS MR Safety Program Manager:** Mac Reed (on site)
URS SUXOS: Tim Idom (10)	**URS MR Quality Program Manager:** Andreas Kothleitner
URS UXOSO/QCS: R. Burrington (10)	**USACE Project Manager:** Carlos Duarte
URS Project GEO: Garrick Marcoux	**USACE OESS:** Shawn Meek
URS GEOQC:	**USACE GEO Manager:**

Field Staff

Name	Technician Level	Hrs. Worked	Role
Mitch Waters	UXO Tech III	9	Team Leader
Daniel Kur	UXO Tech III	9	Team Leader
Jason Birchfield	UXO Tech III	9	Team Member
Trevor Brown	UXO Tech II	9	Team Member
Eric Charlton	UXO Tech II	9	Team Member
Alan Turpin	UXO Tech II	9	Team Member
Josh Faust	UXO Tech II	9	Team Member
JR Castor	UXO Tech II	9	Team Member
Will Bush	UXO Tech II	9	Team Member

Subcontractors

Name	Company	Hrs. Worked	Role
Shawn Davis	Inner Parish Security Corp	16	Security Guard

Visitors

Name	Organization	Role
Joe Pierre	Pierre Construction	Mechanical vegetation removal

Site photos

Barko 930 drum chipper

Cleared access path to disposal location

Clearing 30’ buffer area around disposal location

AN-M30A1Disposal site

Standing water on roadway

Site management

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI/FS at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 013 Date: 2-9-17

DAILY SITE REPORT

Site Operating Hours: 0630-1600

Work Performed: UXO teams conducted analog mag and dig intrusive operations in the below transects.
UXO TM2: Completed transects: T-15 and T-16
Approximately 22 cubic yards of soils was delivered to site to be used for disposal operations.
Demo site preparations continued.

Munitions and Explosives of Concern (MEC) Encountered: (4) AN-M50 series incendiary bomb pieces. All were inspected by the SUXOS and UXOSO and determined to be acceptable to move.

Disposition of MEC Items Encountered: AN-M30A1 100 lb. GP Bomb, located and left in place on 1 February 2017, in Transect T-10.

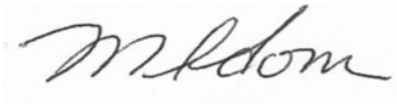
Munitions Debris (MD) Encountered: UXO TM1: 4 lbs

Material Documented as Safe (MDAS) Shipping Information: None

Changed Conditions/Delays/Conflicts Encountered: None

Other comments or additional information:
24-hour security/over watch of the area until MEC disposal operations have been conducted.

Contractor's Verification: On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.



Senior UXO Supervisor
2-9-17

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 013 Date: 2-9-17

Project Personnel

URS Project Manager: John Carson	**URS MR Safety Program Manager:** Mac Reed
URS SUXOS: Tim Idom (10)	**URS MR Quality Program Manager:** Andreas Kothleitner
URS UXOSO/QCS: R. Burrington (10)	**USACE Project Manager:** Carlos Duarte
URS Project GEO: Garrick Marcoux	**USACE OESS:** Shawn Meek
URS GEOQC:	**USACE GEO Manager:**

Field Staff

Name	Technician Level	Hrs. Worked	Role
Mitch Waters	UXO Tech III	9	Team Leader
Daniel Kur	UXO Tech III	9	Team Leader
Jason Birchfield	UXO Tech III	9	Team Member
Trevor Brown	UXO Tech II	9	Team Member
Eric Charlton	UXO Tech II	9	Team Member
Alan Turpin	UXO Tech II	9	Team Member
Josh Faust	UXO Tech II	9	Team Member
JR Castor	UXO Tech II	9	Team Member
Will Bush	UXO Tech II	9	Team Member

Subcontractors

Name	Company	Hrs. Worked	Role
Shawn Davis	Inner Parish Security Corp	16	Security Guard

Visitors

Name	Organization	Role
Joe Pierre	Pierre Construction	Soil delivery/relocation

(4) AN-M50 series incendiary bomb pieces

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI/FS at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 014 Date: 2-10-17

DAILY SITE REPORT

Site Operating Hours: 0630-1600

Work Performed: UXO teams conducted analog mag and dig intrusive operations in the below transects.
UXO TM2: 4 anomalies were investigated in T-14. Identified and evaluated 10 proposed grid locations.

Munitions and Explosives of Concern (MEC) Encountered: None

Disposition of MEC Items Encountered: AN-M30A1 100 lb. GP Bomb located, and left in place, on 1 February 2017 in Transect T-10.

Munitions Debris (MD) Encountered: UXO TM1: 12 lbs

Material Documented as Safe (MDAS) Shipping Information: None

Changed Conditions/Delays/Conflicts Encountered: None

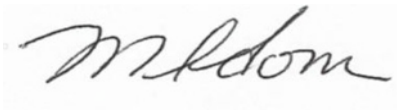
Other comments or additional information:

Received 40 each electric detonators from Jet Research via FEDEX. Shipment of jet perforators and detonating cord was held in Memphis, TN. Material was traced with a new expected delivery date of 11 February.

24-hour security/over watch of the donor explosives will be conducted by a Licensed LA blaster until disposal operations have been conducted and all donor explosives and MEC have been destroyed.

1,000-gallon water tank on site for MEC disposal location wetting down.

Contractor's Verification: On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.



Senior UXO Supervisor
2-10-17

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 014 Date: 2-10-17

Project Personnel

URS Project Manager: John Carson	**URS MR Safety Program Manager:** Mac Reed (on site)
URS SUXOS: Tim Idom (10)	**URS MR Quality Program Manager:** Andreas Kothleitner
URS UXOSO/QCS: R. Burrington (10)	**USACE Project Manager:** Carlos Duarte
URS Project GEO: Garrick Marcoux	**USACE OESS:** Shawn Meek
URS GEOQC:	**USACE GEO Manager:**

Field Staff

Name	Technician Level	Hrs. Worked	Role
Mitch Waters	UXO Tech III	15	Team Leader
Daniel Kur	UXO Tech III	9	Team Leader
Jason Birchfield	UXO Tech III	9	Team Member
Trevor Brown	UXO Tech II	9	Team Member
Eric Charlton	UXO Tech II	9	Team Member
Alan Turpin	UXO Tech II	9	Team Member
Josh Faust	UXO Tech II	9	Team Member
JR Castor	UXO Tech II	9	Team Member
Will Bush	UXO Tech II	10	Team Member

Subcontractors

Name	Company	Hrs. Worked	Role

Visitors

Name	Organization	Role
Joe Pierre	Pierre Construction	Soil delivery/relocation

OA Systems Corporation
Contract#: W912BV-10-D-2013

Project Name: RI/FS at Bomb Target #1
Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana
Report No: 015
Date: 2-11-17

DAILY SITE REPORT

Site Operating Hours: 0900-1630

Work Performed: MEC disposal operations

Munitions and Explosives of Concern (MEC) Encountered: None

Disposition of MEC Items Encountered: (1) AN-M30A1 100 lb. GP bomb, located 1 February 2017 in Transect T-10, and (4) pieces of M50 series incendiary were destroyed by detonation.

Munitions Debris (MD) Encountered: None

Material Documented as Safe (MDAS) Shipping Information: None

Changed Conditions/Delays/Conflicts Encountered: None

Other comments or additional information:

Received 500' of detonating cord and 50 ea. jet perforators.

Site restoration will be conducted 15 February.

Contractor's Verification: On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.

Senior UXO Supervisor
2-11-17

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 015 Date: 2-11-17

Project Personnel

URS Project Manager: John Carson	**URS MR Safety Program Manager:** Mac Reed
URS SUXOS: Tim Idom (9)	**URS MR Quality Program Manager:** Andreas Kothleitner
URS UXOSO/QCS: R. Burrington (9)	**USACE Project Manager:** Carlos Duarte
URS Project GEO: Garrick Marcoux	**USACE OESS:** Shawn Meek
URS GEOQC:	**USACE GEO Manager:**

Field Staff

Name	Technician Level	Hrs. Worked	Role
Mitch Waters	UXO Tech III	7.5	Team Leader
Daniel Kur	UXO Tech III	9.5	Team Leader
Jason Birchfield	UXO Tech III	7.5	Team Member
Trevor Brown	UXO Tech II	7.5	Team Member
Eric Charlton	UXO Tech II	7.5	Team Member
Alan Turpin	UXO Tech II	7.5	Team Member
Josh Faust	UXO Tech II	7.5	Team Member
JR Castor	UXO Tech II	7.5	Team Member
Will Bush	UXO Tech II	7.5	Team Member

Subcontractors

Name	Company	Hrs. Worked	Role

Visitors

Name	Organization	Role

Site Photos

Fuzed AN-M30A1

Shaped charge placement

Shape charge placement

Sandbagged shape charges

Plywood cover

5’ soil coverage

Area being wet down

Electric detonator build up

20’ x 8’ detonation crater

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI/FS at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 016 Date: 2-13-17

DAILY SITE REPORT

Site Operating Hours: 0630-1100

Work Performed: UXO team 1 cleared MEC disposal location restoration will be completed 14 February.

Munitions and Explosives of Concern (MEC) Encountered: None

Disposition of MEC Items Encountered: None

Munitions Debris (MD) Encountered: 40 lbs

Material Documented as Safe (MDAS) Shipping Information: None

Changed Conditions/Delays/Conflicts Encountered: None

Other comments or additional information: None

Contractor's Verification: On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.

Senior UXO Supervisor
2-13-17

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 016 Date: 2-13-17

Project Personnel

URS Project Manager: John Carson	**URS MR Safety Program Manager:** Mac Reed
URS SUXOS: Tim Idom (8)	**URS MR Quality Program Manager:** Andreas Kothleitner
URS UXOSO/QCS: R. Burrington (8)	**USACE Project Manager:** Carlos Duarte
URS Project GEO: Garrick Marcoux	**USACE OESS:** Shawn Meek
URS GEOQC:	**USACE GEO Manager:**

Field Staff

Name	Technician Level	Hrs. Worked	Role
Mitch Waters	UXO Tech III	4.5	Team Leader
Daniel Kur	UXO Tech III	4.5	Team Leader
Jason Birchfield	UXO Tech III	4.5	Team Member
Trevor Brown	UXO Tech II	4.5	Team Member
Eric Charlton	UXO Tech II	4.5	Team Member
Alan Turpin	UXO Tech II	4.5	Team Member
Josh Faust	UXO Tech II	4.5	Team Member
JR Castor	UXO Tech II	4.5	Team Member
Will Bush	UXO Tech II	4.5	Team Member

Subcontractors

Name	Company	Hrs. Worked	Role

Visitors

Name	Organization	Role

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI/FS at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 017 Date: 2-14-17

DAILY SITE REPORT

Site Operating Hours: 0730-1100

Work Performed: Completed backfilling of MEC disposal crater. No other field operations occurred. Field operations remain cancelled pending PDT approval of proposed grid locations.

Munitions and Explosives of Concern (MEC) Encountered: None

Disposition of MEC Items Encountered: None

Munitions Debris (MD) Encountered: None

Material Documented as Safe (MDAS) Shipping Information: None

Changed Conditions/Delays/Conflicts Encountered: None

Other comments or additional information: None

Contractor's Verification: On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.

Senior UXO Supervisor
2-14-17

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 017 Date: 2-14-17

Project Personnel

URS Project Manager: John Carson	**URS MR Safety Program Manager:** Mac Reed
URS SUXOS: Tim Idom (6)	**URS MR Quality Program Manager:** Andreas Kothleitner
URS UXOSO/QCS: R. Burrington	**USACE Project Manager:** Carlos Duarte
URS Project GEO: Garrick Marcoux	**USACE OESS:** Shawn Meek
URS GEOQC:	**USACE GEO Manager:**

Field Staff

Name	Technician Level	Hrs. Worked	Role
Mitch Waters	UXO Tech III	0	Team Leader
Daniel Kur	UXO Tech III	0	Team Leader
Jason Birchfield	UXO Tech III	0	Team Member
Trevor Brown	UXO Tech II	0	Team Member
Eric Charlton	UXO Tech II	0	Team Member
Alan Turpin	UXO Tech II	0	Team Member
Josh Faust	UXO Tech II	0	Team Member
JR Castor	UXO Tech II	0	Team Member
Will Bush	UXO Tech II	0	Team Member

Subcontractors

Name	Company	Hrs. Worked	Role

Visitors

Name	Organization	Role
Joe Pierre	Pierre Construction	Equipment operator

Site Photos

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI/FS at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 018 Date: 2-15-17

DAILY SITE REPORT

Site Operating Hours: 0630-1700

Work Performed:
UXO Team 1 started Vegetation removal and Intrusive operations in Grid G-9 and is 30% completed.
UXO Team 2 started Vegetation removal and intrusive operation in Grid G-6 and is 50% completed.

Munitions and Explosives of Concern (MEC) Encountered: None

Disposition of MEC Items Encountered: None

Munitions Debris (MD) Encountered: None

Material Documented as Safe (MDAS) Shipping Information: None

Changed Conditions/Delays/Conflicts Encountered: None

Other comments or additional information: MD weights will be reported in the DSR once each individual grid is completed.

Contractor's Verification: On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.

Senior UXO Supervisor
2-15-17

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 018 Date: 2-15-17

Project Personnel

URS Project Manager: John Carson	**URS MR Safety Program Manager:** Mac Reed
URS SUXOS: Tim Idom (11)	**URS MR Quality Program Manager:** Andreas Kothleitner
URS UXOSO/QCS: R. Burrington (11)	**USACE Project Manager:** Carlos Duarte
URS Project GEO: Garrick Marcoux	**USACE OESS:** Shawn Meek
URS GEOQC:	**USACE GEO Manager:**

Field Staff

Name	Technician Level	Hrs. Worked	Role
Mitch Waters	UXO Tech III	10	Team Leader
Daniel Kur	UXO Tech III	10	Team Leader
Jason Birchfield	UXO Tech III	10	Team Member
Trevor Brown	UXO Tech II	10	Team Member
Eric Charlton	UXO Tech II	10	Team Member
Alan Turpin	UXO Tech II	10	Team Member
Josh Faust	UXO Tech II	10	Team Member
JR Castor	UXO Tech II	10	Team Member
Will Bush	UXO Tech II	10	Team Member

Subcontractors

Name	Company	Hrs. Worked	Role

Visitors

Name	Organization	Role

Site Photos

Transit to grid location

Mag and dig intrusive operations G-06

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI/FS at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 019 Date: 2-16-17

DAILY SITE REPORT

Site Operating Hours: 0630-1700

Work Performed:
UXO Team 1 continued vegetation removal and intrusive operations in Grid G-9 75% complete.
UXO Team 2 completed intrusive operations in Grid G-6 and turned over to UXOQCS for acceptance. Commenced vegetation removal and intrusive operations in G-8

Munitions and Explosives of Concern (MEC) Encountered: None

Disposition of MEC Items Encountered: None

Munitions Debris (MD) Encountered: Grid-6: 46 lbs.

Material Documented as Safe (MDAS) Shipping Information: None

Changed Conditions/Delays/Conflicts Encountered: None

Other comments or additional information: MD weights will be reported in the DSR once each individual grid is completed.

Contractor's Verification: On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.

Senior UXO Supervisor
2-16-17

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 019 Date: 2-16-17

Project Personnel

URS Project Manager: John Carson	**URS MR Safety Program Manager:** Mac Reed
URS SUXOS: Tim Idom (11)	**URS MR Quality Program Manager:** Andreas Kothleitner
URS UXOSO/QCS: R. Burrington (11)	**USACE Project Manager:** Carlos Duarte
URS Project GEO: Garrick Marcoux	**USACE OESS:** Shawn Meek
URS GEOQC:	**USACE GEO Manager:**

Field Staff

Name	Technician Level	Hrs. Worked	Role
Mitch Waters	UXO Tech III	10	Team Leader
Daniel Kur	UXO Tech III	10	Team Leader
Jason Birchfield	UXO Tech III	10	Team Member
Trevor Brown	UXO Tech II	10	Team Member
Eric Charlton	UXO Tech II	Off	Team Member
Alan Turpin	UXO Tech II	10	Team Member
Josh Faust	UXO Tech II	10	Team Member
JR Castor	UXO Tech II	10	Team Member
Will Bush	UXO Tech II	10	Team Member

Subcontractors

Name	Company	Hrs. Worked	Role

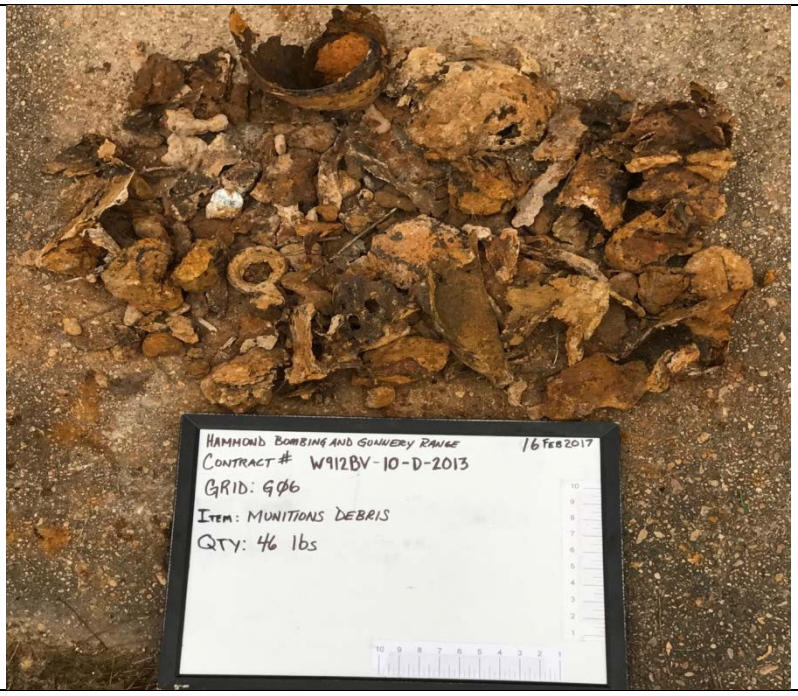
Visitors

Name	Organization	Role

Site Photos

Anomaly data entry

Mag and dig intrusive operations G-6


HAMMOND BOMBING AND GUNNERY RANGE
16 FEB 2017
CONTRACT # W912BV-10-D-2013
GRID: G06
ITEM: MUNITIONS DEBRIS
QTY: 46 lbs

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI/FS at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 020 Date: 2-17-17

DAILY SITE REPORT

Site Operating Hours: 0630-1330

Work Performed:
UXO Team 1 completed intrusive operations in Grid G-9.
UXO Team 2 continued intrusive operations in Grid G-8; 75% complete.

Munitions and Explosives of Concern (MEC) Encountered: None

Disposition of MEC Items Encountered: None

Munitions Debris (MD) Encountered: Grid-09: 85 lbs.

Material Documented as Safe (MDAS) Shipping Information: None

Changed Conditions/Delays/Conflicts Encountered: None

Other comments or additional information: None

Contractor's Verification: On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.

Senior UXO Supervisor
2-17-17

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 020 Date: 2-17-17

Project Personnel

URS Project Manager: John Carson	**URS MR Safety Program Manager:** Mac Reed
URS SUXOS: Tim Idom (8)	**URS MR Quality Program Manager:** Andreas Kothleitner
URS UXOSO/QCS: R. Burrington (8)	**USACE Project Manager:** Carlos Duarte
URS Project GEO: Garrick Marcoux	**USACE OESS:** Shawn Meek
URS GEOQC:	**USACE GEO Manager:**

Field Staff

Name	Technician Level	Hrs. Worked	Role
Mitch Waters	UXO Tech III	6.5	Team Leader
Daniel Kur	UXO Tech III	6.5	Team Leader
Jason Birchfield	UXO Tech III	6.5	Team Member
Trevor Brown	UXO Tech II	6.5	Team Member
Eric Charlton	UXO Tech II	Off	Team Member
Alan Turpin	UXO Tech II	Off	Team Member
Josh Faust	UXO Tech II	6.5	**6.5**
JR Castor	UXO Tech II	6.5	**6.5**
Will Bush	UXO Tech II	6.5	**6.5**

Subcontractors

Name	Company	Hrs. Worked	Role

Visitors

Name	Organization	Role

Site Photos

Munitions debris

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI/FS at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 021 Date: 2-20-17

DAILY SITE REPORT

Site Operating Hours: 0630-1700

Work Performed:
UXO team 1 completed intrusive operations in Grid G-7 and turned in to UXOQCS for acceptance. Commenced intrusive operations in Grid G-3.
UXO team 2 completed intrusive operations in Grid G-8 and turned in to UXOQCS for acceptance. Commenced intrusive operations in Grid G-10.

Munitions and Explosives of Concern (MEC) Encountered: None

Disposition of MEC Items Encountered: None

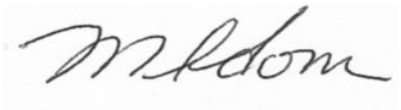
Munitions Debris (MD) Encountered: G-07: 20 lbs., G-08: 105 lbs.

Material Documented as Safe (MDAS) Shipping Information: None

Changed Conditions/Delays/Conflicts Encountered: None

Other comments or additional information: None

Contractor's Verification: On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.



Senior UXO Supervisor
2-20-17

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 021 Date: 2-20-17

Project Personnel

URS Project Manager: John Carson	**URS MR Safety Program Manager:** Mac Reed
URS SUXOS: Tim Idom (11)	**URS MR Quality Program Manager:** Andreas Kothleitner
URS UXOSO/QCS: R. Burrington (11)	**USACE Project Manager:** Carlos Duarte
URS Project GEO: Garrick Marcoux	**USACE OESS:** Shawn Meek
URS GEOQC:	**USACE GEO Manager:**

Field Staff

Name	Technician Level	Hrs. Worked	Role
Mitch Waters	UXO Tech III	10	Team Leader
Daniel Kur	UXO Tech III	10	Team Leader
Jason Birchfield	UXO Tech III	10	Team Member
Trevor Brown	UXO Tech II	10	Team Member
Eric Charlton	UXO Tech II	10	Team Member
Alan Turpin	UXO Tech II	10	Team Member
Josh Faust	UXO Tech II	10	Team Member
JR Castor	UXO Tech II	10	Team Member
Will Bush	UXO Tech II	10	Team Member

Subcontractors

Name	Company	Hrs. Worked	Role

Visitors

Name	Organization	Role

Site Photos

G-7 Munitions Debris

G-8 Munitions Debris

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI/FS at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 022 Date: 2-21-17

DAILY SITE REPORT

Site Operating Hours: 0630-1700

Work Performed:
UXO Team 1 completed intrusive operations in Grid G-3 and turned in to UXOQCS for acceptance. Commenced intrusive operations in Grid G-02.
UXO Team 2 completed intrusive operations in Grid G-10 and turned in to UXOQCS for acceptance. Commenced Mag and flag operations in the northwest transects.

Munitions and Explosives of Concern (MEC) Encountered: 4 pieces of the AN-M50 series Incendiary bomb were located.

Disposition of MEC Items Encountered: SUXOS and UXOSO/QCS inspected MEC items and determined to be acceptable to move and were transported to disposal location.

Munitions Debris (MD) Encountered: G-03: 10 lbs., G-10: 5 lbs.

Material Documented as Safe (MDAS) Shipping Information: None

Changed Conditions/Delays/Conflicts Encountered: None

Other comments or additional information: None

Contractor's Verification: On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.

Senior UXO Supervisor
2-21-17

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 022 Date: 2-21-17

Project Personnel

URS Project Manager: John Carson	**URS MR Safety Program Manager:** Mac Reed
URS SUXOS: Tim Idom (11)	**URS MR Quality Program Manager:** Andreas Kothleitner
URS UXOSO/QCS: R. Burrington (11)	**USACE Project Manager:** Carlos Duarte
URS Project GEO: Garrick Marcoux	**USACE OESS:** Shawn Meek
URS GEOQC:	**USACE GEO Manager:**

Field Staff

Name	Technician Level	Hrs. Worked	Role
Mitch Waters	UXO Tech III	10	Team Leader
Daniel Kur	UXO Tech III	10	Team Leader
Jason Birchfield	UXO Tech III	10	Team Member
Trevor Brown	UXO Tech II	10	Team Member
Eric Charlton	UXO Tech II	10	Team Member
Alan Turpin	UXO Tech II	10	Team Member
Josh Faust	UXO Tech II	10	Team Member
JR Castor	UXO Tech II	10	Team Member
Will Bush	UXO Tech II	10	Team Member

Subcontractors

Name	Company	Hrs. Worked	Role
Dave Wilson	Inner Parrish Sec Corp	14	MEC security

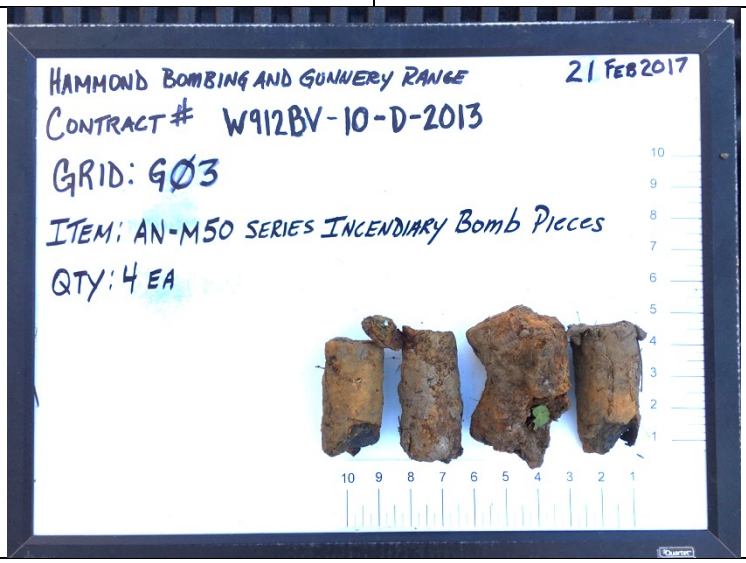
Visitors

Name	Organization	Role

Site Photos

G-07 Munitions Debris

G-08 Munitions Debris



OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI/FS at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 023 Date: 2-22-17

DAILY SITE REPORT

Site Operating Hours: 0630-1700

Work Performed:
UXO Team 1 continued intrusive operations in Grid G-2.
UXO Team 2 continued mag and flag operations and completed intrusive operations in transects T-03N and T-04N.
Demolition team conducted disposal operations utilizing the Buried Explosion Module (BEM) on 4 pieces of AN-M50 series Incendiary bomb located 21 February 2017. Demolition site was inspected post operations and determined to be free of all MD and restored.

Munitions and Explosives of Concern (MEC) Encountered: None

Disposition of MEC Items Encountered: None

Munitions Debris (MD) Encountered: None

Material Documented as Safe (MDAS) Shipping Information: None

Changed Conditions/Delays/Conflicts Encountered: None

Other comments or additional information: None

Contractor's Verification: On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.

Senior UXO Supervisor
2-22-17

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 023 Date: 2-22-17

Project Personnel

URS Project Manager: John Carson	**URS MR Safety Program Manager:** Mac Reed
URS SUXOS: Tim Idom (11)	**URS MR Quality Program Manager:** Andreas Kothleitner
URS UXOSO/QCS: R. Burrington (11)	**USACE Project Manager:** Carlos Duarte
URS Project GEO: Garrick Marcoux	**USACE OESS:** Shawn Meek
URS GEOQC:	**USACE GEO Manager:**

Field Staff

Name	Technician Level	Hrs. Worked	Role
Mitch Waters	UXO Tech III	10	Team Leader
Daniel Kur	UXO Tech III	10	Team Leader
Jason Birchfield	UXO Tech III	10	Team Member
Trevor Brown	UXO Tech II	10	Team Member
Eric Charlton	UXO Tech II	10	Team Member
Alan Turpin	UXO Tech II	10	Team Member
Josh Faust	UXO Tech II	10	Team Member
JR Castor	UXO Tech II	10	Team Member
Will Bush	UXO Tech II	10	Team Member

Subcontractors

Name	Company	Hrs. Worked	Role

Visitors

Name	Organization	Role

Site Photos

Preparations for BEM

AN-M50 series incendiary pieces prepared for disposal operations

Mag and Flag operations inTransect T-04N

Mag and Flag operations inTransect T-04N

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI/FS at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 024 Date: 2-23-17

DAILY SITE REPORT

Site Operating Hours: 0630-1700

Work Performed:
UXO Team 1 completed intrusive operations in Grid G-02 and commenced in intrusive operations in G-01.
UXO Team 2 continued mag and flag operations in T-05N, T-06N, T-07N, and T-08N. All anomalies have been identified and will be intrusively investigated during the coordinated evacuation of effected houses from 0800-1200 on 24 February.

Munitions and Explosives of Concern (MEC) Encountered: None

Disposition of MEC Items Encountered: None

Munitions Debris (MD) Encountered: Grid G-02: 10 lbs.

Material Documented as Safe (MDAS) Shipping Information: None

Changed Conditions/Delays/Conflicts Encountered: None

Other comments or additional information: None

Contractor's Verification: On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.

Senior UXO Supervisor
2-23-17

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 024 Date: 2-23-17

Project Personnel

URS Project Manager: John Carson	**URS MR Safety Program Manager:** Mac Reed
URS SUXOS: Tim Idom (11)	**URS MR Quality Program Manager:** Andreas Kothleitner
URS UXOSO/QCS: R. Burrington (11)	**USACE Project Manager:** Carlos Duarte
URS Project GEO: Garrick Marcoux	**USACE OESS:** Shawn Meek
URS GEOQC:	**USACE GEO Manager:**

Field Staff

Name	Technician Level	Hrs. Worked	Role
Mitch Waters	UXO Tech III	10	Team Leader
Daniel Kur	UXO Tech III	10	Team Leader
Jason Birchfield	UXO Tech III	10	Team Member
Trevor Brown	UXO Tech II	10	Team Member
Eric Charlton	UXO Tech II	10	Team Member
Alan Turpin	UXO Tech II	10	Team Member
Josh Faust	UXO Tech II	10	Team Member
JR Castor	UXO Tech II	10	Team Member
Will Bush	UXO Tech II	10	Team Member

Subcontractors

Name	Company	Hrs. Worked	Role

Visitors

Name	Organization	Role

Photo

MDAS G-02

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI/FS at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 025 Date: 2-24-17

DAILY SITE REPORT

Site Operating Hours: 0630-1700

Work Performed:
UXO Team 1 completed intrusive operations in Grid G-1. Commenced intrusive operations in G-05.
UXO Team 2 completed intrusive operations in T-05N, T-06N, T-07N, and T-08N. Commenced intrusive operations in Grid G-4.

Munitions and Explosives of Concern (MEC) Encountered: None

Disposition of MEC Items Encountered: None

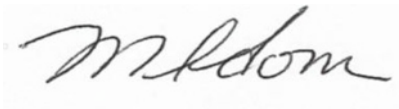
Munitions Debris (MD) Encountered: Grid G-01: 3 lbs.

Material Documented as Safe (MDAS) Shipping Information: None

Changed Conditions/Delays/Conflicts Encountered: None

Other comments or additional information: All transects have now been completed.

Contractor's Verification: On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.



Senior UXO Supervisor
2-24-17

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 025 Date: 2-24-17

Project Personnel

URS Project Manager: John Carson	**URS MR Safety Program Manager:** Mac Reed
URS SUXOS: Tim Idom (11)	**URS MR Quality Program Manager:** Andreas Kothleitner
URS UXOSO/QCS: R. Burrington (11)	**USACE Project Manager:** Carlos Duarte
URS Project GEO: Garrick Marcoux	**USACE OESS:** Shawn Meek
URS GEOQC:	**USACE GEO Manager:**

Field Staff

Name	Technician Level	Hrs. Worked	Role
Mitch Waters	UXO Tech III	10	Team Leader
Daniel Kur	UXO Tech III	10	Team Leader
Jason Birchfield	UXO Tech III	10	Team Member
Trevor Brown	UXO Tech II	10	Team Member
Eric Charlton	UXO Tech II	10	Team Member
Alan Turpin	UXO Tech II	10	Team Member
Josh Faust	UXO Tech II	10	Team Member
JR Castor	UXO Tech II	10	Team Member
Will Bush	UXO Tech II	10	Team Member

Subcontractors

Name	Company	Hrs. Worked	Role

Visitors

Name	Organization	Role

Photos

MDAS G-01

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI/FS at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 026 Date: 2-27-17

DAILY SITE REPORT

Site Operating Hours: 0630-1700

Work Performed:
UXO Team 1 completed intrusive operations in Grid G-05.
UXO Team 2 completed intrusive operations in Grid G-04.

Munitions and Explosives of Concern (MEC) Encountered: None

Disposition of MEC Items Encountered: None

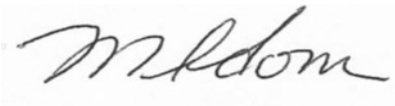
Munitions Debris (MD) Encountered: Grid G-04: 11 lbs., Grid G-05: 3 lbs.

Material Documented as Safe (MDAS) Shipping Information: None

Changed Conditions/Delays/Conflicts Encountered: None

Other comments or additional information: All Intrusive operations have been completed.

Contractor's Verification: On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.



Senior UXO Supervisor
2-27-17

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 026 Date: 2-27-17

Project Personnel

URS Project Manager: John Carson	**URS MR Safety Program Manager:** Mac Reed
URS SUXOS: Tim Idom (11)	**URS MR Quality Program Manager:** Andreas Kothleitner
URS UXOSO/QCS: R. Burrington (11)	**USACE Project Manager:** Carlos Duarte
URS Project GEO: Garrick Marcoux	**USACE OESS:** Shawn Meek
URS GEOQC:	**USACE GEO Manager:**

Field Staff

Name	Technician Level	Hrs. Worked	Role
Mitch Waters	UXO Tech III	10	Team Leader
Daniel Kur	UXO Tech III	10	Team Leader
Jason Birchfield	UXO Tech III	10	Team Member
Trevor Brown	UXO Tech II	10	Team Member
Eric Charlton	UXO Tech II	10	Team Member
Alan Turpin	UXO Tech II	10	Team Member
Josh Faust	UXO Tech II	10	Team Member
JR Castor	UXO Tech II	10	Team Member
Will Bush	UXO Tech II	10	Team Member

Subcontractors

Name	Company	Hrs. Worked	Role

Visitors

Name	Organization	Role

Photos

MDAS G-04

MDAS G-05

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI/FS at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 027 Date: 2-28-17

DAILY SITE REPORT

Site Operating Hours: 0630-1700

Work Performed:
Soil samples collected in Grids G-01 through G-10 and shipped to contract laboratory for analysis.
3 rental trucks returned to Enterprise.
Electronics inventoried and shipped to vendor.
All equipment was cleaned, inventoried, and stowed in site trailer awaiting shipment to next job location.

Munitions and Explosives of Concern (MEC) Encountered: None

Disposition of MEC Items Encountered: None

Munitions Debris (MD) Encountered: None

Material Documented as Safe (MDAS) Shipping Information: 2 Ea. 55-gallon drums (seal #s 1699310 and 843867) have been prepared for FedEx freight shipment to Belson Steel, for demil processing. Drums will be picked up on 1 March 2017. Chain of custody and DD Form 1348-1A have been prepared in duplicate and will accompany shipment.

Changed Conditions/Delays/Conflicts Encountered: None

Other comments or additional information: None

Contractor's Verification: On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.

Senior UXO Supervisor
2-28-17

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 027 Date: 2-28-17

Project Personnel

URS Project Manager: John Carson	**URS MR Safety Program Manager:** Mac Reed
URS SUXOS: Tim Idom (11)	**URS MR Quality Program Manager:** Andreas Kothleitner
URS UXOSO/QCS: J. Birchfield (6)	**USACE Project Manager:** Carlos Duarte
URS Project GEO: Garrick Marcoux	**USACE OESS:** Shawn Meek
URS GEOQC:	**USACE GEO Manager:**

Field Staff

Name	Technician Level	Hrs. Worked	Role
Mitch Waters	UXO Tech III	10	Team Leader
Daniel Kur	UXO Tech III	6	Team Leader
Trevor Brown	UXO Tech II	10	Team Member
Eric Charlton	UXO Tech II	6	Team Member
Alan Turpin	UXO Tech II	6	Team Member
Josh Faust	UXO Tech II	10	Team Member
JR Castor	UXO Tech II	6	Team Member
Will Bush	UXO Tech II	6	Team Member

Subcontractors

Name	Company	Hrs. Worked	Role

Visitors

Name	Organization	Role

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI/FS at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 028 Date: 3-1-17

DAILY SITE REPORT

Site Operating Hours: 0800-1700

Work Performed:
Shipped MDAS to Belson Steel for processing.

Munitions and Explosives of Concern (MEC) Encountered: None

Disposition of MEC Items Encountered: None

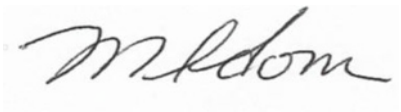
Munitions Debris (MD) Encountered: None

Material Documented as Safe (MDAS) Shipping Information: 2 Ea. 55-gallon drums (seal #s 1699310 and 843867) were shipped via FedEx freight to Belson Steel for demil processing.

Changed Conditions/Delays/Conflicts Encountered: None

Other comments or additional information: All site personnel demobilized.

Contractor's Verification: On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.



Senior UXO Supervisor
3-1-17

OA Systems Corporation Contract#: W912BV-10-D-2013	Project Name: RI at Bomb Target #1 Project Location: Former Hammond Bombing and Gunnery Range, Hammond, Louisiana Report No: 028 Date: 3-1-17

Project Personnel

URS Project Manager: John Carson	**URS MR Safety Program Manager:** Mac Reed
URS SUXOS: Tim Idom (9)	**URS MR Quality Program Manager:** Andreas Kothleitner
URS UXOSO/QCS: J. Birchfield	**USACE Project Manager:** Carlos Duarte
URS Project GEO: Garrick Marcoux	**USACE OESS:** Shawn Meek
URS GEOQC:	**USACE GEO Manager:**

Field Staff

Name	Technician Level	Hrs. Worked	Role
Mitch Waters	UXO Tech III	0	Team Leader
Daniel Kur	UXO Tech III	0	Team Leader
Trevor Brown	UXO Tech II	0	Team Member
Eric Charlton	UXO Tech II	0	Team Member
Alan Turpin	UXO Tech II	0	Team Member
Josh Faust	UXO Tech II	0	Team Member
JR Castor	UXO Tech II	0	Team Member
Will Bush	UXO Tech II	0	Team Member

Subcontractors

Name	Company	Hrs. Worked	Role

Visitors

Name	Organization	Role

DAILY HEALTH & SAFETY REPORT

CONTRACT: W912BV-10-D-2013	**PROGRAM MANAGER:** Steve Gunzelman
DELIVERY ORDER: DY10	**PROJECT MANAGER:** John Carson
PROJECT #: 60442953	**PROJECT:** Former Hammond Bombing and Gunnery Range – Bomb Target #1
	LOCATION: Hammond, Louisiana

REPORT #: 001	**DATE:** 1-24-2017	**OPERATING HOURS:** 0700-1630

WEATHER CONDITIONS: SUNNY	**HIGH: 70**	**LOW: 43**	**HUMIDITY: 61%**	**UV: 4 OF 10**
WINDS: SE 8	**SUNRISE: 0657**	**SUNSET: 1730**	**RAIN/SNOW: NO**	**LIGHTNING: NO**

TAILGATE SAFETY BRIEFING:

- Completed site-specific training for assigned project personnel. Training included WP, APP, Activity Hazard Analyses (AHAs).
- Completed the following AECOM University required courses: Safety for Life, Hazard Communications, Ergonomics, Task Hazard Awareness, and Driver Safety.
- All UXO personnel participated in a medical emergency evacuation exercise, and drove the designated route to the local hospital.

OPERATIONS:

- No field operations.

REMARKS:

- **NA**

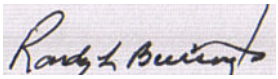
SAFETY OBSERVATION:

- NA

URS PERSONNEL ONSITE: (see DSR)

SUBCONTRACTOR PERSONNEL ONSITE: (see DSR)

VISITORS ONSITE: (see DSR)



Randy Burrington
UXO Safety Officer
Date: 01-24-2017

DAILY HEALTH & SAFETY REPORT

CONTRACT: W912BV-10-D-2013	**PROGRAM MANAGER:** Steve Gunzelman
DELIVERY ORDER: DY10	**PROJECT MANAGER:** John Carson
PROJECT #: 60442953	**PROJECT:** Former Hammond Bombing and Gunnery Range – Bomb Target #1
	LOCATION: Hammond, Louisiana

REPORT #: 002	**DATE:** 1-25-2017	**OPERATING HOURS:** 0700-1630

WEATHER CONDITIONS: CLOUDY	**HIGH: 78**	**LOW: 55**	**HUMIDITY: 74%**	**UV: 2 OF 10**
WINDS: SSW 12	**SUNRISE: 0655**	**SUNSET: 1730**	**RAIN/SNOW: NO**	**LIGHTNING: NO**

TAILGATE SAFETY BRIEFING:

- MEC operations, vehicle maintenance, work and support zones, slips/trips/falls, biological hazards, hydration, heat stress, wind precautions, PPE, vehicle safety inspection, driving safety, AHAs, directions to hospital, rally points, emergency procedures, on-site accident response, and Hazardous Fragmentation Distances (HFD).
- SAFETY TOPIC: Activity Hazard Analysis (AHA): Recovery of a stuck vehicle
- TRAINING TOPIC: Mk I Spotting charge.

OPERATIONS:

- Site personnel conducted operations/safety brief and initial reconnaissance of work site for accessible roads and or trails.

REMARKS:

- Received two (2) field toilets for site late this afternoon; will conduct initial hygiene inspection 26 January.
- Completed review of site personnel training certifications. No discrepancies noted. Two upcoming physicals noted for scheduling.

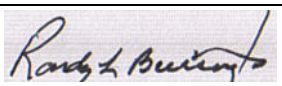
SAFETY OBSERVATION:

- Observed proper recovery of one vehicle from unimproved clay-road. Acted as designated Safety Observer per AHA during recovery. Vehicle progress impaired due to street tires resulting in loss of traction and maneuvering. Operation performed and completed safely.

URS PERSONNEL ONSITE: (see DSR)

SUBCONTRACTOR PERSONNEL ONSITE: (see DSR)

VISITORS ONSITE: (see DSR)



Randy Burrington, UXO Safety Officer
Date: 01-25-2017

DAILY HEALTH & SAFETY REPORT

CONTRACT: W912BV-10-D-2013	**PROGRAM MANAGER:** Steve Gunzelman
DELIVERY ORDER: DY10	**PROJECT MANAGER:** John Carson
PROJECT #: 60442953	**PROJECT:** Former Hammond Bombing and Gunnery Range – Bomb Target #1
	LOCATION: Hammond, Louisiana

REPORT #: 003	**DATE:** 1-26-2017	**OPERATING HOURS:** 0700-1630

WEATHER CONDITIONS: PARTLY CLOUDY	**HIGH: 61**	**LOW: 47**	**HUMIDITY: 48%**	**UV: 5 OF 10**
WINDS: NNW 5-10	**SUNRISE: 0655**	**SUNSET: 1732**	**RAIN/SNOW: NO**	**LIGHTNING: NO**

TAILGATE SAFETY BRIEFING:

- MEC operations, vehicle maintenance, work and support zones, slips/trips/falls, biological hazards, hydration, heat stress, wind precautions, PPE, vehicle safety inspection, driving safety, AHAs, directions to hospital, rally points, emergency procedures, on-site accident response, and Hazardous Fragmentation Distances (HFD).
- SAFETY TOPIC: Exclusion Zone
- TRAINING TOPIC:

OPERATIONS:

- Site personnel began intrusive investigation (analog mag & dig) of transects located within Bomb Target #1 (BT1) MRS.
- MPPEH inspection conduced. No MEC or MD. All recovered material determined to be NMRD.

REMARKS:

- Inspected two (2) field toilets, no discrepancies noted.
- Conducted communications checks (radio, cell phones).
- Activity Hazard Analysis (AHA) for Vegetation Removal Using Bladed Hand Tools was approved.

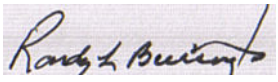
SAFETY OBSERVATION:

- Observed intrusive operations in transects with both Teams. Noted good communication among team personnel regarding vegetation and terrain hazards (deadfall avoidance, holes, roots, and safe small stream crossings).

URS PERSONNEL ONSITE: (see DSR)

SUBCONTRACTOR PERSONNEL ONSITE: (see DSR)

VISITORS ONSITE: (see DSR)



Randy Burrington, UXO Safety Officer
Date: 01-26-2017

DAILY HEALTH & SAFETY REPORT

CONTRACT: W912BV-10-D-2013	**PROGRAM MANAGER:** Steve Gunzelman
DELIVERY ORDER: DY10	**PROJECT MANAGER:** John Carson
PROJECT #: 60442953	**PROJECT:** Former Hammond Bombing and Gunnery Range – Bomb Target #1
	LOCATION: Hammond, Louisiana

REPORT #: 004	**DATE:** 1-27-2017	**OPERATING HOURS:** 0700-1630

WEATHER CONDITIONS: SUNNY	**HIGH: 57**	**LOW: 37**	**HUMIDITY: 48%**	**UV: 5 OF 10**
WINDS: NNW 5-10	**SUNRISE: 0655**	**SUNSET: 1732**	**RAIN/SNOW: NO**	**LIGHTNING: NO**

TAILGATE SAFETY BRIEFING:

- MEC operations, vehicle maintenance, work and support zones, slips/trips/falls, biological hazards, hydration, heat stress, wind precautions, PPE, vehicle safety inspection, driving safety, AHAs, directions to hospital, rally points, emergency procedures, on-site accident response, and hazardous fragmentation distances (HFDs).
- SAFETY TOPIC: Activity Hazard Analysis (AHA) Vegetation Removal Using Bladed Hand Tools
- TRAINING TOPIC:

OPERATIONS:

- Site personnel continued intrusive investigation (analog mag & dig) of transects located within Bomb Target #1 (BT1) MRS.
- MPPEH inspection conducted. All recovered material determined to be MD and NMRD. No MEC reported.

REMARKS:

- Conducted communications checks (radio, cell phones).
- Briefed Activity Hazard Analysis (AHA) for Vegetation Removal Using Bladed Hand Tools.

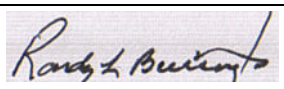
SAFETY OBSERVATION:

- Observed intrusive operations in transects with both teams. Noted good communication among team personnel regarding vegetation and terrain hazards (deadfall avoidance, holes, roots, and safe small stream crossings).
- All operations performed safely.

URS PERSONNEL ONSITE: (see DSR)

SUBCONTRACTOR PERSONNEL ONSITE: (see DSR)

VISITORS ONSITE: (see DSR)



Randy Burrington, UXO Safety Officer
Date: 01-27-2017

DAILY HEALTH & SAFETY REPORT

CONTRACT: W912BV-10-D-2013	**PROGRAM MANAGER:** Steve Gunzelman
DELIVERY ORDER: DY10	**PROJECT MANAGER:** John Carson
PROJECT #: 60442953	**PROJECT:** Former Hammond Bombing and Gunnery Range – Bomb Target #1
	LOCATION: Hammond, Louisiana

REPORT #: 005	**DATE:** 1-30-2017	**OPERATING HOURS:** 0630-1600

WEATHER CONDITIONS: SUNNY	**HIGH: 68**	**LOW: 39**	**HUMIDITY: 53%**	**UV: 5 OF 10**
WINDS: SW 5-10	**SUNRISE: 0653**	**SUNSET: 1736**	**RAIN/SNOW: NO**	**LIGHTNING: NO**

TAILGATE SAFETY BRIEFING:

- MEC operations, vehicle maintenance, work and support zones, slips/trips/falls, biological hazards, hydration, heat stress, wind precautions, PPE, vehicle safety inspection, driving safety, AHAs, directions to hospital, rally points, emergency procedures, on-site accident response, and hazardous fragmentation distances (HFDs).
- SAFETY TOPIC: January Safety Bulletin
- TRAINING TOPIC: AN/M30 GP 100 lb Bomb

OPERATIONS:

- Site personnel continued intrusive investigation (analog mag & dig) of transects located within Bomb Target #1 (BT1) MRS.
- MPPEH inspection conducted. All recovered material determined to be MD and NMRD. No MEC reported.

REMARKS:

- Conducted communications checks (radio, cell phones)
- Briefed January Safety Bulletin (Hand Protection)

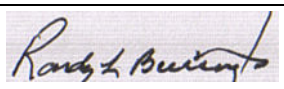
SAFETY OBSERVATION:

- Observed intrusive operations in transects with both Teams. Noted good communication among team personnel regarding vegetation and terrain hazards (deadfall avoidance, holes, roots, and safe small stream crossings).
- All operations performed safely.

URS PERSONNEL ONSITE: (see DSR)

SUBCONTRACTOR PERSONNEL ONSITE: (see DSR)

VISITORS ONSITE: (see DSR)



Randy Burrington, UXO Safety Officer
Date: 01-30-2017

DAILY HEALTH & SAFETY REPORT

CONTRACT: W912BV-10-D-2013	**PROGRAM MANAGER:** Steve Gunzelman
DELIVERY ORDER: DY10	**PROJECT MANAGER:** John Carson
PROJECT #: 60442953	**PROJECT:** Former Hammond Bombing and Gunnery Range – Bomb Target #1
	LOCATION: Hammond, Louisiana

REPORT #: 006	**DATE:** 1-31-2017	**OPERATING HOURS:** 0630-1600

WEATHER CONDITIONS: SUNNY	**HIGH: 75**	**LOW: 47**	**HUMIDITY: 58%**	**UV: 5 OF 10**
WINDS: SW 10-15	**SUNRISE: 0652**	**SUNSET: 1737**	**RAIN/SNOW: NO**	**LIGHTNING: NO**

TAILGATE SAFETY BRIEFING:

- MEC operations, vehicle maintenance, work and support zones, slips/trips/falls, biological hazards, hydration, heat stress, wind precautions, PPE, vehicle safety inspection, driving safety, AHAs, directions to hospital, rally points, emergency procedures, on-site accident response, and Hazardous Fragmentation Distances (HFDs).
- SAFETY TOPIC: Re-briefed hospital route to due local road closure for construction. Closure in effect for the rest of this week.
- TRAINING TOPIC: NA

OPERATIONS:

- Site personnel continued intrusive investigation (analog mag & dig) of transects located within Bomb Target #1 (BT1) MRS.
- MPPEH inspection conducted. All recovered material determined to be MD and NMRD. No MEC reported

REMARKS:

- Conducted communications checks (radio, cell phones).
- No (hand/manual) vegetation removal performed on site to date. Personnel are navigating transects adequately and safely.

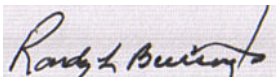
SAFETY OBSERVATION:

- Observed intrusive operations in transects with both teams. Noted good communication among team personnel regarding vegetation and terrain hazards (deadfall avoidance, holes, roots, and safe small stream crossings).
- All operations performed safely.

URS PERSONNEL ONSITE: (see DSR)

SUBCONTRACTOR PERSONNEL ONSITE: (see DSR)

VISITORS ONSITE: (see DSR)



Randy Burrington, UXO Safety Officer
Date: 01-31-2017

DAILY HEALTH & SAFETY REPORT

CONTRACT: W912BV-10-D-2013	**PROGRAM MANAGER:** Steve Gunzelman
DELIVERY ORDER: DY10	**PROJECT MANAGER:** John Carson
PROJECT #: 60442953	**PROJECT:** Former Hammond Bombing and Gunnery Range – Bomb Target #1
	LOCATION: Hammond, Louisiana

REPORT #: 007	**DATE:** 2-1-2017	**OPERATING HOURS:** 0630-1600

WEATHER CONDITIONS: PARTLY CLOUDY	**HIGH: 75**	**LOW: 53**	**HUMIDITY: 53%**	**UV: 4 OF 10**
WINDS: SW 10-15	**SUNRISE: 0652**	**SUNSET: 1738**	**RAIN/SNOW: NO**	**LIGHTNING: NO**

TAILGATE SAFETY BRIEFING:

- MEC operations, vehicle maintenance, work and support zones, slips/trips/falls, biological hazards, hydration, heat stress, wind precautions, PPE, vehicle safety inspection, driving safety, AHAs, directions to hospital, rally points, emergency procedures, on-site accident response, and Hazardous Fragmentation Distances (HFDs).
- SAFETY TOPIC: Zika Virus
- TRAINING TOPIC: M100 series bomb fuze

OPERATIONS:

- Site personnel continued intrusive investigation (analog mag & dig) of transects located within Bomb Target #1 (BT1) MRS.
- MPPEH inspection conducted.
  - MEC: One (1) fuzed AN-M30A1 100 lb. General Purpose Bomb was detected and excavated in Transect T-10. The bomb was left in place pending disposition plans.
  - IAW Safety Procedure S3NA-314-PR1, "Working Alone" requirements were briefed and a UXO TM was assigned as security guard near the bomb location during normal off-work hours. A communications plan was established and verified. Established check-ins were completed as briefed between the TM security guard and UXOSO.

REMARKS:

- Conducted communications checks (radio, cell phones).
- No (hand/manual) vegetation removal performed on site to date. Personnel are navigating transects adequately and safely.

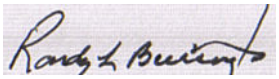
SAFETY OBSERVATION:

- Observed intrusive operations in transects with Team 1. Noted good communication among team personnel regarding vegetation and terrain hazards (deadfall avoidance, holes, roots, and safe small stream crossings).
- All operations performed safely.
- Submitted Industry Safe "Safety Observation" #49771 documenting a potential footing hazard identified by one of the team members.

URS PERSONNEL ONSITE: (see DSR)

SUBCONTRACTOR PERSONNEL ONSITE: (see DSR)

VISITORS ONSITE: (see DSR)



Randy Burrington, UXO Safety Officer
Date: 2-1-2017

DAILY HEALTH & SAFETY REPORT

CONTRACT: W912BV-10-D-2013	**PROGRAM MANAGER:** Steve Gunzelman
DELIVERY ORDER: DY10	**PROJECT MANAGER:** John Carson
PROJECT #: 60442953	**PROJECT:** Former Hammond Bombing and Gunnery Range – Bomb Target #1
	LOCATION: Hammond, Louisiana

REPORT #: 008	**DATE:** 2-2-2017	**OPERATING HOURS:** 0630-1600

WEATHER CONDITIONS: PARTLY CLOUDY	**HIGH: 76**	**LOW: 55**	**HUMIDITY: 67%**	**UV: 3 OF 10**
WINDS: SW 5	**SUNRISE: 0651**	**SUNSET: 1739**	**RAIN/SNOW: NO**	**LIGHTNING: NO**

TAILGATE SAFETY BRIEFING:

- MEC operations, vehicle maintenance, work and support zones, slips/trips/falls, biological hazards, hydration, heat stress, wind precautions, PPE, vehicle safety inspection, driving safety, AHAs, directions to hospital, rally points, emergency procedures, on-site accident response, and Hazardous Fragmentation Distances (HFDs).
- SAFETY TOPIC: SH&E Weekly Communications: Near Miss Analysis
- TRAINING TOPIC: Lone Worker

OPERATIONS:

- Site personnel continued intrusive investigation (analog mag & dig) of transects located within Bomb Target #1 (BT1) MRS.
- MPPEH inspection conducted. No MEC reported.

REMARKS:

- Conducted communications checks (radio, cell phones).
- No (hand/manual) vegetation removal performed on site to date. Personnel are navigating transects adequately and safely.
- MEC: One (1) fuzed AN-M30A1 100 lb. General Purpose Bomb, found and reported on 01 February 2017, remains left in place in Transect T-10 pending disposition plans.
  - Inner Parish Security Corporation is providing security services of the site during normal non-working hours, to include weekends, until further notice. UXOSO provided safety briefing and verified contact numbers with the Sr. Field Supervisor and Company Dispatch Office.

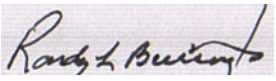
SAFETY OBSERVATION:

- Observed intrusive operations in transects with both Teams. Noted good communication among team personnel regarding vegetation and terrain hazards (deadfall avoidance, holes, roots, and safe small stream crossings).
- All operations performed safely.

URS PERSONNEL ONSITE: (see DSR)

SUBCONTRACTOR PERSONNEL ONSITE: (see DSR)

VISITORS ONSITE: (see DSR)



Randy Burrington, UXO Safety Officer
Date: 2-2-2017

DAILY HEALTH & SAFETY REPORT

CONTRACT: W912BV-10-D-2013	**PROGRAM MANAGER:** Steve Gunzelman
DELIVERY ORDER: DY10	**PROJECT MANAGER:** John Carson
PROJECT #: 60442953	**PROJECT:** Former Hammond Bombing and Gunnery Range – Bomb Target #1
	LOCATION: Hammond, Louisiana

REPORT #: 009	**DATE:** 2-3-2017	**OPERATING HOURS:** 0630-1600

WEATHER CONDITIONS: PARTLY CLOUDY	**HIGH: 60**	**LOW: 38**	**HUMIDITY: 70%**	**UV: 3 OF 10**
WINDS: N 5-10	**SUNRISE: 0650**	**SUNSET: 1740**	**RAIN/SNOW: NO**	**LIGHTNING: NO**

TAILGATE SAFETY BRIEFING:

- MEC operations, vehicle maintenance, work and support zones, slips/trips/falls, biological hazards, hydration, heat stress, wind precautions, PPE, vehicle safety inspection, driving safety, AHAs, directions to hospital, rally points, emergency procedures, on-site accident response, and Hazardous Fragmentation Distances (HFDs).
- SAFETY TOPIC: Weekend Driving Safety.

OPERATIONS:

- Site personnel continued intrusive investigation (analog mag & dig) of transects located within Bomb Target #1 (BT1) MRS.
- MPPEH inspection conducted. No MEC reported.

REMARKS:

- Conducted communications checks (radio, cell phones).
- No (hand/manual) vegetation removal performed on site to date. Personnel are navigating transects adequately and safely.
- MEC: One (1) fuzed AN-M30A1 100 lb. General Purpose Bomb, found and reported on 1 February 2017, remains left in place in Transect T-10 pending disposition plans.
  - Inner Parish Security Corporation is providing security services of the site during normal non-working hours, to include weekends, until further notice.

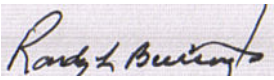
SAFETY OBSERVATION:

- UXOSO observed Team 2 conducting final MPPEH inspection. All observed activities were conducted IAW WP and USACE directives. Personnel were observed wearing proper PPE for the task performed.
- All operations performed safely.

URS PERSONNEL ONSITE: (see DSR)

SUBCONTRACTOR PERSONNEL ONSITE: (see DSR)

VISITORS ONSITE: (see DSR)



Randy Burrington, UXO Safety Officer
Date: 2-3-2017

DAILY HEALTH & SAFETY REPORT

CONTRACT: W912BV-10-D-2013	**PROGRAM MANAGER:** Steve Gunzelman
DELIVERY ORDER: DY10	**PROJECT MANAGER:** John Carson
PROJECT #: 60442953	**PROJECT:** Former Hammond Bombing and Gunnery Range – Bomb Target #1
	LOCATION: Hammond, Louisiana

REPORT #: 010	**DATE:** 2-6-2017	**OPERATING HOURS:** 0630-1600

WEATHER CONDITIONS: PARTLY CLOUDY	**HIGH: 77**	**LOW: 56**	**HUMIDITY: 64%**	**UV: 4 OF 10**
WINDS: S 10-15	**SUNRISE: 0650**	**SUNSET: 1740**	**RAIN/SNOW: NO**	**LIGHTNING: NO**

TAILGATE SAFETY BRIEFING:

- MEC operations, vehicle maintenance, work and support zones, slips/trips/falls, biological hazards, hydration, heat stress, wind precautions, PPE, vehicle safety inspection, driving safety, AHAs, directions to hospital, rally points, emergency procedures, on-site accident response, and Hazardous Fragmentation Distances (HFDs).
- SAFETY TOPIC: Fire extinguisher inspections.

OPERATIONS:

- Site personnel continued intrusive investigation (analog mag & dig) of transects located within Bomb Target #1 (BT1) MRS.
- MPPEH inspection conducted. No MEC reported.

REMARKS:

- Completed weekly vehicle inspections. Completed monthly fire extinguisher inspections.
- Conducted communications checks (radio, cell phones).
- No (hand/manual) vegetation removal performed on site to date. Personnel are navigating transects adequately and safely.
- MEC: One (1) fuzed AN-M30A1 100 lb. General Purpose Bomb, found and reported on 1 February 2017, remains left in place in Transect T-10 pending disposition plans.
  - Inner Parish Security Corporation is providing security services of the site during non-working hours, to include weekends, until further notice.

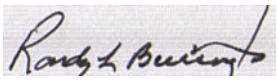
SAFETY OBSERVATION:

- While conducting intrusive investigation along Transect T-13, team member spotted a large water moccasin lying on the bank near a small pond. Other team members were immediately made aware of the snake's presence, and the area was safely avoided without incident. Site personnel are briefed daily on snake awareness and avoidance. Snake-proof boots or chaps are required PPE.
  - UXOSO was present with TM1 when the snake was spotted.

URS PERSONNEL ONSITE: (see DSR)

SUBCONTRACTOR PERSONNEL ONSITE: (see DSR)

VISITORS ONSITE: (see DSR)



Randy Burrington, UXO Safety Officer
Date: 2-6-2017

DAILY HEALTH & SAFETY REPORT

CONTRACT: W912BV-10-D-2013	**PROGRAM MANAGER:** Steve Gunzelman
DELIVERY ORDER: DY10	**PROJECT MANAGER:** John Carson
PROJECT #: 60442953	**PROJECT:** Former Hammond Bombing and Gunnery Range – Bomb Target #1
	LOCATION: Hammond, Louisiana

REPORT #: 011	**DATE:** 2-7-2017	**OPERATING HOURS:** 0630-1300

WEATHER CONDITIONS: CLOUDY, THUNDERSTORMS, TORNADO WATCH, TORNADO WARNING	**HIGH: 75**	**LOW: 60**	**HUMIDITY: 64%**	**UV: 4 OF 10**
WINDS: S 10-15	**SUNRISE: 0650**	**SUNSET: 1740**	**RAIN/SNOW: YES**	**LIGHTNING: YES**

TAILGATE SAFETY BRIEFING:

- MEC operations, vehicle maintenance, work and support zones, slips/trips/falls, biological hazards, hydration, heat stress, wind precautions, PPE, vehicle safety inspection, driving safety, AHAs, directions to hospital, rally points, emergency procedures, on-site accident response, and Hazardous Fragmentation Distances (HFDs).
- SAFETY TOPIC: EM-385-1-97 Ch. 1: Access Survey Requirements
  2.25" SCAR Rocket

OPERATIONS:

- Three demolition team personnel off site to Baton Rouge to complete Louisiana Explosive Licensing requirements (photos to receive licenses).
- Site personnel began access survey procedures (mag/dig) for proposed path to reported MEC location to support upcoming MEC disposal operations. Operations ceased due to severe weather, see comments below.

REMARKS:

- Conducted communications checks (radio, cell phones).
- Lightning hold 0743-0817. Field operations ceased at approximately 0950. National Weather Service issued Tornado Watch for Tangipahoa and surrounding Parishes. Weather degraded to Tornado Warning. Personnel evacuated site at approximately 1040. Field work ceased for the day at 1200.
- UXOSO remained on site for security until relieved by contractor security.
- MEC: One (1) fuzed AN-M30A1 100 lb. General Purpose Bomb, found and reported on 1 February 2017, remains left in place in Transect T-10 pending disposition plans.
  - Inner Parish Security Corporation is providing security services of the site during non-working hours, to include weekends, until further notice.

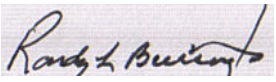
SAFETY OBSERVATION:

- SUXOS and UXOSO monitored local weather conditions, stopping work, and evacuating site as planned.

URS PERSONNEL ONSITE: (see DSR)

SUBCONTRACTOR PERSONNEL ONSITE: (see DSR)

VISITORS ONSITE: (see DSR)



Randy Burrington, UXO Safety Officer
Date: 2-7-2017

DAILY HEALTH & SAFETY REPORT

CONTRACT: W912BV-10-D-2013	**PROGRAM MANAGER:** Steve Gunzelman
DELIVERY ORDER: DY10	**PROJECT MANAGER:** John Carson
PROJECT #: 60442953	**PROJECT:** Former Hammond Bombing and Gunnery Range – Bomb Target #1
	LOCATION: Hammond, Louisiana

REPORT #: 012	**DATE:** 2-8-2017	**OPERATING HOURS:** 0630-1600

WEATHER CONDITIONS: PARTLY CLOUDY	**HIGH: 79**	**LOW: 62**	**HUMIDITY: 76%**	**UV: 2 OF 10**
WINDS: SW 10-15	**SUNRISE: 0647**	**SUNSET: 1744**	**RAIN/SNOW: NO**	**LIGHTNING: NO**

TAILGATE SAFETY BRIEFING:

- MEC operations, vehicle maintenance, work and support zones, slips/trips/falls, biological hazards, hydration, heat stress, wind precautions, PPE, vehicle safety inspection, driving safety, AHAs, directions to hospital, rally points, emergency procedures, on-site accident response, and Hazardous Fragmentation Distances (HFDs).
- SAFETY TOPIC: Tornado Watch & Tornado Warning Protocols and AN/Mk-5 and AN/Mk-23 practice bombs and Mk-4 signal cartridge.

OPERATIONS:

- Completed Access Survey in accordance with EM-385-1-97 to support mechanical vegetation removal for access path to MEC disposal site. Mechanical vegetation removal along the designated and cleared path was completed efficiently and safely.
- Continued intrusive operations along BT-1 transects and inspection of recovered MPPEH.

REMARKS:

- URS MRSPM is on site.
- Conducted communications checks (radio, cell phones).
- Inspected two portable toilets following weekly servicing.
- MEC: One (1) fuzed AN-M30A1 100 lb. General Purpose Bomb, found and reported on 1 February 2017, remains left in place in Transect T-10 pending disposition plans.
  - Inner Parish Security Corporation is providing security services of the site during non-working hours, to include weekends, until further notice.

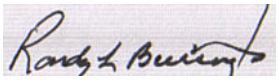
SAFETY OBSERVATION:

- Observed company vehicle operator properly signal and change lanes on the freeway in order to avoid a broke-down vehicle on the shoulder of the freeway. Safe driving practices are briefed daily.

URS PERSONNEL ONSITE: (see DSR)

SUBCONTRACTOR PERSONNEL ONSITE: (see DSR)

VISITORS ONSITE: (see DSR)



Randy Burrington, UXO Safety Officer
Date: 2-8-2017

DAILY HEALTH & SAFETY REPORT

CONTRACT: W912BV-10-D-2013	**PROGRAM MANAGER:** Steve Gunzelman
DELIVERY ORDER: DY10	**PROJECT MANAGER:** John Carson
PROJECT #: 60442953	**PROJECT:** Former Hammond Bombing and Gunnery Range – Bomb Target #1
	LOCATION: Hammond, Louisiana

REPORT #: 013	**DATE:** 2-9-2017	**OPERATING HOURS:** 0630-1600

WEATHER CONDITIONS: PARTLY CLOUDY	**HIGH: 67**	**LOW: 47**	**HUMIDITY: 45%**	**UV: 5 OF 10**
WINDS: NNE 10-20	**SUNRISE: 0646**	**SUNSET: 1745**	**RAIN/SNOW: NO**	**LIGHTNING: NO**

TAILGATE SAFETY BRIEFING:

- MEC operations, vehicle maintenance, work and support zones, slips/trips/falls, biological hazards, hydration, heat stress, wind precautions, PPE, vehicle safety inspection, driving safety, AHAs, directions to hospital, rally points, emergency procedures, on-site accident response, and Hazardous Fragmentation Distances (HFDs).
- SAFETY TOPIC:
  - Activity Hazard Analysis: MEC Disposal Operations.

OPERATIONS:

- Preparations for MEC disposal: Demo Team inventoried demo equipment, procured materials for the shot, and completed pre-operational checks of the Radio Firing Device (RFD). SUXO and PM promulgated notifications list and began initial notification to surrounding property owners. Continued preparation of MEC disposal site. 20 cubic yards of rock-free soil was delivered and staged near the MEC disposal location to support approved BEM requirements.
- Continued intrusive operations along BT-1 transects and inspection of recovered MPPEH.
- MEC: (4) partial pieces of AN/M50 series 4-lb incendiary bombs were reported today. The four partial pieces were determined to be acceptable to move by the SUXOS and UXOSO. They were consolidated to the MEC disposal location for pending disposal.

REMARKS:

- Conducted communications checks (radio, cell phones).
- Completed heavy equipment inspection and operator competency training for skid-steer on site.
- MEC: One (1) fuzed AN-M30A1 100 lb. General Purpose Bomb, found and reported on 1 February 2017, remains left in place in Transect T-10 pending disposition plans.
  - Inner Parish Security Corporation is providing security services of the site during non-working hours, to include weekends, until further notice.

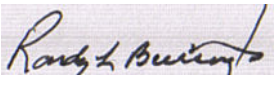
SAFETY OBSERVATION:

- Observed Demo Team conduct pre-operational function checks for the Radio Firing Device to ensure it would operate properly in the heavy vegetation. These precautions ensure the possibility of a misfire is reduced.

URS PERSONNEL ONSITE: (see DSR)

SUBCONTRACTOR PERSONNEL ONSITE: (see DSR)

VISITORS ONSITE: (see DSR)



Randy Burrington, UXO Safety Officer
Date: 2-9-2017

DAILY HEALTH & SAFETY REPORT

CONTRACT: W912BV-10-D-2013	**PROGRAM MANAGER:** Steve Gunzelman
DELIVERY ORDER: DY10	**PROJECT MANAGER:** John Carson
PROJECT #: 60442953	**PROJECT:** Former Hammond Bombing and Gunnery Range – Bomb Target #1
	LOCATION: Hammond, Louisiana

REPORT #: 014	**DATE:** 2-10-2017	**OPERATING HOURS:** 0630-1600

WEATHER CONDITIONS: SUNNY	**HIGH: 72**	**LOW: 42**	**HUMIDITY: 57%**	**UV: 5 OF 10**
WINDS: SE 10-15	**SUNRISE: 0645**	**SUNSET: 1745**	**RAIN/SNOW: NO**	**LIGHTNING: NO**

TAILGATE SAFETY BRIEFING:

- MEC operations, vehicle maintenance, work and support zones, slips/trips/falls, biological hazards, hydration, heat stress, wind precautions, PPE, vehicle safety inspection, driving safety, AHAs, directions to hospital, rally points, emergency procedures, on-site accident response, and Hazardous Fragmentation Distances (HFD).
- SAFETY TOPIC: MEC Disposal Operations.

OPERATIONS:

- MEC disposal: see remarks below.
- Completed intrusive investigation of four anomalies on transect T-14. Verified proposed grid locations.

REMARKS:

- Conducted communications checks (radio, cell phones).
- MEC disposal operations scheduled were cancelled due to delayed delivery of donor explosives.
  - Received initial delivery donor explosives, awaiting second delivery scheduled for 11 February 2017.
- MEC: One (1) fuzed AN-M30A1 100 lb. General Purpose Bomb, found and reported on 1 February 2017, remains left in place in Transect T-10 pending disposition plans.
  - URS LA explosive licensed personnel providing security of MEC and donor explosives on site until receipt of remaining donor explosives are received and MEC disposal operations are complete.

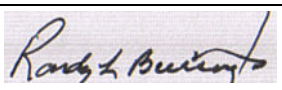
SAFETY OBSERVATION:

- Observed initial receipt inspection and verification of explosive shipment documents (for electric blasting caps). No discrepancies noted.

URS PERSONNEL ONSITE: (see DSR)

SUBCONTRACTOR PERSONNEL ONSITE: (see DSR)

VISITORS ONSITE: (see DSR)



Randy Burrington, UXO Safety Officer
Date: 2-10-2017

DAILY HEALTH & SAFETY REPORT

CONTRACT: W912BV-10-D-2013	**PROGRAM MANAGER:** Steve Gunzelman
DELIVERY ORDER: DY10	**PROJECT MANAGER:** John Carson
PROJECT #: 60442953	**PROJECT:** Former Hammond Bombing and Gunnery Range – Bomb Target #1
	LOCATION: Hammond, Louisiana

REPORT #: 015	**DATE:** 2-11-2017	**OPERATING HOURS:** 0900-1630

WEATHER CONDITIONS: PARTLY CLOUDY	**HIGH: 80**	**LOW: 64**	**HUMIDITY: 73%**	**UV: 3 OF 10**
WINDS: SSW 10-15	**SUNRISE: 0644**	**SUNSET: 1746**	**RAIN/SNOW: NO**	**LIGHTNING: NO**

TAILGATE SAFETY BRIEFING:

- MEC operations, vehicle maintenance, work and support zones, slips/trips/falls, biological hazards, hydration, heat stress, wind precautions, PPE, vehicle safety inspection, driving safety, AHAs, directions to hospital, rally points, emergency procedures, on-site accident response, and Hazardous Fragmentation Distances (HFD).
- SAFETY TOPIC: MEC Disposal Operations.

OPERATIONS:

- MEC disposal: see remarks below.

REMARKS:

- Conducted communications checks (radio, cell phones).
- Completed explosive vehicle inspection. Completed daily safety inspection for skid-steer and tractor.
- Received second delivery donor explosives, UXOQCS and Demo SUXOS completed physical inventory.
- MEC disposal operations: Four (4) pieces of M50 series incendiary found and reported on 9 February 2017 and one (1) fuzed AN-M30A1 100 lb. General Purpose Bomb, found and reported on 1 February 2017, were destroyed by detonation.
- Clean-up shot for remaining donor explosives was completed. No MEC or donor explosives remain on site.

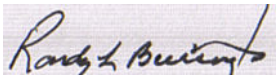
SAFETY OBSERVATION:

- Observed demo team personnel wetting down the area around the shot location. Strict fire prevention measures were planned, briefed and executed during this operation. Very well planned evolution.

URS PERSONNEL ONSITE: (see DSR)

SUBCONTRACTOR PERSONNEL ONSITE: (see DSR)

VISITORS ONSITE: (see DSR)



Randy Burrington, UXO Safety Officer
Date: 2-11-2017

DAILY HEALTH & SAFETY REPORT

CONTRACT: W912BV-10-D-2013	**PROGRAM MANAGER:** Steve Gunzelman
DELIVERY ORDER: DY10	**PROJECT MANAGER:** John Carson
PROJECT #: 60442953	**PROJECT:** Former Hammond Bombing and Gunnery Range – Bomb Target #1
	LOCATION: Hammond, Louisiana

REPORT #: 016	**DATE:** 2-13-2017	**OPERATING HOURS:** 0630-1100

WEATHER CONDITIONS: SUNNY	**HIGH: 71**	**LOW: 57**	**HUMIDITY: 50%**	**UV: 4 OF 10**
WINDS: NE 5-10	**SUNRISE: 0643**	**SUNSET: 1748**	**RAIN/SNOW: NO**	**LIGHTNING: NO**

TAILGATE SAFETY BRIEFING:

- MEC operations, vehicle maintenance, work and support zones, slips/trips/falls, biological hazards, hydration, heat stress, wind precautions, PPE, vehicle safety inspection, driving safety, directions to hospital, rally points, emergency procedures, on-site accident response, and Hazardous Fragmentation Distances (HFD).
- SAFETY TOPIC: MEC disposal operations debrief.

OPERATIONS:

- Completed inspection of MEC disposal area. Backfilling to be completed 2/14.
- Operations cancelled at 1100 by SUXOS pending PDT determination on proposed grid locations.

REMARKS:

- Conducted communications checks (radio, cell phones).
- Completed weekly vehicle inspection.

SAFETY OBSERVATION:

- N/A

URS PERSONNEL ONSITE: (see DSR)

SUBCONTRACTOR PERSONNEL ONSITE: (see DSR)

VISITORS ONSITE: (see DSR)

Randy Burrington, UXO Safety Officer
Date: 2-13-2017

DAILY HEALTH & SAFETY REPORT

CONTRACT: W912BV-10-D-2013	**PROGRAM MANAGER:** Steve Gunzelman
DELIVERY ORDER: DY10	**PROJECT MANAGER:** John Carson
PROJECT #: 60442953	**PROJECT:** Former Hammond Bombing and Gunnery Range – Bomb Target #1
	LOCATION: Hammond, Louisiana

REPORT #: 017	**DATE:** 2-14-2017	**OPERATING HOURS:** 0730-1100

WEATHER CONDITIONS: SUNNY	**HIGH: 70**	**LOW: 54**	**HUMIDITY: 52%**	**UV: 4 OF 10**
WINDS: NE 5-10	**SUNRISE: 0642**	**SUNSET: 1749**	**RAIN/SNOW: NO**	**LIGHTNING: NO**

TAILGATE SAFETY BRIEFING:

- Limited field operations. SUXOS on site with equipment vendor to backfill excavation and remove heavy equipment form site. No field operations

OPERATIONS:

- Operations remain cancelled pending PDT approval of proposed grid locations.

REMARKS:

- N/A

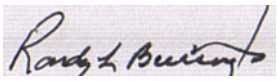
SAFETY OBSERVATION:

- N/A

URS PERSONNEL ONSITE: (see DSR)

SUBCONTRACTOR PERSONNEL ONSITE: (see DSR)

VISITORS ONSITE: (see DSR)



Randy Burrington, UXO Safety Officer
Date: 2-14-2017

DAILY HEALTH & SAFETY REPORT

CONTRACT: W912BV-10-D-2013	**PROGRAM MANAGER:** Steve Gunzelman
DELIVERY ORDER: DY10	**PROJECT MANAGER:** John Carson
PROJECT #: 60442953	**PROJECT:** Former Hammond Bombing and Gunnery Range – Bomb Target #1
	LOCATION: Hammond, Louisiana

REPORT #: 018	**DATE:** 2-15-2017	**OPERATING HOURS:** 0630-1700

WEATHER CONDITIONS: CLOUDY	**HIGH: 63**	**LOW: 48**	**HUMIDITY: 60%**	**UV: 2 OF 10**
WINDS: NW 10-20	**SUNRISE: 0641**	**SUNSET: 1750**	**RAIN/SNOW: NO**	**LIGHTNING: NO**

TAILGATE SAFETY BRIEFING:

- MEC operations, vehicle maintenance, work and support zones, slips/trips/falls, biological hazards, hydration, heat stress, wind precautions, PPE, vehicle safety inspection, driving safety, directions to hospital, rally points, emergency procedures, on-site accident response, and Hazardous Fragmentation Distances (HFD).
- SAFETY TOPIC: Reviewed PPE requirements for vegetation removal.

OPERATIONS:

- Began intrusive investigation of grids (TM1 grid G-9, TM2 grid G-6).
- MPPEH inspection: No MEC reported. Recovered MD will be reported when the teams complete a grid.

REMARKS:

- Shift hours changed from 0630-1600 to 0630-1700.
- Completed inspection of portable field toilets following servicing.

SAFETY OBSERVATION:

- Observed limited vegetation removal using hand pruners and shear loppers. Selection of these hand tools for thinning vegetation negates hazards posed by use of gasoline powered trimmers.

URS PERSONNEL ONSITE: (see DSR)

SUBCONTRACTOR PERSONNEL ONSITE: (see DSR)

VISITORS ONSITE: (see DSR)

Randy Burrington, UXO Safety Officer
Date: 2-15-2017

DAILY HEALTH & SAFETY REPORT

CONTRACT: W912BV-10-D-2013	**PROGRAM MANAGER:** Steve Gunzelman
DELIVERY ORDER: DY10	**PROJECT MANAGER:** John Carson
PROJECT #: 60442953	**PROJECT:** Former Hammond Bombing and Gunnery Range – Bomb Target #1
	LOCATION: Hammond, Louisiana

REPORT #: 019	**DATE:** 2-16-2017	**OPERATING HOURS:** 0630-1700

WEATHER CONDITIONS: SUNNY	**HIGH: 67**	**LOW: 38**	**HUMIDITY: 45%**	**UV: 6 OF 10**
WINDS: LIGHT & VARIABLE 5-10	**SUNRISE: 0640**	**SUNSET: 1750**	**RAIN/SNOW: NO**	**LIGHTNING: NO**

TAILGATE SAFETY BRIEFING:

- MEC operations, vehicle maintenance, work and support zones, slips/trips/falls, biological hazards, hydration, heat stress, wind precautions, PPE, vehicle safety inspection, driving safety, directions to hospital, rally points, emergency procedures, on-site accident response, and Hazardous Fragmentation Distances (HFD).

OPERATIONS:

- SUXOS/UXOQCS/UXOSO conducted daily operations and safety brief.
- Site personnel conducted daily vehicle/equipment safety inspections.
- Operations continued intrusive investigation of grids (TM1 grid G-9, TM2 G-6 and G-8).
- MPPEH inspection: No MEC reported. Recovered MD will be reported when the teams complete a grid.

REMARKS:

- Fire Conditions: MEDIUM. Website: http://www.ldaf.state.la.us/daily-fire-weather. Fires can start from most accidental causes, but the number of starts is generally low. Fires burn at moderate intensities, heavy fuel concentrations will burn hot.
- Observed TM2 tailgate safety brief for vegetation removal. Briefed PPE, overhead hazards (deadfalls), and awareness.

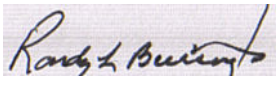
SAFETY OBSERVATION:

- PPE Awareness: As the SUXOS left his vehicle to see TM1 in Grid G-9, he realized he did not have his snake-proof boots on. He stopped and put them on and then continued to see the team. Personnel are constantly reminded to do the right thing even when no one is around.

URS PERSONNEL ONSITE: (see DSR)

SUBCONTRACTOR PERSONNEL ONSITE: (see DSR)

VISITORS ONSITE: (see DSR)



Randy Burrington, UXO Safety Officer
Date: 2-16-2017

DAILY HEALTH & SAFETY REPORT

CONTRACT: W912BV-10-D-2013	**PROGRAM MANAGER:** Steve Gunzelman
DELIVERY ORDER: DY10	**PROJECT MANAGER:** John Carson
PROJECT #: 60442953	**PROJECT:** Former Hammond Bombing and Gunnery Range – Bomb Target #1
	LOCATION: Hammond, Louisiana

REPORT #: 020	**DATE:** 2-17-2017	**OPERATING HOURS:** 0630-1330

WEATHER CONDITIONS: CLOUDY	**HIGH: 65**	**LOW: 42**	**HUMIDITY: 58%**	**UV: 4 OF 10**
WINDS: SSE 5-10	**SUNRISE: 0639**	**SUNSET: 1751**	**RAIN/SNOW: YES**	**LIGHTNING: NO**

TAILGATE SAFETY BRIEFING:

- MEC operations, vehicle maintenance, work and support zones, slips/trips/falls, biological hazards, hydration, heat stress, wind precautions, PPE, vehicle safety inspection, driving safety, directions to hospital, rally points, emergency procedures, on-site accident response, and Hazardous Fragmentation Distances (HFD).
- Weekend driving safety: Briefed safe driving awareness with Mardi Gras traffic and local parade activity.

OPERATIONS:

- SUXOS/UXOQCS/UXOSO conducted daily operations and safety brief.
- Site personnel conducted daily vehicle/equipment safety inspections.
- Operations continued intrusive investigation of grids (TM1 completed grid G-9 and began grid G-7. TM2 completed restoration of grid G-6 and began grid G-8).
- MPPEH inspection: No MEC reported. Recovered MD will be reported when the teams complete a grid.

REMARKS:

- Fire Conditions: MEDIUM. Website: http://www.ldaf.state.la.us/daily-fire-weather. Fires can start from most accidental causes, but the number of starts is generally low. Fires burn at moderate intensities, heavy fuel concentrations will burn hot.
- Observed intrusive operations with both teams. Personnel continue to operate safely.

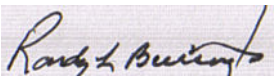
SAFETY OBSERVATION:

- Observed TM1 tailgate safety brief for intrusive operations. All safety precautions, hazards, and procedures were discussed.

URS PERSONNEL ONSITE: (see DSR)

SUBCONTRACTOR PERSONNEL ONSITE: (see DSR)

VISITORS ONSITE: (see DSR)



Randy Burrington, UXO Safety Officer
Date: 2-17-2017

DAILY HEALTH & SAFETY REPORT

CONTRACT: W912BV-10-D-2013	**PROGRAM MANAGER:** Steve Gunzelman
DELIVERY ORDER: DY10	**PROJECT MANAGER:** John Carson
PROJECT #: 60442953	**PROJECT:** Former Hammond Bombing and Gunnery Range – Bomb Target #1
	LOCATION: Hammond, Louisiana

REPORT #: 021	**DATE:** 2-20-2017	**OPERATING HOURS:** 0630-1700

WEATHER CONDITIONS: MOSTLY CLOUDY	**HIGH: 78**	**LOW: 58**	**HUMIDITY: 78%**	**UV: 0 OF 10**
WINDS: ESE 5-10	**SUNRISE: 0637**	**SUNSET: 1753**	**RAIN/SNOW: NO**	**LIGHTNING: NO**

TAILGATE SAFETY BRIEFING:

- MEC operations, vehicle maintenance, work and support zones, slips/trips/falls, biological hazards, hydration, heat stress, wind precautions, PPE, vehicle safety inspection, driving safety, directions to hospital, rally points, emergency procedures, on-site accident response, and Hazardous Fragmentation Distances (HFD).
- Weekend driving safety: Briefed fire conditions and restrictions.

OPERATIONS:

- SUXOS/UXOQCS/UXOSO conducted daily operations and safety brief.
- Site personnel conducted daily vehicle/equipment safety inspections.
- Completed weekly vehicle safety inspections.
- Operations continued intrusive investigation of grids (TM1 completed grid G-7 and began grid G-3. TM2 completed grid G-8 and began grid G-10).
- MPPEH inspection: No MEC reported. Recovered MD was inspected and classified as MDAS.

REMARKS:

- Fire Conditions: Low.
- Observed intrusive operations and MPPEH inspection with both Teams. No discrepancies noted. All work performed in accordance with WP and performed safely.

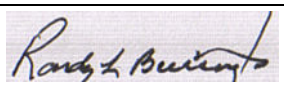
SAFETY OBSERVATION:

- Observed use of ground guides by both teams when backing vehicles. Backing vehicles is one of the leading causes for vehicle damage and is preventable with use of ground guides.

URS PERSONNEL ONSITE: (see DSR)

SUBCONTRACTOR PERSONNEL ONSITE: (see DSR)

VISITORS ONSITE: (see DSR)



Randy Burrington, UXO Safety Officer
Date: 2-20-2017

DAILY HEALTH & SAFETY REPORT

CONTRACT: W912BV-10-D-2013	**PROGRAM MANAGER:** Steve Gunzelman
DELIVERY ORDER: DY10	**PROJECT MANAGER:** John Carson
PROJECT #: 60442953	**PROJECT:** Former Hammond Bombing and Gunnery Range – Bomb Target #1
	LOCATION: Hammond, Louisiana

REPORT #: 022	**DATE:** 2-21-2017	**OPERATING HOURS:** 0630-1700

WEATHER CONDITIONS: MOSTLY CLOUDY	**HIGH: 72**	**LOW: 52**	**HUMIDITY: 74%**	**UV: 5 OF 10**
WINDS: WSW 5-10	**SUNRISE: 0635**	**SUNSET: 1754**	**RAIN/SNOW: YES**	**LIGHTNING: NO**

TAILGATE SAFETY BRIEFING:

- MEC operations, vehicle maintenance, work and support zones, slips/trips/falls, biological hazards, hydration, heat stress, wind precautions, PPE, vehicle safety inspection, driving safety, directions to hospital, rally points, emergency procedures, on-site accident response, and Hazardous Fragmentation Distances (HFD).
- Safety Topic: Exclusion Zone

OPERATIONS:

- SUXOS/UXOQCS/UXOSO conducted daily operations and safety brief.
- Site personnel conducted daily vehicle/equipment safety inspections.
- Completed inspection of two portable field toilets following servicing.
- Operations continued intrusive investigation of grids (TM1 completed grid G-3 and began grid G-2. TM2 completed grid G-10 and analog mag-dig in northwest transects).
- MPPEH inspection: Recovered MD was inspected and classified as MDAS.
  - MEC: Four (4) pieces of M50 series incendiary bomb were recovered from grid G-3. They were determined to be acceptable to move by SUXOS and UXOSO and transported to disposal location. MEC disposal operations tentatively scheduled for 2/22 pending donor explosives delivery.
  - Inner Parish Security Corporation is providing armed guards services for MEC during off-work hours.

REMARKS:

- Fire Conditions: Low.
- Observed intrusive operations and MPPEH inspection with both Teams. No discrepancies noted. All work performed in accordance with WP and performed safely.

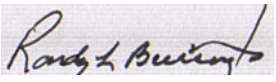
SAFETY OBSERVATION:

- Observed SUXOS brief crew for mag-flag operations and emphasized HFD arc awareness within the northwest transect area near housing.

URS PERSONNEL ONSITE: (see DSR)

SUBCONTRACTOR PERSONNEL ONSITE: (see DSR)

VISITORS ONSITE: (see DSR)



Randy Burrington, UXO Safety Officer
Date: 2-21-2017

DAILY HEALTH & SAFETY REPORT

CONTRACT: W912BV-10-D-2013	**PROGRAM MANAGER:** Steve Gunzelman
DELIVERY ORDER: DY10	**PROJECT MANAGER:** John Carson
PROJECT #: 60442953	**PROJECT:** Former Hammond Bombing and Gunnery Range – Bomb Target #1
	LOCATION: Hammond, Louisiana

REPORT #: 023	**DATE:** 2-22-2017	**OPERATING HOURS:** 0630-1700

WEATHER CONDITIONS: PARTLY CLOUDY	**HIGH: 75**	**LOW: 51**	**HUMIDITY: 64%**	**UV: 6 OF 10**
WINDS: N 5-10	**SUNRISE: 0634**	**SUNSET: 1755**	**RAIN/SNOW: NO**	**LIGHTNING: NO**

TAILGATE SAFETY BRIEFING:

- MEC operations, vehicle maintenance, work and support zones, slips/trips/falls, biological hazards, hydration, heat stress, wind precautions, PPE, vehicle safety inspection, driving safety, directions to hospital, rally points, emergency procedures, on-site accident response, and Hazardous Fragmentation Distances (HFD).
- Safety Topic: MEC disposal operations.

OPERATIONS:

- SUXOS/UXOQCS/UXOSO conducted daily operations and safety brief.
- Site personnel conducted daily vehicle/equipment safety inspections.
- Completed inspection of two portable field toilets following servicing.
- Operations continued intrusive investigation of grids and northwestern transects. TM1 continued in grid G-2. TM2 completed transects T-03N and T-04N.
- MPPEH inspection: Recovered MD was inspected and classified as MDAS.
- Received donor explosives shipment from local vendor. Demo SUXOS noted two clerical errors on the shipping documents which were corrected by the vendor prior to receipt.
- MEC disposal operations: Four (4) pieces of M50 series incendiary bomb, reported 2/21, were destroyed by detonation using Buried Explosion Module (BEM) procedures. No MEC or donor explosives remain on site.

REMARKS:

- Fire Conditions: Low.
- Inner Parish Security Guard secured from site at 0700 local time.
- Observed intrusive operations and MPPEH inspection with both teams. No discrepancies noted. All work performed in accordance with WP and performed safely.
- Observed MEC disposal operations. No discrepancies noted. All work performed in accordance with WP and performed safely.

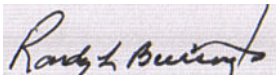
SAFETY OBSERVATION:

- As part of weekly vehicle inspections/maintenance efforts, personnel are briefed to keep windshields clean. Observed TM2 cleaning the inside of their windshield. Humidity and air conditioner use causes wind shield grime to occur on a frequent basis.

URS PERSONNEL ONSITE: (see DSR)

SUBCONTRACTOR PERSONNEL ONSITE: (see DSR)

VISITORS ONSITE: (see DSR)



Randy Burrington, UXO Safety Officer
Date: 2-22-2017

DAILY HEALTH & SAFETY REPORT

CONTRACT: W912BV-10-D-2013	**PROGRAM MANAGER:** Steve Gunzelman
DELIVERY ORDER: DY10	**PROJECT MANAGER:** John Carson
PROJECT #: 60442953	**PROJECT:** Former Hammond Bombing and Gunnery Range – Bomb Target #1
	LOCATION: Hammond, Louisiana

REPORT #: 024	**DATE:** 2-23-2017	**OPERATING HOURS:** 0630-1700

WEATHER CONDITIONS: PARTLY CLOUDY	**HIGH: 75**	**LOW: 51**	**HUMIDITY: 64%**	**UV: 6 OF 10**
WINDS: N 5-10	**SUNRISE: 0634**	**SUNSET: 1755**	**RAIN/SNOW: NO**	**LIGHTNING: NO**

TAILGATE SAFETY BRIEFING:

- MEC operations, vehicle maintenance, work and support zones, slips/trips/falls, biological hazards, hydration, heat stress, wind precautions, PPE, vehicle safety inspection, driving safety, directions to hospital, rally points, emergency procedures, on-site accident response, and Hazardous Fragmentation Distances (HFD).
- Safety Topic: Intrusive operations within an HFD arc.

OPERATIONS:

- SUXOS/UXOQCS/UXOSO conducted daily operations and safety brief.
- Site personnel conducted daily vehicle/equipment safety inspections.
- Operations continued intrusive investigation of grids and northwestern transects. TM1 completed grid G-2, began grid G-1. TM2 conducted mag-dig and mag-flag operations in transects T-05N, T-06N, T-07N, and T-08N.
  - SUXOS and UXOSO verified three homes within established HFD arcs were unoccupied prior to intrusive operations.
  - SUXOS confirmed homeowners would be away from home from 0800-1200 on 2/24 in order to complete remaining flagged anomalies.
- MPPEH inspection: Recovered MD was inspected and classified as MDAS. No MEC reported.

REMARKS:

- Fire Conditions: Medium.
- Observed intrusive operations and MPPEH inspection with both teams. No discrepancies noted. All work performed in accordance with WP and performed safely.

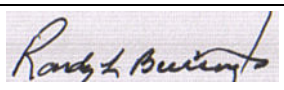
SAFETY OBSERVATION:

- As part of vegetation removal, team member asked to review all applicable AHAs before brush cutting began. UXOSO provided requested AHAs and was available for any questions or clarification.

URS PERSONNEL ONSITE: (see DSR)

SUBCONTRACTOR PERSONNEL ONSITE: (see DSR)

VISITORS ONSITE: (see DSR)



Randy Burrington, UXO Safety Officer
Date: 2-23-2017

DAILY HEALTH & SAFETY REPORT

CONTRACT: W912BV-10-D-2013	**PROGRAM MANAGER:** Steve Gunzelman
DELIVERY ORDER: DY10	**PROJECT MANAGER:** John Carson
PROJECT #: 60442953	**PROJECT:** Former Hammond Bombing and Gunnery Range – Bomb Target #1
	LOCATION: Hammond, Louisiana

REPORT #: 025	**DATE:** 2-24-2017	**OPERATING HOURS:** 0630-1700

WEATHER CONDITIONS: PARTLY CLOUDY	**HIGH: 79**	**LOW: 52**	**HUMIDITY: 72%**	**UV: 5 OF 10**
WINDS: S 5-10	**SUNRISE: 0632**	**SUNSET: 1756**	**RAIN/SNOW: NO**	**LIGHTNING: NO**

TAILGATE SAFETY BRIEFING:

- MEC operations, vehicle maintenance, work and support zones, slips/trips/falls, biological hazards, hydration, heat stress, wind precautions, PPE, vehicle safety inspection, driving safety, directions to hospital, rally points, emergency procedures, on-site accident response, and Hazardous Fragmentation Distances (HFD).

OPERATIONS:

- SUXOS/UXOQCS/UXOSO conducted daily operations and safety brief.
- Site personnel conducted daily vehicle/equipment safety inspections.
- Operations continued intrusive investigation of grids and northwestern transects. TM1 completed grid G-1, began grid G-5. TM2 completed intrusive operations in transects T-05N, T-06N, T-07N, and T-08N. Began grid G-5.
  - Homeowners met with SUXOS and confirmed they would be absent from 0800-1200 as planned.
- MPPEH inspection: Recovered MD was inspected and classified as MDAS. No MEC reported.

REMARKS:

- Fire Conditions: Low.
- Observed intrusive operations and MPPEH inspection with both Teams. No discrepancies noted. All work performed in accordance with WP and performed safely.

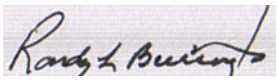
SAFETY OBSERVATION:

- Observed intrusive operations cease to allow non-essential personnel transit through the EZ. The evacuation and intrusive operations around the homes was completed safely and efficiently.

URS PERSONNEL ONSITE: (see DSR)

SUBCONTRACTOR PERSONNEL ONSITE: (see DSR)

VISITORS ONSITE: (see DSR)



Randy Burrington, UXO Safety Officer
Date: 2-24-2017

DAILY HEALTH & SAFETY REPORT

CONTRACT: W912BV-10-D-2013	**PROGRAM MANAGER:** Steve Gunzelman
DELIVERY ORDER: DY10	**PROJECT MANAGER:** John Carson
PROJECT #: 60442953	**PROJECT:** Former Hammond Bombing and Gunnery Range – Bomb Target #1
	LOCATION: Hammond, Louisiana

REPORT #: 026	**DATE:** 2-27-2017	**OPERATING HOURS:** 0630-1700

WEATHER CONDITIONS: CLOUDY	**HIGH: 75**	**LOW: 57**	**HUMIDITY: 78%**	**UV: 3 OF 10**
WINDS: S 10-15	**SUNRISE: 0629**	**SUNSET: 1758**	**RAIN/SNOW: YES**	**LIGHTNING: NO**

TAILGATE SAFETY BRIEFING:

- MEC operations, vehicle maintenance, work and support zones, slips/trips/falls, biological hazards, hydration, heat stress, wind precautions, PPE, vehicle safety inspection, driving safety, directions to hospital, rally points, emergency procedures, on-site accident response, and Hazardous Fragmentation Distances (HFD).
- Safety Topic: Demobilization.

OPERATIONS:

- SUXOS/UXOQCS/UXOSO conducted daily operations and safety brief.
- Site personnel conducted weekly vehicle/equipment safety inspections.
- Operations completed intrusive investigation of grids. TM1 completed grid G-5 and TM2 completed grid G-4.
- MPPEH inspection: Recovered MD was inspected and classified as MDAS. No MEC reported.
- MDAS: Two drums containing MDAS were prepared for shipment off site. Shipment scheduled for 1 March 2017.

REMARKS:

- Fire Conditions: Low.
- Observed intrusive operations and MPPEH inspection with both teams. No discrepancies noted. All work performed in accordance with WP and performed safely.
- Portable toilets are scheduled for pickup on 2/28.
- Jason Birchfield will assume duties as UXOSO on 2/28.

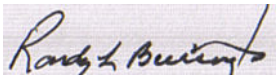
SAFETY OBSERVATION:

- Team 2 spotted a water moccasin and notified nearby personnel. Snake precautions and awareness are briefed daily.

URS PERSONNEL ONSITE: (see DSR)

SUBCONTRACTOR PERSONNEL ONSITE: (see DSR)

VISITORS ONSITE: (see DSR)



Randy Burrington, UXO Safety Officer
Date: 2-27-2017

DAILY HEALTH & SAFETY REPORT

CONTRACT: W912BV-10-D-2013	**PROGRAM MANAGER:** Steve Gunzelman
DELIVERY ORDER: DY10	**PROJECT MANAGER:** John Carson
PROJECT #: 60442953	**PROJECT:** Former Hammond Bombing and Gunnery Range – Bomb Target #1
	LOCATION: Hammond, Louisiana

REPORT #: 027	**DATE:** 2-28-2017	**OPERATING HOURS:** 0630-1700

WEATHER CONDITIONS: PARTLY CLOUDY	**HIGH: 83**	**LOW: 67**	**HUMIDITY: 90%**	**UV: 7OF 10**
WINDS: S 10-15	**SUNRISE: 0630**	**SUNSET: 1759**	**RAIN/SNOW: NO**	**LIGHTNING: NO**

TAILGATE SAFETY BRIEFING:

- MEC avoidance, vehicle maintenance, work and support zones, slips/trips/falls, biological hazards, hydration, heat stress, wind precautions, PPE, vehicle safety inspection, driving safety, directions to hospital, rally points, emergency procedures, and on-site accident response.
- Safety Topic: Demobilization.

OPERATIONS:

- SUXOS/UXOQCS/UXOSO conducted daily operations and safety brief.
- Site personnel conducted weekly vehicle/equipment safety inspections.
- Operations completed soil sampling of grids 1 through 10.
- Collected log books and briefed driving safety.

REMARKS:

- Fire Conditions: Low.
- All vehicles where cleaned and returned to rental company.
- All equipment was inventoried, cleaned and prepared for shipment.

SAFETY OBSERVATION:

- Soil Sampling AHA was briefed prior to operation.

URS PERSONNEL ONSITE: (see DSR)

SUBCONTRACTOR PERSONNEL ONSITE: (see DSR)

VISITORS ONSITE: (see DSR)

Jason S. Birchfield, STS
UXO Safety Officer
Date: 2-28-2017

DAILY QUALITY CONTROL REPORT

CONTRACT: W912BV-10-D-2013	**PROJECT MANAGER:** John Carson
DELIVERY ORDER: DY10	**PROJECT:** Former Hammond Bombing and Gunnery Range - Bomb Target #1
PROJECT #: 60442953	**LOCATION:** Hammond, Louisiana
REPORT #: 001	**DATE:** 1-24-2017

PHASE	LIST DEFINABLE FEATURES OF WORK, LOCATION, AND INSPECTION COMMENTS	
Preparatory		
Initial		SPECIFIC INSPECTIONS PERFORMED
Follow-Up		SPECIFIC INSPECTIONS PERFORMED

NON-COMPLIANT ITEMS IDENTIFIED TODAY	NON-COMPLIANT ITEMS CORRECTED TODAY
NONE	NONE

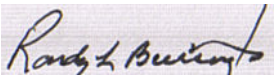
Additional Remarks:

- Mobilization: A total of eleven (11) URS UXO personnel are on site (SUXOS, UXOSO/UXOQCS, two T/Ls, and seven TM). USACE OESS is on site. URS Deputy PM is on site.
- Conducted emergency evacuation drill. All personnel executed the route to the local hospital.
- All site personnel received training on the following project and site-specific topics:
  - Site-Specific Training (WP, APP, Activity Hazard Analyses [AHAs], Site Safety & Health Plan, Quality Control Program [QCP], and Explosive Safety Plan [ESP]).
  - Completed the following required AECOM University training: Safety for Life, Hazard Communications, Ergonomics, Task Hazard Awareness, and Drivers Safety.

Quality Observation:

- N/A

On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.



Randy Burrington
UXOQCS
1-24-2017

DAILY QUALITY CONTROL REPORT

CONTRACT: W912BV-10-D-2013	**PROJECT MANAGER:** John Carson
DELIVERY ORDER: DY10	**PROJECT:** Former Hammond Bombing and Gunnery Range - Bomb Target #1
PROJECT #: 60442953	**LOCATION:** Hammond, Louisiana
REPORT #: 002	**DATE:** 1-25-2017

PHASE	LIST DEFINABLE FEATURES OF WORK, LOCATION, AND INSPECTION COMMENTS	
Preparatory	Intrusive Investigation: See remarks below. MPPEH Inspection and Processing: See remarks below.	
Initial		SPECIFIC INSPECTIONS PERFORMED
Follow-Up		SPECIFIC INSPECTIONS PERFORMED

NON-COMPLIANT ITEMS IDENTIFIED TODAY	NON-COMPLIANT ITEMS CORRECTED TODAY
NONE	NONE

Additional Remarks:

- Preparatory Phase Inspection. In accordance with Removal Work Plan Table 4-1, UXOQCS conducted preparatory phase inspection for the following definable features of work:
  - Intrusive Investigation.
  - MPPEH Inspection and Processing.

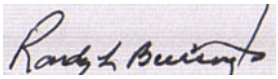
The following elements of WP paragraph 4.7.1 were reviewed and verified:

- All appropriate plans, documents, and procedures were reviewed.
- Site-specific training for personnel was completed and training certifications were verified.
- Preliminary work and site coordination were completed.
- Equipment and materials were procured, inventoried, and prepared for work.
- Required safety equipment was issued and emergency procedures were reviewed, briefed, and verified.
- UXOSO and UXOQCS verified all procedural and site controls were in place.
- No administrative, procedural discrepancies, or equipment shortfalls were noted.

Quality Observation:

- N/A

On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.



Randy Burrington
UXOQCS
1-25-2017

DAILY QUALITY CONTROL REPORT

CONTRACT: W912BV-10-D-2013	**PROJECT MANAGER:** John Carson
DELIVERY ORDER: DY10	**PROJECT:** Former Hammond Bombing and Gunnery Range - Bomb Target #1
PROJECT #: 60442953	**LOCATION:** Hammond, Louisiana
REPORT #: 003	**DATE:** 1-26-2017

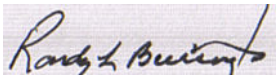
PHASE	LIST DEFINABLE FEATURES OF WORK, LOCATION, AND INSPECTION COMMENTS	
Preparatory		
Initial	Intrusive Investigation: UXO TM1: Completed transects T-01, T-02, T-03, T-04, T-05, and T-06. Partial transects: T-07 and T-08 70% complete. UXO TM2: Completed transects T-26, T-27, T-28, and T-29. MPPEH Inspection and Processing: See remarks below.	**SPECIFIC INSPECTIONS PERFORMED** Initial phase inspection for Intrusive Investigation and MPPEH Inspection. See remarks below.
Follow-Up		**SPECIFIC INSPECTIONS PERFORMED**

NON-COMPLIANT ITEMS IDENTIFIED TODAY	NON-COMPLIANT ITEMS CORRECTED TODAY
NONE	NONE

Additional Remarks:

- Initial Phase Inspection for Intrusive Investigation: In accordance with QCP Table 6-1, UXOQCS completed initial phase inspection for intrusive investigation.
  - Verified personnel had proper PPE.
  - Observed Schonstedt function checks were completed at the Instrument Test Strip (ITS) and recorded in T/L logbook and Detector Check Sheet. Daily Trimble GPS control checks are being recorded and sent to GIS Manager for accuracy verification.
  - Personnel were observed performing proper investigation procedures along assigned transects. No discrepancies were noted.
  - Final Q/C Verification Sampling: IAW WP Table 4-1, UXOQCS completed verified a minimum of 2% of each team's daily production in their assigned transects. No discrepancies or equipment shortfalls noted.
- Initial Phase Inspection for MPPEH Inspection: In accordance with QCP Table 6-1, UXOQCS conducted initial phase inspection for MPPEH inspection.
  - UXOQCS conducted random inspection of recovered non-munitions related debris (NMRD). No discrepancies were noted.
  - All personnel were wearing the appropriate PPE and conducting the inspection process safely.
  - No MEC or MD was reported.
- Activity Hazard Analysis (AHA) for Vegetation Removal Using Bladed Hand Tools was approved.

Quality Observation: Observed proper excavation procedures and resolution of detected sub-surface anomalies in Transect 04 with Team 1. No discrepancies noted, operations performed safely and in accordance with WP.

On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.	 Randy Burrington UXOQCS 1-26-2017

DAILY QUALITY CONTROL REPORT

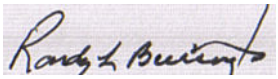
CONTRACT: W912BV-10-D-2013	**PROJECT MANAGER:** John Carson
DELIVERY ORDER: DY10	**PROJECT:** Former Hammond Bombing and Gunnery Range - Bomb Target #1
PROJECT #: 60442953	**LOCATION:** Hammond, Louisiana
REPORT #: 004	**DATE:** 1-27-2017

PHASE	LIST DEFINABLE FEATURES OF WORK, LOCATION, AND INSPECTION COMMENTS	
Preparatory		
Initial		**SPECIFIC INSPECTIONS PERFORMED**
Follow-Up	Intrusive Investigation: UXO teams continued analog mag and dig intrusive operations in the following BT1 transects: UXO TM1: Completed transects T-07 and T-08. Partial transects: T-09, T-10, T-11, and T-12. Transects were completed to the MRS east west centerline road. UXO TM2: Completed transects T-24 and T-25. Partial transects: T-22 and T-23. MPPEH Inspection and Processing: See remarks below.	**SPECIFIC INSPECTIONS PERFORMED** Follow up phase inspection for Intrusive Investigation and MPPEH Inspection. See remarks below.

NON-COMPLIANT ITEMS IDENTIFIED TODAY	NON-COMPLIANT ITEMS CORRECTED TODAY
NONE	NONE

Additional Remarks:

- Follow-up phase inspection for Intrusive Investigation: In accordance with QCP Table 6-1, UXOQCS completed Follow-up phase inspection for intrusive investigation.
  - Verified personnel had proper PPE.
  - Observed Schonstedt function checks were completed at the Instrument Test Strip (ITS) and recorded in T/L logbook and Detector Check Sheet. Daily Trimble GPS control checks are being recorded and sent to GIS Manager for accuracy verification.
  - Personnel were observed performing proper investigation procedures along assigned transects. No discrepancies were noted.
  - Final Q/C Verification Sampling: IAW WP Table 4-1, UXOQCS completed verified a minimum of 2% of each team's daily production in their assigned transects. No discrepancies or equipment shortfalls noted.
- Follow-up phase inspection for MPPEH Inspection: In accordance with QCP Table 6-1, UXOQCS completed follow-up phase inspection for MPPEH inspection.
  - UXOQCS conducted random inspection of recovered munitions debris (MD) and non-munitions related debris (NMRD). No discrepancies were noted.
  - All personnel were wearing the appropriate PPE and conducting the inspection process safely.
  - No MEC was reported.
- Briefed Activity Hazard Analysis (AHA) for Vegetation Removal Using Bladed Hand Tools.

Quality Observation: Observed proper excavation procedures and resolution of detected sub-surface anomalies in Transect 23 with Team 2. No discrepancies noted, operations performed safely and in accordance with WP.	
On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.	 Randy Burrington UXOQCS 1-27-2017

DAILY QUALITY CONTROL REPORT

CONTRACT: W912BV-10-D-2013	**PROJECT MANAGER:** John Carson
DELIVERY ORDER: DY10	**PROJECT:** Former Hammond Bombing and Gunnery Range - Bomb Target #1
PROJECT #: 60442953	**LOCATION:** Hammond, Louisiana
REPORT #: 005	**DATE:** 1-30-2017

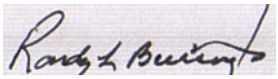
PHASE	LIST DEFINABLE FEATURES OF WORK, LOCATION, AND INSPECTION COMMENTS	
Preparatory		
Initial		**SPECIFIC INSPECTIONS PERFORMED**
Follow-Up	Intrusive Investigation: UXO Teams continued analog mag and dig intrusive operations in the following BT1 transects: UXO TM1: Partial transects: T-13 and T-14 were completed to the MRS east west centerline road. Commenced operations in T-15 and T-16. UXO TM2: Completed transects T-20, T-21, and T-23. 50% completed in T-22. MPPEH Inspection and Processing: See remarks below.	**SPECIFIC INSPECTIONS PERFORMED** Follow up phase inspection for Intrusive Investigation and MPPEH Inspection. See remarks below.

NON-COMPLIANT ITEMS IDENTIFIED TODAY	NON-COMPLIANT ITEMS CORRECTED TODAY
NONE	NONE

Additional Remarks:

- Follow-up phase inspection for Intrusive Investigation: In accordance with QCP Table 6-1, UXOQCS completed follow-up phase inspection for intrusive investigation.
  - Verified personnel had proper PPE.
  - Observed Schonstedt function checks were completed at the Instrument Test Strip (ITS) and recorded in T/L logbook and Detector Check Sheet. Daily Trimble GPS control checks are being recorded and sent to GIS Manager for accuracy verification.
  - Personnel were observed performing proper investigation procedures along assigned transects. No discrepancies were noted.
  - Final Q/C Verification Sampling: IAW WP Table 4-1, UXOQCS completed verified a minimum of 2% of each team's daily production in their assigned transects. No discrepancies or equipment shortfalls noted.
- Follow-up phase inspection for MPPEH Inspection: In accordance with QCP Table 6-1, UXOQCS completed follow-up phase inspection for MPPEH inspection.
  - UXOQCS conducted random inspection of recovered munitions debris (MD) and non-munitions related debris (NMRD). No discrepancies were noted.
  - All personnel were wearing the appropriate PPE and conducting the inspection process safely.
  - No MEC was reported.

Quality Observation: Observed proper excavation procedures and resolution of detected sub-surface anomalies in Transect 15 with Team 1. No discrepancies noted, operations performed safely and in accordance with WP.

On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.	 Randy Burrington UXOQCS 1-30-2017

DAILY QUALITY CONTROL REPORT

CONTRACT: W912BV-10-D-2013	**PROJECT MANAGER:** John Carson
DELIVERY ORDER: DY10	**PROJECT:** Former Hammond Bombing and Gunnery Range - Bomb Target #1
PROJECT #: 60442953	**LOCATION:** Hammond, Louisiana
REPORT #: 006	**DATE:** 1-31-2017

PHASE	LIST DEFINABLE FEATURES OF WORK, LOCATION, AND INSPECTION COMMENTS	
Preparatory		
Initial		**SPECIFIC INSPECTIONS PERFORMED**
Follow-Up	Intrusive Investigation: UXO Teams continued analog mag and dig intrusive operations in the following BT1 transects: UXO TM1: Partial transects: T-15, T-16, and T-17 were completed to the MRS East West centerline road. UXO TM2: Partial transects: Intrusive operations were conducted on T-18 (1,500 ft.) and T-19 (6,000 ft.) MPPEH Inspection and Processing: See remarks below.	**SPECIFIC INSPECTIONS PERFORMED** Follow up phase inspection for Intrusive Investigation and MPPEH Inspection. See remarks below.

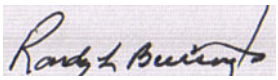
NON-COMPLIANT ITEMS IDENTIFIED TODAY	NON-COMPLIANT ITEMS CORRECTED TODAY
NONE	NONE

Additional Remarks:

- Follow-up Phase Inspection for Intrusive Investigation: In accordance with QCP Table 6-1, UXOQCS completed Follow-up phase inspection for intrusive investigation.
  - Verified personnel had proper PPE.
  - Observed Schonstedt function checks were completed at the Instrument Test Strip (ITS) and recorded in T/L logbook and Detector Check Sheet. Daily Trimble GPS control checks are being recorded and sent to GIS Mgr. for accuracy verification.
  - Personnel were observed performing proper investigation procedures along assigned transects. No discrepancies were noted.
  - Final Q/C Verification Sampling: IAW WP Table 4-1, UXOQCS completed verified a minimum of 2% of each team's daily production in their assigned transects. No discrepancies or equipment shortfalls noted.
- Follow-up Phase Inspection for MPPEH Inspection: In accordance with QCP Table 6-1, UXOQCS completed follow-up phase inspection for MPPEH inspection.
  - UXOQCS conducted random inspection of recovered munitions debris (MD) and non-munitions related debris (NMRD). No discrepancies were noted.
  - All personnel were wearing the appropriate PPE and conducting the inspection process safely.
  - No MEC was reported today.
- UXOQCS and USACE OESS completed initial project safety and compliance audit in accordance with USACE EM-385-1-97 Checklist.
  - No major discrepancies noted.

- Three (3) minor observations were noted:
  - Item #1.a: RI WP does not have signed signature page.
  - Response: The QAPP approval pages were included in the QAPP (Appendix E of the Work Plan). We have not received an approval letter from either USACE or LDEQ for the Work Plan or the Accident Prevention Plan.
  - Item #1.a.2: RI WP does not have approval letter.
  - Response: PM received email with LDEQ approval regarding WP response to comments. UXOQCS will provide OESS with copy of email documenting the approval from LDEQ.
  - Item #6.a: Explosive Management Plan: Signature authority letter is not on hand.
  - Response: Three designated Demolition Team personnel completed and passed requisite Louisiana State explosive blaster training course on 17 Jan 2017. Signature authority letter for ordering and receipt of explosives will be completed and filed with project records on site once personnel receive their explosive licenses from the State.

Quality Observation: Team personnel are completing navigation along transects through the some heavy brush safely with quality results. Team Leaders are ensuring they are documenting the team's deviations from planned transects and sending to GIS for figure updates.

On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.	 Randy Burrington UXOQCS 1-31-2017

DAILY QUALITY CONTROL REPORT

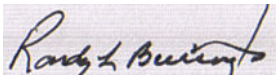
CONTRACT: W912BV-10-D-2013	**PROJECT MANAGER:** John Carson
DELIVERY ORDER: DY10	**PROJECT:** Former Hammond Bombing and Gunnery Range - Bomb Target #1
PROJECT #: 60442953	**LOCATION:** Hammond, Louisiana
REPORT #: 007	**DATE:** 2-1-2017

PHASE	LIST DEFINABLE FEATURES OF WORK, LOCATION, AND INSPECTION COMMENTS	
Preparatory		
Initial		**SPECIFIC INSPECTIONS PERFORMED**
Follow-Up	Intrusive Investigation: UXO teams continued analog mag and dig intrusive operations in the following BT1 transects: UXO TM1: Partial transects: T-09 and T-10. UXO TM2: Partial transect: T18 and relocated transect deviations for description purposes. MPPEH Inspection and Processing: See remarks below.	**SPECIFIC INSPECTIONS PERFORMED** Follow up phase inspection for Intrusive Investigation and MPPEH Inspection. See remarks below.

NON-COMPLIANT ITEMS IDENTIFIED TODAY	NON-COMPLIANT ITEMS CORRECTED TODAY
NONE	NONE

Additional Remarks:

- Follow-up Phase Inspection for Intrusive Investigation: In accordance with QCP Table 6-1, UXOQCS completed follow-up phase inspection for intrusive investigation.
  - Verified personnel had proper PPE.
  - Observed Schonstedt function checks were completed at the Instrument Test Strip (ITS) and recorded in T/L logbook and Detector Check Sheet. Daily Trimble GPS control checks are being recorded and sent to GIS Mgr. for accuracy verification.
  - Personnel were observed performing proper investigation procedures along assigned transects. No discrepancies were noted.
  - Final Q/C Verification Sampling: IAW WP Table 4-1, UXOQCS completed verified a minimum of 2% of each team's daily production in their assigned transects. No discrepancies or equipment shortfalls noted.
- Follow-up Phase Inspection for MPPEH Inspection: In accordance with QCP Table 6-1, UXOQCS completed follow-up phase inspection for MPPEH inspection.
  - MEC: One (1) fuzed AN-M30A1 100 pound GP Bomb was detected and excavated on Transect T-10. GPS position was recorded and the bomb was left in place pending disposition plans. IAW Explosives Site Plan, the bomb was placed under security watch during non-work hours. Security watch will remain in effect during non-working hours until further notice.
  - UXOQCS conducted random inspection of recovered munitions debris (MD). No discrepancies were noted.
  - All personnel were wearing the appropriate PPE and conducting the inspection process safely.

Quality Observation: Observed verification and reporting of identified MEC with SUXOS and OESS. Noted excellent excavation to expose the ordnance.	
On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.	 Randy Burrington UXOQCS 2-1-2017

DAILY QUALITY CONTROL REPORT

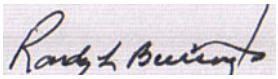
CONTRACT: W912BV-10-D-2013	**PROJECT MANAGER:** John Carson
DELIVERY ORDER: DY10	**PROJECT:** Former Hammond Bombing and Gunnery Range - Bomb Target #1
PROJECT #: 60442953	**LOCATION:** Hammond, Louisiana
REPORT #: 008	**DATE:** 2-2-2017

PHASE	LIST DEFINABLE FEATURES OF WORK, LOCATION, AND INSPECTION COMMENTS	
Preparatory		
Initial		**SPECIFIC INSPECTIONS PERFORMED**
Follow-Up	Intrusive Investigation: UXO Teams continued analog mag and dig intrusive operations in the following BT1 transects: UXO TM1: Partial transects: T-09 and T-11. UXO TM2: Completed transects: T-18, T-19, and T-22 were completed. Relocated transect 3 deviations for description purposes. MPPEH Inspection and Processing: See remarks below.	**SPECIFIC INSPECTIONS PERFORMED** Follow up phase inspection for Intrusive Investigation and MPPEH Inspection. See remarks below.

NON-COMPLIANT ITEMS IDENTIFIED TODAY	NON-COMPLIANT ITEMS CORRECTED TODAY
NONE	NONE

Additional Remarks:

- Follow-up Phase Inspection for Intrusive Investigation: In accordance with QCP Table 6-1, UXOQCS completed follow-up phase inspection for intrusive investigation.
  - Verified personnel had proper PPE.
  - Observed Schonstedt function checks were completed at the Instrument Test Strip (ITS) and recorded in T/L logbook and Detector Check Sheet. Daily Trimble GPS control checks are being recorded and sent to GIS Manager for accuracy verification.
  - Personnel were observed performing proper investigation procedures along assigned transects. No discrepancies were noted.
  - Final Q/C Verification Sampling: IAW WP Table 4-1, UXOQCS completed verified a minimum of 2% of each team's daily production in their assigned transects. No discrepancies or equipment shortfalls noted.
- Follow-up Phase Inspection for MPPEH Inspection: In accordance with QCP Table 6-1, UXOQCS completed follow-up phase inspection for MPPEH inspection.
  - UXOQCS conducted random inspection of recovered munitions debris (MD) and non-munitions related debris (NMRD). No discrepancies were noted.
  - All personnel were wearing the appropriate PPE and conducting the inspection process safely.
  - No MEC was reported.
  - MEC: One (1) fuzed AN-M30A1 100 lb. General Purpose Bomb, found and reported on 1 February 2017, remains left in place in Transect T-10 pending disposition plans.
  - Inner Parish Security Corporation is providing security services of the site during non-working hours, to include weekends, until further notice. UXOSO / UXOQCS provided safety briefing and verified contact numbers with the Sr.

Field Supervisor and Company Dispatch Office.	
Quality Observation: • Observed proper GPS / data entry for sub-surface anomaly documented for water intrusion by Team 2.	
On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.	 Randy Burrington UXOQCS 2-2-2017

DAILY QUALITY CONTROL REPORT

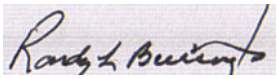
CONTRACT: W912BV-10-D-2013	**PROJECT MANAGER:** John Carson
DELIVERY ORDER: DY10	**PROJECT:** Former Hammond Bombing and Gunnery Range - Bomb Target #1
PROJECT #: 60442953	**LOCATION:** Hammond, Louisiana
REPORT #: 009	**DATE:** 2-3-2017

PHASE	LIST DEFINABLE FEATURES OF WORK, LOCATION, AND INSPECTION COMMENTS	
Preparatory		
Initial		**SPECIFIC INSPECTIONS PERFORMED**
Follow-Up	Intrusive Investigation: UXO Teams continued analog mag and dig intrusive operations in the following BT1 transects: UXO TM1: Partial transects: T-09, T-10, T-11, T-12, and T-13. UXO TM2: Partial transects: T-14, T-15, T-16, and T-17. MPPEH Inspection and Processing: See remarks below.	**SPECIFIC INSPECTIONS PERFORMED** Follow up phase inspection for Intrusive Investigation and MPPEH Inspection. See remarks below.

NON-COMPLIANT ITEMS IDENTIFIED TODAY	NON-COMPLIANT ITEMS CORRECTED TODAY
NONE	NONE

Additional Remarks:

- Follow-up Phase Inspection for Intrusive Investigation: In accordance with QCP Table 6-1, UXOQCS completed follow-up phase inspection for intrusive investigation.
  - Verified personnel had proper PPE.
  - Observed Schonstedt function checks were completed at the Instrument Test Strip (ITS) and recorded in T/L logbook and Detector Check Sheet. Daily Trimble GPS control checks are being recorded and sent to GIS Mgr. for accuracy verification.
  - Personnel were observed performing proper investigation procedures along assigned transects. No discrepancies were noted.
  - Final Q/C Verification Sampling: IAW WP Table 4-1, UXOQCS completed verified a minimum of 2% of each team's daily production in their assigned transects. No discrepancies or equipment shortfalls noted.
- Follow-up Phase Inspection for MPPEH Inspection: In accordance with QCP Table 6-1, UXOQCS completed follow-up phase inspection for MPPEH inspection.
  - UXOQCS conducted random inspection of recovered munitions debris (MD) and non-munitions related debris (NMRD). No discrepancies were noted.
  - All personnel were wearing the appropriate PPE and conducting the inspection process safely.
  - No MEC was reported.
  - MEC: One (1) fuzed AN-M30A1 100 lb. General Purpose Bomb, found and reported on 1 February 2017, remains left in place in Transect T-10 pending disposition plans.
  - Inner Parish Security Corporation is providing security services of the site during non-working hours, to include weekends, until further notice.

Quality Observation: • Observed daily control point checks for Trimble GPS units. No discrepancies noted.	
On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.	 Randy Burrington UXOQCS 2-3-2017

DAILY QUALITY CONTROL REPORT

CONTRACT: W912BV-10-D-2013	**PROJECT MANAGER:** John Carson
DELIVERY ORDER: DY10	**PROJECT:** Former Hammond Bombing and Gunnery Range - Bomb Target #1
PROJECT #: 60442953	**LOCATION:** Hammond, Louisiana
REPORT #: 010	**DATE:** 2-6-2017

PHASE	LIST DEFINABLE FEATURES OF WORK, LOCATION, AND INSPECTION COMMENTS	
Preparatory		
Initial		**SPECIFIC INSPECTIONS PERFORMED**
Follow-Up	Intrusive Investigation: UXO Teams continued analog mag and dig intrusive operations in the following BT1 transects: UXO TM1: Partial transects: T-12 and T-13. Cleared and marked access route to AN-M30A1 for vegetation removal activities. UXO TM2: Partial transects: T-13, T-14, T-15, T-16, and T-17. MPPEH Inspection and Processing: See remarks below.	**SPECIFIC INSPECTIONS PERFORMED** Follow up phase inspection for Intrusive Investigation and MPPEH Inspection. See remarks below.

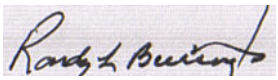
NON-COMPLIANT ITEMS IDENTIFIED TODAY	NON-COMPLIANT ITEMS CORRECTED TODAY
NONE	NONE

Additional Remarks:

- Follow-up Phase Inspection for Intrusive Investigation: In accordance with QCP Table 6-1, UXOQCS completed follow-up phase inspection for intrusive investigation.
  - Verified personnel had proper PPE.
  - Observed Schonstedt function checks were completed at the Instrument Test Strip (ITS) and recorded in T/L logbook and Detector Check Sheet. Daily Trimble GPS control checks are being recorded and sent to GIS Manager for accuracy verification.
  - Personnel were observed performing proper investigation procedures along assigned transects. No discrepancies were noted.
  - Final Q/C Verification Sampling: IAW WP Table 4-1, UXOQCS completed verified a minimum of 2% of each team's daily production in their assigned transects. No discrepancies or equipment shortfalls noted.
- Follow-up Phase Inspection for MPPEH Inspection: In accordance with QCP Table 6-1, UXOQCS completed follow-up phase inspection for MPPEH inspection.
  - UXOQCS conducted random inspection of recovered munitions debris (MD) and non-munitions related debris (NMRD). No discrepancies were noted.
  - All personnel were wearing the appropriate PPE and conducting the inspection process safely.
  - No MEC was reported.
  - MEC: One (1) fuzed AN-M30A1 100 lb. General Purpose Bomb, found and reported on 1 February 2017, remains left in place in Transect T-10 pending disposition plans.
  - Inner Parish Security Corporation is providing security services of the site during non-working hours, to include weekends, until further notice.

Quality Observation:

- Reviewed TM1 & TM2 Log books for 1/24-2/3 2017. No discrepancies noted, copies made as back-up.

On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.	 Randy Burrington UXOQCS 2-6-2017

DAILY QUALITY CONTROL REPORT

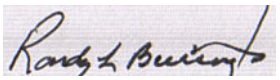
CONTRACT: W912BV-10-D-2013	**PROJECT MANAGER:** John Carson
DELIVERY ORDER: DY10	**PROJECT:** Former Hammond Bombing and Gunnery Range - Bomb Target #1
PROJECT #: 60442953	**LOCATION:** Hammond, Louisiana
REPORT #: 011	**DATE:** 2-7-2017

PHASE	LIST DEFINABLE FEATURES OF WORK, LOCATION, AND INSPECTION COMMENTS	
Preparatory		
Initial		SPECIFIC INSPECTIONS PERFORMED
Follow-Up		SPECIFIC INSPECTIONS PERFORMED None. See remarks below.

NON-COMPLIANT ITEMS IDENTIFIED TODAY	NON-COMPLIANT ITEMS CORRECTED TODAY
NONE	NONE

- No QC inspections completed due to severe weather. National Weather Service issued Tornado Watch for Tangipahoa and surrounding Parishes. Weather degraded to Tornado Warning. Site evacuated.

On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.



Randy Burrington
UXOQCS
2-7-2017

DAILY QUALITY CONTROL REPORT

CONTRACT: W912BV-10-D-2013	**PROJECT MANAGER:** John Carson
DELIVERY ORDER: DY10	**PROJECT:** Former Hammond Bombing and Gunnery Range - Bomb Target #1
PROJECT #: 60442953	**LOCATION:** Hammond, Louisiana
REPORT #: 012	**DATE:** 2-8-2017

PHASE	LIST DEFINABLE FEATURES OF WORK, LOCATION, AND INSPECTION COMMENTS	
Preparatory		
Initial		**SPECIFIC INSPECTIONS PERFORMED**
Follow-Up	Intrusive Investigation: UXO Teams continued analog mag and dig intrusive operations in the following BT1 transects: UXO TM1: Completed transects: T-16 and T-17 cleared access route and 30' buffer area around AN-M30A1 for mechanical vegetation removal activities. UXO TM2: Completed transects: T-14 and T-15 MPPEH Inspection and Processing: See remarks below.	**SPECIFIC INSPECTIONS PERFORMED** Follow up phase inspection for Intrusive Investigation and MPPEH Inspection. See remarks below.

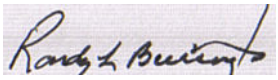
NON-COMPLIANT ITEMS IDENTIFIED TODAY	NON-COMPLIANT ITEMS CORRECTED TODAY
NONE	NONE

- Operations completed access survey along the designated path to the MEC site in accordance with EM-385-1-97 Chg. 1. The path was cleared to allow mechanical vegetation removal in support of MEC disposal operations and to reduce fire danger.
  - UXOQCS completed inspection of the access survey with no discrepancies noted.
    - Mechanical vegetation removal was completed safely and efficiently.
    - OESS and URS MRSSPM observed the operation.
- Follow-up Phase Inspection for Intrusive Investigation: In accordance with QCP Table 6-1, UXOQCS completed follow-up phase inspection for intrusive investigation.
  - Verified personnel had proper PPE.
  - Observed Schonstedt function checks were completed at the Instrument Test Strip (ITS) and recorded in T/L logbook and Detector Check Sheet. Daily Trimble GPS control checks are being recorded and sent to GIS Manager for accuracy verification.
  - Final Q/C Verification Sampling: IAW WP Table 4-1, UXOQCS completed verified a minimum of 2% of each team's daily production in their assigned transects. No discrepancies or equipment shortfalls noted.
- Follow-up Phase Inspection for MPPEH Inspection: In accordance with QCP Table 6-1, UXOQCS completed follow-up phase inspection for MPPEH inspection.
  - UXOQCS conducted random inspection of recovered munitions debris (MD) and non-munitions related debris (NMRD). No discrepancies were noted.
  - All personnel were wearing the appropriate PPE and conducting the inspection process safely.
  - No MEC was reported.
  - MEC: One (1) fuzed AN-M30A1 100 lb. General Purpose Bomb, found and reported on 1 February 2017, remains left in place in Transect T-10 pending disposition plans.

- Inner Parish Security Corporation is providing security services of the site during non-working hours, to include weekends, until further notice.

Quality Observation:

- Participated in a conference call with Project Management and USACE (Dr. Crull) to verify Buried Explosion Module (BEM) calculations and procedures. This call, and her support, were instrumental to upcoming MEC disposal operations. Mitigation of fragmentation, earth-shock, and fire hazards are paramount to MEC disposal operations.

On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.	 Randy Burrington UXOQCS 2-8-2017

DAILY QUALITY CONTROL REPORT

CONTRACT: W912BV-10-D-2013	**PROJECT MANAGER:** John Carson
DELIVERY ORDER: DY10	**PROJECT:** Former Hammond Bombing and Gunnery Range - Bomb Target #1
PROJECT #: 60442953	**LOCATION:** Hammond, Louisiana
REPORT #: 013	**DATE:** 2-9-2017

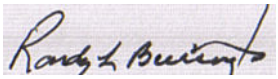
PHASE	LIST DEFINABLE FEATURES OF WORK, LOCATION, AND INSPECTION COMMENTS	
Preparatory	MEC Disposal Operations: Completed preparatory phase inspection for MEC disposal operations scheduled for 10 February 2017. Completed SOP/AHA training, equipment inventory / preparation, and site preparation. 20 cubic yards of rock-free soils was delivered and staged near the disposal location to support BEM requirements. Notifications of surrounding property owners completed. SUXOS will complete remaining notifications on 10 February 2017. No discrepancies noted. No equipment deficiencies or procedural discrepancies were noted.	
Initial		**SPECIFIC INSPECTIONS PERFORMED**
Follow-Up	Intrusive Investigation: UXO Team continued analog mag and dig intrusive operations in the following BT1 transects: TM2: Completed transects 15 and 16. MPPEH Inspection and Processing: See remarks below.	**SPECIFIC INSPECTIONS PERFORMED** Follow up phase inspection for Intrusive Investigation and MPPEH Inspection. See remarks below.

NON-COMPLIANT ITEMS IDENTIFIED TODAY	NON-COMPLIANT ITEMS CORRECTED TODAY
NONE	NONE

- Follow-up Phase Inspection for Intrusive Investigation: In accordance with QCP Table 6-1, UXOQCS completed Follow-up phase inspection for intrusive investigation.
  - Verified personnel had proper PPE.
  - Observed Schonstedt function checks were completed at the Instrument Test Strip (ITS) and recorded in T/L logbook and Detector Check Sheet. Daily Trimble GPS control checks are being recorded and sent to GIS Mgr. for accuracy verification.
  - Final Q/C Verification Sampling: IAW WP Table 4-1, UXOQCS completed verified a minimum of 2% of Team 2 daily production in their assigned transects. No discrepancies or equipment shortfalls noted.
- Follow-up Phase Inspection for MPPEH Inspection: In accordance with QCP Table 6-1, UXOQCS completed follow-up phase inspection for MPPEH inspection.
  - UXOQCS conducted random inspection of recovered munitions debris (MD) and non-munitions related debris (NMRD). No discrepancies were noted.
  - All personnel were wearing the appropriate PPE and conducting the inspection process safely.
  - MEC: (4) partial pieces of AN/M50 series 4-lb incendiary bombs were found on transect T-12. The four partial pieces were determined to be acceptable to move by the SUXOS and UXOSO. They were consolidated to the MEC disposal location for pending disposal.
  - MEC: One (1) fuzed AN-M30A1 100 lb. General Purpose Bomb, found and reported on 1 Feb 2017, remains left in place in Transect T-10 pending disposition plans.
  - Inner Parish Security Corporation is providing security services of the site during non-working hours, to include weekends, until further notice.

Quality Observation:

- Observed designated Demo SUXOS training a junior team member on required administrative procedures and policies applicable to MEC disposal operations. Reviewed the AHA, SOP, ESP, magazine data cards, and Demolition Safety

Brief. Junior personnel need to be given the opportunity to learn and be exposed to all facets of MEC disposal operations.	
On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.	 Randy Burrington UXOQCS 2-9-2017

DAILY QUALITY CONTROL REPORT

CONTRACT: W912BV-10-D-2013	**PROJECT MANAGER:** John Carson
DELIVERY ORDER: DY10	**PROJECT:** Former Hammond Bombing and Gunnery Range - Bomb Target #1
PROJECT #: 60442953	**LOCATION:** Hammond, Louisiana
REPORT #: 014	**DATE:** 2-10-2017

PHASE	LIST DEFINABLE FEATURES OF WORK, LOCATION, AND INSPECTION COMMENTS	
Preparatory		
Initial		SPECIFIC INSPECTIONS PERFORMED
Follow-Up	Intrusive Investigation: UXO Team continued analog mag and dig intrusive operations in the following BT1 transects: TM2: Investigated four anomalies in transect T-14. MPPEH Inspection and Processing: See remarks below.	SPECIFIC INSPECTIONS PERFORMED Follow up phase inspection for MPPEH Inspection. See remarks below.

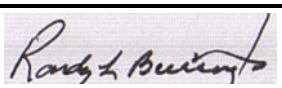
NON-COMPLIANT ITEMS IDENTIFIED TODAY	NON-COMPLIANT ITEMS CORRECTED TODAY
NONE	NONE

- MEC disposal operations scheduled were cancelled due to shipping delays for delivery of donor explosives.
  - Received initial shipment of donor explosive (blasting caps). Demo SUXOS and UXOQCS complete 100% physical inventory, no discrepancies noted. Verified shipment documents and date codes.
  - Remaining shipment expected delivery on 11 February.
  - MEC and donor explosives on site being provided 24 hour security by LA explosive licensed personnel until further notice.
- Follow-up Phase Inspection for MPPEH Inspection: In accordance with QCP Table 6-1, UXOQCS completed follow-up phase inspection for MPPEH inspection.
  - UXOQCS conducted random inspection of recovered munitions debris (MD). No discrepancies were noted.
  - All personnel were wearing the appropriate PPE and conducting the inspection process safely.
  - MEC: One (1) fuzed AN-M30A1 100 lb. General Purpose Bomb, found and reported on 1 February 2017, remains left in place in Transect T-10 pending disposition plans.

Quality Observation:

- N/A

On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.



Randy Burrington
UXOQCS
2-10-2017

DAILY QUALITY CONTROL REPORT

CONTRACT: W912BV-10-D-2013	**PROJECT MANAGER:** John Carson
DELIVERY ORDER: DY10	**PROJECT:** Former Hammond Bombing and Gunnery Range - Bomb Target #1
PROJECT #: 60442953	**LOCATION:** Hammond, Louisiana
REPORT #: 015	**DATE:** 2-11-2017

PHASE	LIST DEFINABLE FEATURES OF WORK, LOCATION, AND INSPECTION COMMENTS	
Preparatory		
Initial	MEC Disposal Operations in BT-1 Transect T-10.	**SPECIFIC INSPECTIONS PERFORMED** Initial phase inspection, see remarks below.
Follow-Up		**SPECIFIC INSPECTIONS PERFORMED**

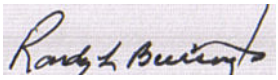
NON-COMPLIANT ITEMS IDENTIFIED TODAY	NON-COMPLIANT ITEMS CORRECTED TODAY
NONE	NONE

- Initial phase inspection for MEC disposal: In accordance with QCP Table 6-1, UXOQCS conducted initial phase inspection for MEC disposal operations:
  - MEC disposal operations: Four (4) pieces of M50 series incendiary found and reported on 9 February and (1) fuzed AN-M30A1 100 lb. General Purpose Bomb, found and reported on 1 February 2017, were destroyed by detonation using the DDESB Buried Explosion Module (BEM) engineering control to mitigate the effects of blast and fragmentation.
  - UXOQCS and Demo SUXOS completed 100% physical inventory of received donor explosives. No discrepancies were noted.
  - Attended demolition safety briefing, observed and monitored shot preparation. Observed post-shot clean-up and MPPEH inspection.
  - No discrepancies noted. Well planned, briefed, and executed operation with safety and fire prevention measures adhered to first and foremost.
- Follow-up phase inspection for MPPEH Inspection: In accordance with Removal Work Plan Table 4-1, UXOQCS conducted follow-up phase inspection for MPPEH inspection.
  - UXOQCS observed and monitored MPPEH inspection process following MEC disposal operations. MPPEH was carefully identified, examined, inspected, and categorized. All personnel were wearing the appropriate PPE and conducting the inspection process safely. No discrepancies were noted.

Quality Observation:

- Reviewed explosive accountability documentation, no discrepancies noted.

On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in



compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.	Randy Burrington UXOQCS 2-11-2017

DAILY QUALITY CONTROL REPORT

CONTRACT: W912BV-10-D-2013	**PROJECT MANAGER:** John Carson
DELIVERY ORDER: DY10	**PROJECT:** Former Hammond Bombing and Gunnery Range - Bomb Target #1
PROJECT #: 60442953	**LOCATION:** Hammond, Louisiana
REPORT #: 016	**DATE:** 2-13-2017

PHASE	LIST DEFINABLE FEATURES OF WORK, LOCATION, AND INSPECTION COMMENTS	
Preparatory		
Initial		SPECIFIC INSPECTIONS PERFORMED
Follow-Up		SPECIFIC INSPECTIONS PERFORMED

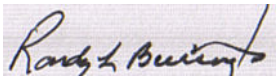
NON-COMPLIANT ITEMS IDENTIFIED TODAY	NON-COMPLIANT ITEMS CORRECTED TODAY
NONE	NONE

- Operations completed inspection of the MEC disposal area. Backfilling to be completed 2/14/2017.
- Field operations cancelled at 1100 by SUXOS pending PDT approval of proposed grid locations.

Quality Observation:

- N/A

On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.



Randy Burrington
UXOQCS
2-13-2017

DAILY QUALITY CONTROL REPORT

CONTRACT: W912BV-10-D-2013	**PROJECT MANAGER:** John Carson
DELIVERY ORDER: DY10	**PROJECT:** Former Hammond Bombing and Gunnery Range - Bomb Target #1
PROJECT #: 60442953	**LOCATION:** Hammond, Louisiana
REPORT #: 017	**DATE:** 2-14-2017

PHASE	LIST DEFINABLE FEATURES OF WORK, LOCATION, AND INSPECTION COMMENTS	
Preparatory		
Initial		SPECIFIC INSPECTIONS PERFORMED
Follow-Up		SPECIFIC INSPECTIONS PERFORMED

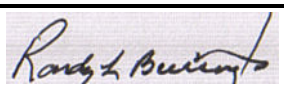
NON-COMPLIANT ITEMS IDENTIFIED TODAY	NON-COMPLIANT ITEMS CORRECTED TODAY
NONE	NONE

- Operations completed backfilling of MEC disposal crater. No other field operations occurred. Field operations remain cancelled pending PDT approval of proposed grid locations.

Quality Observation:

- N/A

On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.



Randy Burrington
UXOQCS
2-14-2017

DAILY QUALITY CONTROL REPORT

CONTRACT: W912BV-10-D-2013	**PROJECT MANAGER:** John Carson
DELIVERY ORDER: DY10	**PROJECT:** Former Hammond Bombing and Gunnery Range - Bomb Target #1
PROJECT #: 60442953	**LOCATION:** Hammond, Louisiana
REPORT #: 018	**DATE:** 2-15-2017

PHASE	LIST DEFINABLE FEATURES OF WORK, LOCATION, AND INSPECTION COMMENTS	
Preparatory		
Initial		SPECIFIC INSPECTIONS PERFORMED
Follow-Up	Intrusive Investigation: UXO Teams began intrusive investigation of designated analog grids: TM1: Began grid G-9. TM2: Began grid G-6. MPPEH Inspection and Processing: See remarks below.	SPECIFIC INSPECTIONS PERFORMED Follow up phase inspection for MPPEH Inspection. See remarks below.

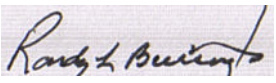
NON-COMPLIANT ITEMS IDENTIFIED TODAY	NON-COMPLIANT ITEMS CORRECTED TODAY
NONE	NONE

- Follow-up Phase Inspection for Intrusive Investigation: In accordance with QCP Table 6-1, UXOQCS completed follow-up phase inspection for intrusive investigation.
  - Verified personnel had proper PPE.
  - Observed Schonstedt function checks were completed at the Instrument Test Strip (ITS) and recorded in T/L logbook and Detector Check Sheet. Daily Trimble GPS control checks are being recorded and sent to GIS Manager for accuracy verification.
  - No discrepancies or equipment shortfalls noted.
- Follow-up Phase Inspection for MPPEH Inspection:
  - UXOQCS conducted random inspection of recovered munitions debris. No discrepancies were noted. Weights for recovered MD will be reported as grids are complete.
  - All personnel were wearing the appropriate PPE and conducting the inspection process safely.
- QC seeded the following sub-surface grids:
  - G-6, G-7, G-8, G-9, and G-10.
  - Updated seed log for GIS and Geo QC Manager

Quality Observation:

- Observed confirmation of GPS accuracy and proper map files for use in analog grids in Grid G-6 with TM2.

On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.



Randy Burrington
UXOQCS
2-15-2017

DAILY QUALITY CONTROL REPORT

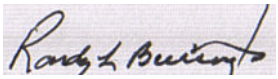
CONTRACT: W912BV-10-D-2013	**PROJECT MANAGER:** John Carson
DELIVERY ORDER: DY10	**PROJECT:** Former Hammond Bombing and Gunnery Range - Bomb Target #1
PROJECT #: 60442953	**LOCATION:** Hammond, Louisiana
REPORT #: 019	**DATE:** 2-16-2017

PHASE	LIST DEFINABLE FEATURES OF WORK, LOCATION, AND INSPECTION COMMENTS	
Preparatory		
Initial		SPECIFIC INSPECTIONS PERFORMED
Follow-Up	Intrusive Investigation: UXO Teams continued intrusive investigation of designated analog grids: TM1: Continued in grid G-9. TM2: Completed grid G-6, began grid G-8. MPPEH Inspection and Processing: See remarks below.	SPECIFIC INSPECTIONS PERFORMED Follow up phase inspection for intrusive investigation and MPPEH Inspection. See remarks below.

NON-COMPLIANT ITEMS IDENTIFIED TODAY	NON-COMPLIANT ITEMS CORRECTED TODAY
NONE	NONE

- Follow-up Phase Inspection for Intrusive Investigation: In accordance with QCP Table 6-1, UXOQCS completed Follow-up phase inspection for intrusive investigation.
  - Verified personnel had proper PPE.
  - Observed Schonstedt function checks were completed at the Instrument Test Strip (ITS) and recorded in T/L logbook and Detector Check Sheet. Daily Trimble GPS control checks are being recorded and sent to GIS Mgr. for accuracy verification.
  - Observed intrusive operations with TM1 (grid G-9) and TM2 (grid G-6).
  - Pin flags and poly line being used to mark grid boundaries and lanes to ensure 100% coverage. Limited brush removal being performed with hand saws and pruners.
  - No discrepancies or equipment shortfalls noted.
  - Q/C Acceptance Verification of Anomaly Resolution: In accordance with QCP Table 6-1, UXOCQCS completed final acceptance inspection for Grid G-6. Verified minimum 10% of anomalies resolved by Operations. Verified (7) anomalies as Left in Place. All blind seeds were recovered. No discrepancies noted.
- Follow-up Phase Inspection for MPPEH Inspection:
  - UXOQCS conducted random inspection of recovered munitions debris. No discrepancies were noted. Weights for recovered MD will be reported as grids are complete.
  - All personnel were wearing the appropriate PPE and conducting the inspection process safely.
  - No MEC reported.
- Data Base Review: Reviewed data base entries for 15 Feb. No discrepancies noted.
- Sub-surface Blind Seeds recovered:

  Grid / Seed #s
  - TM 1, G-9: 028, 027, 010, and 019
  - TM 2, G-6: 006, 017, 033, 038, and 040
  - UXOQCS verified QC seeds recovered, no discrepancies noted. The QC seed log was updated with these results.

Quality Observation: • Blind Seed Program: Observed detection, excavation, and reporting of seed #017 in grid G-6.	
On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.	 Randy Burrington UXOQCS 2-16-2017

DAILY QUALITY CONTROL REPORT

CONTRACT: W912BV-10-D-2013	**PROJECT MANAGER:** John Carson
DELIVERY ORDER: DY10	**PROJECT:** Former Hammond Bombing and Gunnery Range - Bomb Target #1
PROJECT #: 60442953	**LOCATION:** Hammond, Louisiana
REPORT #: 020	**DATE:** 2-17-2017

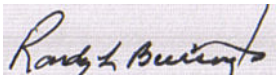
PHASE	LIST DEFINABLE FEATURES OF WORK, LOCATION, AND INSPECTION COMMENTS	
Preparatory		
Initial		SPECIFIC INSPECTIONS PERFORMED
Follow-Up	Intrusive Investigation: UXO Teams continued intrusive investigation of designated analog grids: TM1: Completed grid G-9, began grid G-7. TM2: Completed restoration in grid G-6. Continued grid G-8. MPPEH Inspection and Processing: See remarks below.	SPECIFIC INSPECTIONS PERFORMED Follow up phase inspection for intrusive investigation and MPPEH Inspection. See remarks below.

NON-COMPLIANT ITEMS IDENTIFIED TODAY	NON-COMPLIANT ITEMS CORRECTED TODAY
NONE	NONE

- Follow-up Phase Inspection for Intrusive Investigation: In accordance with QCP Table 6-1, UXOQCS completed follow-up phase inspection for intrusive investigation.
  - Verified personnel had proper PPE.
  - Observed Schonstedt function checks were completed at the Instrument Test Strip (ITS) and recorded in T/L logbook and Detector Check Sheet. Daily Trimble GPS control checks are being recorded and sent to GIS Manager for accuracy verification.
  - Observed intrusive operations with TM1 (grid G-9) and TM2 (grid G-8).
  - Pin flags and poly line being used to mark grid boundaries and lanes to ensure 100% coverage. Limited brush removal being performed with hand saws and pruners.
  - No discrepancies or equipment shortfalls noted.
  - Q/C Acceptance Verification of Anomaly Resolution: In accordance with QCP Table 6-1, UXOCQCS completed final acceptance inspection for the following grid: G-9: Verified minimum 10% of anomalies resolved by Operations. Verified (14) resolved anomalies as left in place. All blind seeds were recovered. No discrepancies noted.
- Follow-up Phase Inspection for MPPEH Inspection:
  - UXOQCS conducted random inspection of recovered munitions debris. No discrepancies noted. Weights for recovered MD will be reported as grids are complete.
  - All personnel were wearing the appropriate PPE and conducting the inspection process safely.
  - No MEC reported.
- Data Base Review: Reviewed data base entries for 16 February. No discrepancies noted.
- Seeded Grid G-3. Updated QC seed log.

Quality Observation:

- Observed TM1 conducting team quality checks of their lanes to ensure all anomalies were detected prior to QC inspection.

On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.	 Randy Burrington UXOQCS 2-17-2017

DAILY QUALITY CONTROL REPORT

CONTRACT: W912BV-10-D-2013	**PROJECT MANAGER:** John Carson
DELIVERY ORDER: DY10	**PROJECT:** Former Hammond Bombing and Gunnery Range - Bomb Target #1
PROJECT #: 60442953	**LOCATION:** Hammond, Louisiana
REPORT #: 021	**DATE:** 2-20-2017

PHASE	LIST DEFINABLE FEATURES OF WORK, LOCATION, AND INSPECTION COMMENTS	
Preparatory		
Initial		SPECIFIC INSPECTIONS PERFORMED
Follow-Up	Intrusive Investigation: UXO Teams continued intrusive investigation of designated analog grids: TM1: Completed grid G-7, began grid G-3. TM2: Completed grid G-8, began grid G-10. MPPEH Inspection and Processing: See remarks below.	SPECIFIC INSPECTIONS PERFORMED Follow up phase inspection for intrusive investigation and MPPEH Inspection. See remarks below.

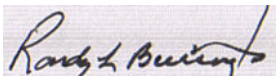
NON-COMPLIANT ITEMS IDENTIFIED TODAY	NON-COMPLIANT ITEMS CORRECTED TODAY
NONE	NONE

- Follow-up Phase Inspection for Intrusive Investigation: In accordance with QCP Table 6-1, UXOQCS completed follow-up phase inspection for intrusive investigation.
  - Verified personnel had proper PPE.
  - Observed Schonstedt function checks were completed at the Instrument Test Strip (ITS) and recorded in T/L logbook and Detector Check Sheet. Daily Trimble GPS control checks are being recorded and sent to GIS Manager for accuracy verification.
  - Observed intrusive operations with TM1 (grid G-7) and TM2 (grid G-8).
  - Pin flags and poly line being used to mark grid boundaries and lanes to ensure 100% coverage. Limited brush removal being performed with hand saws and pruners.
  - No discrepancies or equipment shortfalls noted.
  - Q/C Acceptance Verification of Anomaly Resolution: In accordance with QCP Table 6-1, UXOQCS completed final acceptance inspection for the following grids:
    - Grid G-7: Verified minimum 10% of anomalies resolved by Operations. All blind seeds were recovered. Observed detection, excavation and reporting of QC seeds #022 and #014. No discrepancies noted.
    - Grid G-8: Verified minimum 10% of anomalies resolved by Operations. All blind seeds were recovered. No discrepancies noted.
- Follow-up Phase Inspection for MPPEH Inspection:
  - UXOQCS conducted random inspection of recovered munitions debris. No discrepancies noted. Weights for recovered MD will be reported as grids are complete.
  - All personnel were wearing the appropriate PPE and conducting the inspection process safely. No MEC reported.
- Data Base Review: Reviewed data base entries for 17 February.
  - A couple of minor inconsistencies were noted for correction.
- Seeded Grids G-1 and G-2. Updated QC seed log.

- Sub-surface Blind Seeds recovered:
  Grid / Seed #s
  - TM 1, G-7: 002, 014, 022, 037, and 039
  - TM 2, G-8: 008, 011, 025, and 026.
  - UXOQCS verified QC seeds recovered, no discrepancies noted. The QC seed log was updated with these results.

Quality Observation:

- Observed Schonstedt sweep and detection procedures by operators in each Team. Briefed operators to ensure they have adequate overlap of lanes and boundaries to ensure 100% coverage is achieved.

On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.	 Randy Burrington UXOQCS 2-20-2017

DAILY QUALITY CONTROL REPORT

CONTRACT: W912BV-10-D-2013	**PROJECT MANAGER:** John Carson
DELIVERY ORDER: DY10	**PROJECT:** Former Hammond Bombing and Gunnery Range - Bomb Target #1
PROJECT #: 60442953	**LOCATION:** Hammond, Louisiana
REPORT #: 022	**DATE:** 2-21-2017

PHASE	LIST DEFINABLE FEATURES OF WORK, LOCATION, AND INSPECTION COMMENTS	
Preparatory		
Initial		**SPECIFIC INSPECTIONS PERFORMED**
Follow-Up	Intrusive Investigation: UXO Teams continued intrusive investigation of designated analog grids: TM1: Completed grid G-3, began grid G-2. TM2: Completed grid G-10. Began analog mag-dig in northwest transects. MPPEH Inspection and Processing: See remarks below.	**SPECIFIC INSPECTIONS PERFORMED** Follow up phase inspection for intrusive investigation and MPPEH Inspection. See remarks below.

NON-COMPLIANT ITEMS IDENTIFIED TODAY	NON-COMPLIANT ITEMS CORRECTED TODAY
NONE	NONE

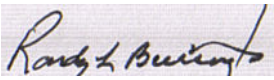
- Follow-up Phase Inspection for Intrusive Investigation: In accordance with QCP Table 6-1, UXOQCS completed follow-up phase inspection for intrusive investigation.
  - Verified personnel had proper PPE.
  - Observed Schonstedt function checks were completed at the Instrument Test Strip (ITS) and recorded in T/L logbook and Detector Check Sheet. Daily Trimble GPS control checks are being recorded and sent to GIS Mgr. for accuracy verification.
  - Observed intrusive operations with TM1 (grid G-3) and TM2 (grid G-10).
  - Pin flags and poly line being used to mark grid boundaries and lanes to ensure 100% coverage. Limited brush removal being performed with hand saws and pruners.
  - No discrepancies or equipment shortfalls noted.
  - Q/C Acceptance Verification of Anomaly Resolution: In accordance with QCP Table 6-1, UXOQCS completed final acceptance inspection for the following grids:
    - G-3: Verified minimum 10% of anomalies resolved by Operations. All blind seeds were recovered. Observed detection, excavation and reporting of QC seeds #018 and #036. No discrepancies noted.
    - G-10: Verified minimum 10% of anomalies resolved by Operations. All blind seeds were recovered. No discrepancies noted.
- Follow-up Phase Inspection for MPPEH Inspection:
  - UXOQCS conducted random inspection of recovered munitions debris. No discrepancies were noted.
  - All personnel were wearing the appropriate PPE and conducting the inspection process safely.
  - MEC: Four (4) pieces of M50 series incendiary bomb were recovered from grid G-3. They were determined to be acceptable to move by SUXOS and UXOSO and transported to disposal location. MEC disposal operations tentatively scheduled for 2/22 pending donor explosives delivery.
  - Inner Parish Security Corporation is providing armed guards services for MEC during off-work hours.

- Data Base Review: Reviewed data base entries for 20 February.
  - A couple of minor inconsistencies were noted for correction.
- Sub-surface Blind Seeds recovered:

  Grid / Seed #s
  - TM 1, G-3: 018, 036, 001, and 029
  - TM 2, G-10: 012, 020, 023, and 035
  - UXOQCS verified QC seeds recovered, no discrepancies noted. The QC seed log was updated with these results.

Quality Observation:

- Observed reporting and guarding of MEC. Notifications to Corporate management and USACE were completed. IPSC was notified and promptly arrived for guard services for off-work hours.

On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.	 Randy Burrington UXOQCS 2-21-2017

DAILY QUALITY CONTROL REPORT

CONTRACT: W912BV-10-D-2013	**PROJECT MANAGER:** John Carson
DELIVERY ORDER: DY10	**PROJECT:** Former Hammond Bombing and Gunnery Range - Bomb Target #1
PROJECT #: 60442953	**LOCATION:** Hammond, Louisiana
REPORT #: 023	**DATE:** 2-22-2017

PHASE	LIST DEFINABLE FEATURES OF WORK, LOCATION, AND INSPECTION COMMENTS	
Preparatory		
Initial		**SPECIFIC INSPECTIONS PERFORMED**
Follow-Up	Intrusive Investigation: UXO Teams continued intrusive investigation of designated analog grids and transects: TM1: Continued in grid G-2. TM2: Completed transects T-03N and T-04N. MPPEH Inspection and Processing: See remarks below. MEC Disposal Operations. See remarks below.	**SPECIFIC INSPECTIONS PERFORMED** Follow up phase inspection for intrusive investigation, MPPEH Inspection, and MEC disposal operations. See remarks below.

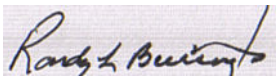
NON-COMPLIANT ITEMS IDENTIFIED TODAY	NON-COMPLIANT ITEMS CORRECTED TODAY
NONE	NONE

- Follow-up Phase Inspection for Intrusive Investigation: In accordance with QCP Table 6-1, UXOQCS completed follow-up phase inspection for intrusive investigation.
  - Verified personnel had proper PPE.
  - Observed Schonstedt function checks were completed at the Instrument Test Strip (ITS) and recorded in T/L logbook and Detector Check Sheet. Daily Trimble GPS control checks are being recorded and sent to GIS Mgr. for accuracy verification.
  - Observed intrusive operations with TM2 in transects T-3N and T-04N.
  - No discrepancies or equipment shortfalls noted.
  - Final Q/C Verification Sampling: IAW WP Table 4-1, UXOQCS completed verified a minimum of 2% of Team 2 daily production in their assigned transects. No discrepancies or equipment shortfalls noted.
- Follow-up Phase Inspection for MPPEH Inspection:
  - UXOQCS conducted random inspection of recovered munitions debris. No discrepancies noted. No MEC reported.
  - All personnel were wearing the appropriate PPE and conducting the inspection process safely.
- Follow-up Phase Inspection for MEC disposal: In accordance with QCP Table 6-1, UXOQCS conducted initial phase inspection for MEC disposal operations:
  - MEC disposal operations: Four (4) pieces of M50 series incendiary bomb, reported 2/21, were destroyed by detonation using Buried Explosion Module (BEM) procedures.
  - UXOQCS and Demo SUXOS completed 100% physical inventory of received donor explosives. Demo SUXOS noted two clerical errors on the shipping documents which were corrected by the vendor prior to receipt.
  - Attended demolition safety briefing, observed, and monitored shot preparation. Observed post-shot clean-up and MPPEH inspection.
  - No discrepancies noted. No MEC or donor explosives remain on site. Well planned, briefed, and executed operation.

- Sub-surface Blind Seeds recovered:
  - Grid / Seed #s
  - TM 1, G-2: 008 and 013
  - UXOQCS verified QC seeds recovered, no discrepancies noted. The QC seed log was updated with these results.

Quality Observation:

- Observed TM2 conducting internal quality checks for sub-surface anomalies in transects T-03N.

On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.	 Randy Burrington UXOQCS 2-22-2017

DAILY QUALITY CONTROL REPORT

CONTRACT: W912BV-10-D-2013	**PROJECT MANAGER:** John Carson
DELIVERY ORDER: DY10	**PROJECT:** Former Hammond Bombing and Gunnery Range - Bomb Target #1
PROJECT #: 60442953	**LOCATION:** Hammond, Louisiana
REPORT #: 024	**DATE:** 2-23-2017

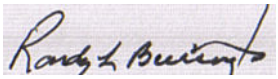
PHASE	LIST DEFINABLE FEATURES OF WORK, LOCATION, AND INSPECTION COMMENTS	
Preparatory		
Initial		**SPECIFIC INSPECTIONS PERFORMED**
Follow-Up	Intrusive Investigation: UXO Teams continued intrusive investigation of designated analog grids and transects: TM1: Completed grid G-2. Began grid G-1. TM2: Conducted mag-dig and mag-flag operations in transects T-05N, T-06N, T-07N, and T-08N. MPPEH Inspection and Processing: See remarks below.	**SPECIFIC INSPECTIONS PERFORMED** Follow up phase inspection for intrusive investigation and MPPEH Inspection. See remarks below.

NON-COMPLIANT ITEMS IDENTIFIED TODAY	NON-COMPLIANT ITEMS CORRECTED TODAY
NONE	NONE

- Follow-up Phase Inspection for Intrusive Investigation: In accordance with QCP Table 6-1, UXOQCS completed follow-up phase inspection for intrusive investigation.
  - Verified personnel had proper PPE.
  - Observed Schonstedt function checks were completed at the Instrument Test Strip (ITS) and recorded in T/L logbook and Detector Check Sheet. Daily Trimble GPS control checks are being recorded and sent to GIS Manager for accuracy verification.
  - Observed intrusive operations with TM1 in grid G-1.
  - Observed intrusive operations and mag-flag with TM2 in transects T-05N, T-06N, T-07N, and T-08N. SUXOS and UXOSO verified three homes within HFD were unoccupied prior to intrusive operations. SUXOS verified homeowner will be away from 0800-1200 on 2/24 to complete investigation of remaining flagged anomalies.
  - No discrepancies or equipment shortfalls noted.
  - Final Q/C Verification Sampling: IAW WP Table 4-1, UXOQCS completed verified a minimum of 2% of Team 2 daily production in their assigned transects. No discrepancies or equipment shortfalls noted.
  - Grid G-2: Verified minimum 10% of anomalies resolved by Operations. All blind seeds were recovered. No discrepancies noted.
- Follow-up Phase Inspection for MPPEH Inspection:
  - UXOQCS conducted random inspection of recovered munitions debris. No discrepancies noted. No MEC reported.
  - All personnel were wearing the appropriate PPE and conducting the inspection process safely.
- Sub-surface Blind Seeds recovered:
  Grid / Seed #s
  - TM 1, G-2: 007 and 004
  - UXOQCS verified QC seeds recovered, no discrepancies noted. The QC seed log was updated with these results.
- UXOQCS seeded grids G-4 and G-5. Updated seed log.

Quality Observation:

- Observed TM2 conducting intrusive operations near unoccupied homes. Tarps were used to place spoils on and backfilling was completed neatly as the anomalies were resolved.

On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.	 Randy Burrington UXOQCS 2-23-2017

DAILY QUALITY CONTROL REPORT

CONTRACT: W912BV-10-D-2013	**PROJECT MANAGER:** John Carson
DELIVERY ORDER: DY10	**PROJECT:** Former Hammond Bombing and Gunnery Range - Bomb Target #1
PROJECT #: 60442953	**LOCATION:** Hammond, Louisiana
REPORT #: 025	**DATE:** 2-24-2017

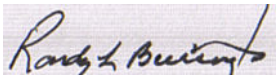
PHASE	LIST DEFINABLE FEATURES OF WORK, LOCATION, AND INSPECTION COMMENTS	
Preparatory		
Initial		**SPECIFIC INSPECTIONS PERFORMED**
Follow-Up	Intrusive Investigation: UXO Teams continued intrusive investigation of designated analog grids and transects: TM1: Completed in grid G-1. Began grid G-5. TM2: Completed intrusive operations in transects T-05N, T-06N, T-07N, and T-08N. Began grid G-4. MPPEH Inspection and Processing: See remarks below.	**SPECIFIC INSPECTIONS PERFORMED** Follow up phase inspection for intrusive investigation and MPPEH Inspection. See remarks below.

NON-COMPLIANT ITEMS IDENTIFIED TODAY	NON-COMPLIANT ITEMS CORRECTED TODAY
NONE	NONE

- Follow-up Phase Inspection for Intrusive Investigation: In accordance with QCP Table 6-1, UXOQCS completed follow-up phase inspection for intrusive investigation.
  - Verified personnel had proper PPE.
  - Observed Schonstedt function checks were completed at the Instrument Test Strip (ITS) and recorded in T/L logbook and Detector Check Sheet. Daily Trimble GPS control checks are being recorded and sent to GIS Mgr. for accuracy verification.
  - Observed intrusive operations with TM1 in grid G-5.
  - Observed intrusive operations with TM2 in transects T-05N, T-06N, T-07N, and T-08N. Homeowners met with SUXOS prior to intrusive operations and confirmed their evacuation time frame.
  - SUXOS verified homeowner will be away from 0800-1200 on 2/24 to complete investigation of remaining flagged anomalies.
  - No discrepancies or equipment shortfalls noted.
  - Final Q/C Verification Sampling: IAW WP Table 4-1, UXOQCS completed verified a minimum of 2% of Team 2 daily production in their assigned transects. No discrepancies or equipment shortfalls noted.
  - Grid G-1: Verified minimum 10% of anomalies resolved by Operations. All blind seeds were recovered. No discrepancies noted.
- Follow-up Phase Inspection for MPPEH Inspection:
  - UXOQCS conducted random inspection of recovered munitions debris. No discrepancies noted. No MEC reported.
  - All personnel were wearing the appropriate PPE and conducting the inspection process safely.
- Sub-surface Blind Seeds recovered:
  - Grid / Seed #s
  - TM 1, G-1: 009, 015, 024, and 026
  - UXOQCS verified QC seeds recovered, no discrepancies noted. The QC seed log was updated with these results.

Quality Observation:

- Observed intrusive operations cease to allow non-essential personnel transit through the EZ. The evacuation and intrusive operations around the homes was completed safely and efficiently.

On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.	 Randy Burrington UXOQCS 2-24-2017

DAILY QUALITY CONTROL REPORT

CONTRACT: W912BV-10-D-2013	**PROJECT MANAGER:** John Carson
DELIVERY ORDER: DY10	**PROJECT:** Former Hammond Bombing and Gunnery Range - Bomb Target #1
PROJECT #: 60442953	**LOCATION:** Hammond, Louisiana
REPORT #: 026	**DATE:** 2-27-2017

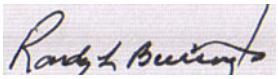
PHASE	LIST DEFINABLE FEATURES OF WORK, LOCATION, AND INSPECTION COMMENTS	
Preparatory		
Initial		**SPECIFIC INSPECTIONS PERFORMED**
Follow-Up	Intrusive Investigation: UXO Teams completed intrusive investigation of designated analog grids: TM1: Completed G-5. TM2: Completed G-4. MPPEH Inspection and Processing: See remarks below.	**SPECIFIC INSPECTIONS PERFORMED** Follow up phase inspection for intrusive investigation and MPPEH Inspection. See remarks below.

NON-COMPLIANT ITEMS IDENTIFIED TODAY	NON-COMPLIANT ITEMS CORRECTED TODAY
NONE	NONE

- Follow-up Phase Inspection for Intrusive Investigation: In accordance with QCP Table 6-1, UXOQCS completed follow-up phase inspection for intrusive investigation.
  - Verified personnel had proper PPE.
  - Observed Schonstedt function checks were completed at the Instrument Test Strip (ITS) and recorded in T/L logbook and Detector Check Sheet. Daily Trimble GPS control checks are being recorded and sent to GIS Mgr. for accuracy verification.
  - Observed intrusive operations with TM1 in grid G-5.
  - Final Q/C Verification Sampling: Grid G-4 and G-5: Verified minimum 10% of anomalies resolved by Operations.
  - All blind seeds were recovered. No discrepancies noted.
  - Intrusive operations are complete.
- Follow-up Phase Inspection for MPPEH Inspection:
  - UXOQCS conducted random inspection of recovered munitions debris. No discrepancies noted. No MEC reported.
  - All personnel were wearing the appropriate PPE and conducting the inspection process safely.
  - MDAS: Two (2) sealed drums containing MDAS were sealed and are ready for shipment on 1 March 2017. Container (USACE/HAMBT1/URS/001) seal # 1699310. Container (USACE/HAMBTR1/URS/002) seal # 843867.
- Sub-surface blind seeds recovered:
  - Grid / Seed #s
  - TM 1, G-5: 003, 005, 028, 030, and 034
  - TM2, G-4: 011, 016, 021, and 032
  - UXOQCS verified QC seeds recovered. No discrepancies noted. The QC seed log was updated with these results.
- Removed ITS seeds.
- Demobilization: Personnel began inventory, clean-up, and packing equipment.
- Jason Birchfield will assume duties as UXOQCS on 28 February 2017.

Quality Observation:

- Crew began cleaning equipment, completing inventory, and preparing gear for shipment to the next project. Tools were rinsed, wiped down, batteries removed, and checked for damage. This is an integral part of demobilization for a project.

On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.	 Randy Burrington UXOQCS 2-27-2017

DAILY QUALITY CONTROL REPORT

CONTRACT: W912BV-10-D-2013	**PROJECT MANAGER:** John Carson
DELIVERY ORDER: DY10	**PROJECT:** Former Hammond Bombing and Gunnery Range - Bomb Target #1
PROJECT #: 60442953	**LOCATION:** Hammond, Louisiana
REPORT #: 027	**DATE:** 2-28-2017

PHASE	LIST DEFINABLE FEATURES OF WORK, LOCATION, AND INSPECTION COMMENTS	
Preparatory		
Initial		SPECIFIC INSPECTIONS PERFORMED
Follow-Up		SPECIFIC INSPECTIONS PERFORMED

NON-COMPLIANT ITEMS IDENTIFIED TODAY	NON-COMPLIANT ITEMS CORRECTED TODAY
NONE	NONE

- All personnel were wearing the appropriate PPE and conducting the inspection process safely.
  - TM1 and TM2 completed soil sampling of grids 1 through 10. All samples were collected and packed on ice and prepared for shipment.
  - UXOQCS collected team log books.
- Demobilization: All equipment was inventoried, cleaned and packed for shipment. Vehicles were cleaned and returned to rental company.

Quality Observation:

- Observed teams preparing nitrile gloves, spades and plastic bag for collecting samples. Teams reviewed the soil sampling AHA and received detailed instruction for the proper procedures of collecting samples.

On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the work plan specifications to the best of my knowledge unless otherwise noted in this report.

Jason S. Birchfield
UXOQCS
2-28-2017

TABLE E-1
GRIDS
FORMER HAMMOND BOMBING AND GUNNERY RANGE

OBJECTID	Grid	Date	Team ID	Item type	Description	Notes	Quantity	Depth	Weight	Fuzed	Disposition	Resolved	Northing	Easting	HorizEstAcc
7551		2/15/2017 6:59	Team 4	Control point	Other		1	0	0	no	NA	yes	767830.6485	3592922.147	1.352221
7621		2/15/2017 6:59	Team 1	Control point	Other		1	0	0	no	NA	yes	767828.8929	3592920.727	3.467513
7660		2/15/2017 6:59	Team 2	Control point	Other		1	0	0	no	NA	yes	767832.2007	3592919.533	3.191404
7622	9	2/15/2017 9:53	Team 1	MD	Bomb-practice	m1 spotting charge piece	1	3	0.25	no	removed	yes	753729.1177	3603319.178	2.369226
7623	9	2/15/2017 10:03	Team 1	MD	Indet frag		2	4	0.5	no	removed	yes	753724.9592	3603326.933	0.815418
7624	9	2/15/2017 10:09	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	753739.5307	3603328.607	2.516864
7625	9	2/15/2017 10:12	Team 1	MD	Indet frag		1	3	0.5	no	removed	yes	753743.7731	3603330.437	1.349337
7626	9	2/15/2017 10:24	Team 1	MD	Indet frag		2	4	0.5	no	removed	yes	753765.6714	3603327.681	2.477001
7627	9	2/15/2017 10:29	Team 1	MD	Indet frag		2	4	0.25	no	removed	no	753770.7688	3603327.138	2.229755
7628	9	2/15/2017 10:32	Team 1	MD	Indet frag		3	4	0.75	no	removed	yes	753781.7517	3603325.151	3.193791
7629	9	2/15/2017 10:38	Team 1	MD	Indet frag		1	7	0.5	no	removed	yes	753785.0437	3603323.678	4.002615
7630	9	2/15/2017 10:42	Team 1	MD	Indet frag		2	5	0.25	no	removed	yes	753771.2944	3603321.39	2.920195
7631	9	2/15/2017 10:59	Team 1	MD	Indet frag		2	2	0.5	no	removed	yes	753788.1162	3603322.618	3.542621
7632	9	2/15/2017 11:00	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	753802.7241	3603324.967	2.258533
7633	9	2/15/2017 11:37	Team 1	QC seed	Other	seed #028	1	6	0.25	no	removed	yes	753761.3118	3603331.567	3.053364
7634	9	2/15/2017 11:41	Team 1	MD	Indet frag		1	4	0.5	no	removed	yes	753735.098	3603337.233	2.360621
7635	9	2/15/2017 11:45	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	753780.7816	3603330.376	2.975811
7636	9	2/15/2017 11:46	Team 1	MD	Indet frag		1	9	0.25	no	removed	yes	753734.0045	3603337.523	2.729738
7637	9	2/15/2017 11:50	Team 1	MD	Indet frag		1	3	0.5	no	removed	yes	753742.0707	3603332.997	2.814689
7638	9	2/15/2017 11:57	Team 1	MD	Other		1	6	0.25	no	removed	yes	753797.9558	3603333.529	2.770172
7639	9	2/15/2017 13:09	Team 1	MD	Bomb-practice	m38 sections	1	18	5	no	LIP	yes	753781.2849	3603335.117	2.9193
7640	9	2/15/2017 13:10	Team 1	MD	Bomb-practice	m38 sections	1	20	4	no	LIP	yes	753778.2724	3603315.86	3.339056
7661	6	2/15/2017 14:01	Team 2	MD	Indet frag		1	6	2	no	removed	yes	754247.9916	3602836.214	7.899587
7662	6	2/15/2017 14:01	Team 2	MD	Indet frag		1	8	3	no	removed	yes	754267.8653	3602829.484	5.821814
7663	6	2/15/2017 14:02	Team 2	MD	Indet frag		1	4	0.3	no	removed	yes	754275.966	3602793.123	5.674723
7664	6	2/15/2017 14:03	Team 2	MD	Indet frag		1	3	0.4	no	removed	yes	754270.7508	3602782.259	4.132585
7665	6	2/15/2017 14:03	Team 2	NMRD	Other	rust in soil	7	12	0.5	no	LIP	yes	754263.464	3602783.727	4.528546
7666	6	2/15/2017 14:05	Team 2	NMRD	Other	rust in soil	5	9	0.4	no	LIP	yes	754259.0133	3602797.941	3.41718
7667	6	2/15/2017 14:06	Team 2	MD	Indet frag		1	6	0.4	no	removed	yes	754253.5503	3602797.455	3.725235
7668	6	2/15/2017 14:06	Team 2	MD	Indet frag		1	2	0.2	no	removed	yes	754245.8778	3602791.485	3.077276
7669	6	2/15/2017 14:07	Team 2	MD	Indet frag		1	4	0.3	no	removed	yes	754237.927	3602815.213	2.987058
7670	6	2/15/2017 14:09	Team 2	MD	Indet frag		1	5	0.3	no	removed	yes	754248.9956	3602816.543	3.098639
7671	6	2/15/2017 14:10	Team 2	QC seed	Other	6	1	6	0.5	no	removed	yes	754258.011	3602817.245	3.066694
7672	6	2/15/2017 14:15	Team 2	NMRD	Other	rust in soil	1	10	0.4	no	LIP	yes	754245.4122	3602836.052	3.56101
7673	6	2/15/2017 14:16	Team 2	MD	Other		1	2	0.4	no	removed	yes	754217.5767	3602835.262	5.108328
7641	9	2/15/2017 14:17	Team 1	MD	Indet frag		2	4	0.25	no	removed	yes	753824.2405	3603343.787	2.824917
7674	6	2/15/2017 14:17	Team 2	MD	Indet frag		1	6	0.4	no	removed	yes	754215.4631	3602829.803	3.840826
7642	9	2/15/2017 14:18	Team 1	MD	Bomb-practice	m38 sections	2	24	3	no	LIP	yes	753811.0125	3603345.629	3.36015
7643	9	2/15/2017 14:20	Team 1	MD	Indet frag		6	8	1	no	removed	yes	753769.3574	3603338.204	3.020866
7675	6	2/15/2017 14:20	Team 2	MD	Indet frag		1	8	1	no	removed	yes	754262.9302	3602828.458	4.109022
7676	6	2/15/2017 14:27	Team 2	NMRD	Other	burn pit nails	5	12	0.4	no	LIP	yes	754200.5157	3602821.973	4.091851
7677	6	2/15/2017 14:29	Team 2	QC seed	Other	small 038	1	6	0.5	no	removed	yes	754189.7519	3602816.92	4.354383
7678	6	2/15/2017 15:04	Team 2	MD	Indet frag		1	6	1	no	removed	yes	754178.7982	3602834.899	2.901861
7644	9	2/15/2017 15:06	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	753761.4686	3603347.537	2.853586
7645	9	2/15/2017 15:06	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	753761.6192	3603338.531	2.347868
7646	9	2/15/2017 15:07	Team 1	MD	Indet frag		1	7	0.5	no	removed	yes	753757.1219	3603341.245	1.45413
7647	9	2/15/2017 15:09	Team 1	MD	Indet frag		1	6	0.5	no	removed	yes	753744.9697	3603338.827	2.456561
7648	9	2/15/2017 15:10	Team 1	MD	Indet frag		1	4	0.25	no	removed	yes	753740.9966	3603345.983	1.563105
7649	9	2/15/2017 15:12	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	753735.9178	3603344.388	3.251364
7650	9	2/15/2017 15:13	Team 1	MD	Indet frag		2	8	0.5	no	removed	yes	753766.947	3603339.067	3.379703
7679	6	2/15/2017 15:14	Team 2	MD	Indet frag		1	5	0.3	no	removed	yes	754179.9954	3602796.975	2.857577
7651	9	2/15/2017 15:14	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	753774.9771	3603337.331	2.941306
7680	6	2/15/2017 15:15	Team 2	MD	Indet frag		1	3	0.2	no	removed	yes	754191.7683	3602816.246	5.157319
7652	9	2/15/2017 15:15	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	753781.7891	3603348.942	2.366756

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GRIDS
FORMER HAMMOND BOMBING AND GUNNERY RANGE

OBJECTID	Grid	Date	Team ID	Item type	Description	Notes	Quantity	Depth	Weight	Fuzed	Disposition	Resolved	Northing	Easting	HorizEstAcc
7681	6	2/15/2017 15:16	Team 2	NMRD	Indet frag		3	8	0.2	no	LIP	yes	754198.3634	3602808.914	4.004712
7653	9	2/15/2017 15:16	Team 1	MD	Indet frag		1	5	0.5	no	removed	yes	753785.8285	3603343.84	2.66094
7654	9	2/15/2017 15:17	Team 1	MD	Indet frag		1	8	0.5	no	removed	yes	753805.8616	3603344.819	2.522635
7682	6	2/15/2017 15:17	Team 2	NMRD	Indet frag	rust in soil	5	8	0.3	no	LIP	yes	754219.0307	3602818.638	2.252221
7655	9	2/15/2017 15:18	Team 1	MD	Indet frag		2	6	0.5	no	removed	yes	753804.8189	3603342.861	2.938517
7683	6	2/15/2017 15:18	Team 2	NMRD	Other	rust in soil	1	7	0.4	no	LIP	yes	754191.8802	3602825.456	4.354488
7656	9	2/15/2017 15:19	Team 1	MD	Bomb-practice	m38 sections	1	24	5	no	LIP	yes	753797.254	3603340.604	0.873438
7684	6	2/15/2017 15:25	Team 2	MD	Indet frag		1	4	0.5	no	removed	yes	754200.5675	3602827.264	3.575098
7657	9	2/15/2017 15:25	Team 1	MD	Bomb-practice	m38 sections	1	30	6	no	LIP	yes	753809.6385	3603349.644	2.767868
7685	6	2/15/2017 15:27	Team 2	MD	Other	rust in soil	1	12	0.3	no	removed	yes	754178.1686	3602802.64	3.281998
7686	6	2/15/2017 15:29	Team 2	MD	Indet frag		1	3	0.2	no	removed	yes	754208.7971	3602828.893	2.893379
7687	6	2/15/2017 15:30	Team 2	MD	Indet frag		1	4	0.2	no	removed	yes	754189.8093	3602796.793	2.894186
7658	9	2/15/2017 15:32	Team 1	MD	Indet frag		1	4	0.25	no	removed	yes	753800.3501	3603350.952	2.75223
7688	6	2/15/2017 15:32	Team 2	QC seed	Other	medium 033	1	8	1	no	removed	yes	754202.3592	3602792.238	2.814131
7659	9	2/15/2017 15:33	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	753797.0106	3603345.991	2.884995
7689	6	2/15/2017 15:42	Team 2	MD	Other	rust in hole	1	7	0.3	no	removed	yes	754224.3348	3602796.863	4.134679
7771		2/16/2017 6:59	Team 2	Control point	Other		1	0	0	no	NA	yes	767830.7981	3592920.797	0.58361
7690		2/16/2017 7:00	Team 2	Control point	Other		1	0	0	no	NA	yes	767830.6324	3592921.264	0.58361
7691		2/16/2017 7:05	Team 2	Control point	Other		1	0	0	no	NA	yes	767830.764	3592921.393	1.209504
7692	9	2/16/2017 7:48	Team 1	MD	Indet frag		1	3	0.25	no	removed	yes	753809.0335	3603353.973	2.721888
7772	6	2/16/2017 7:50	Team 2	MD	Bomb-practice		1	24	5	no	removed	yes	754173.9229	3602821.435	6.653963
7693	9	2/16/2017 7:51	Team 1	MD	Indet frag		1	4	0.25	no	removed	yes	753733.5077	3603358.062	2.552425
7694	9	2/16/2017 7:53	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	753736.9493	3603354.681	2.442901
7695	9	2/16/2017 7:56	Team 1	MD	Indet frag		1	0	0.1	no	removed	yes	753796.0358	3603356.947	2.457857
7696	9	2/16/2017 7:57	Team 1	MD	Indet frag		1	12	0.25	no	removed	yes	753786.3082	3603359.398	2.37911
7697	9	2/16/2017 8:00	Team 1	QC seed	Other	medium seed 027	1	8	1	no	removed	yes	753747.1048	3603353.213	2.591653
7698	9	2/16/2017 8:04	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	753778.6431	3603348.988	2.662558
7699	9	2/16/2017 8:11	Team 1	MD	Indet frag		1	1	0.2	no	removed	yes	753765.3351	3603348.765	1.530302
7700	9	2/16/2017 8:13	Team 1	MD	Indet frag		1	1	0.1	no	removed	yes	753758.4739	3603357.824	2.670131
7701	9	2/16/2017 8:16	Team 1	MD	Bomb-practice	m38 sections	1	18	0.25	no	LIP	yes	753754.2095	3603355.109	2.55525
7702	9	2/16/2017 8:19	Team 1	MD	Indet frag		1	6	0.2	no	removed	yes	753757.4132	3603359.052	3.378745
7773	6	2/16/2017 8:20	Team 2	MD	Indet frag		1	4	0.1	no	removed	yes	754188.1873	3602841.657	2.503023
7703	9	2/16/2017 8:21	Team 1	MD	Indet frag		1	8	0.2	no	removed	yes	753764.6839	3603350.594	2.087115
7774	6	2/16/2017 8:21	Team 2	MD	Indet frag		1	6	0.2	no	removed	yes	754184.7463	3602821.319	2.957275
7704	9	2/16/2017 8:22	Team 1	MD	Indet frag		1	4	0.2	no	removed	yes	753741.4529	3603351.744	2.810995
7775	6	2/16/2017 8:22	Team 2	MD	Indet frag		1	4	3	no	removed	yes	754173.7815	3602752.714	3.663831
7776	6	2/16/2017 8:23	Team 2	MD	Indet frag		1	6	0.4	no	removed	yes	754184.7923	3602750.526	3.85993
7777	6	2/16/2017 8:23	Team 2	MD	Indet frag		1	2	0.3	no	removed	yes	754188.7522	3602748.748	3.696184
7778	6	2/16/2017 8:24	Team 2	MD	Indet frag		1	8	1	no	removed	yes	754193.2742	3602744.601	2.99819
7779	6	2/16/2017 8:25	Team 2	MD	Indet frag		1	12	2	no	removed	yes	754192.996	3602755.163	3.573018
7705	9	2/16/2017 8:25	Team 1	MD	Indet frag		1	5	0.2	no	removed	yes	753734.3079	3603349.106	2.034088
7780	6	2/16/2017 8:28	Team 2	MD	Indet frag		1	6	0.3	no	removed	yes	754176.1397	3602765.669	2.671163
7706	9	2/16/2017 8:29	Team 1	MD	Indet frag		1	6	0.2	no	removed	yes	753734.8604	3603358.895	1.174365
7781	6	2/16/2017 8:30	Team 2	MD	Indet frag		1	5	1	no	removed	yes	754221.5579	3602749.937	2.212764
7782	6	2/16/2017 8:31	Team 2	MD	Indet frag		1	6	1	no	removed	yes	754182.6089	3602766.418	2.718002
7707	9	2/16/2017 8:31	Team 1	MD	Indet frag		1	10	0.3	no	removed	yes	753763.8079	3603351.875	1.193723
7708	9	2/16/2017 8:35	Team 1	MD	Indet frag		1	4	0.2	no	removed	yes	753779.4086	3603353.795	2.229393
7709	9	2/16/2017 8:37	Team 1	MD	Indet frag		1	4	0.2	no	removed	yes	753745.6052	3603352.949	2.308986
7710	9	2/16/2017 8:43	Team 1	MD	Indet frag		1	6	0.2	no	removed	yes	753768.5136	3603355.441	2.391832
7711	9	2/16/2017 8:48	Team 1	MD	Bomb	m 50 series incendiary sections	1	30	0.5	no	LIP	yes	753822.2992	3603354.68	2.407949
7712	9	2/16/2017 8:52	Team 1	MD	Indet frag		1	6	0.2	no	removed	yes	753808.6657	3603366.585	2.538365
7713	9	2/16/2017 8:55	Team 1	MD	Indet frag		1	6	0.2	no	removed	yes	753823.7392	3603360.711	3.118187
7714	9	2/16/2017 8:56	Team 1	MD	Indet frag		1	8	0.1	no	removed	yes	753817.542	3603358.195	3.175557
7783	6	2/16/2017 9:02	Team 2	MD	Bomb-practice		1	23	2	no	removed	yes	754177.245	3602770.123	1.475201

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GRIDS
FORMER HAMMOND BOMBING AND GUNNERY RANGE

OBJECTID	Grid	Date	Team ID	Item type	Description	Notes	Quantity	Depth	Weight	Fuzed	Disposition	Resolved	Northing	Easting	HorizEstAcc
7784	6	2/16/2017 9:03	Team 2	MD	Indet frag		1	12	0.3	no	removed	yes	754185.9668	3602767.452	3.044982
7785	6	2/16/2017 9:19	Team 2	MD	Indet frag		1	14	1	no	removed	yes	754194.5308	3602752.123	3.824951
7786	6	2/16/2017 9:20	Team 2	MD	Indet frag		1	7	1	no	removed	yes	754205.4536	3602766.074	3.158327
7787	6	2/16/2017 9:20	Team 2	MD	Indet frag		1	10	1.5	no	removed	yes	754201.5485	3602766.253	2.854854
7788	6	2/16/2017 9:22	Team 2	MD	Bomb-practice		3	8	5	no	removed	yes	754185.3143	3602783.242	2.4683
7789	6	2/16/2017 9:25	Team 2	MD	Indet frag		1	3	0.4	no	removed	yes	754218.411	3602777.343	4.39023
7715	9	2/16/2017 9:28	Team 1	QC seed	Other	medium seed 019	1	8	1	no	removed	yes	753807.4643	3603363.481	3.249405
7790	6	2/16/2017 9:28	Team 2	MD	Indet frag		2	4	0.4	no	removed	yes	754204.4428	3602781.618	2.288878
7791	6	2/16/2017 9:30	Team 2	QC seed	Other	small 040	1	4	0.5	no	removed	yes	754191.891	3602778.281	2.713412
7792	6	2/16/2017 9:31	Team 2	MD	Indet frag		1	4	0.4	no	removed	yes	754191.0127	3602781.081	2.817144
7793	6	2/16/2017 9:33	Team 2	MD	Indet frag		1	8	0.2	no	removed	yes	754180.7591	3602747.562	2.9124
7716	9	2/16/2017 9:37	Team 1	SAD	.50 cal projectile		1	3	0.1	no	removed	yes	753796.752	3603373.395	3.052963
7717	9	2/16/2017 9:41	Team 1	MD	Indet frag		1	3	0.2	no	removed	yes	753793.1963	3603379.203	2.411202
7718	9	2/16/2017 9:43	Team 1	MD	Indet frag		1	2	0.1	no	removed	yes	753783.4768	3603369.454	2.392586
7719	9	2/16/2017 9:43	Team 1	MD	Indet frag		1	5	0.1	no	removed	yes	753783.0536	3603368.551	2.756281
7720	9	2/16/2017 9:45	Team 1	MD	Indet frag	multiple of rusty small pieces	10	24	0.1	no	LIP	yes	753787.3941	3603369.682	2.394671
7721	9	2/16/2017 9:52	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	753783.7137	3603379.301	1.970865
7722	9	2/16/2017 9:57	Team 1	MD	Bomb-practice	m38 sections	1	24	0.3	no	removed	yes	753773.3348	3603367.427	3.065325
7723	9	2/16/2017 10:16	Team 1	MD	Bomb-practice	m38 sections	1	36	0.25	no	LIP	yes	753781.7212	3603373.84	3.323044
7724	9	2/16/2017 10:21	Team 1	MD	Bomb-practice	m38 sections	1	18	0.25	no	LIP	yes	753786.5542	3603373.452	3.21546
7725	9	2/16/2017 10:23	Team 1	MD	Bomb-practice	m38 sections	1	10	0.2	no	removed	yes	753779.8452	3603382.255	3.925301
7726	9	2/16/2017 10:25	Team 1	QC seed	Other	small seed 010	1	6	0.5	no	removed	yes	753775.3213	3603364.033	2.997433
7727	9	2/16/2017 10:27	Team 1	MD	Indet frag		1	3	0.1	no	removed	yes	753766.2236	3603361.216	3.205134
7794	6	2/16/2017 10:27	Team 2	MD	Indet frag		1	6	0.3	no	removed	yes	754254.2324	3602748.501	2.012904
7795	6	2/16/2017 10:28	Team 2	MD	Indet frag		1	8	0.4	no	removed	yes	754254.2177	3602751.002	2.675622
7728	9	2/16/2017 10:28	Team 1	MD	Indet frag		1	6	0.2	no	removed	yes	753777.1038	3603373.24	2.854199
7796	6	2/16/2017 10:30	Team 2	MD	Indet frag		1	3	0.4	no	removed	yes	754261.2573	3602752.759	3.776616
7729	9	2/16/2017 10:30	Team 1	MD	Indet frag		1		1		removed	yes	753765.6353	3603366.922	2.95222
7730	9	2/16/2017 10:33	Team 1	MD	Bomb-practice	m38 sections	1	7	0.2	no	LIP	yes	753761.8417	3603369.025	3.112873
7731	9	2/16/2017 10:36	Team 1	MD	Indet frag		1	2	1	no	removed	yes	753760.4759	3603376.935	2.73322
7797	6	2/16/2017 10:36	Team 2	MD	Indet frag		1	3	0.4	no	removed	yes	754244.5923	3602759.958	3.273431
7798	6	2/16/2017 10:37	Team 2	MD	Indet frag		2	4	0.3	no	removed	yes	754228.1019	3602760.977	3.569584
7732	9	2/16/2017 10:39	Team 1	MD	Indet frag		1	3	0.2	no	removed	yes	753746.4939	3603364.8	2.807685
7799	6	2/16/2017 10:39	Team 2	QC seed	Other	medium 017	1	7	1	no	removed	yes	754232.053	3602767.887	2.61638
7733	9	2/16/2017 10:41	Team 1	MD	Indet frag		1	0	0.1	no	removed	yes	753768.5506	3603365.182	2.927718
7800	6	2/16/2017 10:42	Team 2	MD	Indet frag		1	9	0.5	no	removed	yes	754250.4083	3602759.537	3.390469
7734	9	2/16/2017 10:49	Team 1	MD	Indet frag		1	6	0.2	no	removed	yes	753758.2075	3603375.128	2.851789
7801	6	2/16/2017 10:50	Team 2	MD	Indet frag		1	9	0.2	no	removed	yes	754235.2101	3602783.787	2.941896
7735	9	2/16/2017 10:53	Team 1	MD	Indet frag		1	4	0.3	no	removed	yes	753750.6334	3603366.05	2.847025
7802	6	2/16/2017 10:54	Team 2	MD	Indet frag		1	5	0.4	no	removed	yes	754258.1917	3602793.272	2.921513
7736	9	2/16/2017 10:56	Team 1	MD	Indet frag		1	4	0.2	no	removed	yes	753747.1875	3603380.003	2.469843
7803	6	2/16/2017 10:57	Team 2	MD	Indet frag	rust in soil	1	10	0.2	no	removed	yes	754228.1632	3602786.599	3.379057
7737	9	2/16/2017 10:57	Team 1	MD	Indet frag		1	3	0.2	no	removed	yes	753751.2459	3603381.256	3.023928
7738	9	2/16/2017 10:59	Team 1	MD	Indet frag		1	6	0.1	no	removed	yes	753751.8568	3603364.627	3.140181
7739	9	2/16/2017 11:04	Team 1	MD	Indet frag		1	4	0.1	no	removed	yes	753739.239	3603374.422	2.352524
7740	9	2/16/2017 11:05	Team 1	MD	Indet frag		1	3	0.1	no	removed	yes	753742.3164	3603372.397	2.498997
7741	9	2/16/2017 11:07	Team 1	MD	Indet frag		1	4	0.1	no	removed	yes	753746.8378	3603367.733	2.558308
7804	6	2/16/2017 11:16	Team 2	MD	Indet frag	rust in soil	1	12	0.4	no	removed	yes	754269.5267	3602762.84	3.358018
7742	9	2/16/2017 11:29	Team 1	MD	Indet frag		1	6	0.2	no	removed	yes	753803.0266	3603373.058	2.328722
7743	9	2/16/2017 11:33	Team 1	MD	Indet frag		1	4	0.2	no	removed	yes	753803.9138	3603365.443	3.056922
7744	9	2/16/2017 13:11	Team 1	MD	Indet frag		1	3	0.1	no	removed	yes	753820.9124	3603369.51	2.306033
7745	9	2/16/2017 13:13	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	753819.8727	3603376.814	2.256345
7746	9	2/16/2017 13:15	Team 1	MD	Indet frag		1	5	0.3	no	removed	yes	753825.4528	3603379.669	3.205587
7747	9	2/16/2017 13:20	Team 1	MD	Indet frag		1	3	0.2	no	removed	yes	753771.0949	3603373.51	2.341859

TABLE E-1
GRIDS
FORMER HAMMOND BOMBING AND GUNNERY RANGE

OBJECTID	Grid	Date	Team ID	Item type	Description	Notes	Quantity	Depth	Weight	Fuzed	Disposition	Resolved	Northing	Easting	HorizEstAcc
7748	9	2/16/2017 13:21	Team 1	MD	Indet frag		1	0	0.1	no	removed	yes	753773.1914	3603381.527	3.914039
7749	9	2/16/2017 13:25	Team 1	MD	Bomb	suspension lug	1	12	0.3	no	removed	yes	753753.8942	3603382.583	2.513259
7750	9	2/16/2017 13:30	Team 1	MD	Bomb-practice	m1 spotting charge	1	9	0.3	no	removed	yes	753752.7525	3603379.333	2.878866
7751	9	2/16/2017 13:32	Team 1	MD	Indet frag		1	12	0.2	no	removed	yes	753753.3778	3603377.76	2.707172
7752	9	2/16/2017 13:36	Team 1	MD	Bomb-practice		1	18	0.5	no	LIP	yes	753748.8296	3603373.719	2.612564
7753	9	2/16/2017 13:41	Team 1	MD	Bomb-practice	m1 spotting charge	1	9	0.4	no	removed	yes	753745.1973	3603379.466	2.968299
7754	9	2/16/2017 13:48	Team 1	MD	Indet frag		1	7	0.2	no	removed	yes	753750.846	3603377.321	2.127874
7755	9	2/16/2017 13:50	Team 1	MD	Bomb-practice	m38 sections	1	16	0.3	no	LIP	yes	753739.346	3603379.096	3.096155
7756	9	2/16/2017 13:54	Team 1	MD	Indet frag		1	8	0.2	no	removed	yes	753758.6366	3603380.635	2.929324
7757	9	2/16/2017 14:00	Team 1	MD	Indet frag		1	5	0.2	no	removed	yes	753730.0648	3603375.841	2.268567
7758	9	2/16/2017 14:29	Team 1	MD	Indet frag		2	4	0.3	no	removed	yes	753731.199	3603388.628	2.590805
7759	9	2/16/2017 14:30	Team 1	MD	Indet frag		1	6	0.2	no	removed	yes	753734.6908	3603390.656	2.177637
7760	9	2/16/2017 14:34	Team 1	MD	Bomb-practice	m38 sections	1	8	0.3	no	removed	yes	753732.2125	3603385.255	2.184749
7761	9	2/16/2017 14:39	Team 1	MD	Indet frag		2	8	0.3	no	removed	yes	753741.1048	3603382.094	2.749967
7762	9	2/16/2017 14:46	Team 1	Obstruction	Other	large tree over anomaly	1	0	0	no	Not investigated	no	753746.8253	3603383.278	3.789567
7763	9	2/16/2017 14:50	Team 1	MD	Indet frag		1	6	0.2	no	removed	yes	753758.3374	3603383.711	2.159472
7764	9	2/16/2017 14:54	Team 1	MD	Indet frag		1	6	0.2	no	removed	yes	753760.1123	3603390.539	3.081581
7765	9	2/16/2017 14:56	Team 1	MD	Indet frag		1	4	0.2	no	removed	yes	753750.8735	3603390.648	3.507019
7766	9	2/16/2017 15:02	Team 1	MD	Indet frag		1	2	0.1	no	removed	yes	753801.9886	3603380.327	2.247361
7767	9	2/16/2017 15:04	Team 1	MD	Indet frag		1	5	0.1	no	removed	yes	753807.1762	3603385.574	2.869281
7768	9	2/16/2017 15:06	Team 1	Obstruction	Other	large tree over anomaly	0	0	0	no	Not investigated	no	753807.5056	3603393.239	1.196782
7769	9	2/16/2017 15:10	Team 1	MD	Indet frag		1	4	0.2	no	removed	yes	753816.1208	3603396.978	2.741124
7770	9	2/16/2017 15:14	Team 1	MD	Bomb-practice	m38 sections	1	34	0.25	no	LIP	yes	753730.0996	3603383.727	2.564664
7805	8	2/16/2017 15:42	Team 2	MD	Indet frag		1	8	0.5	no	removed	yes	753363.6489	3602692.003	2.426613
7806	8	2/16/2017 15:43	Team 2	MD	Indet frag		1	4	0.2	no	removed	yes	753361.3789	3602698.892	2.098069
7807	8	2/16/2017 15:44	Team 2	MD	Indet frag		1	3	2	no	removed	yes	753354.1788	3602672.468	3.220362
7808	8	2/16/2017 15:44	Team 2	MD	Indet frag		1	5	0.3	no	removed	yes	753353.4291	3602666.273	3.189066
7809	8	2/16/2017 15:44	Team 2	MD	Indet frag		1	11	0.5	no	removed	yes	753359.7014	3602656.997	2.880118
7810	8	2/16/2017 15:45	Team 2	MD	Indet frag		1	2	1	no	removed	yes	753347.5292	3602657.057	3.261973
7811	8	2/16/2017 15:46	Team 2	MD	Indet frag		1	6	2	no	removed	yes	753357.3628	3602638.203	2.653955
7812	8	2/16/2017 15:46	Team 2	MD	Indet frag		3	4	1.5	no	removed	yes	753363.7221	3602641.584	2.897344
7813	8	2/16/2017 15:47	Team 2	MD	Indet frag		1	3	0.2	no	removed	yes	753398.7263	3602665.566	3.715071
7814	8	2/16/2017 15:48	Team 2	MD	Indet frag		2	8	0.3	no	removed	yes	753397.391	3602674.199	3.653377
7815	8	2/16/2017 15:49	Team 2	MD	Indet frag		1	4	0.2	no	removed	yes	753382.5724	3602661.436	2.67514
7816	8	2/16/2017 15:50	Team 2	MD	Indet frag		2	2	0.5	no	removed	yes	753378.9674	3602667.531	2.775016
7817	8	2/16/2017 15:50	Team 2	MD	Indet frag		1	1	0.4	no	removed	yes	753378.9953	3602673.796	2.853533
7818	8	2/16/2017 15:51	Team 2	MD	Indet frag		1	10	0.5	no	removed	yes	753371.9835	3602678.591	3.135433
7819	8	2/16/2017 15:51	Team 2	MD	Indet frag		1	8	0.4	no	removed	yes	753375.3497	3602682.155	2.855686
7820	8	2/16/2017 15:52	Team 2	MD	Indet frag		1	11	0.4	no	removed	yes	753385.5284	3602683.442	2.44316
7821	8	2/16/2017 15:53	Team 2	MD	Indet frag		1	3	0.1	no	removed	yes	753390.8962	3602697.836	2.614034
7822	8	2/16/2017 15:54	Team 2	MD	Indet frag		1	3	0.2	no	removed	yes	753376.0734	3602691.427	2.939835
7823		2/17/2017 6:45	Team 4	Control point	Other		1	0	0	no	NA	yes	767832.0501	3592920.05	2.608117
7852		2/17/2017 6:46	Team 2	Control point	Other		1	0	0	no	NA	yes	767830.9625	3592921.709	0.595416
7824		2/17/2017 6:47	Team 1	Control point	Other		1	0	0	no	NA	yes	767828.3614	3592917.668	2.845808
7825	9	2/17/2017 7:22	Team 1	MD	Indet frag		1	3	0.1	no	removed	yes	753810.9938	3603390.672	2.614346
7826	9	2/17/2017 7:24	Team 1	MD	Indet frag		1	5	0.2	no	removed	yes	753798.96	3603394.711	1.838216
7827	9	2/17/2017 7:25	Team 1	MD	Indet frag		1	6	0.1	no	removed	yes	753793.3547	3603396.475	2.2452
7828	9	2/17/2017 7:27	Team 1	MD	Indet frag		1	3	0.2	no	removed	yes	753775.4673	3603397.189	2.149679
7829	9	2/17/2017 7:28	Team 1	MD	Indet frag		1	5	0.1	no	removed	yes	753743.5907	3603394.241	2.760674
7830	9	2/17/2017 7:30	Team 1	MD	Bomb	multiple pieces of m50 incendiary bomb	5	12	0.5	no	LIP	yes	753769.0966	3603390.757	2.682644
7831	9	2/17/2017 7:35	Team 1	MD	Indet frag		1	6	0.2	no	removed	yes	753741.05	3603399.082	3.370506
7832	9	2/17/2017 7:36	Team 1	MD	Indet frag		1	6	0.2	no	removed	yes	753764.4365	3603393.229	3.094702
7833	9	2/17/2017 7:46	Team 1	Obstruction	Other	under large tree	0	6	0	no	LIP	no	753808.526	3603395.738	3.152285
7834	9	2/17/2017 7:49	Team 1	MD	Indet frag		1	8	0.2	no	removed	yes	753814.2727	3603395.27	2.827696

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GRIDS
FORMER HAMMOND BOMBING AND GUNNERY RANGE

OBJECTID	Grid	Date	Team ID	Item type	Description	Notes	Quantity	Depth	Weight	Fuzed	Disposition	Resolved	Northing	Easting	HorizEstAcc
7835	9	2/17/2017 7:55	Team 1	MD	Indet frag		1	5	0.2	no	removed	yes	753792.8944	3603402.594	2.065216
7836	9	2/17/2017 7:56	Team 1	MD	Indet frag		1	4	0.1	no	removed	yes	753810.5807	3603398.739	1.584301
7837	9	2/17/2017 8:04	Team 1	MD	Indet frag		1	4	0.25	no	removed	yes	753830.2618	3603392.683	2.970158
7838	9	2/17/2017 8:14	Team 1	MD	Indet frag		5	3	0.3	no	removed	yes	753730.14	3603420.609	2.87882
7839	9	2/17/2017 8:16	Team 1	MD	Indet frag		3	4	0.2	no	removed	yes	753731.0786	3603420.154	2.9179
7840	9	2/17/2017 8:18	Team 1	MD	Indet frag		1	3	0.1	no	removed	yes	753811.2222	3603402.551	2.689345
7909	9	2/17/2017 8:26	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				753798.5713	3603433.311	
7841	9	2/17/2017 8:28	Team 1	MD	Indet frag		1	2	0.2	no	removed	yes	753770.4352	3603406.452	4.436799
7842	9	2/17/2017 8:30	Team 1	MD	Indet frag		1	4	0.5	no	removed	yes	753737.8224	3603416.179	2.444437
7843	9	2/17/2017 8:37	Team 1	MD	Bomb	m50 series incendiary bomb	5	9	0.4	no	removed	yes	753775.6687	3603413.716	3.12731
7844	9	2/17/2017 8:39	Team 1	MD	Indet frag		1	4	0.2	no	removed	yes	753739.4795	3603409.072	2.631908
7845	9	2/17/2017 8:40	Team 1	MD	Bomb	m50 series incendiary bomb	5	6	0.3	no	removed	yes	753739.5346	3603403.647	2.200134
7846	9	2/17/2017 8:45	Team 1	MD	Indet frag		1	5	0.2	no	removed	yes	753744.3912	3603406.756	3.27873
7910	9	2/17/2017 8:48	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				753744.9989	3603408.215	
7853	8	2/17/2017 8:50	Team 2	MD	Indet frag		1	10	2	no	removed	yes	753377.7581	3602640.494	3.054165
7854	8	2/17/2017 8:51	Team 2	SAD	.50 cal projectile		1	3	0.2	no	removed	yes	753368.9458	3602640.503	2.834653
7855	8	2/17/2017 8:51	Team 2	MD	Indet frag		1	8	0.2	no	removed	yes	753366.2381	3602649.938	3.706632
7856	8	2/17/2017 8:53	Team 2	MD	Indet frag		1	5	0.4	no	removed	yes	753361.7568	3602687.808	3.278034
7857	8	2/17/2017 8:53	Team 2	MD	Indet frag		1	3	2	no	removed	yes	753366.9901	3602689.646	3.72077
7858	8	2/17/2017 8:56	Team 2	QC seed	Other		1	6	0.5	no	removed	yes	753375.0281	3602666.878	2.451439
7847	9	2/17/2017 9:07	Team 1	MD	Indet frag		1	2	0.2	no	removed	yes	753808.2664	3603392.563	9.214613
7848	9	2/17/2017 9:14	Team 1	MD	Indet frag		1	8	5	no	removed	yes	753785.5506	3603412.383	3.312877
7849	9	2/17/2017 9:47	Team 1	MD	Indet frag		1	3	0.2	no	removed	yes	753821.0564	3603425.258	3.43897
7850	9	2/17/2017 9:48	Team 1	MD	Indet frag		1	3	0.2	no	removed	yes	753740.4129	3603422.042	3.076302
7851	9	2/17/2017 9:58	Team 1	MD	Bomb-practice	m38 sections	3	13	2	no	LIP	yes	753784.7672	3603422.283	3.504869
7859	8	2/17/2017 11:27	Team 2	QC seed	Other	026 small	1	4	0.5	no	removed	yes	753342.7592	3602664.073	2.312712
7860	8	2/17/2017 11:31	Team 2	MD	Indet frag		1	1	0.5	no	Not investigated	yes	753344.6112	3602651.823	3.486723
7861	8	2/17/2017 11:31	Team 2	MD	Indet frag		1	2	0.2	no	removed	yes	753348.1197	3602665.29	2.883635
7862	8	2/17/2017 11:32	Team 2	MD	Indet frag		1	2	0.1	no	removed	yes	753340.4557	3602659.22	3.985416
7863	8	2/17/2017 11:33	Team 2	MD	Indet frag		1	5	0.2	no	removed	yes	753341.2244	3602662.22	3.27773
7864	8	2/17/2017 11:35	Team 2	MD	Indet frag		1	6	0.4	no	removed	yes	753341.1955	3602670.889	4.94884
7865	8	2/17/2017 11:35	Team 2	MD	Indet frag		1	3	0.3	no	removed	yes	753344.7362	3602679.059	2.910462
7866	8	2/17/2017 11:36	Team 2	MD	Indet frag		1	8	0.3	no	removed	yes	753349.1591	3602682.728	2.921337
7867	8	2/17/2017 11:39	Team 2	MD	Indet frag		1	8	0.5	no	removed	yes	753347.8546	3602692.734	4.489173
7868	8	2/17/2017 11:41	Team 2	MD	Indet frag		1	10	0.5	no	removed	yes	753336.6844	3602681.186	2.591395
7869	8	2/17/2017 11:42	Team 2	MD	Bomb-practice		1	12	2	no	removed	yes	753328.5476	3602689.966	3.155499
7870	8	2/17/2017 11:43	Team 2	MD	Indet frag		1	16	1	no	removed	yes	753338.8406	3602682.102	4.153577
7871	8	2/17/2017 11:45	Team 2	MD	Indet frag		1	5	0.4	no	removed	yes	753323.1985	3602675.298	6.30423
7872	8	2/17/2017 11:46	Team 2	MD	Indet frag		1	11	1	no	removed	yes	753316.3403	3602686.998	3.427382
7873	8	2/17/2017 11:46	Team 2	MD	Indet frag		1	10	0.4	no	removed	yes	753310.212	3602688.866	3.273327
7874	8	2/17/2017 11:47	Team 2	MD	Indet frag		1	3	0.2	no	removed	yes	753304.024	3602691.178	6.250884
7875	8	2/17/2017 11:47	Team 2	MD	Indet frag		1	6	0.4	no	removed	yes	753305.1074	3602686.238	3.091541
7876	8	2/17/2017 11:48	Team 2	MD	Indet frag		1	9	1	no	removed	yes	753318.9512	3602684.5	2.412306
7877	8	2/17/2017 11:48	Team 2	MD	Indet frag		1	7	0.8	no	removed	yes	753311.5443	3602677.138	3.467538
7878	8	2/17/2017 11:49	Team 2	MD	Indet frag		1	8	0.5	no	removed	yes	753303.9105	3602669.736	2.131939
7879	8	2/17/2017 11:49	Team 2	MD	Indet frag		1	8	0.4	no	removed	yes	753312.5555	3602667.287	2.675349
7880	8	2/17/2017 11:50	Team 2	MD	Bomb-practice	rust in soil	1	12	0.5	no	removed	yes	753302.7215	3602654.911	2.543009
7881	8	2/17/2017 11:51	Team 2	MD	Indet frag		1	6	0.4	no	removed	yes	753307.964	3602651.782	3.380856
7882	8	2/17/2017 11:52	Team 2	MD	Indet frag		1	1	0.3	no	removed	yes	753307.1267	3602658.197	2.98915
7883	8	2/17/2017 11:52	Team 2	MD	Indet frag		1	4	0.3	no	removed	yes	753311.9732	3602651.13	2.466539
7884	8	2/17/2017 11:53	Team 2	MD	Indet frag		1	6	0.5	no	removed	yes	753310.3111	3602643.392	3.49815
7885	8	2/17/2017 11:53	Team 2	MD	Indet frag		1	2	0.3	no	removed	yes	753310.4748	3602647.115	2.767841
7886	8	2/17/2017 11:54	Team 2	MD	Indet frag		1	5	1	no	removed	yes	753300.0332	3602637.369	2.950365
7887	8	2/17/2017 11:55	Team 2	MD	Bomb-practice		1	36	2	no	LIP	yes	753330.9124	3602640.656	4.028188

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GRIDS
FORMER HAMMOND BOMBING AND GUNNERY RANGE

OBJECTID	Grid	Date	Team ID	Item type	Description	Notes	Quantity	Depth	Weight	Fuzed	Disposition	Resolved	Northing	Easting	HorizEstAcc
7888	8	2/17/2017 11:56	Team 2	MD	Bomb-practice		1	20	2	no	LIP	yes	753330.3406	3602666.195	4.163134
7889	8	2/17/2017 11:58	Team 2	MD	Indet frag		1	5	1	no	removed	yes	753327.2395	3602697.379	2.779956
7890	8	2/17/2017 11:59	Team 2	MD	Bomb-practice		1	48	8	no	LIP	yes	753373.6876	3602651.515	2.562258
7891	8	2/17/2017 12:00	Team 2	MD	Bomb-practice		1	24	1	no	LIP	yes	753372.8507	3602649.597	3.024731
7892	8	2/17/2017 12:01	Team 2	QC seed	Other	011 medium	1	6	1	no	removed	yes	753359.7798	3602703.924	4.755081
7893	8	2/17/2017 12:05	Team 2	MD	Indet frag		1	8	2	no	removed	yes	753363.5872	3602738.345	3.578247
7894	8	2/17/2017 12:06	Team 2	MD	Indet frag		1	4	0.5	no	removed	yes	753364.0433	3602740.044	3.999419
7895	8	2/17/2017 12:06	Team 2	MD	Indet frag		1	6	0.5	no	removed	yes	753363.8999	3602740.843	3.407176
7896	8	2/17/2017 12:07	Team 2	MD	Indet frag		1	1	0.2	no	removed	yes	753360.3736	3602713.86	4.721531
7897	8	2/17/2017 12:08	Team 2	MD	Indet frag		1	12	0.5	no	removed	yes	753365.9786	3602698.893	2.982218
7898	8	2/17/2017 12:09	Team 2	MD	Indet frag		1	4	0.2	no	removed	yes	753365.452	3602698.929	2.993101
7899	8	2/17/2017 12:09	Team 2	MD	Bomb-practice		1	14	0.5	no	LIP	yes	753382.4842	3602701.798	3.172848
7900	8	2/17/2017 12:11	Team 2	MD	Indet frag		1	8	0.5	no	removed	yes	753378.7952	3602706.12	2.346764
7901	8	2/17/2017 12:12	Team 2	MD	Indet frag		1	8	9	no	removed	yes	753387.1869	3602702.251	3.021645
7902	8	2/17/2017 12:19	Team 2	MD	Indet frag		1	12	0.4	no	removed	yes	753393.7492	3602733.962	2.872073
7903	8	2/17/2017 12:20	Team 2	MD	Indet frag		1	7	0.2	no	removed	yes	753398.3335	3602723.546	3.507904
7904	8	2/17/2017 12:21	Team 2	MD	Bomb-practice		1	15	3	no	LIP	yes	753403.6078	3602746.936	3.097081
7905	8	2/17/2017 12:23	Team 2	MD	Indet frag		1	4	0.2	no	removed	yes	753381.6649	3602734.801	2.900178
7906	8	2/17/2017 12:24	Team 2	MD	Indet frag		1	8	0.4	no	removed	yes	753379.013	3602739.136	2.652272
7907	8	2/17/2017 12:26	Team 2	MD	Indet frag		1	8	3	no	removed	yes	753387.0347	3602742.52	2.943063
7908	8	2/17/2017 12:28	Team 2	MD	Indet frag		1	7	4	no	removed	yes	753393.0048	3602726.299	3.259694
7911		2/20/2017 6:53	Team 4	Control point	Other		1	0	0	no	NA	yes	767830.6239	3592921.469	0.58361
7912		2/20/2017 6:53	Team 2	Control point	Other		1	0	0	no	removed	yes	767827.8605	3592919.331	3.167683
7963		2/20/2017 6:53	Team 4	Control point	Other		1	0	0	no	NA	yes	767832.0498	3592922.319	1.665493
7913	7	2/20/2017 8:06	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	752552.4688	3602685.966	2.499924
7914	7	2/20/2017 8:06	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	752555.352	3602691.888	2.15471
7915	7	2/20/2017 8:07	Team 1	MD	Indet frag		1	1	0.25	no	removed	yes	752550.7916	3602722.342	2.366969
7916	7	2/20/2017 8:08	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	752561.1964	3602737.697	1.423146
7917	7	2/20/2017 8:09	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	752561.0088	3602756.535	2.543385
7918	7	2/20/2017 8:09	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	752567.2158	3602759.156	0.70746
7919	7	2/20/2017 8:10	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	752551.6144	3602771.804	3.021837
7920	7	2/20/2017 8:11	Team 1	Unknown	Water intrusion		1	18	0	no	Not investigated	yes	752566.4182	3602769.779	1.999208
7921	7	2/20/2017 8:47	Team 1	MD	Bomb-practice		1	24	5	no	removed	yes	752569.4979	3602686.959	5.920002
7922	7	2/20/2017 8:49	Team 1	QC seed	Other	022 small	1	6	0.25	no	removed	yes	752580.7476	3602757.555	3.240701
7923	7	2/20/2017 8:59	Team 1	QC seed	Other	014 small	1	6	0.25	no	removed	yes	752579.9592	3602720.076	1.625643
7924	7	2/20/2017 9:17	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	752574.6367	3602753.987	5.251655
7925	7	2/20/2017 9:55	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	752577.1961	3602680.851	3.180076
7926	7	2/20/2017 9:56	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	752570.9546	3602710.321	2.374627
7927	7	2/20/2017 9:57	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	752579.1564	3602721.084	2.356568
7928	7	2/20/2017 9:57	Team 1	MD	Indet frag		1	7	0.25	no	removed	yes	752582.5077	3602743.646	3.035939
7929	7	2/20/2017 10:02	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	752585.9402	3602753.411	2.912871
7930	7	2/20/2017 10:02	Team 1	MD	Indet frag		1	8	0.25	no	removed	yes	752580.1826	3602753.781	2.205693
7931	7	2/20/2017 10:03	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	752582.4326	3602768.872	2.566167
7932	7	2/20/2017 10:04	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	752585.5914	3602768.429	3.287901
7964	8	2/20/2017 10:06	Team 2	MD	Indet frag		1	10	4	no	removed	yes	753352.4734	3602742.378	3.603452
7965	8	2/20/2017 10:07	Team 2	MD	Indet frag		2	3	1	no	removed	yes	753350.6178	3602719.798	2.366716
7966	8	2/20/2017 10:08	Team 2	QC seed	Other	025 medium	1	2	1	no	removed	yes	753350.751	3602718.916	3.465869
7967	8	2/20/2017 10:11	Team 2	MD	Indet frag		1	5	0.5	no	removed	yes	753340.8389	3602696.883	3.670679
7968	8	2/20/2017 10:11	Team 2	MD	Indet frag		1	7	0.3	no	removed	yes	753337.7936	3602696.815	3.616738
7969	8	2/20/2017 10:12	Team 2	MD	Indet frag		1	3	0.5	no	removed	yes	753338.1486	3602700.319	6.410896
7970	8	2/20/2017 10:12	Team 2	MD	Indet frag		1	8	0.2	no	removed	yes	753343.6155	3602707.32	3.379126
7971	8	2/20/2017 10:13	Team 2	MD	Indet frag		1	1	0.4	no	removed	yes	753344.8008	3602718.408	4.588535
7972	8	2/20/2017 10:13	Team 2	MD	Indet frag		1	6	0.2	no	removed	yes	753340.8806	3602725.71	3.105359
7973	8	2/20/2017 10:14	Team 2	Obstruction	Water intrusion		1	8	0	no	LIP	yes	753332.1132	3602733.057	3.315614

TABLE E-1
GRIDS
FORMER HAMMOND BOMBING AND GUNNERY RANGE

OBJECTID	Grid	Date	Team ID	Item type	Description	Notes	Quantity	Depth	Weight	Fuzed	Disposition	Resolved	Northing	Easting	HorizEstAcc
7974	8	2/20/2017 10:15	Team 2	MD	Indet frag		1	8	1	no	removed	yes	753330.7664	3602718.391	3.973511
7975	8	2/20/2017 10:16	Team 2	MD	Indet frag		1	2	0.3	no	removed	yes	753325.8701	3602709.631	3.249556
7976	8	2/20/2017 10:17	Team 2	MD	Indet frag	rust in soil	1	9	0.3	no	removed	yes	753311.9351	3602705.819	2.307867
7977	8	2/20/2017 10:18	Team 2	MD	Indet frag		1	5	0.5	no	removed	yes	753313.4167	3602698.24	2.328336
7978	8	2/20/2017 10:19	Team 2	MD	Indet frag		1	5	0.1	no	removed	yes	753319.8202	3602700.288	4.216417
7979	8	2/20/2017 10:19	Team 2	MD	Indet frag		1	10	0.5	no	removed	yes	753329.8885	3602698.789	3.249631
7980	8	2/20/2017 10:20	Team 2	MD	Bomb-practice		1	36	1	no	LIP	yes	753335.5427	3602698.176	4.162827
7981	8	2/20/2017 10:21	Team 2	MD	Indet frag		1	12	0.5	no	removed	yes	753303.1231	3602727.368	3.867804
7982	8	2/20/2017 10:23	Team 2	MD	Indet frag		1	3	0.4	no	removed	yes	753317.4305	3602716.778	4.048999
7983	8	2/20/2017 10:40	Team 2	MD	Bomb-practice		1	36	10	no	LIP	yes	753337.4718	3602729.465	4.389191
7933	7	2/20/2017 11:01	Team 1	QC seed	Other	037 medium	1	6	0.5	no	removed	yes	752612.5188	3602719.298	3.664194
7934	7	2/20/2017 11:02	Team 1	QC seed	Other	039 medium	1	6	0.5	no	removed	yes	752613.0615	3602743.275	2.88524
7935	7	2/20/2017 11:33	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	752614.4946	3602711.787	3.386696
7936	7	2/20/2017 11:34	Team 1	Unknown	Water intrusion		1	8	0	no	Not investigated	yes	752619.0034	3602703.86	2.248268
7937	7	2/20/2017 11:34	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	752612.5904	3602687.537	2.921481
7938	7	2/20/2017 11:35	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	752599.4116	3602697.776	2.963664
7939	7	2/20/2017 11:36	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	752595.0556	3602704.866	3.227957
7940	7	2/20/2017 11:37	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	752590.0061	3602743.371	2.621772
7941	7	2/20/2017 11:37	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	752595.5399	3602762.905	2.503471
7942	7	2/20/2017 11:38	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	752614.8922	3602773.32	4.001281
7943	7	2/20/2017 11:39	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	752618.5844	3602754.883	3.192882
7944	7	2/20/2017 11:39	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	752627.735	3602756.614	2.918038
7945	7	2/20/2017 11:51	Team 1	MD	Indet frag		1	2	0.1	no	removed	yes	752620.8666	3602705.128	1.787897
7946	7	2/20/2017 11:54	Team 1	MD	Indet frag		1	5	0.2	no	removed	yes	752617.6858	3602695.064	1.679549
7947	7	2/20/2017 13:02	Team 1	MD	Bomb-practice	m38 sections	1	6	1	no	removed	yes	752641.7475	3602684.564	2.631441
7948	7	2/20/2017 13:06	Team 1	MD	Indet frag		1	7	0.25	no	removed	yes	752645.0152	3602686.925	2.125938
7949	7	2/20/2017 13:09	Team 1	MD	Indet frag		1	7	0.25	no	removed	yes	752631.5487	3602723.008	2.162827
7950	7	2/20/2017 13:12	Team 1	MD	Indet frag		2	6	0.2	no	removed	yes	752641.9866	3602707.067	0.644274
7951	7	2/20/2017 13:14	Team 1	MD	Bomb	strongback and small fragments	4	4	7	yes	removed	yes	752634.9253	3602731.476	0.953465
7952	7	2/20/2017 13:17	Team 1	MD	Indet frag		2	5	0.1	no	removed	yes	752644.6874	3602734.703	0.840457
7953	7	2/20/2017 13:19	Team 1	QC seed	Other	002 small	1	5	0.25	no	removed	yes	752647.5621	3602743.15	2.007729
7954	7	2/20/2017 13:26	Team 1	MD	Bomb-practice	m38 sections	1	18	4	no	removed	yes	752650.0335	3602763.394	1.414403
7955	7	2/20/2017 13:30	Team 1	MD	Indet frag		1	7	0.1	no	removed	yes	752646.0696	3602762.047	2.817898
7956	7	2/20/2017 13:32	Team 1	MD	Bomb-practice		1	4	0.1	yes	removed	yes	752642.0103	3602715.975	0.881126
7957	7	2/20/2017 13:38	Team 1	MD	Bomb	m50 series incendiary bomb	6	7	0.2	no	LIP	yes	752648.7809	3602743.016	1.59969
7958	7	2/20/2017 13:40	Team 1	MD	Bomb-practice	m38 sections	2	6	0.3	no	removed	yes	752638.7252	3602690.926	2.222947
7984	10	2/20/2017 15:06	Team 2	MD	Bomb-practice		1	40	1	no	LIP	yes	752549.1666	3603401.594	2.376142
7985	10	2/20/2017 15:07	Team 2	QC seed	Other	023 medium	1	6	1	no	removed	yes	752546.5492	3603377.914	2.164941
7986	10	2/20/2017 15:09	Team 2	QC seed	Other	035 medium	1	6	1	no	removed	yes	752529.4006	3603405.408	2.5928
7987	10	2/20/2017 15:11	Team 2	MD	Indet frag	rust in soil	3	12	2	no	removed	yes	752529.0754	3603365.035	1.915979
7988	10	2/20/2017 15:12	Team 2	MD	Indet frag		1	7	0.2	no	removed	yes	752550.2759	3603370.259	2.226238
7989	10	2/20/2017 15:12	Team 2	MD	Bomb-practice		1	24	1	no	LIP	yes	752564.4117	3603393.101	2.785028
7990	10	2/20/2017 15:20	Team 2	MD	Indet frag		1	8	0.5	no	removed	yes	752522.4278	3603382.092	2.16261
7959	3	2/20/2017 15:27	Team 1	MD	Bomb-practice	m38 strongback	1	6	7	no	removed	yes	751206.2244	3604466.053	2.866605
7991	10	2/20/2017 15:27	Team 2	MD	Indet frag		1	10	0.2	no	removed	yes	752534.9124	3603381.889	0.944496
7992	10	2/20/2017 15:28	Team 2	MD	Indet frag		1	10	2	no	removed	yes	752540.9547	3603381.703	2.736511
7960	3	2/20/2017 15:29	Team 1	MD	Indet frag		1	4	0.25	no	removed	yes	751266.2981	3604464.74	3.627207
7993	10	2/20/2017 15:29	Team 2	MD	Indet frag		2	8	0.4	no	removed	yes	752535.6099	3603398.313	2.255648
7961	3	2/20/2017 15:38	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	751208.2802	3604496.12	3.95962
7962	3	2/20/2017 15:39	Team 1	MD	Indet frag		1	7	0.25	no	removed	yes	751231.2299	3604494.292	2.715226
7994		2/21/2017 6:47	Team 1	Control point	Other		1	0	0	no	NA	yes	767831.6075	3592921.388	2.318644
8036		2/21/2017 6:51	Team 2	Control point	Other		1	0	0	no	NA	yes	767828.617	3592923.841	3.58086
8037	10	2/21/2017 9:20	Team 2	QC seed	Other	012 small	1	5	0.5	no	removed	yes	752573.0937	3603404.255	0.908734
8038	10	2/21/2017 9:22	Team 2	Obstruction	Water intrusion		1	5	0	no	LIP	yes	752567.1032	3603365.783	5.019163

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GRIDS
FORMER HAMMOND BOMBING AND GUNNERY RANGE

OBJECTID	Grid	Date	Team ID	Item type	Description	Notes	Quantity	Depth	Weight	Fuzed	Disposition	Resolved	Northing	Easting	HorizEstAcc
8039	10	2/21/2017 9:23	Team 2	Obstruction	Water intrusion		1	8	0	no	LIP	yes	752599.0655	3603368.241	2.848887
8040	10	2/21/2017 9:25	Team 2	MD	Indet frag		1	6	0.4	no	removed	yes	752598.4601	3603400.792	2.950701
8041	10	2/21/2017 9:25	Team 2	MD	Indet frag		1	8	0.5	no	removed	yes	752603.1222	3603407.188	3.685103
8042	10	2/21/2017 9:26	Team 2	Obstruction	Water intrusion		1	8	0	no	LIP	yes	752599.0848	3603406.279	1.832986
7995	3	2/21/2017 9:34	Team 1	QC seed	Other	001 medium	1	6	0.5	no	removed	yes	751240.497	3604492.026	4.783204
7996	3	2/21/2017 9:36	Team 1	QC seed	Other	018 small	1	6	0.25	no	removed	yes	751280.9336	3604533.241	6.11952
7997	3	2/21/2017 9:37	Team 1	MD	Indet frag		1	4	0.25	no	removed	yes	751237.6049	3604492.584	4.335942
7998	3	2/21/2017 9:38	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	751258.1735	3604499.882	7.399206
7999	3	2/21/2017 9:38	Team 1	MD	Indet frag		1	4	0.25	no	removed	yes	751268.161	3604491.932	4.840553
8000	3	2/21/2017 9:39	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	751269.7968	3604524.732	3.78599
8001	3	2/21/2017 9:39	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	751248.1338	3604519.828	3.511199
8002	3	2/21/2017 9:40	Team 1	MD	Indet frag		1	3	0.25	no	removed	yes	751218.0177	3604502.743	4.46814
8003	3	2/21/2017 9:41	Team 1	MD	Indet frag		1	4	0.25	no	removed	yes	751209.9009	3604519.556	3.115405
8043	10	2/21/2017 12:03	Team 2	Obstruction	Water intrusion		1	6	0	no	LIP	yes	752587.0104	3603434.544	2.988635
8044	10	2/21/2017 12:05	Team 2	Obstruction	Water intrusion		1	10	0	no	LIP	yes	752612.031	3603439.611	1.944405
8045	10	2/21/2017 12:05	Team 2	MD	Indet frag		1	1	0.2	no	removed	yes	752597.8155	3603453.723	2.693472
8046	10	2/21/2017 12:06	Team 2	MD	Indet frag		1	5	0.2	no	removed	yes	752591.782	3603457.666	3.033973
8047	10	2/21/2017 12:06	Team 2	MD	Indet frag		1	6	0.3	no	removed	yes	752582.8637	3603460.286	2.571857
8048	10	2/21/2017 12:07	Team 2	MD	Indet frag	rust in soil	2	5	0.4	no	removed	yes	752574.743	3603453.631	2.17782
8049	10	2/21/2017 12:08	Team 2	Obstruction	Water intrusion		1	10	0	no	LIP	yes	752559.3825	3603465.949	2.236371
8050	10	2/21/2017 12:11	Team 2	QC seed	Other	020 small	1	8	0.5	no	removed	yes	752546.7686	3603423.684	2.420495
8051	10	2/21/2017 12:17	Team 2	Obstruction	Standing water		1	0	0	no	LIP	yes	752524.4327	3603427.591	1.426498
8052	10	2/21/2017 12:23	Team 2	MD	Indet frag		1	4	0.2	no	removed	yes	752512.7546	3603437.197	0.81057
8053	10	2/21/2017 12:27	Team 2	Obstruction	Standing water		1	0	0	no	LIP	yes	752532.3888	3603446.847	2.024972
8004	3	2/21/2017 12:48	Team 1	MD	Indet frag		2	5	0.5	no	removed	yes	751197.358	3604531.395	3.688634
8005	3	2/21/2017 12:49	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	751207.8829	3604531.105	4.455307
8006	3	2/21/2017 12:50	Team 1	QC seed	Other	029 medium	1	6	0.5	no	removed	yes	751222.6735	3604549.383	2.553588
8007	3	2/21/2017 12:52	Team 1	MD	Indet frag		1	4	0.25	no	removed	yes	751228.5757	3604549.201	3.646113
8008	3	2/21/2017 12:53	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	751227.8835	3604546.256	2.536129
8009	3	2/21/2017 13:01	Team 1	MD	Bomb	m50 series incendiary bomb pieces	3	8	1	no	LIP	yes	751245.7985	3604550.905	3.146325
8010	3	2/21/2017 13:02	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	751232.0787	3604558.596	3.743596
8011	3	2/21/2017 14:03	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	751204.5577	3604560.995	4.306013
8012	3	2/21/2017 14:07	Team 1	MD	Other		1	4	0.25	no	removed	yes	751228.5282	3604564.311	3.814544
8013	3	2/21/2017 14:09	Team 1	MD	Indet frag		1	4	0.25	no	removed	yes	751238.1925	3604577.767	4.329278
8014	3	2/21/2017 14:12	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	751257.7535	3604563.696	6.863802
8015	3	2/21/2017 14:42	Team 1	MD	Indet frag		1	6	0.1	no	removed	yes	751267.0826	3604501.218	3.127607
8016	3	2/21/2017 14:54	Team 1	MD	Indet frag		1	5	0.2	no	removed	yes	751269.2256	3604535.004	3.433018
8017	3	2/21/2017 14:55	Team 1	MD	Indet frag		1	4	0.1	no	removed	yes	751265.1223	3604530.996	3.616455
8018	3	2/21/2017 14:56	Team 1	MD	Indet frag		1	4	0.1	no	removed	yes	751266.8326	3604511.388	3.080553
8019	3	2/21/2017 14:57	Team 1	MD	Indet frag		1	3	0.1	no	removed	yes	751260.2191	3604555.271	3.479407
8020	3	2/21/2017 14:58	Team 1	MD	Indet frag		1	5	0.1	no	removed	yes	751269.1003	3604565.428	3.888259
8021	3	2/21/2017 14:59	Team 1	MD	Indet frag		1	2	0.1	no	removed	yes	751251.4543	3604579.058	3.676465
8022	3	2/21/2017 15:00	Team 1	MD	Indet frag		1	8	0.1	no	removed	yes	751242.515	3604575.613	4.397917
8023	3	2/21/2017 15:01	Team 1	MD	Indet frag		2	3	0.2	no	removed	yes	751254.3395	3604489.313	3.426682
8024	3	2/21/2017 15:04	Team 1	MD	Indet frag		1	2	0.2	no	removed	yes	751242.305	3604531.572	3.543741
8025	3	2/21/2017 15:05	Team 1	MD	Bomb	m50 series incendiary bomb fragments	1	2	0.1	no	removed	yes	751236.2909	3604549.773	4.257672
8026	3	2/21/2017 15:07	Team 1	MD	Indet frag		1	3	0.1	no	removed	yes	751251.2529	3604564.694	2.595054
8027	3	2/21/2017 15:08	Team 1	MD	Bomb		3	6	0.4	no	removed	yes	751252.2115	3604566.297	3.022077
8028	3	2/21/2017 15:10	Team 1	MD	Indet frag		1	5	0.1	no	removed	yes	751241.8641	3604542.214	3.178927
8029	3	2/21/2017 15:11	Team 1	MD	Indet frag		2	5	0.2	no	removed	yes	751239.228	3604550.408	3.685349
8030	3	2/21/2017 15:14	Team 1	MD	Indet frag		1	3	0.1	no	removed	yes	751244.6672	3604514.926	1.738709
8031	3	2/21/2017 15:16	Team 1	MD	Indet frag		2	5	0.2	no	removed	yes	751241.3372	3604475.425	3.05008
8032	3	2/21/2017 15:19	Team 1	MD	Indet frag		1	3	0.1	no	removed	yes	751246.1538	3604516.375	2.536411
8033	3	2/21/2017 15:22	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	751224.6132	3604523.442	4.434815

TABLE E-1
GRIDS
FORMER HAMMOND BOMBING AND GUNNERY RANGE

OBJECTID	Grid	Date	Team ID	Item type	Description	Notes	Quantity	Depth	Weight	Fuzed	Disposition	Resolved	Northing	Easting	HorizEstAcc
8034	3	2/21/2017 15:24	Team 1	QC seed	Other	036 small	1	6	0.2	no	removed	yes	751213.121	3604490.763	3.718946
8035	3	2/21/2017 15:53	Team 1	MEC	Bomb	m50 series incendiary bomb pieces, moved to disposa	4	6	1	no	removed	yes	751236.1089	3604556.139	5.972307
8055		2/22/2017 6:45	Team 1	Control point	Other		1	0	0	no	NA	yes	767831.0685	3592920.089	2.629929
8056	2	2/22/2017 8:38	Team 1	Unknown	Water intrusion	large response from magnetometer. approximately 2'x	1	0	0	no	Not investigated	yes	751219.8474	3603707.945	3.055592
8057	2	2/22/2017 9:00	Team 1	MD	Indet frag		1	3	0.25	no	removed	yes	751160.798	3603691.332	3.026146
8058	2	2/22/2017 9:01	Team 1	MD	Indet frag		1	3	0.25	no	removed	yes	751186.8393	3603694.849	4.398607
8059	2	2/22/2017 9:03	Team 1	QC seed	Other	008 small	1	6	0.25	no	removed	yes	751216.5899	3603707.216	3.215138
8060	2	2/22/2017 9:08	Team 1	MD	Indet frag		1	4	0.25	no	removed	yes	751195.3452	3603698.334	2.297306
8061	2	2/22/2017 9:09	Team 1	QC seed	Other	013 medium	1	6	0.5	no	removed	yes	751170.3659	3603711.103	3.086633
8062	2	2/22/2017 9:11	Team 1	MD	Indet frag		1	4	0.5	no	removed	yes	751171.856	3603710.613	2.354101
8063	2	2/22/2017 9:13	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	751158.2504	3603707.537	3.774256
8064	2	2/22/2017 9:28	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	751213.2109	3603716.827	2.983284
8065	2	2/22/2017 9:30	Team 1	Unknown	Standing water		1	0	0	no	Not investigated	yes	751191.7517	3603709.457	3.714566
8066	2	2/22/2017 9:31	Team 1	MD	Indet frag		1	4	0.25	no	removed	yes	751186.6644	3603718.461	3.796224
8067	2	2/22/2017 9:38	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	751139.4184	3603713.652	3.685684
8125		2/23/2017 6:50	Team 1	Control point	Other		1	0	0	no	NA	yes	767831.079	3592920.153	2.988242
8126	2	2/23/2017 9:03	Team 1	MD	Indet frag		1	4	0.25		removed	yes	751161.483	3603717.092	27.634511
8127	2	2/23/2017 9:04	Team 1	QC seed	Other	007 medium	1	4	0.5	no	removed	yes	751168.1562	3603739.846	6.768282
8128	2	2/23/2017 9:05	Team 1	MD	Indet frag		1	4	0.5	no	removed	yes	751170.1917	3603735.89	4.883336
8129	2	2/23/2017 9:06	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	751194.1778	3603735.984	5.20469
8130	2	2/23/2017 9:07	Team 1	MD	Bomb-practice	m38 sections	1	9	1	no	removed	yes	751130.7534	3603727.503	5.394633
8131	2	2/23/2017 9:08	Team 1	MD	Bomb-practice	m38 sections under tree	1	12	0	no	LIP	yes	751129.05	3603734.904	5.74906
8132	2	2/23/2017 9:10	Team 1	MD	Bomb-practice	m38 sections	1	8	2	no	removed	yes	751141.8079	3603727.924	5.35608
8133	2	2/23/2017 11:33	Team 1	QC seed	Other	004 small	1	6	0.25	no	removed	yes	751203.6358	3603764.666	3.983341
8134	2	2/23/2017 11:35	Team 1	MD	Indet frag		1	4	0.25	no	removed	yes	751208.478	3603752.765	3.483346
8135	2	2/23/2017 11:35	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	751234.4448	3603761.985	2.502846
8136	2	2/23/2017 11:36	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	751202.064	3603756.154	2.734177
8137	2	2/23/2017 11:38	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	751165.7311	3603747.122	3.208139
8138	2	2/23/2017 11:39	Team 1	MD	Bomb-practice	m38 sections - hole now filling with water	1	12	0.5	no	LIP	yes	751159.8787	3603752.853	4.83419
8139	2	2/23/2017 12:12	Team 1	MD	Indet frag		1	4	0.25	no	removed	yes	751147.9119	3603770.09	3.201788
8140	2	2/23/2017 12:13	Team 1	MD	Indet frag		1	3	0.25	no	removed	yes	751144.737	3603782.658	3.517002
8141	2	2/23/2017 12:14	Team 1	MD	Indet frag		1	2	0.25	no	removed	yes	751156.3994	3603782.242	4.059808
8142	2	2/23/2017 12:15	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	751178.879	3603770.925	5.573135
8143	2	2/23/2017 12:15	Team 1	MD	Indet frag		2	4	0.5	no	removed	yes	751210.5417	3603782.819	2.811042
8144	2	2/23/2017 12:18	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	751217.9124	3603787.451	3.282212
8145	2	2/23/2017 12:24	Team 1	MD	Indet frag		1	8	0.25	no	removed	yes	751208.565	3603779.049	3.030203
8146	1	2/23/2017 14:31	Team 1	MD	Indet frag		1	4	0.25	no	removed	yes	750228.9646	3603504.832	3.999253
8147	1	2/23/2017 14:32	Team 1	Unknown	Standing water		1	0	0	no	Not investigated	yes	750218.7097	3603512.949	2.10249
8148	1	2/23/2017 14:49	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	750162.027	3603520.5	2.559441
8149	1	2/23/2017 14:50	Team 1	Unknown	Standing water		1	0	0	no	Not investigated	yes	750171.2426	3603520.549	2.640273
8150	1	2/23/2017 14:53	Team 1	MD	Indet frag		1	4	0.25	no	removed	yes	750219.3307	3603515.862	2.772599
8151	1	2/23/2017 14:54	Team 1	QC seed	Other	024 small - schonstedt said "woooo" on channel 3, "w	1	5	0.25	no	removed	yes	750176.7862	3603527.176	2.711832
8197		2/24/2017 6:43	Team 1	Control point	Other		1	0	0	no	NA	yes	767830.4169	3592921.646	0.600969
8198	1	2/24/2017 7:44	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	750221.0338	3603557.544	2.430265
8199	1	2/24/2017 8:03	Team 1	QC seed	Other	015 medium	1	6	0.5	no	removed	yes	750148.8673	3603556.747	2.968705
8200	1	2/24/2017 8:04	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	750137.0074	3603554.732	3.501927
8201	1	2/24/2017 8:05	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	750137.3315	3603558.846	2.973708
8202	1	2/24/2017 8:55	Team 1	QC seed	Other	026 small	1	4	0.25	no	removed	yes	750161.115	3603566.083	0.967425
8203	1	2/24/2017 8:57	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	750165.7353	3603571.553	3.669141
8204	1	2/24/2017 9:00	Team 1	MD	Indet frag		1	6	0.26	no	removed	yes	750178.092	3603574.586	3.108261
8205	1	2/24/2017 9:09	Team 1	MD	Indet frag		1	4	0.1	no	removed	yes	750188.2488	3603586.27	2.662772
8206	1	2/24/2017 9:12	Team 1	QC seed	Other	009 medium	1	6	0.5	no	removed	yes	750165.4457	3603592.136	4.57802
8207	1	2/24/2017 9:16	Team 1	MD	Indet frag		1	4	0.25	no	removed	yes	750126.405	3603580.988	2.907661
8208	1	2/24/2017 9:17	Team 1	MD	Indet frag		1	4	0.25	no	removed	yes	750129.0822	3603583.47	3.856846

TABLE E-1
GRIDS
FORMER HAMMOND BOMBING AND GUNNERY RANGE

OBJECTID	Grid	Date	Team ID	Item type	Description	Notes	Quantity	Depth	Weight	Fuzed	Disposition	Resolved	Northing	Easting	HorizEstAcc
8209	1	2/24/2017 9:25	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	750174.0503	3603587.145	3.28794
8210	1	2/24/2017 9:27	Team 1	MD	Indet frag		3	4	0.5	no	removed	yes	750186.7284	3603595.05	2.920343
8211	1	2/24/2017 9:30	Team 1	Unknown	Standing water		1	0	0	no	Not investigated	yes	750156.5674	3603547.547	2.905607
8212	1	2/24/2017 9:30	Team 1	Unknown	Standing water		1	0	0	no	Not investigated	yes	750166.5759	3603543.208	3.784181
8213	1	2/24/2017 9:31	Team 1	Unknown	Standing water		1	0	0	no	Not investigated	yes	750193.4233	3603546.426	3.205617
8214	1	2/24/2017 9:32	Team 1	Unknown	Standing water		1	0	0	no	Not investigated	yes	750127.8844	3603545.464	3.381114
8227	4	2/24/2017 13:43	Team 2	MD	Indet frag		1	8	0.4	no	removed	yes	750089.2916	3604235.91	2.277524
8228	4	2/24/2017 13:44	Team 2	MD	Indet frag		1	6	0.5	no	removed	yes	750106.1236	3604288.527	2.327244
8289		2/27/2017 6:49	Team 1	Control point	Other		1	0	0	no	NA	yes	767830.5045	3592921.338	0.605228
8290	5	2/27/2017 7:38	Team 1	QC seed	Other	028 small	1	6	0.25	no	removed	yes	749707.1106	3604836.949	3.973053
8291	5	2/27/2017 7:43	Team 1	QC seed	Other	003 medium	1	6	0.25	no	removed	yes	749647.8653	3604825.627	3.732334
8292	5	2/27/2017 8:13	Team 1	QC seed	Other	030 small	1	6	0.25	no	removed	yes	749645.4998	3604795.291	3.128446
8293	5	2/27/2017 8:34	Team 1	QC seed	Other	034 small	1	6	0.25	no	removed	yes	749626.9375	3604780.467	4.039073
8294	5	2/27/2017 8:42	Team 1	QC seed	Other	005 medium	1	6	0.25	no	removed	yes	749692.2307	3604786.934	10.47949
8295	5	2/27/2017 8:43	Team 1	MD	Indet frag		1	8	0.25	no	removed	yes	749689.4318	3604784.259	4.007853
8296	5	2/27/2017 9:13	Team 1	MD	Indet frag		1	4	0.25	no	removed	yes	749655.3971	3604779.981	4.110919
8297	5	2/27/2017 9:13	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	749661.0868	3604782.757	4.69892
8298	5	2/27/2017 9:14	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	749678.0569	3604776.23	5.14331
8299	5	2/27/2017 9:15	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	749686.8416	3604776.371	4.498613
8300	5	2/27/2017 9:16	Team 1	MD	Indet frag		1	4	0.25	no	removed	yes	749698.7947	3604820.38	4.173627
8301	5	2/27/2017 9:17	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	749628.7256	3604772.869	5.48722
8302	5	2/27/2017 9:19	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	749614.163	3604774.788	4.409099
8303		2/27/2017 6:49	Team 2	Control point	Other		1	0	0	no	NA	yes	767830.7709	3592921.614	1.745298
8304	4	2/27/2017 8:08	Team 2	QC seed	Other	032 small	1	6	0.5	no	removed	yes	750102.2827	3604278.226	4.880056
8305	4	2/27/2017 8:10	Team 2	MD	Indet frag		1	6	0.4	no	removed	yes	750098.4087	3604221.205	2.614585
8306	4	2/27/2017 8:12	Team 2	QC seed	Other	016 small	1	5	0.5	no	removed	yes	750117.265	3604214.961	2.771958
8307	4	2/27/2017 8:14	Team 2	MD	Indet frag		1	5	0.6	no	removed	yes	750149.3532	3604202.529	6.241797
8308	4	2/27/2017 8:15	Team 2	QC seed	Other	021 medium	1	5	1	no	removed	yes	750165.9493	3604211.407	3.791179
8309	4	2/27/2017 8:22	Team 2	QC seed	Other	011 medium	1	8	1	no	removed	yes	750171.61	3604278.425	3.331362
8310	4	2/27/2017 8:32	Team 2	MD	Bomb-practice		1	12	0.5	no	LIP	yes	750155.4732	3604290.391	1.989319
8311	4	2/27/2017 8:33	Team 2	MD	Indet frag		1	8	0.5	no	removed	yes	750117.4746	3604261.725	4.298673
8312	4	2/27/2017 8:34	Team 2	MD	Indet frag		1	5	0.5	no	removed	yes	750121.0832	3604274.081	3.617705
8313	5	2/27/2017 7:41	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				749651.3318	3604843.431	

TABLE E-2
TRANSECTS
FORMER HAMMOND BOMBING AND GUNNERY RANGE

OBJECTID	Date	Team ID	Item type	Description	Notes	Quantity	Depth	Weight	Fuzed	Disposition	Resolved	Northing	Easting	HorizEstAcc
6842	1/25/2017 9:09	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751564.1817	3602382.996	
6843	1/25/2017 10:25	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751780.3148	3600368.139	
6844	1/25/2017 10:26	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751787.1918	3600383.206	
6845	1/25/2017 14:26	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751558.3156	3602390.546	
6802	1/25/2017 15:35	Team 1	Control point	Other		1	0	0	no	NA	yes	767837.1423	3592917.99	3.83456
6806	1/25/2017 15:35	Team 1	Control point	Other		1	0	0	no	NA	yes	767836.9021	3592917.359	6.815868
6846	1/26/2017 8:17	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				749838.4384	3602364.806	
6803	1/26/2017 8:39	Team 1	Other	Other	reenforced concrete	1	3	10	no	LIP	yes	749009.1592	3602342.993	2.535938
6807	1/26/2017 9:12	Team 2	NMRD	Other	wire rope	1	2	1	no	LIP	yes	749283.3716	3607343.305	3.715015
6808	1/26/2017 9:53	Team 2	NMRD	Other	wire rope	1	0	5	no	LIP	yes	750198.3695	3607105.516	4.833612
6847	1/26/2017 10:13	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				750436.7588	3601349.661	
6848	1/26/2017 10:18	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				750435.0987	3601344.224	
6849	1/26/2017 10:27	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				750649.8663	3601350.098	
6809	1/26/2017 10:28	Team 2	NMRD	Other	wire rope	1	0	2	no	LIP	yes	748079.4465	3606832.211	4.488828
6810	1/26/2017 10:34	Team 2	NMRD	Other	off transect sheet metal	1	0	8	no	LIP	yes	748370.6572	3606862.749	3.935438
6811	1/26/2017 10:39	Team 2	NMRD	Other		1	0	0.2	no	removed	yes	748430.8993	3606864.671	3.506789
6812	1/26/2017 10:48	Team 2	NMRD	Other	nail	1	8	0.1	no	removed	yes	748456.1905	3606849.769	5.063495
6850	1/26/2017 10:52	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751665.278	3601358.367	
6851	1/26/2017 10:56	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751802.2623	3601354.693	
6813	1/26/2017 11:07	Team 2	NMRD	Other	fuel tank	1	0	10	no	LIP	yes	749691.5555	3606849.861	4.914922
6852	1/26/2017 11:09	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751802.09	3601107.437	
6853	1/26/2017 11:11	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751798.1763	3601108.01	
6854	1/26/2017 11:13	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751750.4517	3601115.086	
6855	1/26/2017 11:19	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751497.63	3601110.507	
6856	1/26/2017 12:10	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				749226.1109	3601845.606	
6804	1/26/2017 12:11	Team 1	Unknown	Standing water	not investigated due to standing water	1	1	0	no	Not investigated	no	749221.7044	3601841.735	1.609473
6857	1/26/2017 12:14	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				749218.0949	3601844.914	
6858	1/26/2017 12:15	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				749221.4741	3601841.996	
6859	1/26/2017 12:15	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				749216.6073	3601843.704	
6796	1/26/2017 12:45	Team 2	NMRD	Other		1	12	0.5	no	removed	yes	750579.9757	3606907.914	5.006723
6797	1/26/2017 12:49	Team 2	NMRD	Other	car part	1	5	3	no	removed	yes	750848.0453	3606874.782	4.752905
6860	1/26/2017 13:25	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751745.3467	3600601.218	
6861	1/26/2017 13:39	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751605.7971	3600860.58	
6862	1/26/2017 13:56	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751818.0716	3601616.852	
6863	1/26/2017 14:02	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751473.2255	3601613.175	
6798	1/26/2017 14:23	Team 2	NMRD	Other	steel banding	1	4	0.2	no	removed	yes	750419.682	3607353.547	0.58361
6864	1/26/2017 14:58	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751067.0751	3601839.333	
6799	1/26/2017 15:19	Team 2	NMRD	Other	can	1	3	0.1	no	removed	yes	750758.743	3607595.59	3.217075
6865	1/26/2017 15:30	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751653.862	3602336.715	
6800	1/26/2017 15:31	Team 2	NMRD	Other	nails	3	8	0.3	no	removed	yes	750172.3239	3607104.152	3.306638
6866	1/26/2017 15:36	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751764.2318	3602359.312	
6867	1/26/2017 15:37	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751810.6136	3602351.738	
6868	1/26/2017 15:58	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751607.3893	3602107.339	
6814	1/26/2017 16:10	Team 3	Control point	Other		1	0	0	no	NA	yes	767832.9838	3592919.501	0.731019
6805	1/26/2017 16:18	Team 2	Control point	Other		1	0	0	no	NA	yes	767832.8791	3592919.634	0.616755
6801	1/26/2017 16:25	Team 1	Control point	Other		1	0	0	no	NA	yes	767833.1754	3592919.658	0.735413
6898	1/27/2017 7:19	Team 1	Control point	Other		1	0	0	no	NA	yes	767832.6475	3592919.355	0.58361
6869	1/27/2017 7:22	Team 2	Control point	Other		1	0	0	no	NA	yes	767832.9585	3592919.112	0.58361
6870	1/27/2017 8:17	Team 2	NMRD	Other	welding rod	1	4	0.1	no	removed	yes	750312.1028	3606594.366	3.436717
6871	1/27/2017 8:23	Team 2	NMRD	Other	bolt	1	3	0.4	no	removed	yes	750431.3533	3606592.909	2.932386
6872	1/27/2017 8:27	Team 2	NMRD	Other	railroad spike	2	2	0.5	no	removed	yes	750447.223	3606592.455	3.90812
6873	1/27/2017 8:29	Team 2	NMRD	Other	railroad spike	1	4	0.5	no	removed	yes	750460.1157	3606595.671	3.066315

TABLE E-2
TRANSECTS
FORMER HAMMOND BOMBING AND GUNNERY RANGE

OBJECTID	Date	Team ID	Item type	Description	Notes	Quantity	Depth	Weight	Fuzed	Disposition	Resolved	Northing	Easting	HorizEstAcc
6874	1/27/2017 8:31	Team 2	NMRD	Other	railroad spike	1	4	0.2	no	removed	yes	750471.2075	3606596.518	5.030993
6875	1/27/2017 8:33	Team 2	NMRD	Other	railroad spike	1	2	0.5	no	removed	yes	750491.7878	3606601.141	3.681128
6876	1/27/2017 8:34	Team 2	NMRD	Other	railroad spike	1	3	0.5		removed	yes	750578.4944	3606608.369	4.214987
6914	1/27/2017 8:36	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751001.7251	3602357.228	
6915	1/27/2017 8:39	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751127.8473	3602341.44	
6899	1/27/2017 8:41	Team 1	MD	Indet frag		1	3	0.25	no	removed	yes	751115.3178	3602352.59	5.853384
6900	1/27/2017 8:43	Team 1	MD	Indet frag		6	5	1.5	no	removed	yes	751138.4378	3602349.123	6.975981
6916	1/27/2017 8:51	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751291.5182	3602356.028	
6917	1/27/2017 8:54	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751316.4781	3602357.594	
6901	1/27/2017 8:59	Team 1	Unknown	Water intrusion		1	1	0	no	Not investigated	no	751532.1319	3602347.965	4.357852
6877	1/27/2017 9:41	Team 2	Unknown	Other	north boundary hunting camp	0	0	0	no	Not investigated	yes	750482.6458	3606331.429	3.38434
6878	1/27/2017 10:28	Team 2	Unknown	Other	south boundary hunting camp	0	0	0	no	NA	yes	750227.7316	3606335.8	3.937004
6918	1/27/2017 10:50	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				749264.9858	3602870.7	
6879	1/27/2017 11:05	Team 2	MD	.50 cal projectile		1	2	0.2	no	removed	yes	747866.925	3606604.013	3.960642
6902	1/27/2017 11:12	Team 1	MD	Indet frag		1	4	0.5	no	removed	yes	750820.0756	3602885.82	5.840152
6880	1/27/2017 11:16	Team 2	NMRD	Other	wire rope	1	5	3	no	LIP	yes	748682.8046	3606641.728	3.050957
6903	1/27/2017 11:17	Team 1	MD	Indet frag		1	4	0.25	no	removed	yes	751162.1943	3602854.33	5.330642
6904	1/27/2017 11:19	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	751254.2968	3602850.731	4.397345
6905	1/27/2017 11:21	Team 1	MD	Indet frag		2	4	0.5	no	removed	yes	751287.7374	3602847.159	7.36561
6906	1/27/2017 11:31	Team 1	MD	Indet frag		1	3	0.25	no	removed	yes	751434.8742	3602600.949	4.123088
6881	1/27/2017 11:33	Team 2	NMRD	Other	wire rope	1	6	20	no	LIP	yes	750216.248	3606598.33	3.832241
6882	1/27/2017 11:35	Team 2	NMRD	Other	railroad spike	1	6	0.5	no	removed	yes	750220.7188	3606610.179	3.627844
6919	1/27/2017 11:39	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				750796.9421	3602595.963	
6920	1/27/2017 11:39	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				750781.5632	3602605.081	
6921	1/27/2017 11:39	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				750786.2006	3602603.915	
6922	1/27/2017 11:39	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				750787.1275	3602602.954	
6907	1/27/2017 12:41	Team 1	MD	Indet frag		1	3	0.25	no	removed	yes	749901.7487	3603091.839	
6908	1/27/2017 12:43	Team 1	MD	Indet frag		1	3	0.25	no	removed	yes	749848.7078	3603109.426	
6909	1/27/2017 12:44	Team 1	MD	Indet frag		1	4	0.25	no	removed	yes	749834.7557	3603088.216	
6923	1/27/2017 13:01	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				748599.2706	3603094.654	
6883	1/27/2017 13:17	Team 2	NMRD	Other	scrap metal	1	6	0.4	no	removed	yes	751231.9507	3606112.417	6.0623
6884	1/27/2017 13:20	Team 2	NMRD	Other	bolt	1	4	0.5	no	removed	yes	751270.2758	3606113.345	9.650308
6885	1/27/2017 13:23	Team 2	NMRD	Other	railroad spike	1	4	0.5	no	removed	yes	751301.634	3606103.674	4.59596
6886	1/27/2017 13:24	Team 2	NMRD	Other	angle iron	1	5	10	no	removed	yes	751296.3505	3606102.763	5.443027
6887	1/27/2017 13:26	Team 2	NMRD	Other	iron square	1	8	5	no	removed	yes	751294.5395	3606106.5	4.121899
6888	1/27/2017 13:28	Team 2	NMRD	Other	pipe	1	3	4	no	removed	yes	751286.6895	3606096.458	6.27532
6889	1/27/2017 13:32	Team 2	NMRD	Other	steel railway track	1	3	100	no	LIP	yes	751311.051	3606105.791	5.485999
6890	1/27/2017 13:36	Team 2	NMRD	Other	fender	1	3	2	no	removed	yes	751328.3734	3606109.7	8.731523
6924	1/27/2017 13:40	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				749708.1779	3603340.556	
6891	1/27/2017 13:52	Team 2	MD	Fuze		1	5	1	no	removed	yes	752510.0069	3606096.659	2.19449
6910	1/27/2017 13:59	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	751287.1363	3603366.01	
6892	1/27/2017 14:07	Team 2	NMRD	Other	bolt	1	2	3	no	removed	yes	753086.6485	3605856.709	3.357028
6893	1/27/2017 14:09	Team 2	NMRD	Other		2	2	0.5	no	removed	yes	753073.805	3605860.67	5.485432
6894	1/27/2017 14:10	Team 2	NMRD	Other	railroad spike	1	3	0.5	no	removed	yes	753071.8207	3605862.277	2.90482
6895	1/27/2017 14:15	Team 2	NMRD	Other	scrap metal	1	6	0.2	no	removed	yes	753040.5344	3605858.221	2.554887
6896	1/27/2017 14:18	Team 2	NMRD	Other	bolt	1	3	0.5	no	removed	yes	752967.4955	3605857.981	3.312222
6897	1/27/2017 14:22	Team 2	NMRD	Other	bolt	1	5	0.5	no	removed	yes	752810.7058	3605807.212	2.682137
6911	1/27/2017 14:27	Team 1	MD	Indet frag		1	6	0.4	no	removed	yes	751082.0285	3603119.912	
6925	1/27/2017 14:29	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751049.0134	3603114.11	
6926	1/27/2017 14:31	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751026.2133	3603110.219	
6927	1/27/2017 14:35	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				750888.0102	3603088.142	
6912	1/27/2017 14:36	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	750889.3149	3603090.599	

TABLE E-2
TRANSECTS
FORMER HAMMOND BOMBING AND GUNNERY RANGE

OBJECTID	Date	Team ID	Item type	Description	Notes	Quantity	Depth	Weight	Fuzed	Disposition	Resolved	Northing	Easting	HorizEstAcc
6913	1/27/2017 14:44	Team 1	MD	Bomb-practice	m38 fragments	8	18	8	no	removed	yes	750889.8133	3603099.248	
6928	1/27/2017 14:53	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				750208.9813	3603105.231	
6929	1/30/2017 6:56	Team 1	Control point	Other		1	0	0	no	NA	yes	767833.1488	3592921.13	1.96702
6977	1/30/2017 6:57	Team 2	Control point	Other		1	0	0	no	NA	yes	767833.3962	3592915.821	3.605764
6930	1/30/2017 7:40	Team 1	MD	Indet frag		1	8	0.25	no	removed	yes	751357.5246	3603600.779	3.239484
6931	1/30/2017 7:44	Team 1	MD	Indet frag		1	7	0.5	no	removed	yes	751243.8369	3603604.496	3.626816
7005	1/30/2017 7:47	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				749810.3492	3605633.543	
6981	1/30/2017 7:51	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				750997.1507	3603587.322	
6932	1/30/2017 7:52	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	750964.1061	3603580.756	1.206764
7006	1/30/2017 7:55	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				749246.2434	3605610.015	
7007	1/30/2017 7:58	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				749225.189	3605584.609	
6933	1/30/2017 7:59	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	750515.7241	3603599.246	2.5006
6934	1/30/2017 8:06	Team 1	MD	Indet frag		1	7	0.25	no	removed	yes	750111.1866	3603598.667	4.290536
6982	1/30/2017 8:11	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				749972.779	3603614.753	
6983	1/30/2017 8:16	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				749733.3829	3603601.38	
6935	1/30/2017 8:17	Team 1	MD	Indet frag		2	8	0.5	no	removed	yes	749742.2739	3603608.299	3.219349
6936	1/30/2017 8:24	Team 1	MD	Indet frag		1	8	0.25	no	removed	yes	749355.8826	3603610.873	2.490644
6937	1/30/2017 8:41	Team 1	MD	Indet frag		1	8	0.25	no	removed	yes	748666.034	3603607.707	3.405364
6938	1/30/2017 8:43	Team 1	MD	Indet frag		1	7	0.25	no	removed	yes	748611.2745	3603595.348	3.314008
6984	1/30/2017 8:53	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				747908.9101	3603608.413	
7008	1/30/2017 9:02	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				749998.2931	3605353.821	
7009	1/30/2017 9:12	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				750615.2604	3605383.579	
7010	1/30/2017 9:15	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				750767.1239	3605351.661	
6939	1/30/2017 9:21	Team 1	SAD	.50 cal projectile		1	5	0.25	no	removed	yes	747346.4579	3603719.39	4.061352
7011	1/30/2017 9:46	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				750996.716	3605357.842	
6940	1/30/2017 9:49	Team 1	Unknown	Standing water		1	0	0	no	Not investigated	no	748722.6969	3603833.619	3.259544
6941	1/30/2017 10:02	Team 1	MD	Indet frag		1	7	0.25	no	removed	yes	749532.1398	3603851.568	3.250202
6942	1/30/2017 10:06	Team 1	MD	Indet frag		1	8	0.25	no	removed	yes	749824.6668	3603851.556	3.716533
6943	1/30/2017 10:08	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	749863.9092	3603858.148	2.983005
6944	1/30/2017 10:10	Team 1	MD	Indet frag		1	8	0.25	no	removed	yes	750033.837	3603858.668	4.011727
6945	1/30/2017 10:14	Team 1	MD	Indet frag		1	8	0.25	no	removed	yes	750093.806	3603857.381	3.045732
6946	1/30/2017 10:16	Team 1	MD	Fuze		1	8	0.5	no	removed	yes	750067.1755	3603864.627	4.08604
6947	1/30/2017 10:23	Team 1	MD	Indet frag		1	8	0.25	no	removed	yes	750421.1125	3603848.9	4.047084
7012	1/30/2017 10:26	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				753113.8604	3605517.381	
6948	1/30/2017 10:26	Team 1	MD	Other	m1 spotting charge	1	6	0.5	no	removed	yes	750560.0787	3603861.163	4.161186
6949	1/30/2017 10:37	Team 1	MD	Indet frag		1	7	0.25	no	removed	yes	750690.6542	3603852.165	8.429894
6950	1/30/2017 10:39	Team 1	MD	Indet frag		2	8	0.5	no	removed	yes	750703.4006	3603855.421	6.602397
6951	1/30/2017 10:40	Team 1	MD	Fuze		1	4	0.5	no	removed	yes	750693.8901	3603857.705	5.044163
6985	1/30/2017 10:42	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				750718.7306	3603868.214	
6952	1/30/2017 10:44	Team 1	MD	Bomb		1	6	0.5	no	removed	yes	750694.8977	3603865.932	5.481965
6986	1/30/2017 10:48	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				750750.3444	3603838.82	
6987	1/30/2017 10:52	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				750782.9372	3603822.356	
6953	1/30/2017 10:54	Team 1	MD	Fuze		1	0	0.5	no	removed	yes	750788.1262	3603827.755	6.22114
7013	1/30/2017 10:56	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751015.4341	3605614.92	
6954	1/30/2017 10:56	Team 1	MD	Indet frag		2	6	0.5	no	removed	yes	750880.1237	3603845.567	5.905389
6955	1/30/2017 10:58	Team 1	MD	Indet frag		1	8	0.25	no	removed	yes	750876.1017	3603852.38	5.580361
7014	1/30/2017 10:59	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				750964.3939	3605593.176	
6988	1/30/2017 10:59	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				750878.7543	3603846.234	
6989	1/30/2017 10:59	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				750875.7251	3603850.605	
6990	1/30/2017 11:00	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				750906.8995	3603850.893	
6991	1/30/2017 11:01	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				750903.3362	3603854.273	
6992	1/30/2017 11:01	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				750892.5676	3603852.911	

TABLE E-2
TRANSECTS
FORMER HAMMOND BOMBING AND GUNNERY RANGE

OBJECTID	Date	Team ID	Item type	Description	Notes	Quantity	Depth	Weight	Fuzed	Disposition	Resolved	Northing	Easting	HorizEstAcc
6993	1/30/2017 11:01	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				750892.8819	3603851.561	
6994	1/30/2017 11:03	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				750924.3375	3603862.866	
6956	1/30/2017 11:06	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	751037.0099	3603876.456	3.915124
6995	1/30/2017 11:07	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751031.6063	3603873.227	
6957	1/30/2017 11:10	Team 1	MD	Indet frag		2	8	0.5	no	removed	yes	751089.5521	3603847.455	3.60764
6996	1/30/2017 11:14	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751205.5768	3603855.294	
6997	1/30/2017 11:15	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751224.9698	3603859.814	
6958	1/30/2017 12:30	Team 1	Unknown	Standing water		3	0	0	no	Not investigated	no	751433.721	3604092.347	6.57648
6959	1/30/2017 12:34	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	751352.2425	3604074.989	7.491457
6960	1/30/2017 12:35	Team 1	MD	Indet frag		1	7	0.25	no	removed	yes	751340.3377	3604083.614	6.643171
6961	1/30/2017 12:40	Team 1	MD	Indet frag		1	8	0.25	no	removed	yes	751266.5356	3604093.697	7.034333
6962	1/30/2017 12:43	Team 1	MD	Indet frag		3	6	0.75	no	removed	yes	751268.8959	3604112.769	5.436796
6963	1/30/2017 12:45	Team 2	MD	Indet frag		2	7	0.5		removed	yes	751221.8172	3604087.601	4.132429
6998	1/30/2017 12:46	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751179.3472	3604096.744	
6964	1/30/2017 12:50	Team 1	MD	Indet frag		1	3	0.25	no	removed	yes	750951.7948	3604068.643	1.780054
7015	1/30/2017 12:50	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				750015.3278	3606107.248	
6965	1/30/2017 12:55	Team 1	MD	Indet frag		1	7	0.25	no	removed	yes	750839.4459	3604092.289	7.205295
7016	1/30/2017 12:56	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				749552.4236	3606111.237	
7017	1/30/2017 13:01	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				749239.7936	3606115.008	
6966	1/30/2017 13:01	Team 1	MD	Bomb-practice		1	12	4	no	removed	yes	750839.5411	3604095.212	3.207811
6967	1/30/2017 13:09	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	750765.3293	3604089.582	4.188486
6999	1/30/2017 13:11	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				750729.9839	3604102.449	
6968	1/30/2017 13:12	Team 1	MD	Indet frag		1	8	0.25	no	removed	yes	750741.4904	3604103.278	4.038168
7000	1/30/2017 13:15	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				750759.4809	3604110.665	
7001	1/30/2017 13:16	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				750747.14	3604109.617	
6978	1/30/2017 13:17	Team 2	NMRD	Other	railway spikes	2	2	1	no	removed	yes	747775.5367	3606093.588	4.187292
6969	1/30/2017 13:17	Team 1	MD	Indet frag		1	8	0.25	no	removed	yes	750689.0506	3604102.712	3.775987
6979	1/30/2017 13:18	Team 2	NMRD	Other	railway spikes	3	4	1.5	no	removed	yes	747792.412	3606084.269	3.84792
7018	1/30/2017 13:19	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				747786.2185	3606090.608	
6970	1/30/2017 13:23	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	750527.6454	3604083.758	3.263831
6971	1/30/2017 13:40	Team 1	MD	Indet frag		4	7	1	no	removed	yes	750549.2379	3604090.494	3.299205
7019	1/30/2017 13:46	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				747551.838	3605868.893	
6980	1/30/2017 13:52	Team 2	NMRD	Other	bolts	2	5	1	no	removed	yes	748109.0866	3605862.63	4.390588
6972	1/30/2017 13:53	Team 1	MD	Indet frag		1	7	0.25	no	removed	yes	750499.4181	3604084.552	4.081471
7020	1/30/2017 13:55	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				748165.5317	3605858.577	
6973	1/30/2017 13:55	Team 1	MD	Bomb	50 series bomb components	1	7	2	no	removed	yes	750732.2329	3604018.521	
7002	1/30/2017 13:57	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				750507.0221	3604090.585	
6974	1/30/2017 13:58	Team 1	MD	Indet frag		1	7	0.25	no	removed	yes	750489.8686	3604083.228	6.871387
7021	1/30/2017 13:59	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				748534.6517	3605862.818	
7022	1/30/2017 14:11	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				749627.9034	3605922.335	
7023	1/30/2017 14:15	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				749872.1546	3605858.163	
7024	1/30/2017 14:16	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				749939.9235	3605862.891	
7025	1/30/2017 14:17	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				749942.2578	3605863.082	
7003	1/30/2017 14:17	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				750638.5018	3604363.962	
6975	1/30/2017 14:20	Team 1	MD	Indet frag		1	7	0.25	no	removed	yes	750707.7566	3604377.364	3.327165
7004	1/30/2017 14:22	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				750852.2254	3604362.329	
6976	1/30/2017 14:50	Team 1	MD	Indet frag		1	4	0.25	no	removed	yes	751100.7144	3604359.652	0.931187
7027	1/31/2017 6:50	Team 1	Control point	Other		1	0	0	no	NA	yes	767832.5005	3592920.402	1.360371
7068	1/31/2017 6:51	Team 2	Control point	Other		1	0	0	no	NA	yes	767832.2646	3592919.533	0.655295
7026	1/31/2017 6:53	Team 1	Control point	Other		1	0	0	no	NA	yes	767832.579	3592920.227	0.837831
7089	1/31/2017 8:06	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				750925.0373	3605097.293	
7090	1/31/2017 8:07	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				750988.2022	3605096.022	

TABLE E-2
TRANSECTS
FORMER HAMMOND BOMBING AND GUNNERY RANGE

OBJECTID	Date	Team ID	Item type	Description	Notes	Quantity	Depth	Weight	Fuzed	Disposition	Resolved	Northing	Easting	HorizEstAcc
7028	1/31/2017 8:12	Team 1	Obstruction	Other	deviated - stream	1	0	0	no	NA	yes	748140.6196	3604382.685	4.150419
7091	1/31/2017 8:12	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751428.0337	3605101.323	
7092	1/31/2017 8:16	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751631.5264	3605119.7	
7085	1/31/2017 8:17	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				748197.6218	3604363.552	
7093	1/31/2017 8:18	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751693.6053	3605105.449	
7086	1/31/2017 8:22	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				748749.1381	3604368.253	
7087	1/31/2017 8:29	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				749092.728	3604338.315	
7094	1/31/2017 8:30	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				752053.7942	3605112.842	
7029	1/31/2017 8:39	Team 1	MD	Indet frag		1	7	0.25	no	removed	yes	749592.3963	3604357.41	3.814536
7030	1/31/2017 8:40	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	749647.3679	3604358.306	5.404658
7031	1/31/2017 8:45	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	749914.8251	3604360.497	4.082919
7088	1/31/2017 8:48	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				750098.6469	3604362.748	
7032	1/31/2017 8:49	Team 1	MD	Indet frag		1	8	0.25	no	removed	yes	750097.9783	3604358.129	4.044071
7033	1/31/2017 8:54	Team 1	MD	Indet frag		1	8	0.25	no	removed	yes	750321.6192	3604354.423	3.912257
7095	1/31/2017 8:57	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				753117.0487	3605098.266	
7096	1/31/2017 9:03	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				753155.1139	3604989.452	
7034	1/31/2017 9:04	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	750420.4405	3604350.464	5.189132
7035	1/31/2017 9:05	Team 1	MD	Indet frag		1	7	0.25	no	removed	yes	750432.3129	3604353.06	3.200206
7036	1/31/2017 9:06	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	750458.3808	3604333.374	3.507062
7037	1/31/2017 9:08	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	750501.6202	3604341.218	3.914493
7038	1/31/2017 9:14	Team 1	MD	Indet frag		1	8	0.25	no	removed	yes	750521.9462	3604334.997	3.217723
7039	1/31/2017 9:20	Team 1	MD	Indet frag		1	7	0.25	no	removed	yes	750522.1982	3604211.263	3.910712
7040	1/31/2017 9:24	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	750508.857	3604182.413	2.988804
7041	1/31/2017 9:31	Team 1	MD	Bomb-practice		1	12	5	no	removed	yes	750513.4023	3604182.451	3.026493
7042	1/31/2017 9:46	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	750434.6817	3604093.885	3.3816
7043	1/31/2017 9:47	Team 1	MD	Indet frag		2	6	0.5	no	removed	yes	750434.1676	3604088.472	3.298953
7044	1/31/2017 9:52	Team 1	MD	Indet frag		1	1	0.25	no	removed	yes	750250.6761	3604095.467	3.732804
7045	1/31/2017 9:53	Team 1	MD	Bomb	50 series	1	5	0.5	no	removed	yes	750256.5298	3604093.472	3.23671
7046	1/31/2017 9:56	Team 1	MD	Indet frag		1	4	0.25	no	removed	yes	750143.5779	3604121.906	3.139468
7047	1/31/2017 9:59	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	750023.6822	3604112.977	3.043869
7069	1/31/2017 10:00	Team 2	MD	Bomb-practice	practice bomb fin assembly	1	36	10	no	removed	yes	753136.8255	3604955.875	5.465443
7070	1/31/2017 10:10	Team 2	MD	Indet frag		1	5	0.5	no	removed	yes	752782.6665	3604858.384	5.112513
7048	1/31/2017 10:10	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	749226.1746	3604107.432	4.335614
7071	1/31/2017 10:27	Team 2	MD	Bomb-practice		1	8	2	no	removed	yes	751738.8155	3604835.257	4.403826
7097	1/31/2017 10:30	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751706.2638	3604846.64	
7049	1/31/2017 10:30	Team 1	MD	Indet frag		1	9	0.25	no	removed	yes	749099.2893	3604085.3	4.098107
7098	1/31/2017 10:34	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751399.5702	3604863.634	
7099	1/31/2017 10:37	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751267.1216	3604856.069	
7100	1/31/2017 10:38	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751208.1237	3604846.767	
7101	1/31/2017 10:42	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751014.7861	3604846.995	
7102	1/31/2017 12:16	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				750558.8783	3605116.154	
7072	1/31/2017 12:20	Team 2	MD	Indet frag		1	6	0.4	no	removed	yes	750480.1668	3605097.142	5.030219
7073	1/31/2017 12:24	Team 2	MD	Other	m50 cluster strongback	1	5	10	no	removed	yes	750447.7758	3605108.671	4.896938
7050	1/31/2017 12:26	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	750869.7215	3604600.192	4.117374
7051	1/31/2017 12:27	Team 1	MD	Indet frag		1	4	0.25	no	removed	yes	750857.0312	3604593.089	3.939692
7103	1/31/2017 12:29	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				750384.521	3605111.136	
7074	1/31/2017 12:29	Team 2	MD	Other	m50 cluster band	1	3	0.5	no	removed	yes	750387.4101	3605106.104	5.091712
7052	1/31/2017 12:32	Team 1	MD	Indet frag		1	7	0.25	no	removed	yes	750689.1779	3604622.082	4.948771
7075	1/31/2017 12:33	Team 2	MD	Indet frag		1	3	0.4	no	removed	yes	750298.4162	3605103.615	3.352127
7076	1/31/2017 12:37	Team 2	MD	Indet frag		1	8	0.5	no	removed	yes	750245.8602	3605107.079	3.655426
7053	1/31/2017 12:37	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	750534.7953	3604587.394	4.939523
7054	1/31/2017 12:40	Team 1	MD	Indet frag		2	6	0.5	no	removed	yes	750525.7832	3604589.547	4.547904

TABLE E-2
TRANSECTS
FORMER HAMMOND BOMBING AND GUNNERY RANGE

OBJECTID	Date	Team ID	Item type	Description	Notes	Quantity	Depth	Weight	Fuzed	Disposition	Resolved	Northing	Easting	HorizEstAcc
7104	1/31/2017 12:41	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				750074.4576	3605105.249	
7055	1/31/2017 12:44	Team 1	MD	Indet frag		3	6	0.75	no	removed	yes	750533.5758	3604589.913	4.862733
7077	1/31/2017 12:44	Team 2	MD	Indet frag		3	8	0.5	no	removed	yes	749962.7728	3605117.68	4.567404
7056	1/31/2017 12:46	Team 1	MD	Indet frag		1	0	0.25	no	removed	yes	750457.1813	3604618.976	3.843642
7057	1/31/2017 12:49	Team 1	Obstruction	Other	deviated - briars	1	0	0	no	NA	yes	750301.8991	3604569.915	5.381423
7078	1/31/2017 12:50	Team 2	MD	Indet frag		4	7	3	no	removed	yes	749871.6887	3605100.452	6.433187
7058	1/31/2017 12:51	Team 1	MD	Indet frag		1	4	0.25	no	NA	yes	750280.6849	3604577.24	3.835801
7079	1/31/2017 12:51	Team 2	Unknown	Water intrusion		1	0	0	no	LIP	yes	749885.8757	3605123.428	4.080017
7059	1/31/2017 12:53	Team 1	MD	Indet frag		1	7	0.25	no	removed	yes	750238.2539	3604582.197	3.152244
7060	1/31/2017 12:55	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	750208.9708	3604592.393	3.059143
7080	1/31/2017 12:56	Team 2	MD	Indet frag		1	8	0.2	no	removed	yes	749781.016	3605101.693	4.874745
7061	1/31/2017 12:58	Team 1	MD	Indet frag		1	3	0.25	no	removed	yes	750040.4918	3604600.121	3.285272
7105	1/31/2017 13:00	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				749496.3528	3605093.002	
7062	1/31/2017 13:03	Team 1	MD	Indet frag		2	6	0.5	no	removed	yes	749936.4664	3604598.606	4.142768
7063	1/31/2017 13:06	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	749869.2812	3604592.86	3.271359
7064	1/31/2017 13:12	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	749634.0569	3604607.892	3.94326
7065	1/31/2017 13:29	Team 1	MD	Indet frag		2	4	0.5	no	removed	yes	748661.9428	3604621.1	2.703296
7066	1/31/2017 13:39	Team 1	Obstruction	Other		1	0	0	no	NA	yes	747993.1127	3604625.564	3.292523
7081	1/31/2017 13:54	Team 2	Obstruction	Other	thicket	1	0	0	no	LIP	yes	748058.9397	3605087.763	3.205229
7106	1/31/2017 13:59	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				747898.1444	3605082.667	
7082	1/31/2017 14:00	Team 2	Obstruction	Other	end of thicket	1	0	0	no	LIP	yes	747883.4981	3605096.12	3.210389
7107	1/31/2017 14:02	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				747785.9137	3605112.53	
7083	1/31/2017 14:03	Team 2	Obstruction	Standing water		1	0	0	no	LIP	yes	747689.841	3605119.204	3.475708
7084	1/31/2017 14:05	Team 2	Obstruction	Standing water	end of standing water	1	0	0	no	LIP	yes	747611.1929	3605105.126	3.110358
7067	1/31/2017 14:14	Team 1	MD	Indet frag		1	4	0.25	no	removed	yes	747397.0201	3604060.351	2.159824
7109	2/1/2017 6:54	Team 1	Control point	Other		1	0	0	no	NA	yes	767832.6314	3592920.247	0.586711
7108	2/1/2017 6:55	Team 2	Control point	Other		1	0	0	no	NA	yes	767832.9061	3592919.523	0.58361
7162	2/1/2017 6:56	Team 2	Control point	Other		0	0	0	no	NA	yes	767832.6665	3592919.264	0.58361
7185	2/1/2017 7:38	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751623.0923	3602610.324	
7110	2/1/2017 7:41	Team 1	Obstruction	Other	e\w barbed wire fence	1	0	0	no	LIP	yes	751849.6703	3602579.145	3.184501
7186	2/1/2017 7:49	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				752202.83	3602602.026	
7111	2/1/2017 7:51	Team 1	MD	Indet frag		1	8	0.25	no	removed	yes	752207.5029	3602595.367	3.787184
7112	2/1/2017 7:58	Team 1	MD	Bomb-practice	m38	1	4	0.25	no	removed	yes	752547.9888	3602599.667	1.226323
7163	2/1/2017 8:03	Team 2	Obstruction	Standing water		1	0	0	no	LIP	yes	747351.5244	3604851.816	3.677422
7113	2/1/2017 8:04	Team 1	MD	Bomb-practice	m38	1	7	0.75	no	removed	yes	752712.7713	3602589.543	2.83774
7114	2/1/2017 8:10	Team 1	MD	Other		1	5	0.25	no	removed	yes	752840.2382	3602593.983	3.039778
7164	2/1/2017 8:12	Team 2	Unknown	Standing water		1	0	0	no	Not investigated	yes	747888.3432	3604860.851	3.441468
7115	2/1/2017 8:13	Team 1	MD	Indet frag		1	8	0.25	no	removed	yes	752924.2469	3602590.993	2.777994
7116	2/1/2017 8:14	Team 1	MD	Indet frag		1	7	0.25	no	removed	yes	752924.737	3602592.541	2.923409
7117	2/1/2017 8:15	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	752926.695	3602596.178	3.352657
7118	2/1/2017 8:16	Team 1	MD	Indet frag		2	6	0.5	no	removed	yes	752933.2629	3602597.698	2.787271
7119	2/1/2017 8:18	Team 1	MD	Indet frag		1	7	0.25	no	removed	yes	752934.4329	3602603.369	2.992969
7120	2/1/2017 8:21	Team 1	Obstruction	Other	deviated - stream	1	0	0	no	NA	yes	753067.495	3602632.498	4.214566
7121	2/1/2017 8:23	Team 1	MD	Indet frag		1	2	0.25	no	removed	yes	753063.5685	3602632.656	2.855164
7122	2/1/2017 8:26	Team 1	MD	Bomb-practice	m38	1	5	0.25	no	removed	yes	753128.5926	3602624.822	3.481144
7123	2/1/2017 8:27	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	753137.3912	3602624.995	2.915647
7124	2/1/2017 8:29	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	753133.546	3602615.773	3.229718
7125	2/1/2017 8:31	Team 1	MD	Indet frag		1	7	0.25	no	removed	yes	753147.4902	3602620.143	3.682193
7126	2/1/2017 8:34	Team 1	MD	Indet frag		1	7	0.25	no	removed	yes	753198.5223	3602608.239	3.47596
7196	2/1/2017 8:36	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				749237.1516	3604853.682	
7165	2/1/2017 8:38	Team 2	MD	Indet frag		1	5	2	no	removed	yes	749269.0482	3604854.585	1.90755
7166	2/1/2017 8:39	Team 2	MD	Indet frag		2	6	3	no	removed	yes	749310.9969	3604849.29	1.468012

TABLE E-2
TRANSECTS
FORMER HAMMOND BOMBING AND GUNNERY RANGE

OBJECTID	Date	Team ID	Item type	Description	Notes	Quantity	Depth	Weight	Fuzed	Disposition	Resolved	Northing	Easting	HorizEstAcc
7167	2/1/2017 8:43	Team 2	MD	Indet frag		1	5	1	no	removed	yes	749488.0326	3604846.196	3.496392
7187	2/1/2017 8:44	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				753192.3215	3602606.465	
7168	2/1/2017 8:50	Team 2	MD	Fuze		1	9	1	no	removed	yes	749885.148	3604857.946	3.208816
7169	2/1/2017 8:54	Team 2	MD	Indet frag		1	8	8	no	removed	yes	749917.0285	3604860.59	2.750753
7170	2/1/2017 9:04	Team 2	Obstruction	Standing water		1	0	0	no	LIP	yes	749958.3378	3604860.572	3.615798
7171	2/1/2017 9:08	Team 2	MD	Indet frag		1	10	3	no	removed	yes	749976.3821	3604875.951	3.344808
7172	2/1/2017 9:11	Team 2	MD	Indet frag		1	8	3	no	removed	yes	750007.6094	3604865.081	2.63609
7173	2/1/2017 9:13	Team 2	MD	Indet frag		1	6	1	no	removed	yes	750036.4708	3604840.282	2.434692
7174	2/1/2017 9:14	Team 2	MD	Indet frag		1	5	4	no	removed	yes	750041.5181	3604849.106	1.589207
7175	2/1/2017 9:15	Team 2	Obstruction	Standing water		1	0	0	no	LIP	yes	750070.8346	3604849.433	2.945644
7176	2/1/2017 9:22	Team 2	Unknown	Water intrusion		1	10	0	no	LIP	yes	750146.0795	3604852.561	2.722865
7177	2/1/2017 9:23	Team 2	Obstruction	Standing water		1	0	0	no	LIP	yes	750142.6193	3604852.03	2.289331
7178	2/1/2017 9:31	Team 2	MD	Indet frag		1	16	1	no	removed	yes	750419.6371	3604848.468	2.842984
7127	2/1/2017 9:38	Team 1	MD	Indet frag		1	2	0.25	no	removed	yes	753329.127	3602628.326	1.782559
7197	2/1/2017 9:39	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				750864.9367	3604844.231	
7128	2/1/2017 9:51	Team 1	MD	Indet frag		1	2	0.5	no	removed	yes	753363.5147	3602623.369	3.085009
7129	2/1/2017 9:52	Team 1	MD	Indet frag		1	3	0.2	no	removed	yes	753358.4294	3602619.424	2.942529
7130	2/1/2017 9:56	Team 1	MD	Indet frag		1	2	0.2	no	removed	yes	753400.1892	3602610.317	2.574592
7131	2/1/2017 9:59	Team 1	MD	Indet frag		1	1	1	no	removed	yes	753474.6693	3602615.621	2.290407
7132	2/1/2017 10:02	Team 1	MD	Indet frag		1	3	0.1	no	removed	yes	753482.8642	3602621.256	0.893852
7188	2/1/2017 10:07	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				753665.9012	3602589.607	
7133	2/1/2017 10:24	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	754164.1653	3602595.709	3.240836
7189	2/1/2017 10:31	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754385.2345	3602614.544	
7134	2/1/2017 10:33	Team 1	MD	Indet frag		1	7	0.25	no	removed	yes	754452.7776	3602608.534	4.075741
7135	2/1/2017 10:38	Team 1	MD	Indet frag		1	4	0.5	no	removed	yes	754707.8385	3602597.444	3.862077
7136	2/1/2017 10:44	Team 1	MD	Indet frag		2	4	0.5	no	removed	yes	754766.9492	3602605.636	3.599038
7137	2/1/2017 10:48	Team 1	MD	Indet frag		1	7	0.25	no	removed	yes	754815.5492	3602602.802	3.172581
7190	2/1/2017 11:24	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754484.2303	3602833.079	
7191	2/1/2017 11:24	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754490.9544	3602863.557	
7138	2/1/2017 11:25	Team 1	Obstruction	Other	deviated - pond with fence around	1	0	0	no	NA	yes	754459.6067	3602883.324	3.425111
7192	2/1/2017 11:27	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754386.4644	3602864.34	
7139	2/1/2017 11:30	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	754275.1979	3602871.25	3.794166
7140	2/1/2017 11:32	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	754237.592	3602838.131	3.279953
7141	2/1/2017 11:33	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	754245.34	3602835.52	3.247202
7142	2/1/2017 11:38	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	754201.3415	3602839.785	3.357346
7143	2/1/2017 11:41	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	754025.2253	3602836.025	3.3928
7144	2/1/2017 11:46	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	753859.5938	3602865.762	3.574707
7193	2/1/2017 11:51	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				753860.7224	3602879.238	
7194	2/1/2017 11:51	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				753860.7224	3602879.238	
7179	2/1/2017 11:57	Team 2	MD	Bomb-practice	january 30th point recollected	1	12	5	no	removed	yes	750498.9315	3604088.297	4.748287
7145	2/1/2017 12:09	Team 1	MEC	Bomb		1	10	100	yes	LIP	no	753858.9812	3602873.342	2.367536
7146	2/1/2017 12:16	Team 1	MD	Indet frag		1	5	0.5	no	removed	yes	753780.7599	3602849.66	3.615568
7147	2/1/2017 12:19	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	753723.6108	3602839.224	3.251658
7148	2/1/2017 12:30	Team 1	MD	Bomb-practice		1	20	2.5	no	removed	yes	753734.5428	3602855.719	3.110477
7149	2/1/2017 12:39	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	753658.9912	3602837.752	3.377396
7180	2/1/2017 12:46	Team 2	Obstruction	Other	thicket	1	0	0	no	LIP	yes	751162.3715	3607115.765	5.077322
7181	2/1/2017 12:51	Team 2	Obstruction	Standing water		1	0	0	no	LIP	yes	751328.1084	3606860.134	4.381022
7182	2/1/2017 12:59	Team 2	Obstruction	Standing water		1	0	0	no	LIP	yes	752017.7113	3606355.57	6.897851
7183	2/1/2017 13:33	Team 2	Obstruction	Other	thicket	1	0	0	no	LIP	yes	749696.9033	3605847.445	4.294561
7184	2/1/2017 13:39	Team 2	Obstruction	Other	thicket	1	0	0	no	LIP	yes	749968.9008	3606131.068	3.322697
7150	2/1/2017 14:05	Team 1	Unknown	Standing water		1	0	0	no	Not investigated	no	753530.8051	3602855.249	3.724157
7151	2/1/2017 14:08	Team 1	Unknown	Water intrusion		1	0	0	no	Not investigated	no	753407.1062	3602854.916	3.240981

TABLE E-2
TRANSECTS
FORMER HAMMOND BOMBING AND GUNNERY RANGE

OBJECTID	Date	Team ID	Item type	Description	Notes	Quantity	Depth	Weight	Fuzed	Disposition	Resolved	Northing	Easting	HorizEstAcc
7152	2/1/2017 14:09	Team 1	MD	Indet frag		1	3	0.25	no	removed	yes	753396.5698	3602854.609	3.41852
7153	2/1/2017 14:10	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	753381.827	3602851.681	1.832365
7154	2/1/2017 14:13	Team 1	MD	Indet frag		1	5	0.5	no	removed	yes	753335.9045	3602835.81	2.458673
7155	2/1/2017 14:14	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	753334.4616	3602827.183	2.750522
7156	2/1/2017 14:20	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	753229.3572	3602847.02	2.440075
7157	2/1/2017 14:22	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	753215.1013	3602852.167	2.277428
7158	2/1/2017 14:26	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	753108.5815	3602840.494	1.177427
7159	2/1/2017 14:29	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	753110.6143	3602845.849	3.550404
7160	2/1/2017 14:36	Team 1	Unknown	Water intrusion		1	0	0		Not investigated	no	752841.2848	3602834.816	2.084926
7161	2/1/2017 14:53	Team 1	MD	Indet frag		1	5	0.5	no	removed	yes	751838.0932	3602851.625	4.93345
7195	2/1/2017 14:55	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751841.6638	3602860.894	
7198	2/2/2017 7:05	Team 1	Control point	Other		1	0	0	no	NA	yes	767842.2794	3592918.34	3.690644
7219	2/2/2017 7:06	Team 2	Control point	Other		1	0	0	no	NA	yes	767830.6567	3592920.881	4.762915
7308	2/2/2017 7:06	Team 3	Control point	Other		1	0	0	no	NA	yes	767828.3404	3592920.617	2.573036
7220	2/2/2017 8:13	Team 2	Obstruction	Other	thicket	1	0	0	no	LIP	yes	750707.0348	3602868.085	3.777928
7221	2/2/2017 8:46	Team 2	Obstruction	Other	thicket	1	0	0	no	LIP	yes	748599.9216	3603080.454	4.588436
7222	2/2/2017 8:50	Team 2	Obstruction	Other	thicket	1	0	0	no	LIP	yes	748555.6674	3603354.393	5.116581
7199	2/2/2017 9:50	Team 1	MD	Bomb	m38 section	1	10	4	no	removed	yes	752341.9731	3603112.758	1.191578
7200	2/2/2017 10:01	Team 1	MD	Indet frag		1	4	0.25	no	removed	yes	752814.9738	3603105.276	2.744379
7201	2/2/2017 10:03	Team 1	MD	Bomb-practice	m50 series incendiary bomb fragments	3	2	0.25	no	removed	yes	752826.3071	3603109.31	2.808945
7202	2/2/2017 10:10	Team 1	Unknown	Water intrusion		1	0	0	no	NA	no	752889.1498	3603104.053	3.227949
7203	2/2/2017 10:15	Team 1	MD	Bomb-practice	m38 section	1	20	0.5	no	removed	yes	753012.6788	3603125.478	1.200761
7223	2/2/2017 10:31	Team 2	Obstruction	Other	fence	1	0	0	no	LIP	yes	753132.5158	3605101.952	5.917665
7204	2/2/2017 10:32	Team 1	MD	Indet frag		2	12	1	no	removed	yes	753044.7453	3603133.255	2.636804
7205	2/2/2017 10:38	Team 1	Obstruction	Other	deviated - pond	1	0	0	no	NA	yes	753074.0819	3603124.37	3.126634
7206	2/2/2017 10:39	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	753074.5803	3603128.426	3.667111
7224	2/2/2017 10:40	Team 2	Obstruction	Other	thicket	1	0	0	no	LIP	yes	753817.9872	3605094.553	3.364119
7207	2/2/2017 10:40	Team 1	MD	Bomb-practice	m38 sections	3	4	0.5	no	removed	yes	753089.5281	3603109.068	2.107029
7208	2/2/2017 10:48	Team 1	MD	Bomb	fin sections	1	8	0.3	no	removed	yes	753367.8011	3603117.354	3.074556
7240	2/2/2017 10:49	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754437.0792	3605095.245	
7241	2/2/2017 10:49	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754438.0647	3605092.394	
7242	2/2/2017 10:49	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754478.353	3605105.9	
7243	2/2/2017 10:50	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754494.249	3605113.52	
7228	2/2/2017 10:53	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				753398.1164	3603109.83	
7209	2/2/2017 10:54	Team 1	MD	Indet frag		1	6	0.2	no	removed	yes	753392.4874	3603106.358	2.553568
7210	2/2/2017 10:56	Team 1	Unknown	Water intrusion		1	0	0	no	Not investigated	no	753416.2505	3603128.699	2.914497
7244	2/2/2017 10:56	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755241.8699	3605116.426	
7211	2/2/2017 10:58	Team 1	MD	Bomb	m38 sections	3	8	0.3	no	removed	yes	753426.84	3603118.061	2.294366
7245	2/2/2017 10:59	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755495.8704	3605091.012	
7212	2/2/2017 11:07	Team 1	MD	Indet frag		1	6	0.3	no	removed	yes	753526.4068	3603109.002	2.443199
7246	2/2/2017 11:20	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755271.0014	3604845.686	
7225	2/2/2017 11:23	Team 2	MD	Indet frag		1	8	1	no	removed	yes	755018.1508	3604847.747	4.469995
7226	2/2/2017 11:24	Team 2	MD	Indet frag		1	7	0.1	no	removed	yes	755026.6298	3604852.139	3.851161
7247	2/2/2017 11:29	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754427.8492	3604851.259	
7213	2/2/2017 11:34	Team 1	Unknown	Water intrusion		1	0	0		NA	no	753621.0568	3603095.109	2.608753
7227	2/2/2017 11:35	Team 2	Obstruction	Other		1	0	0	no	LIP	yes	753850.3103	3604839.728	4.886312
7214	2/2/2017 11:37	Team 1	MD	Indet frag		1	6	0.2	no	removed	yes	753693.4101	3603103.258	2.284754
7215	2/2/2017 11:43	Team 1	MD	Indet frag		1	3	0.2	no	removed	yes	753848.641	3603105.971	2.366792
7248	2/2/2017 11:48	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				752819.5004	3604842.956	
7229	2/2/2017 11:52	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754403.9831	3603105.446	
7216	2/2/2017 12:12	Team 1	Obstruction	Other	deviated - briars	1	0	0	no	NA	yes	755002.0324	3603143.781	2.600283
7230	2/2/2017 12:21	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755121.0827	3603101.102	

TABLE E-2
TRANSECTS
FORMER HAMMOND BOMBING AND GUNNERY RANGE

OBJECTID	Date	Team ID	Item type	Description	Notes	Quantity	Depth	Weight	Fuzed	Disposition	Resolved	Northing	Easting	HorizEstAcc
7249	2/2/2017 13:54	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				750807.4755	3605842.57	
7250	2/2/2017 13:57	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				750931.5051	3605846.561	
7251	2/2/2017 13:58	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				750939.4274	3605848.367	
7252	2/2/2017 13:59	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				750991.2406	3605847.415	
7253	2/2/2017 14:04	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751086.6872	3605858.364	
7254	2/2/2017 14:05	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751091.1118	3605849.171	
7255	2/2/2017 14:06	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751119.1495	3605846.288	
7256	2/2/2017 14:07	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751112.5054	3605844.443	
7257	2/2/2017 14:11	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751198.6634	3605852.592	
7258	2/2/2017 14:13	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751323.1467	3605855.04	
7259	2/2/2017 14:15	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751409.9848	3605863.899	
7260	2/2/2017 14:15	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751416.1922	3605861.782	
7261	2/2/2017 14:21	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751977.778	3605864.344	
7262	2/2/2017 14:23	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				752166.6332	3605858.421	
7263	2/2/2017 14:23	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				752187.2553	3605867.181	
7264	2/2/2017 14:24	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				752243.1659	3605852.944	
7265	2/2/2017 14:25	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				752332.3865	3605861.007	
7266	2/2/2017 14:26	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				752448.2036	3605858.129	
7267	2/2/2017 14:27	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				752558.8342	3605851.716	
7268	2/2/2017 14:27	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				752565.7079	3605854.341	
7269	2/2/2017 14:28	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				752692.54	3605845.768	
7270	2/2/2017 14:29	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				752703.3668	3605849.196	
7271	2/2/2017 14:29	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				752714.3779	3605849.717	
7272	2/2/2017 14:29	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				752721.5134	3605847.987	
7273	2/2/2017 14:29	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				752767.6888	3605852.007	
7274	2/2/2017 14:29	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				752775.8053	3605850.4	
7275	2/2/2017 14:29	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				752788.8731	3605850.27	
7217	2/2/2017 14:29	Team 1	MD	Indet frag		1	12	0.25	no	removed	yes	756385.2869	3602608.259	3.103536
7276	2/2/2017 14:29	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				752798.0224	3605849.266	
7277	2/2/2017 14:29	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				752814.8501	3605849.657	
7278	2/2/2017 14:30	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				752830.1057	3605850.235	
7279	2/2/2017 14:30	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				752871.727	3605856.102	
7280	2/2/2017 14:30	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				752913.7837	3605858.105	
7281	2/2/2017 14:31	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				752935.239	3605862.81	
7282	2/2/2017 14:31	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				752949.0178	3605854.702	
7283	2/2/2017 14:31	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				752955.6238	3605848.525	
7231	2/2/2017 14:43	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				756120.1755	3602603.693	
7232	2/2/2017 14:45	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				756011.3014	3602600.18	
7233	2/2/2017 14:47	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755897.9375	3602595.707	
7234	2/2/2017 14:49	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755877.1941	3602602.056	
7218	2/2/2017 14:54	Team 1	Obstruction	Other	deviated - briars	1	0	0	no	NA	yes	755696.3604	3602614.682	0.658203
7235	2/2/2017 14:58	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755706.6206	3602607.525	
7236	2/2/2017 14:59	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755726.4408	3602606.818	
7237	2/2/2017 14:59	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755726.4408	3602606.818	
7238	2/2/2017 14:59	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755728.5848	3602606.419	
7239	2/2/2017 14:59	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755729.173	3602604.896	
7284	2/3/2017 6:59	Team 1	Control point	Other		1	0	0	no	NA	yes	767830.6938	3592921.655	0.643043
7299	2/3/2017 6:59	Team 2	Control point	Other		1	0	0	no	removed	yes	767832.6997	3592920.324	3.360136
7309	2/3/2017 6:59	Team 3	Control point	Other		1	0	0	no	NA	yes	767830.9461	3592921.834	1.014637
7285	2/3/2017 7:39	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	755601.507	3602594.474	2.357341
7286	2/3/2017 7:40	Team 1	Obstruction	Other	deviated - briars	1	0	0	no	NA	yes	755597.2852	3602593.449	4.079779
7287	2/3/2017 7:48	Team 1	Obstruction	Other	deviated - briars	1	0	0	no	NA	yes	755191.1252	3602625.68	2.631954

TABLE E-2
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FORMER HAMMOND BOMBING AND GUNNERY RANGE

OBJECTID	Date	Team ID	Item type	Description	Notes	Quantity	Depth	Weight	Fuzed	Disposition	Resolved	Northing	Easting	HorizEstAcc
7310	2/3/2017 8:00	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755248.4046	3602713.721	
7288	2/3/2017 8:16	Team 1	MD	Indet frag		1	10	0.25	no	removed	yes	755156.6115	3602850.261	2.249742
7300	2/3/2017 8:18	Team 2	MD	Indet frag		1	7	0.5	no	removed	yes	751521.3163	3604607.364	4.004139
7311	2/3/2017 8:20	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755277.5106	3602851.078	
7289	2/3/2017 8:22	Team 1	Obstruction	Other	deviated - briars	1	0	0	no	NA	yes	755362.6757	3602809.052	2.905164
7312	2/3/2017 8:23	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755356.0619	3602818.165	
7290	2/3/2017 8:24	Team 1	Other	Other	large concrete foundation	1	0	0	no	LIP	no	755378.5399	3602819.138	3.698854
7291	2/3/2017 8:28	Team 1	Other	Other	multiple pieces of farm equipment and piles of metal	1	0	0	no	LIP	no	755546.6468	3602867.76	3.27307
7292	2/3/2017 8:33	Team 1	Other	Other	northern boundary of farm area	1	0	0	no	NA	no	755734.7216	3602855.952	3.413443
7293	2/3/2017 8:39	Team 1	Other	Other	eastern boundary farm equipment	1	0	0	no	NA	no	755545.9116	3603029.551	3.737177
7294	2/3/2017 8:42	Team 1	Other	Other	western boundary farm equipment	1	0	0	no	NA	no	755593.1149	3602778.261	1.414755
7301	2/3/2017 8:56	Team 2	MD	Indet frag		1	8	2	no	removed	yes	753307.1848	3604417.033	2.584533
7313	2/3/2017 9:11	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755770.4472	3602845.625	
7302	2/3/2017 9:14	Team 2	Obstruction	Other	thicket	1	0	0	no	LIP	yes	752589.5861	3604374.635	1.905884
7314	2/3/2017 9:15	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755950.0095	3602853.225	
7315	2/3/2017 9:18	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755974.7946	3602851.788	
7344	2/3/2017 9:18	Teamm 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				752226.8844	3604360.627	
7316	2/3/2017 9:19	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				756004.8624	3602842.55	
7317	2/3/2017 9:21	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				756030.4362	3602843.267	
7295	2/3/2017 9:27	Team 1	Obstruction	Other	deviated - briars	1	0	0	no	NA	yes	756290.0417	3602824.321	2.167297
7318	2/3/2017 9:43	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				756413.6684	3602916.604	
7319	2/3/2017 9:50	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				756404.1658	3602991.877	
7320	2/3/2017 9:53	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				756414.8511	3602987.035	
7321	2/3/2017 9:59	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				756404.0575	3603002.761	
7322	2/3/2017 9:59	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				756405.0952	3603006.572	
7323	2/3/2017 10:00	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				756413.8229	3603035.199	
7324	2/3/2017 10:02	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				756416.5959	3603087.95	
7325	2/3/2017 10:18	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				756241.1248	3603101.435	
7326	2/3/2017 10:21	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				756164.1374	3603095.269	
7296	2/3/2017 10:26	Team 1	Obstruction	Other	deviated - briars	1	0	0	no	NA	yes	755753.0188	3603079.256	3.363324
7327	2/3/2017 10:32	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755683.4185	3603115.368	
7328	2/3/2017 10:32	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755667.0373	3603111.325	
7297	2/3/2017 10:37	Team 1	Other	Other	southern boundary farm equipment	1	0	0	no	NA	yes	755477.7172	3603112.668	4.10345
7303	2/3/2017 10:39	Team 2	MD	Bomb-practice		1	30	26	no	removed	yes	751783.2397	3604338.093	4.363875
7329	2/3/2017 10:47	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755265.86	3603115.455	
7345	2/3/2017 10:51	Teamm 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751164.3426	3604468.685	
7330	2/3/2017 10:53	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755096.5821	3603110.69	
7331	2/3/2017 11:00	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755156.3533	3603267.568	
7298	2/3/2017 11:08	Team 1	MD	Bomb-practice	m38 sections	1	11	6	no	removed	yes	755179.0295	3603275.682	2.441493
7332	2/3/2017 11:15	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755616.9059	3603338.886	
7333	2/3/2017 11:26	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755703.4487	3603342.403	
7334	2/3/2017 11:32	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755706.158	3603345.868	
7335	2/3/2017 11:35	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755711.0156	3603351.159	
7346	2/3/2017 12:01	Teamm 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751375.3005	3604238.385	
7347	2/3/2017 12:01	Teamm 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751374.8258	3604239.475	
7348	2/3/2017 12:01	Teamm 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751373.9675	3604238.692	
7349	2/3/2017 12:01	Teamm 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751373.6968	3604239.496	
7336	2/3/2017 12:48	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755798.606	3603353.196	
7304	2/3/2017 12:54	Team 2	Unknown	Water intrusion		1	0	0	no	LIP	no	752617.6993	3603862.556	0.643043
7337	2/3/2017 12:58	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				756340.8437	3603355.156	
7338	2/3/2017 12:58	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				756337.8559	3603350.277	
7350	2/3/2017 13:00	Teamm 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				752485.7435	3603863.361	

TABLE E-2
TRANSECTS
FORMER HAMMOND BOMBING AND GUNNERY RANGE

OBJECTID	Date	Team ID	Item type	Description	Notes	Quantity	Depth	Weight	Fuzed	Disposition	Resolved	Northing	Easting	HorizEstAcc
7339	2/3/2017 13:00	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				756394.1776	3603352.465	
7340	2/3/2017 13:03	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				756343.7624	3603551.471	
7305	2/3/2017 13:09	Team 2	MD	Bomb-practice	water intrusion	1	6	20	no	LIP	yes	752209.0643	3603857.909	0.777345
7341	2/3/2017 13:10	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				756165.0367	3603610.848	
7306	2/3/2017 13:15	Team 2	Other	Other	east west fence	1	0	0	no	LIP	yes	751855.2782	3603853.267	2.535576
7307	2/3/2017 13:39	Team 2	MD	Bomb-practice		1	18	26	no	removed	yes	751869.7415	3604088.23	2.103163
7342	2/3/2017 13:48	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751575.8041	3602393.94	
7343	2/3/2017 13:48	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751571.201	3602398.435	
7352	2/6/2017 6:59	Team 1	Control point	Other		1	0	0	no	NA	yes	767832.6285	3592919.713	0.657326
7380	2/6/2017 7:01	Team 2	Control point	Other		1	0	0	no	NA	yes	767832.7984	3592920.012	0.594194
7351	2/6/2017 7:02	Team 1	Control point	Other		1	0	0	no	NA	yes	767832.4392	3592919.551	0.58361
7353	2/6/2017 7:26	Team 1	Other	Other	gate to range	1	0	0	no	NA	yes	754466.3967	3602363.746	6.085108
7381	2/6/2017 8:13	Team 2	Obstruction	Other		1	0	0	no	LIP	yes	756364.5163	3603602.378	6.205685
7397	2/6/2017 8:15	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				756329.9008	3603629.495	
7398	2/6/2017 8:16	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				756315.1902	3603628.887	
7399	2/6/2017 8:16	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				756288.8051	3603628.076	
7400	2/6/2017 8:17	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				756256.9574	3603638.596	
7401	2/6/2017 8:17	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				756243.3574	3603640.585	
7402	2/6/2017 8:17	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				756212.0025	3603647.666	
7403	2/6/2017 8:18	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				756179.1738	3603636.719	
7404	2/6/2017 8:18	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				756123.3717	3603633.268	
7405	2/6/2017 8:18	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				756108.9252	3603622.605	
7406	2/6/2017 8:19	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				756106.4	3603615.277	
7407	2/6/2017 8:19	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				756091.1323	3603619.025	
7408	2/6/2017 8:19	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				756054.5779	3603628.259	
7409	2/6/2017 8:19	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755997.5882	3603630.951	
7410	2/6/2017 8:20	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755952.8813	3603615.215	
7411	2/6/2017 8:20	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755949.9577	3603611.212	
7382	2/6/2017 8:22	Team 2	Obstruction	Standing water		1	0	0	no	LIP	yes	755945.3534	3603595.768	4.093504
7412	2/6/2017 8:23	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755909.1287	3603617.745	
7413	2/6/2017 8:23	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755903.3128	3603619.719	
7414	2/6/2017 8:23	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755900.2058	3603618.139	
7415	2/6/2017 8:24	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755836.2624	3603621.742	
7416	2/6/2017 8:24	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755768.1516	3603621.4	
7417	2/6/2017 8:24	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755760.9991	3603613.093	
7418	2/6/2017 8:25	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755711.0336	3603609.306	
7419	2/6/2017 8:25	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755711.8178	3603606.818	
7420	2/6/2017 8:25	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755680.8021	3603597.997	
7421	2/6/2017 8:26	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755674.6338	3603596.068	
7422	2/6/2017 8:27	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755590.2238	3603610.547	
7423	2/6/2017 8:28	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755541.2358	3603594.357	
7424	2/6/2017 8:29	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755514.4976	3603622.842	
7425	2/6/2017 8:29	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755478.7063	3603606.314	
7383	2/6/2017 8:31	Team 2	Obstruction	Other	fence	1	0	0	no	LIP	yes	755369.8598	3603632.092	3.654421
7426	2/6/2017 8:33	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755345.1197	3603605.407	
7384	2/6/2017 8:34	Team 2	Obstruction	Other	thicket	1	0	0	no	LIP	yes	755197.9123	3603618.621	4.423924
7427	2/6/2017 8:37	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755148.1299	3603646.745	
7428	2/6/2017 8:38	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755121.0952	3603608.191	
7354	2/6/2017 8:59	Team 1	Other	Other	west side of pine trees	1	0	0	no	NA	yes	753918.5084	3602517.338	4.507346
7355	2/6/2017 9:07	Team 1	Other	Other	east side of pines	1	0	0	no	NA	yes	753867.0908	3602800.693	3.58896
7385	2/6/2017 9:17	Team 2	MD	Indet frag		1	2	0.4	no	removed	yes	755075.9729	3603851.463	2.973983
7429	2/6/2017 9:20	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755121.5351	3603857.058	

TABLE E-2
TRANSECTS
FORMER HAMMOND BOMBING AND GUNNERY RANGE

OBJECTID	Date	Team ID	Item type	Description	Notes	Quantity	Depth	Weight	Fuzed	Disposition	Resolved	Northing	Easting	HorizEstAcc
7430	2/6/2017 9:21	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755177.8999	3603860.055	
7386	2/6/2017 9:26	Team 2	Obstruction	Other	thicket	1	0	0	no	LIP	yes	755349.4763	3603854.118	0.982292
7431	2/6/2017 9:27	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755402.6924	3603917.25	
7432	2/6/2017 9:28	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755421.8466	3603916.661	
7387	2/6/2017 9:35	Team 2	Obstruction	Other	fence	1	0	0	no	LIP	yes	755462.3078	3603883.914	2.817603
7433	2/6/2017 9:38	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755448.5696	3603947.253	
7434	2/6/2017 9:38	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755453.2635	3603963.839	
7435	2/6/2017 9:38	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755470.041	3603963.505	
7436	2/6/2017 9:40	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755608.9981	3603912.051	
7437	2/6/2017 9:41	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755654.9547	3603863.597	
7438	2/6/2017 9:41	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755728.9529	3603858.116	
7439	2/6/2017 9:41	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755752.8374	3603849.036	
7440	2/6/2017 9:42	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755768.9951	3603850.526	
7441	2/6/2017 9:42	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755787.9833	3603859.63	
7442	2/6/2017 9:42	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755790.2628	3603863.919	
7443	2/6/2017 9:43	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755809.7995	3603854.054	
7444	2/6/2017 9:43	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755849.8001	3603863.312	
7445	2/6/2017 9:43	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755857.8096	3603863.81	
7446	2/6/2017 9:45	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755958.1299	3603834.564	
7447	2/6/2017 9:46	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755998.5839	3603863.643	
7448	2/6/2017 9:46	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				756012.7502	3603870.775	
7449	2/6/2017 9:47	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				756101.7514	3603857.857	
7450	2/6/2017 10:58	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				756160.332	3604077.387	
7451	2/6/2017 11:00	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				756068.7593	3604106.21	
7452	2/6/2017 11:02	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755941.3767	3604101.781	
7453	2/6/2017 11:02	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755868.7052	3604100.098	
7454	2/6/2017 11:03	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755833.1259	3604117.565	
7388	2/6/2017 11:05	Team 2	Obstruction	Other	fence	1	0	0	no	LIP	yes	755694.5694	3604105.776	3.397005
7389	2/6/2017 11:07	Team 2	Obstruction	Other	thicket	1	0	0	no	LIP	yes	755624.7743	3604108.211	3.753508
7455	2/6/2017 11:11	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755313.0797	3604102.455	
7456	2/6/2017 11:22	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755093.1448	3604347.158	
7457	2/6/2017 11:30	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755659.5488	3604348.485	
7458	2/6/2017 11:31	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755709.2682	3604354.915	
7459	2/6/2017 11:32	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755780.4249	3604348.233	
7390	2/6/2017 12:37	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751624.7702	3603606.088	
7391	2/6/2017 12:39	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751687.7658	3603619.372	
7356	2/6/2017 12:41	Team 1	Obstruction	Other	deviated - briars	1	0	0	no	NA	yes	751732.5386	3603577.062	4.100808
7392	2/6/2017 12:45	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751850.2953	3603605.191	
7357	2/6/2017 12:47	Team 1	MD	Indet frag		1	8	0.25	no	removed	yes	751860.1575	3603597.357	2.881869
7393	2/6/2017 12:48	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751860.8107	3603594.115	
7358	2/6/2017 12:53	Team 1	Obstruction	Other	deviated - pond	1	0	0	no	NA	yes	751983.3652	3603561.721	2.637197
7359	2/6/2017 12:54	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	751980.3508	3603566.738	2.769508
7360	2/6/2017 12:56	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	752013.3232	3603582.676	2.654712
7361	2/6/2017 12:59	Team 1	MD	Other		1	5	0.25	no	removed	yes	752099.2115	3603592.467	2.376731
7362	2/6/2017 13:07	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	752244.6026	3603606.787	2.244212
7363	2/6/2017 13:12	Team 1	MD	Indet frag		1	4	0.25	no	removed	yes	752445.8607	3603606.871	1.2463
7364	2/6/2017 13:16	Team 1	MD	Other		1	4	0.25	no	removed	yes	752565.5258	3603600.113	2.363517
7460	2/6/2017 13:19	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				756191.3539	3603654.14	
7365	2/6/2017 13:22	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	752678.1421	3603601.959	2.337776
7366	2/6/2017 13:26	Team 1	MD	Indet frag		2	7	0.5	no	removed	yes	752770.3804	3603598.031	2.753057
7461	2/6/2017 13:40	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755597.8068	3604600.216	
7462	2/6/2017 13:43	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755321.7493	3604591.542	

TABLE E-2
TRANSECTS
FORMER HAMMOND BOMBING AND GUNNERY RANGE

OBJECTID	Date	Team ID	Item type	Description	Notes	Quantity	Depth	Weight	Fuzed	Disposition	Resolved	Northing	Easting	HorizEstAcc
7463	2/6/2017 13:44	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755214.156	3604592.328	
7464	2/6/2017 13:44	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755207.9287	3604598.82	
7465	2/6/2017 13:44	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755177.1951	3604614.047	
7466	2/6/2017 13:44	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755165.603	3604612.515	
7467	2/6/2017 13:45	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755137.8593	3604609.006	
7367	2/6/2017 13:45	Team 1	Unknown	Water intrusion		1	0	0	no	Not investigated	no	753034.1545	3603610.793	2.524806
7468	2/6/2017 13:45	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755126.5092	3604605.367	
7469	2/6/2017 13:45	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755113.3688	3604614.598	
7368	2/6/2017 13:50	Team 1	MD	Indet frag		1	6	0.25	no	removed	yes	753126.1599	3603503.012	2.544449
7369	2/6/2017 13:52	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	753115.4443	3603433.777	2.50351
7370	2/6/2017 13:54	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	753117.8036	3603404.049	2.607338
7394	2/6/2017 13:55	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				753111.4788	3603378.449	
7371	2/6/2017 14:04	Team 1	MD	Indet frag		2	6	0.5	no	removed	yes	753061.2912	3603341.768	2.888796
7372	2/6/2017 14:10	Team 1	MD	Indet frag		1	4	0.25	no	removed	yes	752972.4574	3603349.334	2.922189
7373	2/6/2017 14:12	Team 1	MD	Indet frag		1	8	0.25	no	removed	yes	752962.4929	3603347.779	3.035962
7374	2/6/2017 14:21	Team 1	MD	Bomb-practice		1	7	7	no	removed	yes	752941.7111	3603346.431	3.247151
7375	2/6/2017 14:23	Team 1	MD	Bomb-practice	m38 sections	1	5	6	no	removed	yes	752938.405	3603343.688	2.580695
7376	2/6/2017 14:27	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	752911.639	3603352.935	1.656827
7377	2/6/2017 14:29	Team 1	MD	Indet frag		1	4	0.25	no	removed	yes	752837.5505	3603343.783	1.747617
7378	2/6/2017 14:31	Team 1	MD	Indet frag		1	3	0.25	no	removed	yes	752747.0389	3603354.519	3.942364
7395	2/6/2017 14:34	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				752712.3175	3603348.456	
7379	2/6/2017 14:42	Team 1	MD	Indet frag		1	4	0.25	no	removed	yes	752271.2616	3603346.071	2.615063
7396	2/6/2017 14:54	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751854.394	3603343.908	
7470	2/7/2017 6:59	Team 1	Control point	Other		1	0	0	no	NA	yes	767831.0199	3592919.208	2.136537
7491	2/7/2017 6:59	Team 2	Control point	Other		1	0	0	no	NA	yes	767830.6328	3592920.868	2.646971
7533	2/7/2017 6:59	Team 1	Control point	Other		1	0	0	no	NA	yes	767830.9877	3592923.035	2.865787
7471	2/7/2017 8:30	Team 1	MD	Indet frag		1	5	0.5	no	removed	yes	753935.0369	3602405.837	4.594935
7472	2/7/2017 8:34	Team 1	MD	Indet frag		1	4	0.2	no	removed	yes	753940.1376	3602413.606	3.160812
7473	2/7/2017 8:35	Team 1	MD	Indet frag		1	4	0.2	no	removed	yes	753923.4975	3602425.064	3.395592
7474	2/7/2017 8:41	Team 1	MD	Indet frag		1	8	0.5	no	removed	yes	753917.1737	3602447.664	2.482959
7475	2/7/2017 8:42	Team 1	MD	Indet frag		1	4	0.1	no	removed	yes	753923.136	3602488.169	3.146872
7476	2/7/2017 8:48	Team 1	MD	Indet frag		1	5	0.2	no	removed	yes	753934.6346	3602566.343	3.811861
7477	2/7/2017 9:00	Team 1	MD	Indet frag		2	9	1	no	removed	yes	753907.863	3602628.094	3.090093
7510	2/7/2017 9:07	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				753889.7814	3602727.93	
7478	2/7/2017 9:08	Team 1	MD	Indet frag		1	5	0.5	no	removed	yes	753878.3103	3602760.836	2.873936
7479	2/8/2017 6:53	Team 1	Control point	Other		1	0	0	no	NA	yes	767829.6364	3592920.002	3.864963
7492	2/8/2017 6:54	Team 2	Control point	Other		1	0	0	no	NA	yes	767829.8414	3592921.322	2.164999
7534	2/8/2017 6:54	Team 2	Control point	Other		1	0	0	no	NA	yes	767830.5311	3592921.615	0.693874
7480	2/8/2017 7:38	Team 1	MD	Indet frag		1	4	0.25	no	removed	yes	753859.8021	3602797.322	4.145873
7481	2/8/2017 9:12	Team 1	MD	Bomb-practice		1	20	5	no	removed	yes	753878.7171	3602775.507	2.786602
7482	2/8/2017 9:50	Team 1	MD	Indet frag		1	8	1	no	removed	yes	753941.8131	3602404.843	2.961046
7493	2/8/2017 11:16	Team 2	MD	Bomb-practice	100 pound sand bomb	1	34	21	no	removed	yes	752892.5987	3603888.848	2.537209
7494	2/8/2017 11:21	Team 2	MD	Bomb-practice	100 pound sand bomb	1	42	24	no	removed	yes	752639.2521	3603866.285	0.640604
7495	2/8/2017 12:35	Team 2	MD	Indet frag		1	10	0.4	no	removed	yes	753118.9037	3603856.004	2.784664
7519	2/8/2017 12:38	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				753137.252	3603861.456	
7511	2/8/2017 12:41	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				753059.2043	3604992.725	
7496	2/8/2017 12:49	Team 2	MD	Indet frag		1	6	1	no	removed	yes	753517.6315	3603852.259	3.686684
7497	2/8/2017 12:52	Team 2	MD	Indet frag		1	8	1	no	removed	yes	753569.66	3603856.034	2.792987
7520	2/8/2017 12:56	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				753731.2171	3603862.034	
7483	2/8/2017 12:57	Team 1	Obstruction	Other	deviated - briars	1	0	0	no	NA	yes	753782.5359	3604398.187	3.964521
7484	2/8/2017 13:05	Team 1	MD	Indet frag		1	8	0.25	no	removed	yes	754069.4575	3604351.612	2.627582
7521	2/8/2017 13:08	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754041.3096	3603866.04	

TABLE E-2
TRANSECTS
FORMER HAMMOND BOMBING AND GUNNERY RANGE

OBJECTID	Date	Team ID	Item type	Description	Notes	Quantity	Depth	Weight	Fuzed	Disposition	Resolved	Northing	Easting	HorizEstAcc
7498	2/8/2017 13:09	Team 2	MD	Indet frag		1	0	0.5	no	removed	yes	754074.1645	3603865.678	4.711771
7499	2/8/2017 13:10	Team 2	MD	Indet frag		1	0	0.3	no	removed	yes	754107.296	3603863.893	2.315696
7512	2/8/2017 13:11	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754424.2859	3604343.768	
7513	2/8/2017 13:11	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754464.588	3604344.697	
7500	2/8/2017 13:14	Team 2	MD	Indet frag		1	6	0.5	no	removed	yes	754332.8097	3603855.275	4.802129
7485	2/8/2017 13:14	Team 1	MD	Indet frag		1	12	0.25	no	removed	yes	754532.3001	3604353.457	3.092277
7501	2/8/2017 13:15	Team 2	Obstruction	Other	fence	1	0	0	no	LIP	yes	754435.4794	3603854.781	4.252466
7502	2/8/2017 13:16	Team 2	MD	Indet frag		1	6	0.5	no	removed	yes	754437.155	3603853.971	3.059154
7522	2/8/2017 13:18	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754448.0706	3603833.786	
7503	2/8/2017 13:20	Team 2	MD	Indet frag		1	3	0.2	no	removed	yes	754526.2325	3603858.302	2.976852
7523	2/8/2017 13:21	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754559.5937	3603868.955	
7504	2/8/2017 13:23	Team 2	MD	Indet frag		1	2	0.5	no	removed	yes	754664.4688	3603857.371	4.226477
7524	2/8/2017 13:25	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754666.1082	3603854.126	
7525	2/8/2017 13:27	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754684.4248	3603864.293	
7486	2/8/2017 13:27	Team 1	MD	Bomb-practice		1	16	5	no	removed	yes	754534.5823	3604342.607	3.100083
7514	2/8/2017 13:30	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754575.2059	3604351.249	
7487	2/8/2017 13:34	Team 1	MD	Indet frag		1	4	0.25	no	removed	yes	754841.3451	3604353.378	5.564424
7488	2/8/2017 13:39	Team 1	MD	Indet frag		1	5	0.25	no	removed	yes	755228.3299	3604348.844	4.247618
7515	2/8/2017 13:51	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755476.2743	3604609.38	
7526	2/8/2017 13:53	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755066.4906	3603943.522	
7516	2/8/2017 13:57	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755330.0262	3604578.821	
7527	2/8/2017 13:59	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754850.4599	3604119.069	
7505	2/8/2017 14:03	Team 2	Obstruction	Other	fence	1	0	0	no	LIP	yes	754446.9817	3604117.083	3.866151
7517	2/8/2017 14:04	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755202.7955	3604609.095	
7528	2/8/2017 14:06	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754298.8281	3604092.208	
7506	2/8/2017 14:08	Team 2	MD	Indet frag		1	6	0.5	no	removed	yes	754135.4807	3604102.231	4.107698
7529	2/8/2017 14:11	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				753878.5478	3604111.958	
7507	2/8/2017 14:15	Team 2	Unknown	Water intrusion		1	0	0	no	LIP	yes	753572.1685	3604105.233	0.630154
7508	2/8/2017 14:17	Team 2	Unknown	Water intrusion		1	0	0	no	LIP	yes	753511.2296	3604112.683	0.915523
7509	2/8/2017 14:18	Team 2	Obstruction	Other	thicket	1	0	0	no	LIP	yes	753452.8026	3604084.647	1.646242
7489	2/8/2017 14:21	Team 1	Obstruction	Other		1	0	0	no	NA	yes	753919.2761	3604572.178	3.206789
7490	2/8/2017 14:30	Team 1	MD	Bomb-practice		1	6	5	no	removed	yes	753558.0114	3604596.952	3.256405
7518	2/8/2017 14:40	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				752779.2262	3605036.051	
7535	2/9/2017 7:05	Team 4	Control point	Other		1	0	0	no	NA	yes	767828.0399	3592915.531	7.664819
7543	2/9/2017 7:06	Team 1	Control point	Other		1	0	0	no	NA	yes	767824.5727	3592910.785	7.733487
7536	2/9/2017 7:07	Team 3	Control point	Other		1	0	0	no	NA	yes	767829.4891	3592921.229	2.641715
7537	2/9/2017 8:34	Team 2	Obstruction	Other	thicket	1	0	0	no	LIP	yes	755135.2205	3603301.571	2.595191
7538	2/9/2017 8:39	Team 2	Obstruction	Other	thicket	1	0	0	no	LIP	yes	754920.7183	3603297.933	2.597029
7530	2/9/2017 8:52	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754384.5701	3603336.189	
7539	2/9/2017 9:05	Team 1	MEC	Bomb	anm50 series incendiary bomb	1	4	1	no	removed	yes	754390.7312	3603345.067	2.84324
7540	2/9/2017 9:09	Team 1	MEC	Bomb	anm50 series incendiary bomb	1	5	1	no	removed	yes	754339.3028	3603355.651	3.351838
7541	2/9/2017 9:12	Team 1	MEC	Bomb	anm50 series incendiary bomb	1	3	1	no	removed	yes	754192.2171	3603351.504	3.859913
7542	2/9/2017 10:30	Team 1	MEC	Bomb	anm50 series incendiary bomb	1	3	1	no	removed	yes	754184.3753	3603347.975	3.90561
7531	2/9/2017 11:07	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754384.3834	3603628.593	
7532	2/9/2017 13:50	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				752331.086	3602402.539	
7544	2/10/2017 6:48	Team 2	Control point	Other		1	0	0	no	NA	yes	767830.141	3592922.851	2.005829
7545	2/10/2017 7:54	Team 1	MD	Bomb-practice		1	16	5	no	removed	yes	753047.1262	3603835.958	2.81008
7546	2/10/2017 8:15	Team 1	MD	Bomb-practice		1	4	3	no	removed	yes	753134.1769	3603858.338	2.668911
7547	2/10/2017 8:29	Team 1	Unknown	Water intrusion		1	10	0	no	Not investigated	no	753719.7588	3603868.756	2.194023
7548	2/10/2017 8:39	Team 1	MD	Bomb-practice		1	12	2	no	removed	yes	753990.8675	3603846.246	3.519999
7549	2/10/2017 6:49	Team 1	Control point	Other		1	0	0	no	NA	yes	767831.0206	3592922.103	1.542464
7550	2/10/2017 11:03	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				750390.9669	3606348.932	

TABLE E-2
TRANSECTS
FORMER HAMMOND BOMBING AND GUNNERY RANGE

OBJECTID	Date	Team ID	Item type	Description	Notes	Quantity	Depth	Weight	Fuzed	Disposition	Resolved	Northing	Easting	HorizEstAcc
8054	2/21/2017 12:15	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751157.8298	3604466.958	
8068	2/22/2017 6:46	Team 2	Control point	Other		1	0	0	no	NA	yes	767827.6347	3592919.343	1.300135
8069	2/22/2017 10:07	Team 2	Obstruction	Standing water	start of lake	1	0	0	no	LIP	yes	755569.0881	3601340.182	1.522106
8070	2/22/2017 15:10	Team 2	Obstruction	Standing water	lake	1	0	0	no	LIP	yes	754608.7481	3601353.167	0.58361
8071	2/22/2017 15:45	Team 2	Obstruction	Standing water	lake	1	0	0	no	LIP	yes	755282.293	3601596.787	0.58361
8074	2/22/2017 7:34	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751298.3699	3603688.849	
8075	2/22/2017 11:53	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755116.5798	3602351.746	
8076	2/22/2017 12:52	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754509.8077	3601104.423	
8077	2/22/2017 12:52	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754513.8943	3601107.814	
8078	2/22/2017 12:53	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754537.2857	3601103.188	
8079	2/22/2017 12:53	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754543.1383	3601106.87	
8080	2/22/2017 12:53	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754546.0704	3601108.153	
8081	2/22/2017 12:53	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754550.3916	3601108.276	
8082	2/22/2017 12:53	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754543.2876	3601104.044	
8083	2/22/2017 12:55	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754549.2253	3601108.966	
8084	2/22/2017 12:55	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754551.7482	3601108.077	
8085	2/22/2017 12:56	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754551.8719	3601104.198	
8086	2/22/2017 12:56	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754555.1649	3601104.221	
8087	2/22/2017 12:56	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754557.9064	3601104.055	
8088	2/22/2017 12:57	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754560.5543	3601104.026	
8089	2/22/2017 12:57	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754561.6508	3601104.547	
8090	2/22/2017 12:58	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754583.4998	3601103.41	
8091	2/22/2017 12:58	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754599.6533	3601101.395	
8092	2/22/2017 12:59	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754600.9141	3601100.437	
8093	2/22/2017 12:59	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754603.1753	3601099.001	
8094	2/22/2017 13:00	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754656.5627	3601099.674	
8095	2/22/2017 13:00	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754655.5253	3601099.866	
8096	2/22/2017 13:04	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754836.7769	3601099.71	
8097	2/22/2017 13:05	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754885.2712	3601090.302	
8098	2/22/2017 13:05	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754889.5625	3601090.556	
8099	2/22/2017 13:05	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754893.6508	3601090.903	
8100	2/22/2017 13:05	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754896.9464	3601092.081	
8101	2/22/2017 13:05	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754842.0036	3601096.102	
8102	2/22/2017 13:05	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754849.0534	3601098.13	
8103	2/22/2017 13:06	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754891.2945	3601091.626	
8104	2/22/2017 13:06	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754895.7754	3601091.129	
8105	2/22/2017 13:06	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754898.971	3601091.844	
8106	2/22/2017 13:06	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754900.3345	3601091.172	
8107	2/22/2017 13:07	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754901.5382	3601093.562	
8108	2/22/2017 13:07	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754903.5359	3601092.628	
8109	2/22/2017 13:08	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754950.3432	3601104.206	
8110	2/22/2017 13:11	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754865.9103	3601098.022	
8111	2/22/2017 13:12	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754873.2374	3601100.853	
8112	2/22/2017 13:14	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755152.227	3601088.327	
8113	2/22/2017 13:16	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755228.5251	3601084.437	
8114	2/22/2017 13:16	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755236.4565	3601085.597	
8115	2/22/2017 13:19	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755671.7762	3601104.761	
8116	2/22/2017 13:20	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755685.954	3601103.677	
8117	2/22/2017 13:20	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755688.2866	3601104.652	
8118	2/22/2017 14:49	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754641.8225	3602360.542	
8119	2/22/2017 14:49	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754657.5905	3602361.08	
8120	2/22/2017 14:49	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754657.5905	3602361.08	

TABLE E-2
TRANSECTS
FORMER HAMMOND BOMBING AND GUNNERY RANGE

OBJECTID	Date	Team ID	Item type	Description	Notes	Quantity	Depth	Weight	Fuzed	Disposition	Resolved	Northing	Easting	HorizEstAcc
8121	2/22/2017 14:49	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754672.5233	3602361.437	
8122	2/22/2017 15:11	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754563.4096	3601354.364	
8123	2/22/2017 15:15	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754573.9733	3601353.913	
8124	2/22/2017 15:19	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754475.7192	3601354.079	
8152	2/23/2017 6:51	Team 2	Control point	Other		1	0	0	no	NA	yes	767832.1721	3592921.626	2.203925
8153	2/23/2017 9:29	Team 2	MD	Indet frag		1	1	1	no	removed	yes	754789.796	3602102.632	0.58361
8154	2/23/2017 10:14	Team 2	MD	Indet frag		1	3	2	no	removed	yes	754896.3342	3602107.03	0.58361
8155	2/23/2017 10:15	Team 2	MD	Indet frag		1	3	1	no	removed	yes	754953.4745	3602101.194	0.58361
8156	2/23/2017 10:56	Team 2	Obstruction	Other	driveway	1	0	0	no	LIP	yes	755384.9916	3602103.367	0.58361
8157	2/23/2017 11:07	Team 2	Obstruction	Other	fence	1	0	0	no	LIP	yes	755708.1459	3601854.621	2.719878
8158	2/23/2017 14:46	Team 2	MD	Indet frag		1	3	0.1	no	removed	yes	754730.6442	3601605.046	1.309121
8159	2/23/2017 14:48	Team 2	MD	Bomb-practice		1	12	0.4	no	LIP	yes	754900.6002	3601604.181	0.671355
8160	2/23/2017 15:00	Team 2	MD	Indet frag		1	4	1	no	removed	yes	754899.927	3602325.422	2.987804
8161	2/23/2017 6:51	Team 2	Control point	Other		1	0	0	no	NA	yes	767835.2738	3592922.206	2.807026
8162	2/23/2017 12:29	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				751614.0668	3603649.66	
8163	2/23/2017 13:52	Team 1	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				750083.3188	3603168.156	
8164	2/23/2017 9:30	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754792.1805	3602105.586	
8165	2/23/2017 10:13	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754823.8268	3602101.57	
8166	2/23/2017 10:13	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754837.5636	3602101.493	
8167	2/23/2017 10:13	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754866.1298	3602103.83	
8168	2/23/2017 10:14	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754873.4776	3602102.757	
8169	2/23/2017 10:14	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754891.5084	3602103.577	
8170	2/23/2017 10:15	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754906.5126	3602104.95	
8171	2/23/2017 10:15	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754917.3833	3602105.834	
8172	2/23/2017 10:15	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754923.5871	3602106.072	
8173	2/23/2017 10:16	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755015.3936	3602099.468	
8174	2/23/2017 14:43	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754968.6149	3601842.93	
8175	2/23/2017 14:43	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754953.8216	3601842.647	
8176	2/23/2017 14:43	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754910.5969	3601850.709	
8177	2/23/2017 14:44	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754888.6042	3601848.928	
8178	2/23/2017 14:44	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754882.2203	3601850.694	
8179	2/23/2017 14:44	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754857.8332	3601854.063	
8180	2/23/2017 14:47	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754748.5192	3601605.092	
8181	2/23/2017 14:47	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754766.7616	3601599.555	
8182	2/23/2017 14:47	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754775.7435	3601598.548	
8183	2/23/2017 14:48	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754790.9151	3601599.519	
8184	2/23/2017 14:48	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754803.4337	3601602.681	
8185	2/23/2017 14:48	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754816.7694	3601603.052	
8186	2/23/2017 14:48	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754828.1998	3601604.07	
8187	2/23/2017 14:48	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754865.7456	3601606.865	
8188	2/23/2017 14:48	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754896.4401	3601608.316	
8189	2/23/2017 14:49	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754959.7704	3601612.49	
8190	2/23/2017 14:50	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754968.4981	3601605.842	
8191	2/23/2017 14:50	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755072.3079	3601608.01	
8192	2/23/2017 14:59	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754932.6723	3602323.101	
8193	2/23/2017 15:01	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754851.0639	3602324.663	
8194	2/23/2017 15:17	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755000.5134	3602323.089	
8195	2/23/2017 15:17	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755065.7607	3602318.997	
8196	2/23/2017 15:17	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755077.8696	3602318.94	
8215	2/24/2017 6:45	Team 2	Control point	Other		1	0	0	no	NA	yes	767831.1531	3592921.793	0.87844
8216	2/24/2017 8:35	Team 2	Other	Other	drain pipe	1	6	0	no	LIP	yes	755209.6085	3602323.128	0.58361
8217	2/24/2017 8:40	Team 2	Other	Other	water pump	1	3	0	no	LIP	yes	755304.7562	3602315.646	0.702382

TABLE E-2
TRANSECTS
FORMER HAMMOND BOMBING AND GUNNERY RANGE

OBJECTID	Date	Team ID	Item type	Description	Notes	Quantity	Depth	Weight	Fuzed	Disposition	Resolved	Northing	Easting	HorizEstAcc
8218	2/24/2017 8:45	Team 2	Other	Other	fence post	1	5	0	no	LIP	yes	755394.7698	3602318.511	0.58361
8219	2/24/2017 8:46	Team 2	MD	Indet frag		1	4	0.5	no	removed	yes	755577.8233	3602313.445	0.594992
8220	2/24/2017 8:48	Team 2	MD	Indet frag		1	3	0.25	no	removed	yes	755607.6123	3602308.806	0.58361
8221	2/24/2017 8:49	Team 2	MD	Indet frag		1	3	0.25	no	removed	yes	755614.0368	3602308.488	1.621193
8222	2/24/2017 8:54	Team 2	Other	Other	rebar	1	11	0	no	LIP	yes	755653.453	3602307.737	0.58361
8223	2/24/2017 8:59	Team 2	MD	Bomb-practice	M38 debris	2	15	0.5	no	removed	yes	755677.185	3602298.671	2.311715
8224	2/24/2017 9:02	Team 2	MD	Bomb-practice	M38 debris	1	12	0.25	no	removed	yes	755692.3319	3602296.533	2.489057
8225	2/24/2017 9:31	Team 2	MD	Indet frag		1	4	0.1	no	removed	yes	755570.2373	3601893.672	0.797598
8226	2/24/2017 10:03	Team 2	Other	Other	metal plate	1	5	0	no	LIP	yes	755352.3651	3602104.102	0.58361
8229	2/24/2017 6:43	Team 4	Control point	Other		1	0	0	no	NA	yes	767830.6331	3592921.347	0.58361
8230	2/27/2017 6:48	Team 4	Control point	Other		1	0	0	no	NA	yes	767835.7538	3592922.191	2.930628
8231	2/24/2017 8:28	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				754745.4375	3602322.118	
8232	2/24/2017 8:37	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755203.2509	3602323.328	
8233	2/24/2017 8:38	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755232.1691	3602320.983	
8234	2/24/2017 8:39	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755241.7265	3602320.615	
8235	2/24/2017 8:39	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755244.2045	3602319.936	
8236	2/24/2017 8:41	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755348.8598	3602315.264	
8237	2/24/2017 8:43	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755443.4981	3602315.432	
8238	2/24/2017 8:44	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755492.5859	3602313.834	
8239	2/24/2017 8:47	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755603.5165	3602308.075	
8240	2/24/2017 8:49	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755637.1142	3602306.308	
8241	2/24/2017 9:04	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755689.7532	3602297.112	
8242	2/24/2017 9:05	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755693.1895	3602300.034	
8243	2/24/2017 9:07	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755709.032	3602130.923	
8244	2/24/2017 9:08	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755682.6003	3602130.545	
8245	2/24/2017 9:09	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755644.481	3602127.806	
8246	2/24/2017 9:10	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755660.351	3602134.277	
8247	2/24/2017 9:10	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755628.1614	3602131.082	
8248	2/24/2017 9:11	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755655.036	3602131.53	
8249	2/24/2017 9:11	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755620.8288	3602131.45	
8250	2/24/2017 9:12	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755593.6156	3602132.984	
8251	2/24/2017 9:12	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755613.3012	3602129.4	
8252	2/24/2017 9:13	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755524.0268	3602138.615	
8253	2/24/2017 9:14	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755469.3799	3602138.873	
8254	2/24/2017 9:15	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755514.3893	3602132.331	
8255	2/24/2017 9:15	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755502.0662	3602139.452	
8256	2/24/2017 9:15	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755461.7234	3602134.093	
8257	2/24/2017 9:17	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755459.3757	3602133.564	
8258	2/24/2017 9:17	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755445.6385	3602128.154	
8259	2/24/2017 9:18	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755448.6825	3602129.675	
8260	2/24/2017 9:19	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755442.8485	3602128.871	
8261	2/24/2017 9:20	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755431.5276	3602125.135	
8262	2/24/2017 9:20	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755437.2556	3602128.387	
8263	2/24/2017 9:31	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755577.7655	3601892.389	
8264	2/24/2017 9:32	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755579.0355	3601893.087	
8265	2/24/2017 9:33	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755676.0678	3601885.73	
8266	2/24/2017 9:34	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755699.4398	3601888.055	
8267	2/24/2017 9:34	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755702.1167	3601884.935	
8268	2/24/2017 9:37	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755672.1456	3601604.128	
8269	2/24/2017 9:37	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755691.1003	3601601.556	
8270	2/24/2017 9:37	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755665.7677	3601599.29	
8271	2/24/2017 9:37	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755656.5334	3601601.787	

TABLE E-2
TRANSECTS
FORMER HAMMOND BOMBING AND GUNNERY RANGE

OBJECTID	Date	Team ID	Item type	Description	Notes	Quantity	Depth	Weight	Fuzed	Disposition	Resolved	Northing	Easting	HorizEstAcc
8272	2/24/2017 9:38	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755602.257	3601599.641	
8273	2/24/2017 9:39	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755588.2826	3601640.185	
8274	2/24/2017 9:39	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755582.6976	3601642.451	
8275	2/24/2017 9:39	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755573.6448	3601642.071	
8276	2/24/2017 9:40	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755367.0845	3601614.375	
8277	2/24/2017 9:41	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755376.2249	3601615.388	
8278	2/24/2017 9:45	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755438.1034	3601890.428	
8279	2/24/2017 9:47	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755374.9949	3601866.043	
8280	2/24/2017 9:57	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755337.4363	3602109.348	
8281	2/24/2017 9:57	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755336.9488	3602108.318	
8282	2/24/2017 9:57	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755333.4061	3602107.399	
8283	2/24/2017 9:57	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755327.1023	3602107.551	
8284	2/24/2017 9:57	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755326.163	3602108.025	
8285	2/24/2017 9:58	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755365.575	3602107.072	
8286	2/24/2017 9:59	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755392.4244	3602108.84	
8287	2/24/2017 10:02	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755418.8849	3602123.735	
8288	2/24/2017 10:02	Team 2	NMRD	Other	NMRD (quick collect), depth 0-6	1	6	0.25				755424.2298	3602126.904	

e-Hardcopy 2.0
Automated Report

Technical Report for

AECOM, INC

Hammond BGR; Hammond, LA

60442717

SGS Accutest Job Number: FA41687

Sampling Date: 02/28/17

Report to:

AECOM, INC
12120 Shamrock Plaza Suite 300
Omaha, NE 68154
john.c.carson@aecom.com; jeff.aust@aecom.com

ATTN: John Carson

Total number of pages in report: **390**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Norm Farmer
Technical Director

Client Service contact: Sue Bell 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), IL(200063), NC(573), NJ(FL002), NY(12022), SC(96038001) DoD ELAP(L-A-B L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177), AK, AR, GA, IA, KY, MA, NV, OK, OR, UT, WA

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Sample Summary

AECOM, INC

Job No: FA41687

Hammond BGR; Hammond, LA
Project No: 60442717

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA41687-1	02/28/17	09:35	TB	03/01/17	SO	Soil	HBGR-BT1-SS201-0.5
FA41687-2	02/28/17	09:57	TB	03/01/17	SO	Soil	HBGR-BT1-SS002-0.5
FA41687-3	02/28/17	09:25	TB	03/01/17	SO	Soil	HBGR-BT1-SS003-0.5
FA41687-4	02/28/17	09:51	TB	03/01/17	SO	Soil	HBGR-BT1-SS004-0.5
FA41687-5	02/28/17	10:42	TB	03/01/17	SO	Soil	HBGR-BT1-SS005-0.5
FA41687-5D	02/28/17	10:42	TB	03/01/17	SO	Soil	HBGR-BT1-SS005-0.5
FA41687-5S	02/28/17	10:42	TB	03/01/17	SO	Soil	HBGR-BT1-SS005-0.5
FA41687-6	02/28/17	10:45	TB	03/01/17	SO	Soil	HBGR-BT1-SS007-0.5
FA41687-7	02/28/17	11:25	TB	03/01/17	SO	Soil	HBGR-BT1-SS010-0.5
FA41687-8	02/28/17	09:35	TB	03/02/17	SO	Soil	HBGR-BT1-SS001-0.5
FA41687-9	02/28/17	15:35	TB	03/02/17	SO	Soil	HBGR-BT1-SS101-0.5
FA41687-10	02/28/17	09:30	TB	03/02/17	SO	Soil	HBGR-BT1-SS006-0.5
FA41687-11	02/28/17	11:15	TB	03/02/17	SO	Soil	HBGR-BT1-SS008-0.5

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Sample Summary
(continued)

AECOM, INC

Job No: FA41687

Hammond BGR; Hammond, LA
Project No: 60442717

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA41687-12	02/28/17	10:15	TB	03/02/17	SO	Soil	HBGR-BT1-SS009-0.5

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: AECOM, INC **Job No:** FA41687

Site: Hammond BGR; Hammond, LA **Report Date** 3/22/2017 8:25:31 AM

12 Samples were collected on 02/28/2017 and were received at SGS Accutest Southeast (SASE) between 03/01/2017 and 03/02/2017 properly preserved, at 4.8 Deg. C and intact. These Samples received an SASE job number of FA41687. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Extractables by GC By Method SW846 8330B

Matrix: SO **Batch ID:** OP64158

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA41687-1MS, FA41687-1MSD, FA41687-3DUP were used as the QC samples indicated.

LCS Recovery(s) for 3,5-Dinitroaniline, 4-amino-2,6-Dinitrotoluene, Tetryl are outside control limits. Within MS/MSD control limits.

Matrix: SO **Batch ID:** OP64214

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA41687-11DUP, FA41687-11MS, FA41687-11MSD were used as the QC samples indicated.

The following samples were extracted outside of holding time for method SW846 8330B: FA41687-11

LCS Recovery(s) for 4-amino-2,6-Dinitrotoluene, Tetryl are outside control limits.

Matrix Spike / Matrix Spike Duplicate Recovery(s) for 4-amino-2,6-Dinitrotoluene are outside control limits. Probable cause is due to matrix interference.

Metals By Method SW846 6010C

Matrix: SO **Batch ID:** MP31806

All samples were digested within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA41687-5DUP, FA41687-5MS, FA41687-5MSD, FA41687-5PS, FA41687-5SDL were used as the QC samples for metals.

Matrix Spike Recovery(s) for Antimony, Iron, Manganese, Silver are outside control limits. Spike recovery indicates possible matrix interference and/or sample non-homogeneity.

Matrix Spike Duplicate Recovery(s) for Antimony, Iron, Manganese, Silver, Vanadium are outside control limits. Probable cause is due to matrix interference. For method performance in a clean matrix, refer to Blank Spike.

RPD(s) for Serial Dilution for Arsenic, Beryllium, Potassium, Zinc are outside control limits for sample MP31806-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

MP31806-PS1 for Silver: Spike recovery indicates matrix interference and/or outside control limits due to high level in sample relative to spike amount.

Metals By Method SW846 7471B

Matrix: SO **Batch ID:** MP31801

All samples were digested within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA41687-5MS, FA41687-5MSD, FA41687-5SDL, FA41687-5DUP were used as the QC samples for metals.

RPD(s) for Duplicate for Mercury are outside control limits for sample MP31801-D1. RPD acceptable due to low duplicate and sample concentrations.

Wet Chemistry By Method SM19 2540G

Matrix: SO **Batch ID:** GN74287

Sample(s) FA41687-12DUP, FA41687-5DUP were used as the QC samples for Solids, Percent.

Matrix: SO **Batch ID:** GN74313

Sample(s) FA41831-1DUP was used as the QC samples for Solids, Percent.

SGS Accutest (SASE) certifies that this report meets the project requirements for analytical data produced for the samples as received at SASE and as stated on the COC. SASE certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SASE Quality Manual except as noted above. This report is to be used in its entirety. SASE is not responsible for any assumptions of data quality if partial data packages are used

Narrative prepared by:

_____ Date: March 22, 2017

Lovelie Metzgar, QA Officer (signature on file)

Manual Integration Summary

Lab Sample ID	Analysis Type	File ID	Manual Integrations
FA41687-2	GCSEMI	BB053709.D	3,4-Dinitrotoluene
GBB1558-ECC1558	GCSEMI	BB053689.D	Nitroglycerine, PETN
GBB1558-IC1558	GCSEMI	BB053669.D	2,4-Dinitrotoluene, 2,6-Dinitrotoluene, 3,4-Dinitrotoluene, 4-amino-2,6-Dinitrotoluene, m-Nitrotoluene, MNX, Nitrobenzene, Nitroglycerine, p-Nitrotoluene, PETN, Tetryl
GBB1558-IC1558	GCSEMI	BB053670.D	Nitroglycerine, PETN, RDX
GBB1558-IC1558	GCSEMI	BB053671.D	PETN
GBB1558-IC1558	GCSEMI	BB053672.D	PETN
GBB1558-IC1558	GCSEMI	BB053674.D	PETN
GBB1558-IC1558	GCSEMI	BB053675.D	PETN
GBB1558-ICC1558	GCSEMI	BB053673.D	PETN
GBB1558-ICV1558	GCSEMI	BB053676.D	PETN
GBB1559-CC1558	GCSEMI	BB053702.D	PETN
GBB1559-CC1558	GCSEMI	BB053713.D	PETN
GBB1559-CC1558	GCSEMI	BB053723.D	PETN
GBB1559-ECC1558	GCSEMI	BB053728.D	PETN
GBB1560-CC1558	GCSEMI	BB053730.D	3,4-Dinitrotoluene, Nitroglycerine, PETN
GBB1560-CC1558	GCSEMI	BB053740.D	PETN
GBB1560-CC1558	GCSEMI	BB053752.D	3,4-Dinitrotoluene, 4-amino-2,6-Dinitrotoluene, PETN
GBB1560-ECC1558	GCSEMI	BB053756.D	2,6-Dinitrotoluene, PETN
OP64158-BS	GCSEMI	BB053703.D	Nitroglycerine, PETN
OP64158-DUP	GCSEMI	BB053711.D	3,4-Dinitrotoluene
OP64158-MS	GCSEMI	BB053707.D	PETN
OP64158-MSD	GCSEMI	BB053708.D	PETN
OP64158-PT1	GCSEMI	BB053705.D	3,4-Dinitrotoluene, 4-amino-2,6-Dinitrotoluene, Nitroglycerine, PETN, RDX
OP64214-BS	GCSEMI	BB053731.D	PETN
OP64214-MS	GCSEMI	BB053735.D	PETN
OP64214-MSD	GCSEMI	BB053736.D	PETN
OP64214-PT1	GCSEMI	BB053732.D	3,4-Dinitrotoluene, 4-amino-2,6-Dinitrotoluene, HMX, Nitroglycerine, PETN, RDX

27 Manual Integrations were found for FA41687

Summary of Hits

Job Number: FA41687
Account: AECOM, INC
Project: Hammond BGR; Hammond, LA
Collected: 02/28/17

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FA41687-1	**HBGR-BT1-SS201-0.5**					
Aluminum		3860	12	3.0	mg/kg	SW846 6010C
Antimony		0.18 J	1.2	0.30	mg/kg	SW846 6010C
Arsenic		1.7	0.60	0.30	mg/kg	SW846 6010C
Barium		18.7	12	0.12	mg/kg	SW846 6010C
Beryllium		0.10 J	0.30	0.060	mg/kg	SW846 6010C
Calcium		33.1 J	300	6.0	mg/kg	SW846 6010C
Chromium		5.2	0.60	0.12	mg/kg	SW846 6010C
Cobalt		0.51 J	3.0	0.060	mg/kg	SW846 6010C
Copper		1.0 J	1.5	0.12	mg/kg	SW846 6010C
Iron		4120	18	3.0	mg/kg	SW846 6010C
Lead		5.0	1.2	0.24	mg/kg	SW846 6010C
Magnesium		137 J	300	6.0	mg/kg	SW846 6010C
Manganese		16.8	0.90	0.060	mg/kg	SW846 6010C
Mercury		0.019 J	0.050	0.020	mg/kg	SW846 7471B
Nickel		0.96 J	2.4	0.060	mg/kg	SW846 6010C
Potassium		67.7 J	600	30	mg/kg	SW846 6010C
Selenium		0.22 J	1.2	0.30	mg/kg	SW846 6010C
Vanadium		11.1	3.0	0.060	mg/kg	SW846 6010C
Zinc		3.0	1.2	0.30	mg/kg	SW846 6010C
FA41687-2	**HBGR-BT1-SS002-0.5**					
Aluminum		4430	12	2.9	mg/kg	SW846 6010C
Antimony		0.10 J	1.2	0.29	mg/kg	SW846 6010C
Arsenic		1.5	0.59	0.29	mg/kg	SW846 6010C
Barium		26.4	12	0.12	mg/kg	SW846 6010C
Beryllium		0.19 J	0.29	0.059	mg/kg	SW846 6010C
Calcium		48.2 J	290	5.9	mg/kg	SW846 6010C
Chromium		5.8	0.59	0.12	mg/kg	SW846 6010C
Cobalt		1.0 J	2.9	0.059	mg/kg	SW846 6010C
Copper		1.3 J	1.5	0.12	mg/kg	SW846 6010C
Iron		3990	18	2.9	mg/kg	SW846 6010C
Lead		7.1	1.2	0.24	mg/kg	SW846 6010C
Magnesium		151 J	290	5.9	mg/kg	SW846 6010C
Manganese		93.8	0.88	0.059	mg/kg	SW846 6010C
Mercury		0.037 J	0.050	0.020	mg/kg	SW846 7471B
Nickel		1.3 J	2.4	0.059	mg/kg	SW846 6010C
Potassium		82.7 J	590	29	mg/kg	SW846 6010C
Selenium		0.21 J	1.2	0.29	mg/kg	SW846 6010C
Vanadium		10.5	2.9	0.059	mg/kg	SW846 6010C
Zinc		3.7	1.2	0.29	mg/kg	SW846 6010C

Summary of Hits

Job Number: FA41687
Account: AECOM, INC
Project: Hammond BGR; Hammond, LA
Collected: 02/28/17

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FA41687-3	**HBGR-BT1-SS003-0.5**					
Aluminum		9120	11	2.7	mg/kg	SW846 6010C
Arsenic		0.94	0.54	0.27	mg/kg	SW846 6010C
Barium		38.2	11	0.11	mg/kg	SW846 6010C
Beryllium		0.16 J	0.27	0.054	mg/kg	SW846 6010C
Calcium		44.9 J	270	5.4	mg/kg	SW846 6010C
Chromium		7.0	0.54	0.11	mg/kg	SW846 6010C
Cobalt		0.55 J	2.7	0.054	mg/kg	SW846 6010C
Copper		2.3	1.3	0.11	mg/kg	SW846 6010C
Iron		2810	16	2.7	mg/kg	SW846 6010C
Lead		9.3	1.1	0.22	mg/kg	SW846 6010C
Magnesium		265 J	270	5.4	mg/kg	SW846 6010C
Manganese		10.0	0.81	0.054	mg/kg	SW846 6010C
Mercury		0.059	0.045	0.018	mg/kg	SW846 7471B
Nickel		1.8 J	2.2	0.054	mg/kg	SW846 6010C
Potassium		123 J	540	27	mg/kg	SW846 6010C
Selenium		0.31 J	1.1	0.27	mg/kg	SW846 6010C
Vanadium		8.7	2.7	0.054	mg/kg	SW846 6010C
Zinc		5.6	1.1	0.27	mg/kg	SW846 6010C
FA41687-4	**HBGR-BT1-SS004-0.5**					
Aluminum		5150	12	3.0	mg/kg	SW846 6010C
Arsenic		1.4	0.61	0.30	mg/kg	SW846 6010C
Barium		20.9	12	0.12	mg/kg	SW846 6010C
Beryllium		0.10 J	0.30	0.061	mg/kg	SW846 6010C
Calcium		28.8 J	300	6.1	mg/kg	SW846 6010C
Chromium		6.2	0.61	0.12	mg/kg	SW846 6010C
Cobalt		0.61 J	3.0	0.061	mg/kg	SW846 6010C
Copper		0.93 J	1.5	0.12	mg/kg	SW846 6010C
Iron		3700	18	3.0	mg/kg	SW846 6010C
Lead		5.1	1.2	0.24	mg/kg	SW846 6010C
Magnesium		174 J	300	6.1	mg/kg	SW846 6010C
Manganese		33.2	0.91	0.061	mg/kg	SW846 6010C
Mercury		0.027 J	0.048	0.019	mg/kg	SW846 7471B
Nickel		1.4 J	2.4	0.061	mg/kg	SW846 6010C
Potassium		93.7 J	610	30	mg/kg	SW846 6010C
Vanadium		12.0	3.0	0.061	mg/kg	SW846 6010C
Zinc		3.9	1.2	0.30	mg/kg	SW846 6010C
FA41687-5	**HBGR-BT1-SS005-0.5**					
Aluminum		3400	13	3.2	mg/kg	SW846 6010C
Arsenic		1.2	0.63	0.32	mg/kg	SW846 6010C

Summary of Hits

Job Number: FA41687
Account: AECOM, INC
Project: Hammond BGR; Hammond, LA
Collected: 02/28/17

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
Barium		24.0	13	0.13	mg/kg	SW846 6010C
Beryllium		0.12 J	0.32	0.063	mg/kg	SW846 6010C
Calcium		26.9 J	320	6.3	mg/kg	SW846 6010C
Chromium		4.4	0.63	0.13	mg/kg	SW846 6010C
Cobalt		0.47 J	3.2	0.063	mg/kg	SW846 6010C
Copper		0.76 J	1.6	0.13	mg/kg	SW846 6010C
Iron		2980	19	3.2	mg/kg	SW846 6010C
Lead		4.5	1.3	0.25	mg/kg	SW846 6010C
Magnesium		113 J	320	6.3	mg/kg	SW846 6010C
Manganese		14.2	0.95	0.063	mg/kg	SW846 6010C
Mercury		0.030 J	0.051	0.021	mg/kg	SW846 7471B
Nickel		0.97 J	2.5	0.063	mg/kg	SW846 6010C
Potassium		64.3 J	630	32	mg/kg	SW846 6010C
Vanadium		8.9	3.2	0.063	mg/kg	SW846 6010C
Zinc		2.5	1.3	0.32	mg/kg	SW846 6010C
FA41687-6	**HBGR-BT1-SS007-0.5**					
Aluminum		4640	13	3.2	mg/kg	SW846 6010C
Arsenic		1.3	0.65	0.32	mg/kg	SW846 6010C
Barium		34.8	13	0.13	mg/kg	SW846 6010C
Beryllium		0.23 J	0.32	0.065	mg/kg	SW846 6010C
Calcium		180 J	320	6.5	mg/kg	SW846 6010C
Chromium		4.4	0.65	0.13	mg/kg	SW846 6010C
Cobalt		0.57 J	3.2	0.065	mg/kg	SW846 6010C
Copper		1.2 J	1.6	0.13	mg/kg	SW846 6010C
Iron		3340	19	3.2	mg/kg	SW846 6010C
Lead		8.8	1.3	0.26	mg/kg	SW846 6010C
Magnesium		143 J	320	6.5	mg/kg	SW846 6010C
Manganese		18.6	0.97	0.065	mg/kg	SW846 6010C
Mercury		0.036 J	0.052	0.021	mg/kg	SW846 7471B
Nickel		1.3 J	2.6	0.065	mg/kg	SW846 6010C
Potassium		82.3 J	650	32	mg/kg	SW846 6010C
Vanadium		9.5	3.2	0.065	mg/kg	SW846 6010C
Zinc		3.8	1.3	0.32	mg/kg	SW846 6010C
FA41687-7	**HBGR-BT1-SS010-0.5**					
Aluminum		5050	13	3.4	mg/kg	SW846 6010C
Arsenic		1.5	0.67	0.34	mg/kg	SW846 6010C
Barium		33.1	13	0.13	mg/kg	SW846 6010C
Beryllium		0.15 J	0.34	0.067	mg/kg	SW846 6010C
Calcium		127 J	340	6.7	mg/kg	SW846 6010C
Chromium		5.8	0.67	0.13	mg/kg	SW846 6010C
Cobalt		0.80 J	3.4	0.067	mg/kg	SW846 6010C

Summary of Hits

Job Number: FA41687
Account: AECOM, INC
Project: Hammond BGR; Hammond, LA
Collected: 02/28/17

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
Copper		1.2 J	1.7	0.13	mg/kg	SW846 6010C
Iron		3050	20	3.4	mg/kg	SW846 6010C
Lead		7.6	1.3	0.27	mg/kg	SW846 6010C
Magnesium		175 J	340	6.7	mg/kg	SW846 6010C
Manganese		57.6	1.0	0.067	mg/kg	SW846 6010C
Mercury		0.033 J	0.052	0.021	mg/kg	SW846 7471B
Nickel		1.4 J	2.7	0.067	mg/kg	SW846 6010C
Potassium		110 J	670	34	mg/kg	SW846 6010C
Selenium		0.17 J	1.3	0.34	mg/kg	SW846 6010C
Vanadium		9.3	3.4	0.067	mg/kg	SW846 6010C
Zinc		4.4	1.3	0.34	mg/kg	SW846 6010C
FA41687-8	**HBGR-BT1-SS001-0.5**					
Aluminum		3420	12	2.9	mg/kg	SW846 6010C
Arsenic		1.2	0.59	0.29	mg/kg	SW846 6010C
Barium		17.5	12	0.12	mg/kg	SW846 6010C
Beryllium		0.082 J	0.29	0.059	mg/kg	SW846 6010C
Calcium		30.5 J	290	5.9	mg/kg	SW846 6010C
Chromium		4.3	0.59	0.12	mg/kg	SW846 6010C
Cobalt		0.41 J	2.9	0.059	mg/kg	SW846 6010C
Copper		0.96 J	1.5	0.12	mg/kg	SW846 6010C
Iron		3170	18	2.9	mg/kg	SW846 6010C
Lead		4.6	1.2	0.24	mg/kg	SW846 6010C
Magnesium		120 J	290	5.9	mg/kg	SW846 6010C
Manganese		11.1	0.88	0.059	mg/kg	SW846 6010C
Mercury		0.023 J	0.049	0.020	mg/kg	SW846 7471B
Nickel		0.86 J	2.4	0.059	mg/kg	SW846 6010C
Potassium		58.0 J	590	29	mg/kg	SW846 6010C
Vanadium		8.9	2.9	0.059	mg/kg	SW846 6010C
Zinc		2.7	1.2	0.29	mg/kg	SW846 6010C
FA41687-9	**HBGR-BT1-SS101-0.5**					
Aluminum		4900	14	3.4	mg/kg	SW846 6010C
Antimony		0.74 J	1.4	0.34	mg/kg	SW846 6010C
Arsenic		6.9	0.69	0.34	mg/kg	SW846 6010C
Barium		22.2	14	0.14	mg/kg	SW846 6010C
Beryllium		0.22 J	0.34	0.069	mg/kg	SW846 6010C
Calcium		24.3 J	340	6.9	mg/kg	SW846 6010C
Chromium		8.0	0.69	0.14	mg/kg	SW846 6010C
Cobalt		0.99 J	3.4	0.069	mg/kg	SW846 6010C
Copper		1.6 J	1.7	0.14	mg/kg	SW846 6010C
Iron		16800	21	3.4	mg/kg	SW846 6010C
Lead		6.9	1.4	0.28	mg/kg	SW846 6010C

Summary of Hits

Job Number: FA41687
Account: AECOM, INC
Project: Hammond BGR; Hammond, LA
Collected: 02/28/17

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
Magnesium		139 J	340	6.9	mg/kg	SW846 6010C
Manganese		33.8	1.0	0.069	mg/kg	SW846 6010C
Mercury		0.040 J	0.055	0.022	mg/kg	SW846 7471B
Nickel		1.9 J	2.8	0.069	mg/kg	SW846 6010C
Potassium		69.6 J	690	34	mg/kg	SW846 6010C
Vanadium		26.0	3.4	0.069	mg/kg	SW846 6010C
Zinc		3.9	1.4	0.34	mg/kg	SW846 6010C
FA41687-10	**HBGR-BT1-SS006-0.5**					
Aluminum		5940	12	3.1	mg/kg	SW846 6010C
Arsenic		1.7	0.62	0.31	mg/kg	SW846 6010C
Barium		39.4	12	0.12	mg/kg	SW846 6010C
Beryllium		0.20 J	0.31	0.062	mg/kg	SW846 6010C
Calcium		307 J	310	6.2	mg/kg	SW846 6010C
Chromium		5.9	0.62	0.12	mg/kg	SW846 6010C
Cobalt		0.88 J	3.1	0.062	mg/kg	SW846 6010C
Copper		1.8	1.5	0.12	mg/kg	SW846 6010C
Iron		4310	18	3.1	mg/kg	SW846 6010C
Lead		7.6	1.2	0.25	mg/kg	SW846 6010C
Magnesium		211 J	310	6.2	mg/kg	SW846 6010C
Manganese		68.3	0.92	0.062	mg/kg	SW846 6010C
Mercury		0.038 J	0.051	0.020	mg/kg	SW846 7471B
Nickel		1.9 J	2.5	0.062	mg/kg	SW846 6010C
Potassium		133 J	620	31	mg/kg	SW846 6010C
Vanadium		12.6	3.1	0.062	mg/kg	SW846 6010C
Zinc		5.9	1.2	0.31	mg/kg	SW846 6010C
FA41687-11	**HBGR-BT1-SS008-0.5**					
Aluminum		8220	12	3.0	mg/kg	SW846 6010C
Arsenic		2.1	0.60	0.30	mg/kg	SW846 6010C
Barium		57.9	12	0.12	mg/kg	SW846 6010C
Beryllium		0.31	0.30	0.060	mg/kg	SW846 6010C
Calcium		241 J	300	6.0	mg/kg	SW846 6010C
Chromium		7.4	0.60	0.12	mg/kg	SW846 6010C
Cobalt		1.4 J	3.0	0.060	mg/kg	SW846 6010C
Copper		2.2	1.5	0.12	mg/kg	SW846 6010C
Iron		5040	18	3.0	mg/kg	SW846 6010C
Lead		7.6	1.2	0.24	mg/kg	SW846 6010C
Magnesium		278 J	300	6.0	mg/kg	SW846 6010C
Manganese		173	0.90	0.060	mg/kg	SW846 6010C
Mercury		0.034 J	0.049	0.019	mg/kg	SW846 7471B
Nickel		2.9	2.4	0.060	mg/kg	SW846 6010C
Potassium		176 J	600	30	mg/kg	SW846 6010C

Summary of Hits

Job Number: FA41687
Account: AECOM, INC
Project: Hammond BGR; Hammond, LA
Collected: 02/28/17

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
Vanadium		14.0	3.0	0.060	mg/kg	SW846 6010C
Zinc		7.1	1.2	0.30	mg/kg	SW846 6010C
FA41687-12	**HBGR-BT1-SS009-0.5**					
Aluminum		5500	12	2.9	mg/kg	SW846 6010C
Arsenic		1.5	0.58	0.29	mg/kg	SW846 6010C
Barium		35.9	12	0.12	mg/kg	SW846 6010C
Beryllium		0.19 J	0.29	0.058	mg/kg	SW846 6010C
Calcium		315	290	5.8	mg/kg	SW846 6010C
Chromium		6.0	0.58	0.12	mg/kg	SW846 6010C
Cobalt		1.1 J	2.9	0.058	mg/kg	SW846 6010C
Copper		1.5	1.4	0.12	mg/kg	SW846 6010C
Iron		4060	17	2.9	mg/kg	SW846 6010C
Lead		5.3	1.2	0.23	mg/kg	SW846 6010C
Magnesium		203 J	290	5.8	mg/kg	SW846 6010C
Manganese		53.6	0.87	0.058	mg/kg	SW846 6010C
Mercury		0.029 J	0.051	0.020	mg/kg	SW846 7471B
Nickel		1.7 J	2.3	0.058	mg/kg	SW846 6010C
Potassium		102 J	580	29	mg/kg	SW846 6010C
Vanadium		11.2	2.9	0.058	mg/kg	SW846 6010C
Zinc		4.7	1.2	0.29	mg/kg	SW846 6010C

Sample Results

Report of Analysis

SGS Accutest

Report of Analysis

Client Sample ID: HBGR-BT1-SS201-0.5
Lab Sample ID: FA41687-1 **Date Sampled:** 02/28/17
Matrix: SO - Soil **Date Received:** 03/01/17
Method: SW846 8330B SW846 8330B **Percent Solids:** 79.1
Project: Hammond BGR; Hammond, LA

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BB053706.D	1	03/17/17	EM	03/14/17	OP64158	GBB1559
Run #2							

	Initial Weight	Final Volume
Run #1	10.1 g	50.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	74 U	99	74	50	ug/kg	
121-82-4	RDX	74 U	99	74	50	ug/kg	
618-87-1	3,5-Dinitroaniline	74 U	99	74	50	ug/kg	
99-65-0	1,3-Dinitrobenzene	74 U	99	74	50	ug/kg	
606-20-2	2,6-Dinitrotoluene	74 U	99	74	50	ug/kg	
121-14-2	2,4-Dinitrotoluene	74 U	99	74	50	ug/kg	
35572-78-2	2-amino-4,6-Dinitrotoluene	74 U	99	74	50	ug/kg	
19406-51-0	4-amino-2,6-Dinitrotoluene [a]	74 U	99	74	50	ug/kg	
98-95-3	Nitrobenzene	74 U	99	74	50	ug/kg	
88-72-2	o-Nitrotoluene	74 U	99	74	50	ug/kg	
99-08-1	m-Nitrotoluene	74 U	99	74	50	ug/kg	
99-99-0	p-Nitrotoluene	74 U	99	74	50	ug/kg	
479-45-8	Tetryl	74 U	99	74	50	ug/kg	
99-35-4	1,3,5-Trinitrobenzene	74 U	99	74	50	ug/kg	
118-96-7	2,4,6-Trinitrotoluene	74 U	99	74	50	ug/kg	
55-63-0	Nitroglycerine	500 U	990	500	250	ug/kg	
78-11-5	PETN	500 U	990	500	250	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	91%		69-134%

(a) Associated LCS recovery outside control limits.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: HBGR-BT1-SS201-0.5
Lab Sample ID: FA41687-1
Matrix: SO - Soil
Project: Hammond BGR; Hammond, LA

Date Sampled: 02/28/17
Date Received: 03/01/17
Percent Solids: 79.1

Metals Analysis

Analyte	Result	LOQ	LOD	DL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	3860	12	3.0	2.1	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Antimony	0.18 J	1.2	0.30	0.078	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Arsenic	1.7	0.60	0.30	0.12	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Barium	18.7	12	0.12	0.060	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Beryllium	0.10 J	0.30	0.060	0.030	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Cadmium	0.060 U	0.24	0.060	0.030	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Calcium	33.1 J	300	6.0	3.0	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Chromium	5.2	0.60	0.12	0.060	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Cobalt	0.51 J	3.0	0.060	0.030	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Copper	1.0 J	1.5	0.12	0.060	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Iron	4120	18	3.0	1.0	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Lead	5.0	1.2	0.24	0.060	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Magnesium	137 J	300	6.0	2.2	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Manganese	16.8	0.90	0.060	0.030	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Mercury	0.019 J	0.050	0.020	0.0050	mg/kg	1	03/17/17	03/17/17	JL	SW846 7471B [1]	SW846 7471B [3]
Nickel	0.96 J	2.4	0.060	0.030	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Potassium	67.7 J	600	30	12	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Selenium	0.22 J	1.2	0.30	0.14	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Silver	0.12 U	0.60	0.12	0.049	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Sodium	120 U	600	120	30	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Thallium	0.30 U	0.60	0.30	0.066	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Vanadium	11.1	3.0	0.060	0.030	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Zinc	3.0	1.2	0.30	0.18	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]

(1) Instrument QC Batch: MA13902
(2) Instrument QC Batch: MA13903
(3) Prep QC Batch: MP31801
(4) Prep QC Batch: MP31806

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

SGS Accutest

Report of Analysis

Client Sample ID: HBGR-BT1-SS002-0.5
Lab Sample ID: FA41687-2 **Date Sampled:** 02/28/17
Matrix: SO - Soil **Date Received:** 03/01/17
Method: SW846 8330B SW846 8330B **Percent Solids:** 80.9
Project: Hammond BGR; Hammond, LA

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BB053709.D	1	03/17/17	EM	03/14/17	OP64158	GBB1559
Run #2							

	Initial Weight	Final Volume
Run #1	10.0 g	50.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	75 U	100	75	51	ug/kg	
121-82-4	RDX	75 U	100	75	50	ug/kg	
618-87-1	3,5-Dinitroaniline	75 U	100	75	50	ug/kg	
99-65-0	1,3-Dinitrobenzene	75 U	100	75	50	ug/kg	
606-20-2	2,6-Dinitrotoluene	75 U	100	75	50	ug/kg	
121-14-2	2,4-Dinitrotoluene	75 U	100	75	50	ug/kg	
35572-78-2	2-amino-4,6-Dinitrotoluene	75 U	100	75	50	ug/kg	
19406-51-0	4-amino-2,6-Dinitrotoluene [a]	75 U	100	75	51	ug/kg	
98-95-3	Nitrobenzene	75 U	100	75	50	ug/kg	
88-72-2	o-Nitrotoluene	75 U	100	75	50	ug/kg	
99-08-1	m-Nitrotoluene	75 U	100	75	50	ug/kg	
99-99-0	p-Nitrotoluene	75 U	100	75	50	ug/kg	
479-45-8	Tetryl	75 U	100	75	50	ug/kg	
99-35-4	1,3,5-Trinitrobenzene	75 U	100	75	50	ug/kg	
118-96-7	2,4,6-Trinitrotoluene	75 U	100	75	50	ug/kg	
55-63-0	Nitroglycerine	500 U	1000	500	250	ug/kg	
78-11-5	PETN	500 U	1000	500	250	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	86%		69-134%

(a) Associated LCS recovery outside control limits.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: HBGR-BT1-SS002-0.5
Lab Sample ID: FA41687-2
Matrix: SO - Soil
Project: Hammond BGR; Hammond, LA

Date Sampled: 02/28/17
Date Received: 03/01/17
Percent Solids: 80.9

Metals Analysis

Analyte	Result	LOQ	LOD	DL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	4430	12	2.9	2.1	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Antimony	0.10 J	1.2	0.29	0.077	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Arsenic	1.5	0.59	0.29	0.12	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Barium	26.4	12	0.12	0.059	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Beryllium	0.19 J	0.29	0.059	0.029	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Cadmium	0.059 U	0.24	0.059	0.029	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Calcium	48.2 J	290	5.9	2.9	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Chromium	5.8	0.59	0.12	0.059	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Cobalt	1.0 J	2.9	0.059	0.029	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Copper	1.3 J	1.5	0.12	0.059	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Iron	3990	18	2.9	1.0	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Lead	7.1	1.2	0.24	0.059	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Magnesium	151 J	290	5.9	2.1	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Manganese	93.8	0.88	0.059	0.029	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Mercury	0.037 J	0.050	0.020	0.0050	mg/kg	1	03/17/17	03/17/17	JL	SW846 7471B [1]	SW846 7471B [3]
Nickel	1.3 J	2.4	0.059	0.029	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Potassium	82.7 J	590	29	12	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Selenium	0.21 J	1.2	0.29	0.14	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Silver	0.12 U	0.59	0.12	0.048	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Sodium	120 U	590	120	29	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Thallium	0.29 U	0.59	0.29	0.065	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Vanadium	10.5	2.9	0.059	0.029	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Zinc	3.7	1.2	0.29	0.18	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]

(1) Instrument QC Batch: MA13902
(2) Instrument QC Batch: MA13903
(3) Prep QC Batch: MP31801
(4) Prep QC Batch: MP31806

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

SGS Accutest

Report of Analysis

Client Sample ID: HBGR-BT1-SS003-0.5
Lab Sample ID: FA41687-3 **Date Sampled:** 02/28/17
Matrix: SO - Soil **Date Received:** 03/01/17
Method: SW846 8330B SW846 8330B **Percent Solids:** 87.4
Project: Hammond BGR; Hammond, LA

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BB053710.D	1	03/17/17	EM	03/14/17	OP64158	GBB1559
Run #2							

	Initial Weight	Final Volume
Run #1	10.0 g	50.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	75 U	100	75	51	ug/kg	
121-82-4	RDX	75 U	100	75	50	ug/kg	
618-87-1	3,5-Dinitroaniline	75 U	100	75	50	ug/kg	
99-65-0	1,3-Dinitrobenzene	75 U	100	75	50	ug/kg	
606-20-2	2,6-Dinitrotoluene	75 U	100	75	50	ug/kg	
121-14-2	2,4-Dinitrotoluene	75 U	100	75	50	ug/kg	
35572-78-2	2-amino-4,6-Dinitrotoluene	75 U	100	75	50	ug/kg	
19406-51-0	4-amino-2,6-Dinitrotoluene [a]	75 U	100	75	51	ug/kg	
98-95-3	Nitrobenzene	75 U	100	75	50	ug/kg	
88-72-2	o-Nitrotoluene	75 U	100	75	50	ug/kg	
99-08-1	m-Nitrotoluene	75 U	100	75	50	ug/kg	
99-99-0	p-Nitrotoluene	75 U	100	75	50	ug/kg	
479-45-8	Tetryl	75 U	100	75	50	ug/kg	
99-35-4	1,3,5-Trinitrobenzene	75 U	100	75	50	ug/kg	
118-96-7	2,4,6-Trinitrotoluene	75 U	100	75	50	ug/kg	
55-63-0	Nitroglycerine	500 U	1000	500	250	ug/kg	
78-11-5	PETN	500 U	1000	500	250	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	90%		69-134%

(a) Associated LCS recovery outside control limits.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: HBGR-BT1-SS003-0.5
Lab Sample ID: FA41687-3
Matrix: SO - Soil
Project: Hammond BGR; Hammond, LA

Date Sampled: 02/28/17
Date Received: 03/01/17
Percent Solids: 87.4

Metals Analysis

Analyte	Result	LOQ	LOD	DL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	9120	11	2.7	1.9	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Antimony	0.27 U	1.1	0.27	0.070	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Arsenic	0.94	0.54	0.27	0.11	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Barium	38.2	11	0.11	0.054	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Beryllium	0.16 J	0.27	0.054	0.027	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Cadmium	0.054 U	0.22	0.054	0.027	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Calcium	44.9 J	270	5.4	2.7	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Chromium	7.0	0.54	0.11	0.054	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Cobalt	0.55 J	2.7	0.054	0.027	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Copper	2.3	1.3	0.11	0.054	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Iron	2810	16	2.7	0.92	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Lead	9.3	1.1	0.22	0.054	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Magnesium	265 J	270	5.4	1.9	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Manganese	10.0	0.81	0.054	0.027	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Mercury	0.059	0.045	0.018	0.0045	mg/kg	1	03/17/17	03/17/17	JL	SW846 7471B [1]	SW846 7471B [3]
Nickel	1.8 J	2.2	0.054	0.027	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Potassium	123 J	540	27	11	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Selenium	0.31 J	1.1	0.27	0.13	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Silver	0.11 U	0.54	0.11	0.044	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Sodium	110 U	540	110	27	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Thallium	0.27 U	0.54	0.27	0.059	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Vanadium	8.7	2.7	0.054	0.027	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Zinc	5.6	1.1	0.27	0.16	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]

(1) Instrument QC Batch: MA13902
(2) Instrument QC Batch: MA13903
(3) Prep QC Batch: MP31801
(4) Prep QC Batch: MP31806

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

SGS Accutest

Report of Analysis

Client Sample ID: HBGR-BT1-SS004-0.5
Lab Sample ID: FA41687-4 **Date Sampled:** 02/28/17
Matrix: SO - Soil **Date Received:** 03/01/17
Method: SW846 8330B SW846 8330B **Percent Solids:** 80.8
Project: Hammond BGR; Hammond, LA

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BB053715.D	1	03/17/17	EM	03/14/17	OP64158	GBB1559
Run #2							

	Initial Weight	Final Volume
Run #1	10.1 g	50.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	74 U	99	74	50	ug/kg	
121-82-4	RDX	74 U	99	74	50	ug/kg	
618-87-1	3,5-Dinitroaniline	74 U	99	74	50	ug/kg	
99-65-0	1,3-Dinitrobenzene	74 U	99	74	50	ug/kg	
606-20-2	2,6-Dinitrotoluene	74 U	99	74	50	ug/kg	
121-14-2	2,4-Dinitrotoluene	74 U	99	74	50	ug/kg	
35572-78-2	2-amino-4,6-Dinitrotoluene	74 U	99	74	50	ug/kg	
19406-51-0	4-amino-2,6-Dinitrotoluene [a]	74 U	99	74	50	ug/kg	
98-95-3	Nitrobenzene	74 U	99	74	50	ug/kg	
88-72-2	o-Nitrotoluene	74 U	99	74	50	ug/kg	
99-08-1	m-Nitrotoluene	74 U	99	74	50	ug/kg	
99-99-0	p-Nitrotoluene	74 U	99	74	50	ug/kg	
479-45-8	Tetryl	74 U	99	74	50	ug/kg	
99-35-4	1,3,5-Trinitrobenzene	74 U	99	74	50	ug/kg	
118-96-7	2,4,6-Trinitrotoluene	74 U	99	74	50	ug/kg	
55-63-0	Nitroglycerine	500 U	990	500	250	ug/kg	
78-11-5	PETN	500 U	990	500	250	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	94%		69-134%

(a) Associated LCS recovery outside control limits.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: HBGR-BT1-SS004-0.5
Lab Sample ID: FA41687-4
Matrix: SO - Soil
Project: Hammond BGR; Hammond, LA

Date Sampled: 02/28/17
Date Received: 03/01/17
Percent Solids: 80.8

Metals Analysis

Analyte	Result	LOQ	LOD	DL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	5150	12	3.0	2.1	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Antimony	0.30 U	1.2	0.30	0.079	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Arsenic	1.4	0.61	0.30	0.12	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Barium	20.9	12	0.12	0.061	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Beryllium	0.10 J	0.30	0.061	0.030	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Cadmium	0.061 U	0.24	0.061	0.030	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Calcium	28.8 J	300	6.1	3.0	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Chromium	6.2	0.61	0.12	0.061	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Cobalt	0.61 J	3.0	0.061	0.030	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Copper	0.93 J	1.5	0.12	0.061	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Iron	3700	18	3.0	1.0	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Lead	5.1	1.2	0.24	0.061	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Magnesium	174 J	300	6.1	2.2	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Manganese	33.2	0.91	0.061	0.030	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Mercury	0.027 J	0.048	0.019	0.0048	mg/kg	1	03/17/17	03/17/17	JL	SW846 7471B [1]	SW846 7471B [3]
Nickel	1.4 J	2.4	0.061	0.030	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Potassium	93.7 J	610	30	12	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Selenium	0.30 U	1.2	0.30	0.15	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Silver	0.12 U	0.61	0.12	0.050	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Sodium	120 U	610	120	30	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Thallium	0.30 U	0.61	0.30	0.067	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Vanadium	12.0	3.0	0.061	0.030	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Zinc	3.9	1.2	0.30	0.18	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]

(1) Instrument QC Batch: MA13902
(2) Instrument QC Batch: MA13903
(3) Prep QC Batch: MP31801
(4) Prep QC Batch: MP31806

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

SGS Accutest

Report of Analysis

Client Sample ID: HBGR-BT1-SS005-0.5
Lab Sample ID: FA41687-5 **Date Sampled:** 02/28/17
Matrix: SO - Soil **Date Received:** 03/01/17
Method: SW846 8330B SW846 8330B **Percent Solids:** 76.0
Project: Hammond BGR; Hammond, LA

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BB053716.D	1	03/17/17	EM	03/14/17	OP64158	GBB1559
Run #2							

	Initial Weight	Final Volume
Run #1	10.0 g	50.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	75 U	100	75	51	ug/kg	
121-82-4	RDX	75 U	100	75	50	ug/kg	
618-87-1	3,5-Dinitroaniline	75 U	100	75	50	ug/kg	
99-65-0	1,3-Dinitrobenzene	75 U	100	75	50	ug/kg	
606-20-2	2,6-Dinitrotoluene	75 U	100	75	50	ug/kg	
121-14-2	2,4-Dinitrotoluene	75 U	100	75	50	ug/kg	
35572-78-2	2-amino-4,6-Dinitrotoluene	75 U	100	75	50	ug/kg	
19406-51-0	4-amino-2,6-Dinitrotoluene [a]	75 U	100	75	51	ug/kg	
98-95-3	Nitrobenzene	75 U	100	75	50	ug/kg	
88-72-2	o-Nitrotoluene	75 U	100	75	50	ug/kg	
99-08-1	m-Nitrotoluene	75 U	100	75	50	ug/kg	
99-99-0	p-Nitrotoluene	75 U	100	75	50	ug/kg	
479-45-8	Tetryl	75 U	100	75	50	ug/kg	
99-35-4	1,3,5-Trinitrobenzene	75 U	100	75	50	ug/kg	
118-96-7	2,4,6-Trinitrotoluene	75 U	100	75	50	ug/kg	
55-63-0	Nitroglycerine	500 U	1000	500	250	ug/kg	
78-11-5	PETN	500 U	1000	500	250	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	94%		69-134%

(a) Associated LCS recovery outside control limits.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: HBGR-BT1-SS005-0.5
Lab Sample ID: FA41687-5
Matrix: SO - Soil
Project: Hammond BGR; Hammond, LA

Date Sampled: 02/28/17
Date Received: 03/01/17
Percent Solids: 76.0

Metals Analysis

Analyte	Result	LOQ	LOD	DL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	3400	13	3.2	2.2	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Antimony	0.32 U	1.3	0.32	0.082	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Arsenic	1.2	0.63	0.32	0.13	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Barium	24.0	13	0.13	0.063	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Beryllium	0.12 J	0.32	0.063	0.032	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Cadmium	0.063 U	0.25	0.063	0.032	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Calcium	26.9 J	320	6.3	3.2	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Chromium	4.4	0.63	0.13	0.063	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Cobalt	0.47 J	3.2	0.063	0.032	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Copper	0.76 J	1.6	0.13	0.063	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Iron	2980	19	3.2	1.1	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Lead	4.5	1.3	0.25	0.063	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Magnesium	113 J	320	6.3	2.3	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Manganese	14.2	0.95	0.063	0.032	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Mercury	0.030 J	0.051	0.021	0.0051	mg/kg	1	03/17/17	03/17/17	JL	SW846 7471B [1]	SW846 7471B [3]
Nickel	0.97 J	2.5	0.063	0.032	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Potassium	64.3 J	630	32	13	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Selenium	0.32 U	1.3	0.32	0.15	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Silver	0.13 U	0.63	0.13	0.052	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Sodium	130 U	630	130	32	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Thallium	0.32 U	0.63	0.32	0.070	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Vanadium	8.9	3.2	0.063	0.032	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Zinc	2.5	1.3	0.32	0.19	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]

(1) Instrument QC Batch: MA13902
(2) Instrument QC Batch: MA13903
(3) Prep QC Batch: MP31801
(4) Prep QC Batch: MP31806

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

SGS Accutest

Report of Analysis

Client Sample ID: HBGR-BT1-SS007-0.5
Lab Sample ID: FA41687-6 **Date Sampled:** 02/28/17
Matrix: SO - Soil **Date Received:** 03/01/17
Method: SW846 8330B SW846 8330B **Percent Solids:** 74.0
Project: Hammond BGR; Hammond, LA

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BB053717.D	1	03/17/17	EM	03/14/17	OP64158	GBB1559
Run #2							

	Initial Weight	Final Volume
Run #1	10.1 g	50.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	74 U	99	74	50	ug/kg	
121-82-4	RDX	74 U	99	74	50	ug/kg	
618-87-1	3,5-Dinitroaniline	74 U	99	74	50	ug/kg	
99-65-0	1,3-Dinitrobenzene	74 U	99	74	50	ug/kg	
606-20-2	2,6-Dinitrotoluene	74 U	99	74	50	ug/kg	
121-14-2	2,4-Dinitrotoluene	74 U	99	74	50	ug/kg	
35572-78-2	2-amino-4,6-Dinitrotoluene	74 U	99	74	50	ug/kg	
19406-51-0	4-amino-2,6-Dinitrotoluene [a]	74 U	99	74	50	ug/kg	
98-95-3	Nitrobenzene	74 U	99	74	50	ug/kg	
88-72-2	o-Nitrotoluene	74 U	99	74	50	ug/kg	
99-08-1	m-Nitrotoluene	74 U	99	74	50	ug/kg	
99-99-0	p-Nitrotoluene	74 U	99	74	50	ug/kg	
479-45-8	Tetryl	74 U	99	74	50	ug/kg	
99-35-4	1,3,5-Trinitrobenzene	74 U	99	74	50	ug/kg	
118-96-7	2,4,6-Trinitrotoluene	74 U	99	74	50	ug/kg	
55-63-0	Nitroglycerine	500 U	990	500	250	ug/kg	
78-11-5	PETN	500 U	990	500	250	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	87%		69-134%

(a) Associated LCS recovery outside control limits.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: HBGR-BT1-SS007-0.5
Lab Sample ID: FA41687-6
Matrix: SO - Soil
Project: Hammond BGR; Hammond, LA

Date Sampled: 02/28/17
Date Received: 03/01/17
Percent Solids: 74.0

Metals Analysis

Analyte	Result	LOQ	LOD	DL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	4640	13	3.2	2.3	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Antimony	0.32 U	1.3	0.32	0.084	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Arsenic	1.3	0.65	0.32	0.13	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Barium	34.8	13	0.13	0.065	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Beryllium	0.23 J	0.32	0.065	0.032	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Cadmium	0.065 U	0.26	0.065	0.032	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Calcium	180 J	320	6.5	3.2	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Chromium	4.4	0.65	0.13	0.065	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Cobalt	0.57 J	3.2	0.065	0.032	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Copper	1.2 J	1.6	0.13	0.065	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Iron	3340	19	3.2	1.1	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Lead	8.8	1.3	0.26	0.065	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Magnesium	143 J	320	6.5	2.3	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Manganese	18.6	0.97	0.065	0.032	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Mercury	0.036 J	0.052	0.021	0.0052	mg/kg	1	03/17/17	03/17/17	JL	SW846 7471B [1]	SW846 7471B [3]
Nickel	1.3 J	2.6	0.065	0.032	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Potassium	82.3 J	650	32	13	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Selenium	0.32 U	1.3	0.32	0.16	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Silver	0.13 U	0.65	0.13	0.053	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Sodium	130 U	650	130	32	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Thallium	0.32 U	0.65	0.32	0.071	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Vanadium	9.5	3.2	0.065	0.032	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Zinc	3.8	1.3	0.32	0.19	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]

(1) Instrument QC Batch: MA13902
(2) Instrument QC Batch: MA13903
(3) Prep QC Batch: MP31801
(4) Prep QC Batch: MP31806

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

SGS Accutest

Report of Analysis

Client Sample ID: HBGR-BT1-SS010-0.5
Lab Sample ID: FA41687-7 **Date Sampled:** 02/28/17
Matrix: SO - Soil **Date Received:** 03/01/17
Method: SW846 8330B SW846 8330B **Percent Solids:** 71.5
Project: Hammond BGR; Hammond, LA

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BB053718.D	1	03/17/17	EM	03/14/17	OP64158	GBB1559
Run #2							

	Initial Weight	Final Volume
Run #1	10.0 g	50.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	75 U	100	75	51	ug/kg	
121-82-4	RDX	75 U	100	75	50	ug/kg	
618-87-1	3,5-Dinitroaniline	75 U	100	75	50	ug/kg	
99-65-0	1,3-Dinitrobenzene	75 U	100	75	50	ug/kg	
606-20-2	2,6-Dinitrotoluene	75 U	100	75	50	ug/kg	
121-14-2	2,4-Dinitrotoluene	75 U	100	75	50	ug/kg	
35572-78-2	2-amino-4,6-Dinitrotoluene	75 U	100	75	50	ug/kg	
19406-51-0	4-amino-2,6-Dinitrotoluene [a]	75 U	100	75	51	ug/kg	
98-95-3	Nitrobenzene	75 U	100	75	50	ug/kg	
88-72-2	o-Nitrotoluene	75 U	100	75	50	ug/kg	
99-08-1	m-Nitrotoluene	75 U	100	75	50	ug/kg	
99-99-0	p-Nitrotoluene	75 U	100	75	50	ug/kg	
479-45-8	Tetryl	75 U	100	75	50	ug/kg	
99-35-4	1,3,5-Trinitrobenzene	75 U	100	75	50	ug/kg	
118-96-7	2,4,6-Trinitrotoluene	75 U	100	75	50	ug/kg	
55-63-0	Nitroglycerine	500 U	1000	500	250	ug/kg	
78-11-5	PETN	500 U	1000	500	250	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	93%		69-134%

(a) Associated LCS recovery outside control limits.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: HBGR-BT1-SS010-0.5
Lab Sample ID: FA41687-7
Matrix: SO - Soil
Project: Hammond BGR; Hammond, LA

Date Sampled: 02/28/17
Date Received: 03/01/17
Percent Solids: 71.5

Metals Analysis

Analyte	Result	LOQ	LOD	DL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	5050	13	3.4	2.4	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Antimony	0.34 U	1.3	0.34	0.087	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Arsenic	1.5	0.67	0.34	0.13	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Barium	33.1	13	0.13	0.067	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Beryllium	0.15 J	0.34	0.067	0.034	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Cadmium	0.067 U	0.27	0.067	0.034	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Calcium	127 J	340	6.7	3.4	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Chromium	5.8	0.67	0.13	0.067	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Cobalt	0.80 J	3.4	0.067	0.034	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Copper	1.2 J	1.7	0.13	0.067	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Iron	3050	20	3.4	1.1	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Lead	7.6	1.3	0.27	0.067	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Magnesium	175 J	340	6.7	2.4	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Manganese	57.6	1.0	0.067	0.034	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Mercury	0.033 J	0.052	0.021	0.0052	mg/kg	1	03/17/17	03/17/17	JL	SW846 7471B [1]	SW846 7471B [3]
Nickel	1.4 J	2.7	0.067	0.034	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Potassium	110 J	670	34	13	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Selenium	0.17 J	1.3	0.34	0.16	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Silver	0.13 U	0.67	0.13	0.055	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Sodium	130 U	670	130	34	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Thallium	0.34 U	0.67	0.34	0.074	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Vanadium	9.3	3.4	0.067	0.034	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Zinc	4.4	1.3	0.34	0.20	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]

(1) Instrument QC Batch: MA13902
(2) Instrument QC Batch: MA13903
(3) Prep QC Batch: MP31801
(4) Prep QC Batch: MP31806

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

SGS Accutest

Report of Analysis

Client Sample ID: HBGR-BT1-SS001-0.5
Lab Sample ID: FA41687-8 **Date Sampled:** 02/28/17
Matrix: SO - Soil **Date Received:** 03/02/17
Method: SW846 8330B SW846 8330B **Percent Solids:** 77.3
Project: Hammond BGR; Hammond, LA

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BB053719.D	1	03/17/17	EM	03/14/17	OP64158	GBB1559
Run #2							

	Initial Weight	Final Volume
Run #1	10.1 g	50.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	74 U	99	74	50	ug/kg	
121-82-4	RDX	74 U	99	74	50	ug/kg	
618-87-1	3,5-Dinitroaniline	74 U	99	74	50	ug/kg	
99-65-0	1,3-Dinitrobenzene	74 U	99	74	50	ug/kg	
606-20-2	2,6-Dinitrotoluene	74 U	99	74	50	ug/kg	
121-14-2	2,4-Dinitrotoluene	74 U	99	74	50	ug/kg	
35572-78-2	2-amino-4,6-Dinitrotoluene	74 U	99	74	50	ug/kg	
19406-51-0	4-amino-2,6-Dinitrotoluene [a]	74 U	99	74	50	ug/kg	
98-95-3	Nitrobenzene	74 U	99	74	50	ug/kg	
88-72-2	o-Nitrotoluene	74 U	99	74	50	ug/kg	
99-08-1	m-Nitrotoluene	74 U	99	74	50	ug/kg	
99-99-0	p-Nitrotoluene	74 U	99	74	50	ug/kg	
479-45-8	Tetryl	74 U	99	74	50	ug/kg	
99-35-4	1,3,5-Trinitrobenzene	74 U	99	74	50	ug/kg	
118-96-7	2,4,6-Trinitrotoluene	74 U	99	74	50	ug/kg	
55-63-0	Nitroglycerine	500 U	990	500	250	ug/kg	
78-11-5	PETN	500 U	990	500	250	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	90%		69-134%

(a) Associated LCS recovery outside control limits.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: HBGR-BT1-SS001-0.5
Lab Sample ID: FA41687-8
Matrix: SO - Soil
Project: Hammond BGR; Hammond, LA

Date Sampled: 02/28/17
Date Received: 03/02/17
Percent Solids: 77.3

Metals Analysis

Analyte	Result	LOQ	LOD	DL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	3420	12	2.9	2.1	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Antimony	0.29 U	1.2	0.29	0.076	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Arsenic	1.2	0.59	0.29	0.12	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Barium	17.5	12	0.12	0.059	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Beryllium	0.082 J	0.29	0.059	0.029	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Cadmium	0.059 U	0.24	0.059	0.029	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Calcium	30.5 J	290	5.9	2.9	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Chromium	4.3	0.59	0.12	0.059	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Cobalt	0.41 J	2.9	0.059	0.029	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Copper	0.96 J	1.5	0.12	0.059	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Iron	3170	18	2.9	1.0	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Lead	4.6	1.2	0.24	0.059	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Magnesium	120 J	290	5.9	2.1	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Manganese	11.1	0.88	0.059	0.029	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Mercury	0.023 J	0.049	0.020	0.0049	mg/kg	1	03/17/17	03/17/17	JL	SW846 7471B [1]	SW846 7471B [3]
Nickel	0.86 J	2.4	0.059	0.029	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Potassium	58.0 J	590	29	12	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Selenium	0.29 U	1.2	0.29	0.14	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Silver	0.12 U	0.59	0.12	0.048	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Sodium	120 U	590	120	29	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Thallium	0.29 U	0.59	0.29	0.065	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Vanadium	8.9	2.9	0.059	0.029	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Zinc	2.7	1.2	0.29	0.18	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]

(1) Instrument QC Batch: MA13902
(2) Instrument QC Batch: MA13903
(3) Prep QC Batch: MP31801
(4) Prep QC Batch: MP31806

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

SGS Accutest

Report of Analysis

Client Sample ID:	HBGR-BT1-SS101-0.5		
Lab Sample ID:	FA41687-9	**Date Sampled:**	02/28/17
Matrix:	SO - Soil	**Date Received:**	03/02/17
Method:	SW846 8330B SW846 8330B	**Percent Solids:**	70.4
Project:	Hammond BGR; Hammond, LA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BB053720.D	1	03/17/17	EM	03/14/17	OP64158	GBB1559
Run #2							

	Initial Weight	Final Volume
Run #1	10.1 g	50.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	74 U	99	74	50	ug/kg	
121-82-4	RDX	74 U	99	74	50	ug/kg	
618-87-1	3,5-Dinitroaniline	74 U	99	74	50	ug/kg	
99-65-0	1,3-Dinitrobenzene	74 U	99	74	50	ug/kg	
606-20-2	2,6-Dinitrotoluene	74 U	99	74	50	ug/kg	
121-14-2	2,4-Dinitrotoluene	74 U	99	74	50	ug/kg	
35572-78-2	2-amino-4,6-Dinitrotoluene	74 U	99	74	50	ug/kg	
19406-51-0	4-amino-2,6-Dinitrotoluene [a]	74 U	99	74	50	ug/kg	
98-95-3	Nitrobenzene	74 U	99	74	50	ug/kg	
88-72-2	o-Nitrotoluene	74 U	99	74	50	ug/kg	
99-08-1	m-Nitrotoluene	74 U	99	74	50	ug/kg	
99-99-0	p-Nitrotoluene	74 U	99	74	50	ug/kg	
479-45-8	Tetryl	74 U	99	74	50	ug/kg	
99-35-4	1,3,5-Trinitrobenzene	74 U	99	74	50	ug/kg	
118-96-7	2,4,6-Trinitrotoluene	74 U	99	74	50	ug/kg	
55-63-0	Nitroglycerine	500 U	990	500	250	ug/kg	
78-11-5	PETN	500 U	990	500	250	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	91%		69-134%

(a) Associated LCS recovery outside control limits.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: HBGR-BT1-SS101-0.5
Lab Sample ID: FA41687-9
Matrix: SO - Soil
Project: Hammond BGR; Hammond, LA

Date Sampled: 02/28/17
Date Received: 03/02/17
Percent Solids: 70.4

Metals Analysis

Analyte	Result	LOQ	LOD	DL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	4900	14	3.4	2.4	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Antimony	0.74 J	1.4	0.34	0.090	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Arsenic	6.9	0.69	0.34	0.14	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Barium	22.2	14	0.14	0.069	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Beryllium	0.22 J	0.34	0.069	0.034	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Cadmium	0.069 U	0.28	0.069	0.034	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Calcium	24.3 J	340	6.9	3.4	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Chromium	8.0	0.69	0.14	0.069	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Cobalt	0.99 J	3.4	0.069	0.034	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Copper	1.6 J	1.7	0.14	0.069	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Iron	16800	21	3.4	1.2	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Lead	6.9	1.4	0.28	0.069	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Magnesium	139 J	340	6.9	2.5	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Manganese	33.8	1.0	0.069	0.034	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Mercury	0.040 J	0.055	0.022	0.0055	mg/kg	1	03/17/17	03/17/17	JL	SW846 7471B [1]	SW846 7471B [3]
Nickel	1.9 J	2.8	0.069	0.034	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Potassium	69.6 J	690	34	14	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Selenium	0.34 U	1.4	0.34	0.17	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Silver	0.14 U	0.69	0.14	0.057	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Sodium	140 U	690	140	34	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Thallium	0.34 U	0.69	0.34	0.076	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Vanadium	26.0	3.4	0.069	0.034	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Zinc	3.9	1.4	0.34	0.21	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]

(1) Instrument QC Batch: MA13902
(2) Instrument QC Batch: MA13903
(3) Prep QC Batch: MP31801
(4) Prep QC Batch: MP31806

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

SGS Accutest

Report of Analysis

Client Sample ID: HBGR-BT1-SS006-0.5
Lab Sample ID: FA41687-10 **Date Sampled:** 02/28/17
Matrix: SO - Soil **Date Received:** 03/02/17
Method: SW846 8330B SW846 8330B **Percent Solids:** 76.6
Project: Hammond BGR; Hammond, LA

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BB053721.D	1	03/17/17	EM	03/14/17	OP64158	GBB1559
Run #2							

	Initial Weight	Final Volume
Run #1	10.1 g	50.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	74 U	99	74	50	ug/kg	
121-82-4	RDX	74 U	99	74	50	ug/kg	
618-87-1	3,5-Dinitroaniline	74 U	99	74	50	ug/kg	
99-65-0	1,3-Dinitrobenzene	74 U	99	74	50	ug/kg	
606-20-2	2,6-Dinitrotoluene	74 U	99	74	50	ug/kg	
121-14-2	2,4-Dinitrotoluene	74 U	99	74	50	ug/kg	
35572-78-2	2-amino-4,6-Dinitrotoluene	74 U	99	74	50	ug/kg	
19406-51-0	4-amino-2,6-Dinitrotoluene [a]	74 U	99	74	50	ug/kg	
98-95-3	Nitrobenzene	74 U	99	74	50	ug/kg	
88-72-2	o-Nitrotoluene	74 U	99	74	50	ug/kg	
99-08-1	m-Nitrotoluene	74 U	99	74	50	ug/kg	
99-99-0	p-Nitrotoluene	74 U	99	74	50	ug/kg	
479-45-8	Tetryl	74 U	99	74	50	ug/kg	
99-35-4	1,3,5-Trinitrobenzene	74 U	99	74	50	ug/kg	
118-96-7	2,4,6-Trinitrotoluene	74 U	99	74	50	ug/kg	
55-63-0	Nitroglycerine	500 U	990	500	250	ug/kg	
78-11-5	PETN	500 U	990	500	250	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	101%		69-134%

(a) Associated LCS recovery outside control limits.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: HBGR-BT1-SS006-0.5
Lab Sample ID: FA41687-10
Matrix: SO - Soil
Project: Hammond BGR; Hammond, LA

Date Sampled: 02/28/17
Date Received: 03/02/17
Percent Solids: 76.6

Metals Analysis

Analyte	Result	LOQ	LOD	DL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	5940	12	3.1	2.2	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Antimony	0.31 U	1.2	0.31	0.080	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Arsenic	1.7	0.62	0.31	0.12	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Barium	39.4	12	0.12	0.062	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Beryllium	0.20 J	0.31	0.062	0.031	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Cadmium	0.062 U	0.25	0.062	0.031	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Calcium	307 J	310	6.2	3.1	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Chromium	5.9	0.62	0.12	0.062	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Cobalt	0.88 J	3.1	0.062	0.031	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Copper	1.8	1.5	0.12	0.062	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Iron	4310	18	3.1	1.0	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Lead	7.6	1.2	0.25	0.062	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Magnesium	211 J	310	6.2	2.2	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Manganese	68.3	0.92	0.062	0.031	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Mercury	0.038 J	0.051	0.020	0.0051	mg/kg	1	03/17/17	03/17/17	JL	SW846 7471B [1]	SW846 7471B [3]
Nickel	1.9 J	2.5	0.062	0.031	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Potassium	133 J	620	31	12	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Selenium	0.31 U	1.2	0.31	0.15	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Silver	0.12 U	0.62	0.12	0.050	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Sodium	120 U	620	120	31	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Thallium	0.31 U	0.62	0.31	0.068	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Vanadium	12.6	3.1	0.062	0.031	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Zinc	5.9	1.2	0.31	0.18	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]

(1) Instrument QC Batch: MA13902
(2) Instrument QC Batch: MA13903
(3) Prep QC Batch: MP31801
(4) Prep QC Batch: MP31806

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

SGS Accutest

Report of Analysis

Client Sample ID: HBGR-BT1-SS008-0.5
Lab Sample ID: FA41687-11 **Date Sampled:** 02/28/17
Matrix: SO - Soil **Date Received:** 03/02/17
Method: SW846 8330B SW846 8330B **Percent Solids:** 76.7
Project: Hammond BGR; Hammond, LA

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB053734.D	1	03/20/17	EM	03/17/17	OP64214	GBB1560
Run #2							

	Initial Weight	Final Volume
Run #1	10.0 g	50.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	75 U	100	75	51	ug/kg	
121-82-4	RDX	75 U	100	75	50	ug/kg	
618-87-1	3,5-Dinitroaniline	75 U	100	75	50	ug/kg	
99-65-0	1,3-Dinitrobenzene	75 U	100	75	50	ug/kg	
606-20-2	2,6-Dinitrotoluene	75 U	100	75	50	ug/kg	
121-14-2	2,4-Dinitrotoluene	75 U	100	75	50	ug/kg	
35572-78-2	2-amino-4,6-Dinitrotoluene	75 U	100	75	50	ug/kg	
19406-51-0	4-amino-2,6-Dinitrotoluene [b]	75 U	100	75	51	ug/kg	
98-95-3	Nitrobenzene	75 U	100	75	50	ug/kg	
88-72-2	o-Nitrotoluene	75 U	100	75	50	ug/kg	
99-08-1	m-Nitrotoluene	75 U	100	75	50	ug/kg	
99-99-0	p-Nitrotoluene	75 U	100	75	50	ug/kg	
479-45-8	Tetryl [b]	75 U	100	75	50	ug/kg	
99-35-4	1,3,5-Trinitrobenzene	75 U	100	75	50	ug/kg	
118-96-7	2,4,6-Trinitrotoluene	75 U	100	75	50	ug/kg	
55-63-0	Nitroglycerine	500 U	1000	500	250	ug/kg	
78-11-5	PETN	500 U	1000	500	250	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	87%		69-134%

(a) Sample extracted beyond hold time.
(b) Associated LCS recovery outside control limits.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: HBGR-BT1-SS008-0.5
Lab Sample ID: FA41687-11
Matrix: SO - Soil
Project: Hammond BGR; Hammond, LA

Date Sampled: 02/28/17
Date Received: 03/02/17
Percent Solids: 76.7

Metals Analysis

Analyte	Result	LOQ	LOD	DL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	8220	12	3.0	2.1	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Antimony	0.30 U	1.2	0.30	0.078	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Arsenic	2.1	0.60	0.30	0.12	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Barium	57.9	12	0.12	0.060	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Beryllium	0.31	0.30	0.060	0.030	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Cadmium	0.060 U	0.24	0.060	0.030	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Calcium	241 J	300	6.0	3.0	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Chromium	7.4	0.60	0.12	0.060	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Cobalt	1.4 J	3.0	0.060	0.030	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Copper	2.2	1.5	0.12	0.060	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Iron	5040	18	3.0	1.0	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Lead	7.6	1.2	0.24	0.060	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Magnesium	278 J	300	6.0	2.2	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Manganese	173	0.90	0.060	0.030	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Mercury	0.034 J	0.049	0.019	0.0049	mg/kg	1	03/17/17	03/17/17	JL	SW846 7471B [1]	SW846 7471B [3]
Nickel	2.9	2.4	0.060	0.030	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Potassium	176 J	600	30	12	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Selenium	0.30 U	1.2	0.30	0.14	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Silver	0.12 U	0.60	0.12	0.049	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Sodium	120 U	600	120	30	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Thallium	0.30 U	0.60	0.30	0.066	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Vanadium	14.0	3.0	0.060	0.030	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Zinc	7.1	1.2	0.30	0.18	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]

(1) Instrument QC Batch: MA13902
(2) Instrument QC Batch: MA13903
(3) Prep QC Batch: MP31801
(4) Prep QC Batch: MP31806

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

SGS Accutest

Report of Analysis

Client Sample ID: HBGR-BT1-SS009-0.5
Lab Sample ID: FA41687-12
Matrix: SO - Soil
Method: SW846 8330B SW846 8330B
Project: Hammond BGR; Hammond, LA

Date Sampled: 02/28/17
Date Received: 03/02/17
Percent Solids: 79.3

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BB053722.D	1	03/17/17	EM	03/14/17	OP64158	GBB1559
Run #2							

	Initial Weight	Final Volume
Run #1	10.0 g	50.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	75 U	100	75	51	ug/kg	
121-82-4	RDX	75 U	100	75	50	ug/kg	
618-87-1	3,5-Dinitroaniline	75 U	100	75	50	ug/kg	
99-65-0	1,3-Dinitrobenzene	75 U	100	75	50	ug/kg	
606-20-2	2,6-Dinitrotoluene	75 U	100	75	50	ug/kg	
121-14-2	2,4-Dinitrotoluene	75 U	100	75	50	ug/kg	
35572-78-2	2-amino-4,6-Dinitrotoluene	75 U	100	75	50	ug/kg	
19406-51-0	4-amino-2,6-Dinitrotoluene [a]	75 U	100	75	51	ug/kg	
98-95-3	Nitrobenzene	75 U	100	75	50	ug/kg	
88-72-2	o-Nitrotoluene	75 U	100	75	50	ug/kg	
99-08-1	m-Nitrotoluene	75 U	100	75	50	ug/kg	
99-99-0	p-Nitrotoluene	75 U	100	75	50	ug/kg	
479-45-8	Tetryl	75 U	100	75	50	ug/kg	
99-35-4	1,3,5-Trinitrobenzene	75 U	100	75	50	ug/kg	
118-96-7	2,4,6-Trinitrotoluene	75 U	100	75	50	ug/kg	
55-63-0	Nitroglycerine	500 U	1000	500	250	ug/kg	
78-11-5	PETN	500 U	1000	500	250	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	101%		69-134%

(a) Associated LCS recovery outside control limits.

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation DL = Detection Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: HBGR-BT1-SS009-0.5
Lab Sample ID: FA41687-12
Matrix: SO - Soil
Project: Hammond BGR; Hammond, LA

Date Sampled: 02/28/17
Date Received: 03/02/17
Percent Solids: 79.3

Metals Analysis

Analyte	Result	LOQ	LOD	DL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	5500	12	2.9	2.0	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Antimony	0.29 U	1.2	0.29	0.075	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Arsenic	1.5	0.58	0.29	0.12	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Barium	35.9	12	0.12	0.058	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Beryllium	0.19 J	0.29	0.058	0.029	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Cadmium	0.058 U	0.23	0.058	0.029	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Calcium	315	290	5.8	2.9	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Chromium	6.0	0.58	0.12	0.058	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Cobalt	1.1 J	2.9	0.058	0.029	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Copper	1.5	1.4	0.12	0.058	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Iron	4060	17	2.9	0.98	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Lead	5.3	1.2	0.23	0.058	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Magnesium	203 J	290	5.8	2.1	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Manganese	53.6	0.87	0.058	0.029	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Mercury	0.029 J	0.051	0.020	0.0051	mg/kg	1	03/17/17	03/17/17	JL	SW846 7471B [1]	SW846 7471B [3]
Nickel	1.7 J	2.3	0.058	0.029	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Potassium	102 J	580	29	12	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Selenium	0.29 U	1.2	0.29	0.14	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Silver	0.12 U	0.58	0.12	0.047	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Sodium	120 U	580	120	29	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Thallium	0.29 U	0.58	0.29	0.064	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Vanadium	11.2	2.9	0.058	0.029	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]
Zinc	4.7	1.2	0.29	0.17	mg/kg	1	03/17/17	03/17/17	DM	SW846 6010C [2]	SW846 3050B [4]

(1) Instrument QC Batch: MA13902
(2) Instrument QC Batch: MA13903
(3) Prep QC Batch: MP31801
(4) Prep QC Batch: MP31806

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

AECOM
12120 Shamrock Plaza, Suite 100, Omaha, NE 68154 (402) 334-8181 Fax (402) 334-1984

CHAIN OF CUSTODY RECORD FA41687

Page 1 of 1

Project Name	Project No.
Hammond BGR	60442717
Project Location	**Project Manager**
Hammond, Louisiana	John Carson
Sampler(s)	

	Sample Date	Sample Time	Type Comp.	Type Grab	Sample Identification	Matrix	Containers No.	Containers Type	Analytical Parameters: Exp 8330B	Analytical Parameters: Metals (6010C)	Preservative / Remarks
8	2/28/17	0935	X		HBGR-BT1-SS001-0.5	Soil	1	1 gallon ziplock	X	X	4°C
9		1535	X		HBGR-BT1-SS101-0.5						
1		0935	X		HBGR-BT1-SS201-0.5						
2		0957	X		HBGR-BT1-SS002-0.5						
3		0925	X		HBGR-BT1-SS003-0.5						
4		0951	X		HGBR-BT1-SS004-0.5						
5		1047	X		HGBR-BT1-SS005-0.5						
10		0930	X		HGBR-BT1-SS006-0.5						
6		1045	X		HGBR-BT1-SS007-0.5						
5		1042	X		HGBR-BT1-SS005-0.5-MS/MSD						
5		1042	X		HGBR-BT1-SS005-0.5-MS/MSD						
11		1115	X		HGBR-BT1-SS008-0.5						
12		1015	X		HGBR-BT1-SS009-0.5						
7		1125	X		HGBR-BT1-SS010-0.5						

Signatures	Date	Time	Shipping Details	Special Instructions
Relinquished by: Trevor Brown	2/28/17	1155	Method of Shipment: FEDEX	POC: Ben Christensen (402) 850-4012
Received by: Fx			Airbill No.:	
Relinquished by: Fx			Lab Address: SGS Accutest - Orlando 4405 Vineland Road, Suite C-15 Orlando FL 32811	4.8
Received for Laboratory by:	03/01/17	1045		

P Drive/Office Administration/Chain of Custody Form-AECOM) White copy - Laboratory Yellow copy - Laboratory Pink copy - AECOM

№ 140672

SGS ACCUTEST - ORLANDO SAMPLE RECEIPT CONFIRMATION

SGS ACCUTEST'S JOB NUMBER: FA41687 CLIENT: Aecom PROJECT: Hammond BCR

DATE/TIME RECEIVED: 03/02/17 1100 {MM/DD/YY 24:00} NUMBER OF COOLERS RECEIVED: 1

METHOD OF DELIVERY: (FEDEX) UPS ACCUTEST COURIER DELIVERY OTHER:

AIRBILL NUMBERS: 7857 5624 3454

COOLER INFORMATION

- [ ] CUSTODY SEAL NOT PRESENT OR NOT INTACT
- [ ] CHAIN OF CUSTODY NOT RECEIVED (COC)
- [ ] ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- [ ] SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- [ ] TEMPERATURE CRITERIA NOT MET

TRIP BLANK INFORMATION

- [ ] TRIP BLANK PROVIDED
- [X] TRIP BLANK NOT PROVIDED
- [X] TRIP BLANK NOT ON COC
- [ ] TRIP BLANK INTACT
- [ ] TRIP BLANK NOT INTACT
- [ ] RECEIVED WATER TRIP BLANK
- [ ] RECEIVED SOIL TRIP BLANK

MISC. INFORMATION

NUMBER OF ENCORES ? 25-GRAM_____ 5-GRAM_____

NUMBER OF 5035 FIELD KITS ? _____

NUMBER OF LAB FILTERED METALS ? _____

TEMPERATURE INFORMATION

- [ ] IR THERM ID 1 CORR. FACTOR +0.8
- [ ] OBSERVED TEMPS: 3.1
- [ ] CORRECTED TEMPS: 3.9 (USED FOR LIMS)

SAMPLE INFORMATION

- [ ] INCORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] DATES/TIMES ON COC DO NOT MATCH SAMPLE LABEL
- [ ] ID'S ON COC DO NOT MATCH LABEL
- [ ] VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- [ ] BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- [ ] NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- [ ] UNCLEAR FILTERING OR COMPOSITING INSTRUCTIONS
- [ ] SAMPLE CONTAINER(S) RECEIVED BROKEN
- [ ] 5035 FIELD KITS NOT RECEIVED WITHIN 48 HOURS
- [ ] BULK VOA SOIL JARS NOT RECEIVED WITHIN 48 HOURS
- [ ] % SOLIDS JAR NOT RECEIVED
- [ ] RESIDUAL CHLORINE PRESENT LOT#_____

{APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS}

TEST STRIP LOT#s pH 0-3 230315 pH 10-12 219813A OTHER (specify) _____

SUMMARY OF COMMENTS: Missing samples Rec'd.

TECHNICIAN SIGNATURE/DATE: 03/02/17 REVIEWER SIGNATURE/DATE: KD 03-02-17

NF 02/16 receipt confirmation 020116.xls

5.1 5


WED 01 MAR 10:30A
7857 5624 3454 PRIORITY OVERNIGHT
XH ORLA
32801
FL-US
MCO

SGS ACCUTEST - ORLANDO SAMPLE RECEIPT CONFIRMATION

SGS ACCUTEST'S JOB NUMBER: FA41687 CLIENT: Aecom PROJECT: Hammond B6R

DATE/TIME RECEIVED: 03/01/17 1045 {MM/DD/YY 24:00} NUMBER OF COOLERS RECEIVED: 1

METHOD OF DELIVERY: (FEDEX) UPS ACCUTEST COURIER DELIVERY OTHER:

AIRBILL NUMBERS: 7857 ~~52~~ 5620 7971 SP

COOLER INFORMATION

- [ ] CUSTODY SEAL NOT PRESENT OR NOT INTACT
- [ ] CHAIN OF CUSTODY NOT RECEIVED (COC)
- [ ] ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- [ ] SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- [ ] TEMPERATURE CRITERIA NOT MET

TEMPERATURE INFORMATION

- IR THERM ID 1 CORR. FACTOR +0.8
- OBSERVED TEMPS: 4.0
- CORRECTED TEMPS: 4.8 (USED FOR LIMS)

TRIP BLANK INFORMATION

- [ ] TRIP BLANK PROVIDED
- [X] TRIP BLANK NOT PROVIDED
- [X] TRIP BLANK NOT ON COC
- [ ] TRIP BLANK INTACT
- [ ] TRIP BLANK NOT INTACT
- [ ] RECEIVED WATER TRIP BLANK
- [ ] RECEIVED SOIL TRIP BLANK

SAMPLE INFORMATION

- [ ] INCORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] DATES/TIMES ON COC DO NOT MATCH SAMPLE LABEL
- [ ] ID'S ON COC DO NOT MATCH LABEL
- [ ] VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- [ ] BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- [X] NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- [ ] UNCLEAR FILTERING OR COMPOSITING INSTRUCTIONS
- [ ] SAMPLE CONTAINER(S) RECEIVED BROKEN
- [ ] 5035 FIELD KITS NOT RECEIVED WITHIN 48 HOURS
- [ ] BULK VOA SOIL JARS NOT RECEIVED WITHIN 48 HOURS
- [ ] % SOLIDS JAR NOT RECEIVED
- [ ] RESIDUAL CHLORINE PRESENT LOT#

{APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS}

MISC. INFORMATION

NUMBER OF ENCORES ? 25-GRAM 5-GRAM

NUMBER OF 5035 FIELD KITS ?

NUMBER OF LAB FILTERED METALS ?

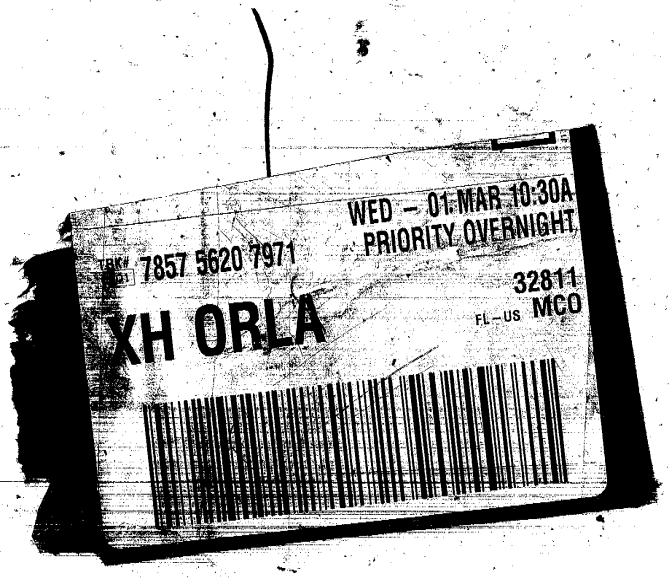
TEST STRIP LOT#s pH 0-3 230315 pH 10-12 219813A OTHER (specify)

SUMMARY OF COMMENTS: "H6BR-BT1-SS001-0.5@935"; H6BR-BT1-SS101-0.5@1535"; "H6BR-BT1-SS006-0.5@930"; "H6BR-BT1-SS008-0.5@1115"; H6BR-BT1-SS007-0.5@1015". not rec'd. Sample #5 only have (2) bags for ms/msd.

TECHNICIAN SIGNATURE/DATE 03/01/17 REVIEWER SIGNATURE/DATE 03/01/17

NF 02/16 receipt confirmation 020116.xls

5.1 5


WED – 01 MAR 10:30A
PRIORITY OVERNIGHT
7857 5620 7971
32811
FL–US MCO
XH ORLA

Job Change Order: FA41687_3/6/2017

Requested Date:	3/6/2017	**Received Date:**	3/1/2017
Account Name:	AECOM, INC	**Due Date:**	3/17/2017
Project	Hammond BGR; Hammond, LA	**Deliverable:**	FULT1
CSR:	sueb	**TAT (Days):**	14

Sample #: FA41687-all

Change: Metals, per QAPP are to be TAL list run by 6010C/7470

Above Changes Per: Jeff **Date:** 3/6/2017

To Client: This Change Order is confirmation of the revisions, previously discussed with the SGS Accutest Client Service

Page 1 of 1

Job Change Order: FA41687

Requested Date:	3/16/2017	**Received Date:**	3/1/2017
Account Name:	AECOM, INC	**Due Date:**	3/17/2017
Project Description:	Hammond BGR; Hammond, LA	**Deliverable:**	FULT1
CSR:	sueb	**TAT (Days):**	14

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Sample #: FA41687-all metals

Dept:

TAT: 14

Change:

For metals, per Jeff A : Do MIS on non-ground, non-dried sample

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FA41687: Chain of Custody

Page 7 of 7

Above Changes Per: Jeff A **Date/Time:** 3/16/2017 11:22:52 AM

To Client: This Change Order is confirmation of the revisions, previously discussed with the SGS Accutest Client Service Representative.

Page 1 of 1

QC Evaluation: DOD QSM5 Limits

Job Number: FA41687
Account: AECOM, INC
Project: Hammond BGR; Hammond, LA
Collected: 02/28/17

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP64158	SW846 8330B						
OP64158-BS	2691-41-0	HMX	BSP	REC	105	%	74-124
OP64158-BS	121-82-4	RDX	BSP	REC	95	%	67-129
OP64158-BS	618-87-1	3,5-Dinitroaniline	BSP	REC	97	%	86-118
OP64158-BS	99-65-0	1,3-Dinitrobenzene	BSP	REC	91	%	73-119
OP64158-BS	606-20-2	2,6-Dinitrotoluene	BSP	REC	95	%	79-117
OP64158-BS	121-14-2	2,4-Dinitrotoluene	BSP	REC	93	%	75-121
OP64158-BS	35572-78-2	2-amino-4,6-Dinitrotoluene	BSP	REC	96	%	71-123
OP64158-BS	19406-51-0	4-amino-2,6-Dinitrotoluene	BSP	REC	94	%	64-127
OP64158-BS	98-95-3	Nitrobenzene	BSP	REC	90	%	67-129
OP64158-BS	88-72-2	o-Nitrotoluene	BSP	REC	92	%	70-124
OP64158-BS	99-08-1	m-Nitrotoluene	BSP	REC	94	%	67-129
OP64158-BS	99-99-0	p-Nitrotoluene	BSP	REC	91	%	71-124
OP64158-BS	479-45-8	Tetryl	BSP	REC	126	%	68-135
OP64158-BS	99-35-4	1,3,5-Trinitrobenzene	BSP	REC	96	%	80-116
OP64158-BS	118-96-7	2,4,6-Trinitrotoluene	BSP	REC	100	%	71-120
OP64158-BS	55-63-0	Nitroglycerine	BSP	REC	95	%	73-124
OP64158-BS	78-11-5	PETN	BSP	REC	97	%	72-128
OP64158-MS	2691-41-0	HMX	MS	REC	112	%	74-124
OP64158-MS	121-82-4	RDX	MS	REC	88	%	67-129
OP64158-MS	618-87-1	3,5-Dinitroaniline	MS	REC	97	%	86-118
OP64158-MS	99-65-0	1,3-Dinitrobenzene	MS	REC	94	%	73-119
OP64158-MS	606-20-2	2,6-Dinitrotoluene	MS	REC	95	%	79-117
OP64158-MS	121-14-2	2,4-Dinitrotoluene	MS	REC	93	%	75-121
OP64158-MS	35572-78-2	2-amino-4,6-Dinitrotoluene	MS	REC	93	%	71-123
OP64158-MS	19406-51-0	4-amino-2,6-Dinitrotoluene	MS	REC	89	%	64-127
OP64158-MS	98-95-3	Nitrobenzene	MS	REC	94	%	67-129
OP64158-MS	88-72-2	o-Nitrotoluene	MS	REC	93	%	70-124
OP64158-MS	99-08-1	m-Nitrotoluene	MS	REC	94	%	67-129
OP64158-MS	99-99-0	p-Nitrotoluene	MS	REC	91	%	71-124
OP64158-MS	479-45-8	Tetryl	MS	REC	107	%	68-135
OP64158-MS	99-35-4	1,3,5-Trinitrobenzene	MS	REC	91	%	80-116
OP64158-MS	118-96-7	2,4,6-Trinitrotoluene	MS	REC	98	%	71-120
OP64158-MS	55-63-0	Nitroglycerine	MS	REC	103	%	73-124
OP64158-MS	78-11-5	PETN	MS	REC	101	%	72-128
OP64158-MSD	2691-41-0	HMX	MSD	REC	107	%	74-124
OP64158-MSD	2691-41-0	HMX	MSD	RPD	4	%	20
OP64158-MSD	121-82-4	RDX	MSD	REC	88	%	67-129
OP64158-MSD	121-82-4	RDX	MSD	RPD	0	%	20
OP64158-MSD	618-87-1	3,5-Dinitroaniline	MSD	REC	96	%	86-118
OP64158-MSD	618-87-1	3,5-Dinitroaniline	MSD	RPD	1	%	20
OP64158-MSD	99-65-0	1,3-Dinitrobenzene	MSD	REC	92	%	73-119
OP64158-MSD	99-65-0	1,3-Dinitrobenzene	MSD	RPD	2	%	20

* Sample used for QC is not from job FA41687

QC Evaluation: DOD QSM5 Limits

Job Number: FA41687
Account: AECOM, INC
Project: Hammond BGR; Hammond, LA
Collected: 02/28/17

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP64158-MSD	606-20-2	2,6-Dinitrotoluene	MSD	REC	97	%	79-117
OP64158-MSD	606-20-2	2,6-Dinitrotoluene	MSD	RPD	2	%	20
OP64158-MSD	121-14-2	2,4-Dinitrotoluene	MSD	REC	93	%	75-121
OP64158-MSD	121-14-2	2,4-Dinitrotoluene	MSD	RPD	0	%	20
OP64158-MSD	35572-78-2	2-amino-4,6-Dinitrotoluene	MSD	REC	94	%	71-123
OP64158-MSD	35572-78-2	2-amino-4,6-Dinitrotoluene	MSD	RPD	0	%	20
OP64158-MSD	19406-51-0	4-amino-2,6-Dinitrotoluene	MSD	REC	92	%	64-127
OP64158-MSD	19406-51-0	4-amino-2,6-Dinitrotoluene	MSD	RPD	4	%	20
OP64158-MSD	98-95-3	Nitrobenzene	MSD	REC	92	%	67-129
OP64158-MSD	98-95-3	Nitrobenzene	MSD	RPD	3	%	20
OP64158-MSD	88-72-2	o-Nitrotoluene	MSD	REC	91	%	70-124
OP64158-MSD	88-72-2	o-Nitrotoluene	MSD	RPD	2	%	20
OP64158-MSD	99-08-1	m-Nitrotoluene	MSD	REC	92	%	67-129
OP64158-MSD	99-08-1	m-Nitrotoluene	MSD	RPD	2	%	20
OP64158-MSD	99-99-0	p-Nitrotoluene	MSD	REC	90	%	71-124
OP64158-MSD	99-99-0	p-Nitrotoluene	MSD	RPD	2	%	20
OP64158-MSD	479-45-8	Tetryl	MSD	REC	107	%	68-135
OP64158-MSD	479-45-8	Tetryl	MSD	RPD	0	%	20
OP64158-MSD	99-35-4	1,3,5-Trinitrobenzene	MSD	REC	88	%	80-116
OP64158-MSD	99-35-4	1,3,5-Trinitrobenzene	MSD	RPD	3	%	20
OP64158-MSD	118-96-7	2,4,6-Trinitrotoluene	MSD	REC	99	%	71-120
OP64158-MSD	118-96-7	2,4,6-Trinitrotoluene	MSD	RPD	0	%	20
OP64158-MSD	55-63-0	Nitroglycerine	MSD	REC	103	%	73-124
OP64158-MSD	55-63-0	Nitroglycerine	MSD	RPD	1	%	20
OP64158-MSD	78-11-5	PETN	MSD	REC	103	%	72-128
OP64158-MSD	78-11-5	PETN	MSD	RPD	2	%	20
OP64158-DUP	2691-41-0	HMX	DUP	RPD	0	%	20
OP64158-DUP	121-82-4	RDX	DUP	RPD	0	%	20
OP64158-DUP	618-87-1	3,5-Dinitroaniline	DUP	RPD	0	%	20
OP64158-DUP	99-65-0	1,3-Dinitrobenzene	DUP	RPD	0	%	20
OP64158-DUP	606-20-2	2,6-Dinitrotoluene	DUP	RPD	0	%	20
OP64158-DUP	121-14-2	2,4-Dinitrotoluene	DUP	RPD	0	%	20
OP64158-DUP	35572-78-2	2-amino-4,6-Dinitrotoluene	DUP	RPD	0	%	20
OP64158-DUP	19406-51-0	4-amino-2,6-Dinitrotoluene	DUP	RPD	0	%	20
OP64158-DUP	98-95-3	Nitrobenzene	DUP	RPD	0	%	20
OP64158-DUP	88-72-2	o-Nitrotoluene	DUP	RPD	0	%	20
OP64158-DUP	99-08-1	m-Nitrotoluene	DUP	RPD	0	%	20
OP64158-DUP	99-99-0	p-Nitrotoluene	DUP	RPD	0	%	20
OP64158-DUP	479-45-8	Tetryl	DUP	RPD	0	%	20
OP64158-DUP	99-35-4	1,3,5-Trinitrobenzene	DUP	RPD	0	%	20
OP64158-DUP	118-96-7	2,4,6-Trinitrotoluene	DUP	RPD	0	%	20
OP64158-DUP	55-63-0	Nitroglycerine	DUP	RPD	0	%	20
OP64158-DUP	78-11-5	PETN	DUP	RPD	0	%	20
OP64158-DUP2	2691-41-0	HMX	DUP	RPD	0	%	20
OP64158-DUP2	121-82-4	RDX	DUP	RPD	0	%	20

* Sample used for QC is not from job FA41687

QC Evaluation: DOD QSM5 Limits

Job Number: FA41687
Account: AECOM, INC
Project: Hammond BGR; Hammond, LA
Collected: 02/28/17

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP64158-DUP2	618-87-1	3,5-Dinitroaniline	DUP	RPD	0	%	20
OP64158-DUP2	99-65-0	1,3-Dinitrobenzene	DUP	RPD	0	%	20
OP64158-DUP2	606-20-2	2,6-Dinitrotoluene	DUP	RPD	0	%	20
OP64158-DUP2	121-14-2	2,4-Dinitrotoluene	DUP	RPD	0	%	20
OP64158-DUP2	35572-78-2	2-amino-4,6-Dinitrotoluene	DUP	RPD	0	%	20
OP64158-DUP2	19406-51-0	4-amino-2,6-Dinitrotoluene	DUP	RPD	0	%	20
OP64158-DUP2	98-95-3	Nitrobenzene	DUP	RPD	0	%	20
OP64158-DUP2	88-72-2	o-Nitrotoluene	DUP	RPD	0	%	20
OP64158-DUP2	99-08-1	m-Nitrotoluene	DUP	RPD	0	%	20
OP64158-DUP2	99-99-0	p-Nitrotoluene	DUP	RPD	0	%	20
OP64158-DUP2	479-45-8	Tetryl	DUP	RPD	0	%	20
OP64158-DUP2	99-35-4	1,3,5-Trinitrobenzene	DUP	RPD	0	%	20
OP64158-DUP2	118-96-7	2,4,6-Trinitrotoluene	DUP	RPD	0	%	20
OP64158-DUP2	55-63-0	Nitroglycerine	DUP	RPD	0	%	20
OP64158-DUP2	78-11-5	PETN	DUP	RPD	0	%	20
OP64214	SW846 8330B						
OP64214-BS	2691-41-0	HMX	BSP	REC	108	%	74-124
OP64214-BS	121-82-4	RDX	BSP	REC	94	%	67-129
OP64214-BS	618-87-1	3,5-Dinitroaniline	BSP	REC	99	%	86-118
OP64214-BS	99-65-0	1,3-Dinitrobenzene	BSP	REC	92	%	73-119
OP64214-BS	606-20-2	2,6-Dinitrotoluene	BSP	REC	98	%	79-117
OP64214-BS	121-14-2	2,4-Dinitrotoluene	BSP	REC	93	%	75-121
OP64214-BS	35572-78-2	2-amino-4,6-Dinitrotoluene	BSP	REC	97	%	71-123
OP64214-BS	19406-51-0	4-amino-2,6-Dinitrotoluene	BSP	REC	81	%	64-127
OP64214-BS	98-95-3	Nitrobenzene	BSP	REC	95	%	67-129
OP64214-BS	88-72-2	o-Nitrotoluene	BSP	REC	93	%	70-124
OP64214-BS	99-08-1	m-Nitrotoluene	BSP	REC	94	%	67-129
OP64214-BS	99-99-0	p-Nitrotoluene	BSP	REC	92	%	71-124
OP64214-BS	479-45-8	Tetryl	BSP	REC	127	%	68-135
OP64214-BS	99-35-4	1,3,5-Trinitrobenzene	BSP	REC	95	%	80-116
OP64214-BS	118-96-7	2,4,6-Trinitrotoluene	BSP	REC	100	%	71-120
OP64214-BS	55-63-0	Nitroglycerine	BSP	REC	93	%	73-124
OP64214-BS	78-11-5	PETN	BSP	REC	97	%	72-128
OP64214-MS	2691-41-0	HMX	MS	REC	115	%	74-124
OP64214-MS	121-82-4	RDX	MS	REC	88	%	67-129
OP64214-MS	618-87-1	3,5-Dinitroaniline	MS	REC	91	%	86-118
OP64214-MS	99-65-0	1,3-Dinitrobenzene	MS	REC	89	%	73-119
OP64214-MS	606-20-2	2,6-Dinitrotoluene	MS	REC	96	%	79-117
OP64214-MS	121-14-2	2,4-Dinitrotoluene	MS	REC	92	%	75-121
OP64214-MS	35572-78-2	2-amino-4,6-Dinitrotoluene	MS	REC	88	%	71-123
OP64214-MS	19406-51-0	4-amino-2,6-Dinitrotoluene	MS	REC	73	%	64-127
OP64214-MS	98-95-3	Nitrobenzene	MS	REC	92	%	67-129
OP64214-MS	88-72-2	o-Nitrotoluene	MS	REC	88	%	70-124

* Sample used for QC is not from job FA41687

QC Evaluation: DOD QSM5 Limits

Job Number: FA41687
Account: AECOM, INC
Project: Hammond BGR; Hammond, LA
Collected: 02/28/17

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP64214-MS	99-08-1	m-Nitrotoluene	MS	REC	92	%	67-129
OP64214-MS	99-99-0	p-Nitrotoluene	MS	REC	89	%	71-124
OP64214-MS	479-45-8	Tetryl	MS	REC	96	%	68-135
OP64214-MS	99-35-4	1,3,5-Trinitrobenzene	MS	REC	84	%	80-116
OP64214-MS	118-96-7	2,4,6-Trinitrotoluene	MS	REC	95	%	71-120
OP64214-MS	55-63-0	Nitroglycerine	MS	REC	99	%	73-124
OP64214-MS	78-11-5	PETN	MS	REC	98	%	72-128
OP64214-MSD	2691-41-0	HMX	MSD	REC	126	%	74-124
OP64214-MSD	2691-41-0	HMX	MSD	RPD	9	%	20
OP64214-MSD	121-82-4	RDX	MSD	REC	85	%	67-129
OP64214-MSD	121-82-4	RDX	MSD	RPD	3	%	20
OP64214-MSD	618-87-1	3,5-Dinitroaniline	MSD	REC	93	%	86-118
OP64214-MSD	618-87-1	3,5-Dinitroaniline	MSD	RPD	2	%	20
OP64214-MSD	99-65-0	1,3-Dinitrobenzene	MSD	REC	90	%	73-119
OP64214-MSD	99-65-0	1,3-Dinitrobenzene	MSD	RPD	2	%	20
OP64214-MSD	606-20-2	2,6-Dinitrotoluene	MSD	REC	97	%	79-117
OP64214-MSD	606-20-2	2,6-Dinitrotoluene	MSD	RPD	1	%	20
OP64214-MSD	121-14-2	2,4-Dinitrotoluene	MSD	REC	93	%	75-121
OP64214-MSD	121-14-2	2,4-Dinitrotoluene	MSD	RPD	1	%	20
OP64214-MSD	35572-78-2	2-amino-4,6-Dinitrotoluene	MSD	REC	90	%	71-123
OP64214-MSD	35572-78-2	2-amino-4,6-Dinitrotoluene	MSD	RPD	1	%	20
OP64214-MSD	19406-51-0	4-amino-2,6-Dinitrotoluene	MSD	REC	73	%	64-127
OP64214-MSD	19406-51-0	4-amino-2,6-Dinitrotoluene	MSD	RPD	0	%	20
OP64214-MSD	98-95-3	Nitrobenzene	MSD	REC	94	%	67-129
OP64214-MSD	98-95-3	Nitrobenzene	MSD	RPD	2	%	20
OP64214-MSD	88-72-2	o-Nitrotoluene	MSD	REC	88	%	70-124
OP64214-MSD	88-72-2	o-Nitrotoluene	MSD	RPD	1	%	20
OP64214-MSD	99-08-1	m-Nitrotoluene	MSD	REC	92	%	67-129
OP64214-MSD	99-08-1	m-Nitrotoluene	MSD	RPD	0	%	20
OP64214-MSD	99-99-0	p-Nitrotoluene	MSD	REC	88	%	71-124
OP64214-MSD	99-99-0	p-Nitrotoluene	MSD	RPD	1	%	20
OP64214-MSD	479-45-8	Tetryl	MSD	REC	97	%	68-135
OP64214-MSD	479-45-8	Tetryl	MSD	RPD	1	%	20
OP64214-MSD	99-35-4	1,3,5-Trinitrobenzene	MSD	REC	80	%	80-116
OP64214-MSD	99-35-4	1,3,5-Trinitrobenzene	MSD	RPD	5	%	20
OP64214-MSD	118-96-7	2,4,6-Trinitrotoluene	MSD	REC	95	%	71-120
OP64214-MSD	118-96-7	2,4,6-Trinitrotoluene	MSD	RPD	0	%	20
OP64214-MSD	55-63-0	Nitroglycerine	MSD	REC	98	%	73-124
OP64214-MSD	55-63-0	Nitroglycerine	MSD	RPD	1	%	20
OP64214-MSD	78-11-5	PETN	MSD	REC	95	%	72-128
OP64214-MSD	78-11-5	PETN	MSD	RPD	3	%	20
OP64214-DUP	2691-41-0	HMX	DUP	RPD	0	%	20
OP64214-DUP	121-82-4	RDX	DUP	RPD	0	%	20
OP64214-DUP	618-87-1	3,5-Dinitroaniline	DUP	RPD	0	%	20
OP64214-DUP	99-65-0	1,3-Dinitrobenzene	DUP	RPD	0	%	20

* Sample used for QC is not from job FA41687

QC Evaluation: DOD QSM5 Limits

Job Number: FA41687
Account: AECOM, INC
Project: Hammond BGR; Hammond, LA
Collected: 02/28/17

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP64214-DUP	606-20-2	2,6-Dinitrotoluene	DUP	RPD	0	%	20
OP64214-DUP	121-14-2	2,4-Dinitrotoluene	DUP	RPD	0	%	20
OP64214-DUP	35572-78-2	2-amino-4,6-Dinitrotoluene	DUP	RPD	0	%	20
OP64214-DUP	19406-51-0	4-amino-2,6-Dinitrotoluene	DUP	RPD	0	%	20
OP64214-DUP	98-95-3	Nitrobenzene	DUP	RPD	0	%	20
OP64214-DUP	88-72-2	o-Nitrotoluene	DUP	RPD	0	%	20
OP64214-DUP	99-08-1	m-Nitrotoluene	DUP	RPD	0	%	20
OP64214-DUP	99-99-0	p-Nitrotoluene	DUP	RPD	0	%	20
OP64214-DUP	479-45-8	Tetryl	DUP	RPD	0	%	20
OP64214-DUP	99-35-4	1,3,5-Trinitrobenzene	DUP	RPD	0	%	20
OP64214-DUP	118-96-7	2,4,6-Trinitrotoluene	DUP	RPD	0	%	20
OP64214-DUP	55-63-0	Nitroglycerine	DUP	RPD	0	%	20
OP64214-DUP	78-11-5	PETN	DUP	RPD	0	%	20
OP64214-DUP2	2691-41-0	HMX	DUP	RPD	0	%	20
OP64214-DUP2	121-82-4	RDX	DUP	RPD	0	%	20
OP64214-DUP2	618-87-1	3,5-Dinitroaniline	DUP	RPD	0	%	20
OP64214-DUP2	99-65-0	1,3-Dinitrobenzene	DUP	RPD	0	%	20
OP64214-DUP2	606-20-2	2,6-Dinitrotoluene	DUP	RPD	0	%	20
OP64214-DUP2	121-14-2	2,4-Dinitrotoluene	DUP	RPD	0	%	20
OP64214-DUP2	35572-78-2	2-amino-4,6-Dinitrotoluene	DUP	RPD	0	%	20
OP64214-DUP2	19406-51-0	4-amino-2,6-Dinitrotoluene	DUP	RPD	0	%	20
OP64214-DUP2	98-95-3	Nitrobenzene	DUP	RPD	0	%	20
OP64214-DUP2	88-72-2	o-Nitrotoluene	DUP	RPD	0	%	20
OP64214-DUP2	99-08-1	m-Nitrotoluene	DUP	RPD	0	%	20
OP64214-DUP2	99-99-0	p-Nitrotoluene	DUP	RPD	0	%	20
OP64214-DUP2	479-45-8	Tetryl	DUP	RPD	0	%	20
OP64214-DUP2	99-35-4	1,3,5-Trinitrobenzene	DUP	RPD	0	%	20
OP64214-DUP2	118-96-7	2,4,6-Trinitrotoluene	DUP	RPD	0	%	20
OP64214-DUP2	55-63-0	Nitroglycerine	DUP	RPD	0	%	20
OP64214-DUP2	78-11-5	PETN	DUP	RPD	0	%	20
MP31801	SW846 7471B						
MP31801-B1	7439-97-6	Mercury	BSP	REC	104	%	80-124
MP31801-S1	7439-97-6	Mercury	MS	REC	88.9	%	80-124
MP31801-S2	7439-97-6	Mercury	MSD	REC	97	%	80-124
MP31801-S2	7439-97-6	Mercury	MSD	RPD	6.5	%	20
MP31801-D1	7439-97-6	Mercury	DUP	RPD	50 [a]	%	20
MP31806	SW846 6010C						
MP31806-B1	7429-90-5	Aluminum	BSP	REC	100.7	%	74-119
MP31806-B1	7440-36-0	Antimony	BSP	REC	95.2	%	79-114
MP31806-B1	7440-38-2	Arsenic	BSP	REC	95.6	%	82-111
MP31806-B1	7440-39-3	Barium	BSP	REC	98.8	%	83-113

* Sample used for QC is not from job FA41687

QC Evaluation: DOD QSM5 Limits

Job Number: FA41687
Account: AECOM, INC
Project: Hammond BGR; Hammond, LA
Collected: 02/28/17

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MP31806-B1	7440-41-7	Beryllium	BSP	REC	100	%	83-113
MP31806-B1	7440-43-9	Cadmium	BSP	REC	96	%	82-113
MP31806-B1	7440-70-2	Calcium	BSP	REC	100	%	81-116
MP31806-B1	7440-47-3	Chromium	BSP	REC	99	%	85-113
MP31806-B1	7440-48-4	Cobalt	BSP	REC	96.4	%	85-112
MP31806-B1	7440-50-8	Copper	BSP	REC	95.2	%	81-117
MP31806-B1	7439-89-6	Iron	BSP	REC	100.8	%	81-118
MP31806-B1	7439-92-1	Lead	BSP	REC	94	%	81-112
MP31806-B1	7439-95-4	Magnesium	BSP	REC	97.6	%	78-115
MP31806-B1	7439-96-5	Manganese	BSP	REC	98.4	%	84-114
MP31806-B1	7440-02-0	Nickel	BSP	REC	96.8	%	83-113
MP31806-B1	7440-09-7	Potassium	BSP	REC	99.2	%	81-116
MP31806-B1	7782-49-2	Selenium	BSP	REC	95.2	%	78-111
MP31806-B1	7440-22-4	Silver	BSP	REC	88	%	82-112
MP31806-B1	7440-23-5	Sodium	BSP	REC	96.8	%	83-118
MP31806-B1	7440-28-0	Thallium	BSP	REC	94	%	83-111
MP31806-B1	7440-62-2	Vanadium	BSP	REC	92.4	%	82-114
MP31806-B1	7440-66-6	Zinc	BSP	REC	95.2	%	82-113
MP31806-S1	7429-90-5	Aluminum	MS	REC	116	%	74-119
MP31806-S1	7440-36-0	Antimony	MS	REC	36.6 [b]	%	79-114
MP31806-S1	7440-38-2	Arsenic	MS	REC	82.8	%	82-111
MP31806-S1	7440-39-3	Barium	MS	REC	87.7	%	83-113
MP31806-S1	7440-41-7	Beryllium	MS	REC	90.2	%	83-113
MP31806-S1	7440-43-9	Cadmium	MS	REC	84.5	%	82-113
MP31806-S1	7440-70-2	Calcium	MS	REC	90.4	%	81-116
MP31806-S1	7440-47-3	Chromium	MS	REC	89.2	%	85-113
MP31806-S1	7440-48-4	Cobalt	MS	REC	86.2	%	85-112
MP31806-S1	7440-50-8	Copper	MS	REC	86.7	%	81-117
MP31806-S1	7439-89-6	Iron	MS	REC	74.1 [b]	%	81-118
MP31806-S1	7439-92-1	Lead	MS	REC	90.8	%	81-112
MP31806-S1	7439-95-4	Magnesium	MS	REC	87.5	%	78-115
MP31806-S1	7439-96-5	Manganese	MS	REC	78.6 [b]	%	84-114
MP31806-S1	7440-02-0	Nickel	MS	REC	86.5	%	83-113
MP31806-S1	7440-09-7	Potassium	MS	REC	89.3	%	81-116
MP31806-S1	7782-49-2	Selenium	MS	REC	83	%	78-111
MP31806-S1	7440-22-4	Silver	MS	REC	78.3 [b]	%	82-112
MP31806-S1	7440-23-5	Sodium	MS	REC	89.6	%	83-118
MP31806-S1	7440-28-0	Thallium	MS	REC	90.8	%	83-111
MP31806-S1	7440-62-2	Vanadium	MS	REC	83	%	82-114
MP31806-S1	7440-66-6	Zinc	MS	REC	85.5	%	82-113
MP31806-S2	7429-90-5	Aluminum	MSD	REC	109.8	%	74-119
MP31806-S2	7429-90-5	Aluminum	MSD	RPD	4	%	20
MP31806-S2	7440-36-0	Antimony	MSD	REC	34.8 [b]	%	79-114
MP31806-S2	7440-36-0	Antimony	MSD	RPD	10.8	%	20
MP31806-S2	7440-38-2	Arsenic	MSD	REC	81.8	%	82-111

* Sample used for QC is not from job FA41687

QC Evaluation: DOD QSM5 Limits

Job Number: FA41687
Account: AECOM, INC
Project: Hammond BGR; Hammond, LA
Collected: 02/28/17

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MP31806-S2	7440-38-2	Arsenic	MSD	RPD	6.9	%	20
MP31806-S2	7440-39-3	Barium	MSD	REC	86.2	%	83-113
MP31806-S2	7440-39-3	Barium	MSD	RPD	6.1	%	20
MP31806-S2	7440-41-7	Beryllium	MSD	REC	88.8	%	83-113
MP31806-S2	7440-41-7	Beryllium	MSD	RPD	6.9	%	20
MP31806-S2	7440-43-9	Cadmium	MSD	REC	82.8	%	82-113
MP31806-S2	7440-43-9	Cadmium	MSD	RPD	7.7	%	20
MP31806-S2	7440-70-2	Calcium	MSD	REC	89	%	81-116
MP31806-S2	7440-70-2	Calcium	MSD	RPD	7	%	20
MP31806-S2	7440-47-3	Chromium	MSD	REC	86.2	%	85-113
MP31806-S2	7440-47-3	Chromium	MSD	RPD	6.5	%	20
MP31806-S2	7440-48-4	Cobalt	MSD	REC	84.9	%	85-112
MP31806-S2	7440-48-4	Cobalt	MSD	RPD	7	%	20
MP31806-S2	7440-50-8	Copper	MSD	REC	85.1	%	81-117
MP31806-S2	7440-50-8	Copper	MSD	RPD	7.1	%	20
MP31806-S2	7439-89-6	Iron	MSD	REC	79 [b]	%	81-118
MP31806-S2	7439-89-6	Iron	MSD	RPD	.2	%	20
MP31806-S2	7439-92-1	Lead	MSD	REC	90.8	%	81-112
MP31806-S2	7439-92-1	Lead	MSD	RPD	4.9	%	20
MP31806-S2	7439-95-4	Magnesium	MSD	REC	86.6	%	78-115
MP31806-S2	7439-95-4	Magnesium	MSD	RPD	6.1	%	20
MP31806-S2	7439-96-5	Manganese	MSD	REC	76.5 [b]	%	84-114
MP31806-S2	7439-96-5	Manganese	MSD	RPD	5.2	%	20
MP31806-S2	7440-02-0	Nickel	MSD	REC	85.3	%	83-113
MP31806-S2	7440-02-0	Nickel	MSD	RPD	6.9	%	20
MP31806-S2	7440-09-7	Potassium	MSD	REC	87.9	%	81-116
MP31806-S2	7440-09-7	Potassium	MSD	RPD	6.9	%	20
MP31806-S2	7782-49-2	Selenium	MSD	REC	81.8	%	78-111
MP31806-S2	7782-49-2	Selenium	MSD	RPD	7.1	%	20
MP31806-S2	7440-22-4	Silver	MSD	REC	79.5 [b]	%	82-112
MP31806-S2	7440-22-4	Silver	MSD	RPD	4.1	%	20
MP31806-S2	7440-23-5	Sodium	MSD	REC	88.1	%	83-118
MP31806-S2	7440-23-5	Sodium	MSD	RPD	7.2	%	20
MP31806-S2	7440-28-0	Thallium	MSD	REC	91.1	%	83-111
MP31806-S2	7440-28-0	Thallium	MSD	RPD	5.3	%	20
MP31806-S2	7440-62-2	Vanadium	MSD	REC	79.2 [b]	%	82-114
MP31806-S2	7440-62-2	Vanadium	MSD	RPD	7.6	%	20
MP31806-S2	7440-66-6	Zinc	MSD	REC	83.5	%	82-113
MP31806-S2	7440-66-6	Zinc	MSD	RPD	7.3	%	20
MP31806-D1	7429-90-5	Aluminum	DUP	RPD	3.5	%	20
MP31806-D1	7440-36-0	Antimony	DUP	RPD	0	%	20
MP31806-D1	7440-38-2	Arsenic	DUP	RPD	8.7	%	20
MP31806-D1	7440-39-3	Barium	DUP	RPD	2.1	%	20
MP31806-D1	7440-41-7	Beryllium	DUP	RPD	0	%	20
MP31806-D1	7440-43-9	Cadmium	DUP	RPD	0	%	20

* Sample used for QC is not from job FA41687

QC Evaluation: DOD QSM5 Limits

Job Number: FA41687
Account: AECOM, INC
Project: Hammond BGR; Hammond, LA
Collected: 02/28/17

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MP31806-D1	7440-70-2	Calcium	DUP	RPD	9.2	%	20
MP31806-D1	7440-47-3	Chromium	DUP	RPD	6.6	%	20
MP31806-D1	7440-48-4	Cobalt	DUP	RPD	8.2	%	20
MP31806-D1	7440-50-8	Copper	DUP	RPD	0	%	20
MP31806-D1	7439-89-6	Iron	DUP	RPD	7.7	%	20
MP31806-D1	7439-92-1	Lead	DUP	RPD	2.2	%	20
MP31806-D1	7439-95-4	Magnesium	DUP	RPD	5.2	%	20
MP31806-D1	7439-96-5	Manganese	DUP	RPD	2.8	%	20
MP31806-D1	7440-02-0	Nickel	DUP	RPD	3	%	20
MP31806-D1	7440-09-7	Potassium	DUP	RPD	3.5	%	20
MP31806-D1	7782-49-2	Selenium	DUP	RPD	0	%	20
MP31806-D1	7440-22-4	Silver	DUP	RPD	0	%	20
MP31806-D1	7440-23-5	Sodium	DUP	RPD	0	%	20
MP31806-D1	7440-28-0	Thallium	DUP	RPD	0	%	20
MP31806-D1	7440-62-2	Vanadium	DUP	RPD	1.1	%	20
MP31806-D1	7440-66-6	Zinc	DUP	RPD	3.9	%	20

(a) RPD acceptable due to low duplicate and sample concentrations.
(b) Spike recovery indicates possible matrix interference and/or sample non-homogeneity.

* Sample used for QC is not from job FA41687

GC Semi-volatiles

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QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries
- GC Surrogate Retention Time Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: FA41687
Account: URSNEOM AECOM, INC
Project: Hammond BGR; Hammond, LA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP64158-MB	BB053704.D	1	03/17/17	EM	03/14/17	OP64158	GBB1559

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA41687-1, FA41687-2, FA41687-3, FA41687-4, FA41687-5, FA41687-6, FA41687-7, FA41687-8, FA41687-9, FA41687-10, FA41687-12

CAS No.	Compound	Result	RL	MDL	Units	Q
2691-41-0	HMX	ND	100	51	ug/kg	
121-82-4	RDX	ND	100	50	ug/kg	
618-87-1	3,5-Dinitroaniline	ND	100	50	ug/kg	
99-65-0	1,3-Dinitrobenzene	ND	100	50	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	100	50	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	100	50	ug/kg	
35572-78-2	2-amino-4,6-Dinitrotoluene	ND	100	50	ug/kg	
19406-51-0	4-amino-2,6-Dinitrotoluene	ND	100	51	ug/kg	
98-95-3	Nitrobenzene	ND	100	50	ug/kg	
88-72-2	o-Nitrotoluene	ND	100	50	ug/kg	
99-08-1	m-Nitrotoluene	ND	100	50	ug/kg	
99-99-0	p-Nitrotoluene	ND	100	50	ug/kg	
479-45-8	Tetryl	ND	100	50	ug/kg	
99-35-4	1,3,5-Trinitrobenzene	ND	100	50	ug/kg	
118-96-7	2,4,6-Trinitrotoluene	ND	100	50	ug/kg	
55-63-0	Nitroglycerine	ND	1000	250	ug/kg	
78-11-5	PETN	ND	1000	250	ug/kg	

CAS No.	Surrogate Recoveries		Limits
610-39-9	3,4-Dinitrotoluene	94%	69-134%

Method Blank Summary

Job Number: FA41687
Account: URSNEOM AECOM, INC
Project: Hammond BGR; Hammond, LA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP64214-MB	BB053733.D	1	03/20/17	EM	03/17/17	OP64214	GBB1560

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA41687-11

CAS No.	Compound	Result	RL	MDL	Units	Q
2691-41-0	HMX	ND	100	51	ug/kg	
121-82-4	RDX	ND	100	50	ug/kg	
618-87-1	3,5-Dinitroaniline	ND	100	50	ug/kg	
99-65-0	1,3-Dinitrobenzene	ND	100	50	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	100	50	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	100	50	ug/kg	
35572-78-2	2-amino-4,6-Dinitrotoluene	ND	100	50	ug/kg	
19406-51-0	4-amino-2,6-Dinitrotoluene	ND	100	51	ug/kg	
98-95-3	Nitrobenzene	ND	100	50	ug/kg	
88-72-2	o-Nitrotoluene	ND	100	50	ug/kg	
99-08-1	m-Nitrotoluene	ND	100	50	ug/kg	
99-99-0	p-Nitrotoluene	ND	100	50	ug/kg	
479-45-8	Tetryl	ND	100	50	ug/kg	
99-35-4	1,3,5-Trinitrobenzene	ND	100	50	ug/kg	
118-96-7	2,4,6-Trinitrotoluene	ND	100	50	ug/kg	
55-63-0	Nitroglycerine	ND	1000	250	ug/kg	
78-11-5	PETN	ND	1000	250	ug/kg	

CAS No.	Surrogate Recoveries		Limits
610-39-9	3,4-Dinitrotoluene	93%	69-134%

Blank Spike Summary

Job Number: FA41687
Account: URSNEOM AECOM, INC
Project: Hammond BGR; Hammond, LA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP64158-BS	BB053703.D	1	03/17/17	EM	03/14/17	OP64158	GBB1559

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA41687-1, FA41687-2, FA41687-3, FA41687-4, FA41687-5, FA41687-6, FA41687-7, FA41687-8, FA41687-9, FA41687-10, FA41687-12

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
2691-41-0	HMX	2500	2620	105	75-147
121-82-4	RDX	2500	2370	95	79-126
618-87-1	3,5-Dinitroaniline	2500	2430	97	79-117
99-65-0	1,3-Dinitrobenzene	2500	2270	91	77-131
606-20-2	2,6-Dinitrotoluene	2500	2380	95	81-134
121-14-2	2,4-Dinitrotoluene	2500	2330	93	81-128
35572-78-2	2-amino-4,6-Dinitrotoluene	2500	2400	96	81-127
19406-51-0	4-amino-2,6-Dinitrotoluene	2500	2360	94	74-125
98-95-3	Nitrobenzene	2500	2250	90	79-135
88-72-2	o-Nitrotoluene	2500	2300	92	79-130
99-08-1	m-Nitrotoluene	2500	2340	94	79-132
99-99-0	p-Nitrotoluene	2500	2270	91	79-134
479-45-8	Tetryl	2500	3160	126	67-130
99-35-4	1,3,5-Trinitrobenzene	2500	2390	96	79-134
118-96-7	2,4,6-Trinitrotoluene	2500	2490	100	70-123
55-63-0	Nitroglycerine	12500	11900	95	73-121
78-11-5	PETN	12500	12100	97	74-140

CAS No.	Surrogate Recoveries	BSP	Limits
610-39-9	3,4-Dinitrotoluene	100%	69-134%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA41687
Account: URSNEOM AECOM, INC
Project: Hammond BGR; Hammond, LA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP64214-BS	BB053731.D	1	03/20/17	EM	03/17/17	OP64214	GBB1560

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA41687-11

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
2691-41-0	HMX	2500	2700	108	75-147
121-82-4	RDX	2500	2350	94	79-126
618-87-1	3,5-Dinitroaniline	2500	2480	99	79-117
99-65-0	1,3-Dinitrobenzene	2500	2300	92	77-131
606-20-2	2,6-Dinitrotoluene	2500	2460	98	81-134
121-14-2	2,4-Dinitrotoluene	2500	2330	93	81-128
35572-78-2	2-amino-4,6-Dinitrotoluene	2500	2430	97	81-127
19406-51-0	4-amino-2,6-Dinitrotoluene	2500	2020	81	74-125
98-95-3	Nitrobenzene	2500	2370	95	79-135
88-72-2	o-Nitrotoluene	2500	2320	93	79-130
99-08-1	m-Nitrotoluene	2500	2350	94	79-132
99-99-0	p-Nitrotoluene	2500	2310	92	79-134
479-45-8	Tetryl	2500	3170	127	67-130
99-35-4	1,3,5-Trinitrobenzene	2500	2370	95	79-134
118-96-7	2,4,6-Trinitrotoluene	2500	2500	100	70-123
55-63-0	Nitroglycerine	12500	11600	93	73-121
78-11-5	PETN	12500	12100	97	74-140

CAS No.	Surrogate Recoveries	BSP	Limits
610-39-9	3,4-Dinitrotoluene	114%	69-134%

* = Outside of Control Limits.

Laboratory Control Sample Summary

Job Number: FA41687
Account: URSNEOM AECOM, INC
Project: Hammond BGR; Hammond, LA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP64158-PT1	BB053705.D	1	03/17/17	EM	03/14/17	OP64158	GBB1559

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA41687-1, FA41687-2, FA41687-3, FA41687-4, FA41687-5, FA41687-6, FA41687-7, FA41687-8, FA41687-9, FA41687-10, FA41687-12

CAS No.	Compound	Spike ug/kg	LCS ug/kg	LCS %	Limits
2691-41-0	HMX	620	606	98	74-124
121-82-4	RDX	587	479	82	67-129
618-87-1	3,5-Dinitroaniline	2000	2650	133*	86-118
99-65-0	1,3-Dinitrobenzene	1010	967	96	73-119
606-20-2	2,6-Dinitrotoluene	1320	1230	93	79-117
121-14-2	2,4-Dinitrotoluene	638	553	87	75-121
35572-78-2	2-amino-4,6-Dinitrotoluene	650	512	79	71-123
19406-51-0	4-amino-2,6-Dinitrotoluene	947	406	43*	64-127
98-95-3	Nitrobenzene	1400	1140	81	67-129
88-72-2	o-Nitrotoluene	1460	1140	78	70-124
99-08-1	m-Nitrotoluene	1020	880	86	67-129
99-99-0	p-Nitrotoluene	1830	1610	88	71-124
479-45-8	Tetryl	2000	630	32*	68-135
99-35-4	1,3,5-Trinitrobenzene	701	671	96	80-116
118-96-7	2,4,6-Trinitrotoluene	808	704	87	71-120
55-63-0	Nitroglycerine	1000	906	91	73-124
78-11-5	PETN	1000	1060	106	72-128

CAS No.	Surrogate Recoveries	BSP	Limits
610-39-9	3,4-Dinitrotoluene	96%	69-134%

* = Outside of Control Limits.

Laboratory Control Sample Summary

Job Number: FA41687
Account: URSNEOM AECOM, INC
Project: Hammond BGR; Hammond, LA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP64214-PT1	BB053732.D	1	03/20/17	EM	03/17/17	OP64214	GBB1560

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA41687-11

CAS No.	Compound	Spike ug/kg	LCS ug/kg	LCS %	Limits
2691-41-0	HMX	620	713	115	74-124
121-82-4	RDX	587	494	84	67-129
618-87-1	3,5-Dinitroaniline	2000	2120	106	86-118
99-65-0	1,3-Dinitrobenzene	1010	1070	106	73-119
606-20-2	2,6-Dinitrotoluene	1320	1360	103	79-117
121-14-2	2,4-Dinitrotoluene	638	609	95	75-121
35572-78-2	2-amino-4,6-Dinitrotoluene	650	566	87	71-123
19406-51-0	4-amino-2,6-Dinitrotoluene	947	353	37*	64-127
98-95-3	Nitrobenzene	1400	1230	88	67-129
88-72-2	o-Nitrotoluene	1460	1200	82	70-124
99-08-1	m-Nitrotoluene	1020	953	93	67-129
99-99-0	p-Nitrotoluene	1830	1710	93	71-124
479-45-8	Tetryl	2000	694	35*	68-135
99-35-4	1,3,5-Trinitrobenzene	701	757	108	80-116
118-96-7	2,4,6-Trinitrotoluene	808	769	95	71-120
55-63-0	Nitroglycerine	1000	1040	104	73-124
78-11-5	PETN	1000	1010	101	72-128

CAS No.	Surrogate Recoveries	BSP	Limits
610-39-9	3,4-Dinitrotoluene	99%	69-134%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA41687
Account: URSNEOM AECOM, INC
Project: Hammond BGR; Hammond, LA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP64158-MS	BB053707.D	1	03/17/17	EM	03/14/17	OP64158	GBB1559
OP64158-MSD	BB053708.D	1	03/17/17	EM	03/14/17	OP64158	GBB1559
FA41687-1	BB053706.D	1	03/17/17	EM	03/14/17	OP64158	GBB1559

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA41687-1, FA41687-2, FA41687-3, FA41687-4, FA41687-5, FA41687-6, FA41687-7, FA41687-8, FA41687-9, FA41687-10, FA41687-12

CAS No.	Compound	FA41687-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
2691-41-0	HMX	99	U	2480	2780	112	2480	2660	107	4	75-147/22
121-82-4	RDX	99	U	2480	2190	88	2480	2180	88	0	79-126/21
618-87-1	3,5-Dinitroaniline	99	U	2480	2400	97	2480	2370	96	1	79-117/18
99-65-0	1,3-Dinitrobenzene	99	U	2480	2320	94	2480	2280	92	2	77-131/15
606-20-2	2,6-Dinitrotoluene	99	U	2480	2360	95	2480	2410	97	2	81-134/20
121-14-2	2,4-Dinitrotoluene	99	U	2480	2290	93	2480	2290	93	0	81-128/17
35572-78-2	2-amino-4,6-Dinitrotoluene	99	U	2480	2310	93	2480	2320	94	0	81-127/15
19406-51-0	4-amino-2,6-Dinitrotoluene	99	U	2480	2200	89	2480	2280	92	4	74-125/23
98-95-3	Nitrobenzene	99	U	2480	2330	94	2480	2270	92	3	79-135/16
88-72-2	o-Nitrotoluene	99	U	2480	2310	93	2480	2260	91	2	79-130/17
99-08-1	m-Nitrotoluene	99	U	2480	2330	94	2480	2280	92	2	79-132/20
99-99-0	p-Nitrotoluene	99	U	2480	2260	91	2480	2220	90	2	79-134/22
479-45-8	Tetryl	99	U	2480	2660	107	2480	2650	107	0	67-130/19
99-35-4	1,3,5-Trinitrobenzene	99	U	2480	2250	91	2480	2190	88	3	79-134/17
118-96-7	2,4,6-Trinitrotoluene	99	U	2480	2430	98	2480	2440	99	0	70-123/16
55-63-0	Nitroglycerine	990	U	12400	12700	103	12400	12800	103	1	73-121/15
78-11-5	PETN	990	U	12400	12500	101	12400	12700	103	2	74-140/16

CAS No.	Surrogate Recoveries	MS	MSD	FA41687-1	Limits
610-39-9	3,4-Dinitrotoluene	101%	99%	91%	69-134%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA41687
Account: URSNEOM AECOM, INC
Project: Hammond BGR; Hammond, LA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP64214-MS	BB053735.D	1	03/20/17	EM	03/17/17	OP64214	GBB1560
OP64214-MSD	BB053736.D	1	03/20/17	EM	03/17/17	OP64214	GBB1560
FA41687-11 [a]	BB053734.D	1	03/20/17	EM	03/17/17	OP64214	GBB1560

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA41687-11

CAS No.	Compound	FA41687-11 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
2691-41-0	HMX	100	U	2480	2840	115	2480	3120	126	9	75-147/22
121-82-4	RDX	100	U	2480	2170	88	2480	2100	85	3	79-126/21
618-87-1	3,5-Dinitroaniline	100	U	2480	2260	91	2480	2310	93	2	79-117/18
99-65-0	1,3-Dinitrobenzene	100	U	2480	2200	89	2480	2240	90	2	77-131/15
606-20-2	2,6-Dinitrotoluene	100	U	2480	2380	96	2480	2400	97	1	81-134/20
121-14-2	2,4-Dinitrotoluene	100	U	2480	2280	92	2480	2310	93	1	81-128/17
35572-78-2	2-amino-4,6-Dinitrotoluene	100	U	2480	2190	88	2480	2220	90	1	81-127/15
19406-51-0	4-amino-2,6-Dinitrotoluene	100	U	2480	1800	73*	2480	1800	73*	0	74-125/23
98-95-3	Nitrobenzene	100	U	2480	2270	92	2480	2320	94	2	79-135/16
88-72-2	o-Nitrotoluene	100	U	2480	2170	88	2480	2190	88	1	79-130/17
99-08-1	m-Nitrotoluene	100	U	2480	2270	92	2480	2280	92	0	79-132/20
99-99-0	p-Nitrotoluene	100	U	2480	2200	89	2480	2180	88	1	79-134/22
479-45-8	Tetryl	100	U	2480	2380	96	2480	2410	97	1	67-130/19
99-35-4	1,3,5-Trinitrobenzene	100	U	2480	2090	84	2480	1990	80	5	79-134/17
118-96-7	2,4,6-Trinitrotoluene	100	U	2480	2340	95	2480	2350	95	0	70-123/16
55-63-0	Nitroglycerine	1000	U	12400	12200	99	12400	12100	98	1	73-121/15
78-11-5	PETN	1000	U	12400	12100	98	12400	11700	95	3	74-140/16

CAS No.	Surrogate Recoveries	MS	MSD	FA41687-11	Limits
610-39-9	3,4-Dinitrotoluene	115%	116%	87%	69-134%

(a) Sample extracted beyond hold time.

* = Outside of Control Limits.

Duplicate Summary

Job Number: FA41687
Account: URSNEOM AECOM, INC
Project: Hammond BGR; Hammond, LA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP64158-DUP	BB053711.D	1	03/17/17	EM	03/14/17	OP64158	GBB1559
FA41687-3	BB053710.D	1	03/17/17	EM	03/14/17	OP64158	GBB1559

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA41687-1, FA41687-2, FA41687-3, FA41687-4, FA41687-5, FA41687-6, FA41687-7, FA41687-8, FA41687-9, FA41687-10, FA41687-12

CAS No.	Compound	FA41687-3 ug/kg	Q	DUP ug/kg	Q	RPD	Limits
2691-41-0	HMX	100 U		ND		nc	22
121-82-4	RDX	100 U		ND		nc	21
618-87-1	3,5-Dinitroaniline	100 U		ND		nc	18
99-65-0	1,3-Dinitrobenzene	100 U		ND		nc	15
606-20-2	2,6-Dinitrotoluene	100 U		ND		nc	20
121-14-2	2,4-Dinitrotoluene	100 U		ND		nc	17
35572-78-2	2-amino-4,6-Dinitrotoluene	100 U		ND		nc	15
19406-51-0	4-amino-2,6-Dinitrotoluene	100 U		ND		nc	23
98-95-3	Nitrobenzene	100 U		ND		nc	16
88-72-2	o-Nitrotoluene	100 U		ND		nc	17
99-08-1	m-Nitrotoluene	100 U		ND		nc	20
99-99-0	p-Nitrotoluene	100 U		ND		nc	22
479-45-8	Tetryl	100 U		ND		nc	19
99-35-4	1,3,5-Trinitrobenzene	100 U		ND		nc	17
118-96-7	2,4,6-Trinitrotoluene	100 U		ND		nc	16
55-63-0	Nitroglycerine	1000 U		ND		nc	15
78-11-5	PETN	1000 U		ND		nc	16

CAS No.	Surrogate Recoveries	DUP	FA41687-3	Limits
610-39-9	3,4-Dinitrotoluene	85%	90%	69-134%

* = Outside of Control Limits.

Duplicate Summary

Job Number: FA41687
Account: URSNEOM AECOM, INC
Project: Hammond BGR; Hammond, LA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP64158-DUP2	BB053712.D	1	03/17/17	EM	03/14/17	OP64158	GBB1559
FA41687-3	BB053710.D	1	03/17/17	EM	03/14/17	OP64158	GBB1559

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA41687-1, FA41687-2, FA41687-3, FA41687-4, FA41687-5, FA41687-6, FA41687-7, FA41687-8, FA41687-9, FA41687-10, FA41687-12

CAS No.	Compound	FA41687-3 ug/kg	Q	DUP ug/kg	Q	RPD	Limits
2691-41-0	HMX	100 U		ND		nc	22
121-82-4	RDX	100 U		ND		nc	21
618-87-1	3,5-Dinitroaniline	100 U		ND		nc	18
99-65-0	1,3-Dinitrobenzene	100 U		ND		nc	15
606-20-2	2,6-Dinitrotoluene	100 U		ND		nc	20
121-14-2	2,4-Dinitrotoluene	100 U		ND		nc	17
35572-78-2	2-amino-4,6-Dinitrotoluene	100 U		ND		nc	15
19406-51-0	4-amino-2,6-Dinitrotoluene	100 U		ND		nc	23
98-95-3	Nitrobenzene	100 U		ND		nc	16
88-72-2	o-Nitrotoluene	100 U		ND		nc	17
99-08-1	m-Nitrotoluene	100 U		ND		nc	20
99-99-0	p-Nitrotoluene	100 U		ND		nc	22
479-45-8	Tetryl	100 U		ND		nc	19
99-35-4	1,3,5-Trinitrobenzene	100 U		ND		nc	17
118-96-7	2,4,6-Trinitrotoluene	100 U		ND		nc	16
55-63-0	Nitroglycerine	1000 U		ND		nc	15
78-11-5	PETN	1000 U		ND		nc	16

CAS No.	Surrogate Recoveries	DUP	FA41687-3	Limits
610-39-9	3,4-Dinitrotoluene	86%	90%	69-134%

* = Outside of Control Limits.

Duplicate Summary

Job Number: FA41687
Account: URSNEOM AECOM, INC
Project: Hammond BGR; Hammond, LA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP64214-DUP	BB053737.D	1	03/20/17	EM	03/17/17	OP64214	GBB1560
FA41687-11 [a]	BB053734.D	1	03/20/17	EM	03/17/17	OP64214	GBB1560

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA41687-11

CAS No.	Compound	FA41687-11 ug/kg	Q	DUP ug/kg	Q	RPD	Limits
2691-41-0	HMX	100 U		ND		nc	22
121-82-4	RDX	100 U		ND		nc	21
618-87-1	3,5-Dinitroaniline	100 U		ND		nc	18
99-65-0	1,3-Dinitrobenzene	100 U		ND		nc	15
606-20-2	2,6-Dinitrotoluene	100 U		ND		nc	20
121-14-2	2,4-Dinitrotoluene	100 U		ND		nc	17
35572-78-2	2-amino-4,6-Dinitrotoluene	100 U		ND		nc	15
19406-51-0	4-amino-2,6-Dinitrotoluene	100 U		ND		nc	23
98-95-3	Nitrobenzene	100 U		ND		nc	16
88-72-2	o-Nitrotoluene	100 U		ND		nc	17
99-08-1	m-Nitrotoluene	100 U		ND		nc	20
99-99-0	p-Nitrotoluene	100 U		ND		nc	22
479-45-8	Tetryl	100 U		ND		nc	19
99-35-4	1,3,5-Trinitrobenzene	100 U		ND		nc	17
118-96-7	2,4,6-Trinitrotoluene	100 U		ND		nc	16
55-63-0	Nitroglycerine	1000 U		ND		nc	15
78-11-5	PETN	1000 U		ND		nc	16

CAS No.	Surrogate Recoveries	DUP	FA41687-11	Limits
610-39-9	3,4-Dinitrotoluene	94%	87%	69-134%

(a) Sample extracted beyond hold time.

* = Outside of Control Limits.

Duplicate Summary

Job Number: FA41687
Account: URSNEOM AECOM, INC
Project: Hammond BGR; Hammond, LA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP64214-DUP2	BB053739.D	1	03/20/17	EM	03/17/17	OP64214	GBB1560
FA41687-11 [a]	BB053734.D	1	03/20/17	EM	03/17/17	OP64214	GBB1560

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA41687-11

CAS No.	Compound	FA41687-11 ug/kg	Q	DUP ug/kg	Q	RPD	Limits
2691-41-0	HMX	100 U		ND		nc	22
121-82-4	RDX	100 U		ND		nc	21
618-87-1	3,5-Dinitroaniline	100 U		ND		nc	18
99-65-0	1,3-Dinitrobenzene	100 U		ND		nc	15
606-20-2	2,6-Dinitrotoluene	100 U		ND		nc	20
121-14-2	2,4-Dinitrotoluene	100 U		ND		nc	17
35572-78-2	2-amino-4,6-Dinitrotoluene	100 U		ND		nc	15
19406-51-0	4-amino-2,6-Dinitrotoluene	100 U		ND		nc	23
98-95-3	Nitrobenzene	100 U		ND		nc	16
88-72-2	o-Nitrotoluene	100 U		ND		nc	17
99-08-1	m-Nitrotoluene	100 U		ND		nc	20
99-99-0	p-Nitrotoluene	100 U		ND		nc	22
479-45-8	Tetryl	100 U		ND		nc	19
99-35-4	1,3,5-Trinitrobenzene	100 U		ND		nc	17
118-96-7	2,4,6-Trinitrotoluene	100 U		ND		nc	16
55-63-0	Nitroglycerine	1000 U		ND		nc	15
78-11-5	PETN	1000 U		ND		nc	16

CAS No.	Surrogate Recoveries	DUP	FA41687-11	Limits
610-39-9	3,4-Dinitrotoluene	94%	87%	69-134%

(a) Sample extracted beyond hold time.

* = Outside of Control Limits.

Semivolatile Surrogate Recovery Summary

Job Number: FA41687
Account: URSNEOM AECOM, INC
Project: Hammond BGR; Hammond, LA

Method: SW846 8330B **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]
FA41687-1	BB053706.D	91
FA41687-2	BB053709.D	86
FA41687-3	BB053710.D	90
FA41687-4	BB053715.D	94
FA41687-5	BB053716.D	94
FA41687-6	BB053717.D	87
FA41687-7	BB053718.D	93
FA41687-8	BB053719.D	90
FA41687-9	BB053720.D	91
FA41687-10	BB053721.D	101
FA41687-11	BB053734.D	87
FA41687-12	BB053722.D	101
OP64158-BS	BB053703.D	100
OP64158-DUP	BB053711.D	85
OP64158-DUP2	BB053712.D	86
OP64158-MB	BB053704.D	94
OP64158-MS	BB053707.D	101
OP64158-MSD	BB053708.D	99
OP64158-PT1	BB053705.D	96
OP64214-BS	BB053731.D	114
OP64214-DUP	BB053737.D	94
OP64214-DUP2	BB053739.D	94
OP64214-MB	BB053733.D	93
OP64214-MS	BB053735.D	115
OP64214-MSD	BB053736.D	116
OP64214-PT1	BB053732.D	99

Surrogate Compounds	Recovery Limits
S1 = 3,4-Dinitrotoluene	69-134%

(a) Recovery from GC signal #1

GC Surrogate Retention Time Summary

Job Number: FA41687
Account: URSNEOM AECOM, INC
Project: Hammond BGR; Hammond, LA

Check Std:	GBB1559-CC1558	**Injection Date:**	03/17/17
Lab File ID:	BB053702.D	**Injection Time:**	11:22
Instrument ID:	GCBB	**Method:**	SW846 8330B

	S1 [a] **RT**
Check Std	11.21

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
OP64158-BS	BB053703.D	03/17/17	11:52	11.24
OP64158-MB	BB053704.D	03/17/17	12:21	11.29
OP64158-PT1	BB053705.D	03/17/17	12:51	11.29
FA41687-1	BB053706.D	03/17/17	13:21	11.28
OP64158-MS	BB053707.D	03/17/17	13:51	11.24
OP64158-MSD	BB053708.D	03/17/17	14:21	11.26
FA41687-2	BB053709.D	03/17/17	14:51	11.27
FA41687-3	BB053710.D	03/17/17	15:21	11.27
OP64158-DUP	BB053711.D	03/17/17	15:51	11.27
OP64158-DUP2	BB053712.D	03/17/17	16:21	11.28

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: FA41687
Account: URSNEOM AECOM, INC
Project: Hammond BGR; Hammond, LA

Check Std:	GBB1559-CC1558	**Injection Date:**	03/17/17
Lab File ID:	BB053713.D	**Injection Time:**	16:51
Instrument ID:	GCBB	**Method:**	SW846 8330B

	S1 [a] **RT**
Check Std	11.23

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
FA41687-4	BB053715.D	03/17/17	17:51	11.28
FA41687-5	BB053716.D	03/17/17	18:21	11.27
FA41687-6	BB053717.D	03/17/17	18:51	11.28
FA41687-7	BB053718.D	03/17/17	19:21	11.27
FA41687-8	BB053719.D	03/17/17	19:51	11.27
FA41687-9	BB053720.D	03/17/17	20:21	11.26
FA41687-10	BB053721.D	03/17/17	20:51	11.27
FA41687-12	BB053722.D	03/17/17	21:21	11.27

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: FA41687
Account: URSNEOM AECOM, INC
Project: Hammond BGR; Hammond, LA

Check Std:	GBB1560-CC1558	**Injection Date:**	03/20/17
Lab File ID:	BB053730.D	**Injection Time:**	15:54
Instrument ID:	GCBB	**Method:**	SW846 8330B

	S1 [a] **RT**
Check Std	11.15

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
OP64214-BS	BB053731.D	03/20/17	16:24	11.20
OP64214-PT1	BB053732.D	03/20/17	16:54	11.25
OP64214-MB	BB053733.D	03/20/17	17:23	11.25
FA41687-11	BB053734.D	03/20/17	17:53	11.26
OP64214-MS	BB053735.D	03/20/17	18:23	11.24
OP64214-MSD	BB053736.D	03/20/17	18:53	11.24
OP64214-DUP	BB053737.D	03/20/17	19:23	11.28
OP64214-DUP2	BB053739.D	03/20/17	20:23	11.27

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #1

Initial Calibration Summary

Job Number: FA41687
Account: URSNEOM AECOM, INC
Project: Hammond BGR; Hammond, LA

Sample: GBB1558-ICC1558
Lab FileID: BB053673.D

Response Factor Report G1315B

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Initial Calibration

Calibration Files
20 =BB053669.D 50 =BB053670.D 100 =BB053671.D 200 =BB053672.D
500 =BB053673.D 1000=BB053674.D 2000=BB053675.D

	Compound	20	50	100	200	500	1000	2000	Avg	%RSD
1)	TNX	2.287	3.040	2.787	3.366	3.226	3.359	3.601	3.095 E3	14.25
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9999									
	Response Ratio = 0.00000 + 2190.05017 *A + 0.15560 *A^2									
2)	HMX	1.151	1.544	1.559	1.805	1.733	1.716	1.751	1.608 E3	13.94
3)	DNX	2.029	2.894	2.638	3.080	2.852	2.862	3.014	2.767 E3	12.80
4)	MNX	1.407	2.076	1.991	2.401	2.296	2.328	2.503	2.143 E3	17.29
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9999									
	Response Ratio = 0.00000 + 2190.05017 *A + 0.15560 *A^2									
5)	RDX	1.362	1.837	1.806	2.112	1.984	1.915	2.056	1.867 E3	13.32
6)	1,3,5-Trinitroben	3.389	3.480	3.499	4.373	4.239	4.337	4.617	3.991 E3	12.88
7)	1,3-Dinitrobenzen	3.767	5.330	4.508	5.742	5.472	5.541	5.882	5.177 E3	14.74
8)	3,5-Dinitroanilin	3.027	4.069	3.335	4.415	4.151	4.146	4.399	3.935 E3	13.69
9)	Nitrobenzene	2.142	3.157	2.776	3.447	3.281	3.293	3.416	3.073 E3	15.21
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9999									
	Response Ratio = 0.00000 + 3203.78290 *A + 0.10538 *A^2									
10)	Nitroglycerin								0.000	-1.00
11)	Tetryl	2.458	2.087	1.686	2.079	1.989	1.986	2.125	2.059 E3	11.11
12)	2,4,6-Trinitrotol	2.837	3.104	2.635	3.308	3.187	3.209	3.423	3.100 E3	8.86
13)	2-Amino-4,6-Dinit	2.863	3.206	2.814	3.451	3.402	3.417	3.665	3.260 E3	9.73
14)	4-Amino-2,6-Dinit	2.016	2.091	1.863	2.325	2.420	2.492	2.661	2.267 E3	12.60
15)S	3,4-Dinitrotoluen	1.255	1.121	1.886	2.455	2.274	2.231	2.398	1.946 E3	28.27
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9995									
	Response Ratio = 0.00000 + 2139.85974 *A + 0.12767 *A^2									
16)	2,4-Dinitrotoluen	2.986	4.652	4.263	5.124	4.924	4.954	5.288	4.599 E3	17.07
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9999									
	Response Ratio = 0.00000 + 4708.40180 *A + 0.28777 *A^2									
17)	2,6-Dinitrotoluen	1.762	2.764	2.454	2.953	2.824	2.810	2.996	2.652 E3	16.21
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9998									
	Response Ratio = 0.00000 + 2691.77540 *A + 0.15082 *A^2									
18)	o-Nitrotoluene	1.433	2.260	2.056	2.406	2.291	2.328	2.431	2.172 E3	16.04
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9999									
	Response Ratio = 0.00000 + 2240.64765 *A + 0.09487 *A^2									
19)	p-Nitrotoluene	2.074	3.078	2.901	3.544	3.450	3.554	3.756	3.194 E3	18.02
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9999									
	Response Ratio = 0.00000 + 3350.52629 *A + 0.20288 *A^2									
20)	m-Nitrotoluene	2.573	3.570	3.012	3.681	3.419	3.536	3.684	3.354 E3	12.34
21)	PETN								0.000	-1.00
Signal #2										
1)	TNX	3.396	4.734	4.307	5.229	5.032	5.246	5.666	4.801 E3	15.69
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9999									

Initial Calibration Summary

Job Number: FA41687
Account: URSNEOM AECOM, INC
Project: Hammond BGR; Hammond, LA
Sample: GBB1558-ICC1558
Lab FileID: BB053673.D

```
                Response Ratio = 0.00000 + 4836.83836 *A + 0.41407 *A^2

 2)  HMX                3.048 4.307 3.992 4.901 4.831 4.744 4.857 4.383 E3  15.49
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9999
                Response Ratio = 0.00000 + 4697.13667 *A + 0.07894 *A^2

 3)  DNX                5.055 5.739 4.831 5.288 4.681 4.573 4.791 4.994 E3   8.13
 4)  MNX                2.122 3.477 2.893 3.714 3.551 3.661 3.912 3.333 E3  18.64
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9999
                Response Ratio = 0.00000 + 3425.52767 *A + 0.24271 *A^2

 5)  RDX                2.394 2.877 2.667 3.212 3.095 3.092 3.341 2.954 E3  11.20
 6)  1,3,5-Trinitroben 5.872 7.627 6.593 8.682 8.327 8.446 9.018 7.795 E3  14.96
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9998
                Response Ratio = 0.00000 + 7973.71427 *A + 0.52015 *A^2

 7)  1,3-Dinitrobenzen 3.842 3.660 3.664 3.966 3.983 3.839 4.128 3.869 E3   4.44
 8)  3,5-Dinitroanilin 5.198 6.553 5.819 7.335 6.998 7.013 7.444 6.623 E3  12.57
 9)  Nitrobenzene       2.079 2.683 2.689 3.202 3.069 3.173 3.392 2.898 E3  15.44
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9999
                Response Ratio = 0.00000 + 2965.08553 *A + 0.21311 *A^2

10)  Nitroglycerin     0.589 1.086 0.952 1.245 1.192 1.249 1.299 1.087 E3  22.94
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9999
                Response Ratio = 0.00000 + 1180.61354 *A + 0.01190 *A^2

11)  Tetryl            2.479 3.244 2.432 3.236 3.198 3.347 3.503 3.063 E3  13.95
12)  2,4,6-Trinitrotol 2.807 4.056 3.124 4.158 4.164 4.368 4.592 3.895 E3  17.08
13)  2-Amino-4,6-Dinit 3.683 4.839 3.630 4.944 5.006 5.212 5.578 4.699 E3  15.99
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9999
                Response Ratio = 0.00000 + 4808.08828 *A + 0.38628 *A^2

14)  4-Amino-2,6-Dinit 3.805 4.154 3.558 4.928 4.876 5.173 5.518 4.573 E3  16.14
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9999
                Response Ratio = 0.00000 + 4740.89797 *A + 0.39085 *A^2

15)S 3,4-Dinitrotoluen 1.289 2.799 2.833 3.967 3.907 3.940 4.293 3.290 E3  32.17
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9997
                Response Ratio = 0.00000 + 3652.44003 *A + 0.31934 *A^2

16)  2,4-Dinitrotoluen 2.565 2.819 2.585 3.306 3.209 3.264 3.522 3.038 E3  12.49
17)  2,6-Dinitrotoluen 2.524 3.479 3.187 3.863 3.674 3.666 3.957 3.479 E3  14.12
18)  o-Nitrotoluene    1.607 2.165 2.734 3.374 2.992 3.092 3.273 2.748 E3  23.43
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9997
                Response Ratio = 0.00000 + 2933.56224 *A + 0.16882 *A^2

19)  p-Nitrotoluene    0.407 1.593 2.027 2.683 2.711 2.884 3.120 2.203 E3  43.14
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9999
                Response Ratio = 0.00000 + 2598.43884 *A + 0.26221 *A^2

20)  m-Nitrotoluene    3.994 3.789 3.114 4.168 4.034 4.062 4.273 3.919 E3   9.84
21)  PETN              0.745 1.194 1.194 1.459 1.376 1.399 1.529 1.271 E3  20.75
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9998
                Response Ratio = 0.00000 + 1299.44511 *A + 0.02278 *A^2

------------------------------------------------------------------------------
(#) = Out of Range

          8330B_0316PLUS.M        Fri Mar 17 11:40:56 2017
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Initial Calibration Verification

Job Number: FA41687
Account: URSNEOM AECOM, INC
Project: Hammond BGR; Hammond, LA

Sample: GBB1558-ICV1558
Lab FileID: BB053676.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053676.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053676.D\dad1A.ch
Acq On : 16-Mar-2017, 14:54:56 Operator: evitam
Sample : ICV1558-500 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	500.000	540.397	-8.1	104	0.00	1.14- 1.74
2	HMX	500.000	518.919	-3.8	96	0.01	1.27- 1.87
3	DNX	500.000	506.447	-1.3	98	0.01	1.54- 2.14
	----------	Amount	Calc.	%Drift			
4	MNX	500.000	508.831	-1.8	101	0.02	2.16- 2.76
	----------	Amount	Calc.	%Drift			
5	RDX	500.000	480.165	4.0	90	0.02	2.70- 3.50
6	1,3,5-Trinitrobenzene	500.000	477.803	4.4	90	0.03	4.48- 5.28
7	1,3-Dinitrobenzene	500.000	467.742	6.5	89	0.03	5.74- 6.54
8	3,5-Dinitroaniline	500.000	576.199	-15.2	109	0.03	6.19- 6.99
	----------	Amount	Calc.	%Drift			
9	Nitrobenzene	500.000	468.055	6.4	93	0.02	7.28- 8.08
	----------	Amount	Calc.	%Drift			
10	Nitroglycerin		----------NA----------				
11	Tetryl	500.000	622.399	-24.5#	129	0.04	9.15- 9.95
12	2,4,6-Trinitrotoluene	500.000	498.227	0.4	97	0.03	9.57-10.37
13	2-Amino-4,6-Dinitrotol	500.000	485.034	3.0	93	0.03	10.07-10.87
14	4-Amino-2,6-Dinitrotol	500.000	522.021	-4.4	98	0.03	10.54-11.34
	----------	Amount	Calc.	%Drift			
15 S	3,4-Dinitrotoluene		----------NA----------				
16	2,4-Dinitrotoluene	500.000	464.975	7.0	91	0.03	11.46-12.26
17	2,6-Dinitrotoluene	500.000	473.601	5.3	93	0.03	11.91-12.71
18	o-Nitrotoluene	500.000	477.888	4.4	95	0.02	14.95-15.82
19	p-Nitrotoluene	500.000	469.965	6.0	94	0.02	15.44-16.44
	----------	Amount	Calc.	%Drift			
20	m-Nitrotoluene	500.000	477.542	4.5	94	0.01	16.33-17.33
21	PETN		----------NA----------				
*****	Signal #2 *****						
	----------	Amount	Calc.	%Drift			
1	TNX	500.000	515.848	-3.2	104	0.00	1.14- 1.74
2	HMX	500.000	493.046	1.4	97	0.01	1.27- 1.87

Initial Calibration Verification

Job Number: FA41687
Account: URSNEOM AECOM, INC
Project: Hammond BGR; Hammond, LA

Sample: GBB1558-ICV1558
Lab FileID: BB053676.D

			Amount	Calc.	%Drift			
3	DNX		500.000	449.260	10.1	96	0.01	1.54- 2.14
4	MNX		500.000	506.909	-1.4	101	0.02	2.16- 2.76
5	RDX		500.000	482.718	3.5	92	0.02	2.70- 3.50
6	1,3,5-Trinitrobenzene		500.000	446.437	10.7	88	0.03	4.48- 5.28
7	1,3-Dinitrobenzene		500.000	429.114	14.2	83	0.03	5.74- 6.54
8	3,5-Dinitroaniline		500.000	567.728	-13.5	107	0.03	6.19- 6.99
9	Nitrobenzene		500.000	472.231	5.6	94	0.02	7.28- 8.08
10	Nitroglycerin		2500.000	2668.912	-6.8	109	0.05	8.70- 9.70
11	Tetryl		500.000	686.794	-37.4#	132	0.04	9.15- 9.95
12	2,4,6-Trinitrotoluene		500.000	492.318	1.5	92	0.03	9.57-10.37
13	2-Amino-4,6-Dinitrotol		500.000	483.540	3.3	96	0.03	10.07-10.87
14	4-Amino-2,6-Dinitrotol		500.000	477.299	4.5	96	0.03	10.55-11.35
15	3,4-Dinitrotoluene	S	----------NA----------					
16	2,4-Dinitrotoluene		500.000	489.803	2.0	93	0.03	11.46-12.26
17	2,6-Dinitrotoluene		500.000	504.439	-0.9	96	0.03	11.91-12.71
18	o-Nitrotoluene		500.000	474.257	5.1	96	0.01	14.83-15.83
19	p-Nitrotoluene		500.000	462.732	7.5	93	0.01	15.44-16.44
20	m-Nitrotoluene		500.000	441.843	11.6	86	0.00	16.34-17.34
21	PETN		2500.000	2712.814	-8.5	107	0.00	18.28-19.48

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB053673.D 8330B_0316PLUS.M Fri Mar 17 11:40:45 2017

Continuing Calibration Summary

Job Number: FA41687
Account: URSNEOM AECOM, INC
Project: Hammond BGR; Hammond, LA

Sample: GBB1559-CC1558
Lab FileID: BB053702.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\0317BPL\BB053702.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0317BPL\BB053702.D\dad1A.ch
Acq On : 17-Mar-2017, 11:22:01 Operator: evitam
Sample : CC1558-500 Inst : G1315B
Misc : op64083,gbb1559,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	500.000	508.593	-1.7	98	0.01	1.14- 1.74
2	HMX	500.000	525.426	-5.1	98	0.02	1.27- 1.87
3	DNX	500.000	509.484	-1.9	99	0.02	1.54- 2.14
	----------	Amount	Calc.	%Drift	----------		
4	MNX	500.000	502.178	-0.4	99	0.03	2.16- 2.76
	----------	Amount	Calc.	%Drift	----------		
5	RDX	500.000	501.704	-0.3	94	0.04	2.70- 3.50
6	1,3,5-Trinitrobenzene	500.000	519.909	-4.0	98	0.04	4.48- 5.28
7	1,3-Dinitrobenzene	500.000	515.231	-3.0	97	0.04	5.74- 6.54
8	3,5-Dinitroaniline	500.000	510.251	-2.1	97	0.04	6.19- 6.99
	----------	Amount	Calc.	%Drift	----------		
9	Nitrobenzene	500.000	482.086	3.6	96	0.02	7.28- 8.08
	----------	Amount	Calc.	%Drift	----------		
10	Nitroglycerin	----------NA----------					
11	Tetryl	500.000	465.787	6.8	96	0.04	9.15- 9.95
12	2,4,6-Trinitrotoluene	500.000	496.393	0.7	97	0.03	9.57-10.37
13	2-Amino-4,6-Dinitrotol	500.000	502.471	-0.5	96	0.02	10.07-10.87
14	4-Amino-2,6-Dinitrotol	500.000	505.985	-1.2	95	0.03	10.54-11.34
	----------	Amount	Calc.	%Drift	----------		
15 S	3,4-Dinitrotoluene	500.000	510.463	-2.1	99	0.02	10.80-11.60
16	2,4-Dinitrotoluene	500.000	491.848	1.6	97	0.02	11.46-12.26
17	2,6-Dinitrotoluene	500.000	495.967	0.8	97	0.01	11.91-12.71
18	o-Nitrotoluene	500.000	478.849	4.2	96	-0.03	14.95-15.82
19	p-Nitrotoluene	500.000	483.262	3.3	97	-0.03	15.44-16.44
	----------	Amount	Calc.	%Drift	----------		
20	m-Nitrotoluene	500.000	503.980	-0.8	99	-0.04	16.33-17.33
21	PETN	----------NA----------					

***** Signal #2 *****

	----------	Amount	Calc.	%Drift	----------		
1	TNX	500.000	488.635	2.3	98	0.02	1.14- 1.74
2	HMX	500.000	492.593	1.5	97	0.02	1.27- 1.87

Continuing Calibration Summary

Job Number: FA41687
Account: URSNEOM AECOM, INC
Project: Hammond BGR; Hammond, LA

Sample: GBB1559-CC1558
Lab FileID: BB053702.D

			Amount	Calc.	%Drift			
3	DNX		500.000	451.389	9.7	96	0.02	1.54- 2.14
4	MNX		500.000	493.088	1.4	98	0.03	2.16- 2.76
5	RDX		500.000	505.709	-1.1	97	0.04	2.70- 3.50
6	1,3,5-Trinitrobenzene		500.000	497.686	0.5	98	0.05	4.48- 5.28
7	1,3-Dinitrobenzene		500.000	534.945	-7.0	104	0.04	5.74- 6.54
8	3,5-Dinitroaniline		500.000	555.465	-11.1	105	0.04	6.19- 6.99
9	Nitrobenzene		500.000	578.460	-15.7	116	0.02	7.28- 8.08
10	Nitroglycerin		2500.000	2436.674	2.5	99	0.06	8.70- 9.70
11	Tetryl		500.000	514.470	-2.9	99	0.03	9.15- 9.95
12	2,4,6-Trinitrotoluene		500.000	520.833	-4.2	97	0.03	9.57-10.37
13	2-Amino-4,6-Dinitrotol		500.000	491.800	1.6	98	0.03	10.07-10.87
14	4-Amino-2,6-Dinitrotol		500.000	485.461	2.9	98	0.03	10.55-11.35
15	S	3,4-Dinitrotoluene	500.000	508.354	-1.7	99	0.01	10.80-11.60
16	2,4-Dinitrotoluene		500.000	517.485	-3.5	98	0.02	11.46-12.26
17	2,6-Dinitrotoluene		500.000	517.516	-3.5	98	0.01	11.91-12.71
18	o-Nitrotoluene		500.000	501.926	-0.4	101	-0.03	14.83-15.83
19	p-Nitrotoluene		500.000	482.371	3.5	97	-0.04	15.44-16.44
20	m-Nitrotoluene		500.000	512.966	-2.6	100	-0.05	16.34-17.34
21	PETN		2500.000	2620.591	-4.8	104	-0.05	18.28-19.48

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB053673.D 8330B_0316PLUS.M Mon Mar 20 11:59:20 2017

Continuing Calibration Summary

Job Number: FA41687
Account: URSNEOM AECOM, INC
Project: Hammond BGR; Hammond, LA

Sample: GBB1559-CC1558
Lab FileID: BB053713.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\0317BPL\BB053713.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0317BPL\BB053713.D\dad1A.ch
Acq On : 17-Mar-2017, 16:51:32 Operator: evitam
Sample : CC1558-500 Inst : G1315B
Misc : op64158,gbb1559,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	500.000	518.034	-3.6	99	0.02	1.14- 1.74
2	HMX	500.000	524.579	-4.9	97	0.02	1.27- 1.87
3	DNX	500.000	502.746	-0.5	98	0.02	1.54- 2.14
	----------	Amount	Calc.	%Drift			----------
4	MNX	500.000	494.521	1.1	98	0.03	2.16- 2.76
	----------	Amount	Calc.	%Drift			----------
5	RDX	500.000	514.218	-2.8	97	0.04	2.70- 3.50
6	1,3,5-Trinitrobenzene	500.000	520.557	-4.1	98	0.05	4.48- 5.28
7	1,3-Dinitrobenzene	500.000	516.692	-3.3	98	0.04	5.74- 6.54
8	3,5-Dinitroaniline	500.000	511.250	-2.3	97	0.04	6.19- 6.99
	----------	Amount	Calc.	%Drift			----------
9	Nitrobenzene	500.000	463.544	7.3	92	0.03	7.28- 8.08
	----------	Amount	Calc.	%Drift			----------
10	Nitroglycerin	----------NA----------					
11	Tetryl	500.000	461.393	7.7	95	0.05	9.15- 9.95
12	2,4,6-Trinitrotoluene	500.000	492.019	1.6	96	0.05	9.57-10.37
13	2-Amino-4,6-Dinitrotol	500.000	498.813	0.2	96	0.04	10.07-10.87
14	4-Amino-2,6-Dinitrotol	500.000	485.333	2.9	91	0.05	10.54-11.34
	----------	Amount	Calc.	%Drift			----------
15 S	3,4-Dinitrotoluene	500.000	527.883	-5.6	102	0.03	10.80-11.60
16	2,4-Dinitrotoluene	500.000	488.696	2.3	96	0.05	11.46-12.26
17	2,6-Dinitrotoluene	500.000	495.428	0.9	97	0.04	11.91-12.71
18	o-Nitrotoluene	500.000	451.938	9.6	90	0.00	14.95-15.82
19	p-Nitrotoluene	500.000	465.103	7.0	93	0.00	15.44-16.44
	----------	Amount	Calc.	%Drift			----------
20	m-Nitrotoluene	500.000	473.488	5.3	93	0.00	16.33-17.33
21	PETN	----------NA----------					

***** Signal #2 *****

	----------	Amount	Calc.	%Drift			----------
1	TNX	500.000	497.981	0.4	100	0.02	1.14- 1.74
2	HMX	500.000	499.469	0.1	98	0.02	1.27- 1.87

Continuing Calibration Summary

Job Number: FA41687
Account: URSNEOM AECOM, INC
Project: Hammond BGR; Hammond, LA

Sample: GBB1559-CC1558
Lab FileID: BB053713.D

			Amount	Calc.	%Drift			
3	DNX		500.000	449.668	10.1	96	0.02	1.54- 2.14
4	MNX		500.000	498.107	0.4	100	0.03	2.16- 2.76
5	RDX		500.000	523.224	-4.6	100	0.04	2.70- 3.50
6	1,3,5-Trinitrobenzene		500.000	492.824	1.4	97	0.05	4.48- 5.28
7	1,3-Dinitrobenzene		500.000	528.186	-5.6	103	0.04	5.74- 6.54
8	3,5-Dinitroaniline		500.000	563.705	-12.7	107	0.04	6.19- 6.99
9	Nitrobenzene		500.000	463.229	7.4	92	0.03	7.28- 8.08
10	Nitroglycerin		2500.000	2408.724	3.7	98	0.07	8.70- 9.70
11	Tetryl		500.000	509.046	-1.8	98	0.05	9.15- 9.95
12	2,4,6-Trinitrotoluene		500.000	510.755	-2.2	96	0.05	9.57-10.37
13	2-Amino-4,6-Dinitrotol		500.000	482.352	3.5	96	0.04	10.07-10.87
14	4-Amino-2,6-Dinitrotol		500.000	463.588	7.3	94	0.05	10.55-11.35
15	3,4-Dinitrotoluene	S	500.000	518.795	-3.8	101	0.02	10.80-11.60
16	2,4-Dinitrotoluene		500.000	508.025	-1.6	96	0.04	11.46-12.26
17	2,6-Dinitrotoluene		500.000	505.144	-1.0	96	0.04	11.91-12.71
18	o-Nitrotoluene		500.000	464.657	7.1	94	0.00	14.83-15.83
19	p-Nitrotoluene		500.000	438.076	12.4	88	0.00	15.44-16.44
20	m-Nitrotoluene		500.000	456.788	8.6	89	0.00	16.34-17.34
21	PETN		2500.000	2473.042	1.1	97	-0.02	18.28-19.48

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB053673.D 8330B_0316PLUS.M Mon Mar 20 12:24:45 2017

Continuing Calibration Summary

Job Number: FA41687
Account: URSNEOM AECOM, INC
Project: Hammond BGR; Hammond, LA

Sample: GBB1559-CC1558
Lab FileID: BB053723.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\0317BPL\BB053723.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0317BPL\BB053723.D\dad1A.ch
Acq On : 17-Mar-2017, 21:51:10 Operator: evitam
Sample : CC1558-500 Inst : G1315B
Misc : op64158,gbb1559,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	500.000	513.236	-2.6	98	0.02	1.14- 1.74
2	HMX	500.000	505.925	-1.2	94	0.02	1.27- 1.87
3	DNX	500.000	494.738	1.1	96	0.02	1.54- 2.14
	----------	Amount	Calc.	%Drift			----------
4	MNX	500.000	495.426	0.9	98	0.03	2.16- 2.76
	----------	Amount	Calc.	%Drift			----------
5	RDX	500.000	513.335	-2.7	97	0.04	2.70- 3.50
6	1,3,5-Trinitrobenzene	500.000	520.214	-4.0	98	0.05	4.48- 5.28
7	1,3-Dinitrobenzene	500.000	510.784	-2.2	97	0.04	5.74- 6.54
8	3,5-Dinitroaniline	500.000	504.053	-0.8	96	0.04	6.19- 6.99
	----------	Amount	Calc.	%Drift			----------
9	Nitrobenzene	500.000	416.833	16.6	83	0.03	7.28- 8.08
	----------	Amount	Calc.	%Drift			----------
10	Nitroglycerin	----------NA----------					
11	Tetryl	500.000	467.071	6.6	97	0.05	9.15- 9.95
12	2,4,6-Trinitrotoluene	500.000	497.061	0.6	97	0.04	9.57-10.37
13	2-Amino-4,6-Dinitrotol	500.000	499.515	0.1	96	0.03	10.07-10.87
14	4-Amino-2,6-Dinitrotol	500.000	453.209	9.4	85	0.05	10.54-11.34
	----------	Amount	Calc.	%Drift			----------
15 S	3,4-Dinitrotoluene	500.000	563.594	-12.7	110	0.00	10.80-11.60
16	2,4-Dinitrotoluene	500.000	485.851	2.8	96	0.04	11.46-12.26
17	2,6-Dinitrotoluene	500.000	500.575	-0.1	98	0.03	11.91-12.71
18	o-Nitrotoluene	500.000	408.369	18.3	81	0.00	14.95-15.82
19	p-Nitrotoluene	500.000	432.955	13.4	86	-0.01	15.44-16.44
	----------	Amount	Calc.	%Drift			----------
20	m-Nitrotoluene	500.000	435.857	12.8	86	-0.01	16.33-17.33
21	PETN	----------NA----------					

***** Signal #2 *****

	----------	Amount	Calc.	%Drift			----------
1	TNX	500.000	496.501	0.7	100	0.02	1.14- 1.74
2	HMX	500.000	480.913	3.8	94	0.02	1.27- 1.87

Continuing Calibration Summary

Job Number: FA41687
Account: URSNEOM AECOM, INC
Project: Hammond BGR; Hammond, LA

Sample: GBB1559-CC1558
Lab FileID: BB053723.D

			Amount	Calc.	%Drift			
3	DNX		500.000	443.738	11.3	95	0.02	1.54- 2.14
4	MNX		500.000	495.818	0.8	99	0.03	2.16- 2.76
5	RDX		500.000	512.074	-2.4	98	0.04	2.70- 3.50
6	1,3,5-Trinitrobenzene		500.000	489.254	2.1	97	0.05	4.48- 5.28
7	1,3-Dinitrobenzene		500.000	518.081	-3.6	101	0.04	5.74- 6.54
8	3,5-Dinitroaniline		500.000	557.396	-11.5	105	0.04	6.19- 6.99
9	Nitrobenzene		500.000	487.489	2.5	97	0.03	7.28- 8.08
10	Nitroglycerin		2500.000	2396.897	4.1	97	0.06	8.70- 9.70
11	Tetryl		500.000	507.955	-1.6	97	0.04	9.15- 9.95
12	2,4,6-Trinitrotoluene		500.000	508.004	-1.6	95	0.04	9.57-10.37
13	2-Amino-4,6-Dinitrotol		500.000	474.846	5.0	95	0.04	10.07-10.87
14	4-Amino-2,6-Dinitrotol		500.000	424.485	15.1	85	0.04	10.55-11.35
15	S	3,4-Dinitrotoluene	500.000	548.105	-9.6	107	0.00	10.80-11.60
16	2,4-Dinitrotoluene		500.000	493.417	1.3	93	0.03	11.46-12.26
17	2,6-Dinitrotoluene		500.000	495.992	0.8	94	0.03	11.91-12.71
18	o-Nitrotoluene		500.000	412.013	17.6	83	0.00	14.83-15.83
19	p-Nitrotoluene		500.000	408.356	18.3	82	-0.01	15.44-16.44
20	m-Nitrotoluene		500.000	424.276	15.1	82	-0.02	16.34-17.34
21	PETN		2500.000	2482.232	0.7	98	-0.03	18.28-19.48

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB053673.D 8330B_0316PLUS.M Mon Mar 20 11:59:22 2017

Continuing Calibration Summary

Job Number: FA41687
Account: URSNEOM AECOM, INC
Project: Hammond BGR; Hammond, LA

Sample: GBB1560-CC1558
Lab FileID: BB053730.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\0320BPL\BB053730.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0320BPL\BB053730.D\dad1A.ch
Acq On : 20-Mar-2017, 15:54:09 Operator: evitam
Sample : CC1558-500 Inst : G1315B
Misc : op64158,gbb1560,10.1,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	500.000	497.074	0.6	95	0.01	1.14- 1.74
2	HMX	500.000	493.899	1.2	92	0.01	1.27- 1.87
3	DNX	500.000	491.157	1.8	95	0.02	1.54- 2.14
		Amount	Calc.	%Drift			
4	MNX	500.000	489.729	2.1	97	0.02	2.16- 2.76
		Amount	Calc.	%Drift			
5	RDX	500.000	511.459	-2.3	96	0.02	2.70- 3.50
6	1,3,5-Trinitrobenzene	500.000	527.645	-5.5	99	0.03	4.48- 5.28
7	1,3-Dinitrobenzene	500.000	515.470	-3.1	98	0.02	5.74- 6.54
8	3,5-Dinitroaniline	500.000	513.433	-2.7	97	0.00	6.19- 6.99
		Amount	Calc.	%Drift			
9	Nitrobenzene	500.000	486.517	2.7	97	0.00	7.28- 8.08
		Amount	Calc.	%Drift			
10	Nitroglycerin	----------NA----------					
11	Tetryl	500.000	465.010	7.0	96	0.00	9.15- 9.95
12	2,4,6-Trinitrotoluene	500.000	503.692	-0.7	98	0.00	9.57-10.37
13	2-Amino-4,6-Dinitrotol	500.000	504.287	-0.9	97	-0.02	10.07-10.87
14	4-Amino-2,6-Dinitrotol	500.000	419.457	16.1	79	-0.02	10.54-11.34
		Amount	Calc.	%Drift			
15 S	3,4-Dinitrotoluene	500.000	583.725	-16.7	114	-0.04	10.80-11.60
16	2,4-Dinitrotoluene	500.000	492.576	1.5	97	-0.02	11.46-12.26
17	2,6-Dinitrotoluene	500.000	507.017	-1.4	99	-0.03	11.91-12.71
18	o-Nitrotoluene	500.000	476.446	4.7	95	-0.04	14.95-15.82
19	p-Nitrotoluene	500.000	486.452	2.7	97	-0.05	15.44-16.44
		Amount	Calc.	%Drift			
20	m-Nitrotoluene	500.000	496.233	0.8	97	-0.04	16.33-17.33
21	PETN	----------NA----------					

***** Signal #2 *****

		Amount	Calc.	%Drift			
1	TNX	500.000	476.384	4.7	95	0.01	1.14- 1.74
2	HMX	500.000	471.556	5.7	92	0.01	1.27- 1.87

Continuing Calibration Summary

Job Number: FA41687
Account: URSNEOM AECOM, INC
Project: Hammond BGR; Hammond, LA

Sample: GBB1560-CC1558
Lab FileID: BB053730.D

			Amount	Calc.	%Drift			
3	DNX		500.000	434.563	13.1	93	0.02	1.54- 2.14
4	MNX		500.000	485.874	2.8	97	0.02	2.16- 2.76
5	RDX		500.000	516.819	-3.4	99	0.02	2.70- 3.50
6	1,3,5-Trinitrobenzene		500.000	493.728	1.3	98	0.03	4.48- 5.28
7	1,3-Dinitrobenzene		500.000	493.849	1.2	96	0.01	5.74- 6.54
8	3,5-Dinitroaniline		500.000	521.834	-4.4	99	0.00	6.19- 6.99
9	Nitrobenzene		500.000	500.975	-0.2	100	0.00	7.28- 8.08
10	Nitroglycerin		2500.000	2351.340	5.9	95	0.01	8.70- 9.70
11	Tetryl		500.000	564.101	-12.8	108	-0.01	9.15- 9.95
12	2,4,6-Trinitrotoluene		500.000	552.668	-10.5	103	-0.01	9.57-10.37
13	2-Amino-4,6-Dinitrotol		500.000	493.556	1.3	99	-0.02	10.07-10.87
14	4-Amino-2,6-Dinitrotol		500.000	406.463	18.7	82	-0.02	10.55-11.35
15	S	3,4-Dinitrotoluene	500.000	592.310	-18.5	116	-0.05	10.80-11.60
16	2,4-Dinitrotoluene		500.000	481.681	3.7	91	-0.03	11.46-12.26
17	2,6-Dinitrotoluene		500.000	507.600	-1.5	96	-0.03	11.91-12.71
18	o-Nitrotoluene		500.000	482.274	3.5	97	-0.05	14.83-15.83
19	p-Nitrotoluene		500.000	463.348	7.3	93	-0.05	15.44-16.44
20	m-Nitrotoluene		500.000	508.356	-1.7	99	-0.05	16.34-17.34
21	PETN		2500.000	2431.271	2.7	96	-0.05	18.28-19.48

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB053673.D 8330B_0316PLUS.M Tue Mar 21 11:17:03 2017

Continuing Calibration Summary

Job Number: FA41687
Account: URSNEOM AECOM, INC
Project: Hammond BGR; Hammond, LA

Sample: GBB1560-CC1558
Lab FileID: BB053740.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\0320BPL\BB053740.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0320BPL\BB053740.D\dad1A.ch
Acq On : 20-Mar-2017, 20:53:39 Operator: evitam
Sample : CC1558-500 Inst : G1315B
Misc : op64214,gbb1560,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	500.000	495.439	0.9	95	0.02	1.14- 1.74
2	HMX	500.000	491.532	1.7	91	0.02	1.27- 1.87
3	DNX	500.000	489.038	2.2	95	0.02	1.54- 2.14
		Amount	Calc.	%Drift			
4	MNX	500.000	498.261	0.3	98	0.03	2.16- 2.76
		Amount	Calc.	%Drift			
5	RDX	500.000	534.676	-6.9	101	0.03	2.70- 3.50
6	1,3,5-Trinitrobenzene	500.000	517.347	-3.5	97	0.04	4.48- 5.28
7	1,3-Dinitrobenzene	500.000	509.490	-1.9	96	0.04	5.74- 6.54
8	3,5-Dinitroaniline	500.000	500.559	-0.1	95	0.03	6.19- 6.99
		Amount	Calc.	%Drift			
9	Nitrobenzene	500.000	452.079	9.6	90	0.03	7.28- 8.08
		Amount	Calc.	%Drift			
10	Nitroglycerin	----------NA----------					
11	Tetryl	500.000	449.544	10.1	93	0.04	9.15- 9.95
12	2,4,6-Trinitrotoluene	500.000	493.794	1.2	96	0.04	9.57-10.37
13	2-Amino-4,6-Dinitrotol	500.000	488.982	2.2	94	0.03	10.07-10.87
14	4-Amino-2,6-Dinitrotol	500.000	416.182	16.8	78	0.03	10.54-11.34
		Amount	Calc.	%Drift			
15 S	3,4-Dinitrotoluene	500.000	595.371	-19.1	116	0.02	10.80-11.60
16	2,4-Dinitrotoluene	500.000	476.006	4.8	94	0.03	11.46-12.26
17	2,6-Dinitrotoluene	500.000	511.666	-2.3	100	0.03	11.91-12.71
18	o-Nitrotoluene	500.000	439.762	12.0	88	0.02	14.95-15.82
19	p-Nitrotoluene	500.000	461.384	7.7	92	0.00	15.44-16.44
		Amount	Calc.	%Drift			
20	m-Nitrotoluene	500.000	462.540	7.5	91	0.00	16.33-17.33
21	PETN	----------NA----------					

***** Signal #2 *****

		Amount	Calc.	%Drift			
1	TNX	500.000	474.126	5.2	95	0.02	1.14- 1.74
2	HMX	500.000	477.957	4.4	94	0.02	1.27- 1.87

Continuing Calibration Summary

Job Number: FA41687
Account: URSNEOM AECOM, INC
Project: Hammond BGR; Hammond, LA

Sample: GBB1560-CC1558
Lab FileID: BB053740.D

			Amount	Calc.	%Drift			
3	DNX		500.000	434.651	13.1	93	0.02	1.54- 2.14
4	MNX		500.000	483.706	3.3	97	0.03	2.16- 2.76
5	RDX		500.000	519.423	-3.9	99	0.03	2.70- 3.50
6	1,3,5-Trinitrobenzene		500.000	488.235	2.4	96	0.04	4.48- 5.28
7	1,3-Dinitrobenzene		500.000	514.696	-2.9	100	0.04	5.74- 6.54
8	3,5-Dinitroaniline		500.000	551.087	-10.2	104	0.03	6.19- 6.99
9	Nitrobenzene		500.000	504.225	-0.8	101	0.03	7.28- 8.08
10	Nitroglycerin		2500.000	2276.184	9.0	92	0.05	8.70- 9.70
11	Tetryl		500.000	505.747	-1.1	97	0.03	9.15- 9.95
12	2,4,6-Trinitrotoluene		500.000	493.759	1.2	92	0.04	9.57-10.37
13	2-Amino-4,6-Dinitrotol		500.000	456.335	8.7	91	0.03	10.07-10.87
14	4-Amino-2,6-Dinitrotol		500.000	376.414	24.7#	75	0.03	10.55-11.35
15	S	3,4-Dinitrotoluene	500.000	584.195	-16.8	115	0.02	10.80-11.60
16	2,4-Dinitrotoluene		500.000	459.123	8.2	87	0.03	11.46-12.26
17	2,6-Dinitrotoluene		500.000	512.029	-2.4	97	0.03	11.91-12.71
18	o-Nitrotoluene		500.000	431.194	13.8	87	0.00	14.83-15.83
19	p-Nitrotoluene		500.000	389.663	22.1#	78	0.00	15.44-16.44
20	m-Nitrotoluene		500.000	469.105	6.2	91	0.00	16.34-17.34
21	PETN		2500.000	2471.245	1.2	97	-0.02	18.28-19.48

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB053673.D 8330B_0316PLUS.M Tue Mar 21 11:17:04 2017

GC Semi-volatiles

Raw Data

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0317BPL\BB053706.D\dad1B.ch Vial: 25
Signal #2 : C:\HPCHEM\1\DATA\0317BPL\BB053706.D\dad1A.ch
Acq On : 17-Mar-2017, 13:21:50 Operator: evitam
Sample : FA41687-1 Inst : G1315B
Misc : op64158,gbb1559,10.1,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 20 11:31:54 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.28	11.28	1003973	1741688	456.731	458.477
	Spiked Amount 500.000	Range 69 - 134		Recovery =		91.35%	91.70%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	RDX	0.00	0.00	0	0	N.D.	N.D.
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D.	N.D.
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

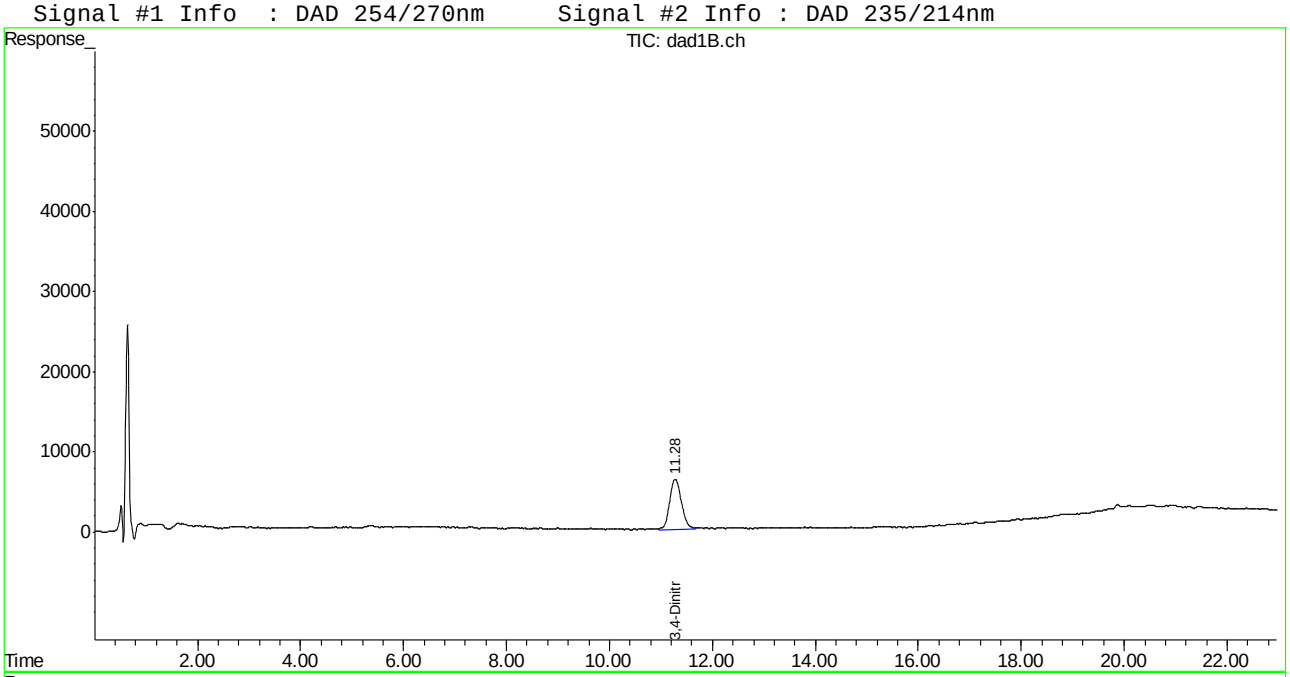
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB053706.D 8330B_0316PLUS.M Mon Mar 20 12:08:32 2017 Page 1

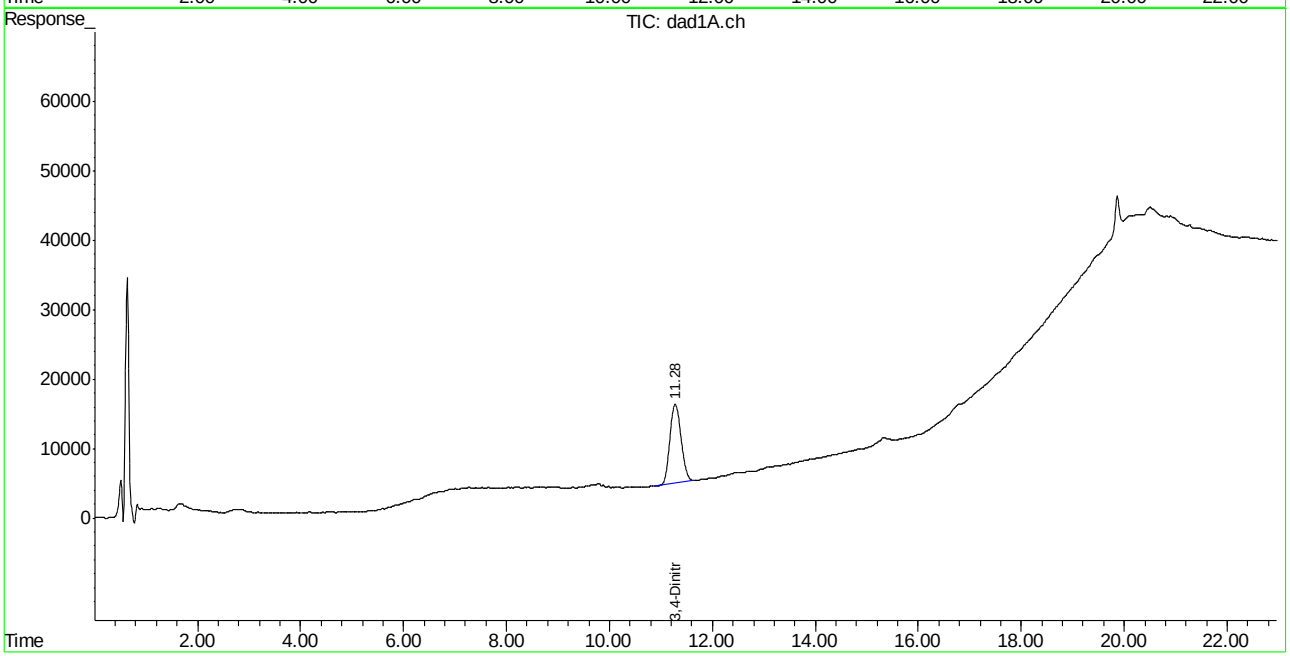
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0317BPL\BB053706.D\dad1B.ch Vial: 25
Signal #2 : C:\HPCHEM\1\DATA\0317BPL\BB053706.D\dad1A.ch
Acq On : 17-Mar-2017, 13:21:50 Operator: evitam
Sample : FA41687-1 Inst : G1315B
Misc : op64158,gbb1559,10.1,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 20 12:04 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
03/20/17 15:37

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0317BPL\BB053709.D\dad1B.ch Vial: 28
Signal #2 : C:\HPCHEM\1\DATA\0317BPL\BB053709.D\dad1A.ch
Acq On : 17-Mar-2017, 14:51:42 Operator: evitam
Sample : fa41687-2 Inst : G1315B
Misc : op64158,gbb1559,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 20 11:31:57 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.27	11.27	947840	1733085	431.819m	456.297m
	Spiked Amount 500.000	Range 69 - 134		Recovery =		86.36%	91.26%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	RDX	0.00	0.00	0	0	N.D.	N.D.
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

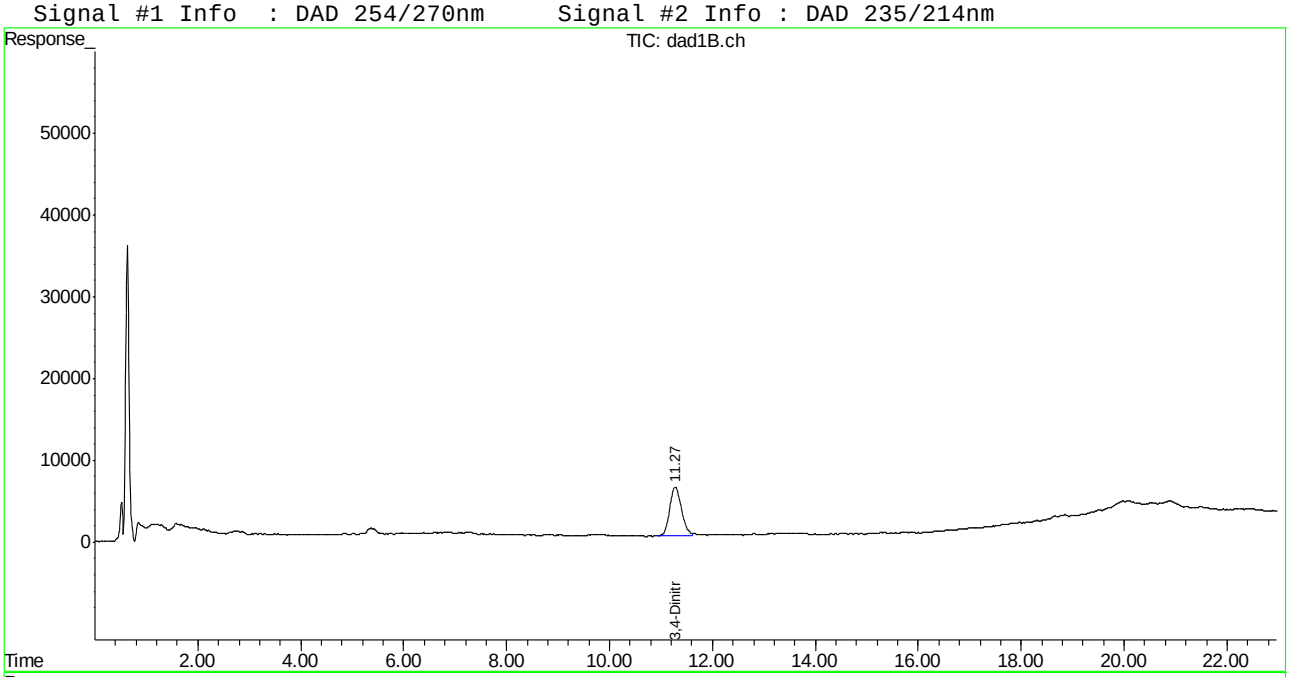
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB053709.D 8330B_0316PLUS.M Mon Mar 20 12:08:35 2017 Page 1

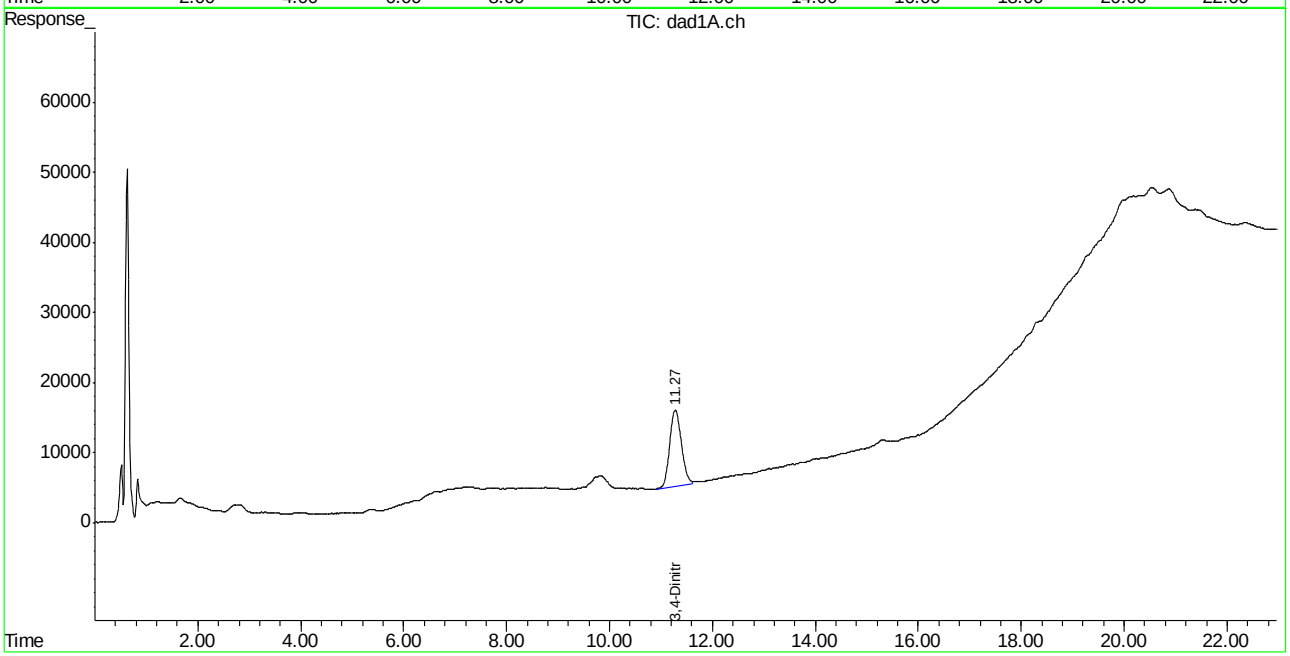
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0317BPL\BB053709.D\dad1B.ch Vial: 28
Signal #2 : C:\HPCHEM\1\DATA\0317BPL\BB053709.D\dad1A.ch
Acq On : 17-Mar-2017, 14:51:42 Operator: evitam
Sample : fa41687-2 Inst : G1315B
Misc : op64158,gbb1559,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 20 12:04 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

Sample Number: FA41687-2
Lab FileID: BB053709.D
Injection Time: 03/17/17 14:51

Method: SW846 8330B
Analyst approved: 03/20/17 12:13 Evita Martinez
Supervisor approved: 03/20/17 15:37 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
3,4-Dinitrotoluene	610-39-9	1	11.27	Poorly defined baseline
3,4-Dinitrotoluene	610-39-9	2	11.27	Poorly defined baseline

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
03/20/17 15:37

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0317BPL\BB053710.D\dad1B.ch Vial: 29
Signal #2 : C:\HPCHEM\1\DATA\0317BPL\BB053710.D\dad1A.ch
Acq On : 17-Mar-2017, 15:21:38 Operator: evitam
Sample : fa41687-3 Inst : G1315B
Misc : op64158,gbb1559,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 20 11:31:58 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
15) S 3,4-Dinitrotolue	11.27	11.27	983217	1732278	447.527	456.092m
Spiked Amount 500.000	Range 69 - 134		Recovery =		89.51%	91.22%
Target Compounds						
1) TNX	0.00	0.00	0	0	N.D. d	N.D. d
2) HMX	0.00	0.00	0	0	N.D. d	N.D. d
3) DNX	0.00	0.00	0	0	N.D. d	N.D. d
4) MNX	0.00	0.00	0	0	N.D.	N.D.
5) RDX	0.00	0.00	0	0	N.D.	N.D.
6) 1,3,5-Trinitrobe	0.00	0.00	0	0	N.D.	N.D.
7) 1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8) 3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9) Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10) Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11) Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12) 2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
13) 2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
14) 4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16) 2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17) 2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18) o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19) p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20) m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21) PETN	18.85	0.00	214520	0	NoCal	N.D.

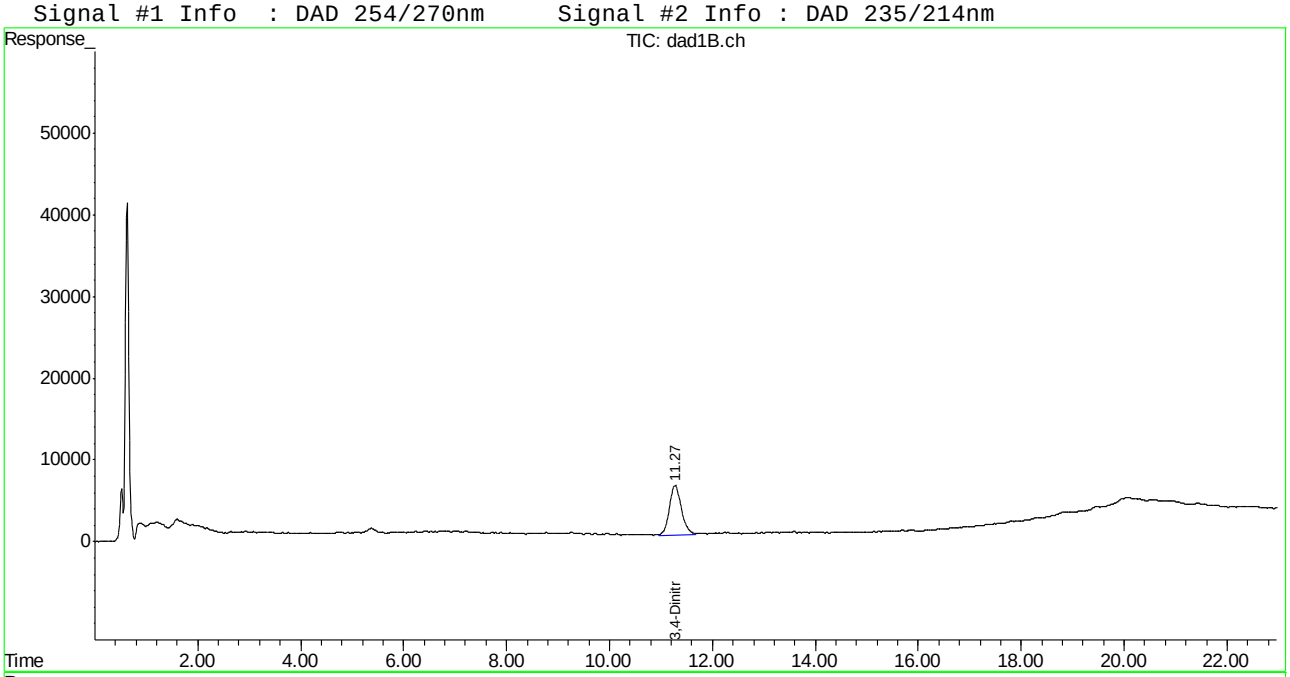
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB053710.D 8330B_0316PLUS.M Mon Mar 20 12:08:36 2017 Page 1

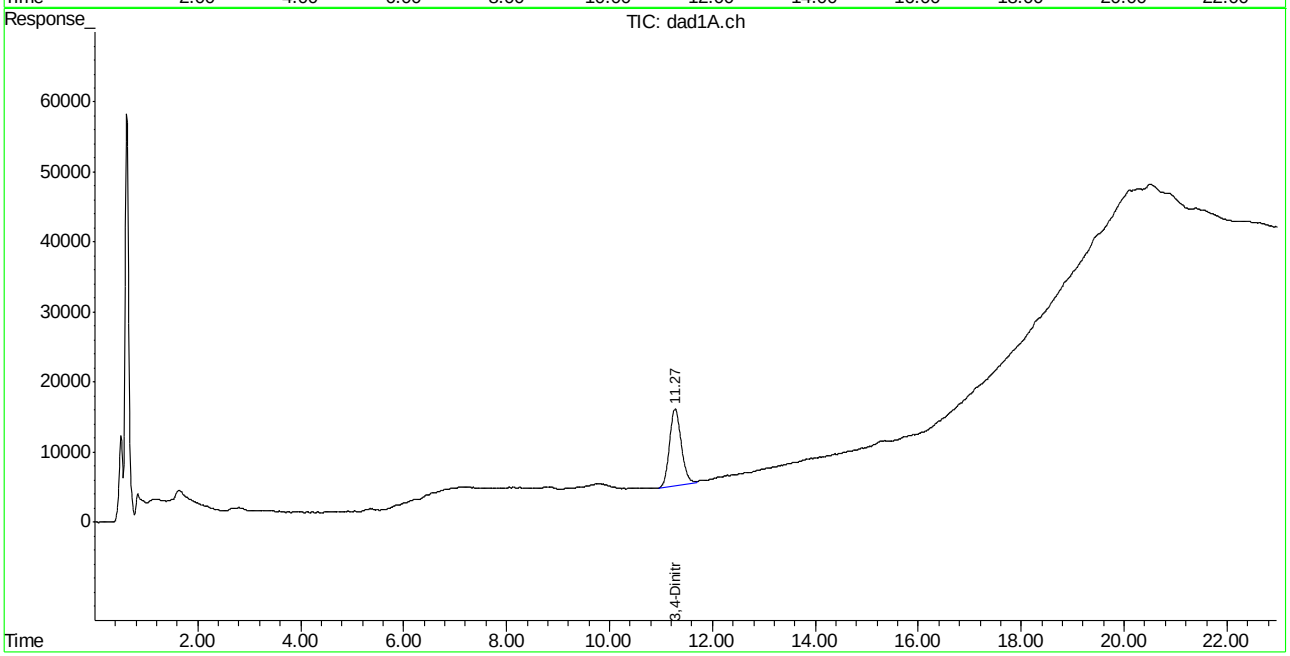
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0317BPL\BB053710.D\dad1B.ch Vial: 29
Signal #2 : C:\HPCHEM\1\DATA\0317BPL\BB053710.D\dad1A.ch
Acq On : 17-Mar-2017, 15:21:38 Operator: evitam
Sample : fa41687-3 Inst : G1315B
Misc : op64158,gbb1559,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 20 12:06 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

Sample Number: FA41687-3
Lab FileID: BB053710.D
Injection Time: 03/17/17 15:21

Method: SW846 8330B
Analyst approved: 03/20/17 12:13 Evita Martinez
Supervisor approved: 03/20/17 15:37 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
3,4-Dinitrotoluene	610-39-9	2	11.27	Poorly defined baseline

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0317BPL\BB053715.D\dad1B.ch Vial: 32
Signal #2 : C:\HPCHEM\1\DATA\0317BPL\BB053715.D\dad1A.ch
Acq On : 17-Mar-2017, 17:51:31 Operator: evitam
Sample : FA41687-4 Inst : G1315B
Misc : op64158,gbb1559,10.1,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 20 11:32:03 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.28	11.28	1029783	1769191	468.161	465.445
Spiked Amount	500.000	Range	69 - 134	Recovery	=	93.63%	93.09%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

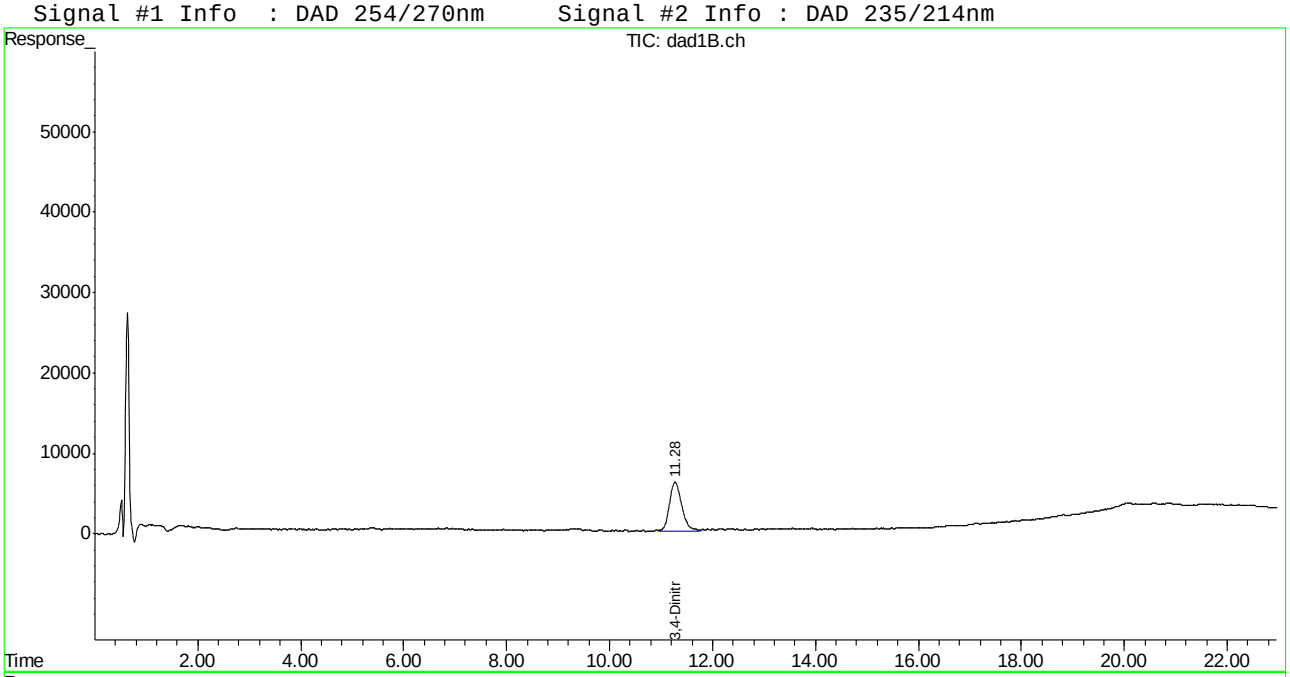
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB053715.D 8330B_0316PLUS.M Mon Mar 20 12:08:39 2017 Page 1

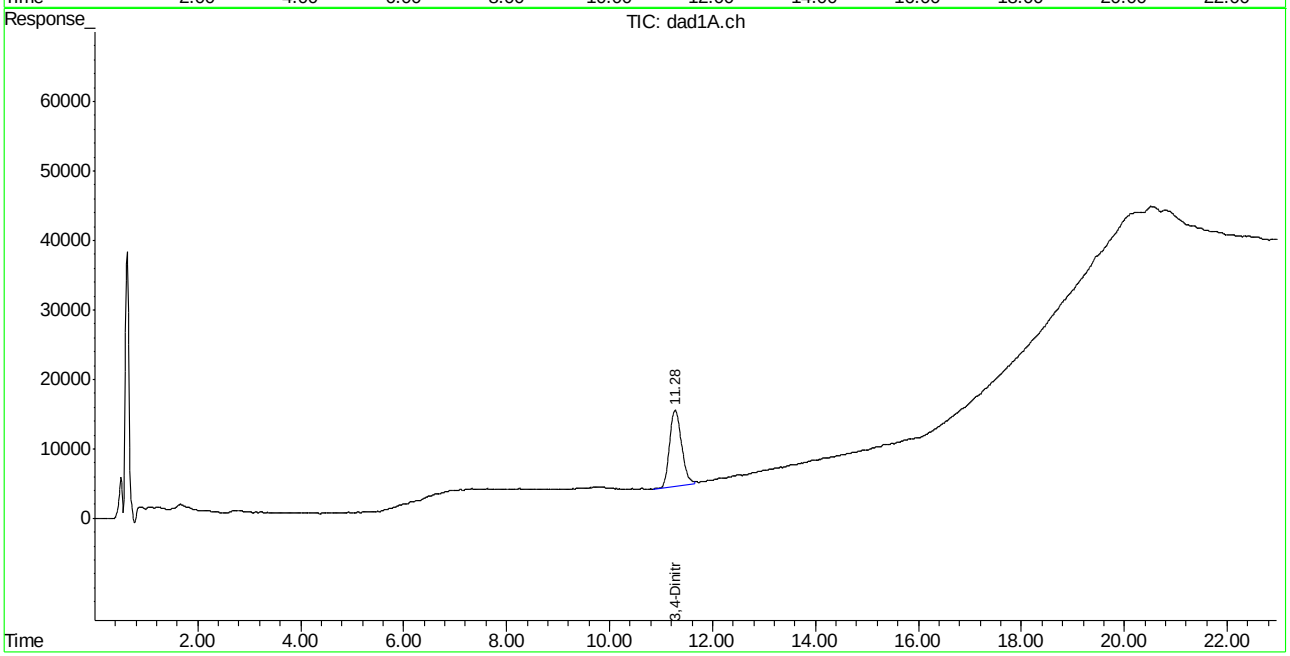
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0317BPL\BB053715.D\dad1B.ch Vial: 32
Signal #2 : C:\HPCHEM\1\DATA\0317BPL\BB053715.D\dad1A.ch
Acq On : 17-Mar-2017, 17:51:31 Operator: evitam
Sample : FA41687-4 Inst : G1315B
Misc : op64158,gbb1559,10.1,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 20 12:07 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0317BPL\BB053716.D\dad1B.ch Vial: 33
Signal #2 : C:\HPCHEM\1\DATA\0317BPL\BB053716.D\dad1A.ch
Acq On : 17-Mar-2017, 18:21:28 Operator: evitam
Sample : FA41687-5 Inst : G1315B
Misc : op64158,gbb1559,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 20 11:32:04 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.27	11.27	1032303	1807916	469.277	475.241
	Spiked Amount 500.000	Range 69 - 134		Recovery =		93.86%	95.05%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	RDX	0.00	0.00	0	0	N.D.	N.D.
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D.	N.D.
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

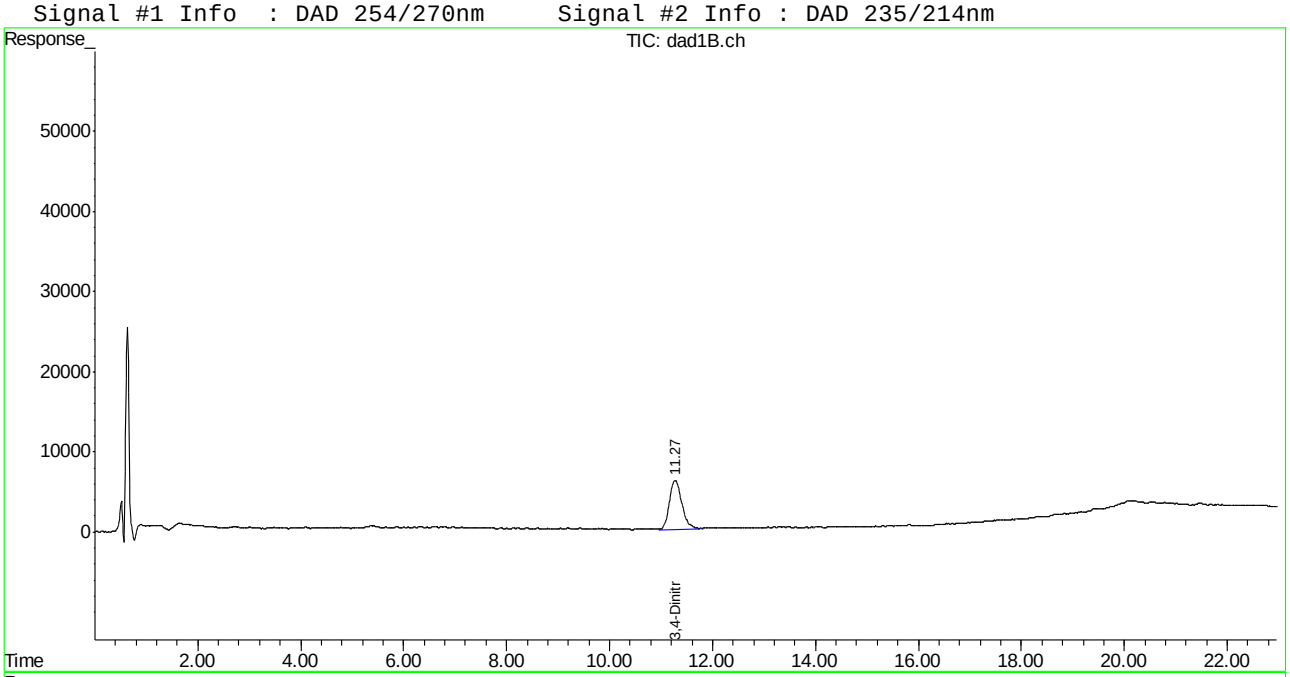
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB053716.D 8330B_0316PLUS.M Mon Mar 20 12:08:40 2017 Page 1

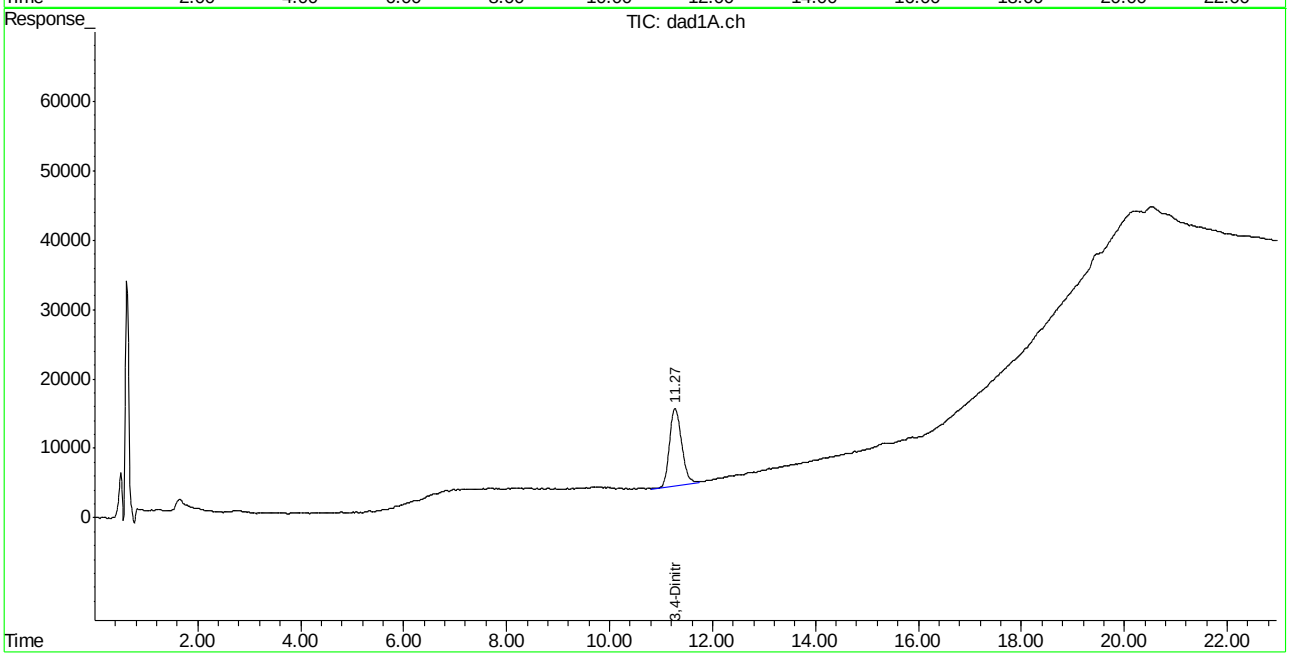
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0317BPL\BB053716.D\dad1B.ch Vial: 33
Signal #2 : C:\HPCHEM\1\DATA\0317BPL\BB053716.D\dad1A.ch
Acq On : 17-Mar-2017, 18:21:28 Operator: evitam
Sample : FA41687-5 Inst : G1315B
Misc : op64158,gbb1559,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 20 12:07 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
03/20/17 15:37

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0317BPL\BB053717.D\dad1B.ch Vial: 34
Signal #2 : C:\HPCHEM\1\DATA\0317BPL\BB053717.D\dad1A.ch
Acq On : 17-Mar-2017, 18:51:25 Operator: evitam
Sample : FA41687-6 Inst : G1315B
Misc : op64158,gbb1559,10.1,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 20 11:32:05 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.28	11.27	953919	1654524	434.520	436.344m
	Spiked Amount 500.000	Range 69 - 134		Recovery =		86.90%	87.27%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	RDX	0.00	0.00	0	0	N.D.	N.D.
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D.	N.D.
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D.	N.D.
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

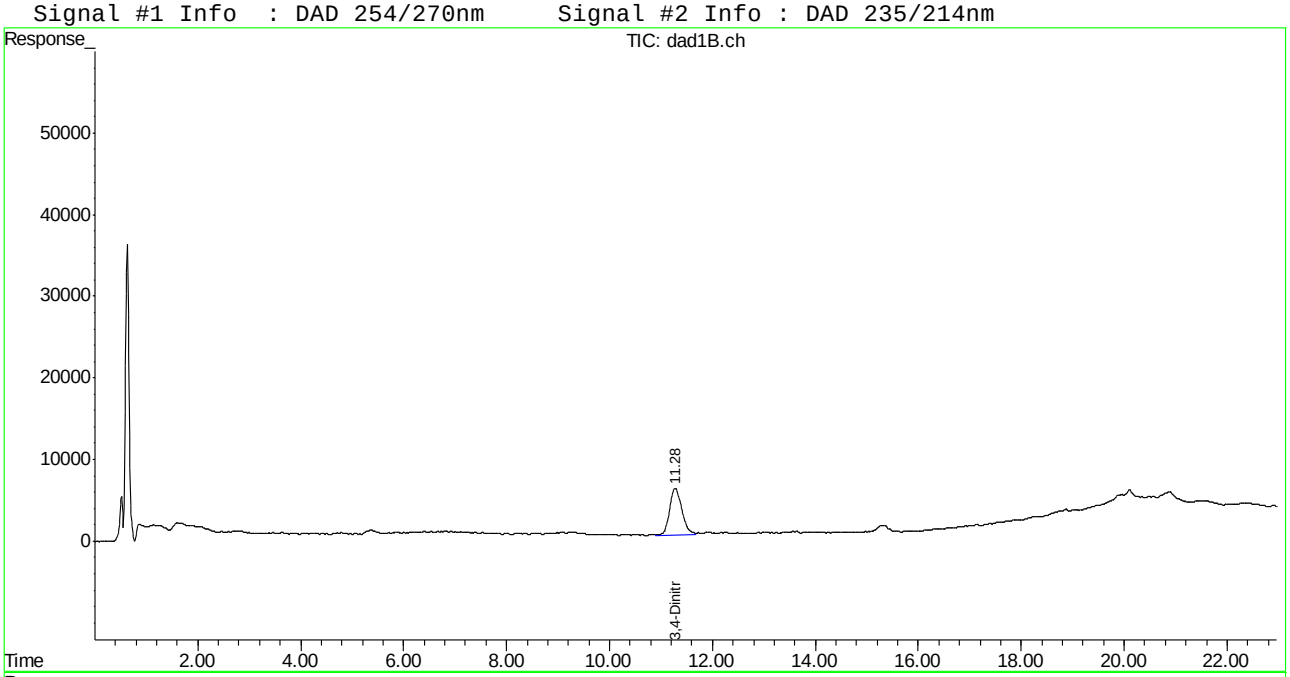
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB053717.D 8330B_0316PLUS.M Mon Mar 20 15:16:29 2017 Page 1

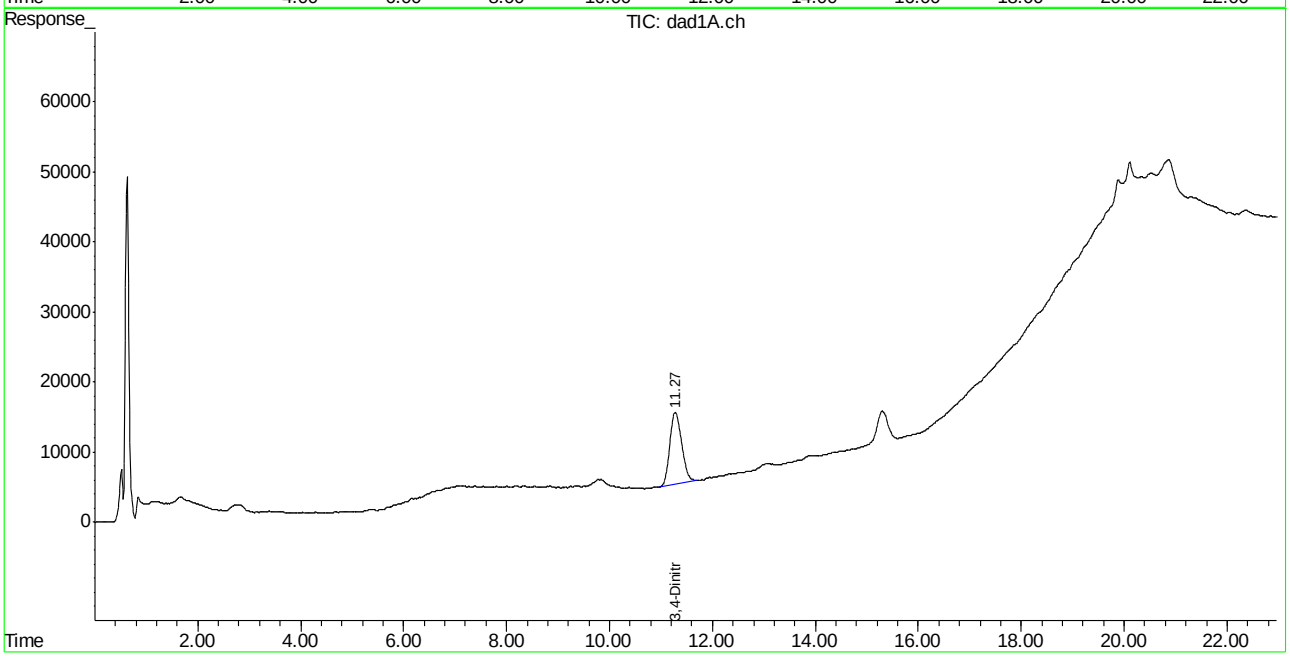
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0317BPL\BB053717.D\dad1B.ch Vial: 34
Signal #2 : C:\HPCHEM\1\DATA\0317BPL\BB053717.D\dad1A.ch
Acq On : 17-Mar-2017, 18:51:25 Operator: evitam
Sample : FA41687-6 Inst : G1315B
Misc : op64158,gbb1559,10.1,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 20 15:16 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

Sample Number: FA41687-6
Lab FileID: BB053717.D
Injection Time: 03/17/17 18:51

Method: SW846 8330B
Analyst approved: 03/20/17 15:18 Evita Martinez
Supervisor approved: 03/20/17 15:37 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
3,4-Dinitrotoluene	610-39-9	2	11.27	Poorly defined baseline

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
03/20/17 15:37

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0317BPL\BB053718.D\dad1B.ch Vial: 35
Signal #2 : C:\HPCHEM\1\DATA\0317BPL\BB053718.D\dad1A.ch
Acq On : 17-Mar-2017, 19:21:23 Operator: evitam
Sample : FA41687-7 Inst : G1315B
Misc : op64158,gbb1559,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 20 11:32:06 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.27	11.27	1018098	1722131	462.988	453.518m
Spiked Amount	500.000	Range	69 - 134	Recovery	=	92.60%	90.70%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

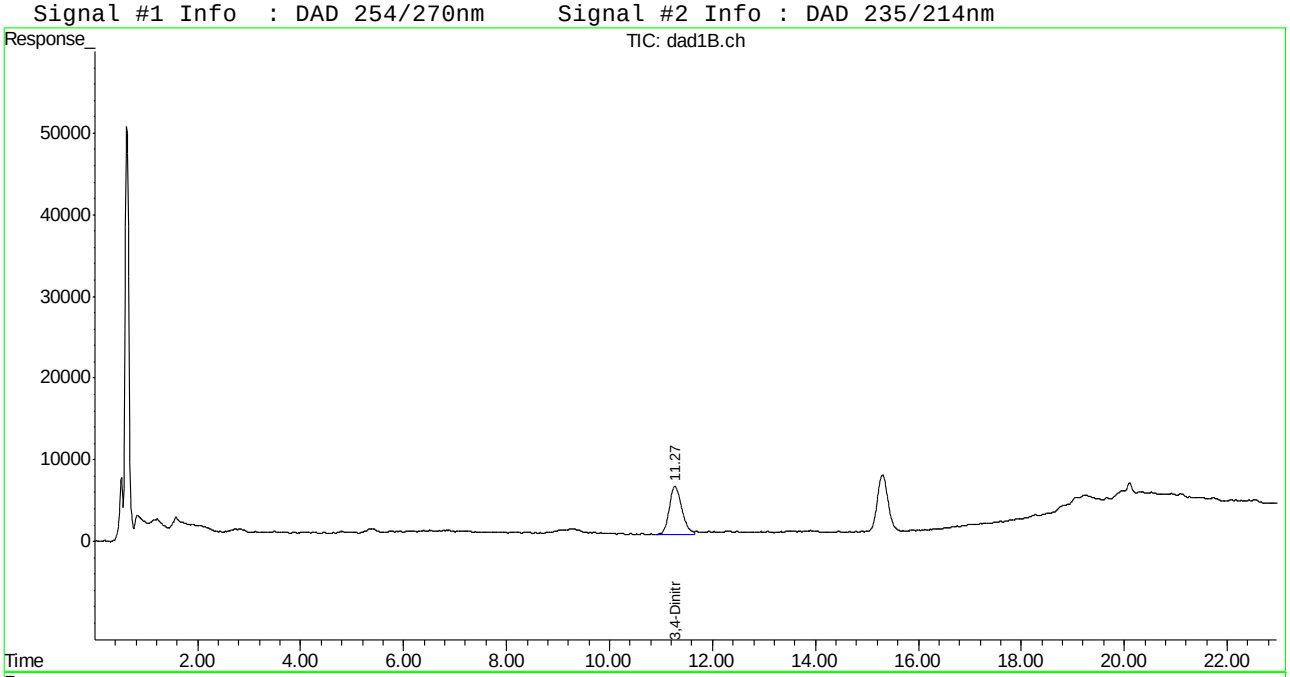
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB053718.D 8330B_0316PLUS.M Mon Mar 20 15:16:30 2017 Page 1

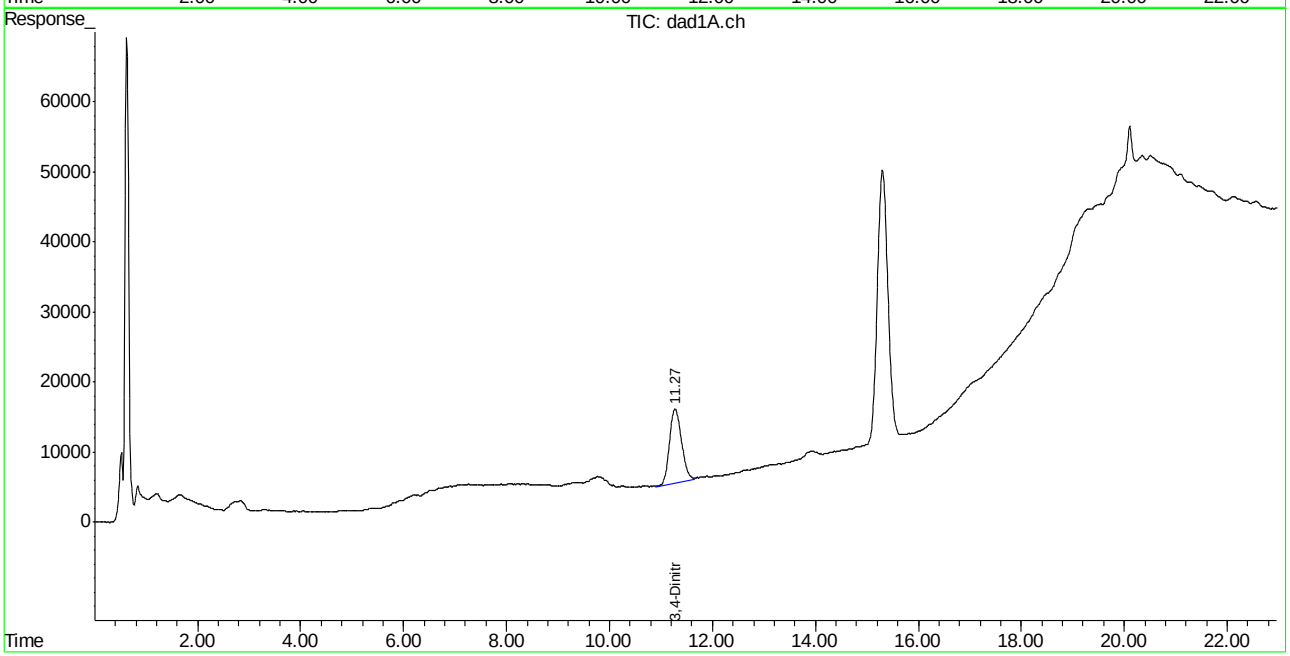
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0317BPL\BB053718.D\dad1B.ch Vial: 35
Signal #2 : C:\HPCHEM\1\DATA\0317BPL\BB053718.D\dad1A.ch
Acq On : 17-Mar-2017, 19:21:23 Operator: evitam
Sample : FA41687-7 Inst : G1315B
Misc : op64158,gbb1559,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 20 15:16 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

Sample Number:	FA41687-7	**Method:**	SW846 8330B
Lab FileID:	BB053718.D	**Analyst approved:**	03/20/17 15:18 Evita Martinez
Injection Time:	03/17/17 19:21	**Supervisor approved:**	03/20/17 15:37 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
3,4-Dinitrotoluene	610-39-9	2	11.27	Poorly defined baseline

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0317BPL\BB053719.D\dad1B.ch Vial: 36
Signal #2 : C:\HPCHEM\1\DATA\0317BPL\BB053719.D\dad1A.ch
Acq On : 17-Mar-2017, 19:51:19 Operator: evitam
Sample : FA41687-8 Inst : G1315B
Misc : op64158,gbb1559,10.1,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 20 11:32:07 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.27	11.27	986835	1709401	449.132	450.288
	Spiked Amount 500.000	Range 69 - 134		Recovery =		89.83%	90.06%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	RDX	0.00	0.00	0	0	N.D.	N.D.
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D.	N.D.
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D.	N.D.
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

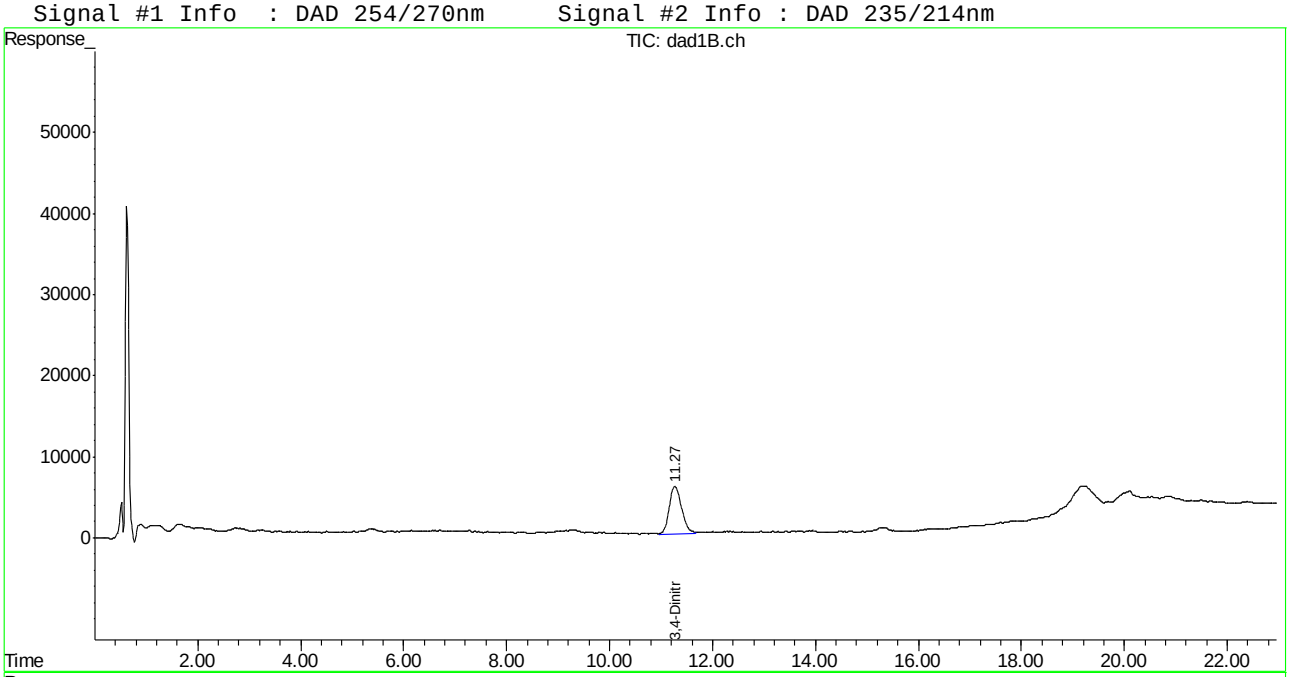
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB053719.D 8330B_0316PLUS.M Mon Mar 20 15:16:31 2017 Page 1

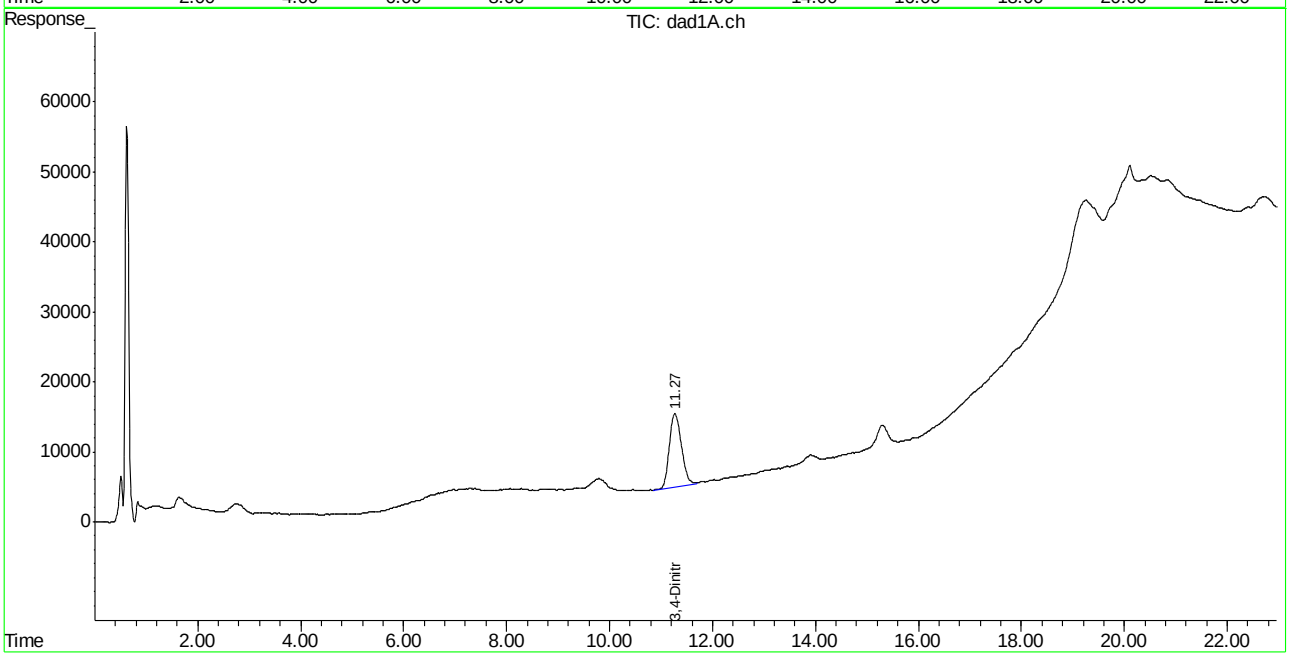
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0317BPL\BB053719.D\dad1B.ch Vial: 36
Signal #2 : C:\HPCHEM\1\DATA\0317BPL\BB053719.D\dad1A.ch
Acq On : 17-Mar-2017, 19:51:19 Operator: evitam
Sample : FA41687-8 Inst : G1315B
Misc : op64158,gbb1559,10.1,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 20 15:16 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0317BPL\BB053720.D\dad1B.ch Vial: 37
Signal #2 : C:\HPCHEM\1\DATA\0317BPL\BB053720.D\dad1A.ch
Acq On : 17-Mar-2017, 20:21:16 Operator: evitam
Sample : FA41687-9 Inst : G1315B
Misc : op64158,gbb1559,10.1,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 20 11:32:08 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
15) S 3,4-Dinitrotolue	11.26	11.27	1005693	1757005	457.493	462.359
Spiked Amount 500.000	Range 69 - 134		Recovery =		91.50%	92.47%
Target Compounds						
1) TNX	0.00	0.00	0	0	N.D. d	N.D. d
2) HMX	0.00	0.00	0	0	N.D. d	N.D. d
3) DNX	0.00	0.00	0	0	N.D. d	N.D. d
4) MNX	0.00	0.00	0	0	N.D.	N.D.
5) RDX	0.00	0.00	0	0	N.D.	N.D.
6) 1,3,5-Trinitrobe	0.00	0.00	0	0	N.D.	N.D.
7) 1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8) 3,5-Dinitroanili	0.00	0.00	0	0	N.D.	N.D.
9) Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10) Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11) Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12) 2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
13) 2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
14) 4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16) 2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17) 2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18) o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19) p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20) m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21) PETN	0.00	0.00	0	0	N.D. d	N.D. d

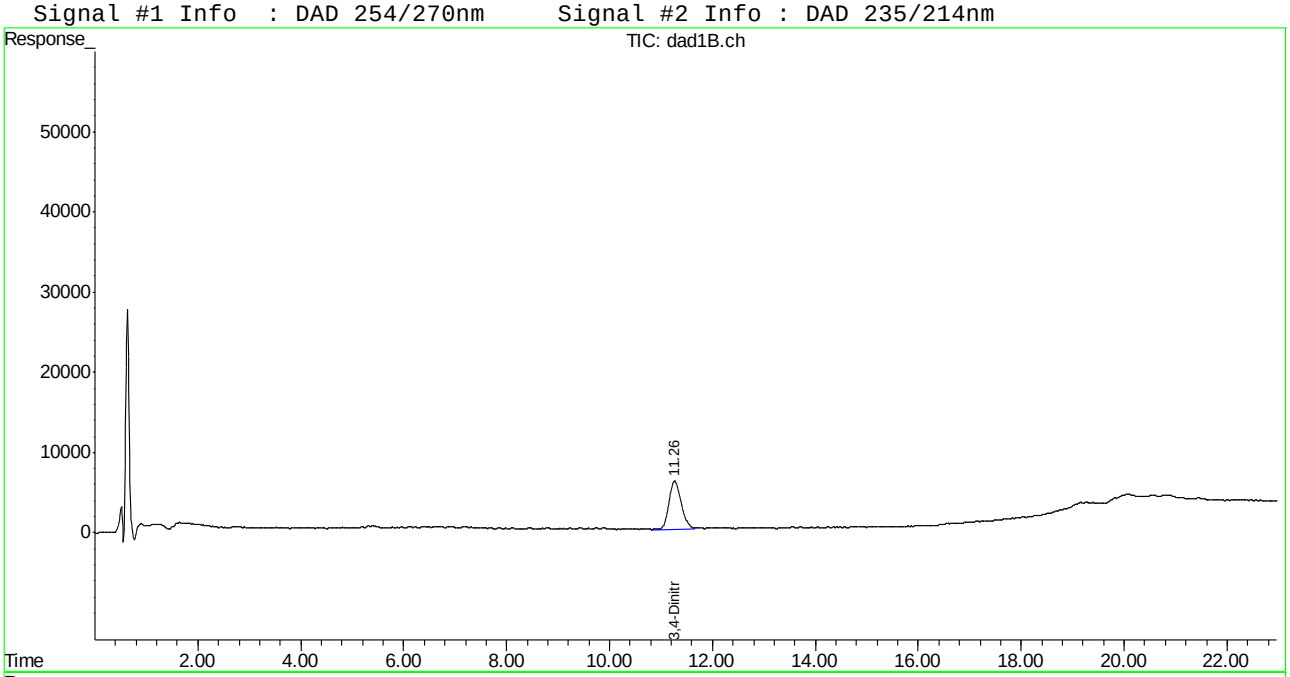
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB053720.D 8330B_0316PLUS.M Mon Mar 20 12:08:44 2017 Page 1

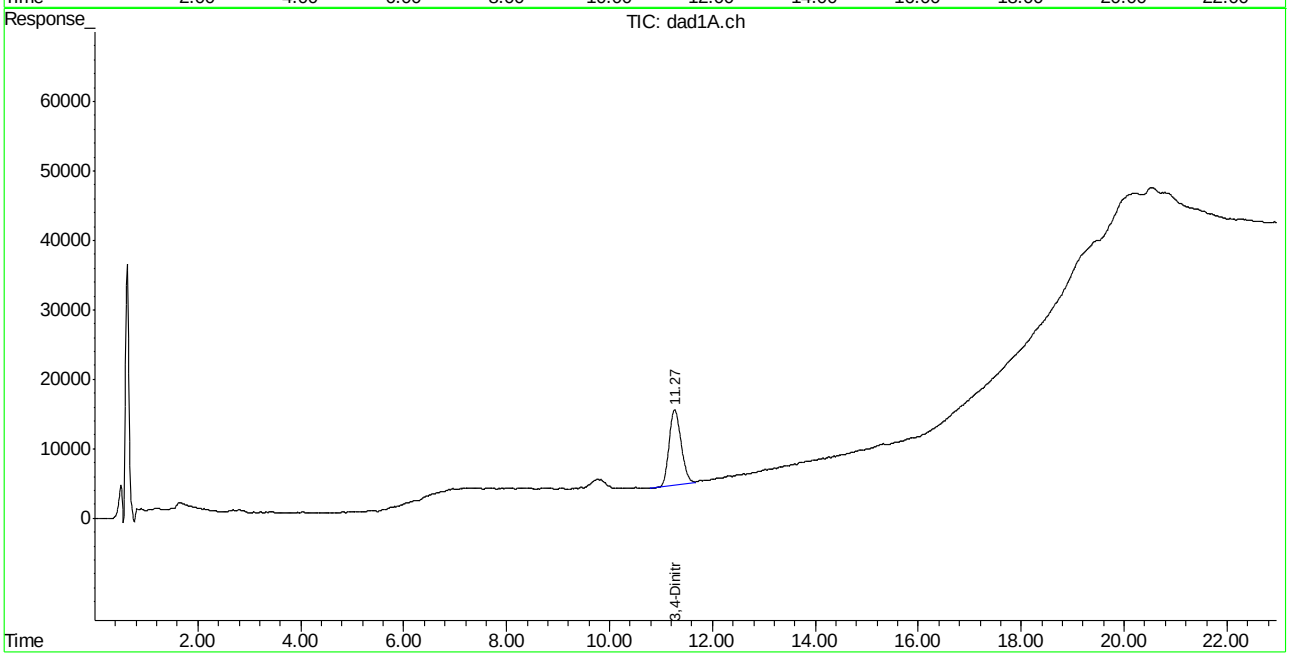
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0317BPL\BB053720.D\dad1B.ch Vial: 37
Signal #2 : C:\HPCHEM\1\DATA\0317BPL\BB053720.D\dad1A.ch
Acq On : 17-Mar-2017, 20:21:16 Operator: evitam
Sample : FA41687-9 Inst : G1315B
Misc : op64158,gbb1559,10.1,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 20 12:07 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0317BPL\BB053721.D\dad1B.ch Vial: 38
Signal #2 : C:\HPCHEM\1\DATA\0317BPL\BB053721.D\dad1A.ch
Acq On : 17-Mar-2017, 20:51:14 Operator: evitam
Sample : FA41687-10 Inst : G1315B
Misc : op64158,gbb1559,10.1,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 20 11:32:09 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.27	11.27	1111259	1751918	504.149	461.070
	Spiked Amount 500.000	Range 69 - 134		Recovery =		100.83%	92.21%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	RDX	0.00	0.00	0	0	N.D.	N.D.
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D.	N.D.
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	9.26	0.00	40862	0	NoCal	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

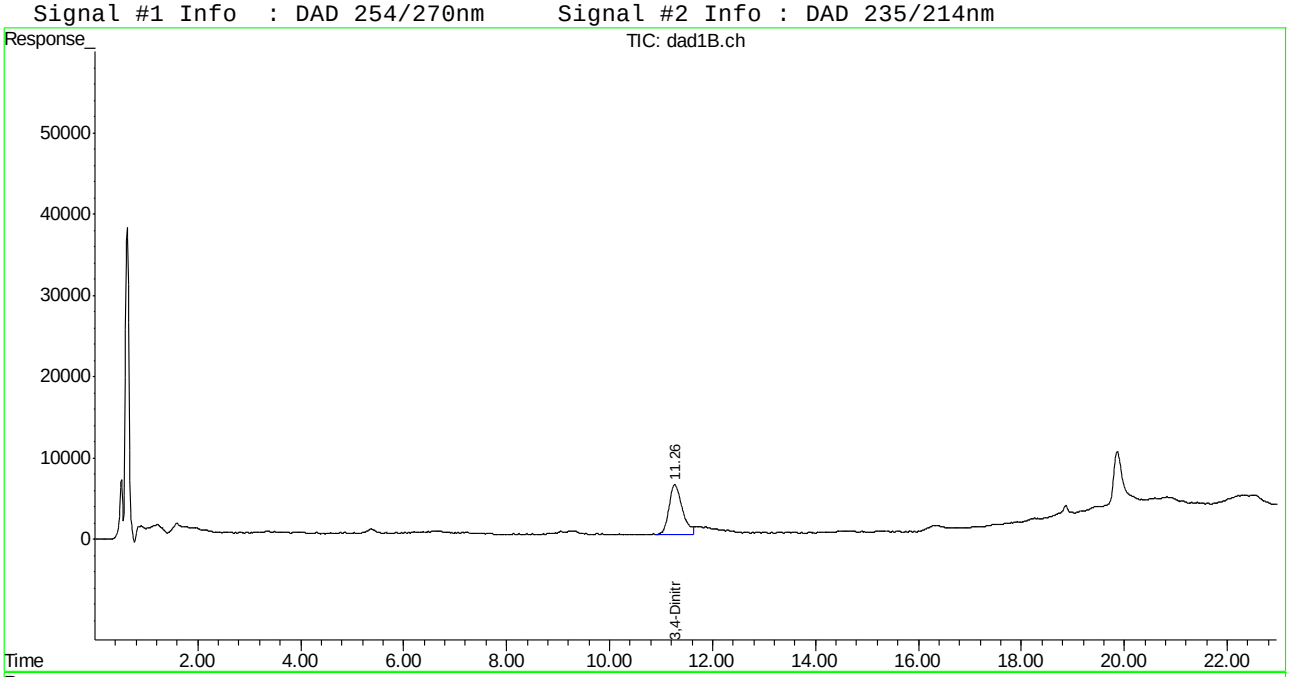
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB053721.D 8330B_0316PLUS.M Mon Mar 20 12:08:45 2017 Page 1

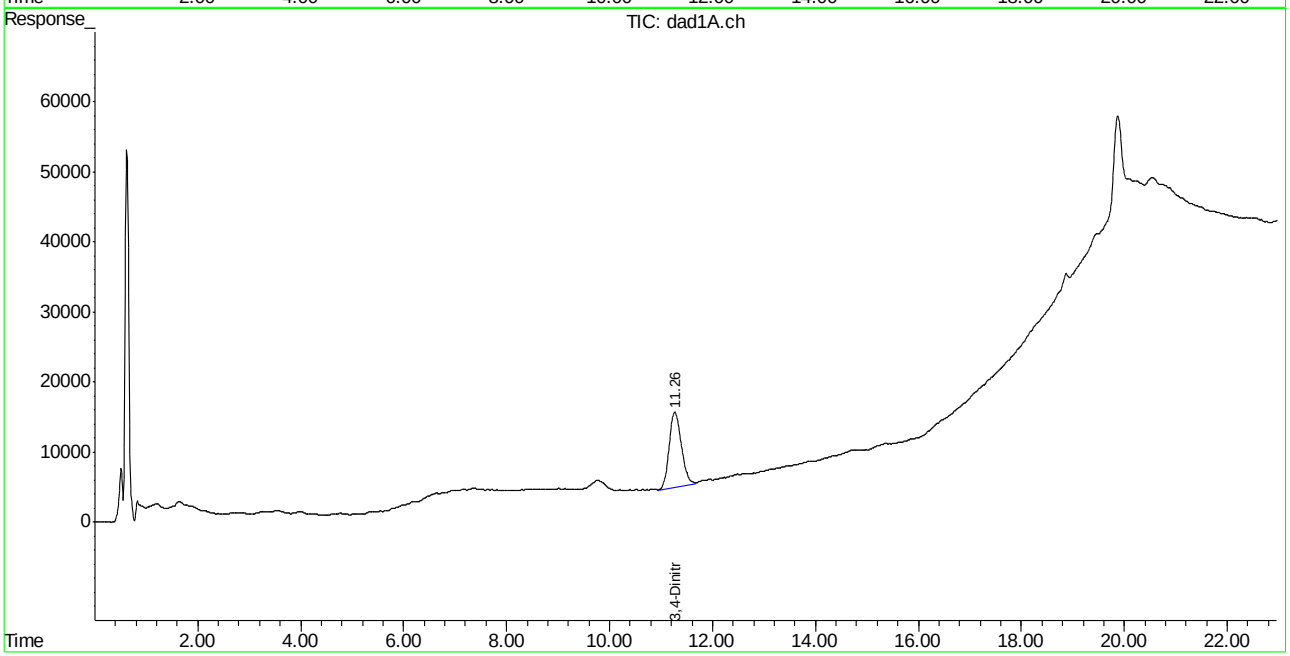
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0317BPL\BB053721.D\dad1B.ch Vial: 38
Signal #2 : C:\HPCHEM\1\DATA\0317BPL\BB053721.D\dad1A.ch
Acq On : 17-Mar-2017, 20:51:14 Operator: evitam
Sample : FA41687-10 Inst : G1315B
Misc : op64158,gbb1559,10.1,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 20 12:07 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





BB053721.D 8330B_0316PLUS.M Mon Mar 20 12:08:45 2017 Page 2

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0320BPL\BB053734.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0320BPL\BB053734.D\dad1A.ch
Acq On : 20-Mar-2017, 17:53:56 Operator: evitam
Sample : FA41687-11 Inst : G1315B
Misc : op64214,gbb1560,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 21 10:05:57 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.26	11.26	960207	1728018	437.314	455.012
	Spiked Amount 500.000	Range 69 - 134		Recovery =		87.46%	91.00%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

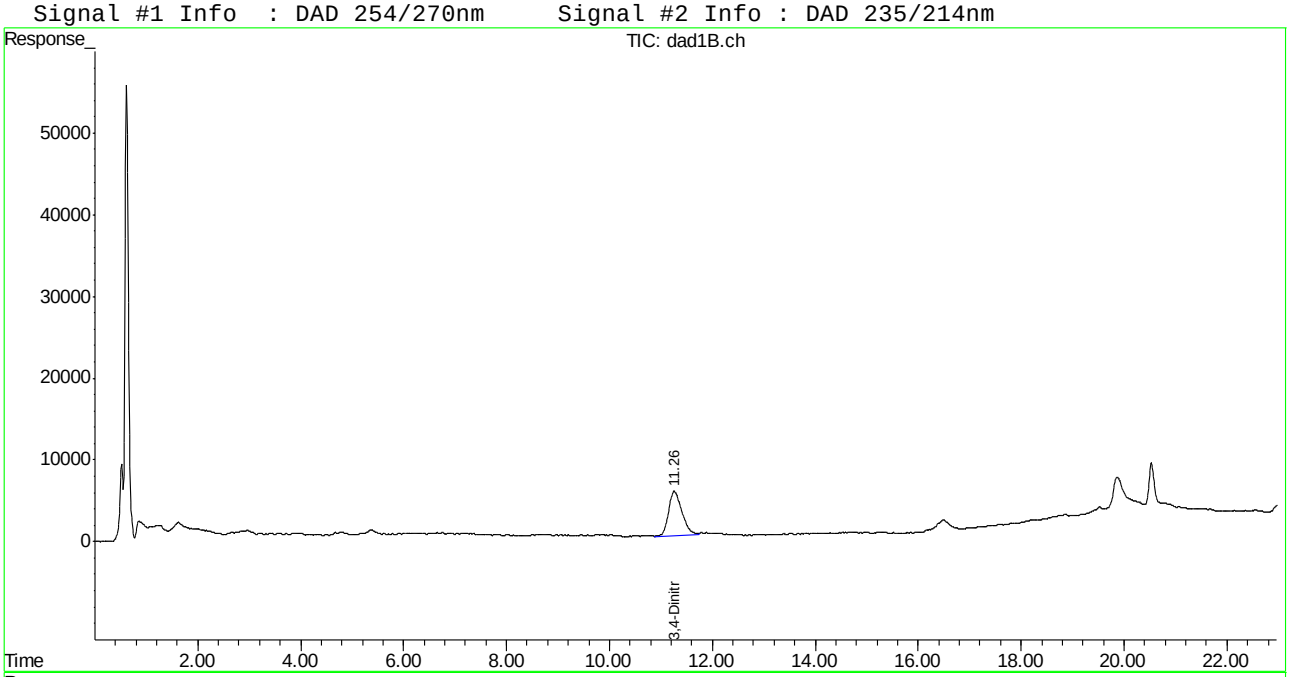
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB053734.D 8330B_0316PLUS.M Tue Mar 21 11:10:55 2017 Page 1

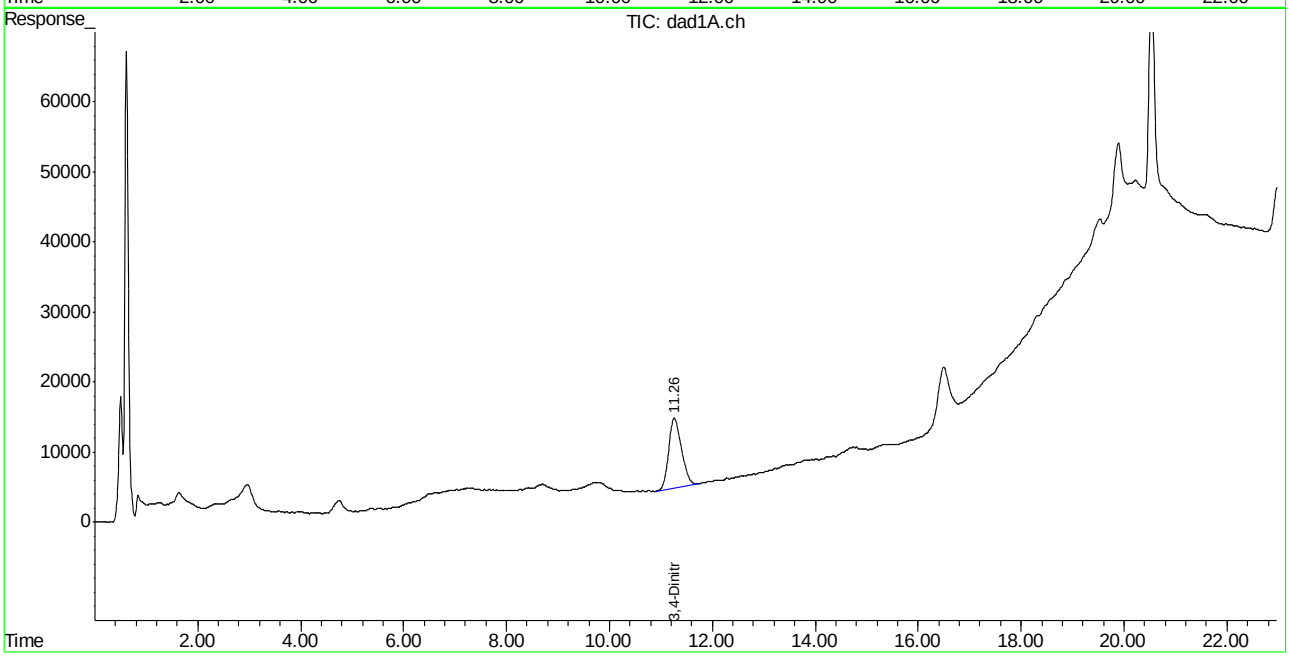
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0320BPL\BB053734.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0320BPL\BB053734.D\dad1A.ch
Acq On : 20-Mar-2017, 17:53:56 Operator: evitam
Sample : FA41687-11 Inst : G1315B
Misc : op64214,gbb1560,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 21 10:16 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0317BPL\BB053722.D\dad1B.ch Vial: 39
Signal #2 : C:\HPCHEM\1\DATA\0317BPL\BB053722.D\dad1A.ch
Acq On : 17-Mar-2017, 21:21:15 Operator: evitam
Sample : FA41687-12 Inst : G1315B
Misc : op64158,gbb1559,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 20 11:32:10 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.27	11.26	1115067	1675603	505.827	441.704
	Spiked Amount 500.000	Range 69 - 134		Recovery =		101.17%	88.34%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	RDX	0.00	0.00	0	0	N.D.	N.D.
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D.	N.D.
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

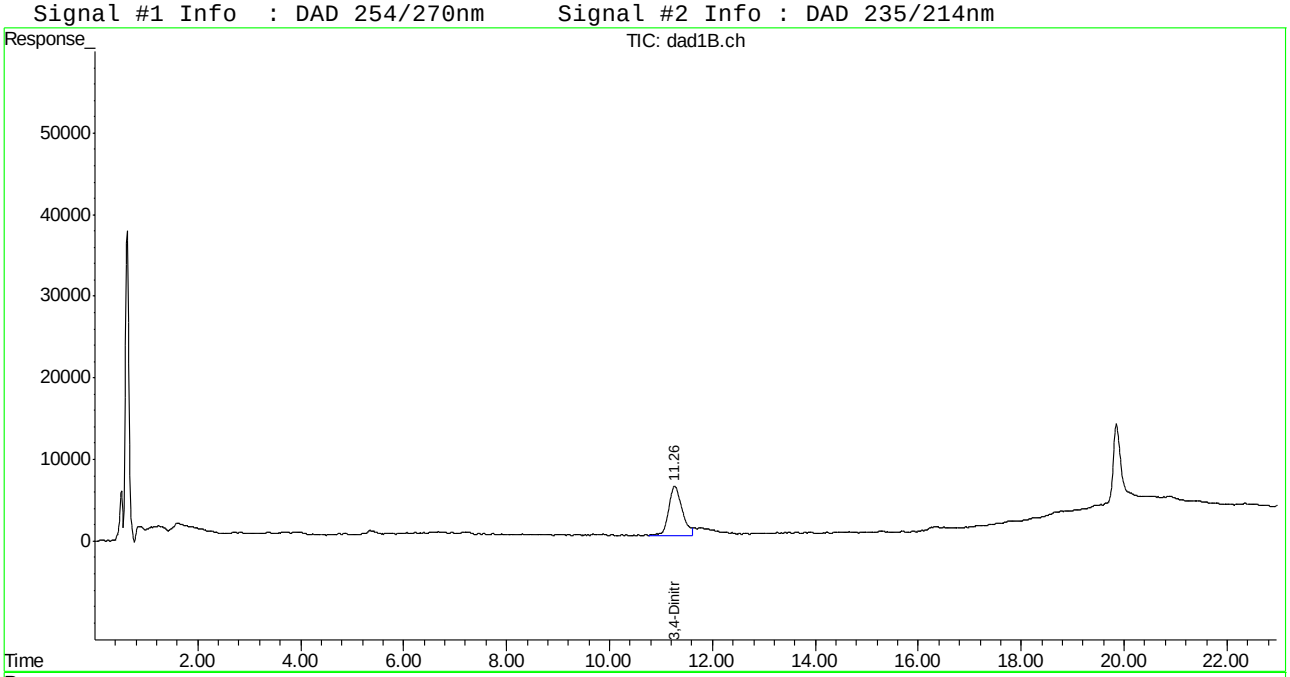
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB053722.D 8330B_0316PLUS.M Mon Mar 20 12:08:46 2017 Page 1

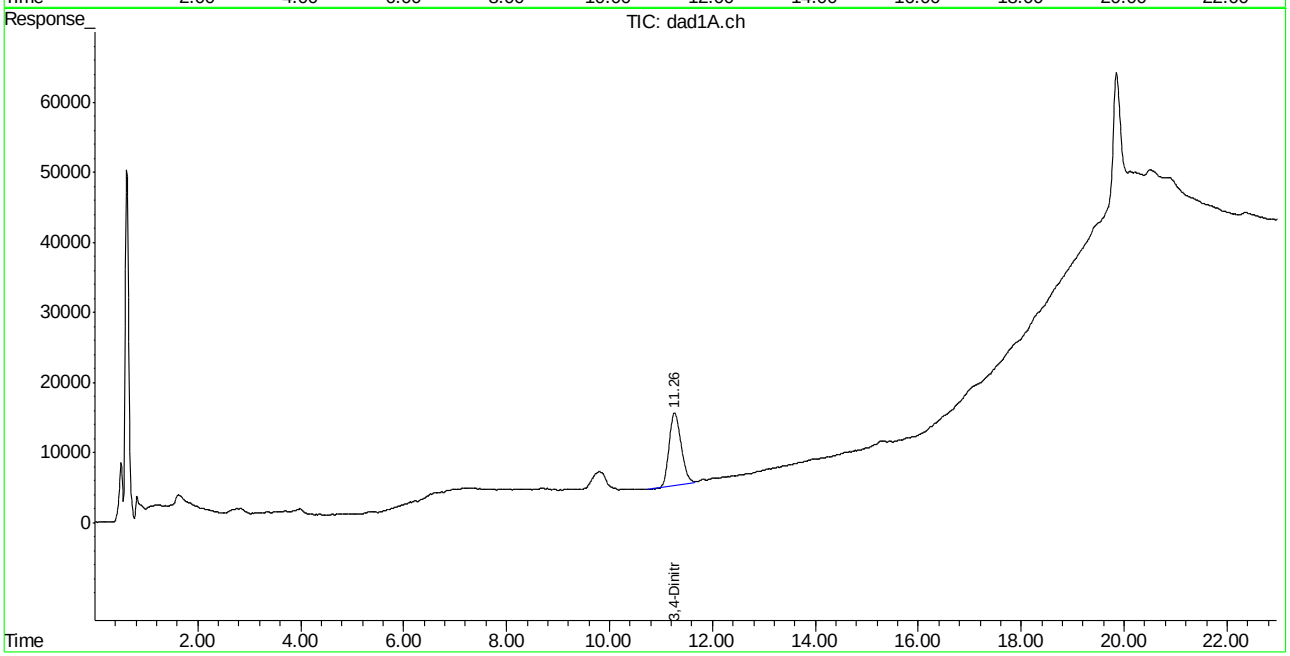
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0317BPL\BB053722.D\dad1B.ch Vial: 39
Signal #2 : C:\HPCHEM\1\DATA\0317BPL\BB053722.D\dad1A.ch
Acq On : 17-Mar-2017, 21:21:15 Operator: evitam
Sample : FA41687-12 Inst : G1315B
Misc : op64158,gbb1559,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 20 12:07 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0317BPL\BB053704.D\dad1B.ch Vial: 23
Signal #2 : C:\HPCHEM\1\DATA\0317BPL\BB053704.D\dad1A.ch
Acq On : 17-Mar-2017, 12:21:56 Operator: evitam
Sample : OP64158-mb Inst : G1315B
Misc : op64158,gbb1559,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 20 11:31:52 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
15) S 3,4-Dinitrotolue	11.29	11.29	1032072	1818161	469.174	477.831
Spiked Amount 500.000	Range 69 - 134		Recovery =		93.83%	95.57%
Target Compounds						
1) TNX	0.00	0.00	0	0	N.D. d	N.D. d
2) HMX	0.00	0.00	0	0	N.D. d	N.D. d
3) DNX	0.00	0.00	0	0	N.D. d	N.D. d
4) MNX	0.00	0.00	0	0	N.D. d	N.D. d
5) RDX	0.00	0.00	0	0	N.D. d	N.D. d
6) 1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
7) 1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8) 3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9) Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10) Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11) Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12) 2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
13) 2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
14) 4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16) 2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17) 2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18) o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19) p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20) m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21) PETN	0.00	0.00	0	0	N.D. d	N.D. d

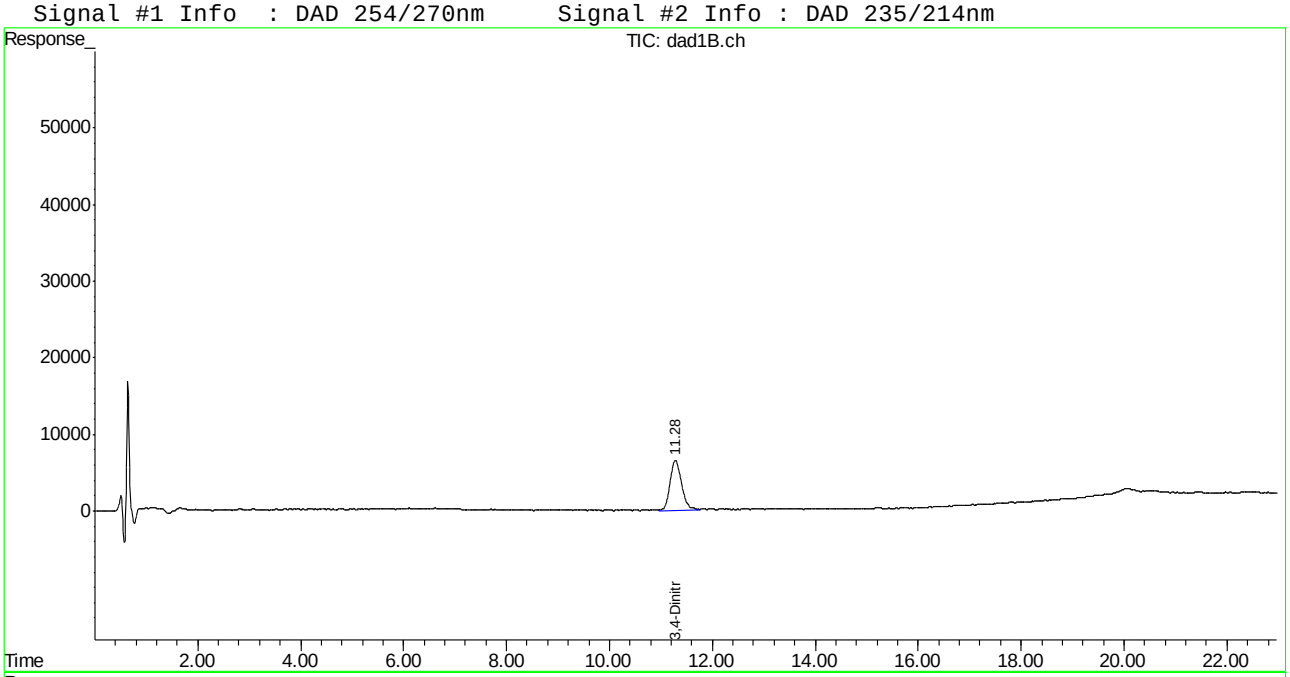
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB053704.D 8330B_0316PLUS.M Mon Mar 20 11:58:41 2017 Page 1

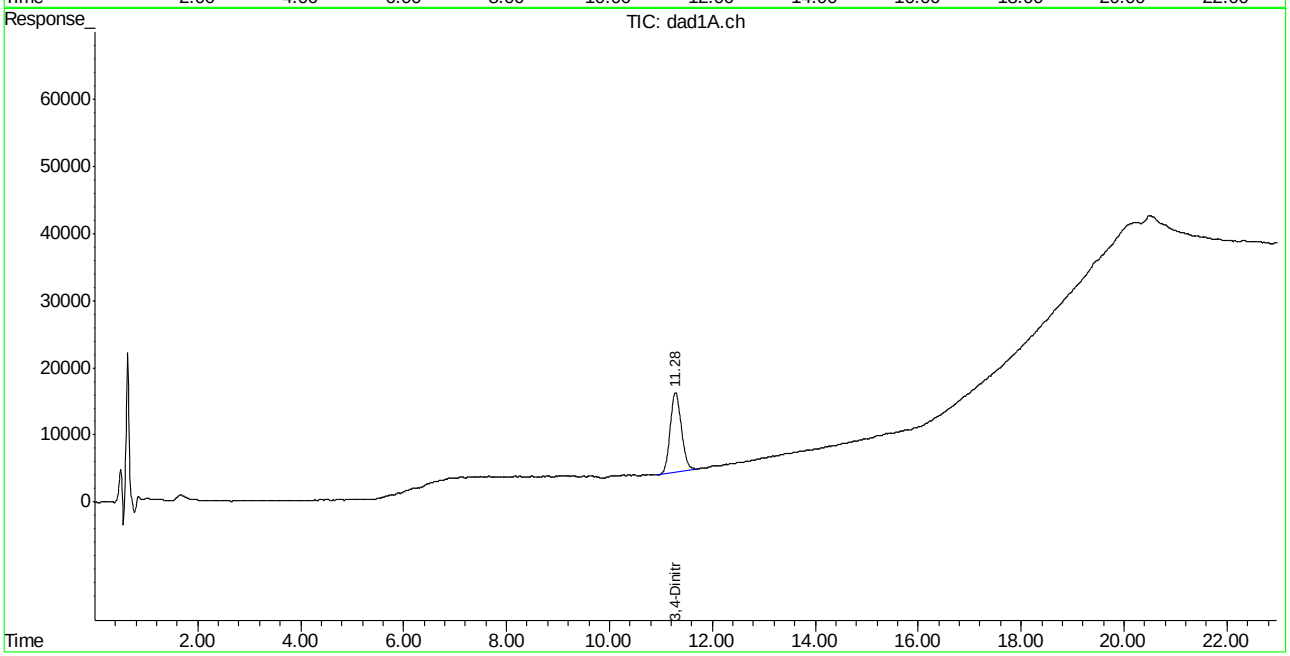
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0317BPL\BB053704.D\dad1B.ch Vial: 23
Signal #2 : C:\HPCHEM\1\DATA\0317BPL\BB053704.D\dad1A.ch
Acq On : 17-Mar-2017, 12:21:56 Operator: evitam
Sample : OP64158-mb Inst : G1315B
Misc : op64158,gbb1559,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 20 11:37 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0320BPL\BB053733.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0320BPL\BB053733.D\dad1A.ch
Acq On : 20-Mar-2017, 17:23:59 Operator: evitam
Sample : OP64214-MB Inst : G1315B
Misc : op64214,gbb1560,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 21 10:05:56 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.25	11.26	1022829	1780961	465.083	468.424
	Spiked Amount 500.000	Range 69 - 134		Recovery =		93.02%	93.68%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

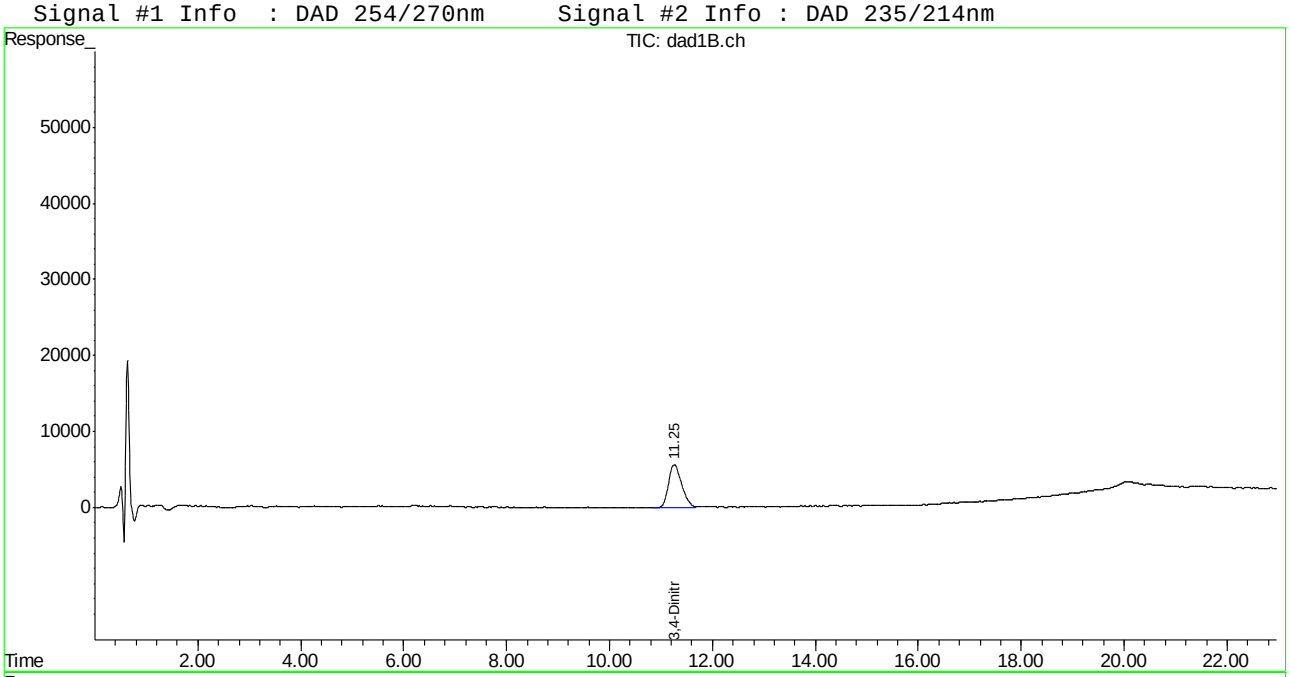
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB053733.D 8330B_0316PLUS.M Tue Mar 21 11:10:54 2017 Page 1

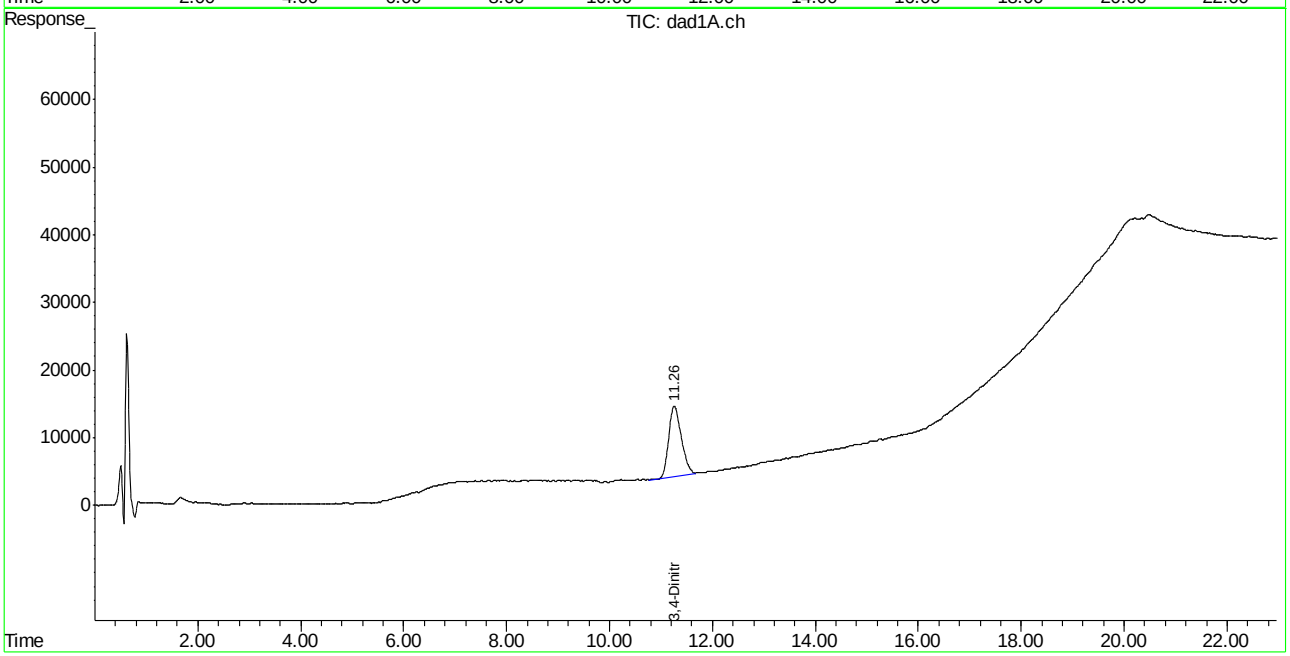
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0320BPL\BB053733.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0320BPL\BB053733.D\dad1A.ch
Acq On : 20-Mar-2017, 17:23:59 Operator: evitam
Sample : OP64214-MB Inst : G1315B
Misc : op64214,gbb1560,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 21 10:15 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
03/20/17 15:37

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0317BPL\BB053703.D\dad1B.ch Vial: 22
Signal #2 : C:\HPCHEM\1\DATA\0317BPL\BB053703.D\dad1A.ch
Acq On : 17-Mar-2017, 11:52:01 Operator: evitam
Sample : OP64158-BS Inst : G1315B
Misc : op64158,gbb1559,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 20 11:31:51 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.24	11.23	1105733	1903434	501.713	499.340
	Spiked Amount 500.000	Range 69 - 134		Recovery =		100.34%	99.87%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.59	1.59	843820	2398745	524.624	506.373
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	RDX	3.13	3.13	886741	1429537	474.868	483.944
6)	1,3,5-Trinitrobe	4.93	4.93	1908290	3695016	478.206	450.179
7)	1,3-Dinitrobenze	6.19	6.18	2350956	1664300	454.090	430.177m
8)	3,5-Dinitroanili	6.63	6.63	1908425	3218732	485.034	485.991m
9)	Nitrobenzene	7.71	7.70	1462438	1479270	449.817	482.186m
10)	Nitroglycerin	0.00	9.28	0	2876983	N.D. d	2379.760m
11)	Tetryl	9.61	9.61	1302297	2313141	632.642	755.278
12)	2,4,6-Trinitroto	10.02	10.02	1542989	2005251	497.669	514.762
13)	2-Amino-4,6-Dini	10.51	10.51	1561986	2461446	479.187	492.455
14)	4-Amino-2,6-Dini	11.00	11.00	1070917	2226997	472.439	452.836
16)	2,4-Dinitrotolue	11.90	11.91	2252650	1448548	465.205	476.739
17)	2,6-Dinitrotolue	12.35	12.35	1315837	1701010	476.134	488.995
18)	o-Nitrotoluene	15.32	15.32	1048450	1411523	459.002	468.531m
19)	p-Nitrotoluene	15.93	15.93	1563334	1187700	454.107	437.746
20)	m-Nitrotoluene	16.81	16.81	1568562	1804587	467.717	460.459m
21)	PETN	0.00	18.84	0	3288552	N.D. d	2427.435m

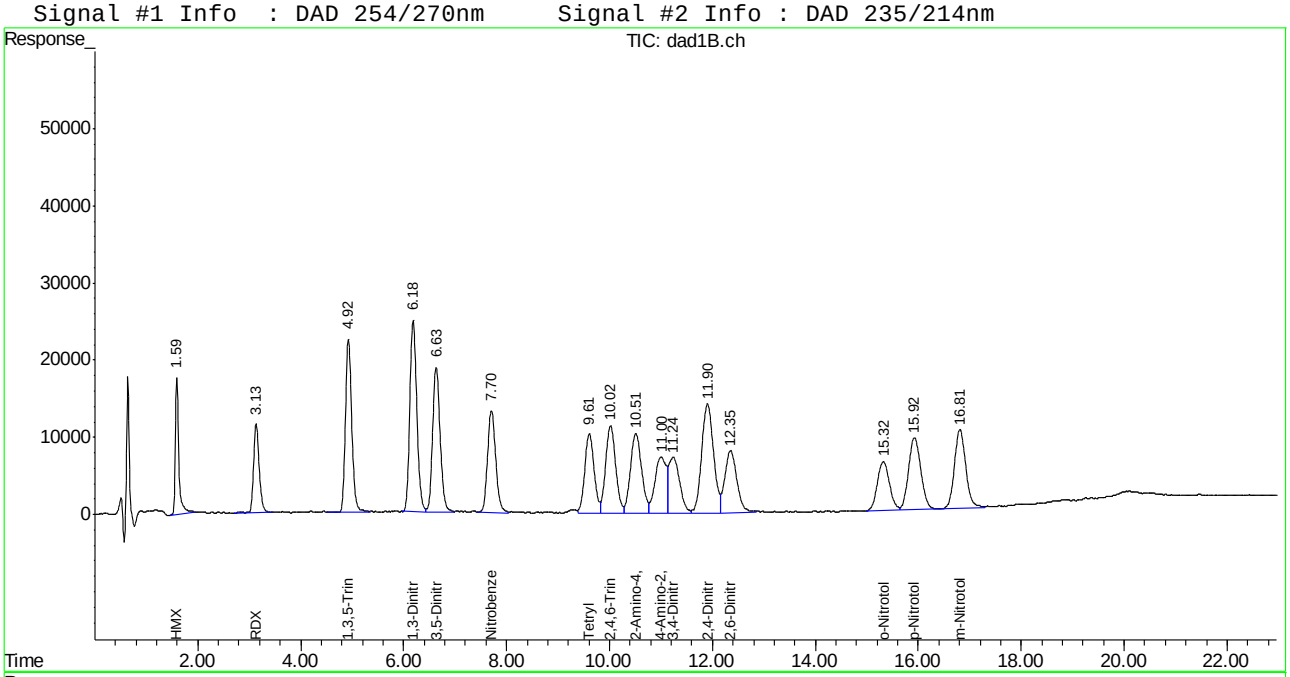
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB053703.D 8330B_0316PLUS.M Mon Mar 20 11:58:40 2017 Page 1

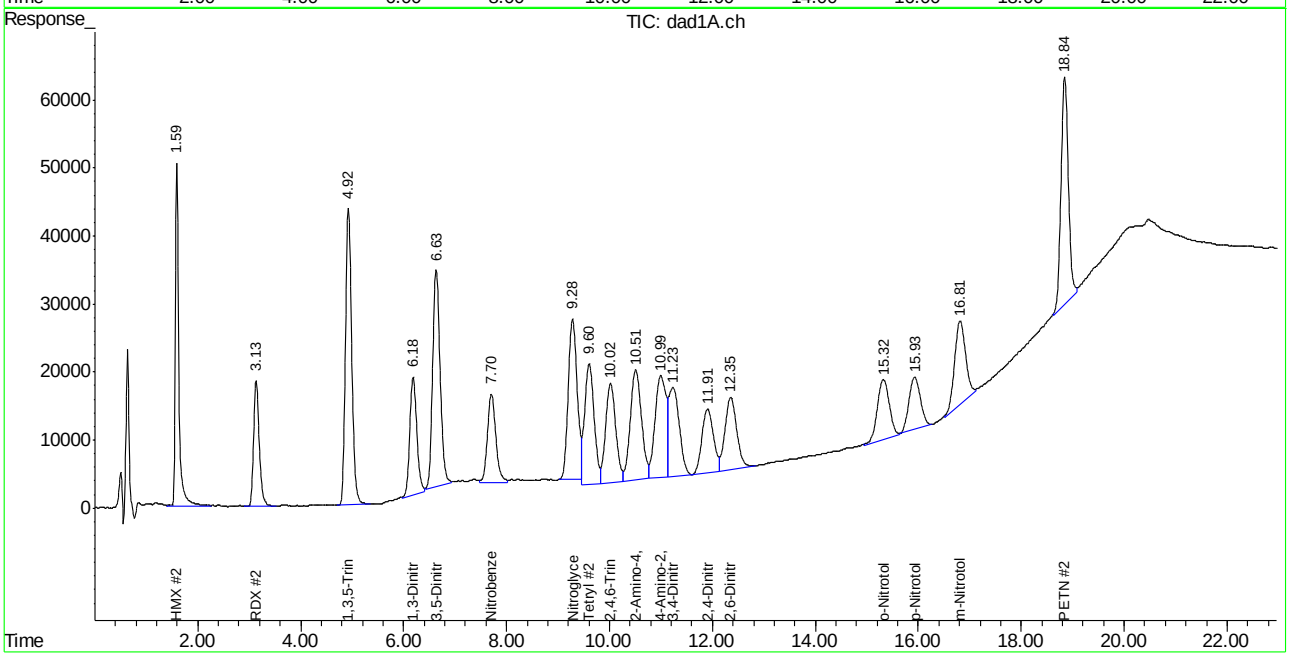
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0317BPL\BB053703.D\dad1B.ch Vial: 22
Signal #2 : C:\HPCHEM\1\DATA\0317BPL\BB053703.D\dad1A.ch
Acq On : 17-Mar-2017, 11:52:01 Operator: evitam
Sample : OP64158-BS Inst : G1315B
Misc : op64158,gbb1559,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 20 11:36 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

Sample Number: OP64158-BS
Lab FileID: BB053703.D
Injection Time: 03/17/17 11:52
Method: SW846 8330B
Analyst approved: 03/20/17 12:03 Evita Martinez
Supervisor approved: 03/20/17 15:37 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3-Dinitrobenzene	99-65-0	2	6.18	Poorly defined baseline
3,5-Dinitroaniline	618-87-1	2	6.63	Poorly defined baseline
Nitrobenzene	98-95-3	2	7.70	Poorly defined baseline
Nitroglycerine	55-63-0	2	9.28	Poorly defined baseline
o-Nitrotoluene	88-72-2	2	15.32	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	16.81	Poorly defined baseline
PETN	78-11-5	2	18.84	Poorly defined baseline

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
03/21/17 17:41

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0320BPL\BB053731.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0320BPL\BB053731.D\dad1A.ch
Acq On : 20-Mar-2017, 16:24:01 Operator: evitam
Sample : OP64214-BS Inst : G1315B
Misc : op64214,gbb1560,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 21 10:05:54 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
15) S 3,4-Dinitrotolue	11.20	11.19	1259117	2075857	569.088	542.606
Spiked Amount 500.000	Range 69 - 134		Recovery =		113.82%	108.52%
Target Compounds						
1) TNX	0.00	0.00	0	0	N.D. d	N.D. d
2) HMX	1.59	1.59	869240	2350206	540.428	496.210
3) DNX	0.00	0.00	0	0	N.D. d	N.D. d
4) MNX	0.00	0.00	0	0	N.D.	N.D.
5) RDX	3.13	3.13	876472	1403998	469.369	475.298
6) 1,3,5-Trinitrobe	4.92	4.92	1893237	3681626	474.434	448.593
7) 1,3-Dinitrobenze	6.18	6.17	2383589	1639956	460.393	423.885m
8) 3,5-Dinitroanili	6.62	6.61	1951828	3294763	496.065	497.471m
9) Nitrobenzene	7.70	7.70	1540573	1463738	473.486	477.285m
10) Nitroglycerin	0.00	9.27	0	2798646	N.D. d	2316.407
11) Tetryl	9.59	9.58	1303574	2182243	633.263	712.537
12) 2,4,6-Trinitroto	10.00	10.00	1551088	1796800	500.281	461.251
13) 2-Amino-4,6-Dini	10.49	10.48	1584549	2281631	486.109	457.709
14) 4-Amino-2,6-Dini	10.97	10.97	914575	1853737	403.468	379.158
16) 2,4-Dinitrotolue	11.88	11.88	2254865	1354072	465.650	445.645
17) 2,6-Dinitrotolue	12.33	12.33	1361437	1711912	492.203	492.129
18) o-Nitrotoluene	15.31	15.31	1060506	1406890	464.180	467.032m
19) p-Nitrotoluene	15.92	15.92	1590793	1124904	461.872	415.495
20) m-Nitrotoluene	16.80	16.80	1576309	1834479	470.027	468.086m
21) PETN	0.00	18.84	0	3268323	N.D. d	2413.085m

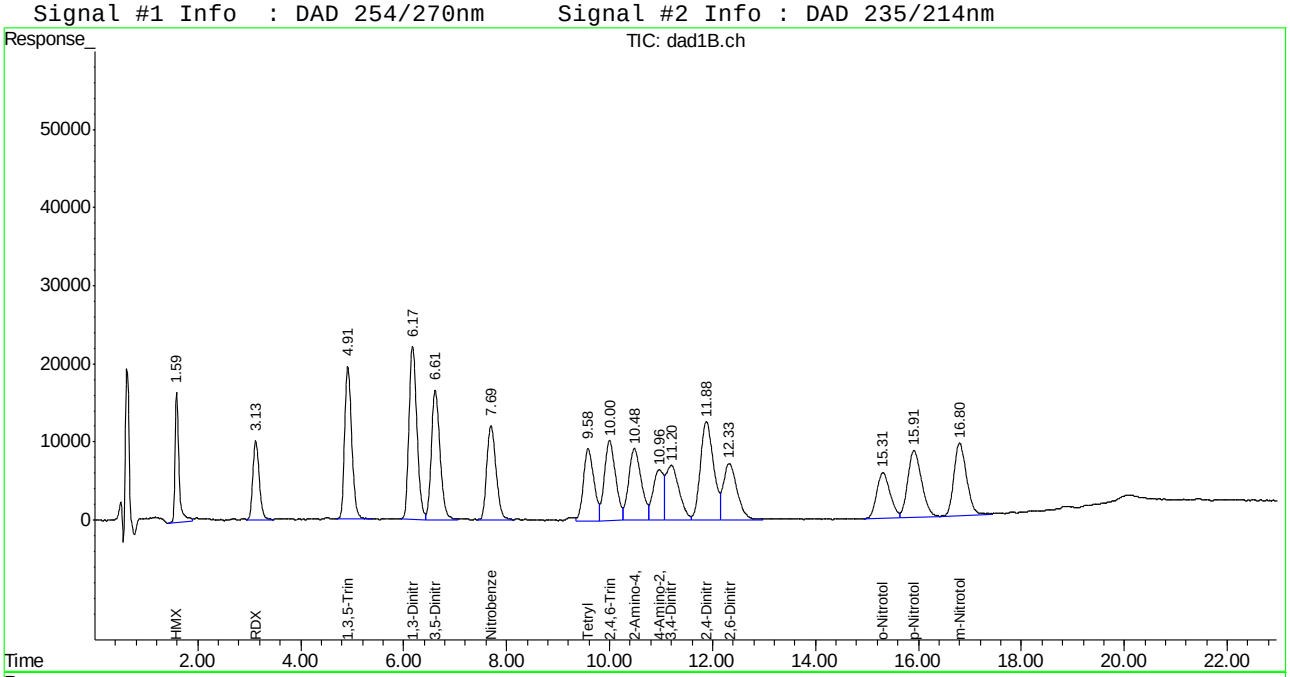
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB053731.D 8330B_0316PLUS.M Tue Mar 21 11:10:52 2017 Page 1

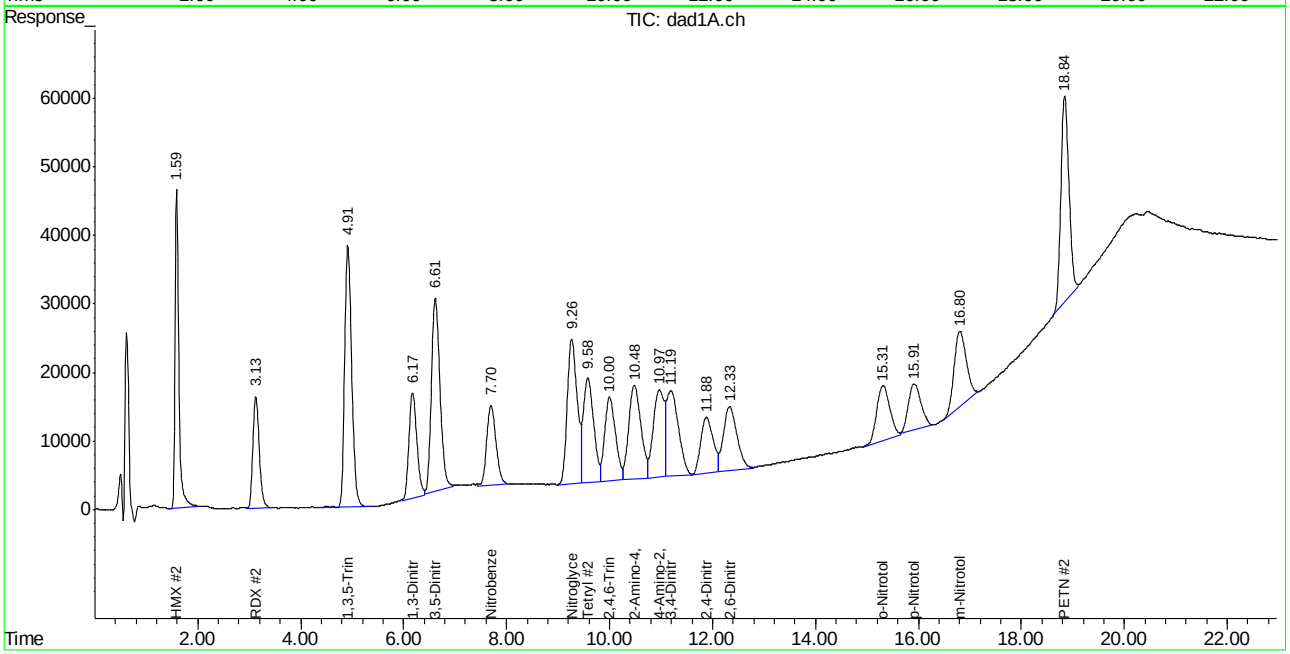
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0320BPL\BB053731.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0320BPL\BB053731.D\dad1A.ch
Acq On : 20-Mar-2017, 16:24:01 Operator: evitam
Sample : OP64214-BS Inst : G1315B
Misc : op64214,gbb1560,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 21 10:14 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

Sample Number: OP64214-BS
Lab FileID: BB053731.D
Injection Time: 03/20/17 16:24
Method: SW846 8330B
Analyst approved: 03/21/17 11:29 Evita Martinez
Supervisor approved: 03/21/17 17:41 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3-Dinitrobenzene	99-65-0	2	6.17	Poorly defined baseline
3,5-Dinitroaniline	618-87-1	2	6.61	Poorly defined baseline
Nitrobenzene	98-95-3	2	7.70	Poorly defined baseline
o-Nitrotoluene	88-72-2	2	15.31	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	16.80	Poorly defined baseline
PETN	78-11-5	2	18.84	Poorly defined baseline

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
03/20/17 15:37

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0317BPL\BB053705.D\dad1B.ch Vial: 24
Signal #2 : C:\HPCHEM\1\DATA\0317BPL\BB053705.D\dad1A.ch
Acq On : 17-Mar-2017, 12:51:51 Operator: evitam
Sample : OP64158-pt1 Inst : G1315B
Misc : op64158,gbb1559,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 20 11:31:53 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.29	11.28	1062033	1886553	482.424m	495.088m
	Spiked Amount 500.000	Range 69 - 134		Recovery =		96.48%	99.02%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.60	1.60	194807	527145	121.116	112.016
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	RDX	3.14	3.14	179005	291118	95.861m	98.553m
6)	1,3,5-Trinitrobe	4.94	4.94	535132	974458	134.101	121.250
7)	1,3-Dinitrobenze	6.20	6.20	1001241	683403	193.391	176.642m
8)	3,5-Dinitroanili	6.65	6.64	2086381	3532587	530.262	533.380m
9)	Nitrobenzene	7.72	7.72	737504	678558	228.481	225.204m
10)	Nitroglycerin	0.00	9.30	0	214381	N.D. d	181.253m
11)	Tetryl	9.64	9.63	259456	387336	126.041	126.472m
12)	2,4,6-Trinitroto	10.05	10.05	436392	513045	140.752	131.702
13)	2-Amino-4,6-Dini	10.55	10.55	333931	464783	102.443	95.928
14)	4-Amino-2,6-Dini	11.07	11.08	183996	357129	81.171m	74.867m
16)	2,4-Dinitrotolue	11.94	11.94	524346	307734	110.616	101.280
17)	2,6-Dinitrotolue	12.39	12.39	669474	865790	245.338	248.892
18)	o-Nitrotoluene	15.36	15.36	515488	730964	227.864	245.699m
19)	p-Nitrotoluene	15.97	15.97	1101329	806276	322.409	301.141
20)	m-Nitrotoluene	16.84	16.83	589949	813672	175.912	207.617m
21)	PETN	0.00	18.88	0	277107	N.D. d	212.459m

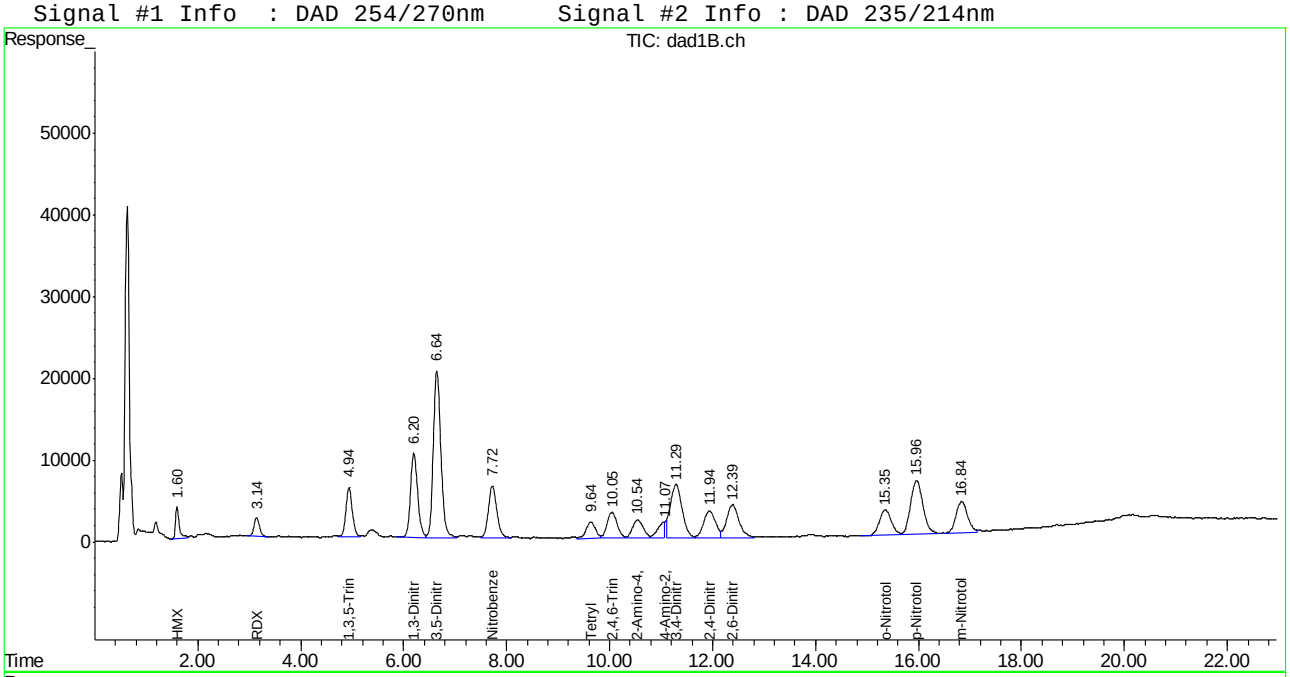
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB053705.D 8330B_0316PLUS.M Mon Mar 20 11:58:42 2017 Page 1

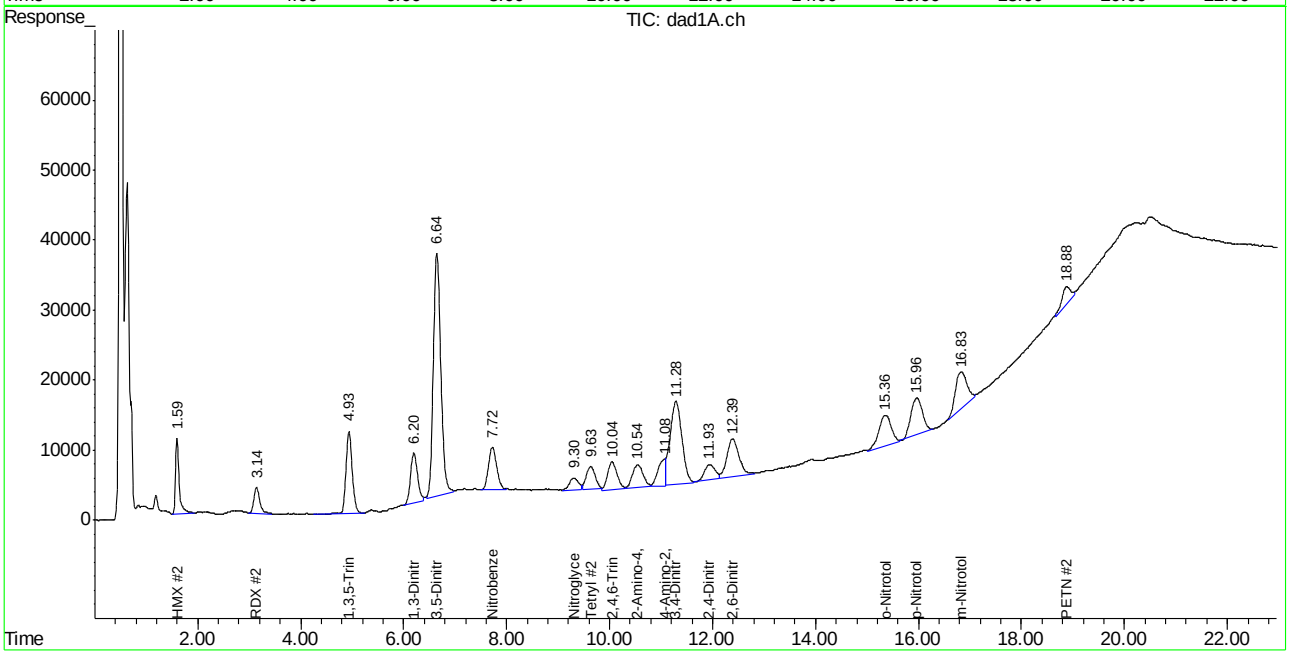
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0317BPL\BB053705.D\dad1B.ch Vial: 24
Signal #2 : C:\HPCHEM\1\DATA\0317BPL\BB053705.D\dad1A.ch
Acq On : 17-Mar-2017, 12:51:51 Operator: evitam
Sample : OP64158-pt1 Inst : G1315B
Misc : op64158,gbb1559,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 20 11:39 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

Sample Number: OP64158-PT1
Lab FileID: BB053705.D
Injection Time: 03/17/17 12:51
Method: SW846 8330B
Analyst approved: 03/20/17 12:13 Evita Martinez
Supervisor approved: 03/20/17 15:37 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
RDX	121-82-4	1	3.14	Poorly defined baseline
RDX	121-82-4	2	3.14	Poorly defined baseline
1,3-Dinitrobenzene	99-65-0	2	6.20	Poorly defined baseline
3,5-Dinitroaniline	618-87-1	2	6.64	Poorly defined baseline
Nitrobenzene	98-95-3	2	7.72	Poorly defined baseline
Nitroglycerine	55-63-0	2	9.30	Poorly defined baseline
Tetryl	479-45-8	2	9.63	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	1	11.07	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	2	11.08	Poorly defined baseline
3,4-Dinitrotoluene	610-39-9	2	11.28	Poorly defined baseline
3,4-Dinitrotoluene	610-39-9	1	11.29	Poorly defined baseline
o-Nitrotoluene	88-72-2	2	15.36	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	16.83	Poorly defined baseline
PETN	78-11-5	2	18.88	Poorly defined baseline

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
03/21/17 17:41

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0320BPL\BB053732.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0320BPL\BB053732.D\dad1A.ch
Acq On : 20-Mar-2017, 16:54:00 Operator: evitam
Sample : OP64214-PT1 Inst : G1315B
Misc : op64214,gbb1560,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 21 11:50:04 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.25	11.25	1086449	1957536	493.206m	512.948m
	Spiked Amount 500.000	Range 69 - 134		Recovery =		98.64%	102.59%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.59	1.59	229266	593774	142.540m	126.144
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	3.13	3.13	184555	298008	98.833m	100.885m
6)	1,3,5-Trinitrobe	4.92	4.92	604270	1067805	151.426	132.766m
7)	1,3-Dinitrobenze	6.18	6.18	1112512	775245	214.883	200.380m
8)	3,5-Dinitroanili	6.62	6.62	1666324	2875254	423.503	434.130m
9)	Nitrobenzene	7.71	7.71	791378	794325	245.039	262.924m
10)	Nitroglycerin	0.00	9.28	0	246626	N.D. d	208.458m
11)	Tetryl	9.60	9.59	285697	471565	138.789	153.973m
12)	2,4,6-Trinitroto	10.02	10.01	476835	571294	153.796	146.655m
13)	2-Amino-4,6-Dini	10.50	10.51	368997	536326	113.201	110.565m
14)	4-Amino-2,6-Dini	11.00	11.04	160003	376115	70.586m	78.822m
16)	2,4-Dinitrotolue	11.91	11.91	577557	294553	121.759	96.942
17)	2,6-Dinitrotolue	12.36	12.36	744461	916183	272.411	263.378
18)	o-Nitrotoluene	15.34	15.34	543480	698028	240.114	234.774m
19)	p-Nitrotoluene	15.93	15.94	1170841	829960	342.353	309.727
20)	m-Nitrotoluene	16.82	16.83	639014	768397	190.542	196.065
21)	PETN	0.00	18.88	0	262847	N.D. d	201.564m

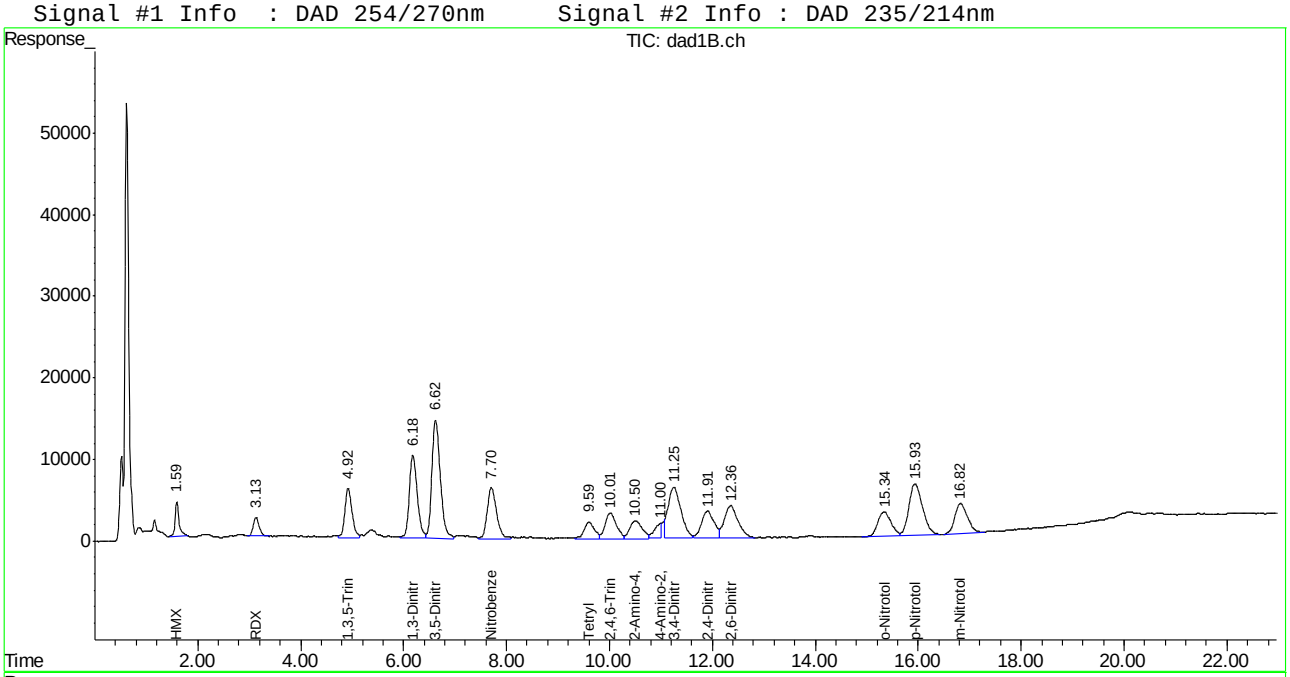
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB053732.D 8330B_0316PLUS.M Tue Mar 21 13:56:43 2017 Page 1

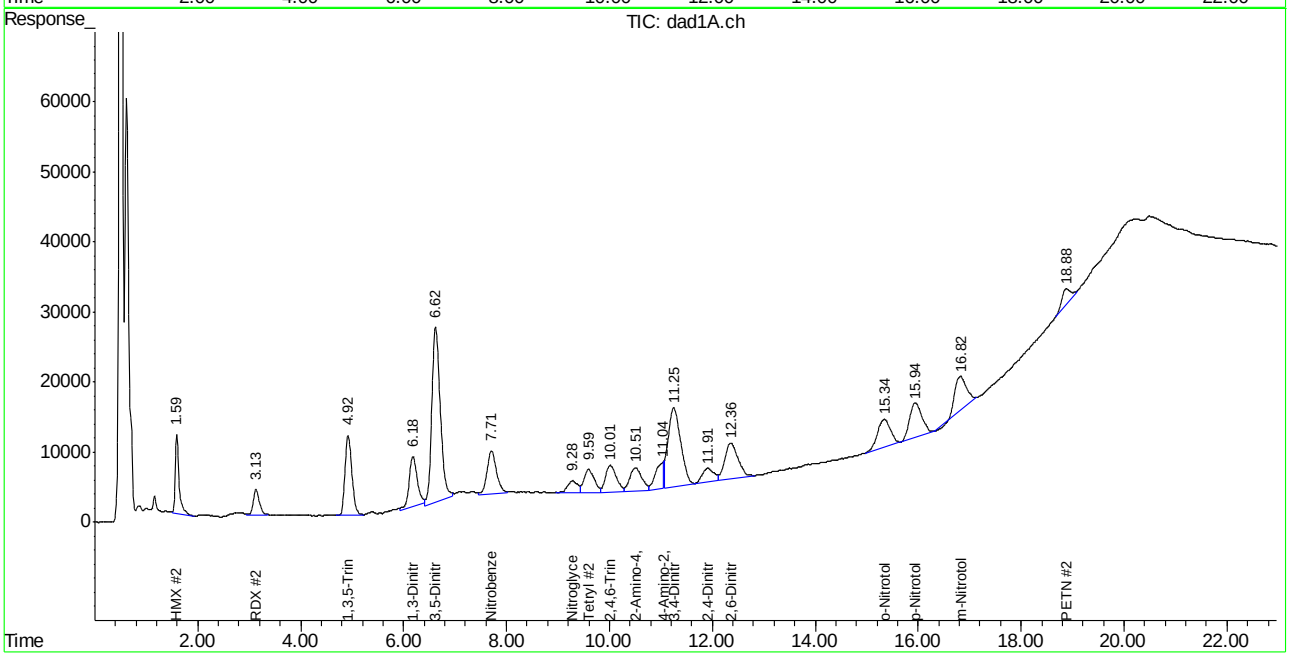
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0320BPL\BB053732.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0320BPL\BB053732.D\dad1A.ch
Acq On : 20-Mar-2017, 16:54:00 Operator: evitam
Sample : OP64214-PT1 Inst : G1315B
Misc : op64214,gbb1560,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 21 13:56 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

Sample Number: OP64214-PT1
Lab FileID: BB053732.D
Injection Time: 03/20/17 16:54
Method: SW846 8330B
Analyst approved: 03/21/17 13:57 Evita Martinez
Supervisor approved: 03/21/17 17:41 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	1.59	Poorly defined baseline
RDX	121-82-4	1	3.13	Poorly defined baseline
RDX	121-82-4	2	3.13	Poorly defined baseline
1,3,5-Trinitrobenzene	99-35-4	2	4.92	Poorly defined baseline
1,3-Dinitrobenzene	99-65-0	2	6.18	Poorly defined baseline
3,5-Dinitroaniline	618-87-1	2	6.62	Poorly defined baseline
Nitrobenzene	98-95-3	2	7.71	Poorly defined baseline
Nitroglycerine	55-63-0	2	9.28	Poorly defined baseline
Tetryl	479-45-8	2	9.59	Poorly defined baseline
2,4,6-Trinitrotoluene	118-96-7	2	10.01	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	10.51	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	1	11.00	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	2	11.04	Poorly defined baseline
3,4-Dinitrotoluene	610-39-9	1	11.25	Poorly defined baseline
3,4-Dinitrotoluene	610-39-9	2	11.25	Poorly defined baseline
o-Nitrotoluene	88-72-2	2	15.34	Poorly defined baseline
PETN	78-11-5	2	18.88	Poorly defined baseline

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
03/20/17 15:37

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0317BPL\BB053707.D\dad1B.ch Vial: 26
Signal #2 : C:\HPCHEM\1\DATA\0317BPL\BB053707.D\dad1A.ch
Acq On : 17-Mar-2017, 13:51:48 Operator: evitam
Sample : OP64158-MS Inst : G1315B
Misc : op64158,gbb1559,10.1,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 20 11:31:55 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.24	11.25	1114544	1891237	505.597	496.268
	Spiked Amount 500.000	Range 69 - 134		Recovery =		101.12%	99.25%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.60	1.60	904226	2463690	562.180	519.965
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	RDX	3.14	3.14	824943	1325786	441.774	448.821
6)	1,3,5-Trinitrobe	4.93	4.93	1812410	3479682	454.179	424.632
7)	1,3-Dinitrobenze	6.19	6.19	2422003	1929939	467.813	498.838
8)	3,5-Dinitroanili	6.64	6.63	1910130	3184269	485.467	480.788m
9)	Nitrobenzene	7.71	7.71	1532010	1456065	470.894	474.863m
10)	Nitroglycerin	0.00	9.30	0	3111486	N.D. d	2568.950
11)	Tetryl	9.62	9.62	1106193	1976373	537.377	645.318
12)	2,4,6-Trinitroto	10.04	10.04	1521256	1954466	490.659	501.725
13)	2-Amino-4,6-Dini	10.53	10.53	1520604	2337349	466.492	468.495
14)	4-Amino-2,6-Dini	11.01	11.01	1007647	2105317	444.528	428.909
16)	2,4-Dinitrotolue	11.92	11.92	2243591	1431234	463.384	471.040
17)	2,6-Dinitrotolue	12.37	12.37	1319313	1690195	477.360	485.886
18)	o-Nitrotoluene	15.34	15.34	1064602	1498071	465.939	496.481m
19)	p-Nitrotoluene	15.95	15.95	1570681	1201445	456.185	442.604
20)	m-Nitrotoluene	16.83	16.83	1576278	1859590	470.017	474.493m
21)	PETN	0.00	18.86	0	3420065	N.D. d	2520.563m

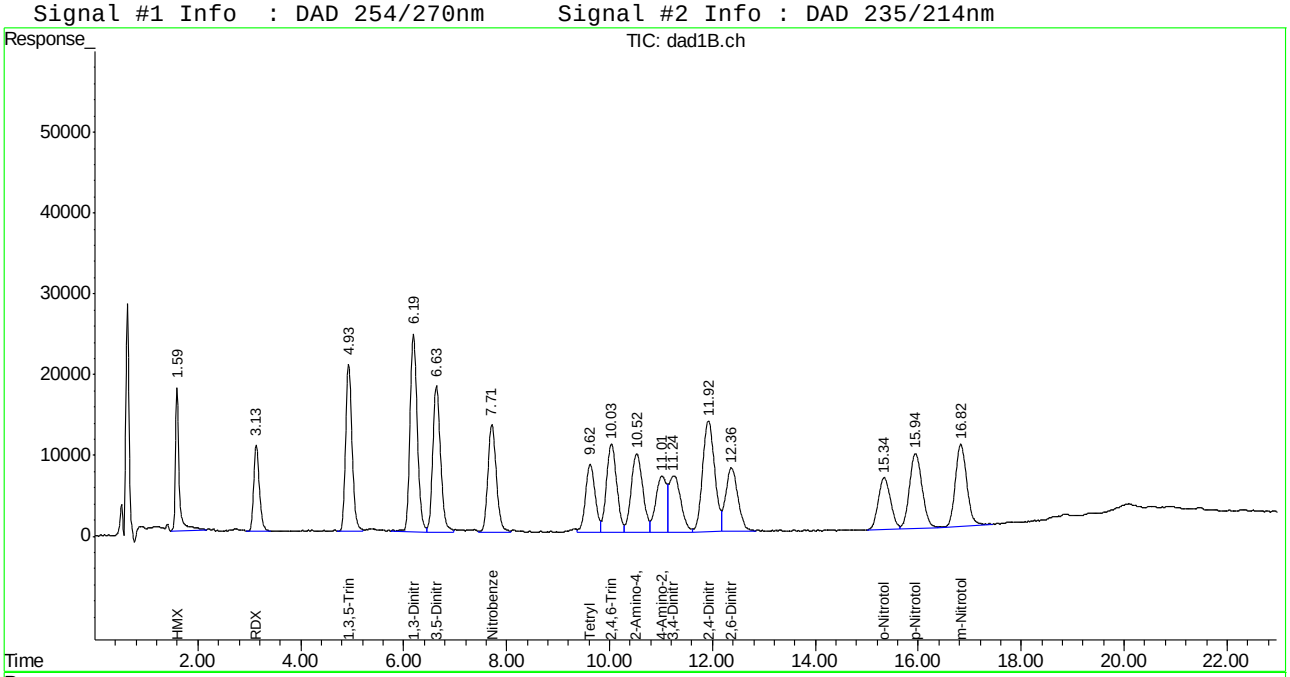
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB053707.D 8330B_0316PLUS.M Mon Mar 20 12:08:33 2017 Page 1

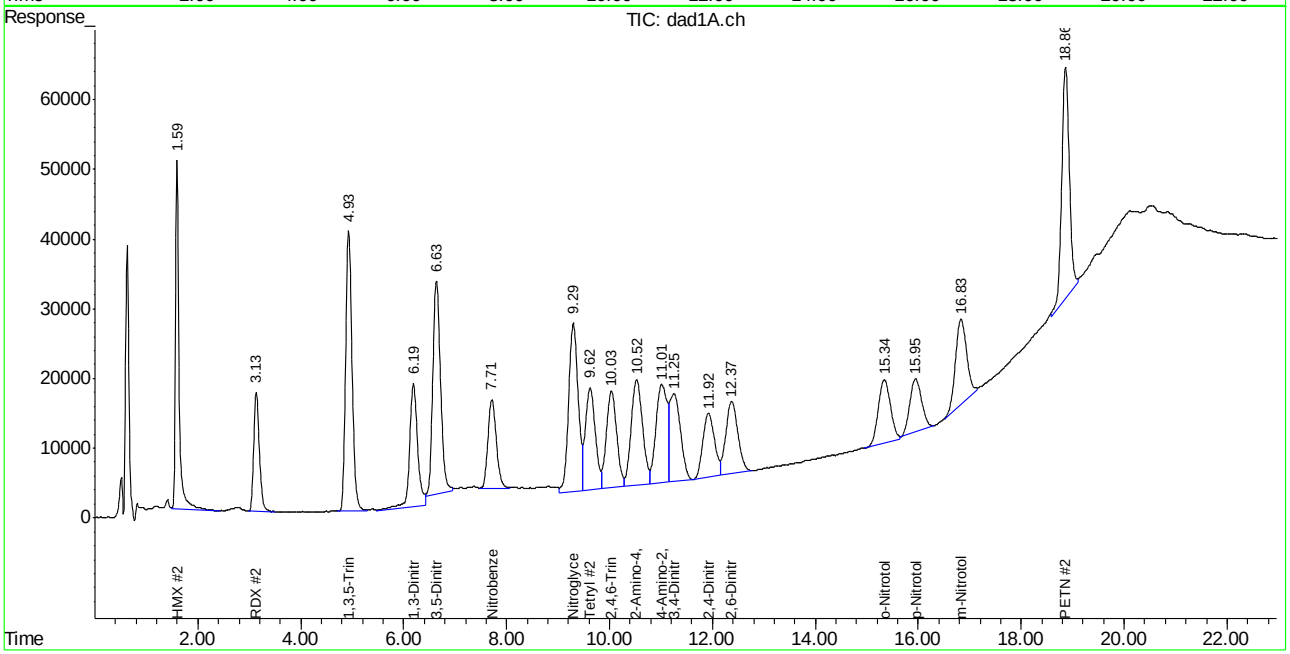
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0317BPL\BB053707.D\dad1B.ch Vial: 26
Signal #2 : C:\HPCHEM\1\DATA\0317BPL\BB053707.D\dad1A.ch
Acq On : 17-Mar-2017, 13:51:48 Operator: evitam
Sample : OP64158-MS Inst : G1315B
Misc : op64158,gbb1559,10.1,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 20 11:41 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

Sample Number: OP64158-MS
Lab FileID: BB053707.D
Injection Time: 03/17/17 13:51
Method: SW846 8330B
Analyst approved: 03/20/17 12:13 Evita Martinez
Supervisor approved: 03/20/17 15:37 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
3,5-Dinitroaniline	618-87-1	2	6.63	Poorly defined baseline
Nitrobenzene	98-95-3	2	7.71	Poorly defined baseline
o-Nitrotoluene	88-72-2	2	15.34	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	16.83	Poorly defined baseline
PETN	78-11-5	2	18.86	Poorly defined baseline

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
03/20/17 15:37

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0317BPL\BB053708.D\dad1B.ch Vial: 27
Signal #2 : C:\HPCHEM\1\DATA\0317BPL\BB053708.D\dad1A.ch
Acq On : 17-Mar-2017, 14:21:43 Operator: evitam
Sample : OP64158-MSD Inst : G1315B
Misc : op64158,gbb1559,10.1,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 20 11:31:56 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.26	11.25	1091743	1900351	495.542	498.563
	Spiked Amount 500.000	Range 69 - 134		Recovery =		99.11%	99.71%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.59	1.59	865438	2279728	538.065	481.448
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	RDX	3.14	3.14	822028	1329842	440.213	450.194
6)	1,3,5-Trinitrobe	4.93	4.93	1761545	3477023	441.433	424.316
7)	1,3-Dinitrobenze	6.19	6.19	2381577	1957483	460.005	505.957
8)	3,5-Dinitroanili	6.64	6.64	1881697	3254504	478.241	491.392m
9)	Nitrobenzene	7.72	7.72	1489048	1478871	457.882	482.060m
10)	Nitroglycerin	0.00	9.30	0	3140282	N.D. d	2592.134
11)	Tetryl	9.62	9.62	1102230	1987181	535.452	648.847
12)	2,4,6-Trinitroto	10.04	10.04	1529180	1962438	493.215	503.771
13)	2-Amino-4,6-Dini	10.53	10.53	1526375	2351573	468.263	471.245
14)	4-Amino-2,6-Dini	11.02	11.02	1041934	2121631	459.653	432.122
16)	2,4-Dinitrotolue	11.93	11.93	2240912	1438447	462.846	473.415
17)	2,6-Dinitrotolue	12.38	12.38	1343794	1721175	485.989	494.793
18)	o-Nitrotoluene	15.35	15.34	1044660	1468639	457.374	486.986m
19)	p-Nitrotoluene	15.95	15.96	1543532	1155569	448.503	426.372
20)	m-Nitrotoluene	16.83	16.83	1547780	1781018	461.520	454.445m
21)	PETN	0.00	18.86	0	3496761	N.D. d	2574.746m

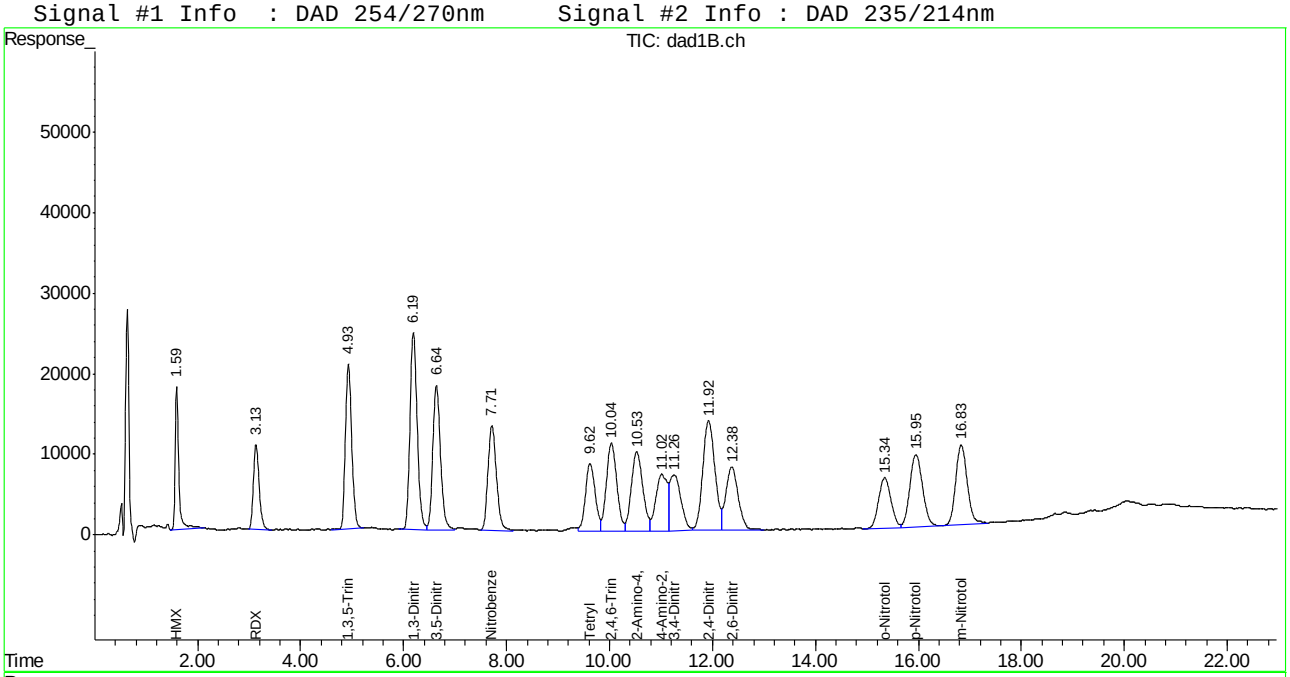
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB053708.D 8330B_0316PLUS.M Mon Mar 20 12:08:34 2017 Page 1

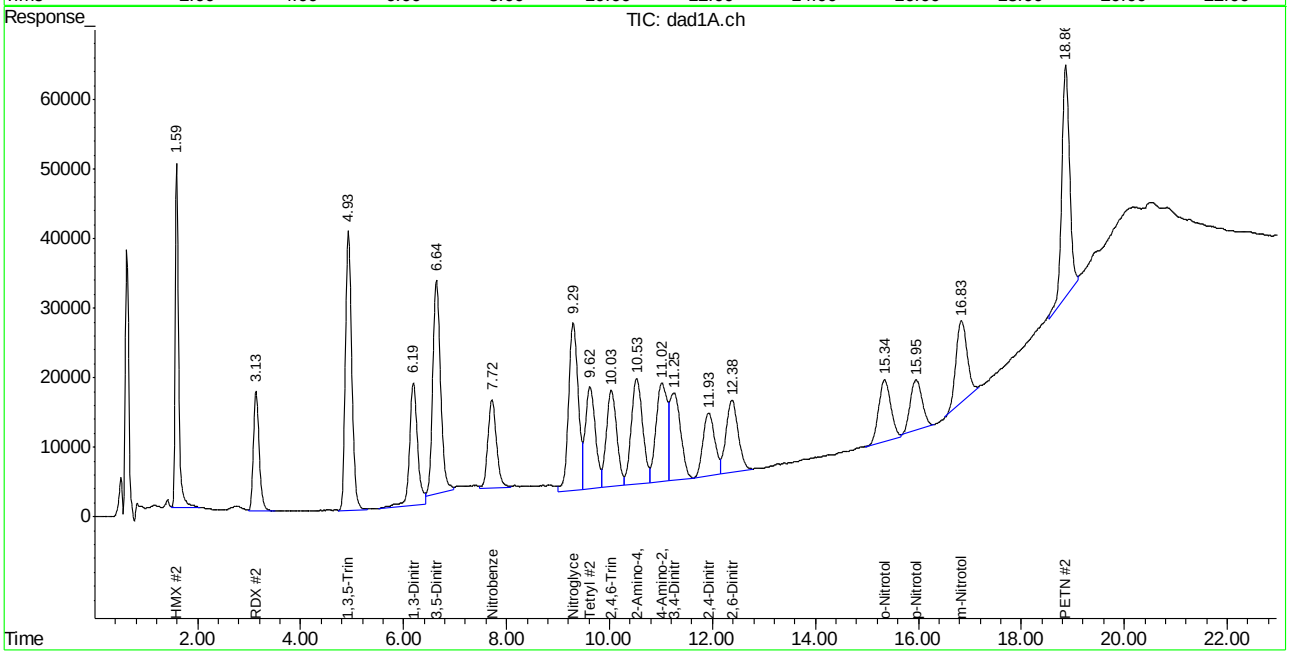
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0317BPL\BB053708.D\dad1B.ch Vial: 27
Signal #2 : C:\HPCHEM\1\DATA\0317BPL\BB053708.D\dad1A.ch
Acq On : 17-Mar-2017, 14:21:43 Operator: evitam
Sample : OP64158-MSD Inst : G1315B
Misc : op64158,gbb1559,10.1,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 20 11:42 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

Sample Number: OP64158-MSD
Lab FileID: BB053708.D
Injection Time: 03/17/17 14:21
Method: SW846 8330B
Analyst approved: 03/20/17 12:13 Evita Martinez
Supervisor approved: 03/20/17 15:37 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
3,5-Dinitroaniline	618-87-1	2	6.64	Poorly defined baseline
Nitrobenzene	98-95-3	2	7.72	Poorly defined baseline
o-Nitrotoluene	88-72-2	2	15.34	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	16.83	Poorly defined baseline
PETN	78-11-5	2	18.86	Poorly defined baseline

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
03/21/17 17:41

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0320BPL\BB053735.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0320BPL\BB053735.D\dad1A.ch
Acq On : 20-Mar-2017, 18:23:52 Operator: evitam
Sample : OP64214-MS Inst : G1315B
Misc : op64214,gbb1560,10.1,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 21 10:05:58 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.24	11.23	1278057	2064385	577.372	539.737
	Spiked Amount 500.000	Range 69 - 134		Recovery =		115.47%	107.95%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.60	1.60	922475	2384636	573.526	503.419
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	3.14	3.13	817283	1420657	437.672	480.938m
6)	1,3,5-Trinitrobe	4.93	4.93	1681581	3304088	421.394	403.739
7)	1,3-Dinitrobenze	6.19	6.19	2299015	1758830	444.058	454.610
8)	3,5-Dinitroanili	6.63	6.63	1795562	3171338	456.349	478.835m
9)	Nitrobenzene	7.71	7.71	1488215	1482229	457.629	483.119m
10)	Nitroglycerin	0.00	9.29	0	2972669	N.D. d	2457.040
11)	Tetryl	9.61	9.61	990981	1926924	481.408	629.172
12)	2,4,6-Trinitroto	10.03	10.02	1465095	1846676	472.545	474.054
13)	2-Amino-4,6-Dini	10.51	10.51	1442073	2100476	442.400	422.520
14)	4-Amino-2,6-Dini	10.99	11.00	825790	1657387	364.300	340.060
16)	2,4-Dinitrotolue	11.91	11.92	2233482	1298176	461.352	427.249
17)	2,6-Dinitrotolue	12.36	12.37	1331024	1707757	481.489	490.935
18)	o-Nitrotoluene	15.34	15.35	1002510	1336974	439.250	444.387
19)	p-Nitrotoluene	15.95	15.96	1527366	934044	443.925	347.293
20)	m-Nitrotoluene	16.84	16.84	1540577	1735157	459.372	442.743
21)	PETN	0.00	18.86	0	3307952	N.D. d	2441.190m

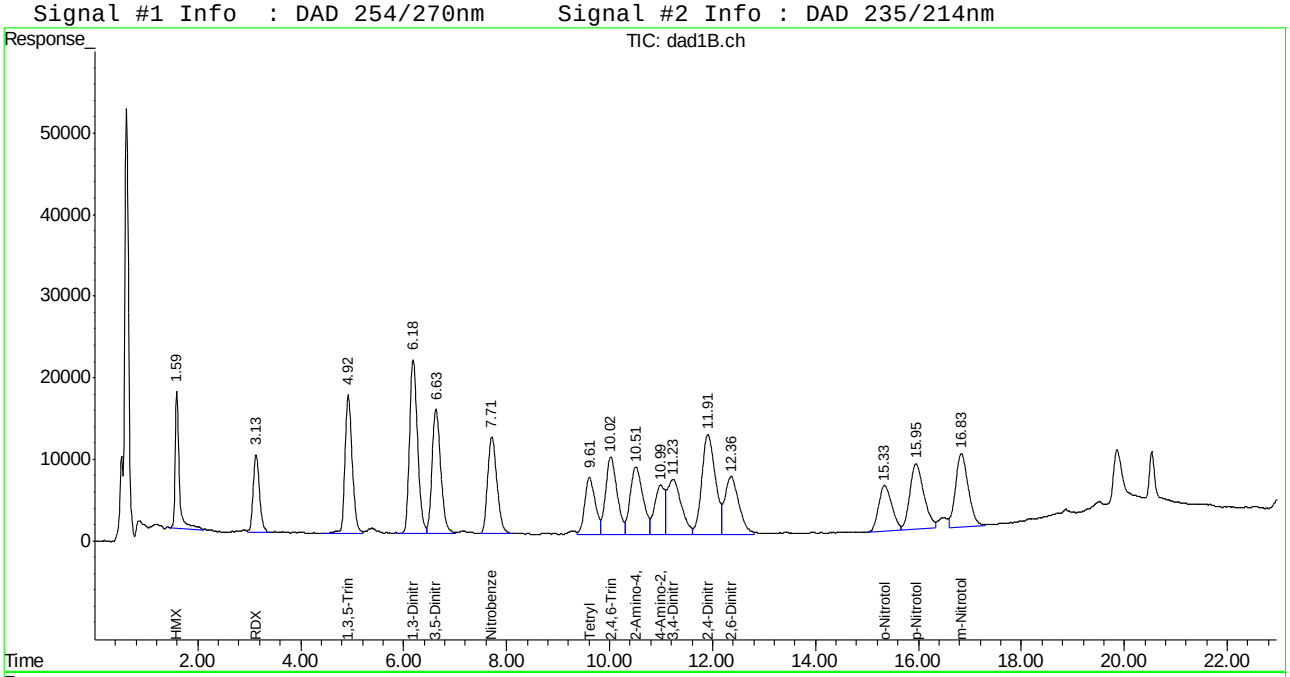
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB053735.D 8330B_0316PLUS.M Tue Mar 21 11:10:56 2017 Page 1

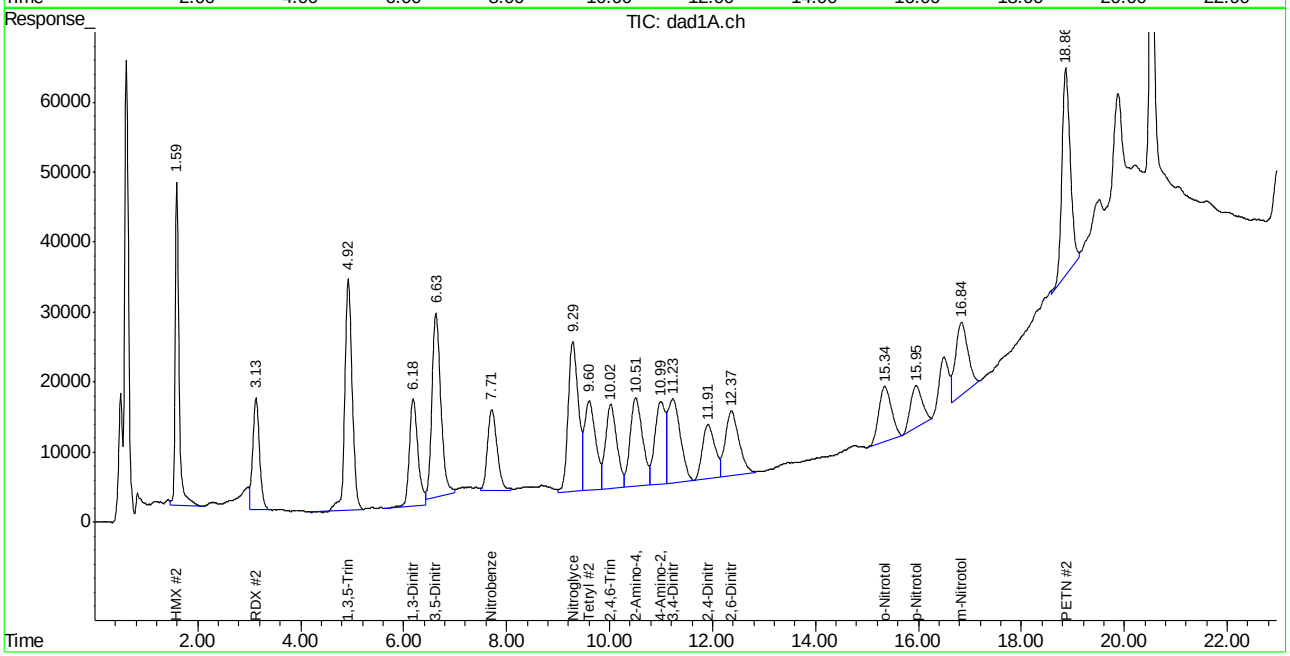
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0320BPL\BB053735.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0320BPL\BB053735.D\dad1A.ch
Acq On : 20-Mar-2017, 18:23:52 Operator: evitam
Sample : OP64214-MS Inst : G1315B
Misc : op64214,gbb1560,10.1,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 21 10:17 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

Sample Number: OP64214-MS
Lab FileID: BB053735.D
Injection Time: 03/20/17 18:23
Method: SW846 8330B
Analyst approved: 03/21/17 11:29 Evita Martinez
Supervisor approved: 03/21/17 17:41 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
RDX	121-82-4	2	3.13	Poorly defined baseline
3,5-Dinitroaniline	618-87-1	2	6.63	Poorly defined baseline
Nitrobenzene	98-95-3	2	7.71	Poorly defined baseline
PETN	78-11-5	2	18.86	Poorly defined baseline

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
03/21/17 17:41

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0320BPL\BB053736.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\0320BPL\BB053736.D\dad1A.ch
Acq On : 20-Mar-2017, 18:53:47 Operator: evitam
Sample : OP64214-MSD Inst : G1315B
Misc : op64214,gbb1560,10.1,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 21 10:05:59 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.24	11.24	1289188	2021449	582.237	528.986
Spiked Amount	500.000	Range 69 - 134		Recovery =		116.45%	105.80%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.60	1.60	1012800	2347724	629.683	495.691
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	3.14	3.13	792104	1416124	424.188	479.403m
6)	1,3,5-Trinitrobe	4.93	4.93	1603045	3330515	401.714	406.887
7)	1,3-Dinitrobenze	6.19	6.19	2342820	1767267	452.519	456.791
8)	3,5-Dinitroanili	6.63	6.63	1838673	3210888	467.306	484.807m
9)	Nitrobenzene	7.72	7.71	1522233	1427136	467.934	465.725m
10)	Nitroglycerin	0.00	9.29	0	2959920	N.D. d	2446.750
11)	Tetryl	9.61	9.61	1000466	1904537	486.016	621.862
12)	2,4,6-Trinitroto	10.03	10.03	1470191	1830524	474.189	469.908
13)	2-Amino-4,6-Dini	10.52	10.52	1463156	2096294	448.868	421.706
14)	4-Amino-2,6-Dini	11.00	11.00	823018	1646245	363.078	337.834
16)	2,4-Dinitrotolue	11.92	11.92	2254885	1271325	465.654	418.412
17)	2,6-Dinitrotolue	12.36	12.37	1338987	1713571	484.295	492.606
18)	o-Nitrotoluene	15.35	15.35	1007464	1276499	441.382	424.754
19)	p-Nitrotoluene	15.96	15.96	1517542	899731	441.143	334.938
20)	m-Nitrotoluene	16.84	16.84	1543212	1731327	460.158	441.766
21)	PETN	0.00	18.86	0	3193956	N.D. d	2360.274m

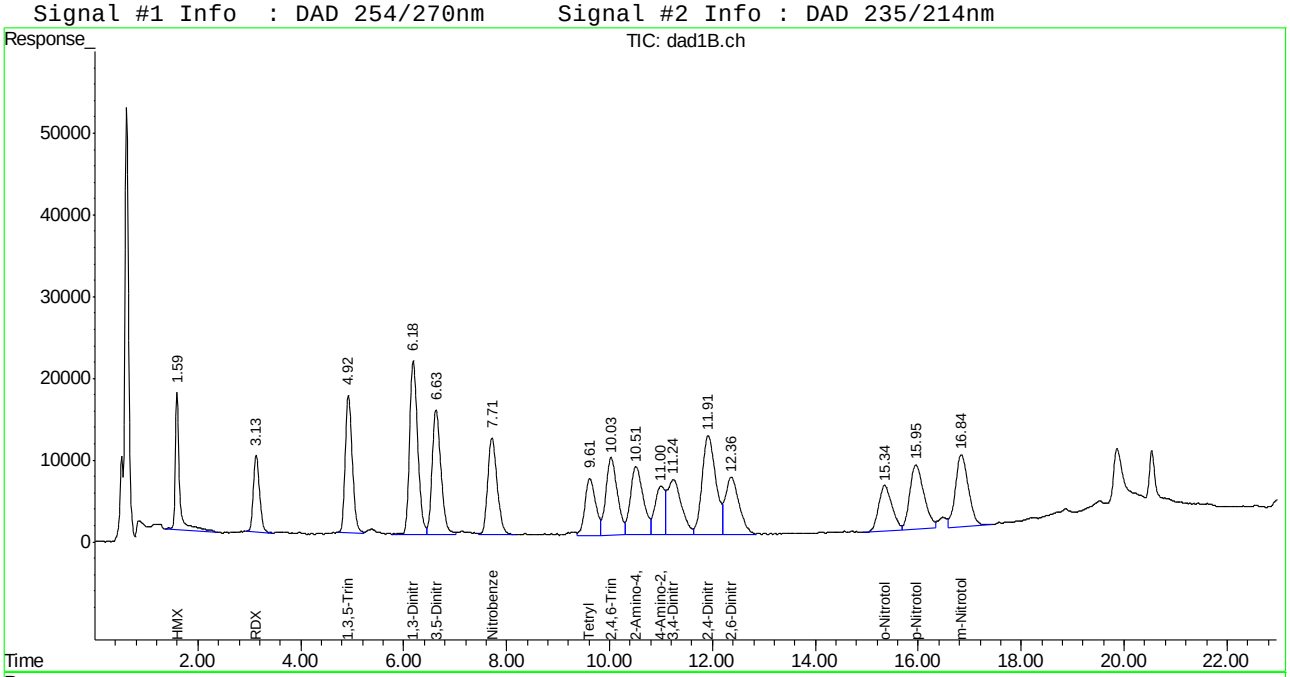
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB053736.D 8330B_0316PLUS.M Tue Mar 21 11:10:57 2017 Page 1

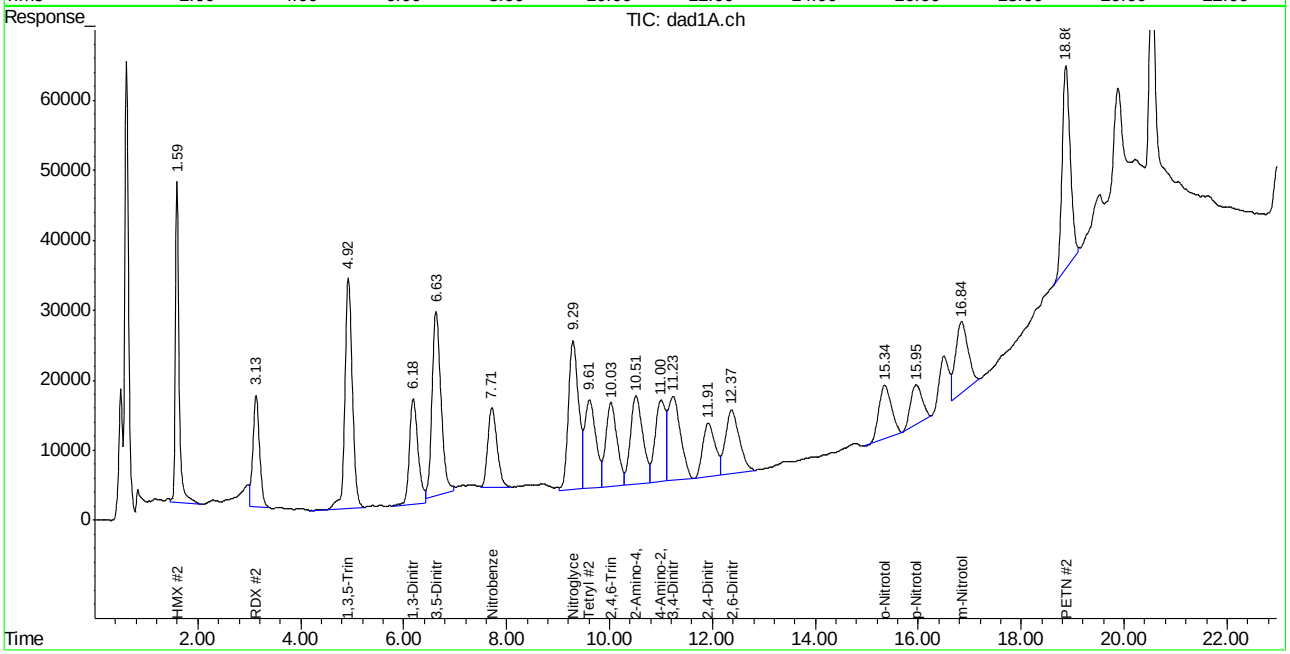
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0320BPL\BB053736.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\0320BPL\BB053736.D\dad1A.ch
Acq On : 20-Mar-2017, 18:53:47 Operator: evitam
Sample : OP64214-MSD Inst : G1315B
Misc : op64214,gbb1560,10.1,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 21 10:18 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

Sample Number: OP64214-MSD
Lab FileID: BB053736.D
Injection Time: 03/20/17 18:53
Method: SW846 8330B
Analyst approved: 03/21/17 11:29 Evita Martinez
Supervisor approved: 03/21/17 17:41 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
RDX	121-82-4	2	3.13	Poorly defined baseline
3,5-Dinitroaniline	618-87-1	2	6.63	Poorly defined baseline
Nitrobenzene	98-95-3	2	7.71	Poorly defined baseline
PETN	78-11-5	2	18.86	Poorly defined baseline

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
03/20/17 15:37

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0317BPL\BB053711.D\dad1B.ch Vial: 30
Signal #2 : C:\HPCHEM\1\DATA\0317BPL\BB053711.D\dad1A.ch
Acq On : 17-Mar-2017, 15:51:35 Operator: evitam
Sample : OP64158-DUP Inst : G1315B
Misc : op64158,gbb1559,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 20 11:31:59 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.27	11.27	927240	1653092	422.660	435.980m
Spiked Amount	500.000	Range	69 - 134	Recovery	=	84.53%	87.20%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

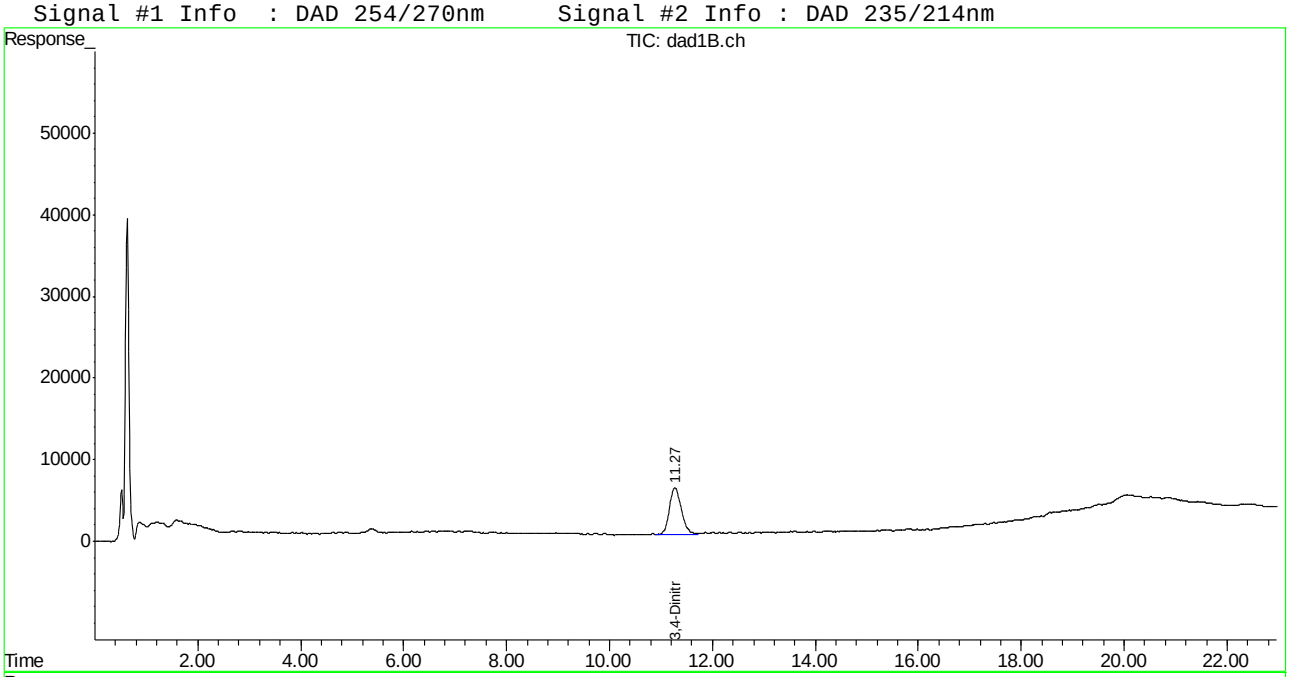
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB053711.D 8330B_0316PLUS.M Mon Mar 20 12:08:37 2017 Page 1

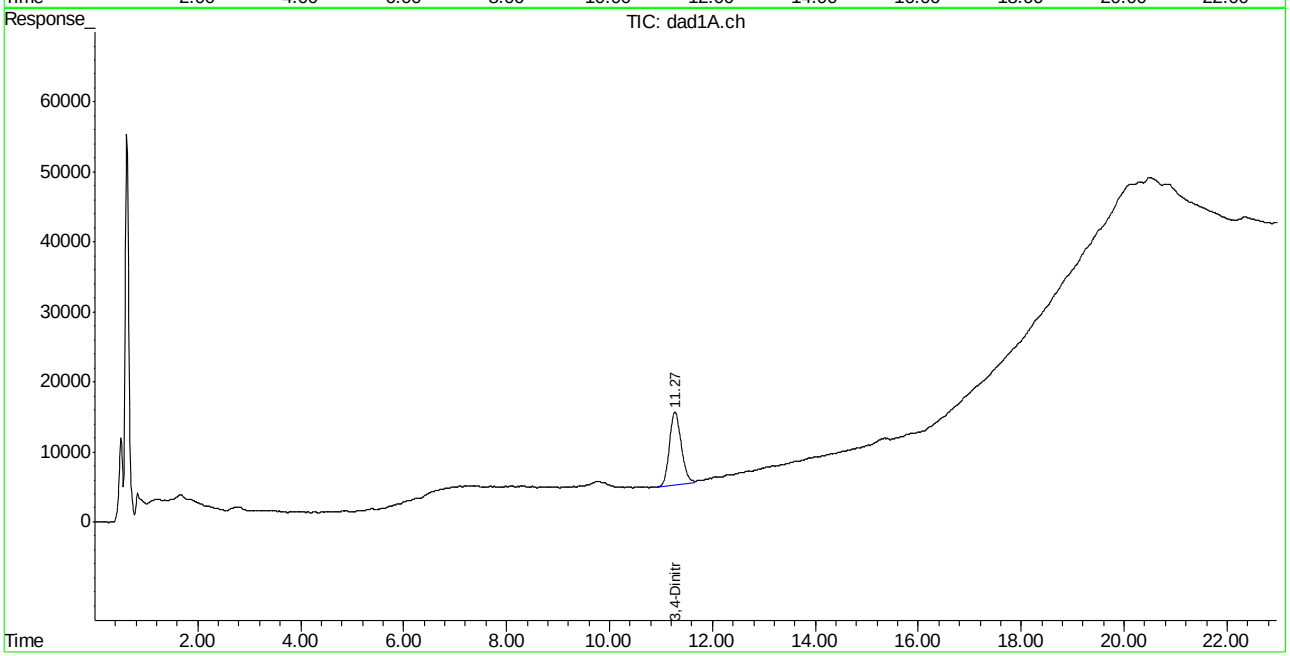
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0317BPL\BB053711.D\dad1B.ch Vial: 30
Signal #2 : C:\HPCHEM\1\DATA\0317BPL\BB053711.D\dad1A.ch
Acq On : 17-Mar-2017, 15:51:35 Operator: evitam
Sample : OP64158-DUP Inst : G1315B
Misc : op64158,gbb1559,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 20 12:06 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





BB053711.D 8330B_0316PLUS.M Mon Mar 20 12:08:37 2017 Page 2

Manual Integration Approval Summary

Sample Number: OP64158-DUP
Lab FileID: BB053711.D
Injection Time: 03/17/17 15:51

Method: SW846 8330B
Analyst approved: 03/20/17 12:13 Evita Martinez
Supervisor approved: 03/20/17 15:37 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
3,4-Dinitrotoluene	610-39-9	2	11.27	Poorly defined baseline

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0317BPL\BB053712.D\dad1B.ch Vial: 31
Signal #2 : C:\HPCHEM\1\DATA\0317BPL\BB053712.D\dad1A.ch
Acq On : 17-Mar-2017, 16:21:36 Operator: evitam
Sample : OP64158-DUP2 Inst : G1315B
Misc : op64158,gbb1559,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 20 11:32:00 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
15) S 3,4-Dinitrotolue	11.28	11.28	941100	1621993	428.823	428.064
Spiked Amount 500.000	Range 69 - 134		Recovery =		85.76%	85.61%
Target Compounds						
1) TNX	0.00	0.00	0	0	N.D. d	N.D. d
2) HMX	0.00	0.00	0	0	N.D. d	N.D. d
3) DNX	0.00	0.00	0	0	N.D. d	N.D. d
4) MNX	0.00	0.00	0	0	N.D. d	N.D. d
5) RDX	0.00	0.00	0	0	N.D. d	N.D. d
6) 1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
7) 1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8) 3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9) Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10) Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11) Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12) 2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
13) 2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
14) 4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16) 2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17) 2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18) o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19) p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20) m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21) PETN	0.00	0.00	0	0	N.D. d	N.D. d

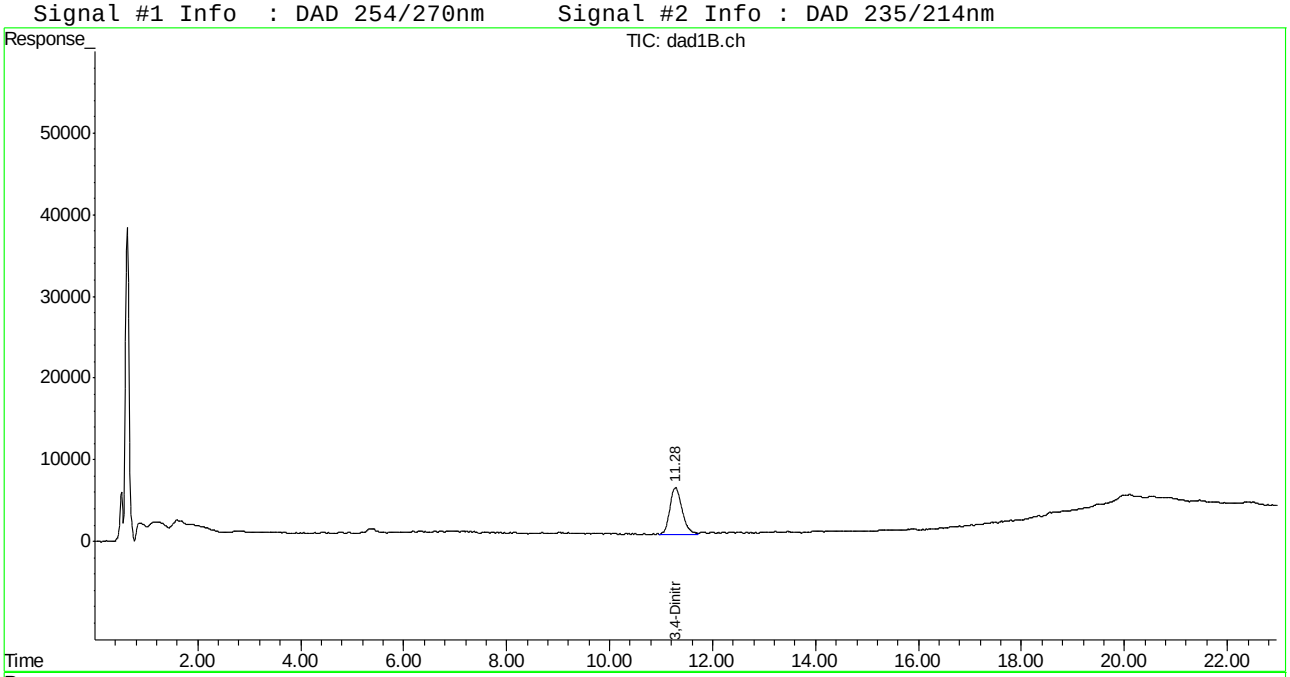
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB053712.D 8330B_0316PLUS.M Mon Mar 20 12:08:38 2017 Page 1

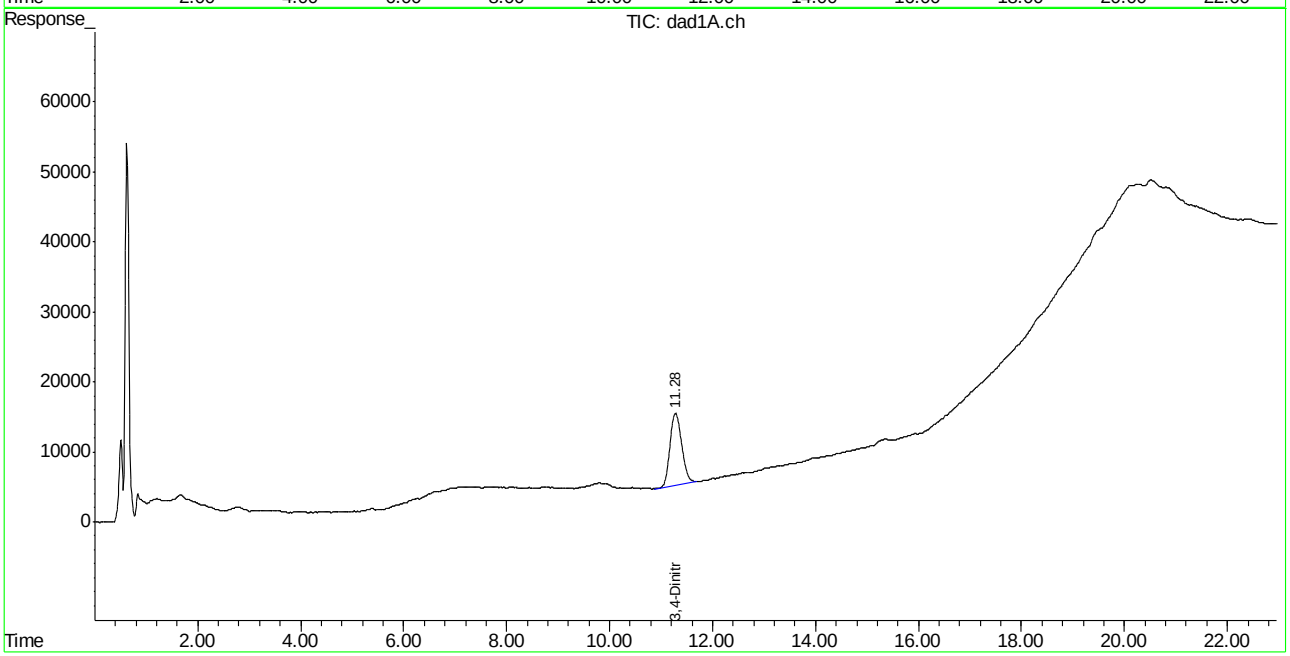
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0317BPL\BB053712.D\dad1B.ch Vial: 31
Signal #2 : C:\HPCHEM\1\DATA\0317BPL\BB053712.D\dad1A.ch
Acq On : 17-Mar-2017, 16:21:36 Operator: evitam
Sample : OP64158-DUP2 Inst : G1315B
Misc : op64158,gbb1559,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 20 12:06 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0320BPL\BB053737.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0320BPL\BB053737.D\dad1A.ch
Acq On : 20-Mar-2017, 19:23:45 Operator: evitam
Sample : OP64214-DUP Inst : G1315B
Misc : op64214,gbb1560,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 21 10:06:00 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.28	11.28	1033772	1726105	469.927	454.527
	Spiked Amount 500.000	Range 69 - 134		Recovery =		93.99%	90.91%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

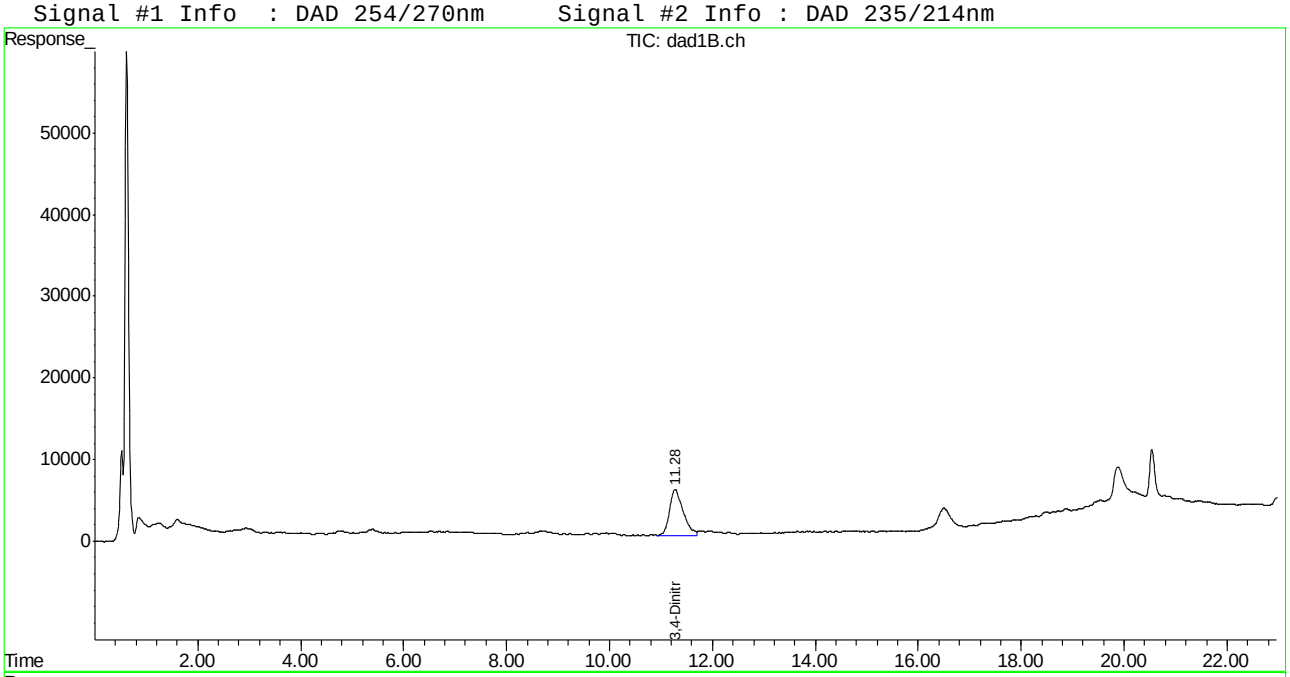
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB053737.D 8330B_0316PLUS.M Tue Mar 21 11:10:58 2017 Page 1

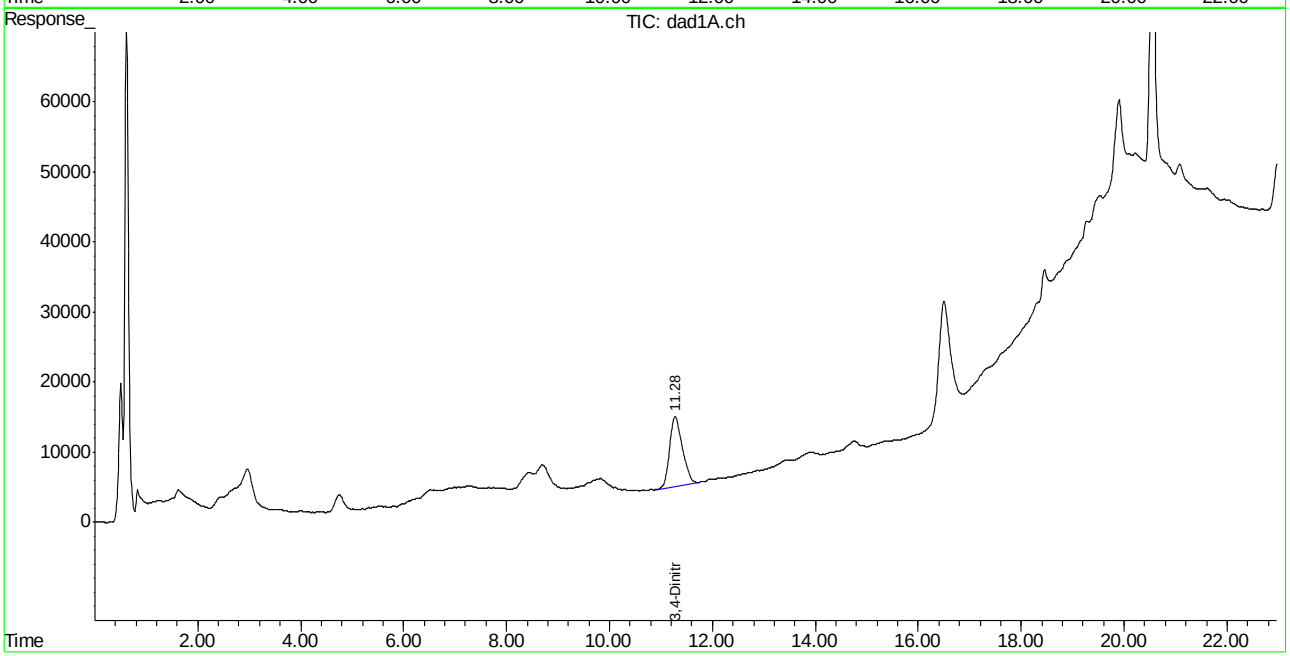
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0320BPL\BB053737.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0320BPL\BB053737.D\dad1A.ch
Acq On : 20-Mar-2017, 19:23:45 Operator: evitam
Sample : OP64214-DUP Inst : G1315B
Misc : op64214,gbb1560,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 21 10:19 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





BB053737.D 8330B_0316PLUS.M Tue Mar 21 11:10:58 2017 Page 2

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0320BPL\BB053739.D\dad1B.ch Vial: 11
Signal #2 : C:\HPCHEM\1\DATA\0320BPL\BB053739.D\dad1A.ch
Acq On : 20-Mar-2017, 20:23:42 Operator: evitam
Sample : op64214-dup2 Inst : G1315B
Misc : op64214,gbb1560,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 21 10:06:02 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.27	11.27	1032771	1693468	469.484	446.243
Spiked Amount	500.000	Range 69 - 134		Recovery =		93.90%	89.25%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

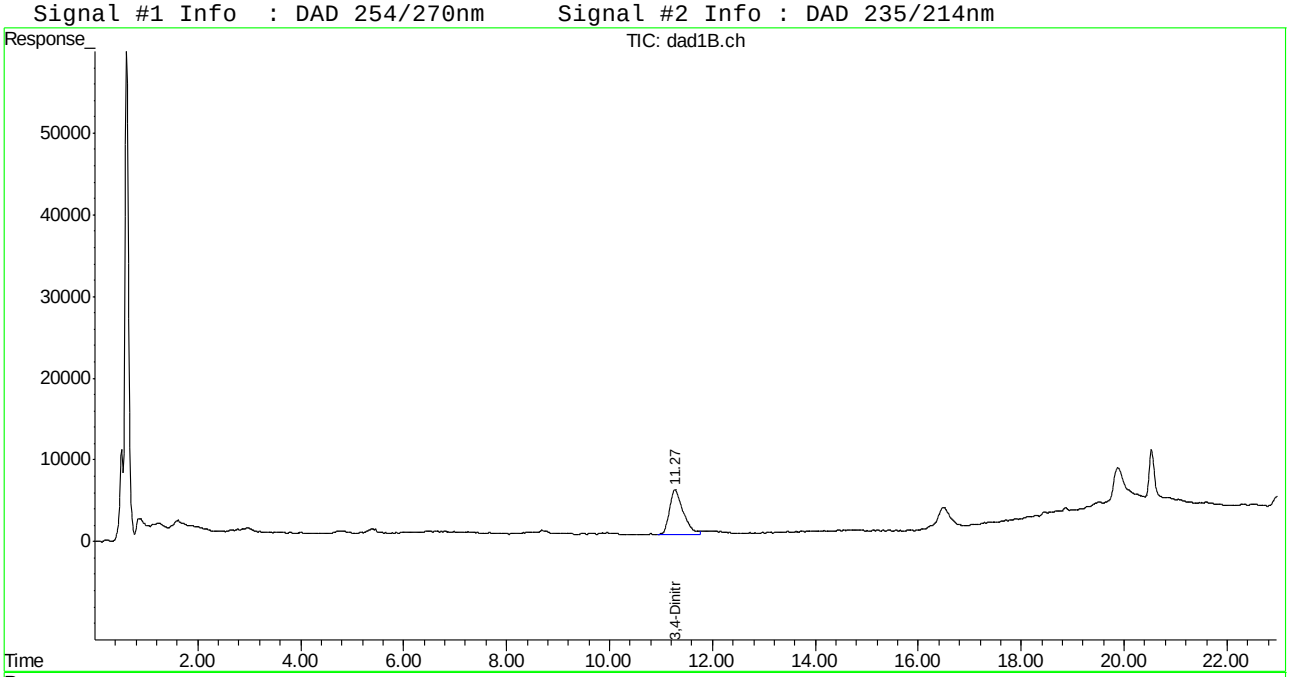
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB053739.D 8330B_0316PLUS.M Tue Mar 21 11:10:59 2017 Page 1

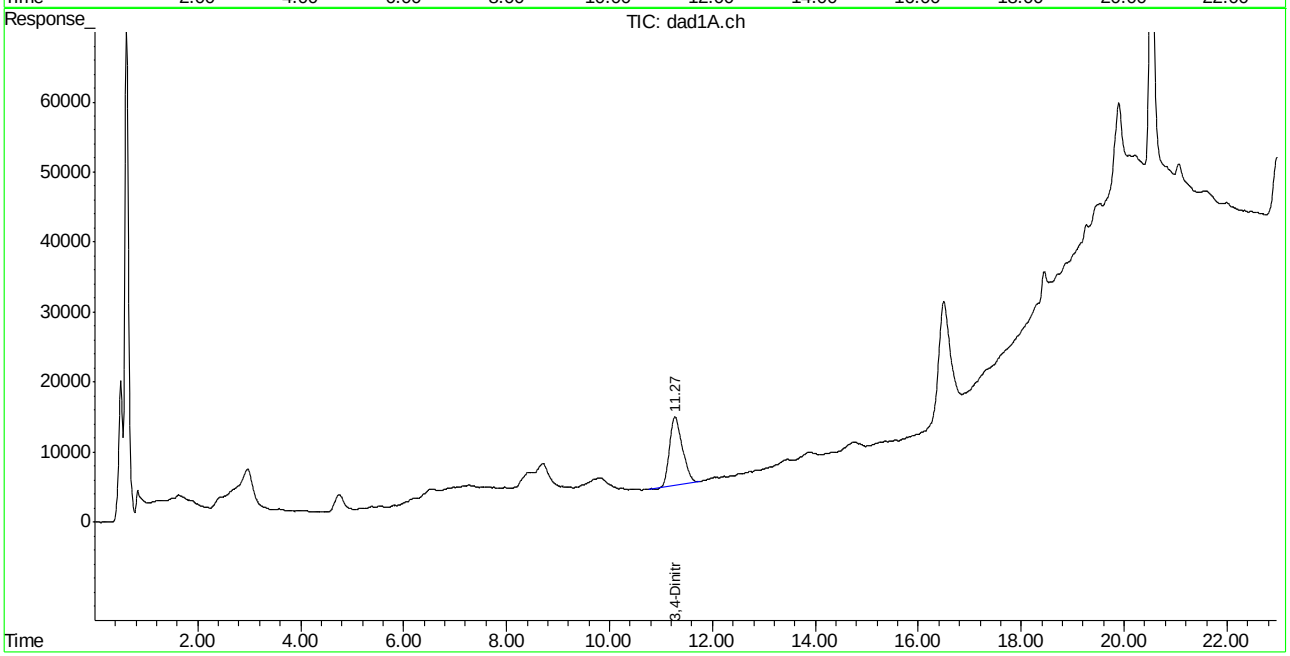
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0320BPL\BB053739.D\dad1B.ch Vial: 11
Signal #2 : C:\HPCHEM\1\DATA\0320BPL\BB053739.D\dad1A.ch
Acq On : 20-Mar-2017, 20:23:42 Operator: evitam
Sample : op64214-dup2 Inst : G1315B
Misc : op64214,gbb1560,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 21 10:20 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
03/20/17 10:31

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053669.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053669.D\dad1A.ch
Acq On : 16-Mar-2017, 11:25:18 Operator: evitam
Sample : IC1558-20 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:12:44 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.13	11.13	25096	25783	10.002m	6.091
Spiked Amount	500.000	Range	70 - 136	Recovery	=	2.00%#	1.22%#
	Target Compounds						
1)	TNX	1.42	1.42	45737	67923	13.493	12.352
2)	HMX	1.54	1.54	23029	60954	11.925	11.044
3)	DNX	1.81	1.81	40578	101103	12.752	20.184m#
4)	MNX	2.41	2.41	28134	42437	11.132m	10.668
5)	RDX	3.04	3.04	27238	47886	12.462	13.784
6)	1,3,5-Trinitrobe	4.79	4.79	67786	117435	14.288	12.757
7)	1,3-Dinitrobenze	6.07	6.06	75342	76834	12.317	17.730m#
8)	3,5-Dinitroanili	6.53	6.53	60531	103965	13.767	14.294m
9)	Nitrobenzene	7.64	7.62	42846	41583	12.020m	12.361m
10)	Nitroglycerin	0.00	9.08	0	58914	N.D. d	44.244m
11)	Tetryl	9.35	9.42	49159	49573	21.840m	15.787m
12)	2,4,6-Trinitroto	9.88	9.88	56736	56137	15.387	12.444m
13)	2-Amino-4,6-Dini	10.39	10.37	57261	73654	13.852	12.858m
14)	4-Amino-2,6-Dini	10.80	10.86	40315	76109	13.653m	13.507
16)	2,4-Dinitrotolue	11.81	11.87	59724	51299	10.864m	15.239 #
17)	2,6-Dinitrotolue	12.28	12.29	35237	50479	11.057m	13.143m
18)	o-Nitrotoluene	15.28	15.37	28655	32140	11.208	9.890m
19)	p-Nitrotoluene	15.92	15.96	41475	8146	10.660m	2.474 #
20)	m-Nitrotoluene	16.78	16.84	51461	79872	13.256m	18.200m
21)	PETN	0.00	18.90	0	74543	N.D.	49.116m#

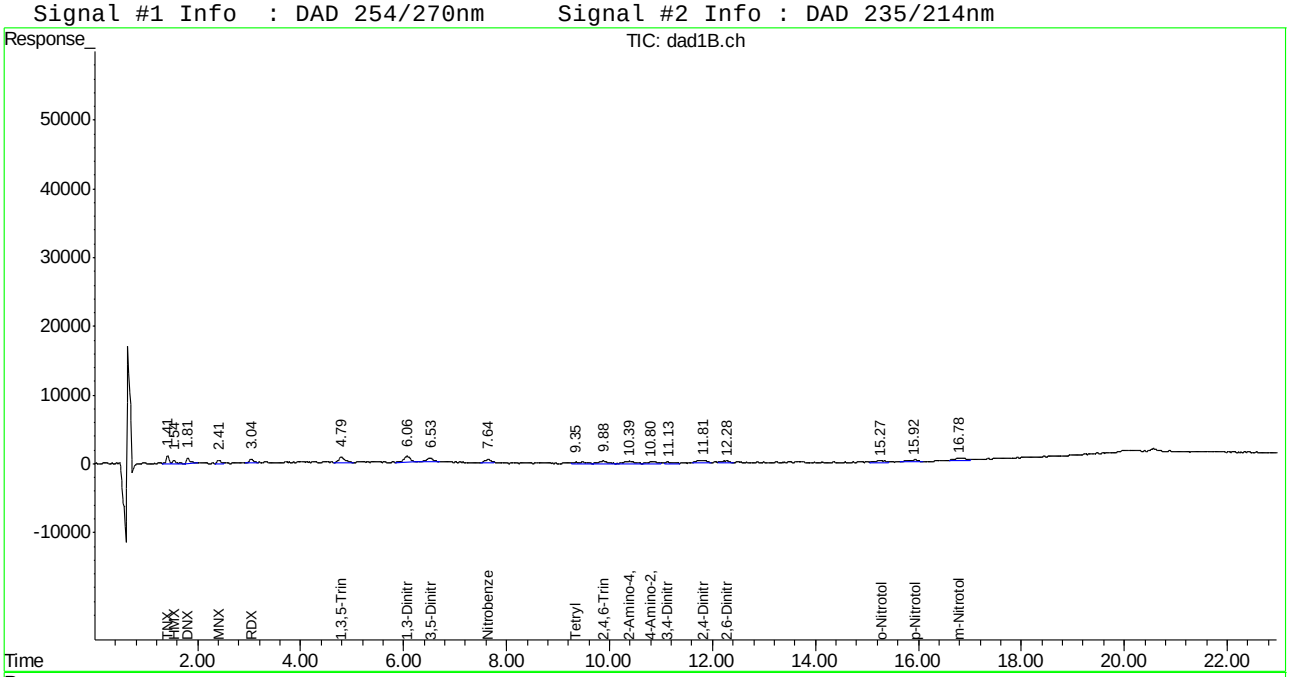
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB053669.D 8330B_0316PLUS.M Fri Mar 17 11:42:09 2017 Page 1

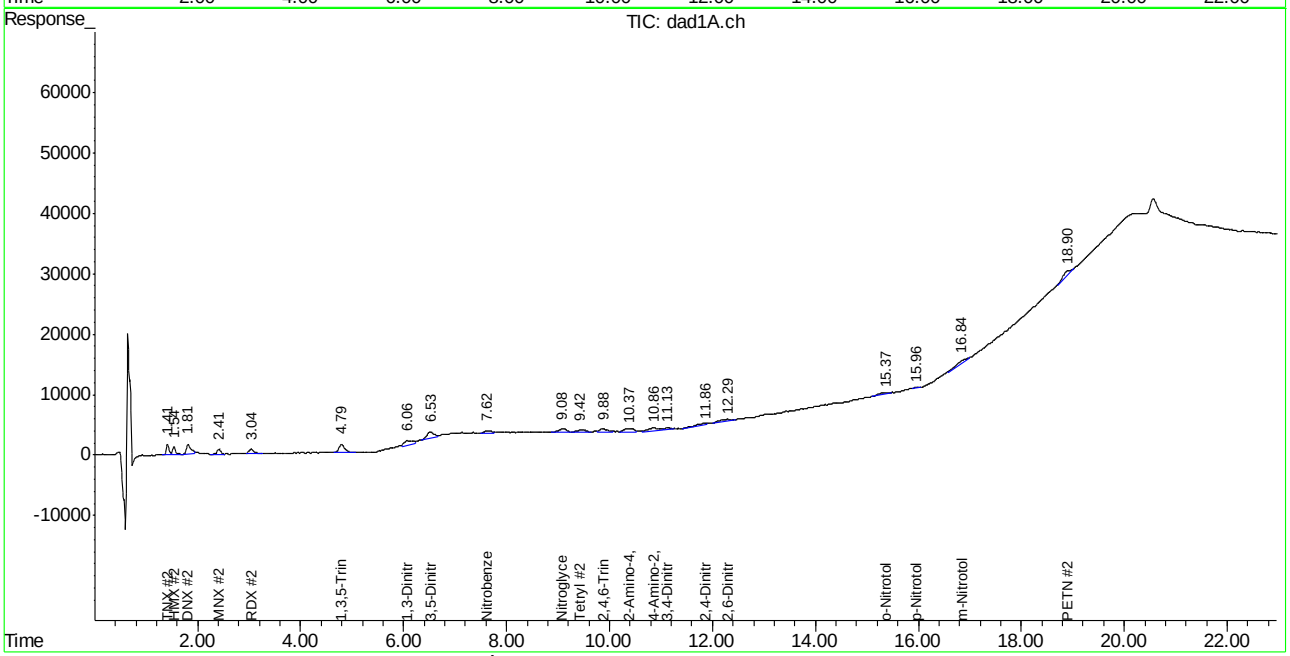
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053669.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053669.D\dad1A.ch
Acq On : 16-Mar-2017, 11:25:18 Operator: evitam
Sample : IC1558-20 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:16 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

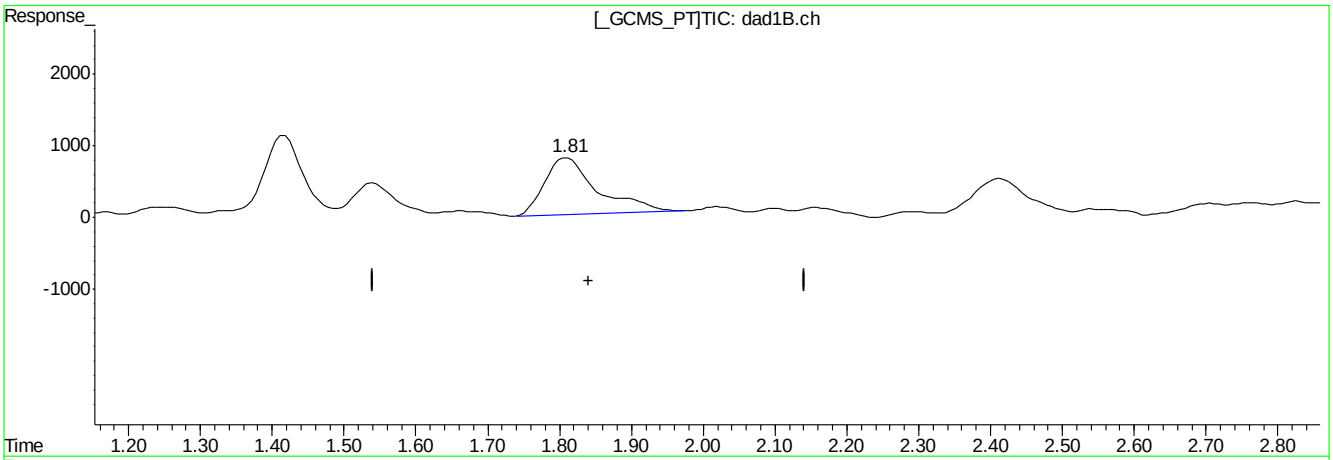
Sample Number: GBB1558-IC1558 **Method:** SW846 8330A
Lab FileID: BB053669.D **Analyst approved:** 03/20/17 10:30 Mike Eger
Injection Time: 03/16/17 11:25 **Supervisor approved:** 03/20/17 10:31 Mike Eger

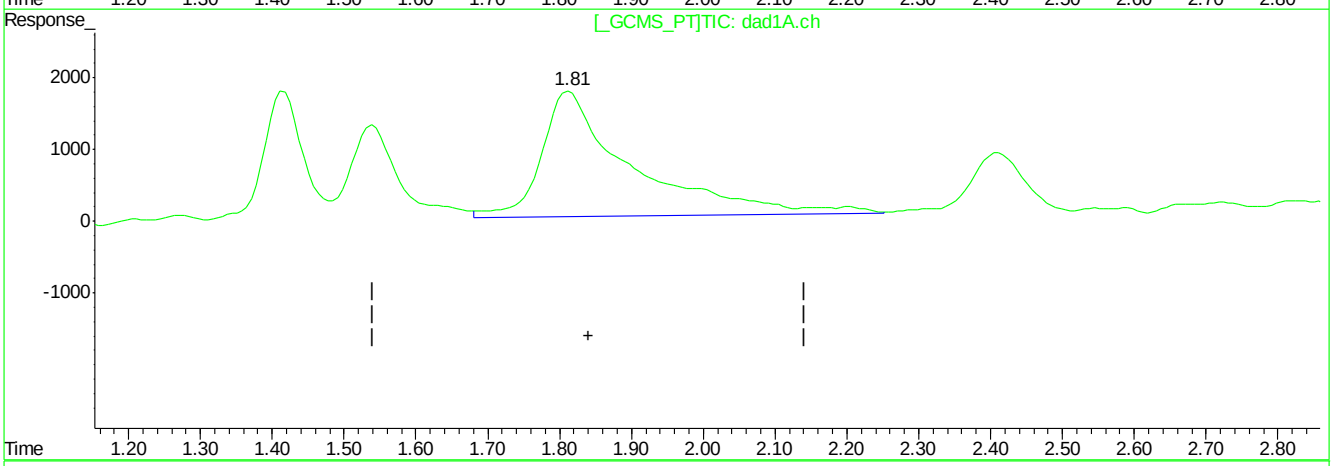
Parameter	CAS	Sig#	R.T. (min.)	Reason
DNX		2	1.81	Poor instrument integration
MNX		1	2.41	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	6.06	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	6.53	Poor instrument integration
Nitrobenzene	98-95-3	2	7.62	Poor instrument integration
Nitrobenzene	98-95-3	1	7.64	Poor instrument integration
Nitroglycerine	55-63-0	2	9.08	Poor instrument integration
Tetryl	479-45-8	1	9.35	Poor instrument integration
Tetryl	479-45-8	2	9.42	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	2	9.88	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	10.37	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	10.80	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	1	11.13	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	1	11.81	Poor instrument integration
2,6-Dinitrotoluene	606-20-2	1	12.28	Poor instrument integration
2,6-Dinitrotoluene	606-20-2	2	12.29	Poor instrument integration
o-Nitrotoluene	88-72-2	2	15.37	Poor instrument integration
p-Nitrotoluene	99-99-0	1	15.92	Poor instrument integration
m-Nitrotoluene	99-08-1	1	16.78	Poor instrument integration
m-Nitrotoluene	99-08-1	2	16.84	Poor instrument integration
PETN	78-11-5	2	18.90	Poor instrument integration

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053669.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053669.D\dad1A.ch
Acq On : 16-Mar-2017, 11:25:18 Operator: evitam
Sample : IC1558-20 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:12 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(3) DNX

1.81min 12.752ppb

response 40578

(3) DNX #2

1.81min 30.549ppb

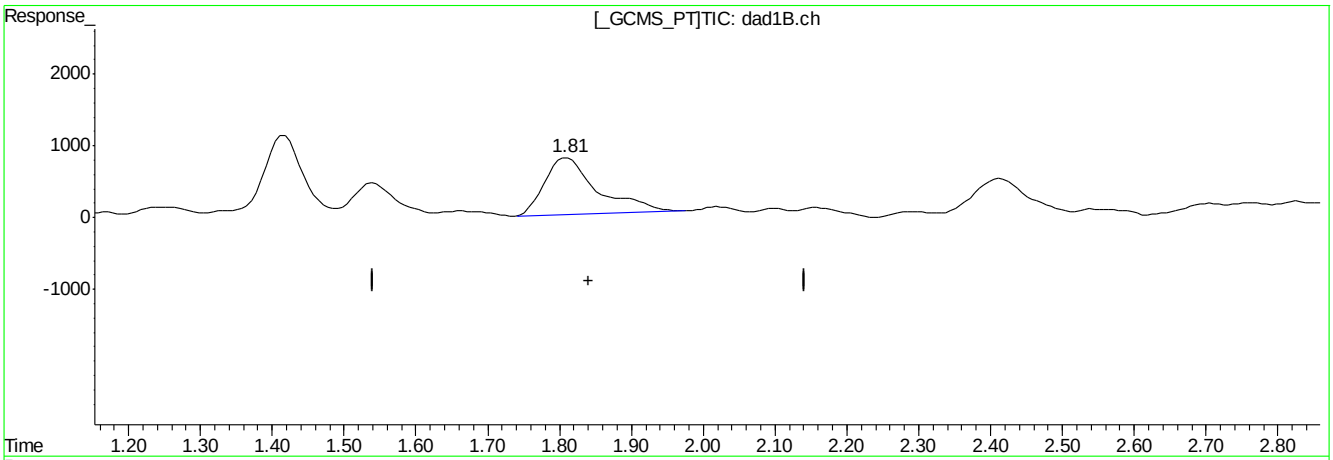
response 153024

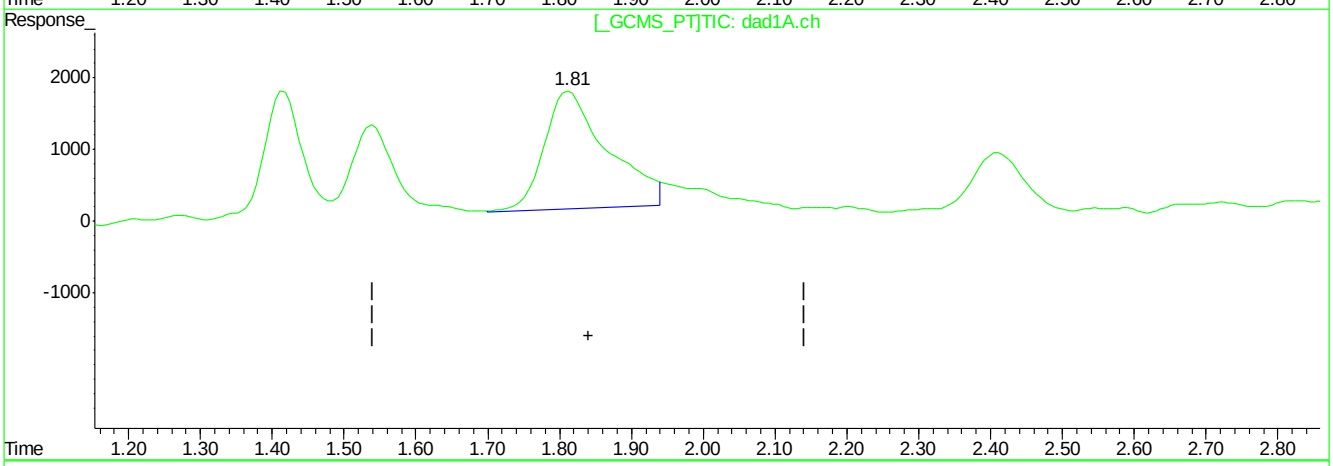
(+) = Expected Retention Time
BB053669.D 8330B_0316PLUS.M Fri Mar 17 10:13:19 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053669.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053669.D\dad1A.ch
Acq On : 16-Mar-2017, 11:25:18 Operator: evitam
Sample : IC1558-20 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:12 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(3) DNX

1.81min 12.752ppb

response 40578

(3) DNX #2

1.81min 20.184ppb m

response 101103

(+) = Expected Retention Time
BB053669.D 8330B_0316PLUS.M Fri Mar 17 10:13:24 2017

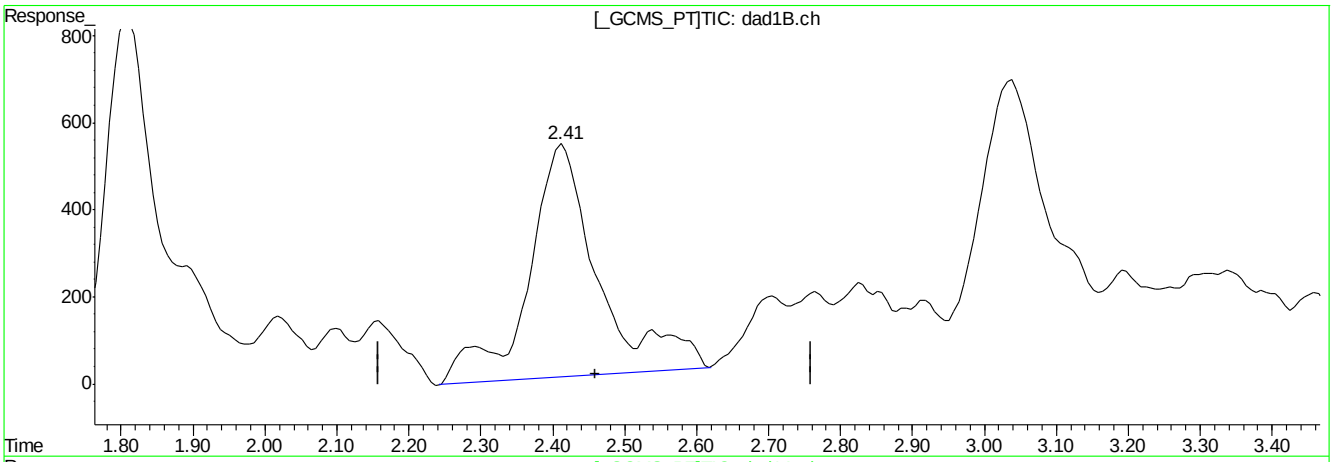
7.7.13

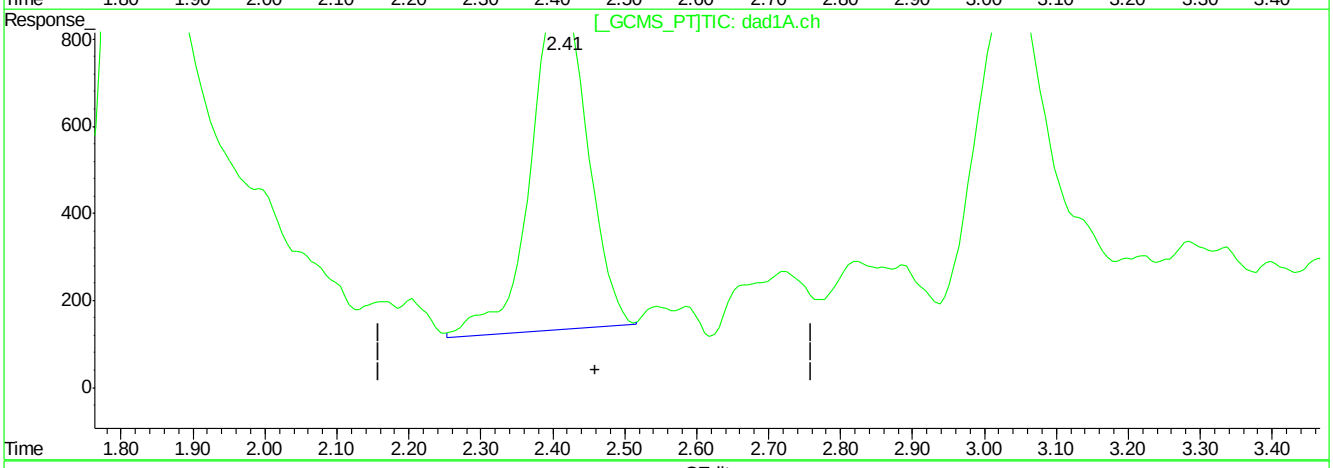
7

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053669.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053669.D\dad1A.ch
Acq On : 16-Mar-2017, 11:25:18 Operator: evitam
Sample : IC1558-20 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:12 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(4) MNX

2.41min 14.289ppb

response 36111

(4) MNX #2

2.41min 10.668ppb

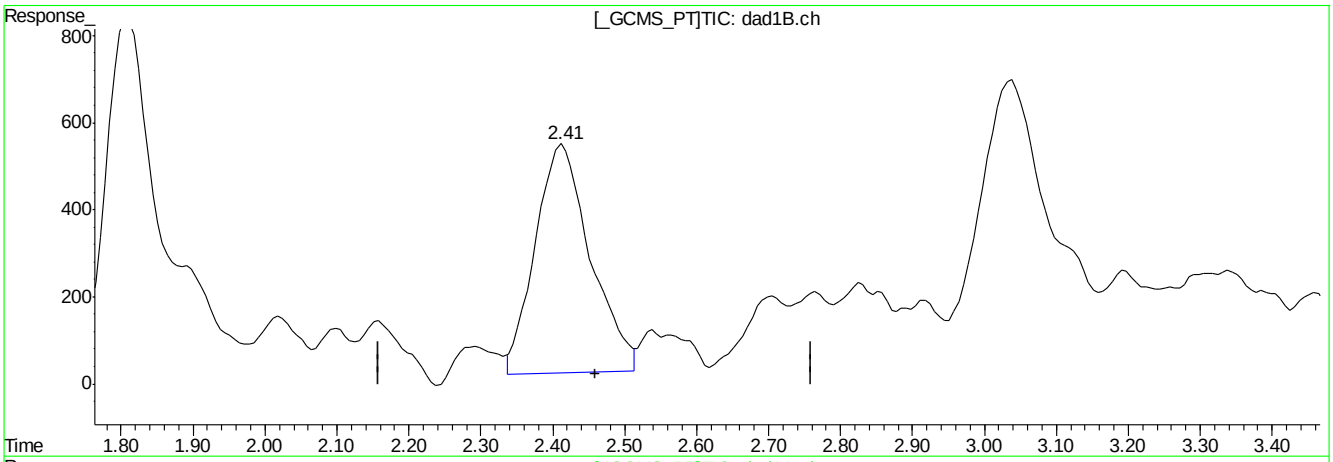
response 42437

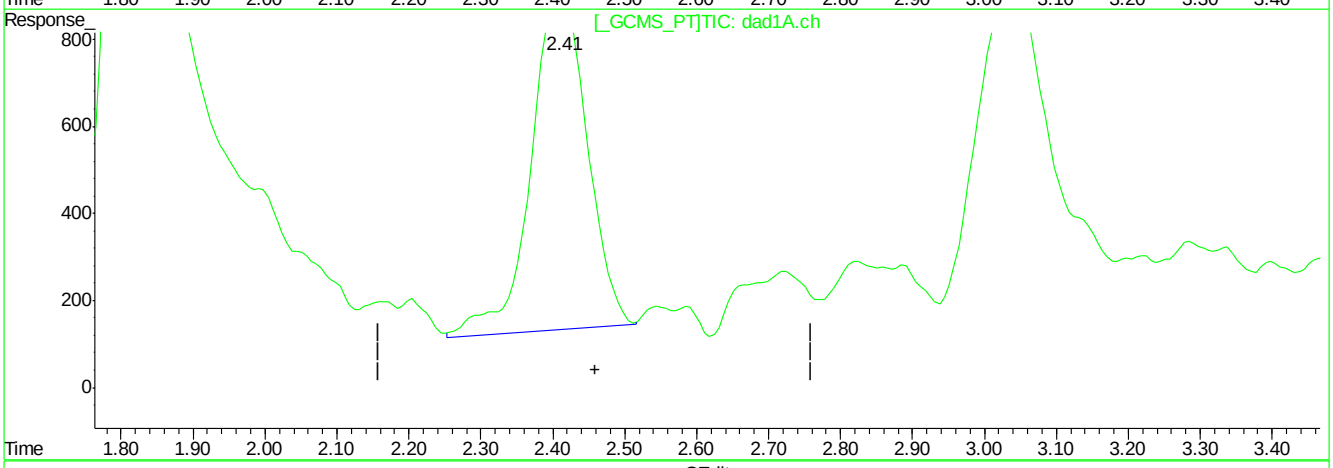
(+) = Expected Retention Time
BB053669.D 8330B_0316PLUS.M Fri Mar 17 10:13:33 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053669.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053669.D\dad1A.ch
Acq On : 16-Mar-2017, 11:25:18 Operator: evitam
Sample : IC1558-20 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:12 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(4) MNX

2.41min 11.132ppb m

response 28134

(4) MNX #2

2.41min 10.668ppb

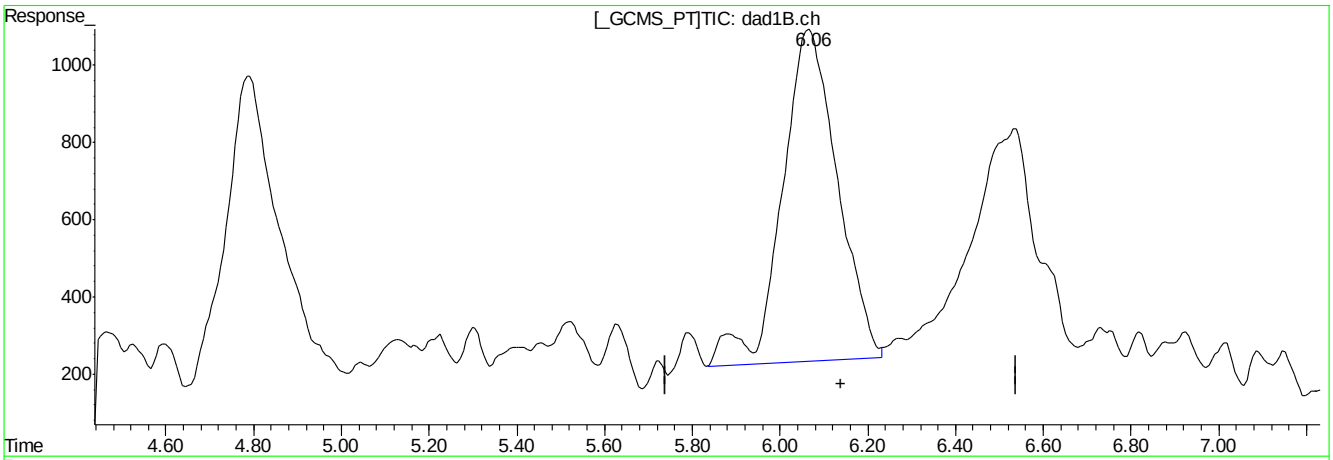
response 42437

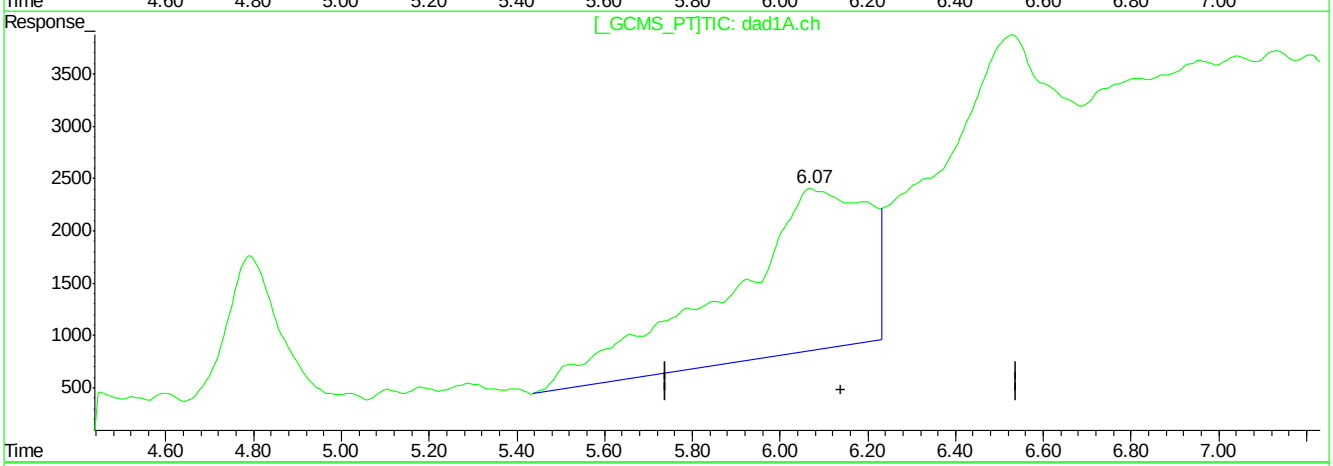
(+) = Expected Retention Time
BB053669.D 8330B_0316PLUS.M Fri Mar 17 10:13:37 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053669.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053669.D\dad1A.ch
Acq On : 16-Mar-2017, 11:25:18 Operator: evitam
Sample : IC1558-20 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:12 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

6.07min 12.317ppb

response 75342

(7) 1,3-Dinitrobenzene #2

6.07min 79.593ppb

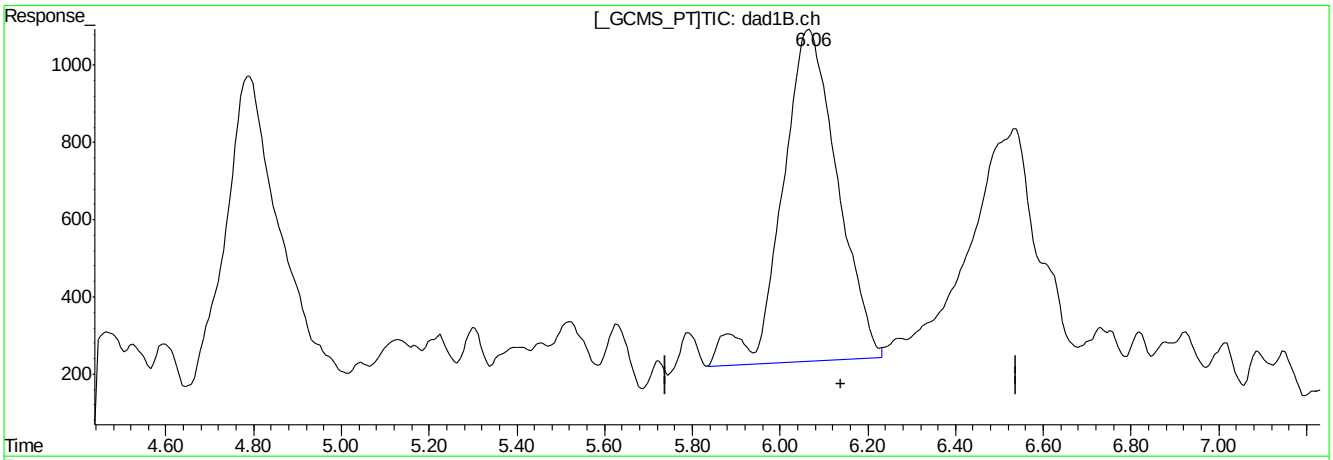
response 344928

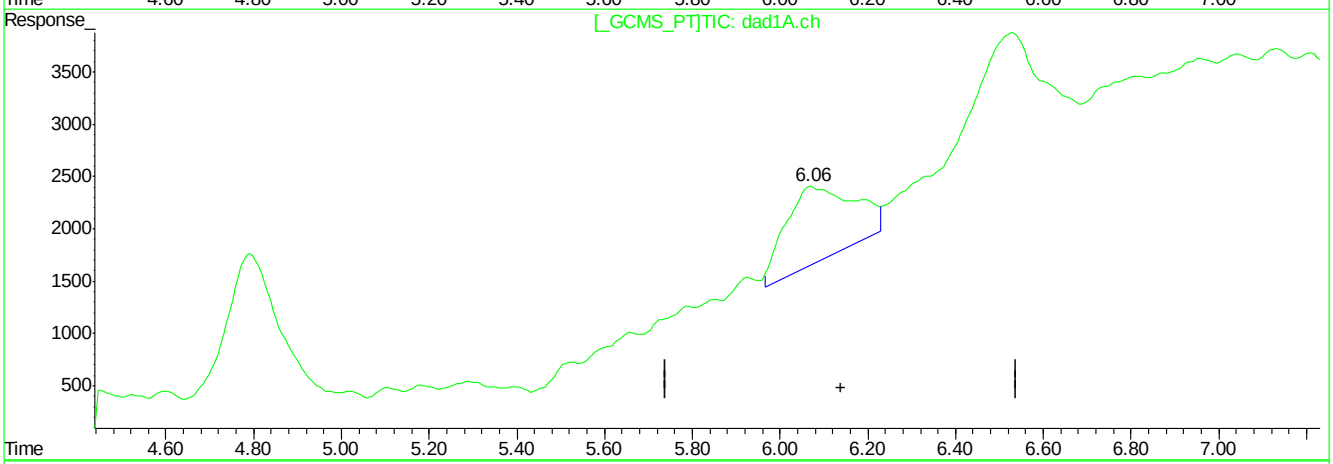
(+) = Expected Retention Time
BB053669.D 8330B_0316PLUS.M Fri Mar 17 10:13:43 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053669.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053669.D\dad1A.ch
Acq On : 16-Mar-2017, 11:25:18 Operator: evitam
Sample : IC1558-20 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:12 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

6.07min 12.317ppb

response 75342

(7) 1,3-Dinitrobenzene #2

6.06min 17.730ppb m

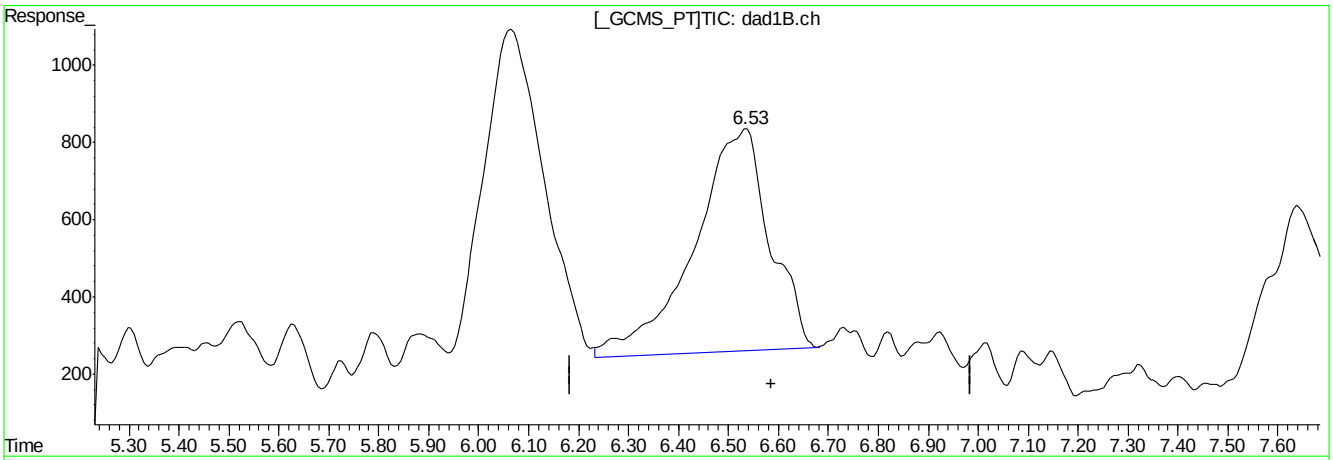
response 76834

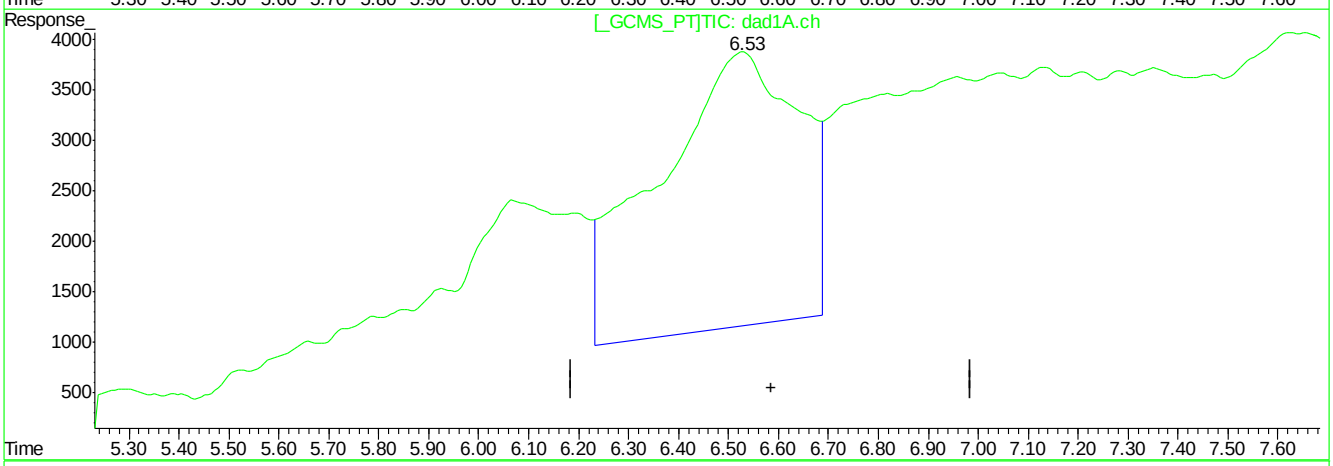
(+) = Expected Retention Time
BB053669.D 8330B_0316PLUS.M Fri Mar 17 10:13:47 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053669.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053669.D\dad1A.ch
Acq On : 16-Mar-2017, 11:25:18 Operator: evitam
Sample : IC1558-20 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:12 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(8) 3,5-Dinitroaniline

6.53min 13.767ppb

response 60531

(8) 3,5-Dinitroaniline #2

6.53min 73.300ppb

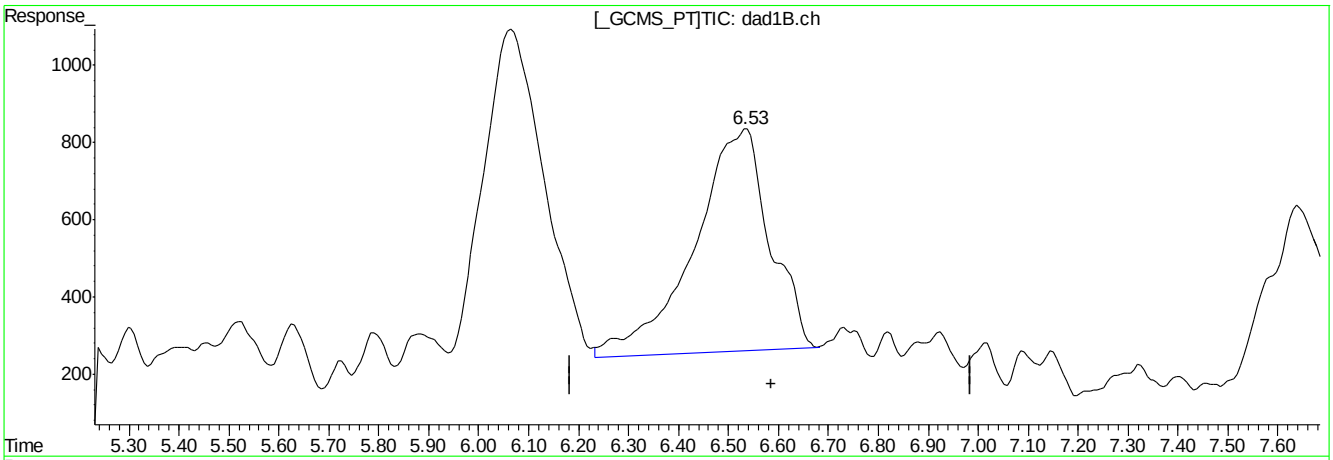
response 534010

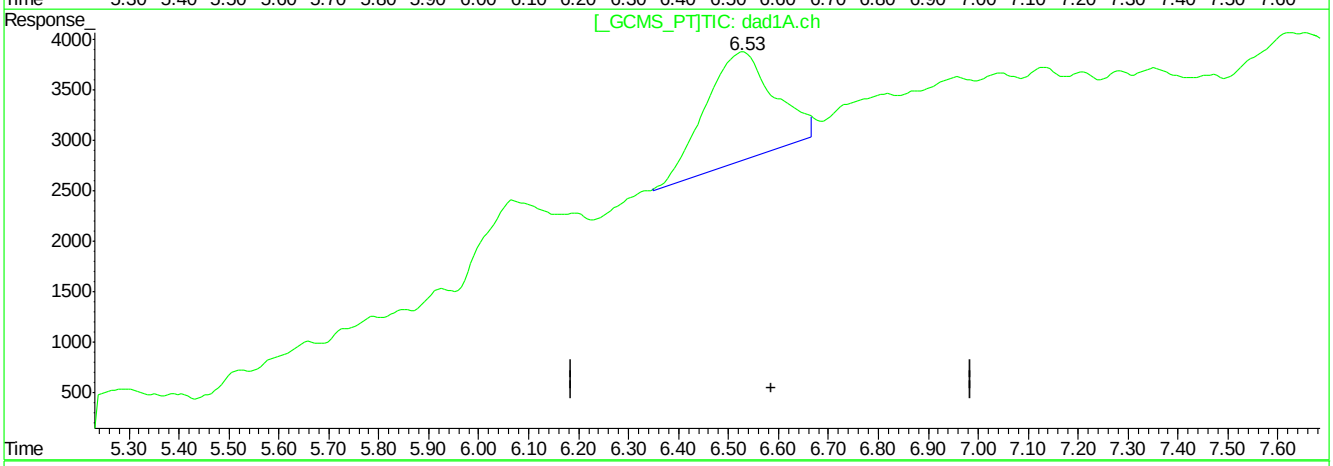
(+) = Expected Retention Time
BB053669.D 8330B_0316PLUS.M Fri Mar 17 10:13:51 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053669.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053669.D\dad1A.ch
Acq On : 16-Mar-2017, 11:25:18 Operator: evitam
Sample : IC1558-20 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:12 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(8) 3,5-Dinitroaniline

6.53min 13.767ppb

response 60531

(8) 3,5-Dinitroaniline #2

6.53min 14.294ppb m

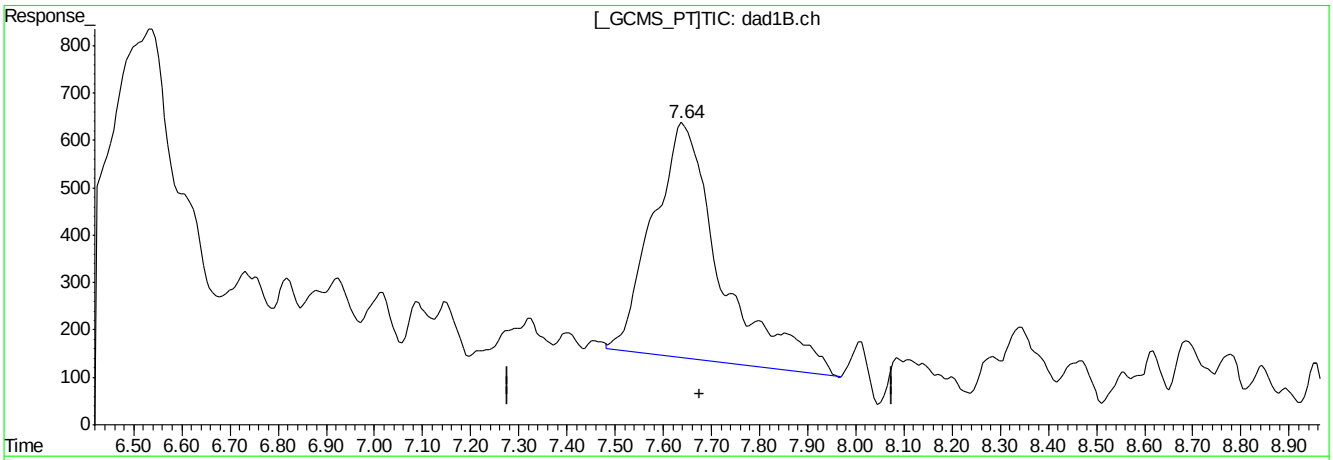
response 103965

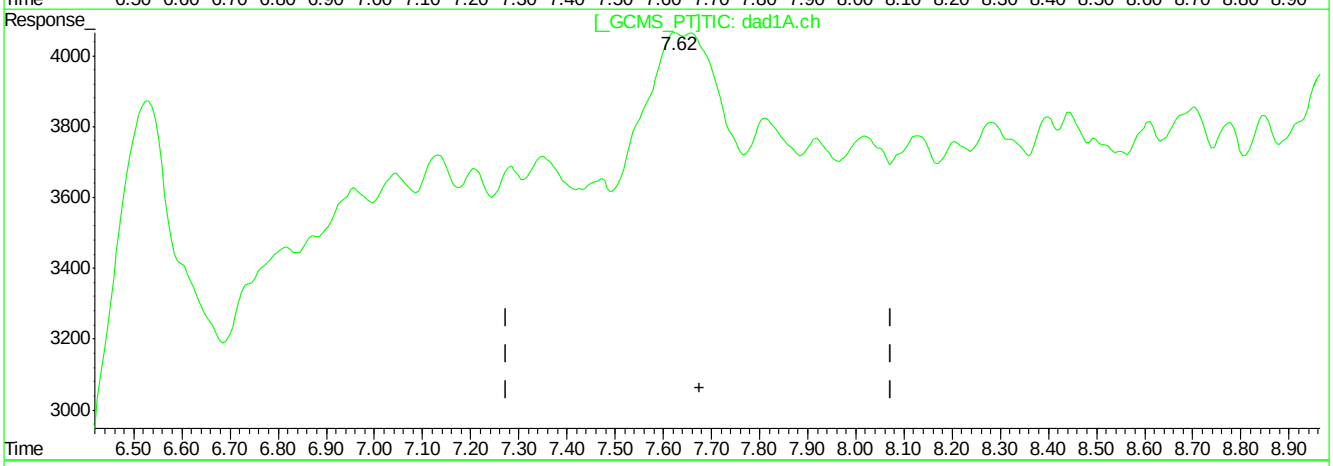
(+) = Expected Retention Time
BB053669.D 8330B_0316PLUS.M Fri Mar 17 10:13:55 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053669.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053669.D\dad1A.ch
Acq On : 16-Mar-2017, 11:25:18 Operator: evitam
Sample : IC1558-20 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:12 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(9) Nitrobenzene

7.64min 13.836ppb

response 49321

(9) Nitrobenzene #2

7.63min 123.764ppb

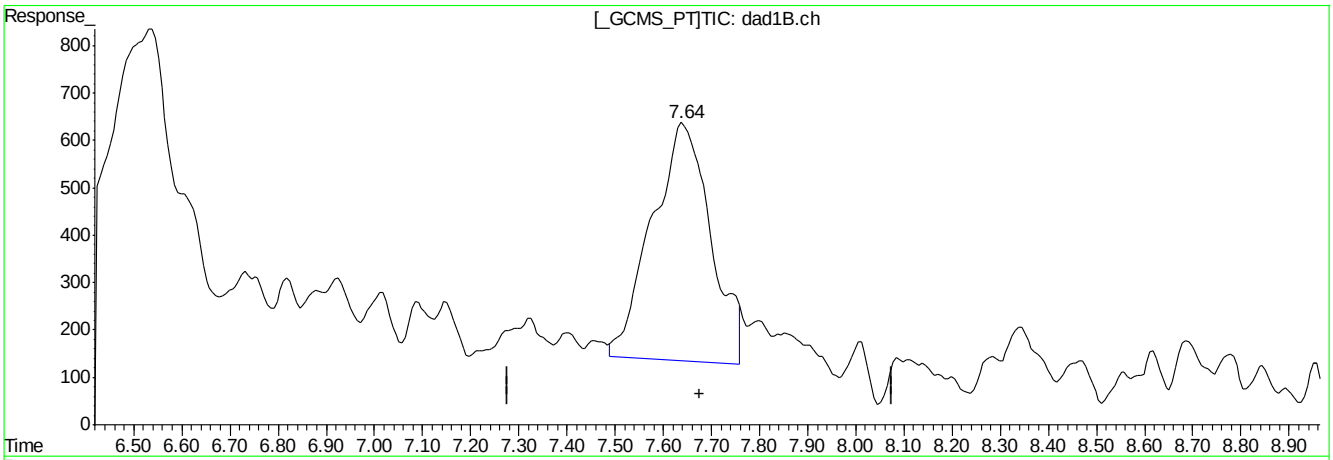
response 416329

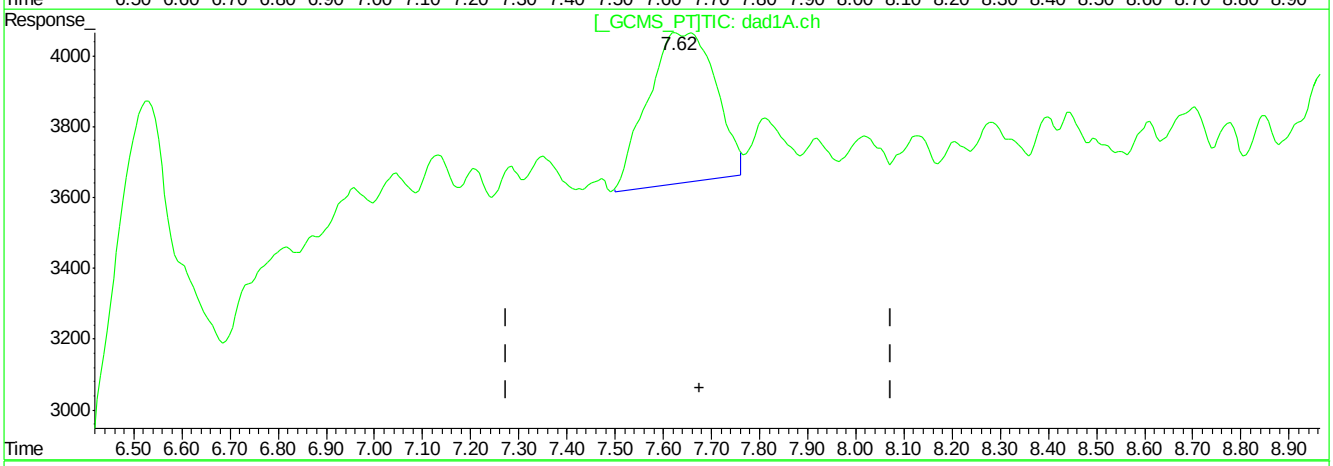
(+) = Expected Retention Time
BB053669.D 8330B_0316PLUS.M Fri Mar 17 10:13:58 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053669.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053669.D\dad1A.ch
Acq On : 16-Mar-2017, 11:25:18 Operator: evitam
Sample : IC1558-20 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:12 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(9) Nitrobenzene

7.64min 12.020ppb m

response 42846

(9) Nitrobenzene #2

7.62min 12.361ppb m

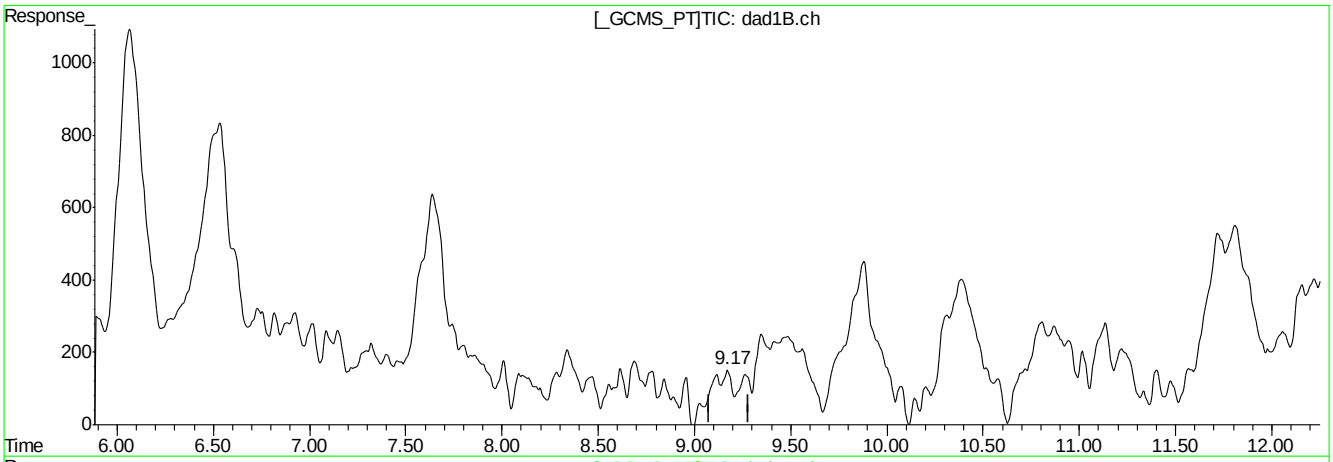
response 41583

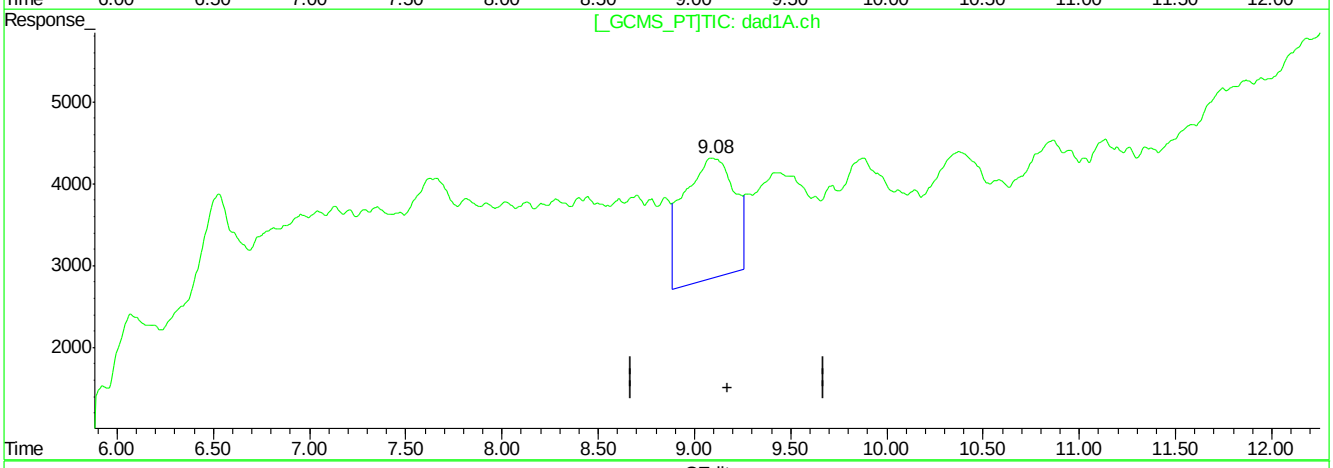
(+) = Expected Retention Time
BB053669.D 8330B_0316PLUS.M Fri Mar 17 10:14:04 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053669.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053669.D\dad1A.ch
Acq On : 16-Mar-2017, 11:25:18 Operator: evitam
Sample : IC1558-20 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:12 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(10) Nitroglycerin

9.17min 0.000ppb

response 14361

(10) Nitroglycerin #2

9.09min 202.498ppb

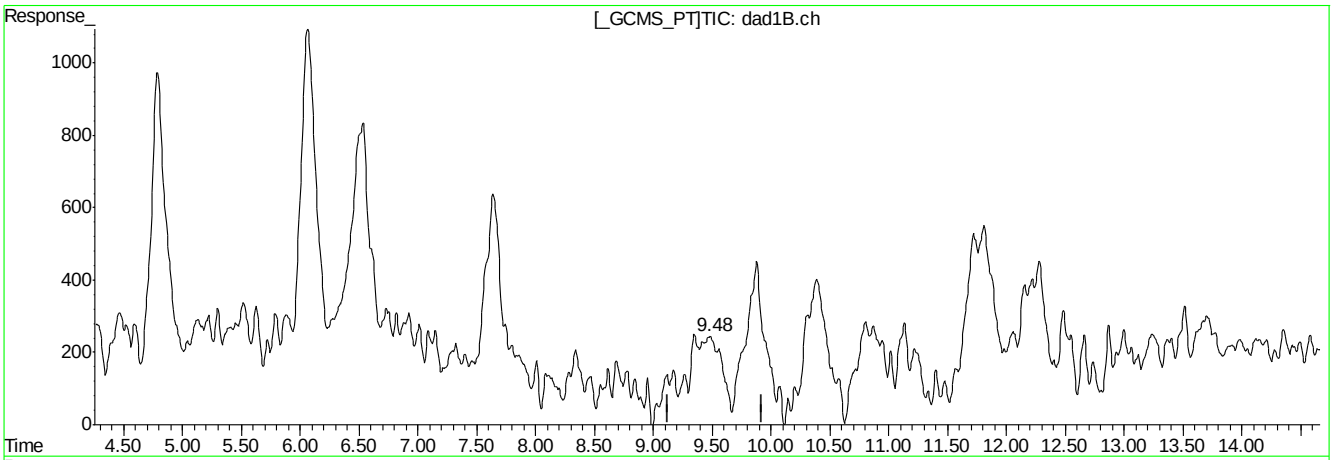
response 269640

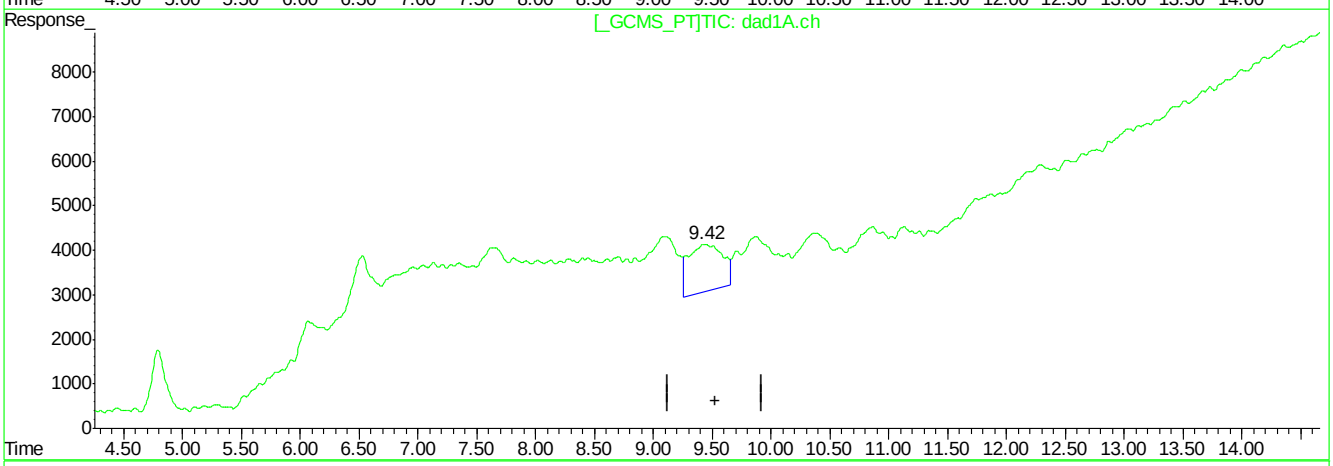
(+) = Expected Retention Time
BB053669.D 8330B_0316PLUS.M Fri Mar 17 10:14:14 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053669.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053669.D\dad1A.ch
Acq On : 16-Mar-2017, 11:25:18 Operator: evitam
Sample : IC1558-20 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:12 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(11) Tetryl

9.48min 14.352ppb

response 32306

(11) Tetryl #2

9.43min 68.118ppb

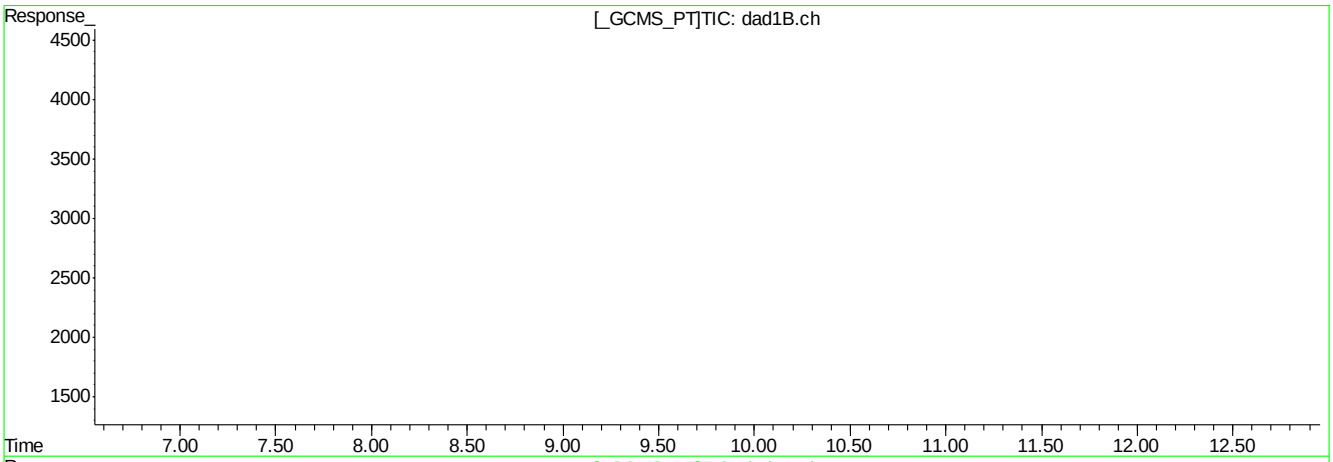
response 213895

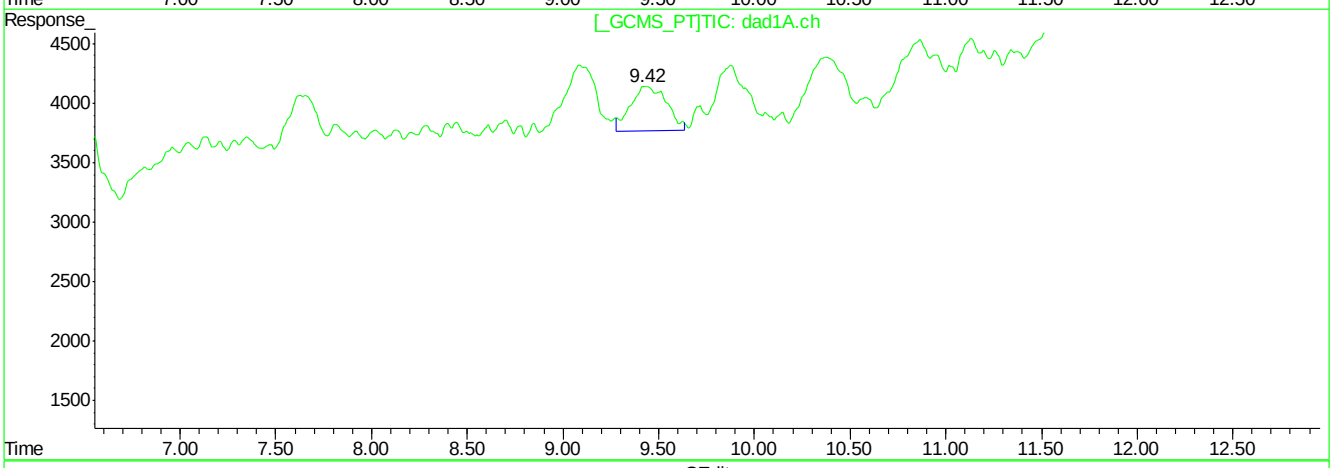
(+) = Expected Retention Time
BB053669.D 8330B_0316PLUS.M Fri Mar 17 10:14:47 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053669.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053669.D\dad1A.ch
Acq On : 16-Mar-2017, 11:25:18 Operator: evitam
Sample : IC1558-20 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:12 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(11) Tetryl

9.35min 21.840ppb m

response 49159

(11) Tetryl #2

9.42min 15.787ppb m

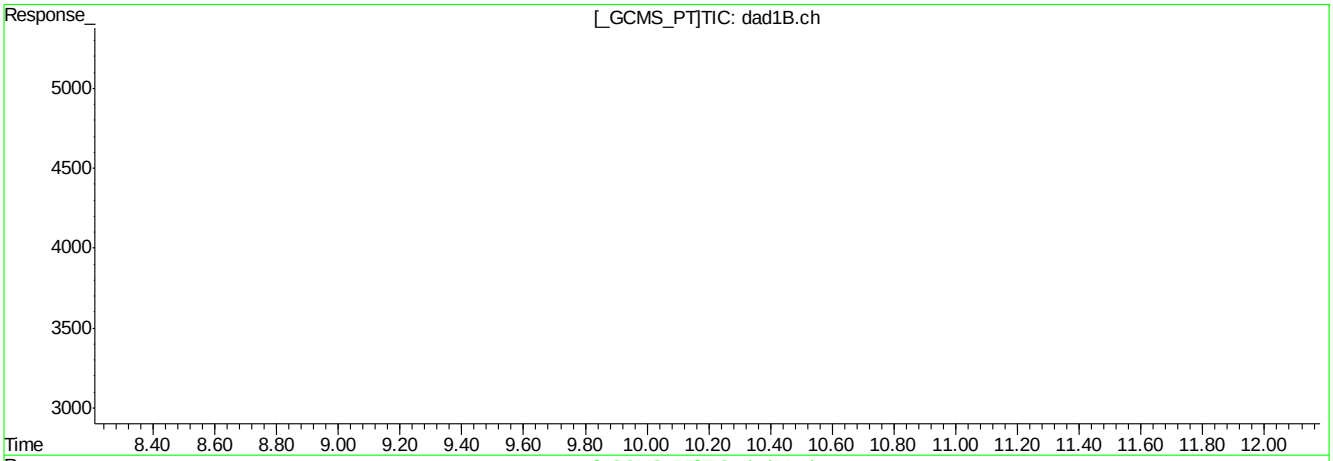
response 49573

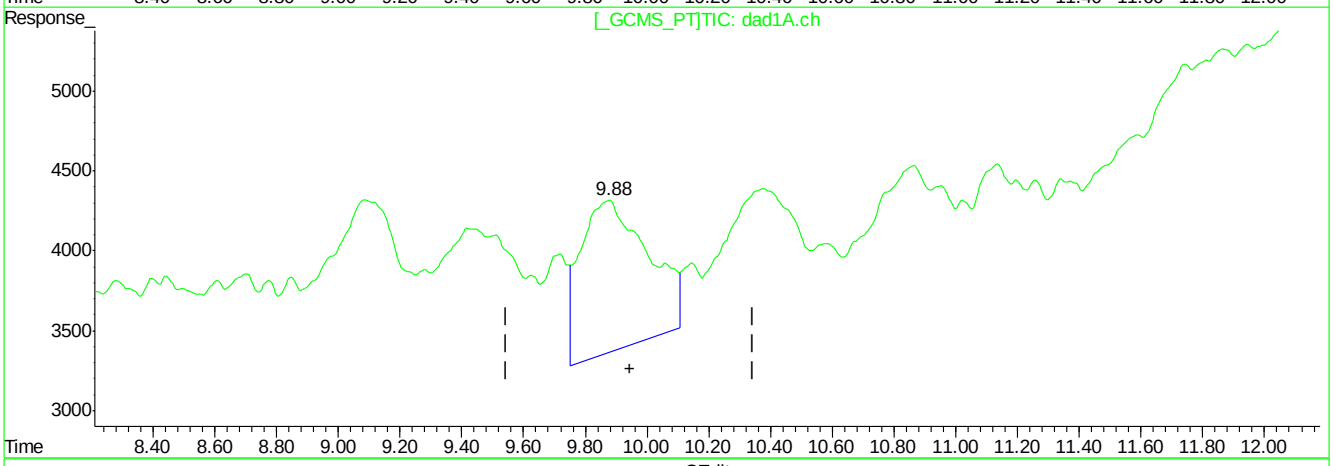
(+) = Expected Retention Time
BB053669.D 8330B_0316PLUS.M Fri Mar 17 10:14:59 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053669.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053669.D\dad1A.ch
Acq On : 16-Mar-2017, 11:25:18 Operator: evitam
Sample : IC1558-20 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:12 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(12) 2,4,6-Trinitrotoluene

9.88min 15.387ppb

response 56736

(12) 2,4,6-Trinitrotoluene #2

9.88min 31.785ppb

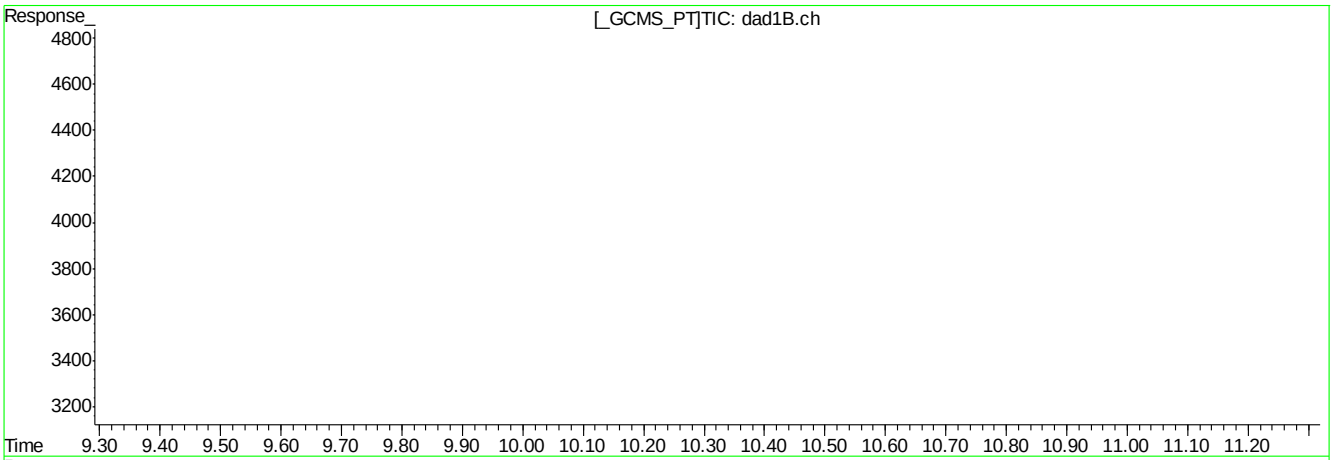
response 143386

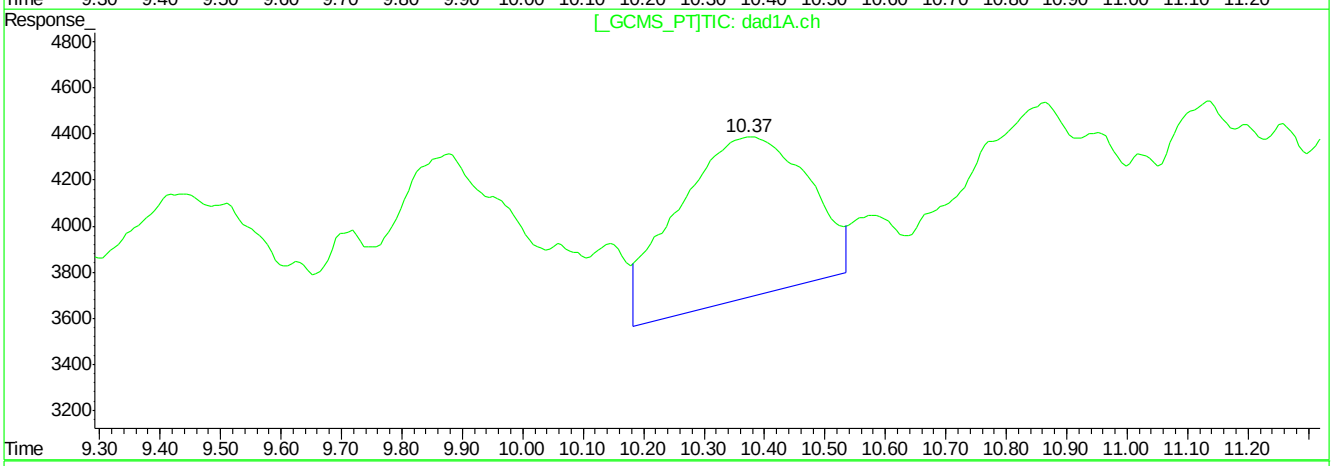
(+) = Expected Retention Time
BB053669.D 8330B_0316PLUS.M Fri Mar 17 10:15:11 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053669.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053669.D\dad1A.ch
Acq On : 16-Mar-2017, 11:25:18 Operator: evitam
Sample : IC1558-20 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:12 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(13) 2-Amino-4,6-Dinitrotoluene

10.39min 13.852ppb

response 57261

(13) 2-Amino-4,6-Dinitrotoluene #2

10.38min 18.374ppb

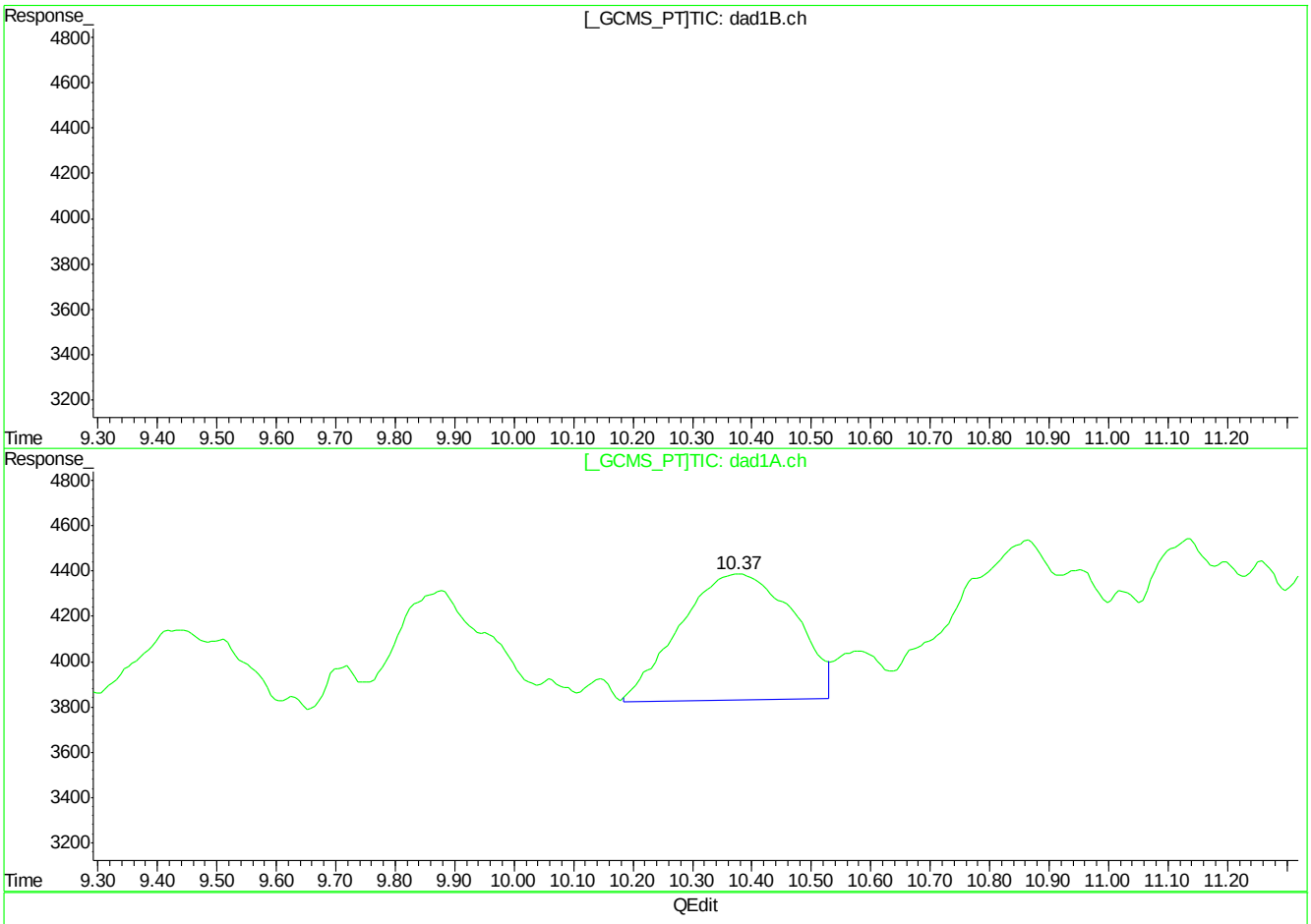
response 105252

(+) = Expected Retention Time
BB053669.D 8330B_0316PLUS.M Fri Mar 17 10:15:27 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053669.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053669.D\dad1A.ch
Acq On : 16-Mar-2017, 11:25:18 Operator: evitam
Sample : IC1558-20 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:12 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration



QEdit

(13) 2-Amino-4,6-Dinitrotoluene

10.39min 13.852ppb

response 57261

(13) 2-Amino-4,6-Dinitrotoluene #2

10.37min 12.858ppb m

response 73654

(+) = Expected Retention Time
BB053669.D 8330B_0316PLUS.M Fri Mar 17 10:15:31 2017

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
03/20/17 10:31

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1A.ch
Acq On : 16-Mar-2017, 11:55:14 Operator: evitam
Sample : IC1558-50 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:12:45 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.14	11.09	56043	139935	22.336	33.059 #
Spiked Amount	500.000	Range	70 - 136	Recovery	=	4.47%#	6.61%#
	Target Compounds						
1)	TNX	1.42	1.42	152017	236693	44.735	43.043
2)	HMX	1.54	1.54	77183	215350	39.969	39.019
3)	DNX	1.81	1.81	144706	286969	45.476	57.289m
4)	MNX	2.41	2.41	103793	173857	41.070	43.704
5)	RDX	3.04	3.04	91861	143830	42.028m	41.403m
6)	1,3,5-Trinitrobe	4.79	4.79	173995	381356	36.674	41.427
7)	1,3-Dinitrobenze	6.07	6.07	266512	183011	43.570	42.230m
8)	3,5-Dinitroanili	6.52	6.51	203446	327637	46.263	45.008m
9)	Nitrobenzene	7.63	7.64	157853	134164	44.284	39.884m
10)	Nitroglycerin	0.00	9.09	0	271375	N.D.	203.801m#
11)	Tetryl	9.46	9.44	104346	162211	46.358	51.658m
12)	2,4,6-Trinitroto	9.87	9.87	155188	202781	42.088	44.951m
13)	2-Amino-4,6-Dini	10.36	10.37	160292	241942	38.777	42.236m
14)	4-Amino-2,6-Dini	10.85	10.85	104560	207709	35.410	36.861
16)	2,4-Dinitrotolue	11.76	11.79	232612	140926	42.311	41.865
17)	2,6-Dinitrotolue	12.23	12.21	138222	173925	43.373	45.286
18)	o-Nitrotoluene	15.30	15.30	113019	108250	44.204	33.312
19)	p-Nitrotoluene	15.92	15.94	153891	79630	39.552	24.187
20)	m-Nitrotoluene	16.81	16.85	178517	189443	45.986	43.167m
21)	PETN	0.00	18.89	0	298517	N.D. d	196.692m

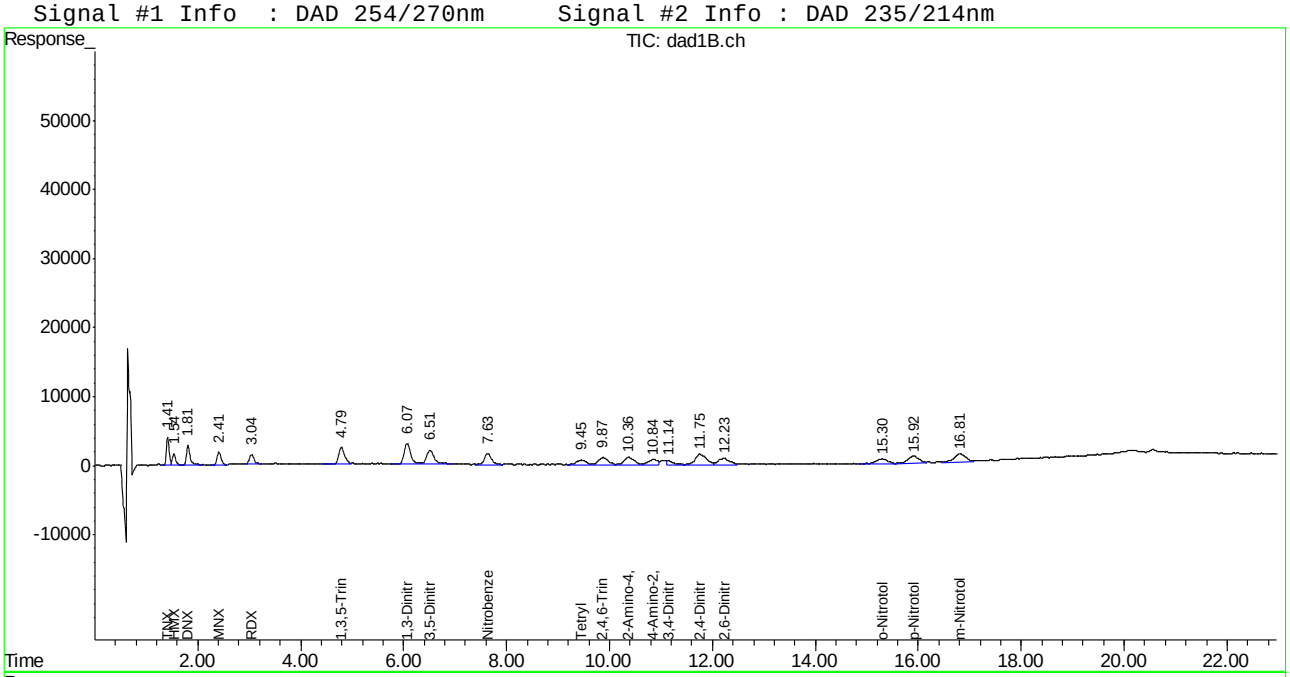
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB053670.D 8330B_0316PLUS.M Fri Mar 17 11:42:10 2017 Page 1

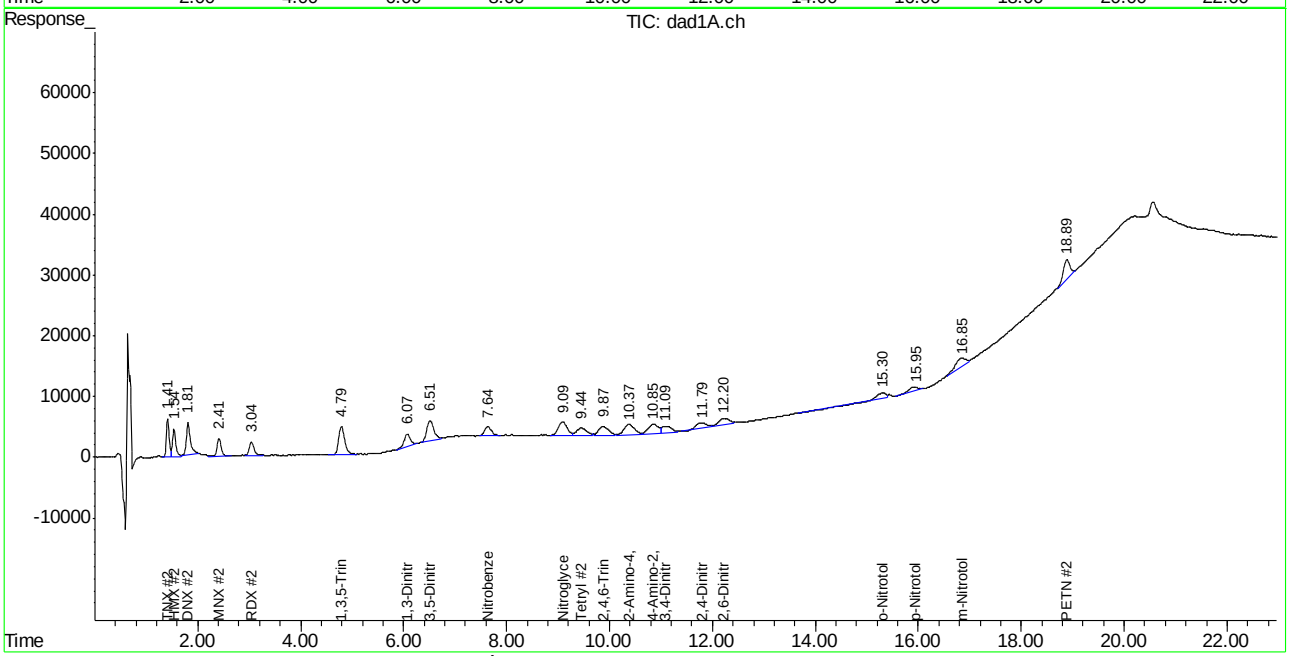
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1A.ch
Acq On : 16-Mar-2017, 11:55:14 Operator: evitam
Sample : IC1558-50 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:18 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

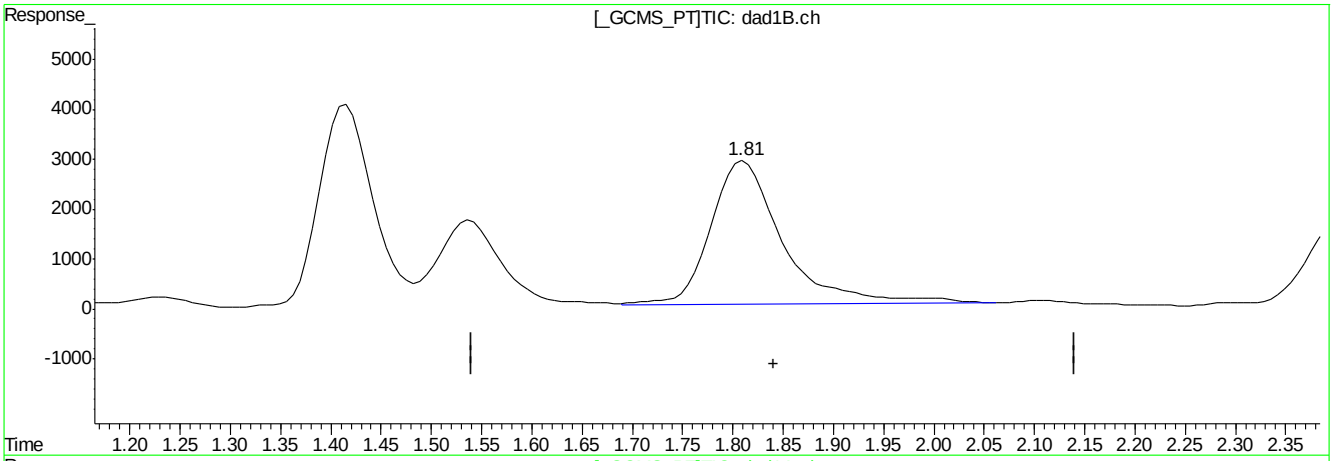
Sample Number: GBB1558-IC1558 **Method:** SW846 8330A
Lab FileID: BB053670.D **Analyst approved:** 03/20/17 10:30 Mike Eger
Injection Time: 03/16/17 11:55 **Supervisor approved:** 03/20/17 10:31 Mike Eger

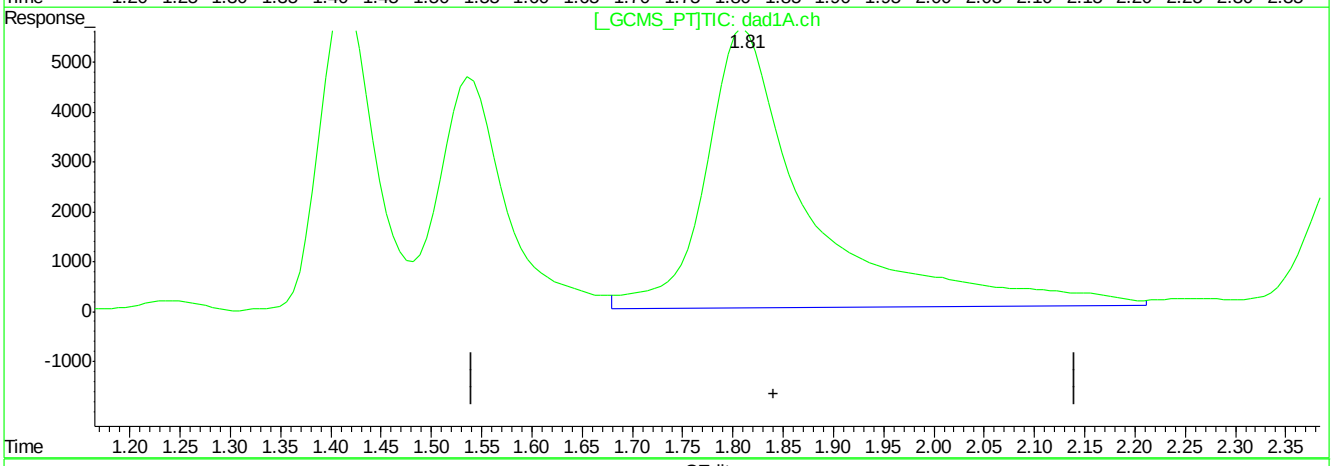
Parameter	CAS	Sig#	R.T. (min.)	Reason
DNX		2	1.81	Poor instrument integration
RDX	121-82-4	1	3.04	Poor instrument integration
RDX	121-82-4	2	3.04	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	6.07	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	6.51	Poor instrument integration
Nitrobenzene	98-95-3	2	7.64	Poor instrument integration
Nitroglycerine	55-63-0	2	9.09	Poor instrument integration
Tetryl	479-45-8	2	9.44	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	2	9.87	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	10.37	Poor instrument integration
m-Nitrotoluene	99-08-1	2	16.85	Poor instrument integration
PETN	78-11-5	2	18.89	Poor instrument integration

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1A.ch
Acq On : 16-Mar-2017, 11:55:14 Operator: evitam
Sample : IC1558-50 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:12 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(3) DNX

1.81min 45.476ppb

response 144706

(3) DNX #2

1.81min 79.909ppb

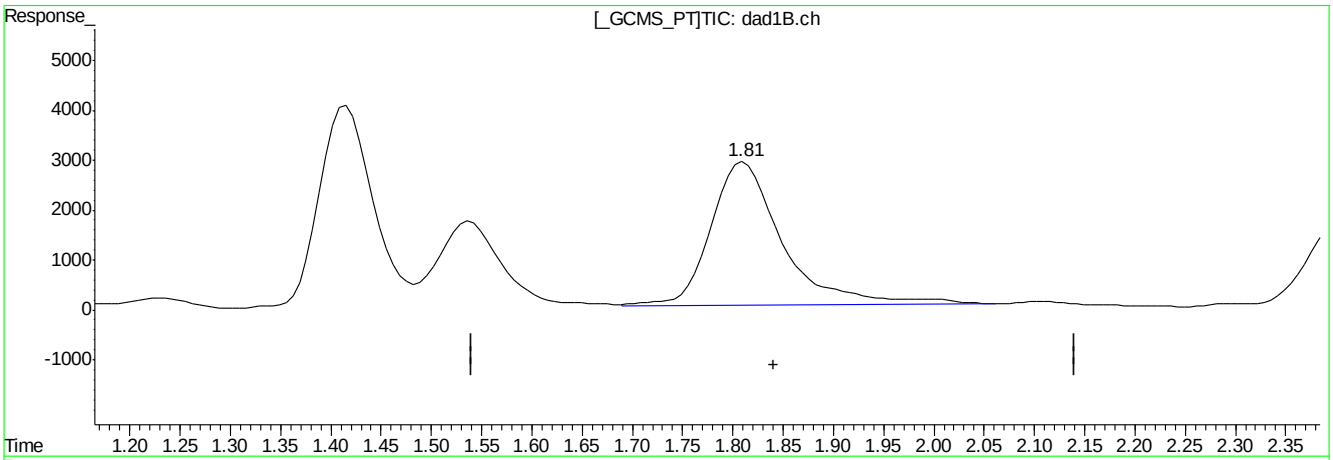
response 400273

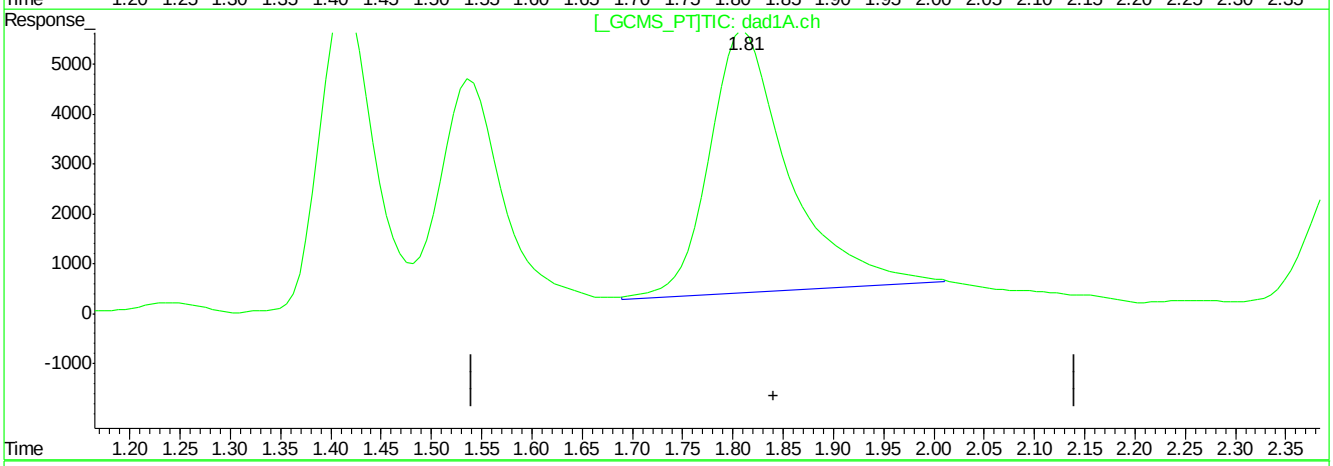
(+) = Expected Retention Time
BB053670.D 8330B_0316PLUS.M Fri Mar 17 10:16:39 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1A.ch
Acq On : 16-Mar-2017, 11:55:14 Operator: evitam
Sample : IC1558-50 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:12 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(3) DNX

1.81min 45.476ppb

response 144706

(3) DNX #2

1.81min 57.289ppb m

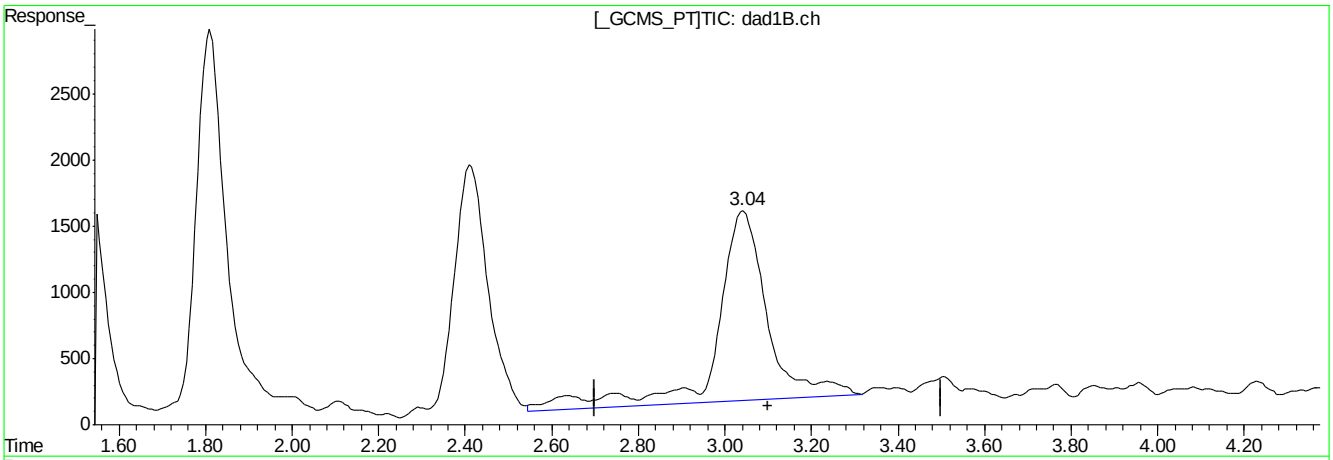
response 286969

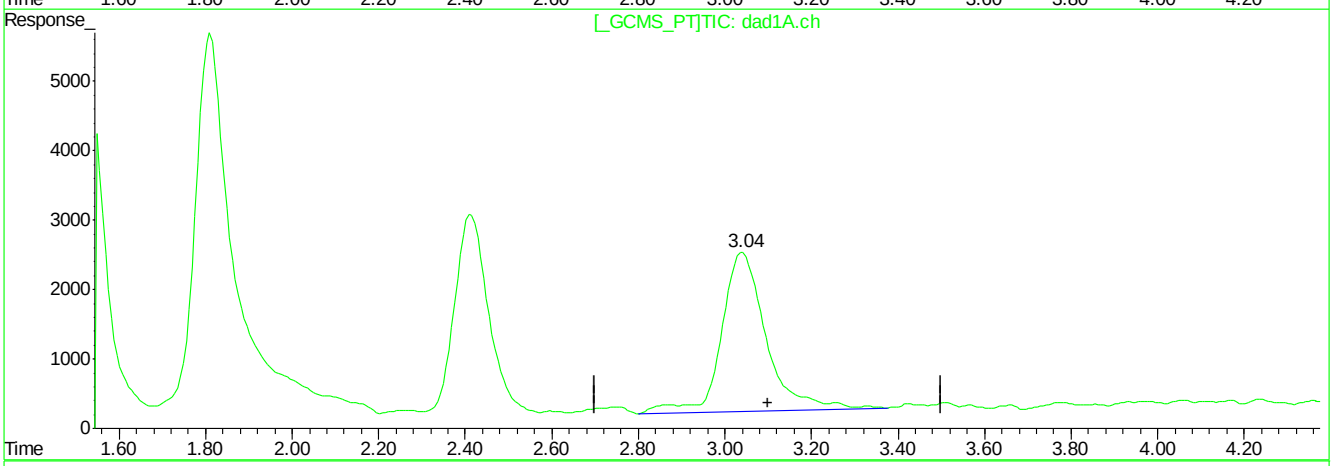
(+) = Expected Retention Time
BB053670.D 8330B_0316PLUS.M Fri Mar 17 10:16:43 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1A.ch
Acq On : 16-Mar-2017, 11:55:14 Operator: evitam
Sample : IC1558-50 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:12 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(5) RDX

3.04min 53.272ppb

response 116437

(5) RDX #2

3.04min 47.614ppb

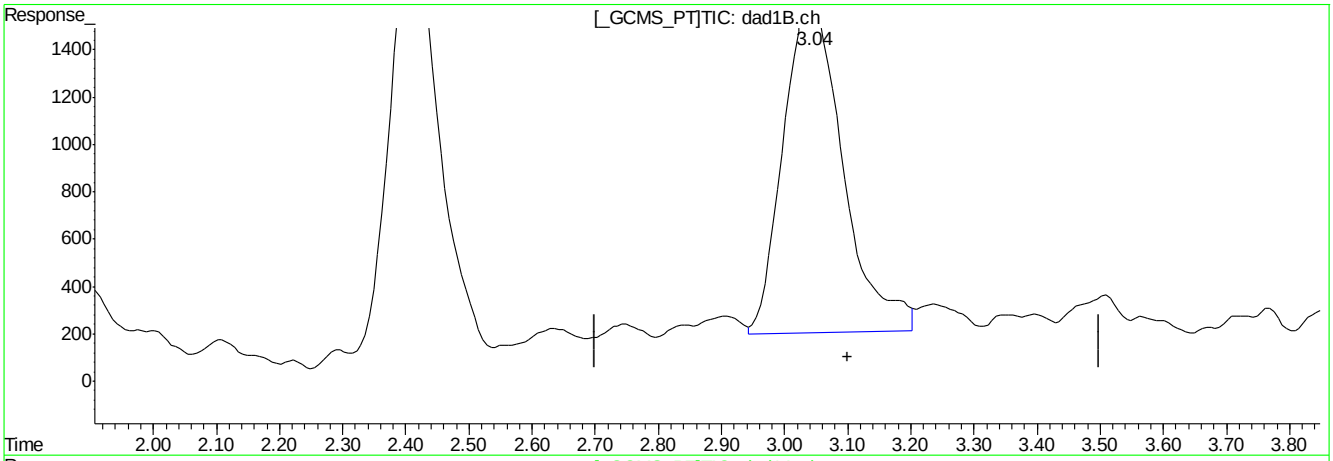
response 165407

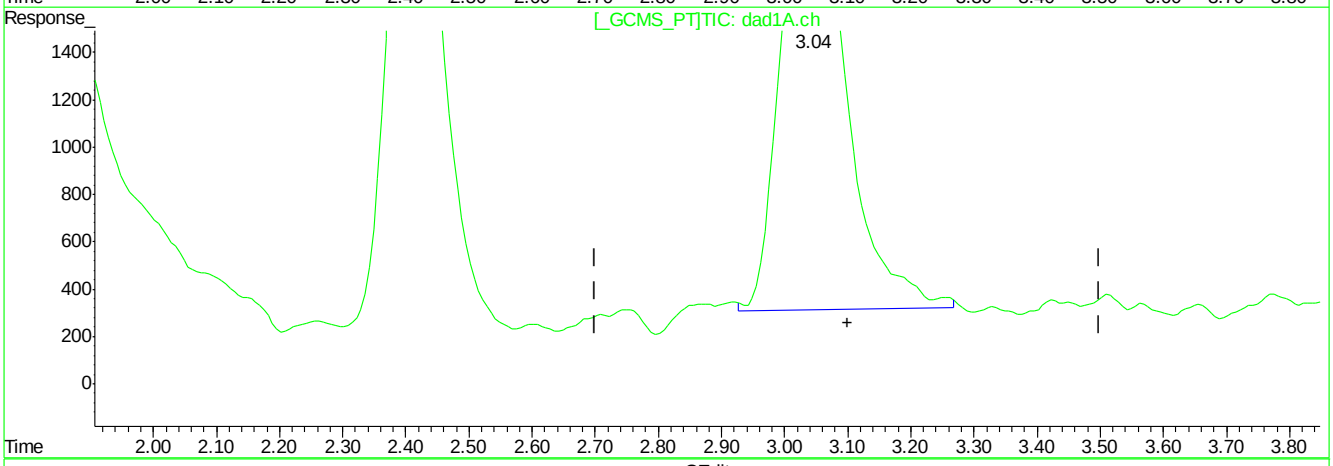
(+) = Expected Retention Time
BB053670.D 8330B_0316PLUS.M Fri Mar 17 10:16:48 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1A.ch
Acq On : 16-Mar-2017, 11:55:14 Operator: evitam
Sample : IC1558-50 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:12 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(5) RDX

3.04min 42.028ppb m

response 91861

(5) RDX #2

3.04min 41.403ppb m

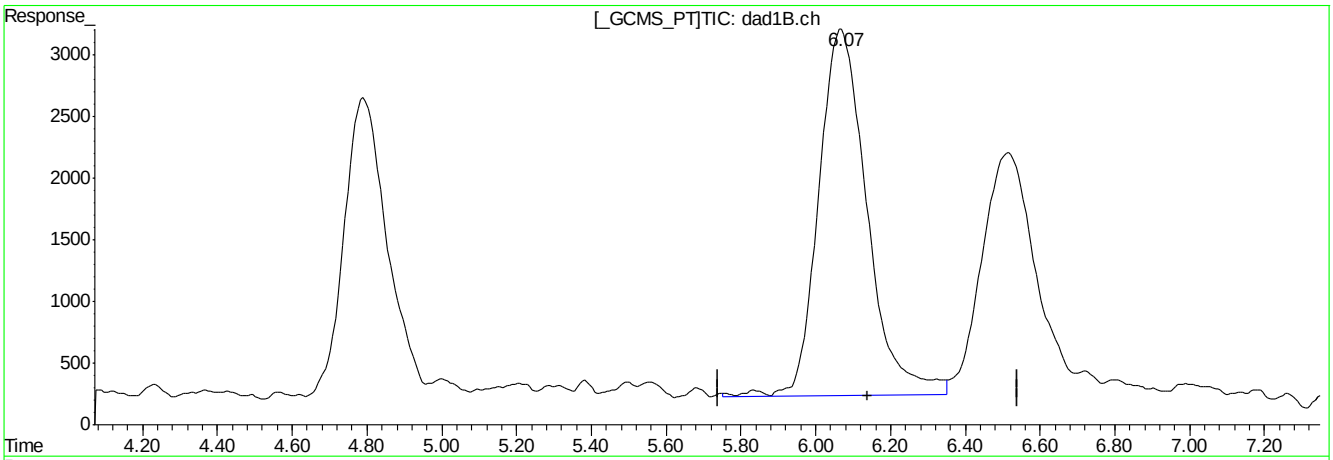
response 143830

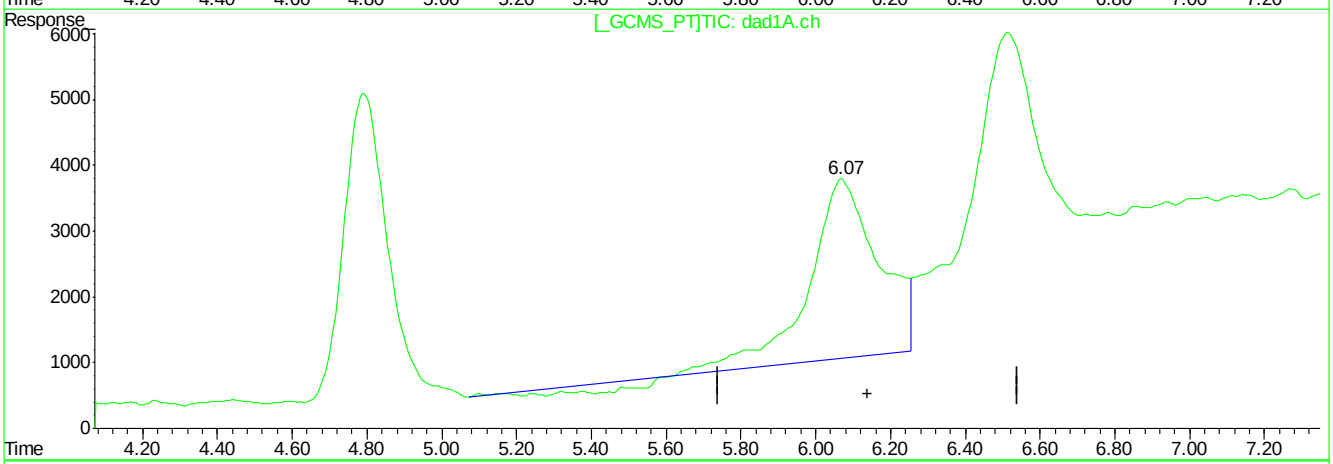
(+) = Expected Retention Time
BB053670.D 8330B_0316PLUS.M Fri Mar 17 10:16:58 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1A.ch
Acq On : 16-Mar-2017, 11:55:14 Operator: evitam
Sample : IC1558-50 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:12 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

6.07min 43.570ppb

response 266512

(7) 1,3-Dinitrobenzene #2

6.07min 76.691ppb

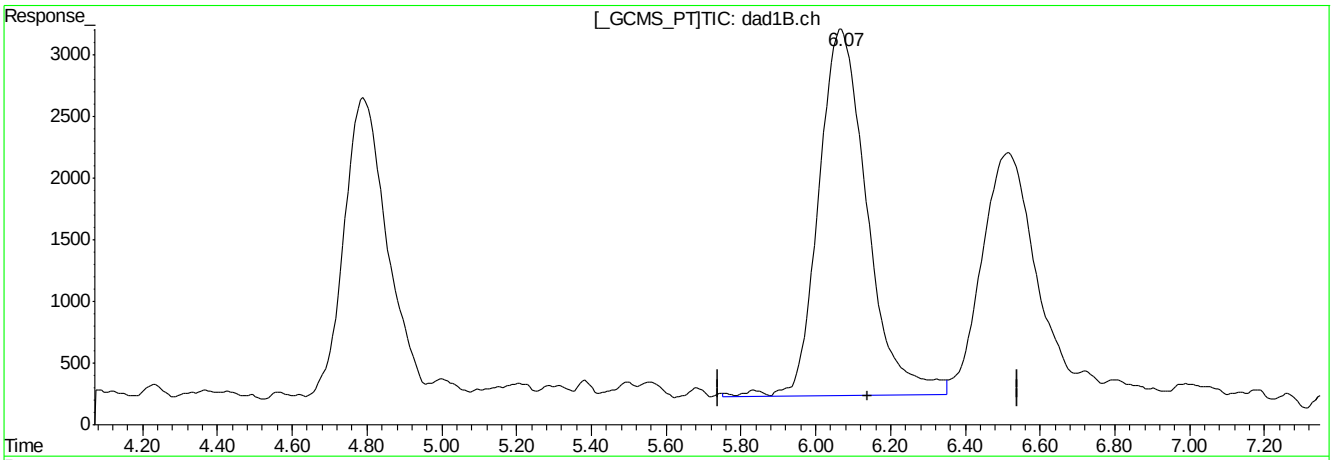
response 332349

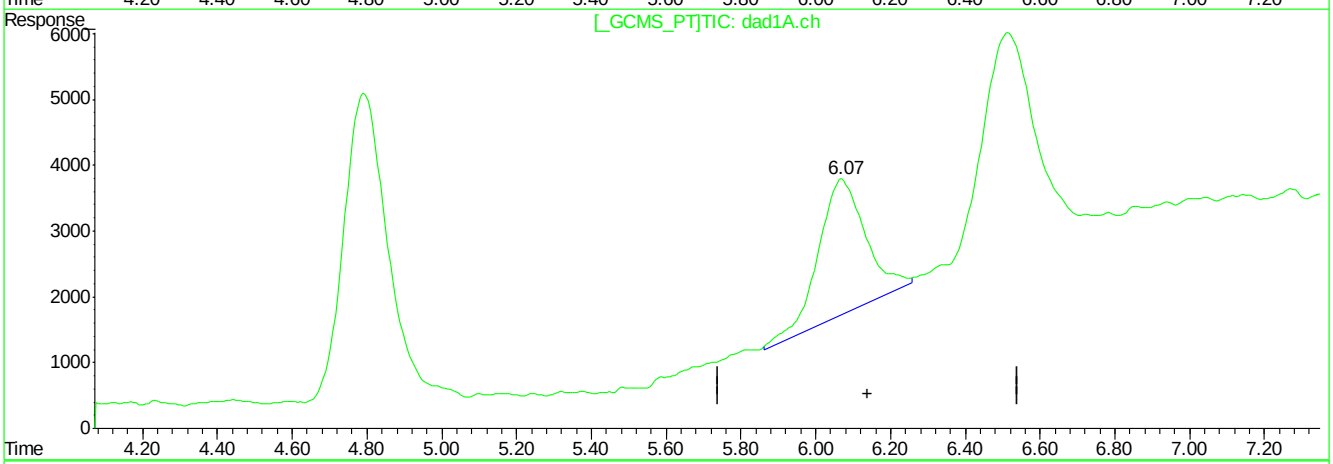
(+) = Expected Retention Time
BB053670.D 8330B_0316PLUS.M Fri Mar 17 10:17:03 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1A.ch
Acq On : 16-Mar-2017, 11:55:14 Operator: evitam
Sample : IC1558-50 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:12 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

6.07min 43.570ppb

response 266512

(7) 1,3-Dinitrobenzene #2

6.07min 42.230ppb m

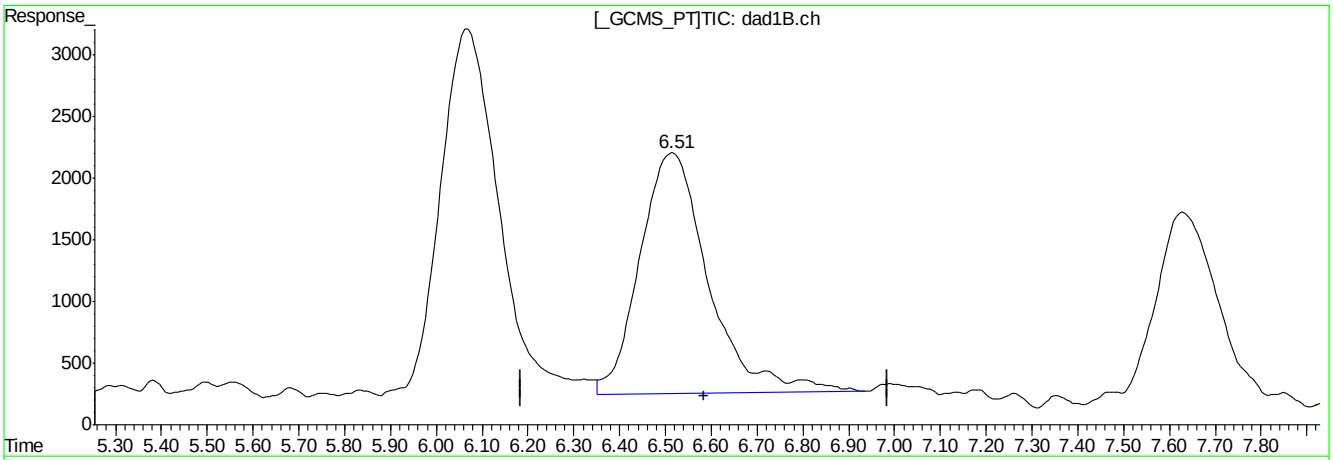
response 183011

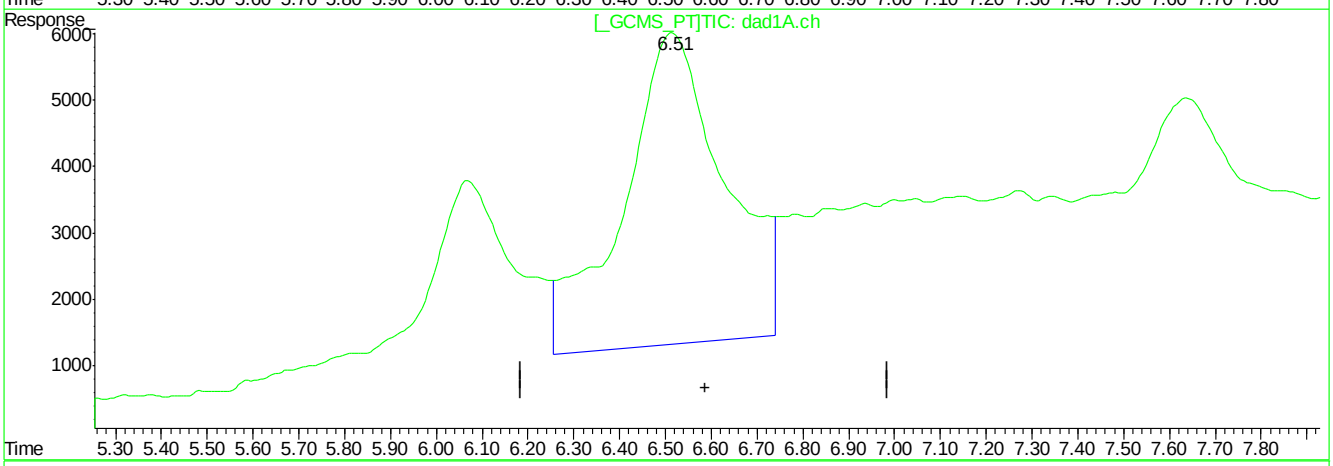
(+) = Expected Retention Time
BB053670.D 8330B_0316PLUS.M Fri Mar 17 10:17:10 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1A.ch
Acq On : 16-Mar-2017, 11:55:14 Operator: evitam
Sample : IC1558-50 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:12 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(8) 3,5-Dinitroaniline

6.52min 46.263ppb

response 203446

(8) 3,5-Dinitroaniline #2

6.52min 98.611ppb

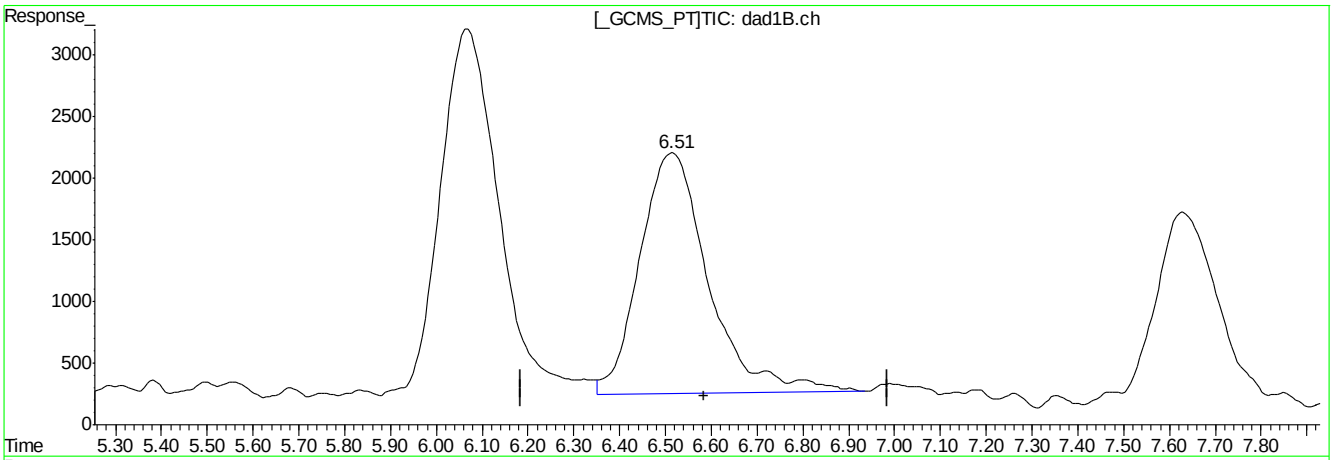
response 718906

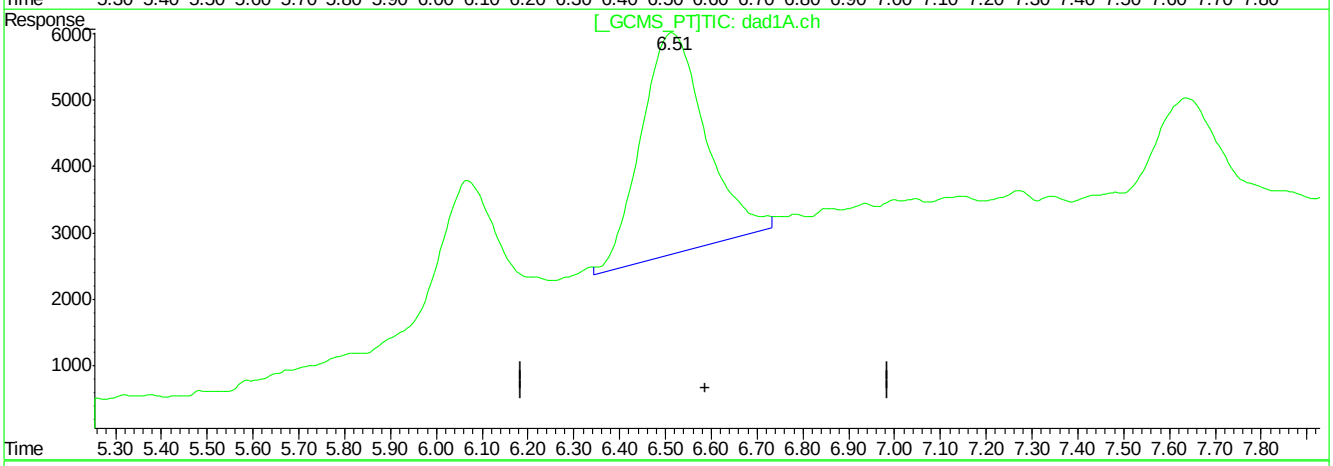
(+) = Expected Retention Time
BB053670.D 8330B_0316PLUS.M Fri Mar 17 10:17:13 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1A.ch
Acq On : 16-Mar-2017, 11:55:14 Operator: evitam
Sample : IC1558-50 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:12 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(8) 3,5-Dinitroaniline

6.52min 46.263ppb

response 203446

(8) 3,5-Dinitroaniline #2

6.51min 45.008ppb m

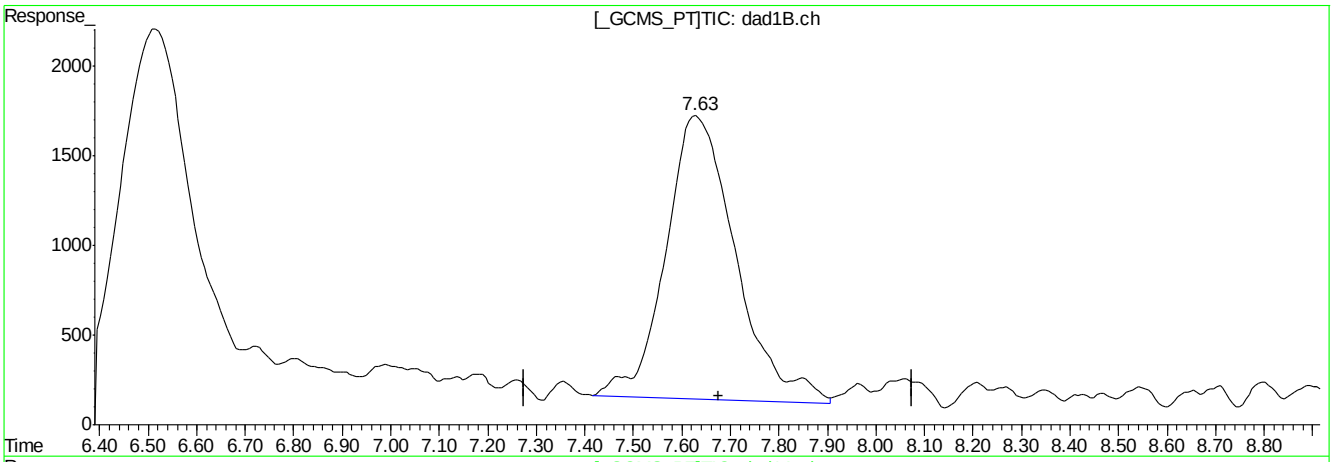
response 327637

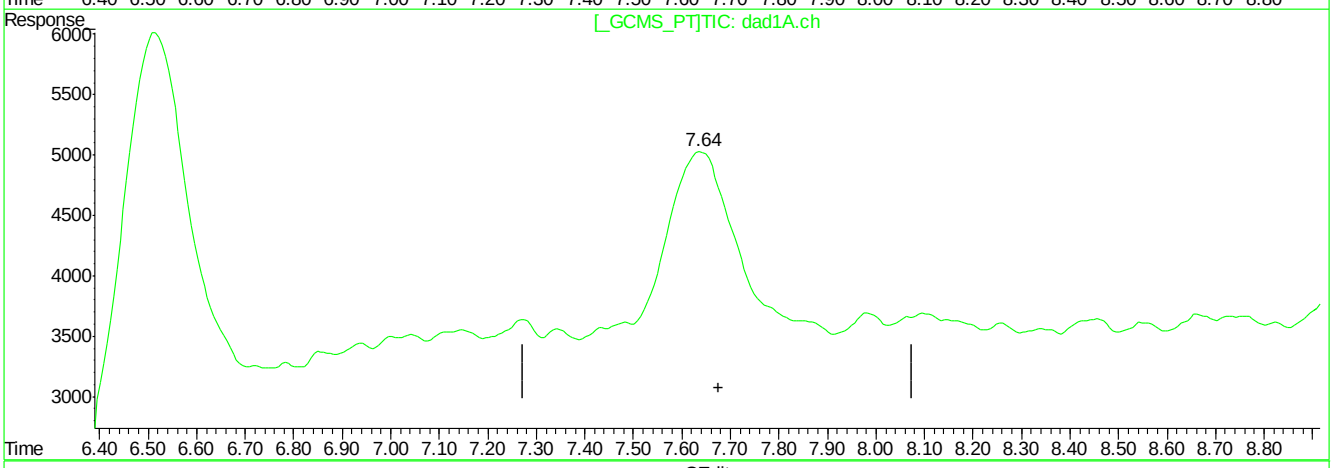
(+) = Expected Retention Time
BB053670.D 8330B_0316PLUS.M Fri Mar 17 10:17:17 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1A.ch
Acq On : 16-Mar-2017, 11:55:14 Operator: evitam
Sample : IC1558-50 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:12 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(9) Nitrobenzene

7.63min 44.284ppb

response 157853

(9) Nitrobenzene #2

7.64min 186.370ppb

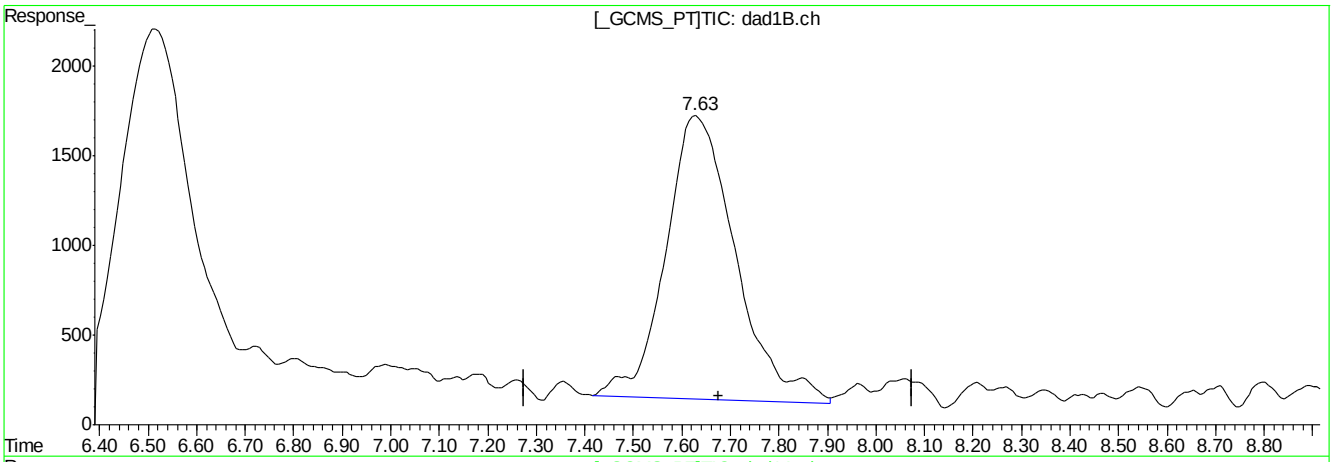
response 626927

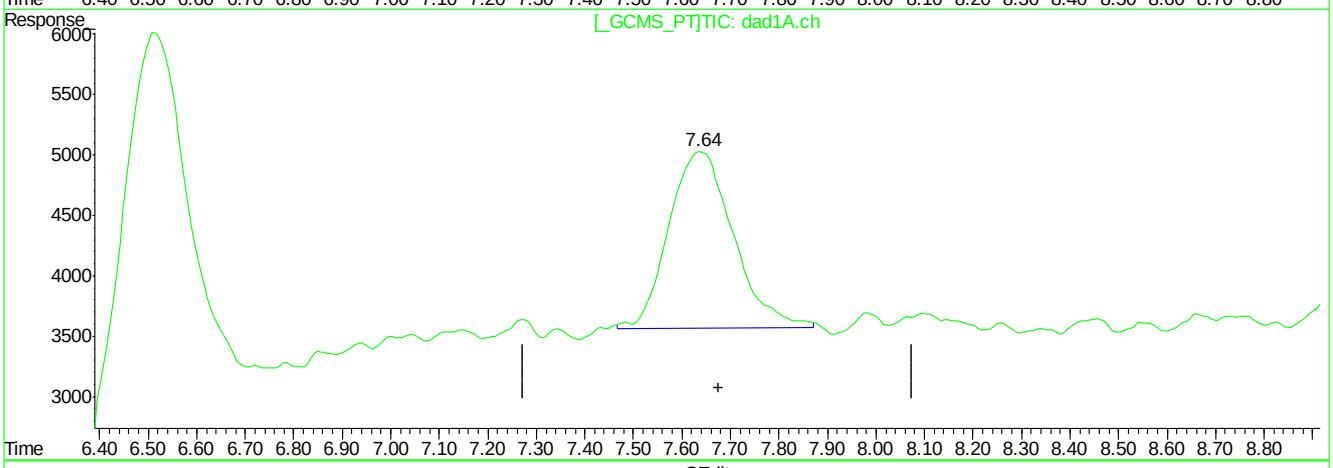
(+) = Expected Retention Time
BB053670.D 8330B_0316PLUS.M Fri Mar 17 10:17:21 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1A.ch
Acq On : 16-Mar-2017, 11:55:14 Operator: evitam
Sample : IC1558-50 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:12 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(9) Nitrobenzene

7.63min 44.284ppb

response 157853

(9) Nitrobenzene #2

7.64min 39.884ppb m

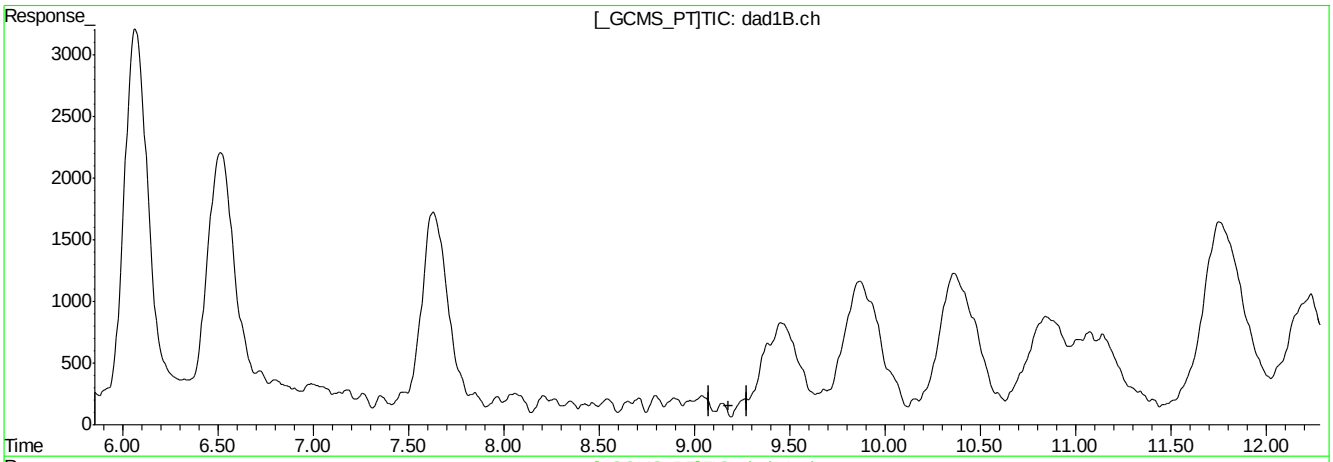
response 134164

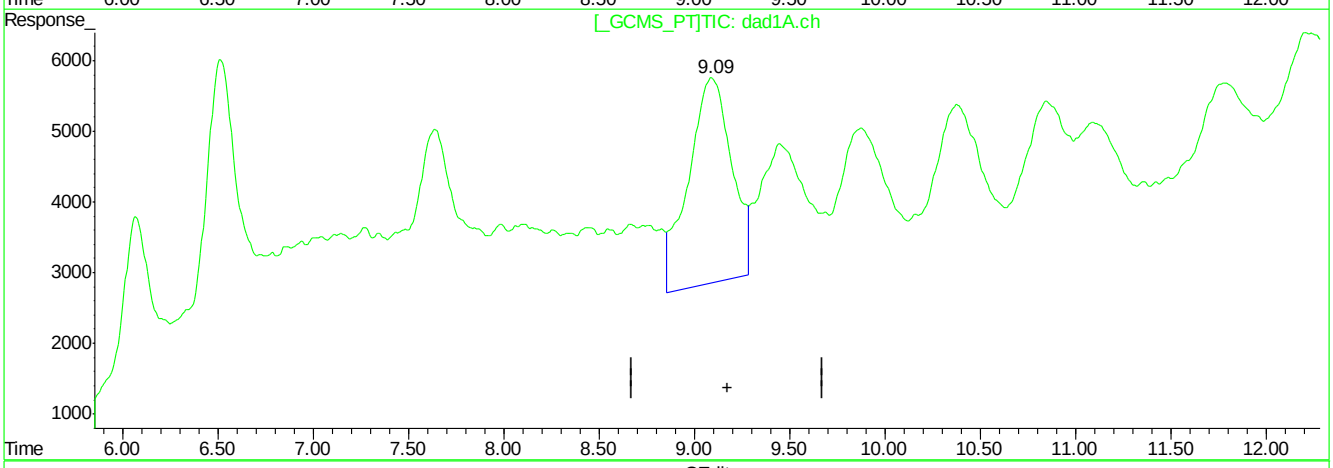
(+) = Expected Retention Time
BB053670.D 8330B_0316PLUS.M Fri Mar 17 10:17:25 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1A.ch
Acq On : 16-Mar-2017, 11:55:14 Operator: evitam
Sample : IC1558-50 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:12 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(10) Nitroglycerin

0.00min 0.000ppb

response 0

(10) Nitroglycerin #2

9.09min 344.173ppb

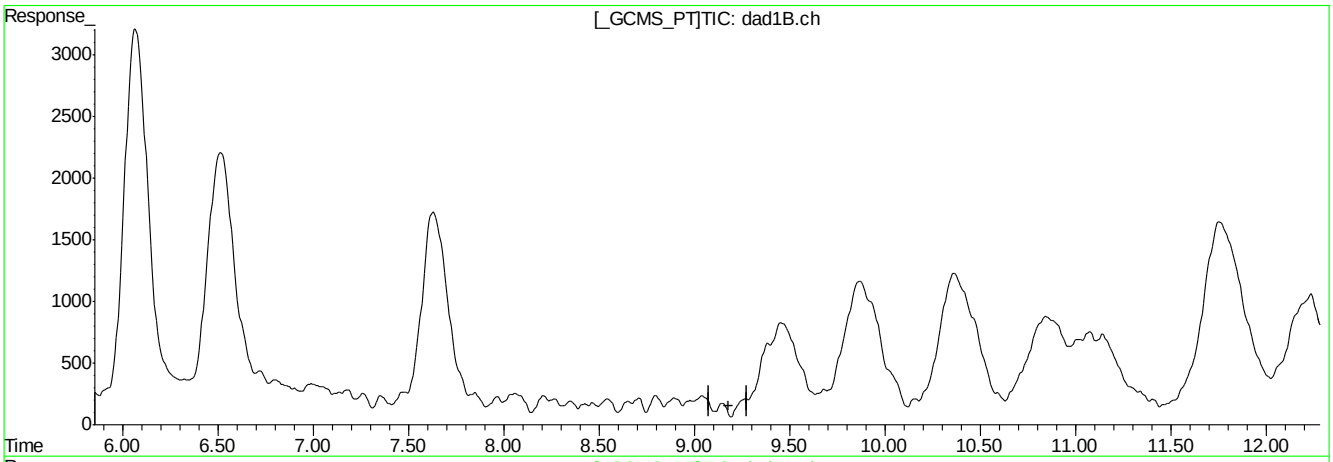
response 458291

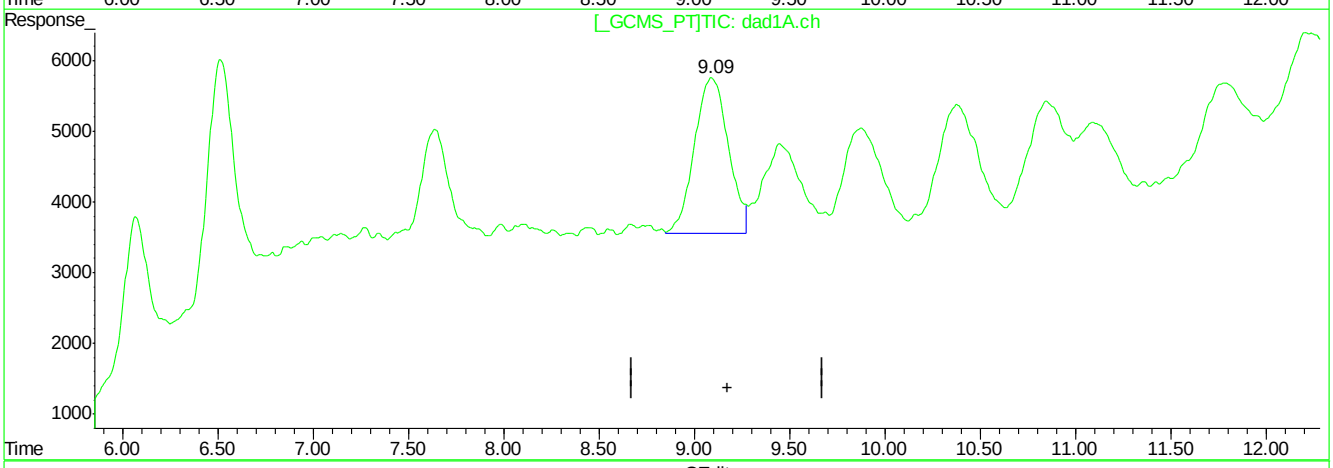
(+) = Expected Retention Time
BB053670.D 8330B_0316PLUS.M Fri Mar 17 10:17:34 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1A.ch
Acq On : 16-Mar-2017, 11:55:14 Operator: evitam
Sample : IC1558-50 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:12 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(10) Nitroglycerin

0.00min 0.000ppb

response 0

(10) Nitroglycerin #2

9.09min 203.801ppb m

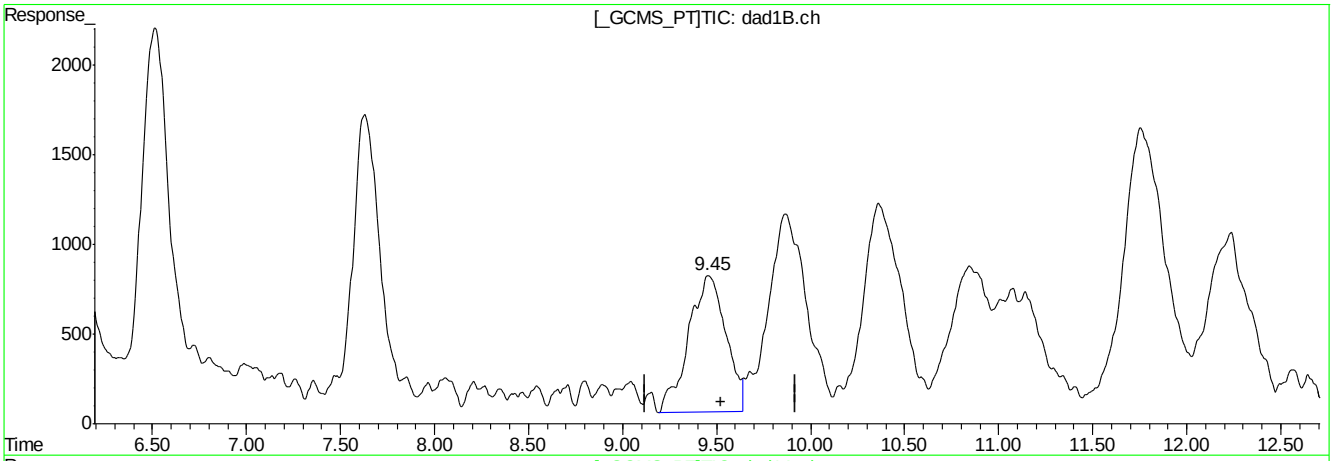
response 271375

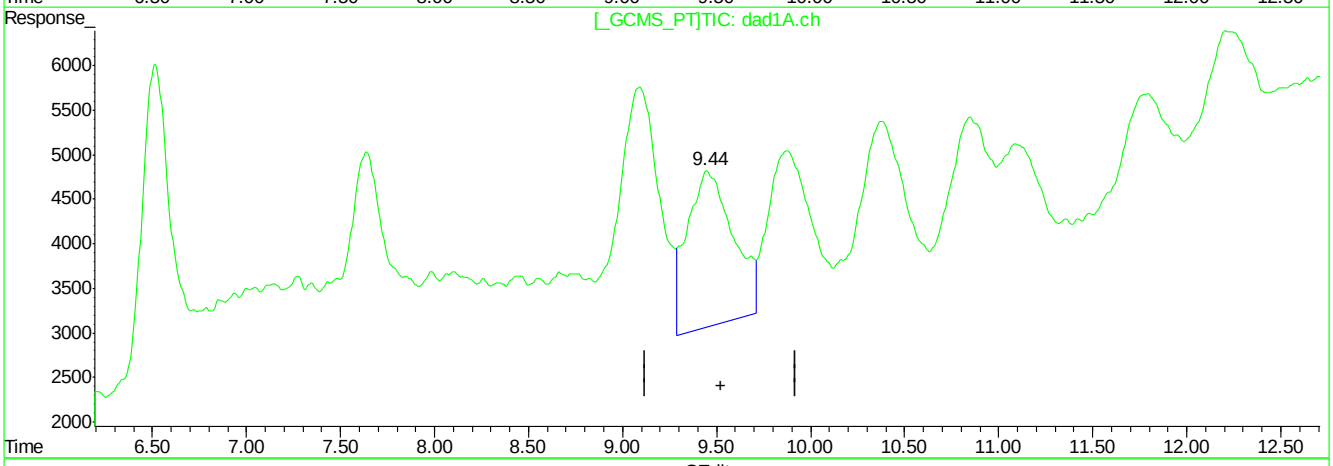
(+) = Expected Retention Time
BB053670.D 8330B_0316PLUS.M Fri Mar 17 10:17:39 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1A.ch
Acq On : 16-Mar-2017, 11:55:14 Operator: evitam
Sample : IC1558-50 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:12 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(11) Tetryl

9.46min 46.358ppb

response 104346

(11) Tetryl #2

9.45min 94.929ppb

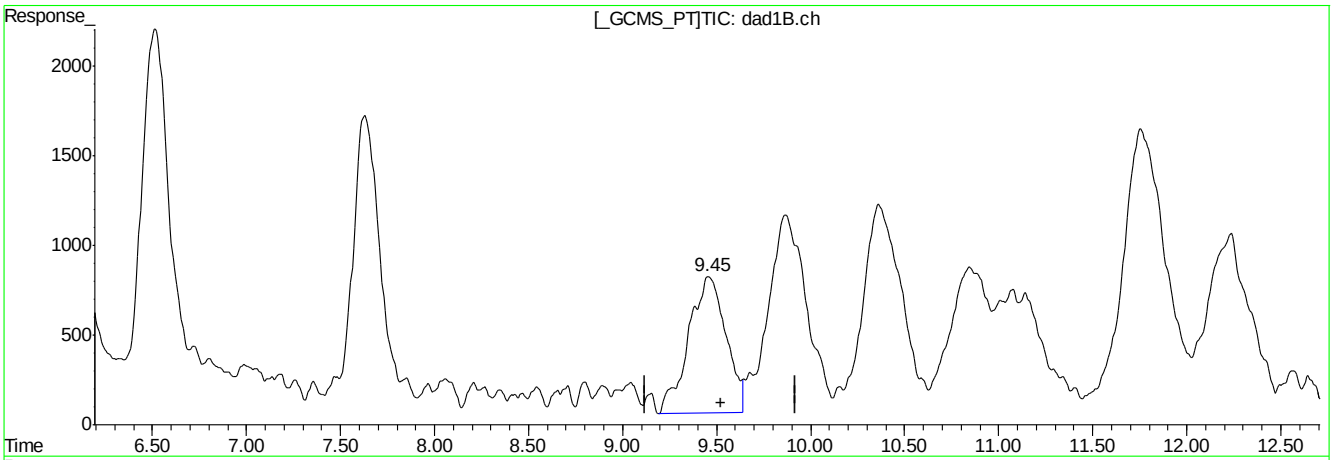
response 298084

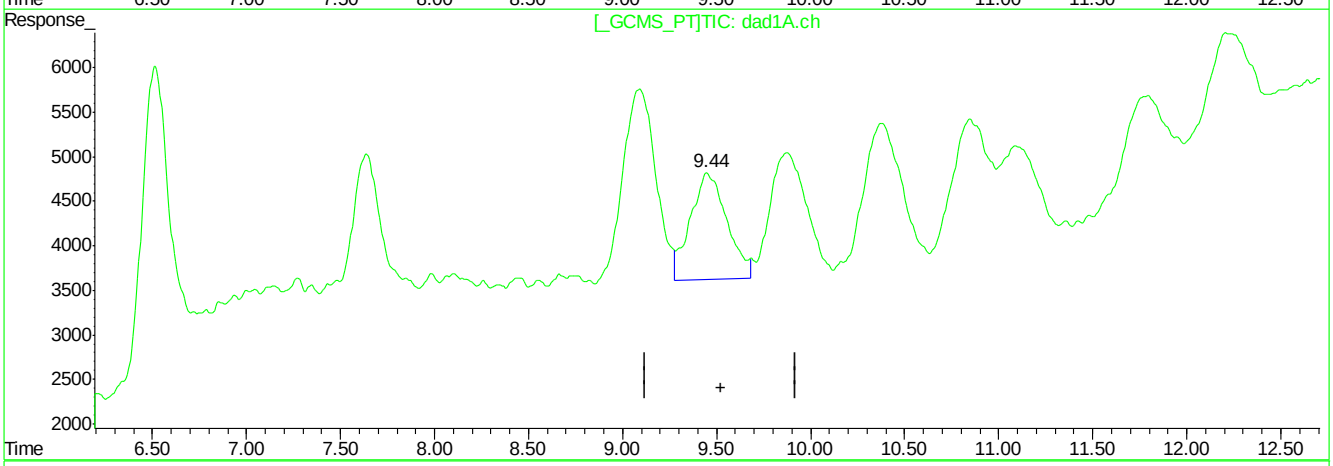
(+) = Expected Retention Time
BB053670.D 8330B_0316PLUS.M Fri Mar 17 10:17:44 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1A.ch
Acq On : 16-Mar-2017, 11:55:14 Operator: evitam
Sample : IC1558-50 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:12 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(11) Tetryl

9.46min 46.358ppb

response 104346

(11) Tetryl #2

9.44min 51.658ppb m

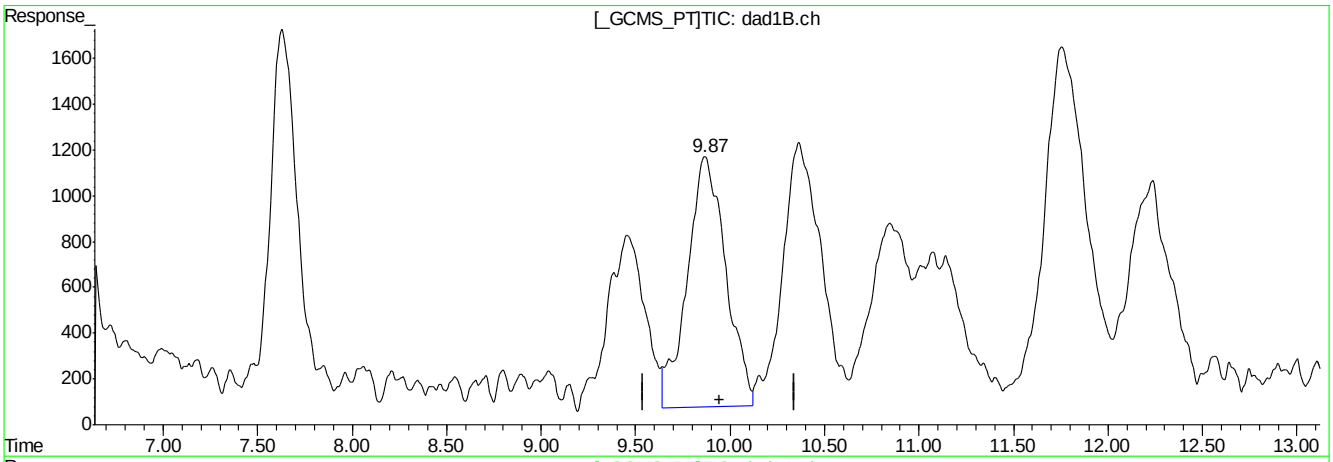
response 162211

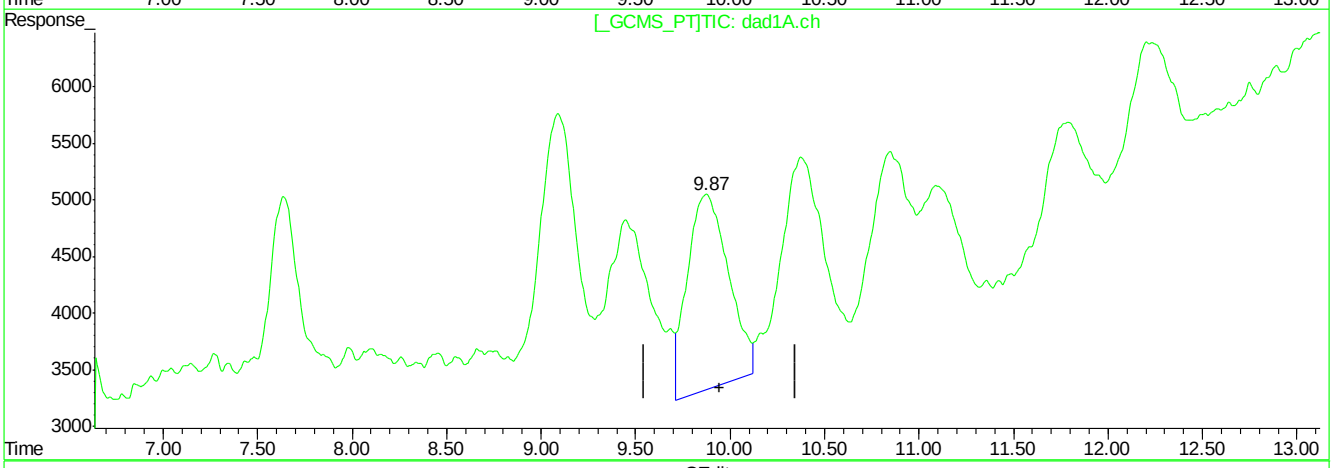
(+) = Expected Retention Time
BB053670.D 8330B_0316PLUS.M Fri Mar 17 10:17:49 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1A.ch
Acq On : 16-Mar-2017, 11:55:14 Operator: evitam
Sample : IC1558-50 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:12 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(12) 2,4,6-Trinitrotoluene

9.87min 42.088ppb

response 155188

(12) 2,4,6-Trinitrotoluene #2

9.88min 58.235ppb

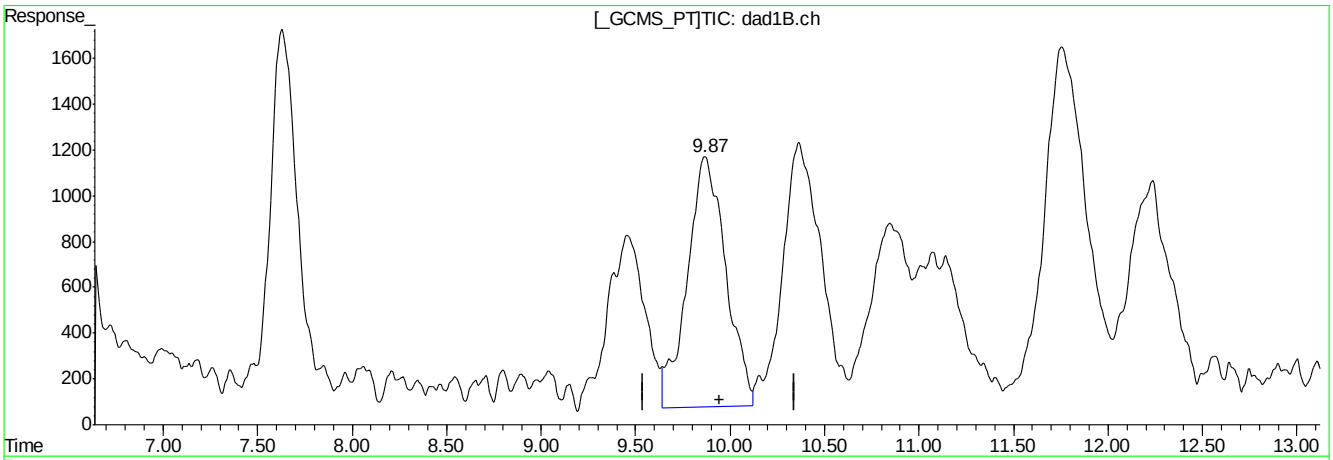
response 262705

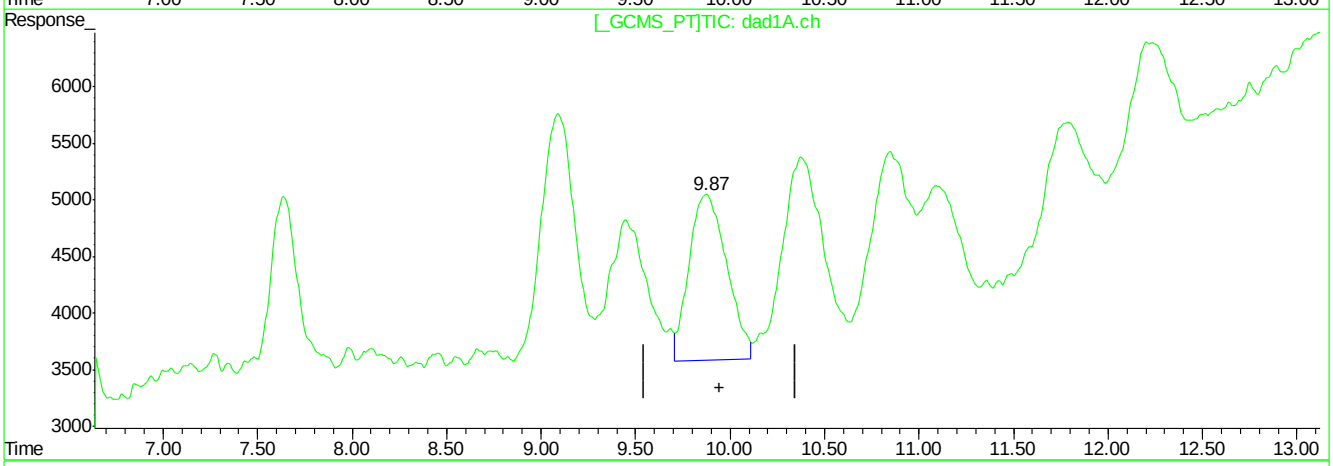
(+) = Expected Retention Time
BB053670.D 8330B_0316PLUS.M Fri Mar 17 10:17:54 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1A.ch
Acq On : 16-Mar-2017, 11:55:14 Operator: evitam
Sample : IC1558-50 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:12 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(12) 2,4,6-Trinitrotoluene

9.87min 42.088ppb

response 155188

(12) 2,4,6-Trinitrotoluene #2

9.87min 44.951ppb m

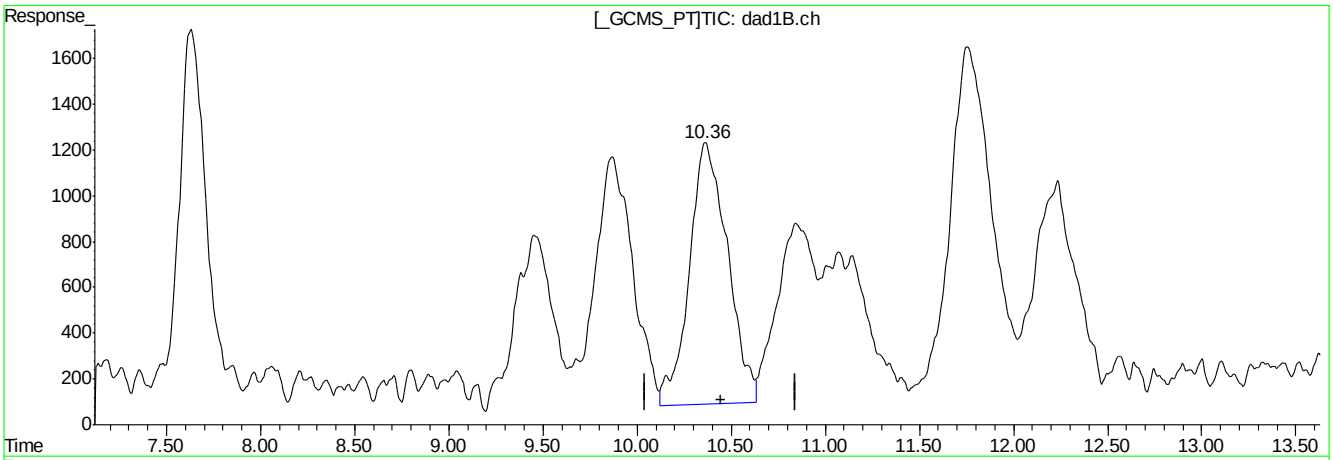
response 202781

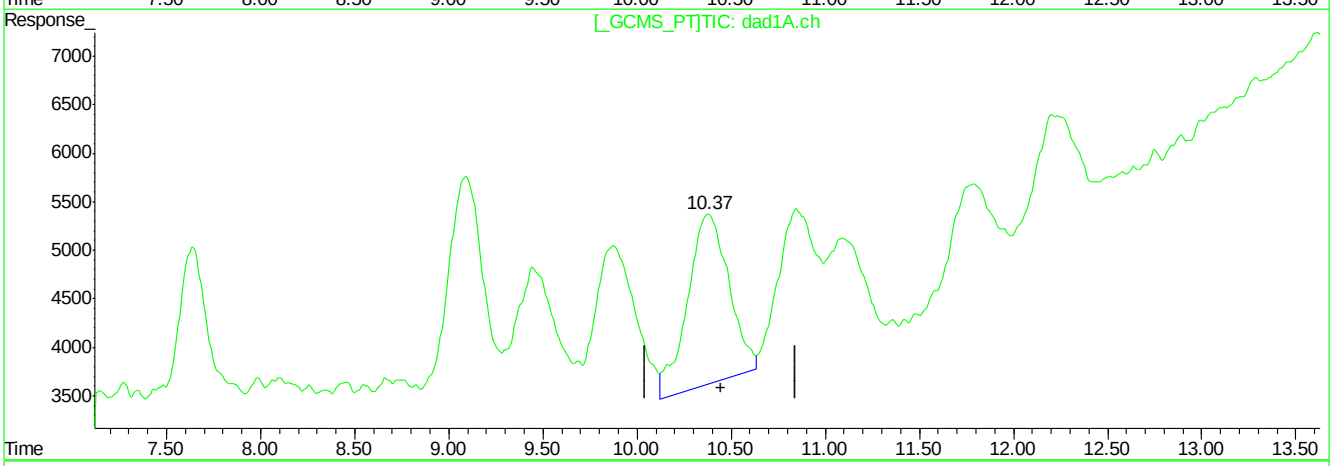
(+) = Expected Retention Time
BB053670.D 8330B_0316PLUS.M Fri Mar 17 10:17:59 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1A.ch
Acq On : 16-Mar-2017, 11:55:14 Operator: evitam
Sample : IC1558-50 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:12 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(13) 2-Amino-4,6-Dinitrotoluene

10.36min 38.777ppb

response 160292

(13) 2-Amino-4,6-Dinitrotoluene #2

10.38min 46.728ppb

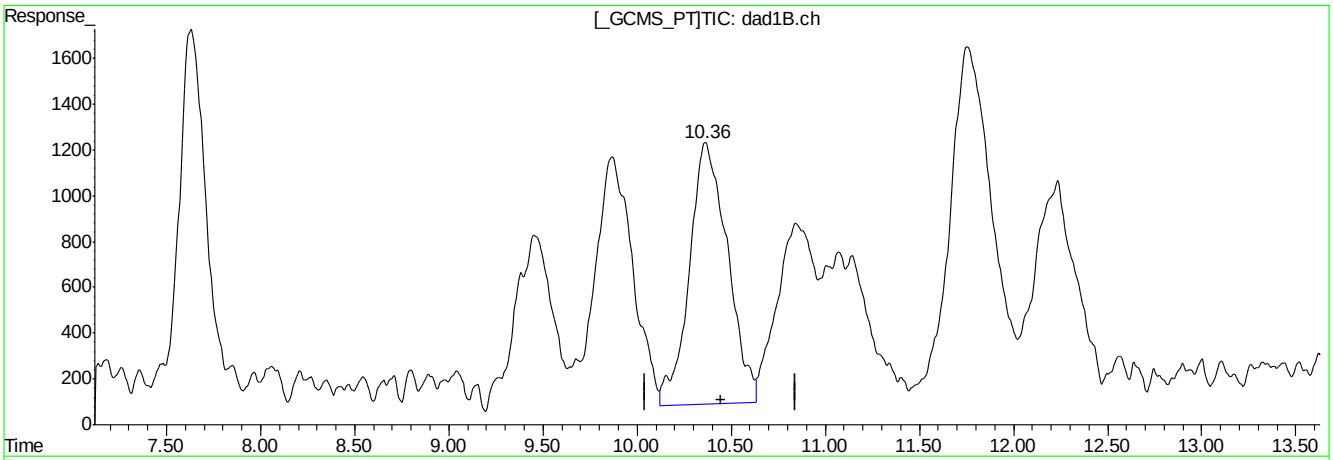
response 267675

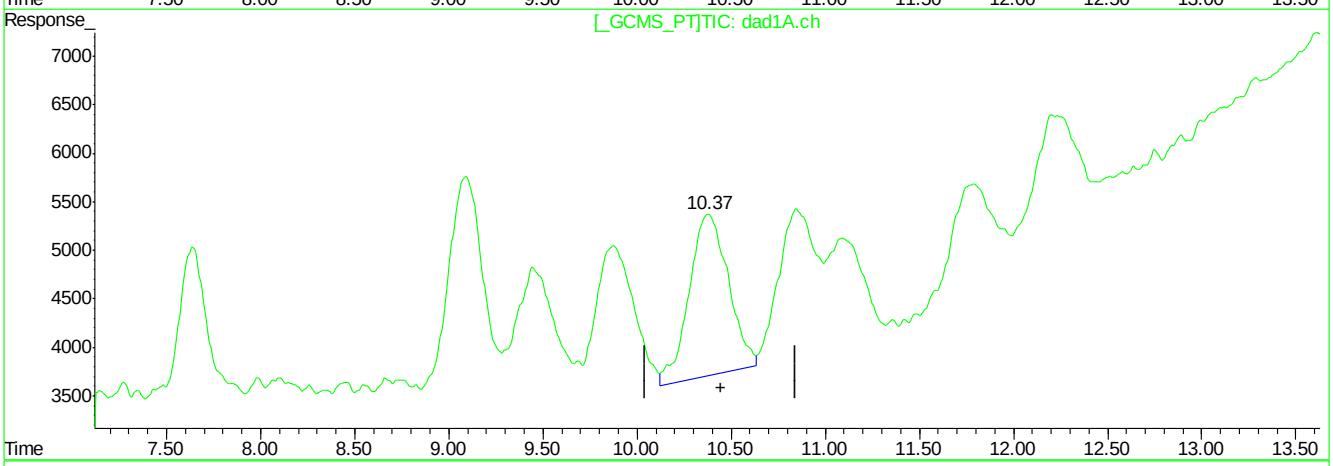
(+) = Expected Retention Time
BB053670.D 8330B_0316PLUS.M Fri Mar 17 10:18:10 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1A.ch
Acq On : 16-Mar-2017, 11:55:14 Operator: evitam
Sample : IC1558-50 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:12 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(13) 2-Amino-4,6-Dinitrotoluene

10.36min 38.777ppb

response 160292

(13) 2-Amino-4,6-Dinitrotoluene #2

10.37min 42.236ppb m

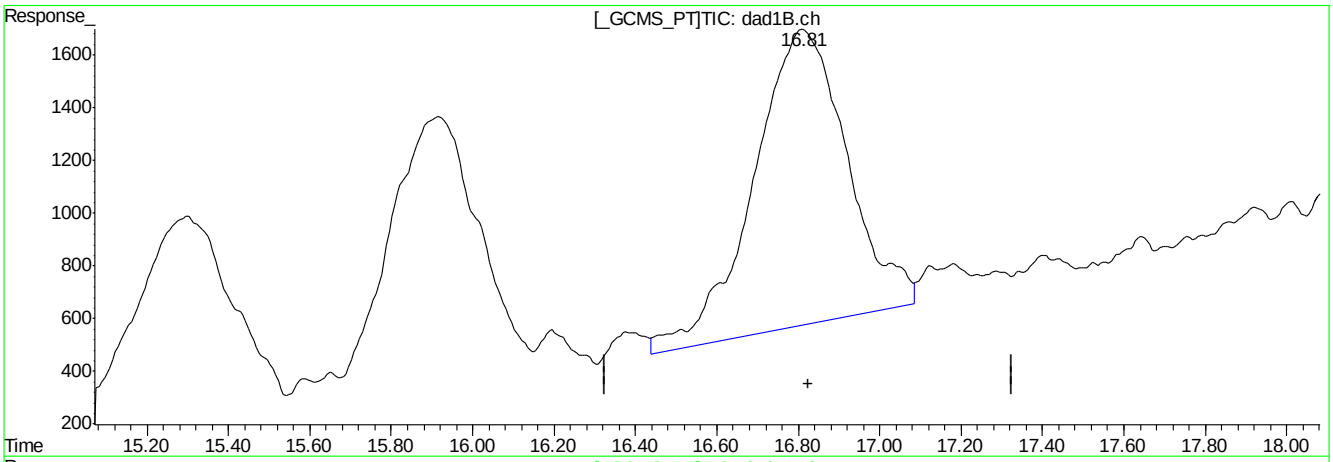
response 241942

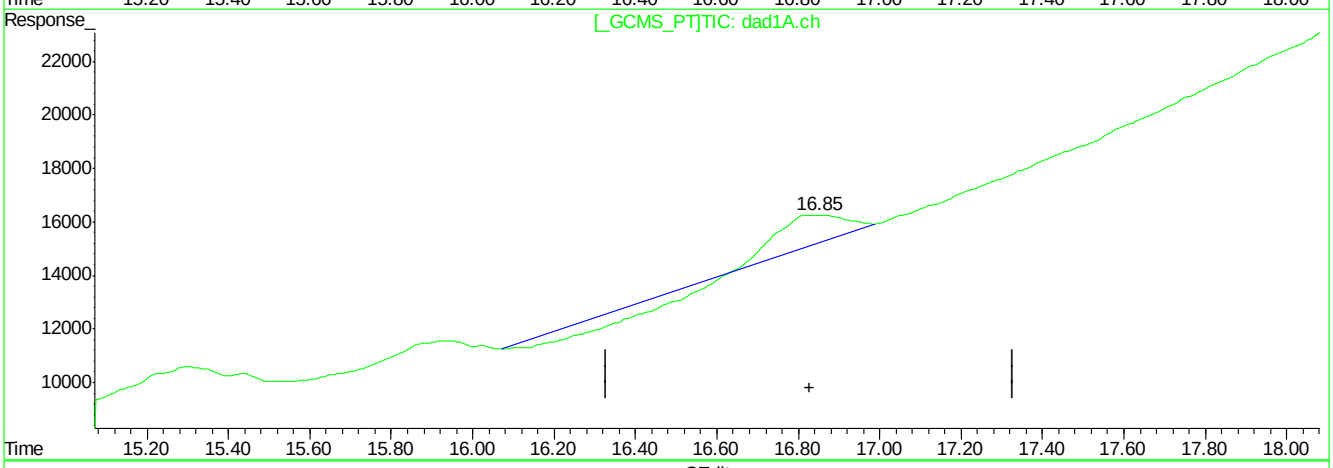
(+) = Expected Retention Time
BB053670.D 8330B_0316PLUS.M Fri Mar 17 10:18:15 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1A.ch
Acq On : 16-Mar-2017, 11:55:14 Operator: evitam
Sample : IC1558-50 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:12 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(20) m-Nitrotoluene

16.81min 45.986ppb

response 178517

(20) m-Nitrotoluene #2

16.85min 3.687ppb

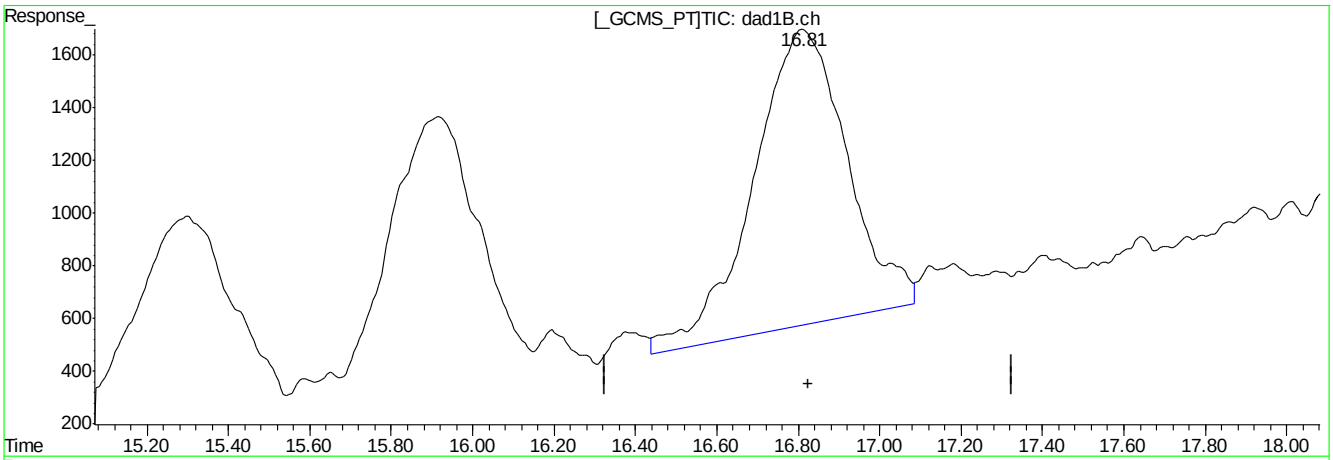
response 16183

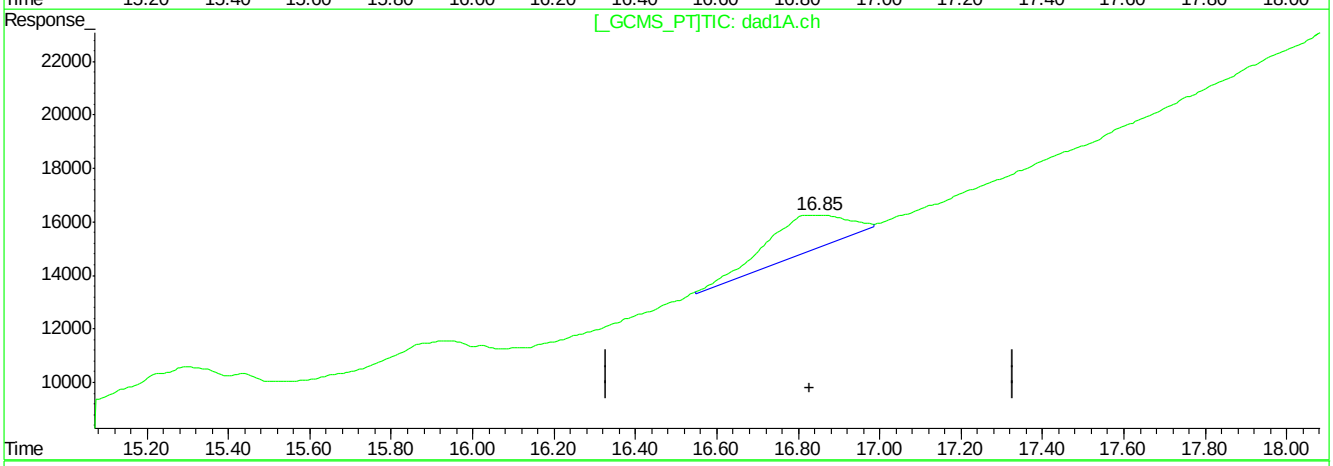
(+) = Expected Retention Time
BB053670.D 8330B_0316PLUS.M Fri Mar 17 10:18:28 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1A.ch
Acq On : 16-Mar-2017, 11:55:14 Operator: evitam
Sample : IC1558-50 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:12 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(20) m-Nitrotoluene

16.81min 45.986ppb

response 178517

(20) m-Nitrotoluene #2

16.85min 43.167ppb m

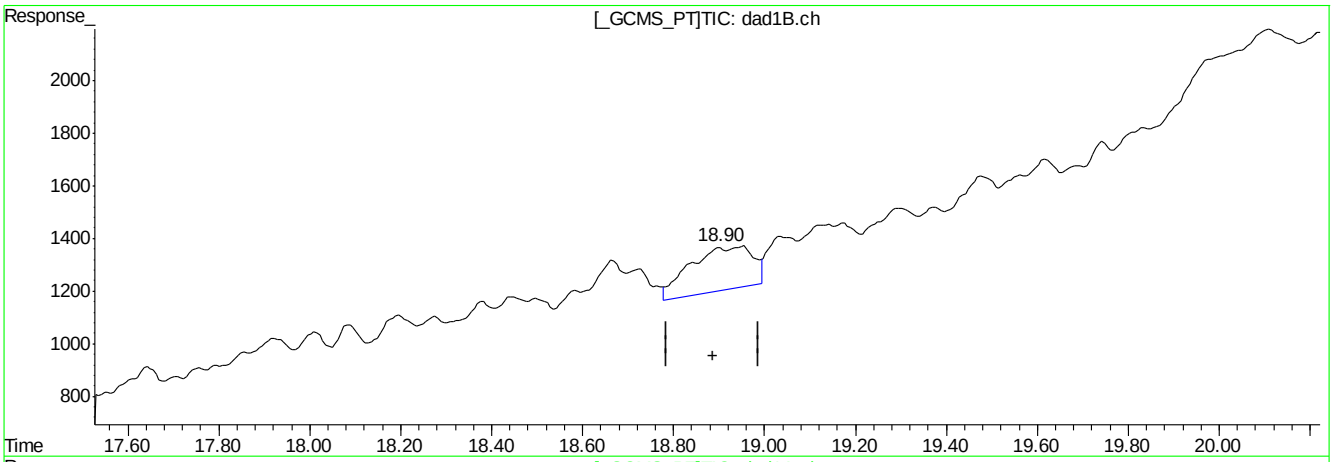
response 189443

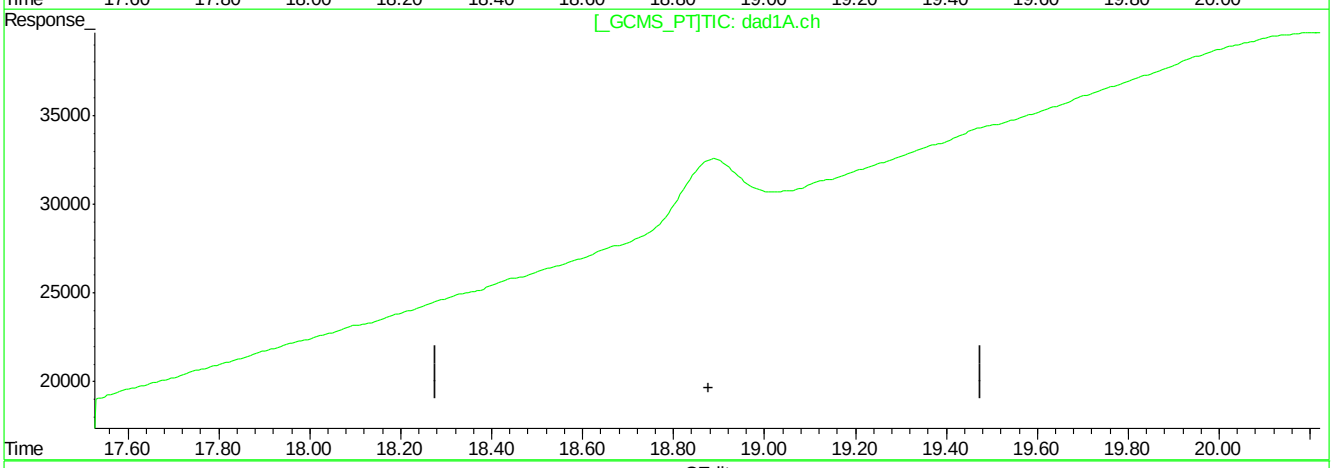
(+) = Expected Retention Time
BB053670.D 8330B_0316PLUS.M Fri Mar 17 10:18:32 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1A.ch
Acq On : 16-Mar-2017, 11:55:14 Operator: evitam
Sample : IC1558-50 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:12 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(21) PETN

18.95min 0.000ppb

response 15855

(21) PETN #2

0.00min 0.000ppb

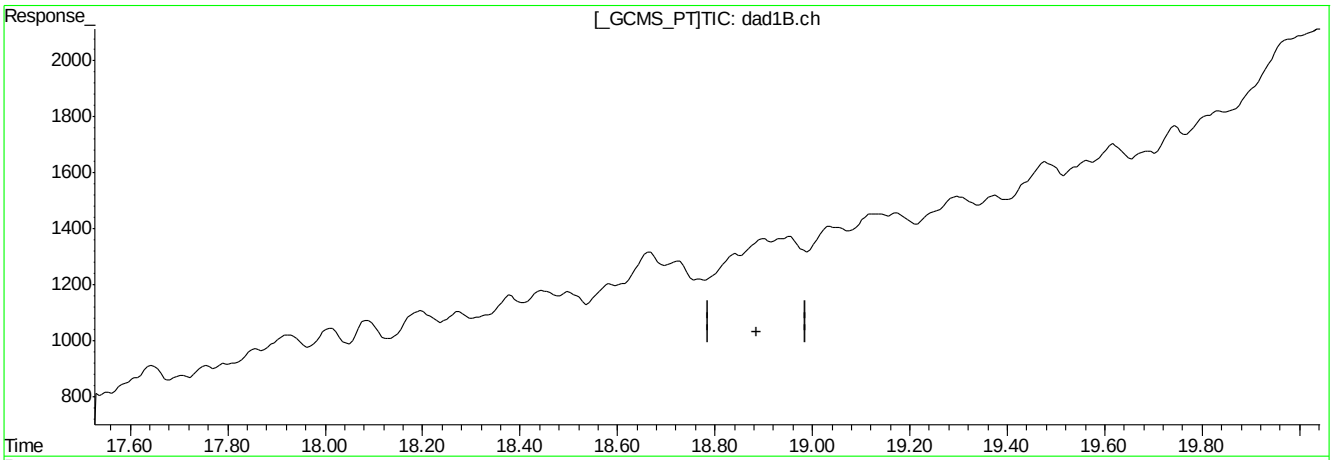
response 0

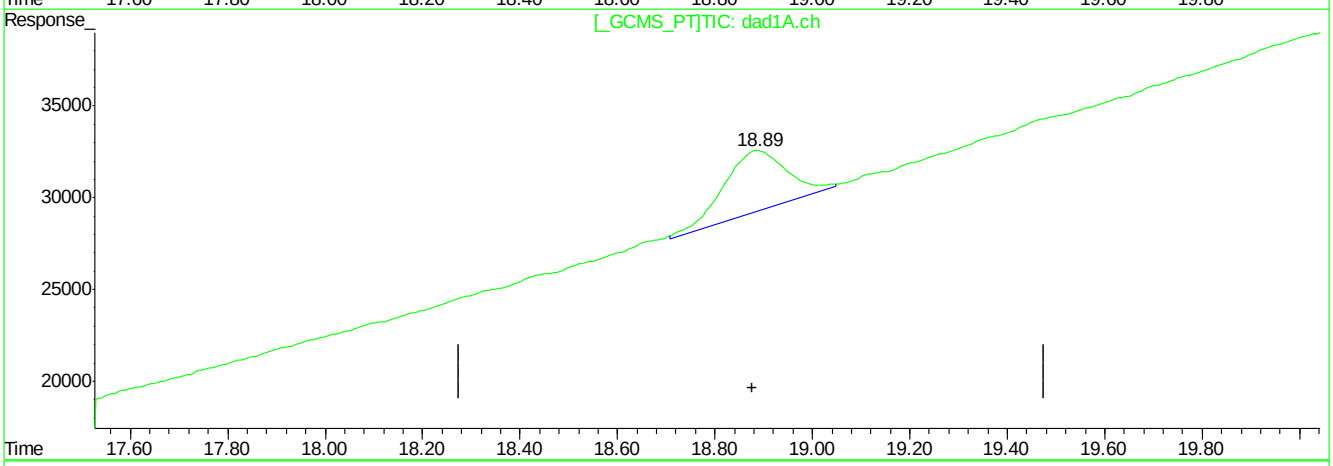
(+) = Expected Retention Time
BB053670.D 8330B_0316PLUS.M Fri Mar 17 10:18:35 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053670.D\dad1A.ch
Acq On : 16-Mar-2017, 11:55:14 Operator: evitam
Sample : IC1558-50 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:12 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.89min 196.692ppb m

response 298517

(+) = Expected Retention Time
BB053670.D 8330B_0316PLUS.M Fri Mar 17 10:18:40 2017

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
03/20/17 10:31

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053671.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053671.D\dad1A.ch
Acq On : 16-Mar-2017, 12:25:11 Operator: evitam
Sample : IC1558-100 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:21:09 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.07	11.11	188572	283321	75.155	66.934
Spiked Amount	500.000	Range 70 - 136		Recovery =		15.03%#	13.39%#
	Target Compounds						
1)	TNX	1.42	1.42	278713	430715	81.780	78.327
2)	HMX	1.54	1.54	155852	399226	80.707	72.335
3)	DNX	1.82	1.82	263766	483101	82.892	96.444
4)	MNX	2.42	2.42	199058	289345	78.766	72.735
5)	RDX	3.05	3.05	180584	266659	82.621	76.760
6)	1,3,5-Trinitrobe	4.80	4.80	349885	659333	73.747	71.624
7)	1,3-Dinitrobenze	6.07	6.07	450757	366359	73.691	84.539m
8)	3,5-Dinitroanili	6.52	6.52	333526	581913	75.829	79.861m
9)	Nitrobenzene	7.63	7.63	277599	268879	77.877	79.931m
10)	Nitroglycerin	0.00	9.09	0	475865	N.D. d	357.371
11)	Tetryl	9.46	9.46	168630	243200	74.917	77.451
12)	2,4,6-Trinitroto	9.87	9.88	263516	312388	71.468	69.248
13)	2-Amino-4,6-Dini	10.37	10.37	281434	362962	68.083	63.362
14)	4-Amino-2,6-Dini	10.85	10.85	186297	355773	63.091	63.136
16)	2,4-Dinitrotolue	11.75	11.77	426286	258479	77.540	76.787
17)	2,6-Dinitrotolue	12.21	12.22	245371	318700	76.995	82.982
18)	o-Nitrotoluene	15.28	15.29	205558	273368	80.399	84.124
19)	p-Nitrotoluene	15.89	15.90	290115	202722	74.564	61.574
20)	m-Nitrotoluene	16.79	16.81	301178	311401	77.583	70.956m
21)	PETN	0.00	18.87	0	597149	N.D. d	393.460m

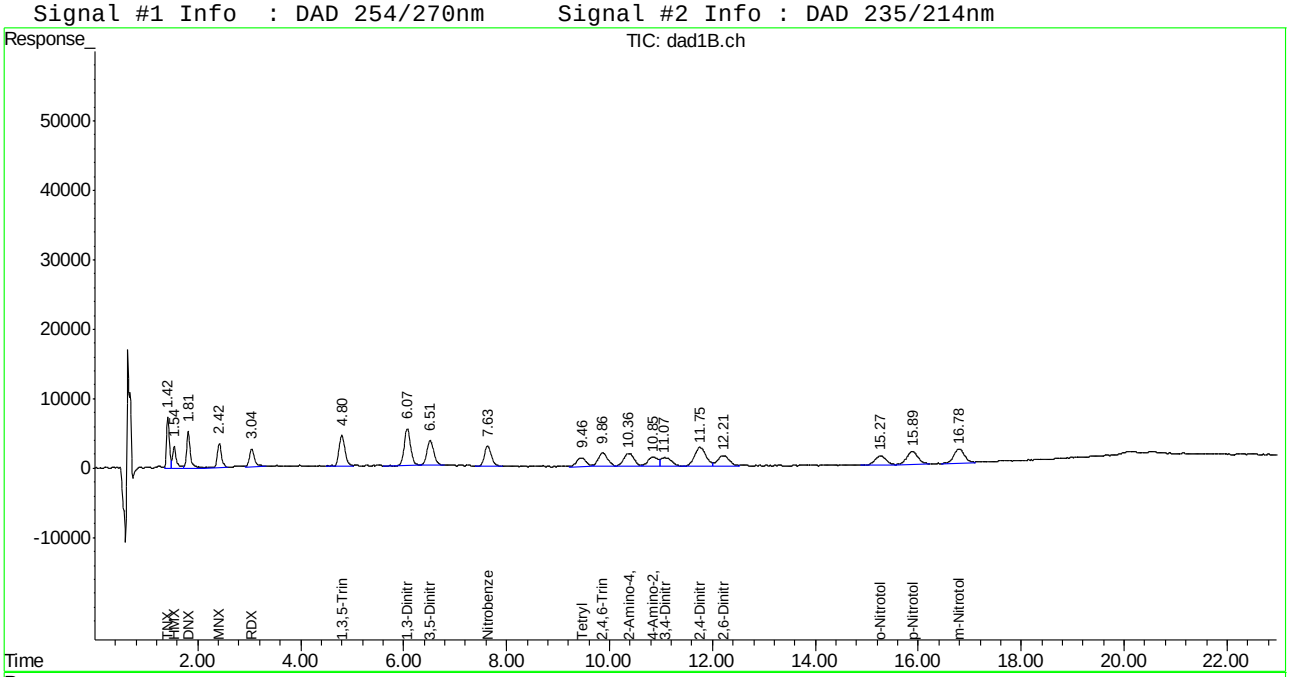
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB053671.D 8330B_0316PLUS.M Fri Mar 17 11:42:11 2017 Page 1

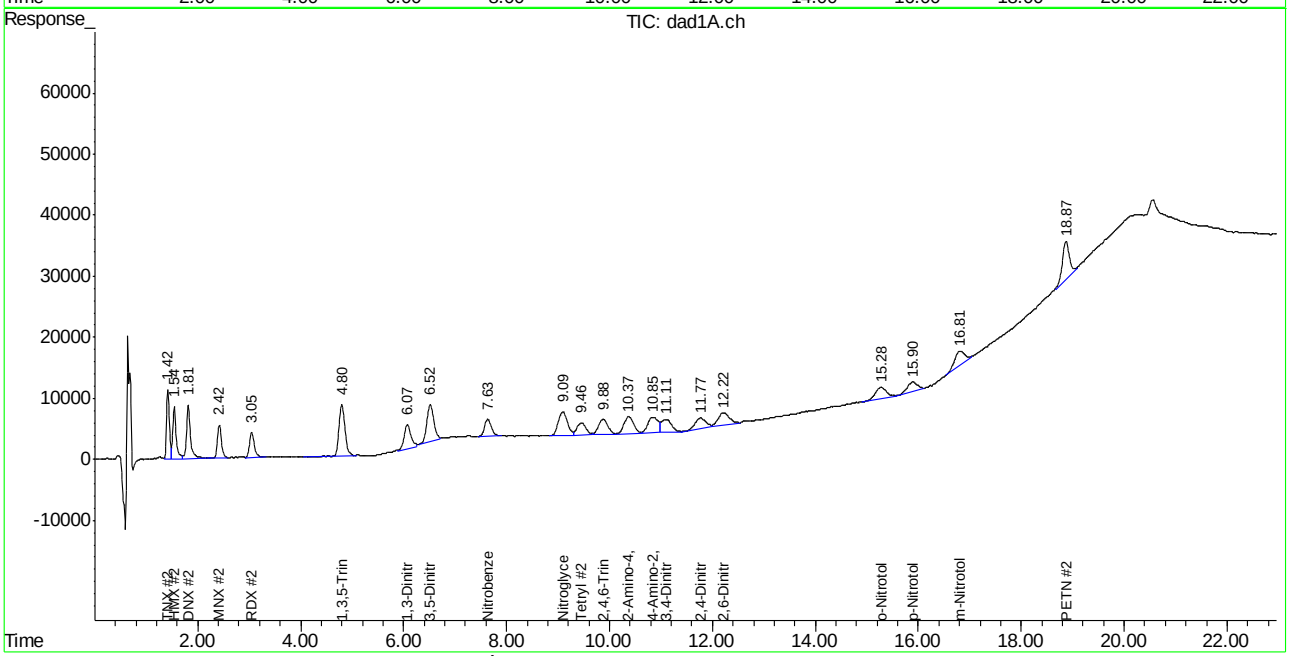
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053671.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053671.D\dad1A.ch
Acq On : 16-Mar-2017, 12:25:11 Operator: evitam
Sample : IC1558-100 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:22 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

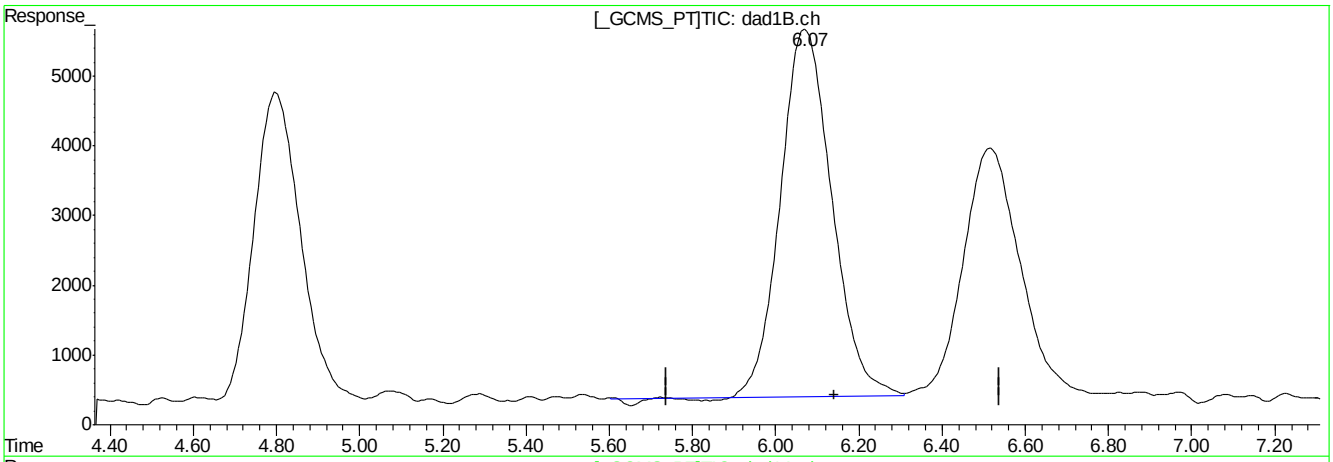
Sample Number: GBB1558-IC1558 **Method:** SW846 8330A
Lab FileID: BB053671.D **Analyst approved:** 03/20/17 10:30 Mike Eger
Injection Time: 03/16/17 12:25 **Supervisor approved:** 03/20/17 10:31 Mike Eger

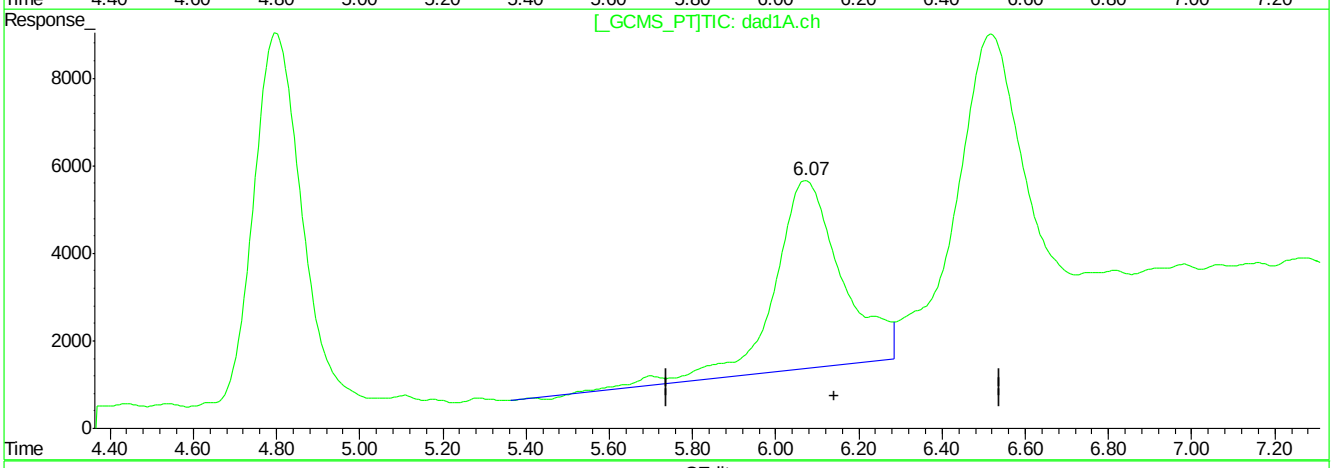
Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3-Dinitrobenzene	99-65-0	2	6.07	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	6.52	Poor instrument integration
Nitrobenzene	98-95-3	2	7.63	Poor instrument integration
m-Nitrotoluene	99-08-1	2	16.81	Poor instrument integration
PETN	78-11-5	2	18.87	Poor instrument integration

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053671.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053671.D\dad1A.ch
Acq On : 16-Mar-2017, 12:25:11 Operator: evitam
Sample : IC1558-100 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:21 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

6.07min 73.691ppb

response 450757

(7) 1,3-Dinitrobenzene #2

6.07min 112.539ppb

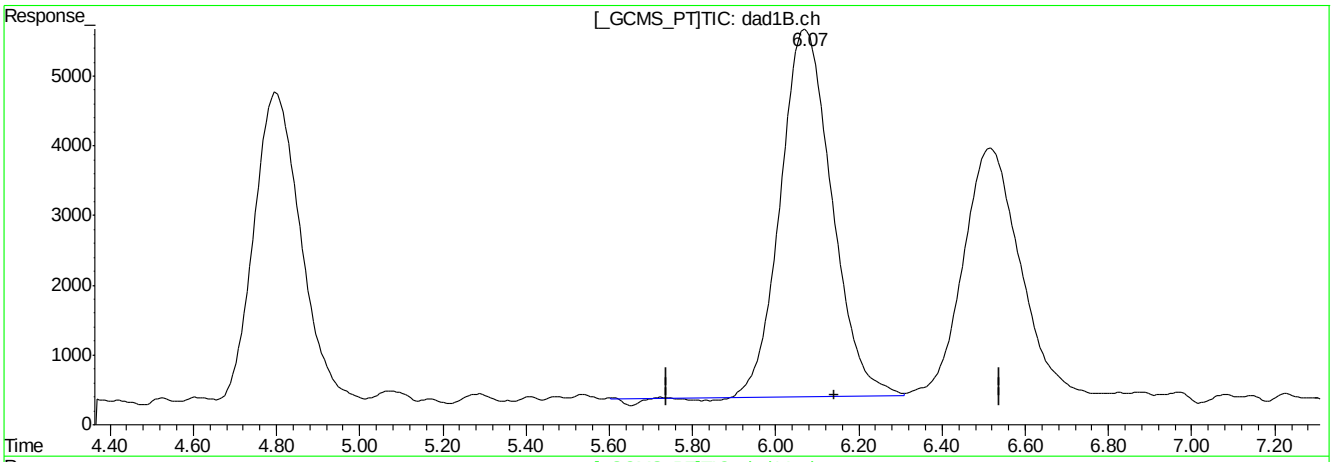
response 487704

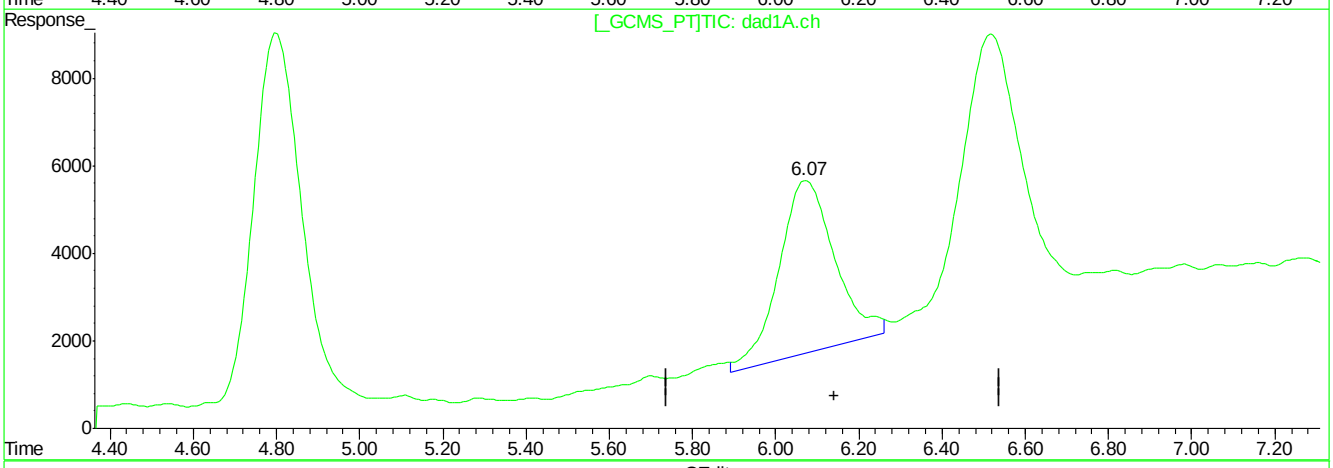
(+) = Expected Retention Time
BB053671.D 8330B_0316PLUS.M Fri Mar 17 10:21:56 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053671.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053671.D\dad1A.ch
Acq On : 16-Mar-2017, 12:25:11 Operator: evitam
Sample : IC1558-100 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:21 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

6.07min 73.691ppb

response 450757

(7) 1,3-Dinitrobenzene #2

6.07min 84.539ppb m

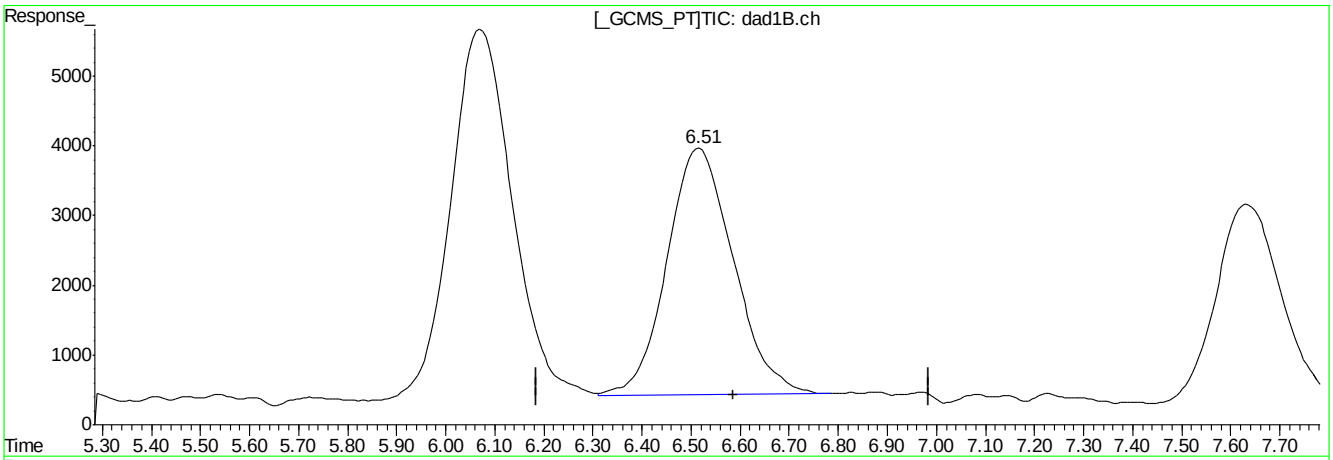
response 366359

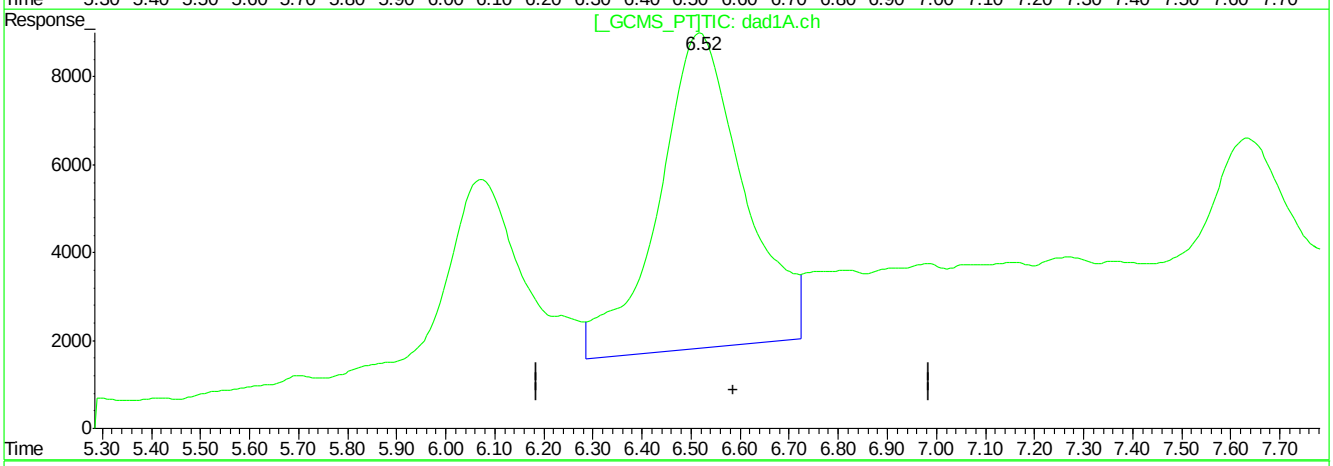
(+) = Expected Retention Time
BB053671.D 8330B_0316PLUS.M Fri Mar 17 10:22:00 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053671.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053671.D\dad1A.ch
Acq On : 16-Mar-2017, 12:25:11 Operator: evitam
Sample : IC1558-100 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:21 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(8) 3,5-Dinitroaniline

6.52min 75.829ppb

response 333526

(8) 3,5-Dinitroaniline #2

6.52min 118.009ppb

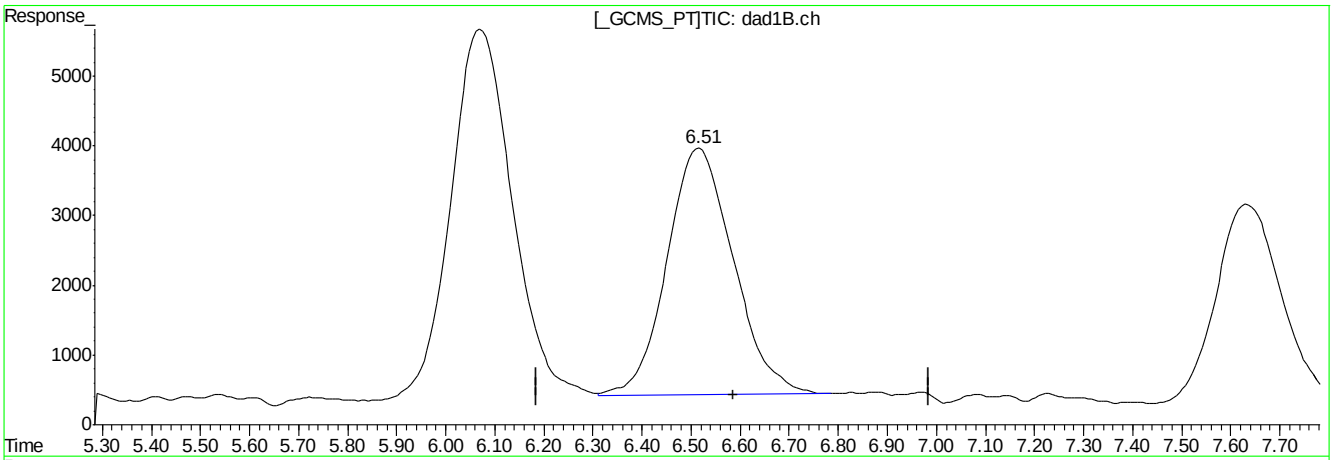
response 860786

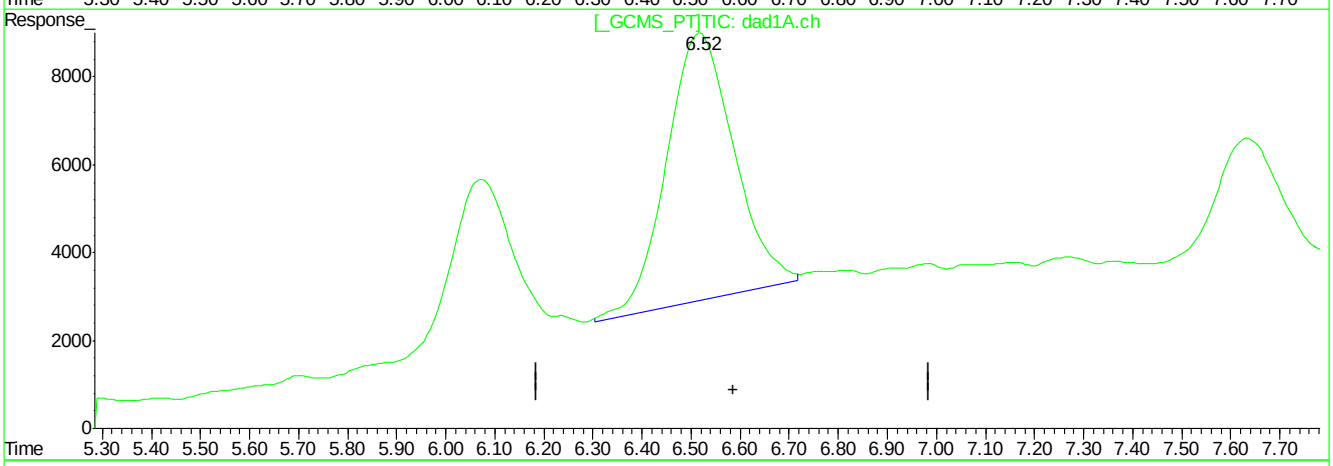
(+) = Expected Retention Time
BB053671.D 8330B_0316PLUS.M Fri Mar 17 10:22:03 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053671.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053671.D\dad1A.ch
Acq On : 16-Mar-2017, 12:25:11 Operator: evitam
Sample : IC1558-100 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:21 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(8) 3,5-Dinitroaniline

6.52min 75.829ppb

response 333526

(8) 3,5-Dinitroaniline #2

6.52min 79.861ppb m

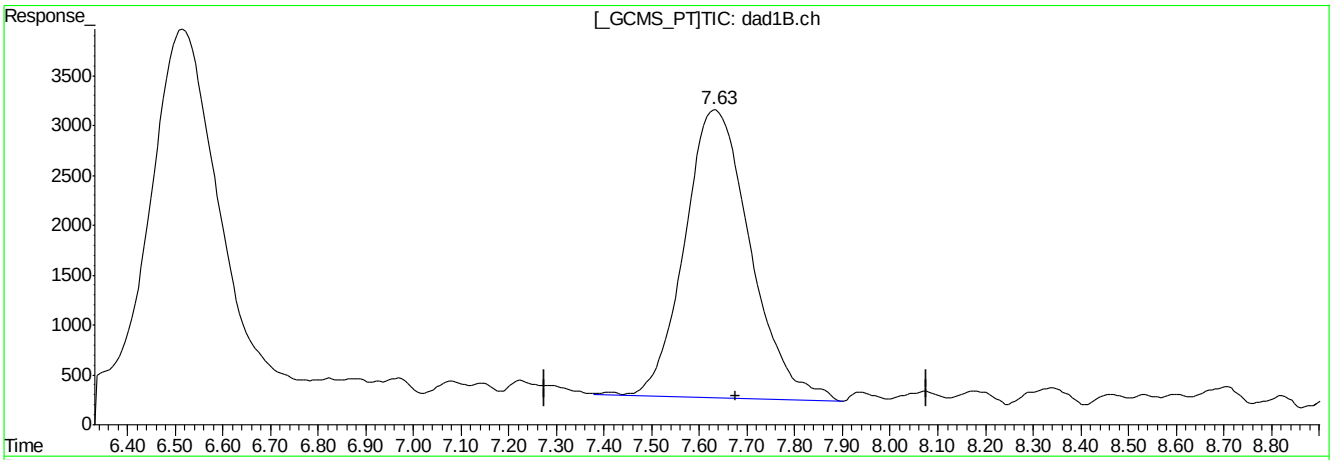
response 581913

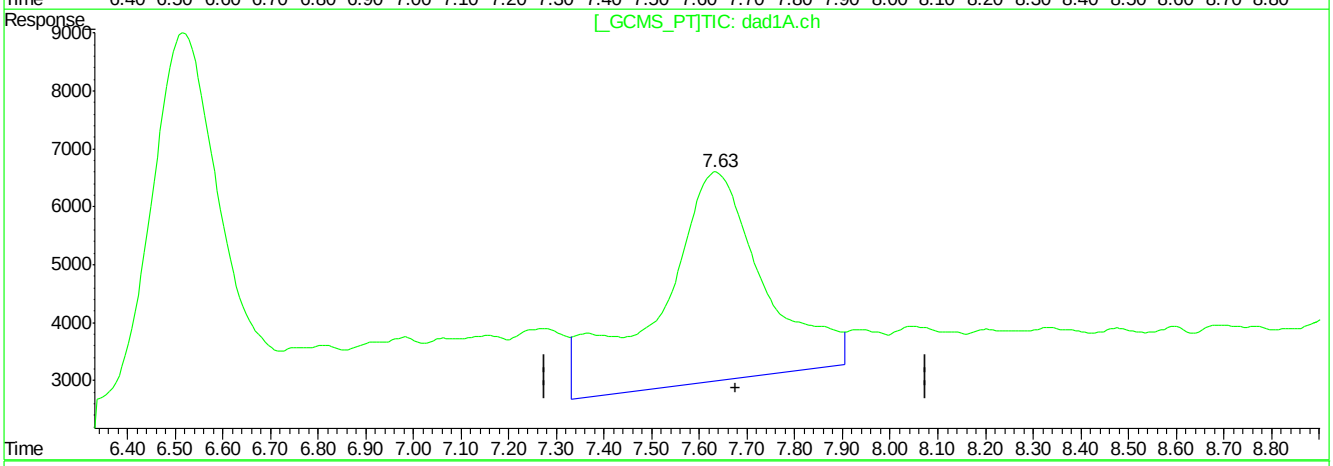
(+) = Expected Retention Time
BB053671.D 8330B_0316PLUS.M Fri Mar 17 10:22:08 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053671.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053671.D\dad1A.ch
Acq On : 16-Mar-2017, 12:25:11 Operator: evitam
Sample : IC1558-100 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:21 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(9) Nitrobenzene

7.63min 77.877ppb

response 277599

(9) Nitrobenzene #2

7.64min 161.100ppb

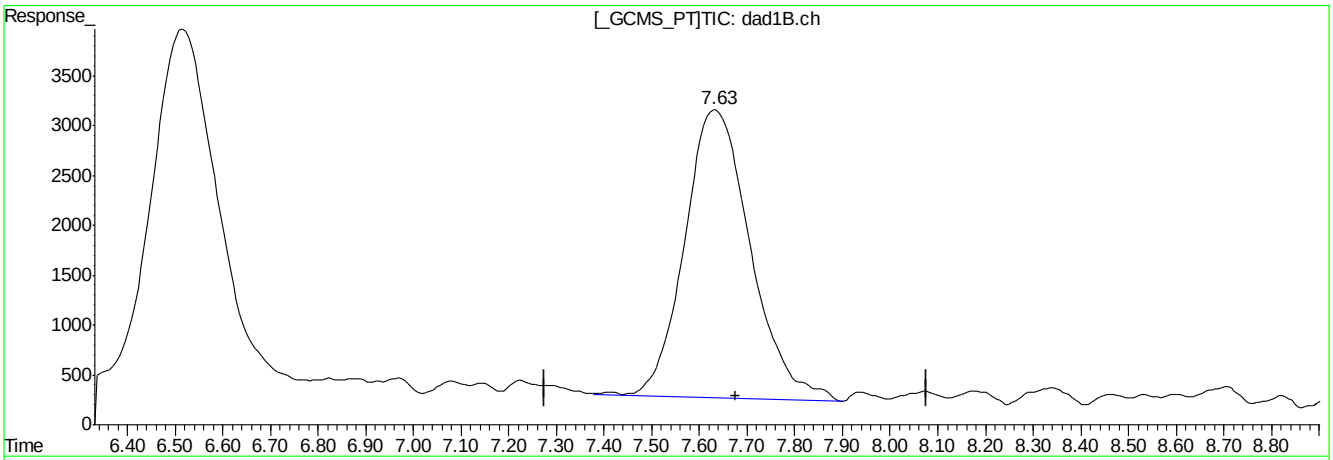
response 541924

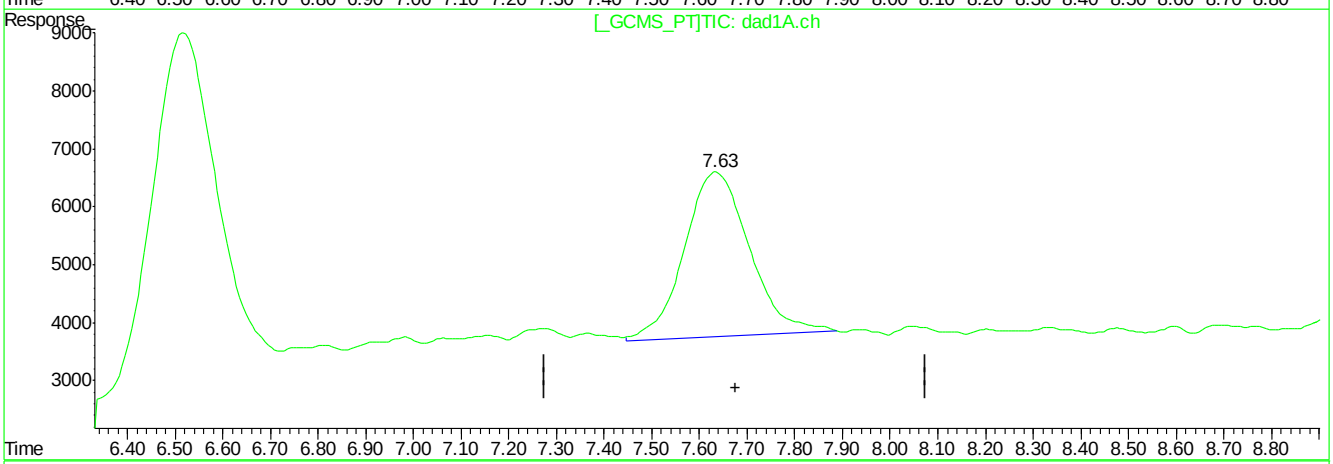
(+) = Expected Retention Time
BB053671.D 8330B_0316PLUS.M Fri Mar 17 10:22:11 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053671.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053671.D\dad1A.ch
Acq On : 16-Mar-2017, 12:25:11 Operator: evitam
Sample : IC1558-100 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:21 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(9) Nitrobenzene

7.63min 77.877ppb

response 277599

(9) Nitrobenzene #2

7.63min 79.931ppb m

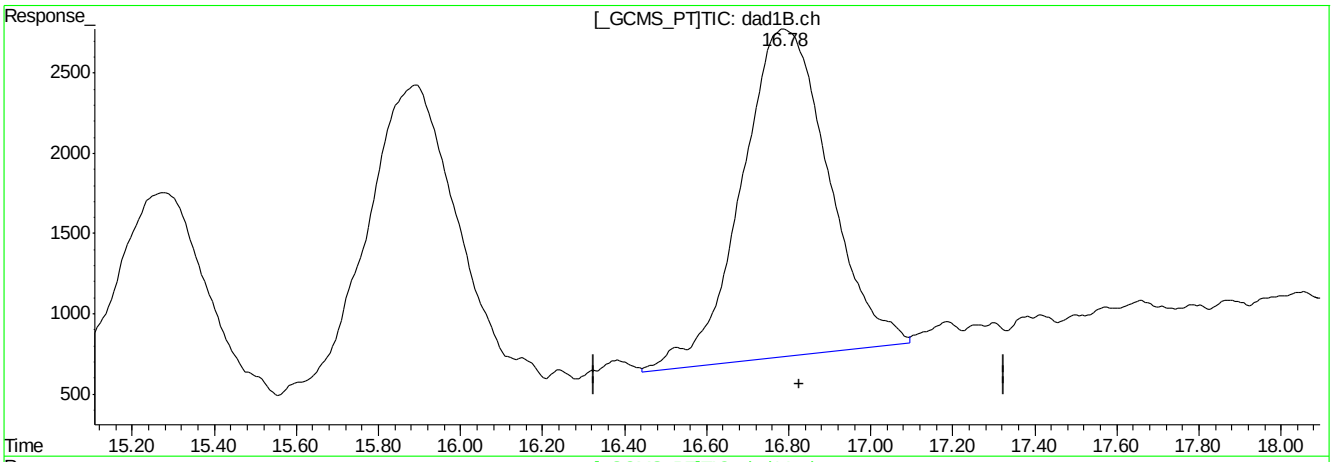
response 268879

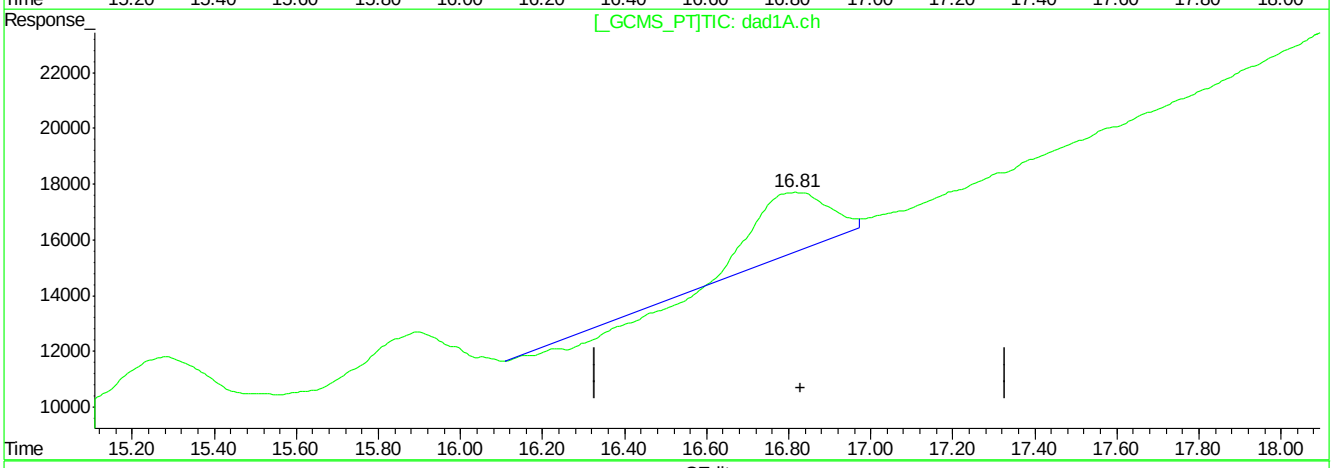
(+) = Expected Retention Time
BB053671.D 8330B_0316PLUS.M Fri Mar 17 10:22:14 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053671.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053671.D\dad1A.ch
Acq On : 16-Mar-2017, 12:25:11 Operator: evitam
Sample : IC1558-100 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:21 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(20) m-Nitrotoluene

16.79min 77.583ppb

response 301178

(20) m-Nitrotoluene #2

16.82min 45.060ppb

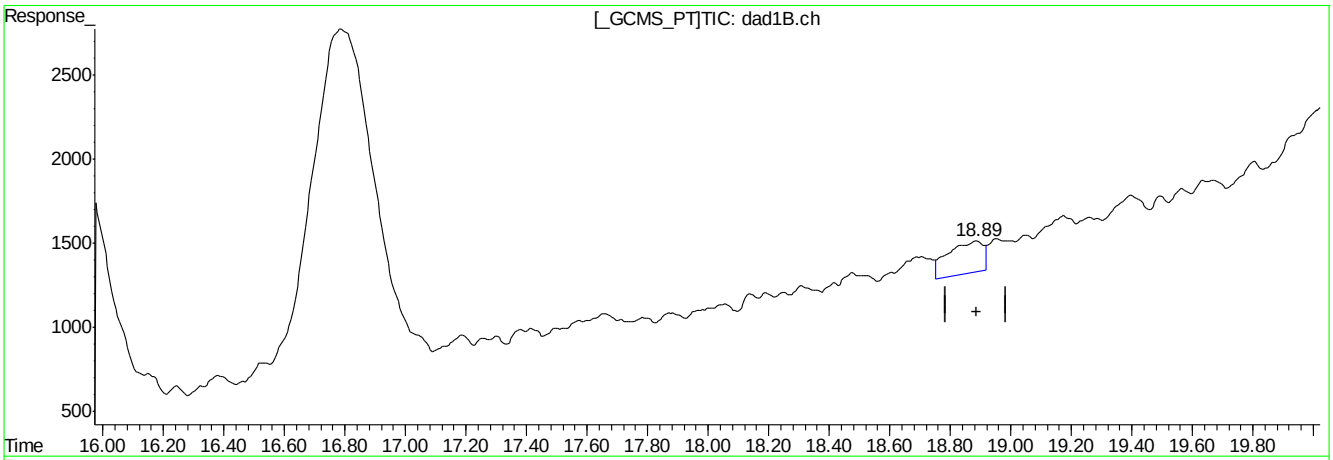
response 197752

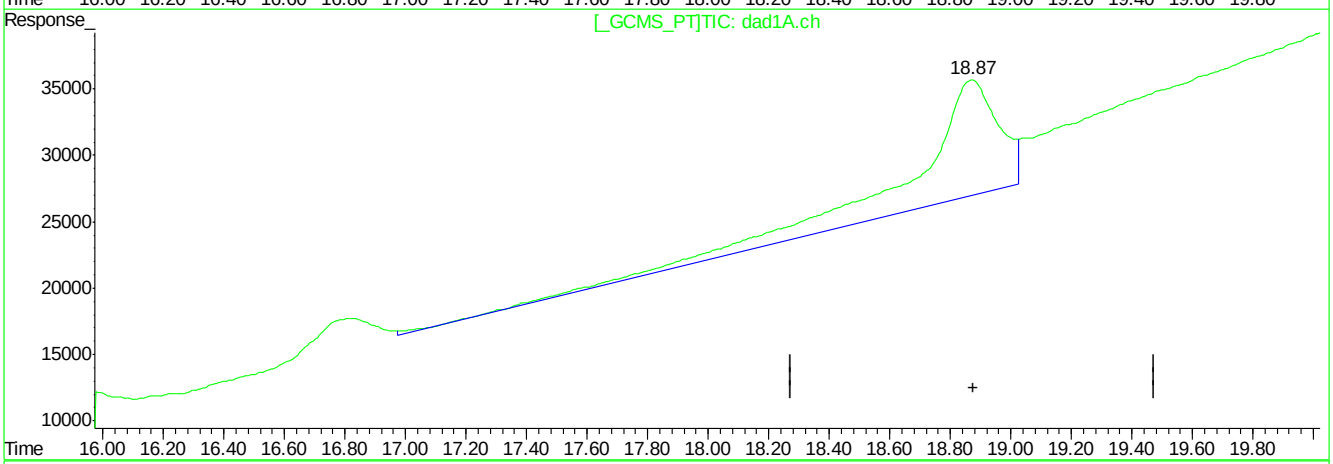
(+) = Expected Retention Time
BB053671.D 8330B_0316PLUS.M Fri Mar 17 10:22:25 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053671.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053671.D\dad1A.ch
Acq On : 16-Mar-2017, 12:25:11 Operator: evitam
Sample : IC1558-100 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:21 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(21) PETN

18.89min 0.000ppb

response 15668

(21) PETN #2

18.87min 1129.859ppb

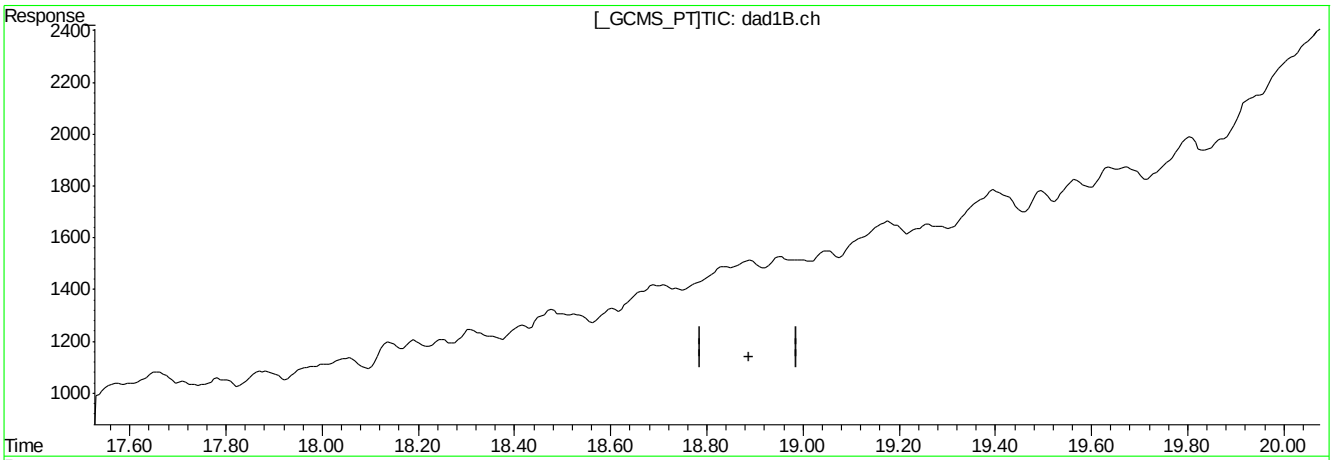
response 1714773

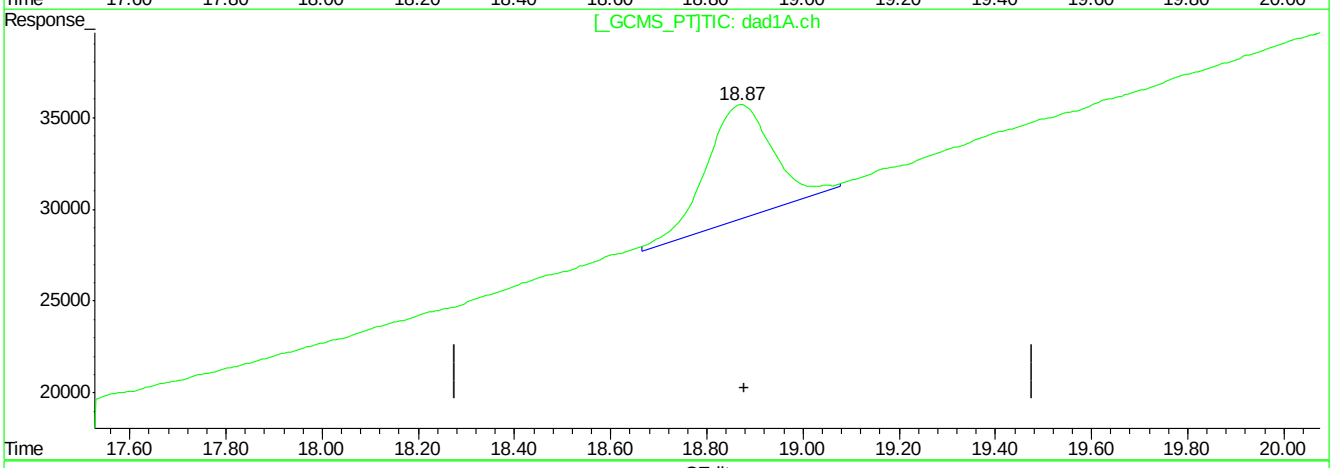
(+) = Expected Retention Time
BB053671.D 8330B_0316PLUS.M Fri Mar 17 10:22:30 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053671.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053671.D\dad1A.ch
Acq On : 16-Mar-2017, 12:25:11 Operator: evitam
Sample : IC1558-100 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:21 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.87min 393.460ppb m

response 597149

(+) = Expected Retention Time
BB053671.D 8330B_0316PLUS.M Fri Mar 17 10:22:35 2017

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
03/20/17 10:31

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053672.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053672.D\dad1A.ch
Acq On : 16-Mar-2017, 12:55:06 Operator: evitam
Sample : IC1558-200 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:21:10 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.12	11.12	491016	793408	195.694	187.441
Spiked Amount	500.000	Range	70 - 136	Recovery	=	39.14%#	37.49%#
	Target Compounds						
1)	TNX	1.43	1.43	673266	1045718	195.793	190.167
2)	HMX	1.55	1.55	360998	980101	186.941	177.583
3)	DNX	1.82	1.82	615933	1057589	193.565	211.132
4)	MNX	2.43	2.43	480165	742843	189.998	186.735
5)	RDX	3.07	3.07	422373	642405	193.244	184.921
6)	1,3,5-Trinitrobe	4.82	4.82	874661	1736397	184.358	188.625
7)	1,3-Dinitrobenze	6.09	6.09	1148326	793264	187.730	183.048
8)	3,5-Dinitroanili	6.53	6.53	883051	1467091	200.612	200.672m
9)	Nitrobenzene	7.65	7.65	689403	640491	193.403	190.402
10)	Nitroglycerin	0.00	9.11	0	1245084	N.D. d	935.048
11)	Tetryl	9.48	9.48	415854	647186	184.751	206.106
12)	2,4,6-Trinitroto	9.90	9.90	661615	831574	179.437	184.338
13)	2-Amino-4,6-Dini	10.40	10.40	690279	988856	166.988	172.625
14)	4-Amino-2,6-Dini	10.88	10.88	464986	985683	157.471	174.921
16)	2,4-Dinitrotolue	11.79	11.79	1024824	661225	186.411	196.431
17)	2,6-Dinitrotolue	12.25	12.25	590621	772657	185.331	201.181
18)	o-Nitrotoluene	15.30	15.30	481131	674822	188.182	207.665
19)	p-Nitrotoluene	15.91	15.91	708779	536516	182.167	162.960
20)	m-Nitrotoluene	16.81	16.82	736238	833585	189.654	189.942m
21)	PETN	0.00	18.87	0	1459275	N.D. d	961.512m

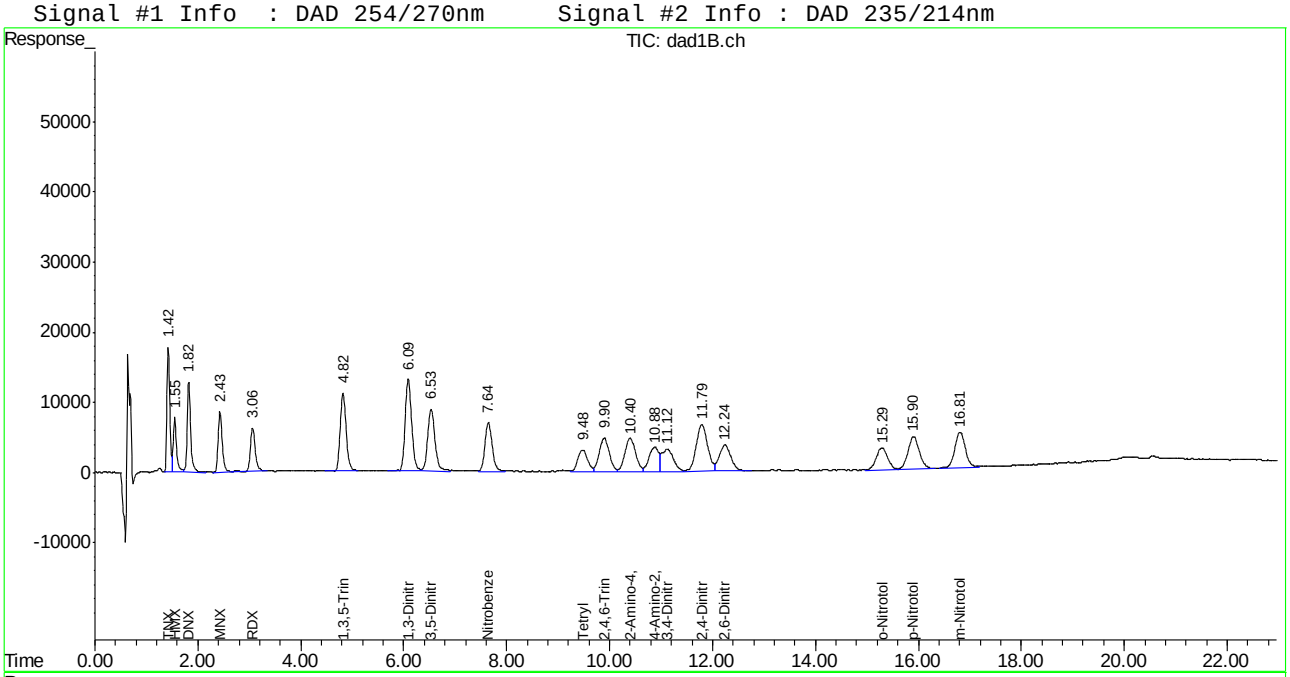
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB053672.D 8330B_0316PLUS.M Fri Mar 17 11:42:12 2017 Page 1

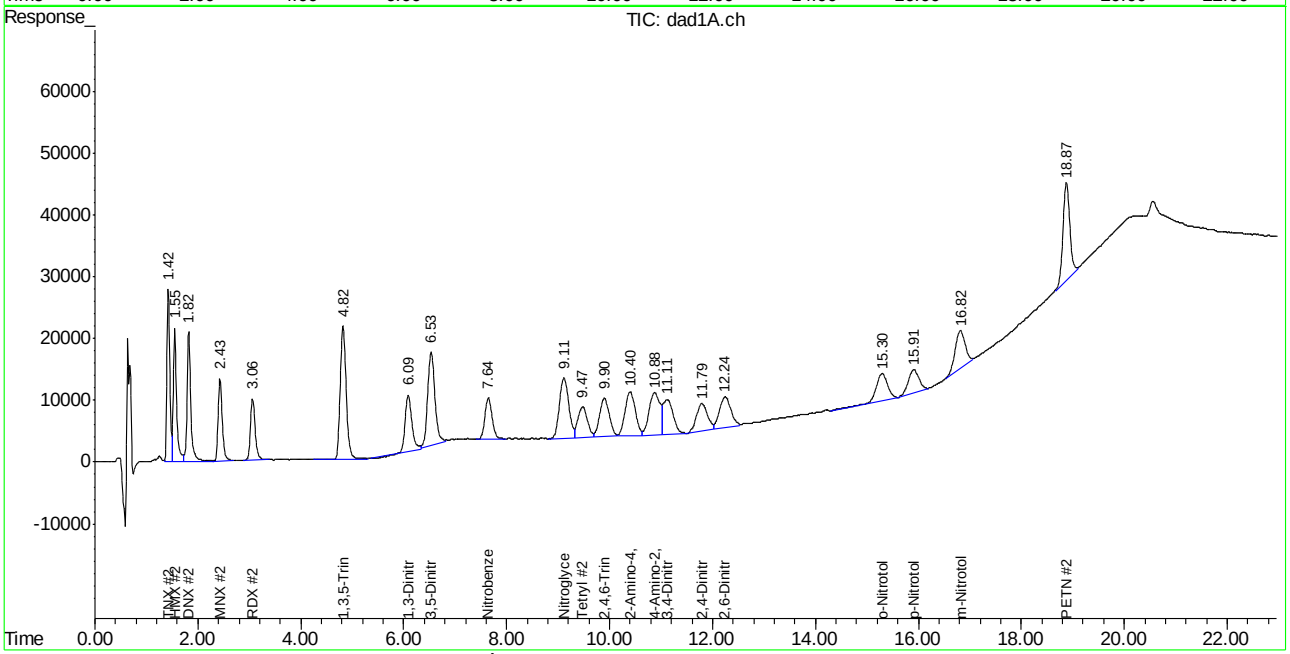
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053672.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053672.D\dad1A.ch
Acq On : 16-Mar-2017, 12:55:06 Operator: evitam
Sample : IC1558-200 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:23 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

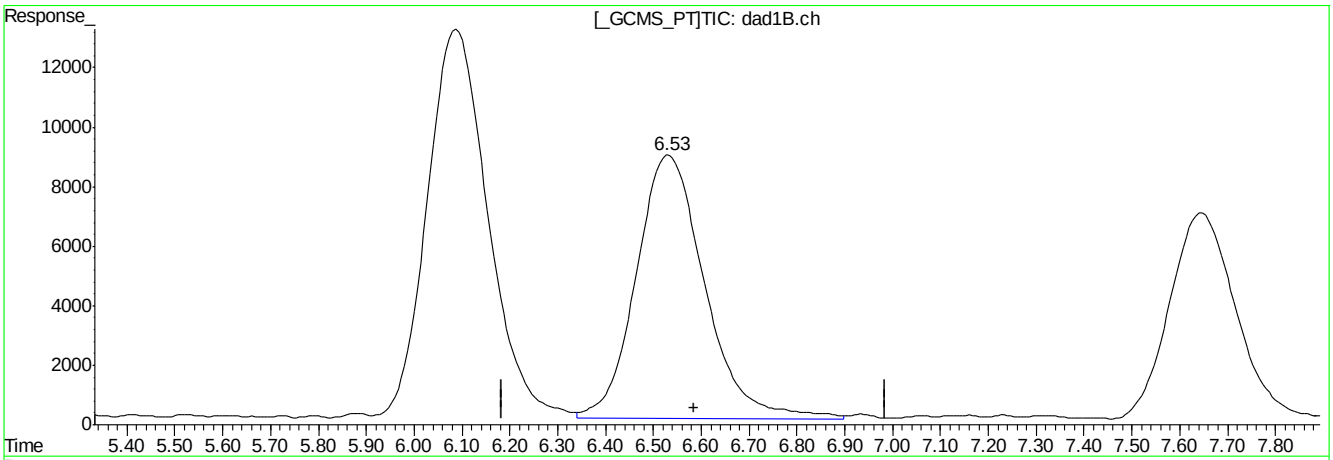
Sample Number: GBB1558-IC1558
Lab FileID: BB053672.D
Injection Time: 03/16/17 12:55
Method: SW846 8330A
Analyst approved: 03/20/17 10:30 Mike Eger
Supervisor approved: 03/20/17 10:31 Mike Eger

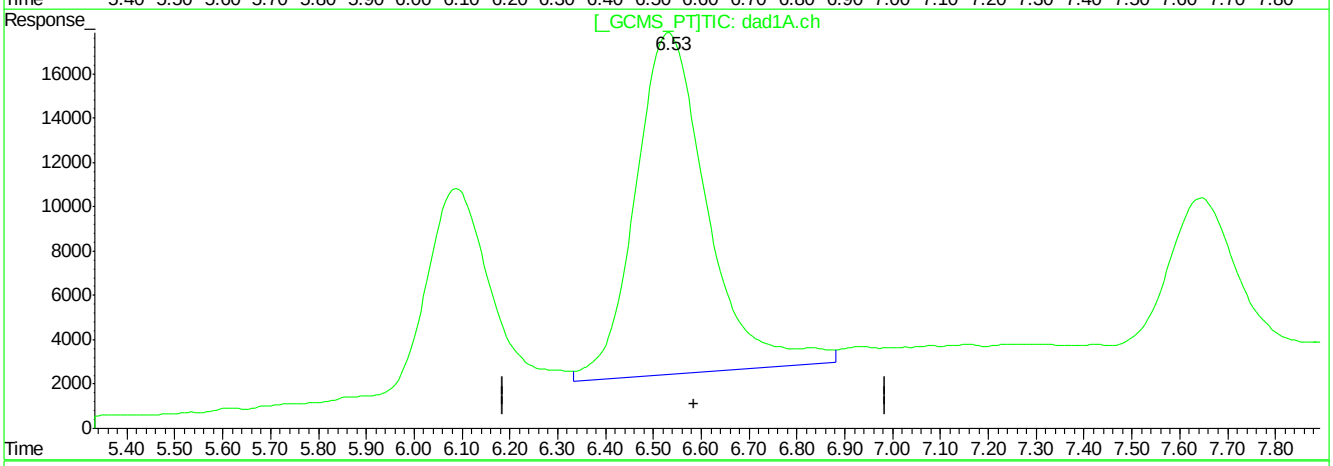
Parameter	CAS	Sig#	R.T. (min.)	Reason
3,5-Dinitroaniline	618-87-1	2	6.53	Poor instrument integration
m-Nitrotoluene	99-08-1	2	16.82	Poor instrument integration
PETN	78-11-5	2	18.87	Poor instrument integration

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053672.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053672.D\dad1A.ch
Acq On : 16-Mar-2017, 12:55:06 Operator: evitam
Sample : IC1558-200 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:21 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(8) 3,5-Dinitroaniline

6.53min 200.612ppb

response 883051

(8) 3,5-Dinitroaniline #2

6.53min 219.956ppb

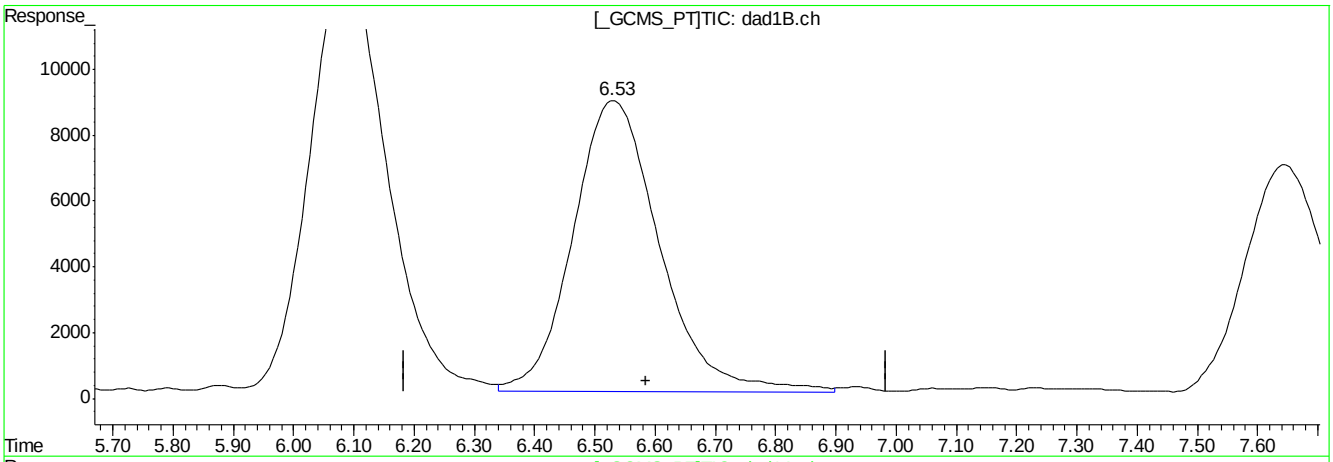
response 1608925

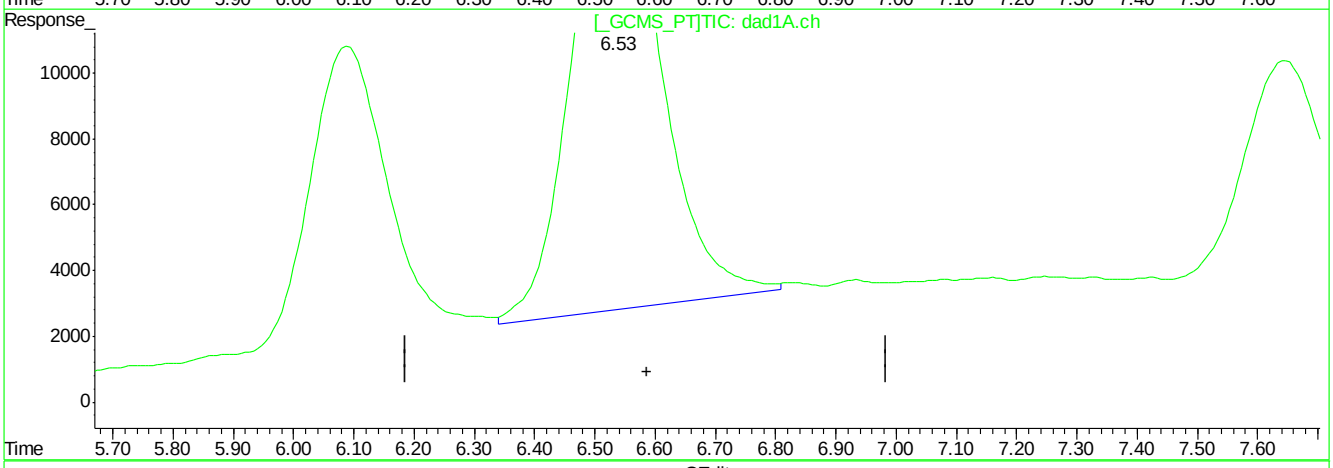
(+) = Expected Retention Time
BB053672.D 8330B_0316PLUS.M Fri Mar 17 10:22:52 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053672.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053672.D\dad1A.ch
Acq On : 16-Mar-2017, 12:55:06 Operator: evitam
Sample : IC1558-200 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:21 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(8) 3,5-Dinitroaniline

6.53min 200.612ppb

response 883051

(8) 3,5-Dinitroaniline #2

6.53min 200.672ppb m

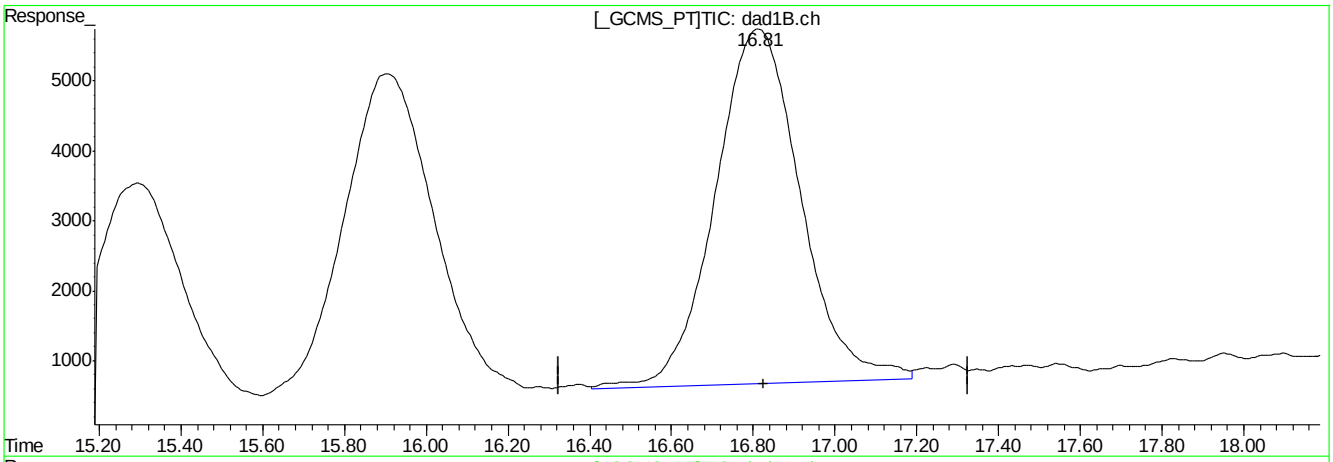
response 1467091

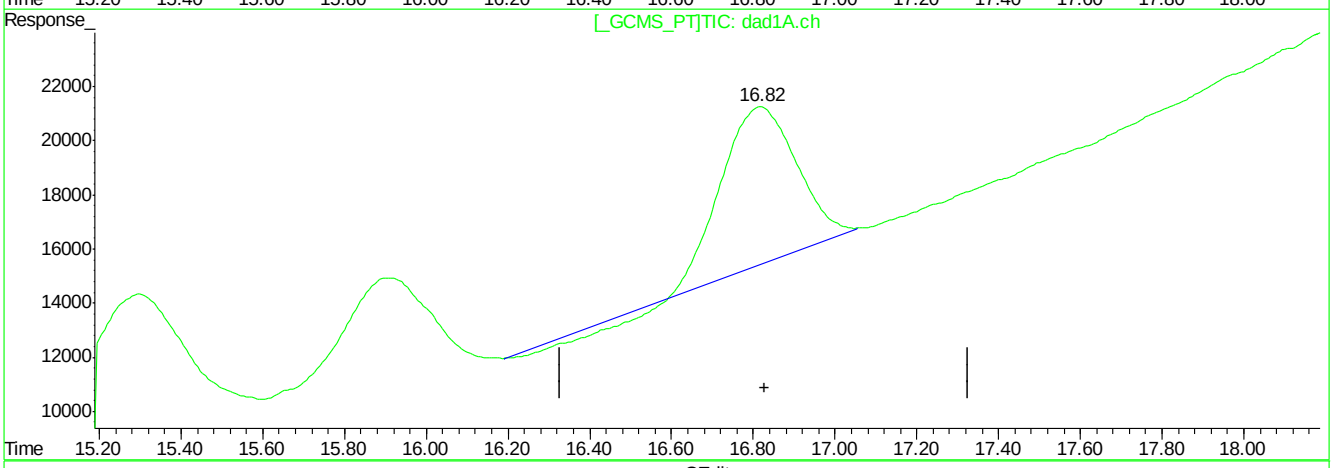
(+) = Expected Retention Time
BB053672.D 8330B_0316PLUS.M Fri Mar 17 10:22:59 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053672.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053672.D\dad1A.ch
Acq On : 16-Mar-2017, 12:55:06 Operator: evitam
Sample : IC1558-200 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:21 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(20) m-Nitrotoluene

16.81min 189.654ppb

response 736238

(20) m-Nitrotoluene #2

16.82min 157.423ppb

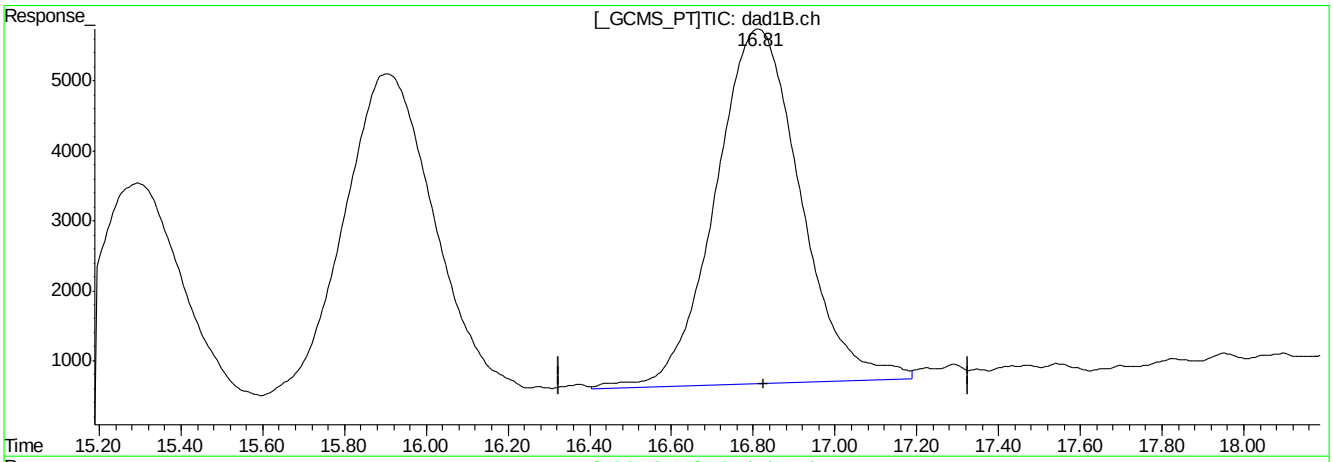
response 690873

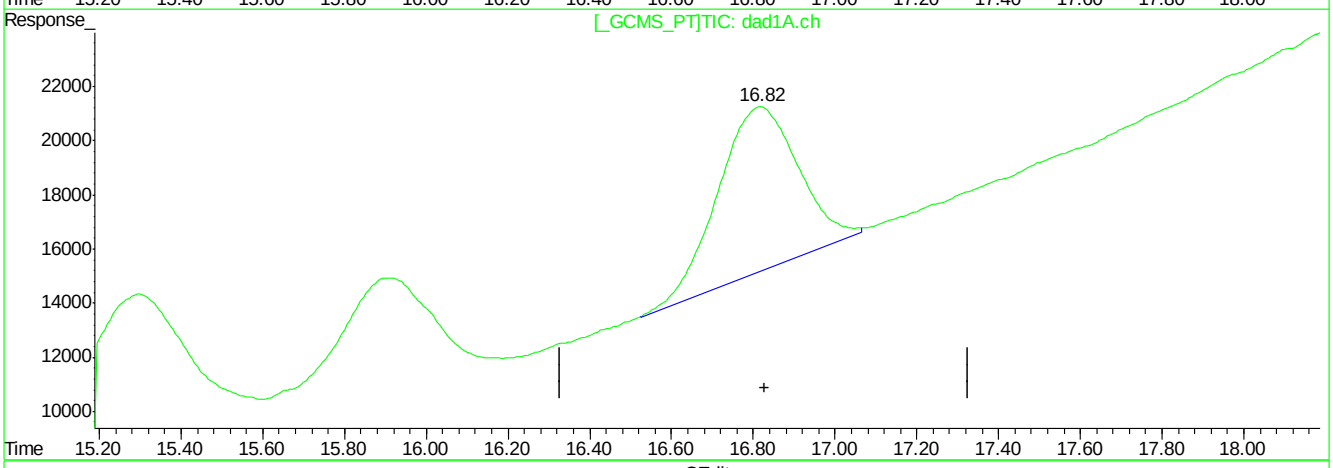
(+) = Expected Retention Time
BB053672.D 8330B_0316PLUS.M Fri Mar 17 10:23:09 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053672.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053672.D\dad1A.ch
Acq On : 16-Mar-2017, 12:55:06 Operator: evitam
Sample : IC1558-200 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:21 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(20) m-Nitrotoluene

16.81min 189.654ppb

response 736238

(20) m-Nitrotoluene #2

16.82min 189.942ppb m

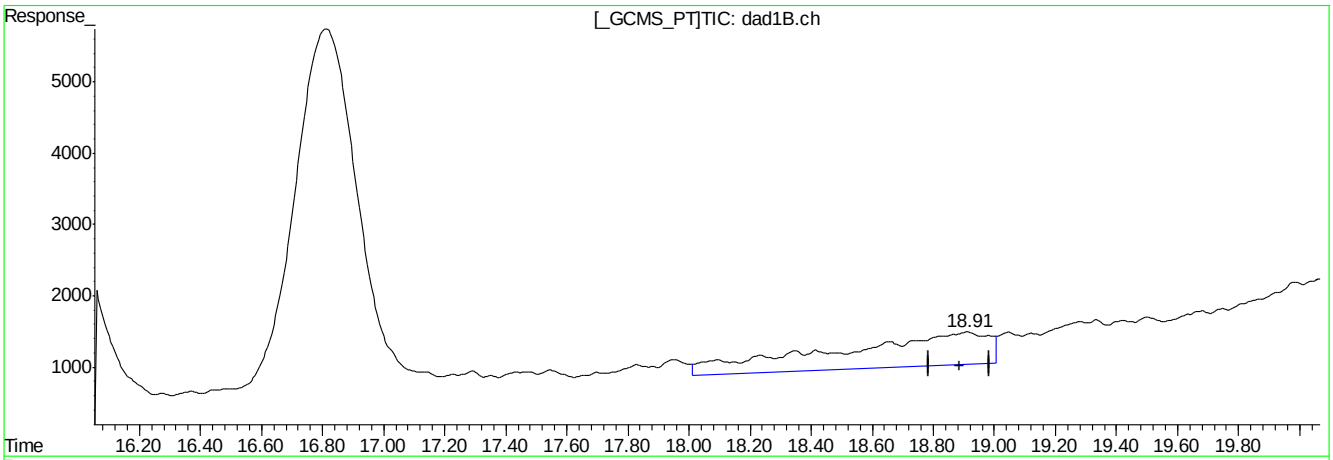
response 833585

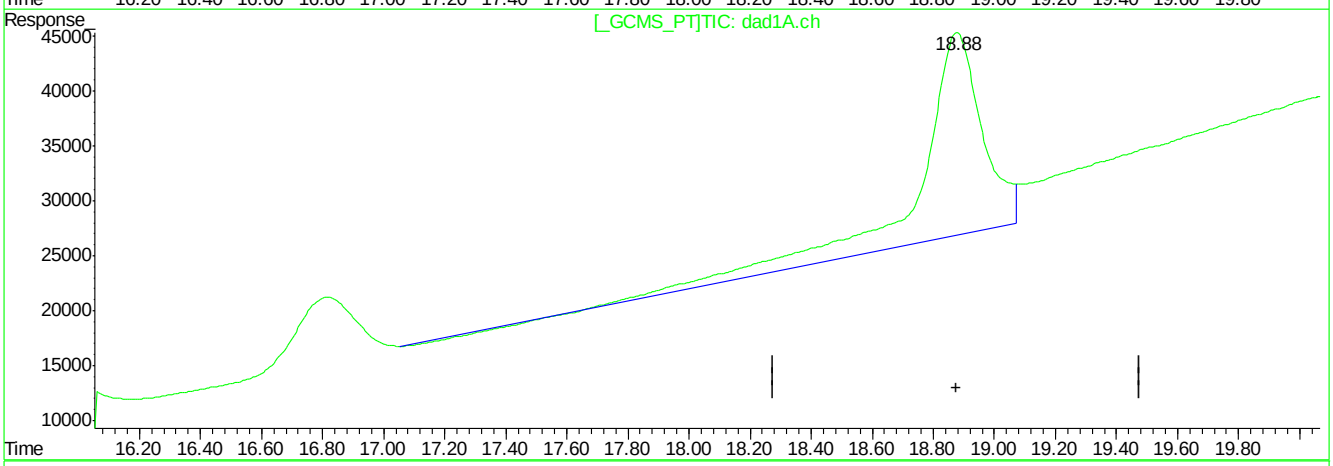
(+) = Expected Retention Time
BB053672.D 8330B_0316PLUS.M Fri Mar 17 10:23:13 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053672.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053672.D\dad1A.ch
Acq On : 16-Mar-2017, 12:55:06 Operator: evitam
Sample : IC1558-200 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:21 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(21) PETN

18.91min 0.000ppb

response 164341

(21) PETN #2

18.88min 1702.451ppb

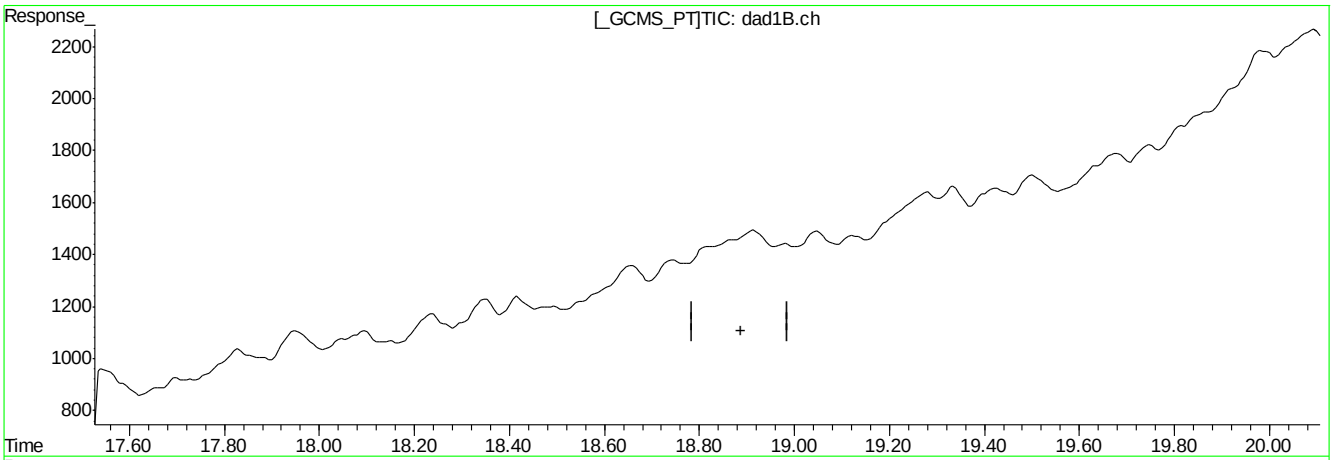
response 2583788

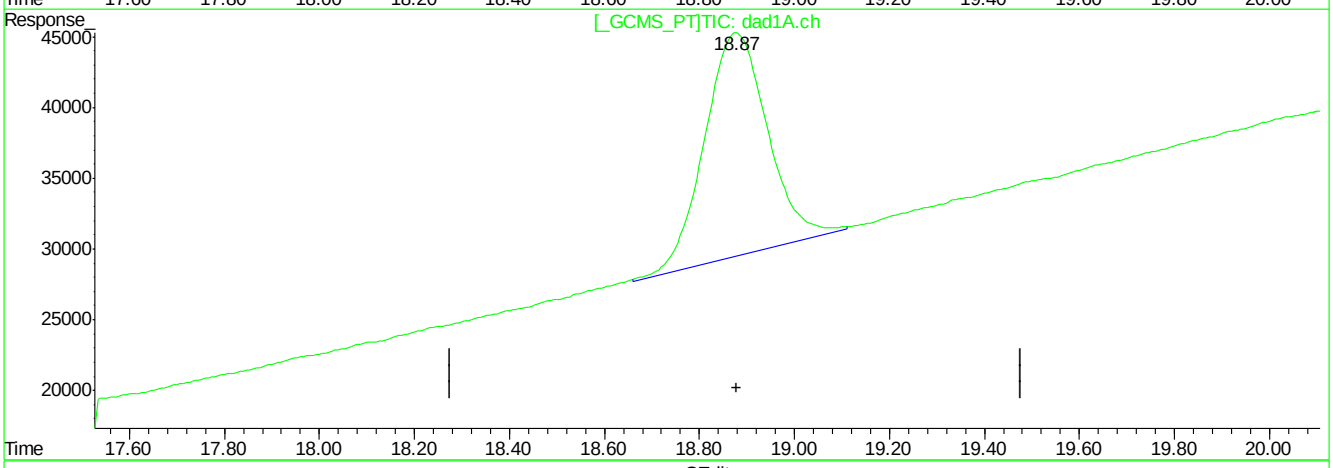
(+) = Expected Retention Time
BB053672.D 8330B_0316PLUS.M Fri Mar 17 10:23:16 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053672.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053672.D\dad1A.ch
Acq On : 16-Mar-2017, 12:55:06 Operator: evitam
Sample : IC1558-200 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:21 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.87min 961.512ppb m

response 1459275

(+) = Expected Retention Time
BB053672.D 8330B_0316PLUS.M Fri Mar 17 10:23:22 2017

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
03/20/17 10:31

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053673.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053673.D\dad1A.ch
Acq On : 16-Mar-2017, 13:25:01 Operator: evitam
Sample : ICC1558-500 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:21:11 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.18	11.17	1137137	1953697	453.206	461.557
Spiked Amount	500.000	Range	70 - 136	Recovery	=	90.64%	92.31%
	Target Compounds						
1)	TNX	1.44	1.44	1613211	2516133	459.675	457.566
2)	HMX	1.57	1.57	866418	2415355	448.670	437.633
3)	DNX	1.84	1.84	1426205	2340451	448.203	467.236
4)	MNX	2.46	2.46	1147827	1775346	454.187	446.284
5)	RDX	3.10	3.10	992091	1547469	453.902	445.452
6)	1,3,5-Trinitrobe	4.88	4.88	2119361	4163739	446.710	452.308
7)	1,3-Dinitrobenze	6.14	6.14	2736054	1991554	447.295	459.558
8)	3,5-Dinitroanili	6.59	6.59	2075566	3499224	470.748	475.044m
9)	Nitrobenzene	7.68	7.68	1640459	1534490	460.210	456.165m
10)	Nitroglycerin	0.00	9.18	0	2979256	N.D. d	2237.397
11)	Tetryl	9.53	9.53	994541	1598890	441.843	509.191
12)	2,4,6-Trinitroto	9.95	9.95	1593286	2081849	432.116	461.491
13)	2-Amino-4,6-Dini	10.45	10.45	1700875	2502957	411.464	436.941
14)	4-Amino-2,6-Dini	10.92	10.92	1209827	2438074	409.717	432.666
16)	2,4-Dinitrotolue	11.84	11.84	2461961	1604295	447.820	476.590
17)	2,6-Dinitrotolue	12.29	12.29	1411994	1837131	443.069	478.343
18)	o-Nitrotoluene	15.32	15.32	1145264	1496039	447.940	460.381
19)	p-Nitrotoluene	15.93	15.93	1725088	1355325	443.374	411.663
20)	m-Nitrotoluene	16.83	16.83	1709439	2016777	440.348	459.545m
21)	PETN	0.00	18.88	0	3440030	N.D. d	2266.626m

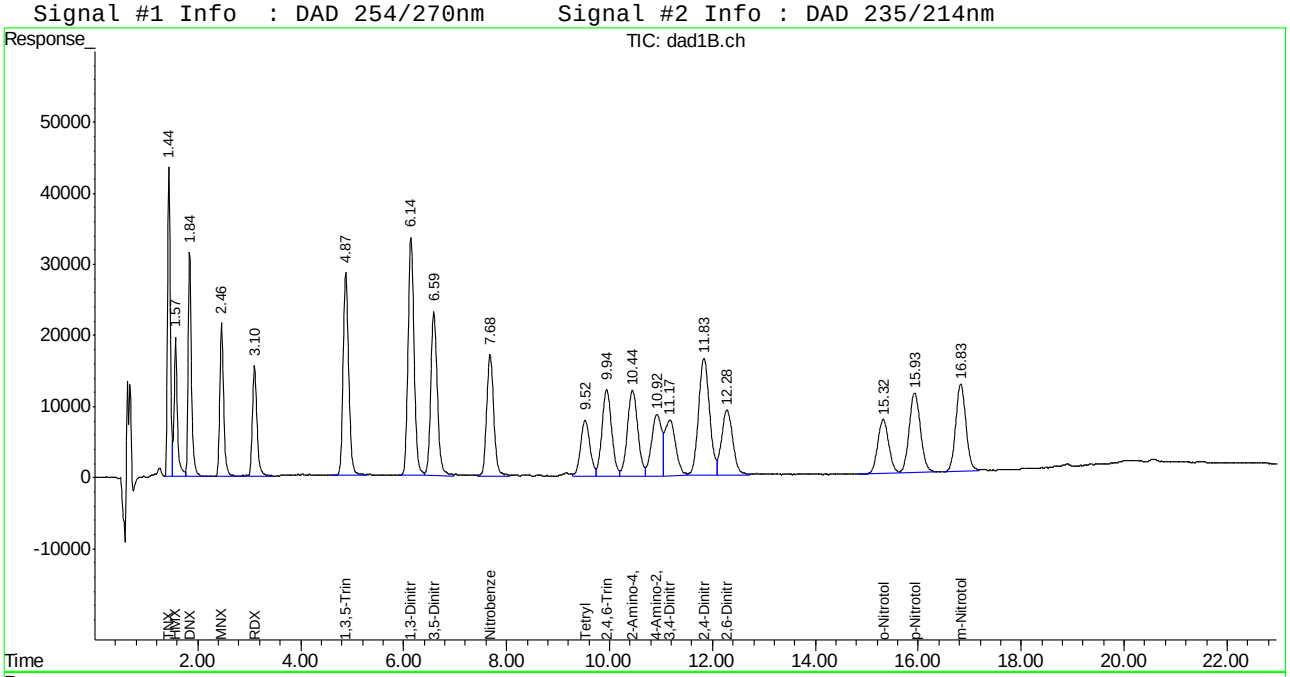
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB053673.D 8330B_0316PLUS.M Fri Mar 17 11:42:13 2017 Page 1

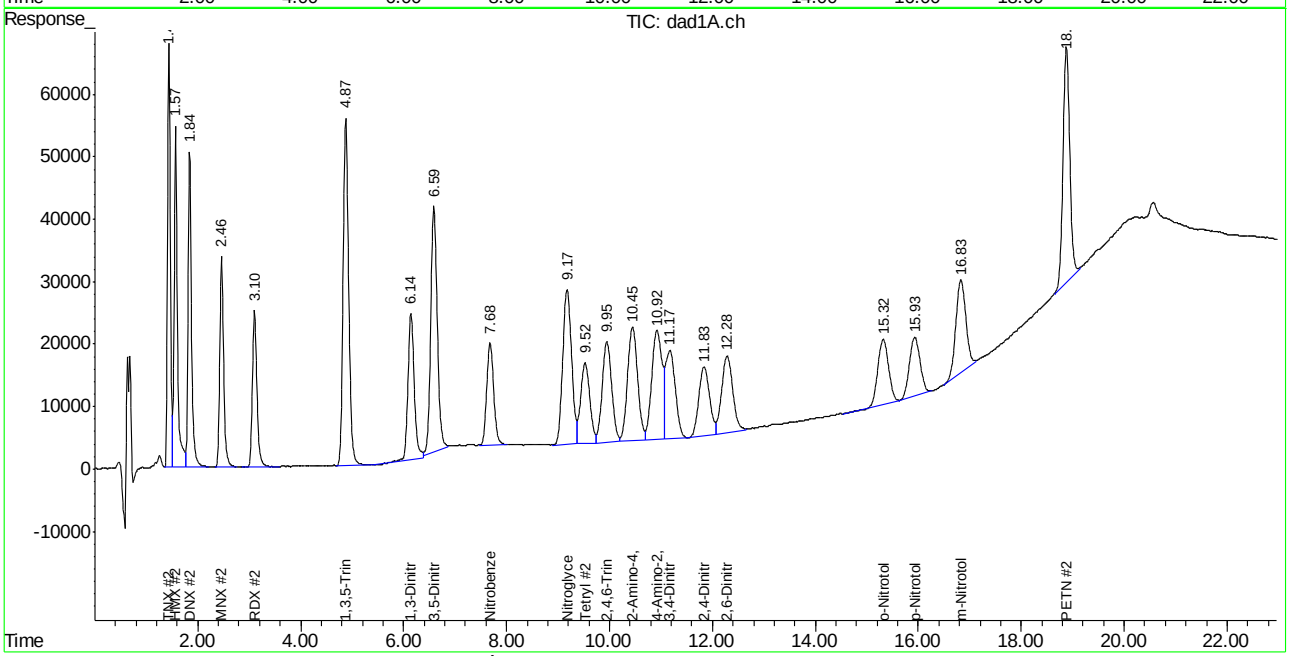
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053673.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053673.D\dad1A.ch
Acq On : 16-Mar-2017, 13:25:01 Operator: evitam
Sample : ICC1558-500 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:25 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

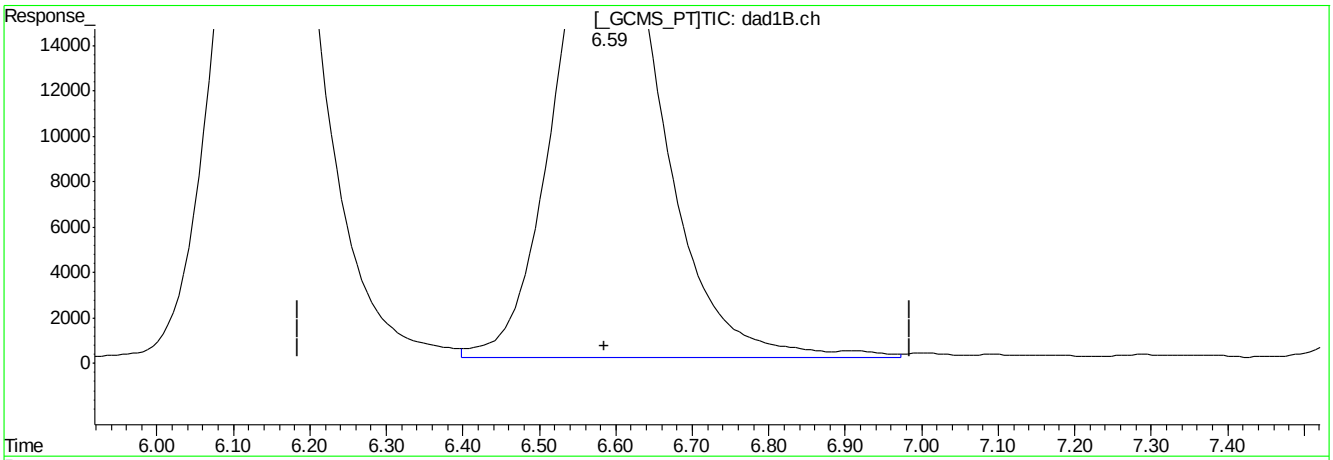
Sample Number: GBB1558-ICC1558 **Method:** SW846 8330A
Lab FileID: BB053673.D **Analyst approved:** 03/20/17 10:30 Mike Eger
Injection Time: 03/16/17 13:25 **Supervisor approved:** 03/20/17 10:31 Mike Eger

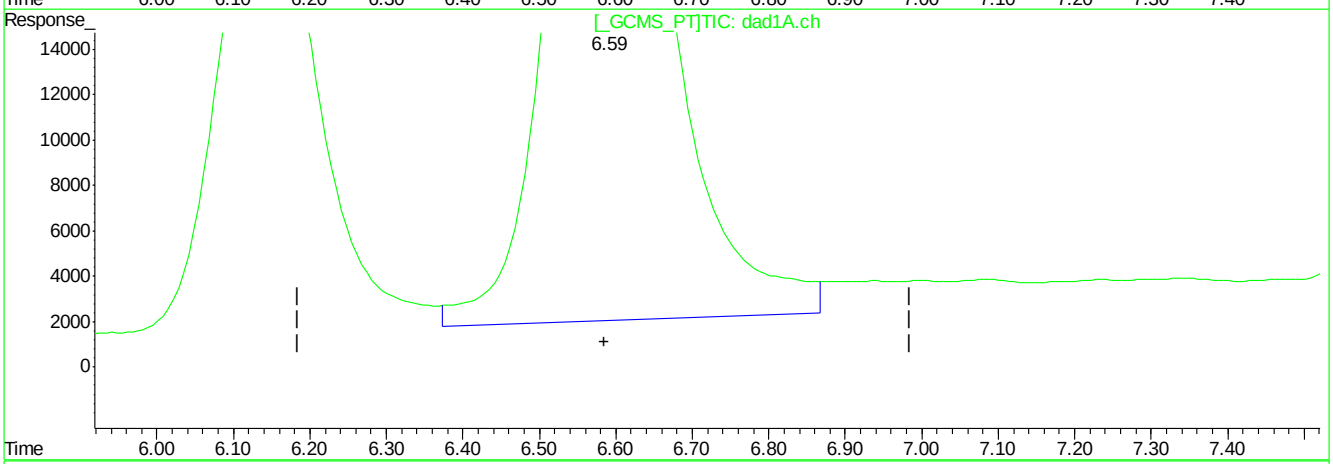
Parameter	CAS	Sig#	R.T. (min.)	Reason
3,5-Dinitroaniline	618-87-1	2	6.59	Poor instrument integration
Nitrobenzene	98-95-3	2	7.68	Poor instrument integration
m-Nitrotoluene	99-08-1	2	16.83	Poor instrument integration
PETN	78-11-5	2	18.88	Poor instrument integration

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053673.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053673.D\dad1A.ch
Acq On : 16-Mar-2017, 13:25:01 Operator: evitam
Sample : ICC1558-500 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:21 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(8) 3,5-Dinitroaniline

6.59min 470.748ppb

response 2075566

(8) 3,5-Dinitroaniline #2

6.59min 503.215ppb

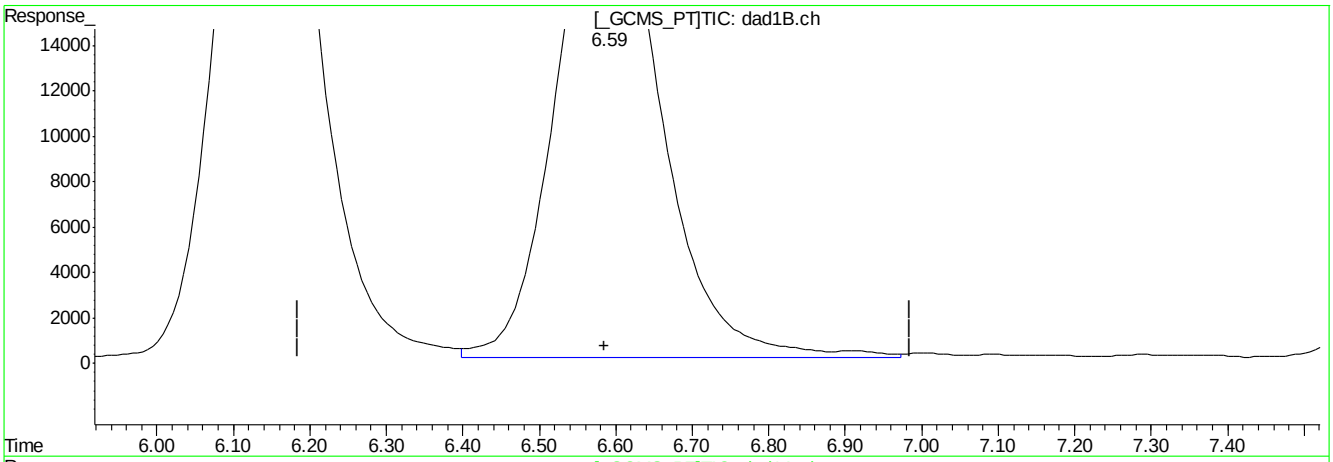
response 3709587

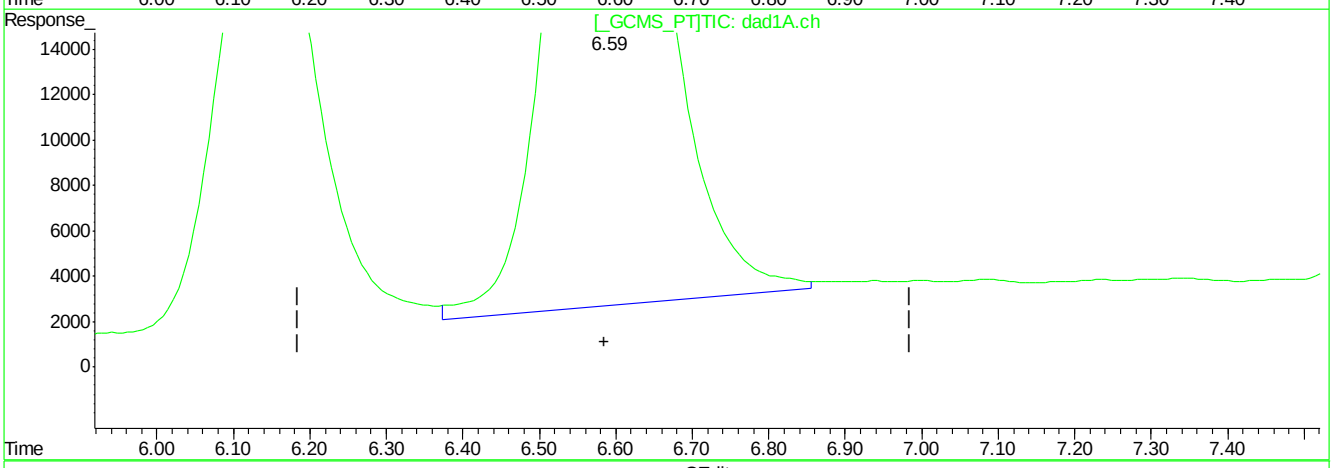
(+) = Expected Retention Time
BB053673.D 8330B_0316PLUS.M Fri Mar 17 10:24:59 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053673.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053673.D\dad1A.ch
Acq On : 16-Mar-2017, 13:25:01 Operator: evitam
Sample : ICC1558-500 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:21 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(8) 3,5-Dinitroaniline

6.59min 470.748ppb

response 2075566

(8) 3,5-Dinitroaniline #2

6.59min 475.044ppb m

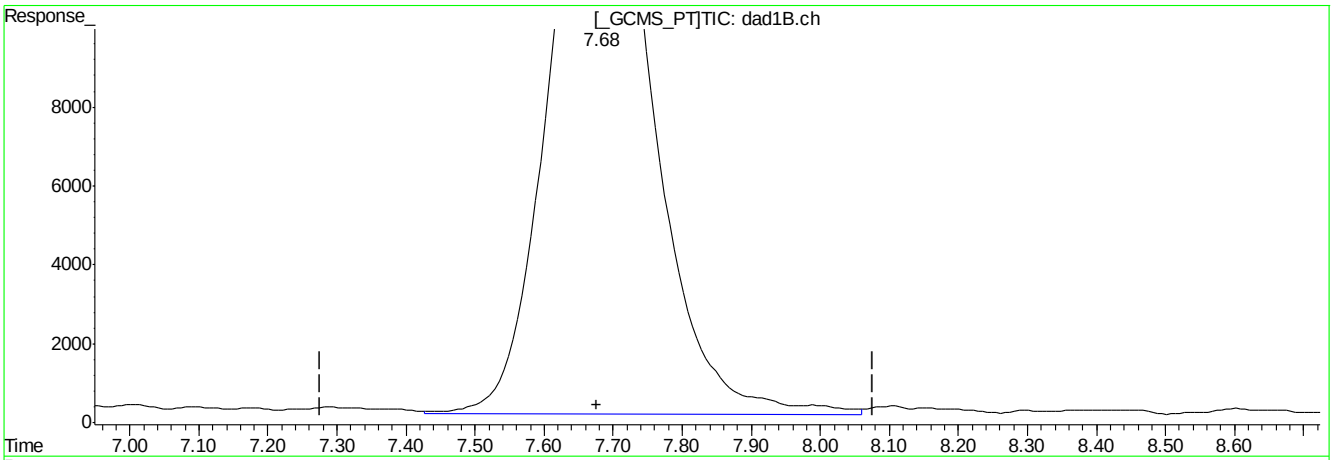
response 3499224

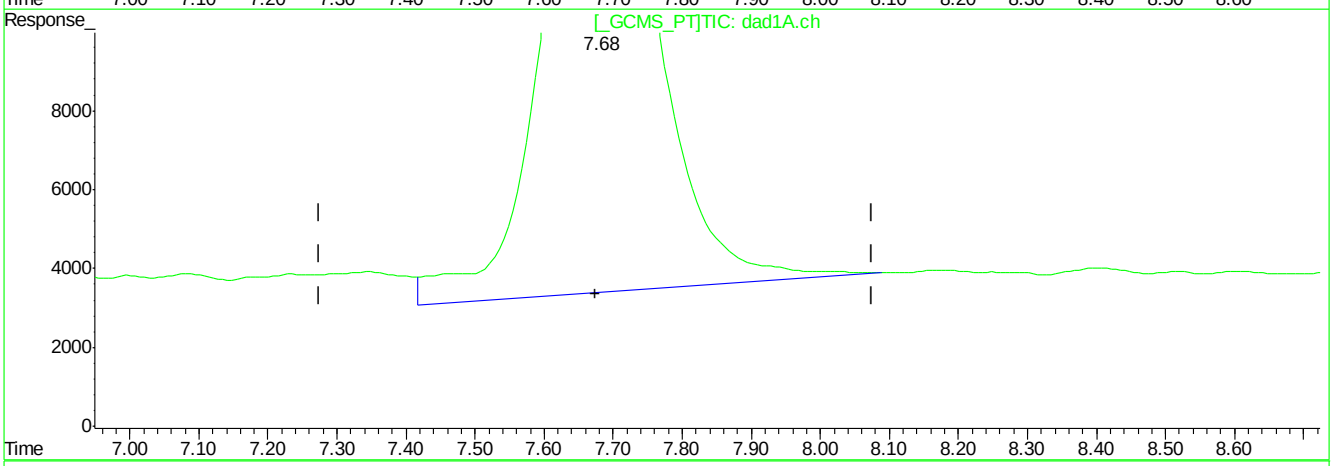
(+) = Expected Retention Time
BB053673.D 8330B_0316PLUS.M Fri Mar 17 10:25:03 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053673.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053673.D\dad1A.ch
Acq On : 16-Mar-2017, 13:25:01 Operator: evitam
Sample : ICC1558-500 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:21 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(9) Nitrobenzene

7.68min 460.210ppb

response 1640459

(9) Nitrobenzene #2

7.68min 501.433ppb

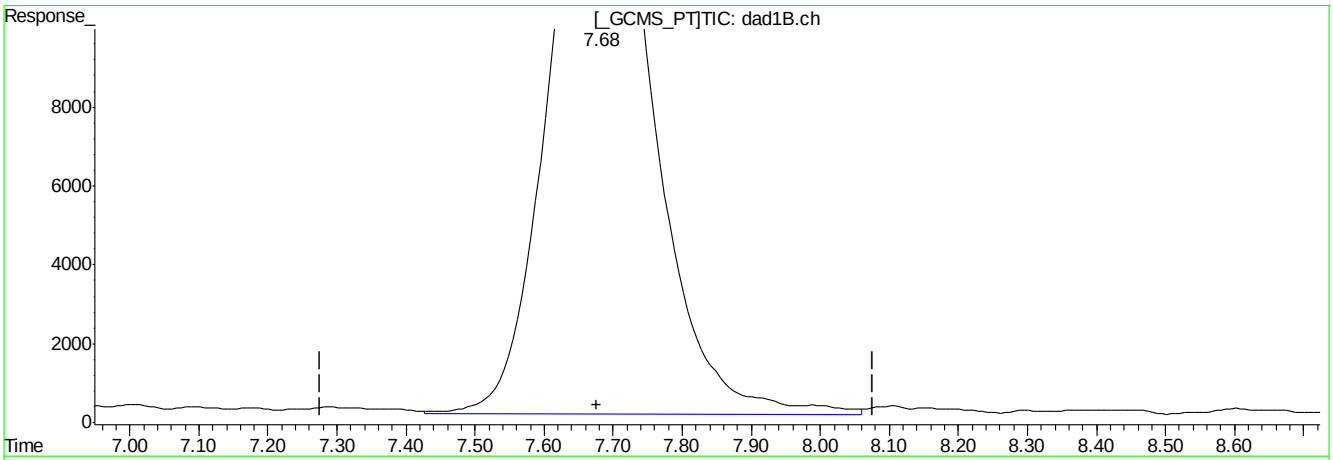
response 1686767

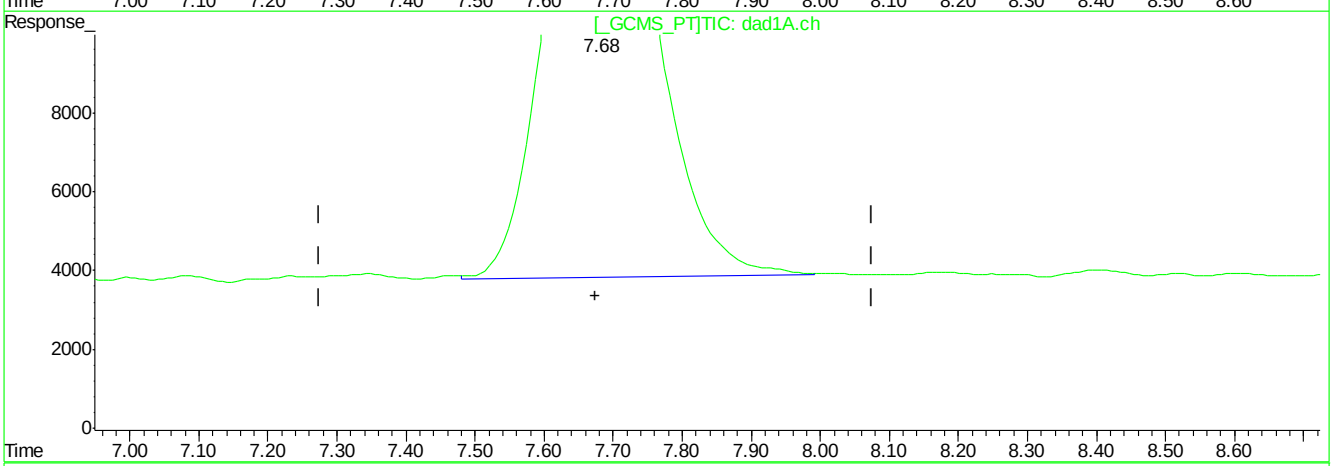
(+) = Expected Retention Time
BB053673.D 8330B_0316PLUS.M Fri Mar 17 10:25:08 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053673.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053673.D\dad1A.ch
Acq On : 16-Mar-2017, 13:25:01 Operator: evitam
Sample : ICC1558-500 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:21 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(9) Nitrobenzene

7.68min 460.210ppb

response 1640459

(9) Nitrobenzene #2

7.68min 456.165ppb m

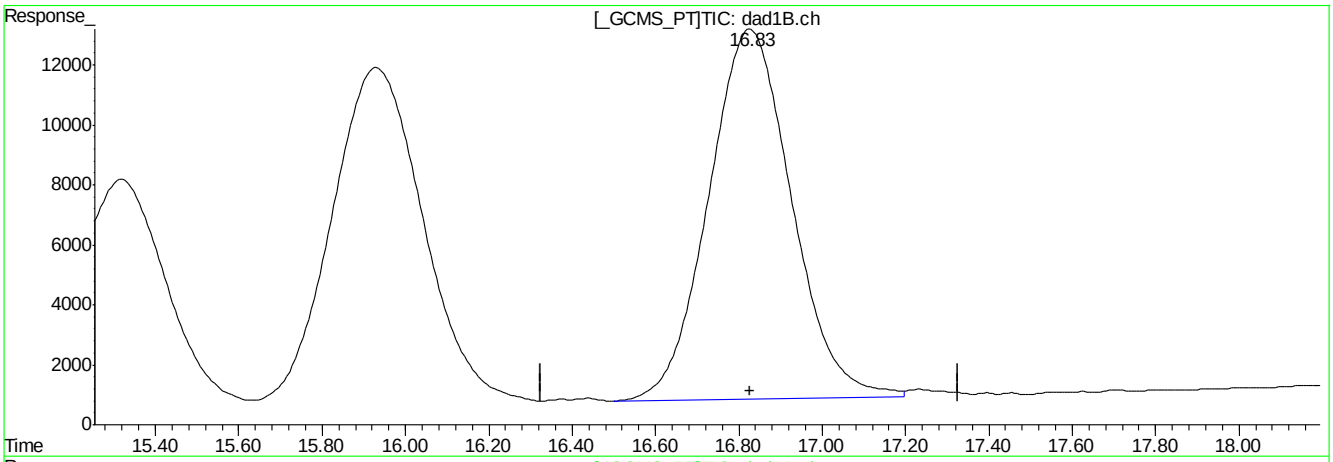
response 1534490

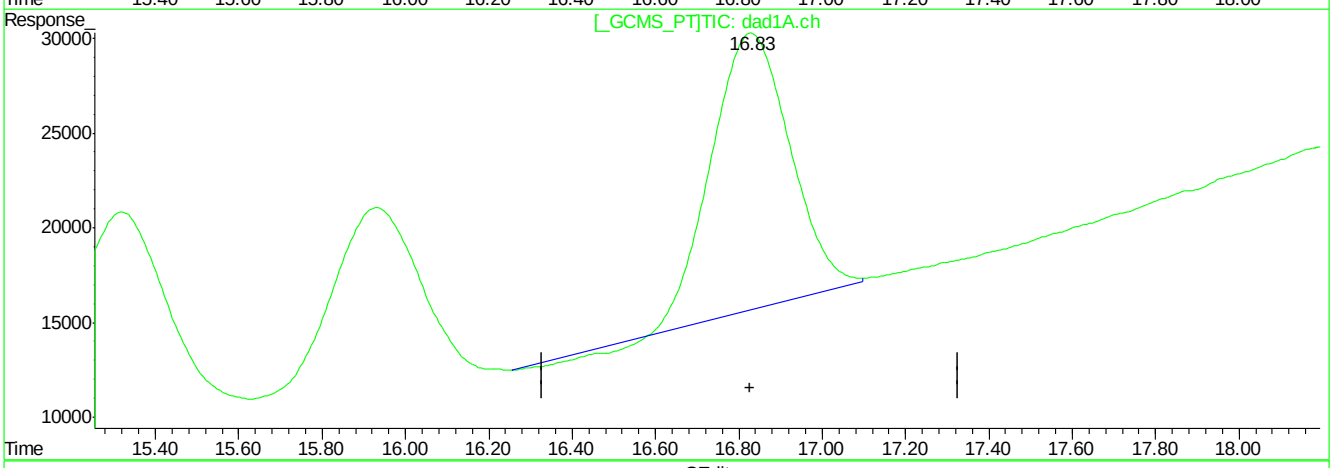
(+) = Expected Retention Time
BB053673.D 8330B_0316PLUS.M Fri Mar 17 10:25:12 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053673.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053673.D\dad1A.ch
Acq On : 16-Mar-2017, 13:25:01 Operator: evitam
Sample : ICC1558-500 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:21 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(20) m-Nitrotoluene

16.83min 440.348ppb

response 1709439

(20) m-Nitrotoluene #2

16.83min 430.496ppb

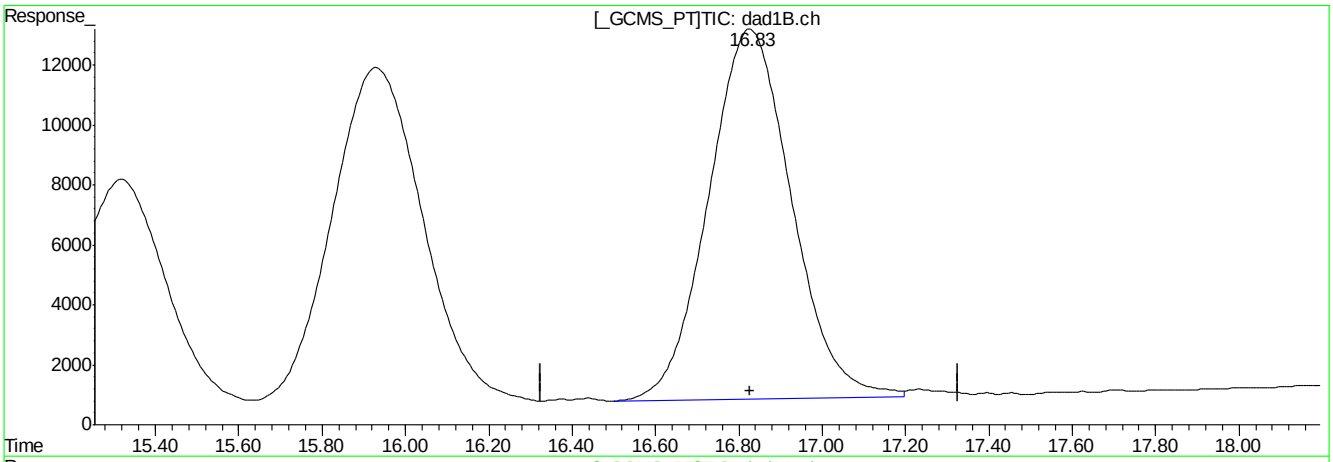
response 1889292

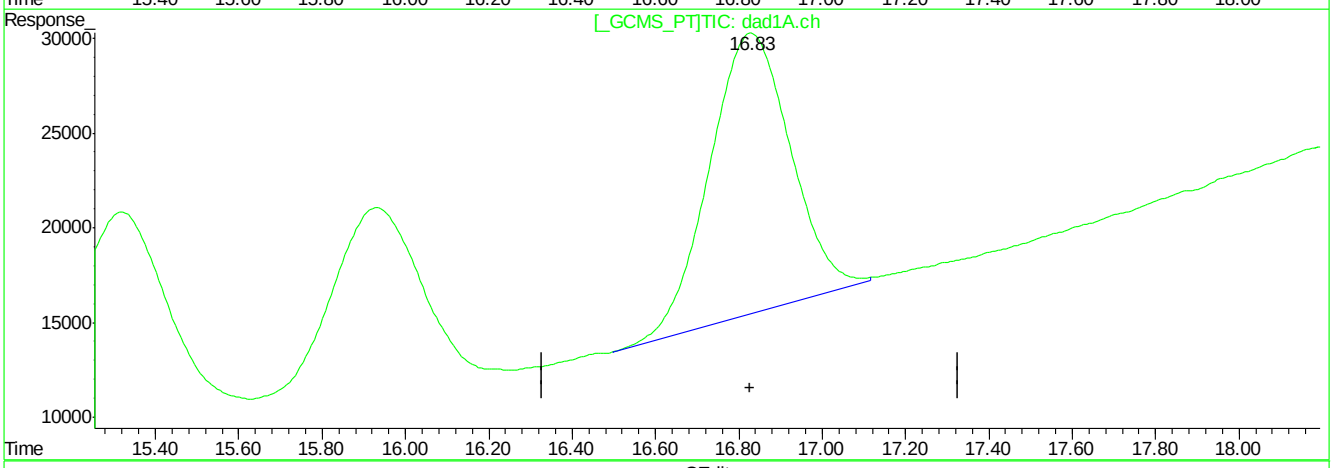
(+) = Expected Retention Time
BB053673.D 8330B_0316PLUS.M Fri Mar 17 10:25:21 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053673.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053673.D\dad1A.ch
Acq On : 16-Mar-2017, 13:25:01 Operator: evitam
Sample : ICC1558-500 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:21 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(20) m-Nitrotoluene

16.83min 440.348ppb

response 1709439

(20) m-Nitrotoluene #2

16.83min 459.545ppb m

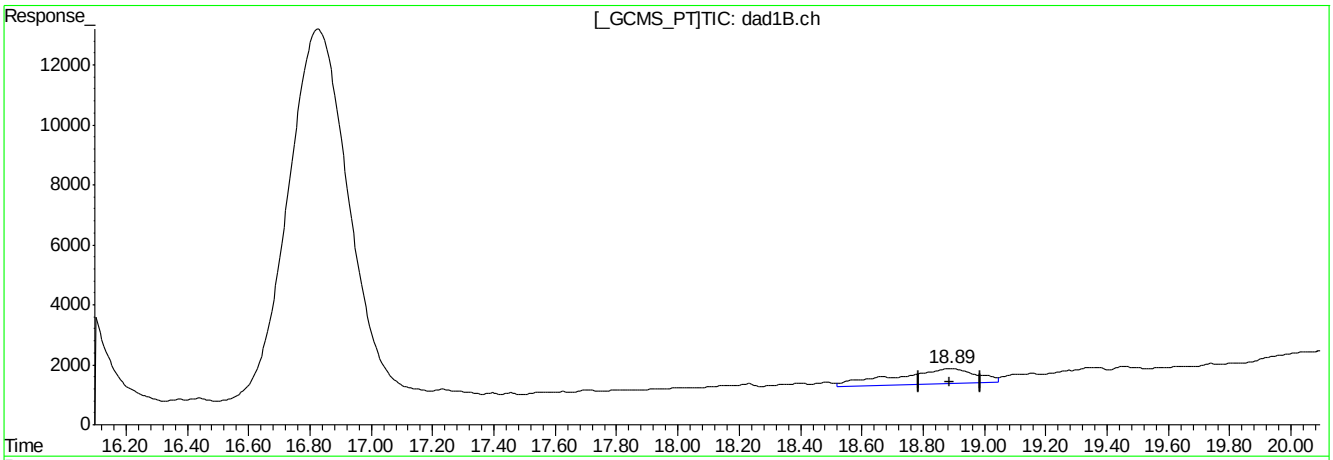
response 2016777

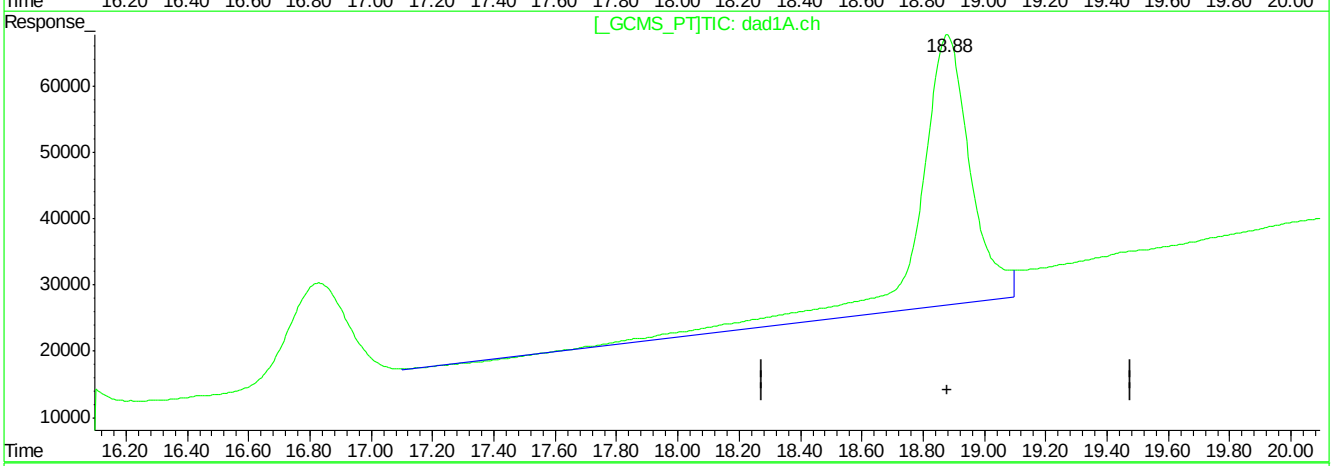
(+) = Expected Retention Time
BB053673.D 8330B_0316PLUS.M Fri Mar 17 10:25:25 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053673.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053673.D\dad1A.ch
Acq On : 16-Mar-2017, 13:25:01 Operator: evitam
Sample : ICC1558-500 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:21 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(21) PETN

18.89min 0.000ppb

response 97343

(21) PETN #2

18.88min 3167.407ppb

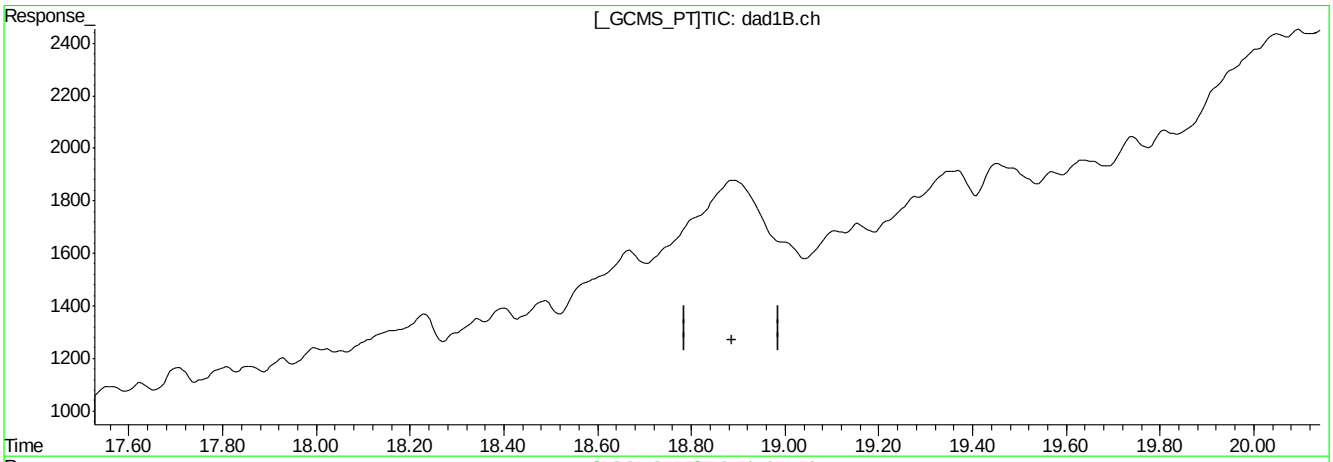
response 4807134

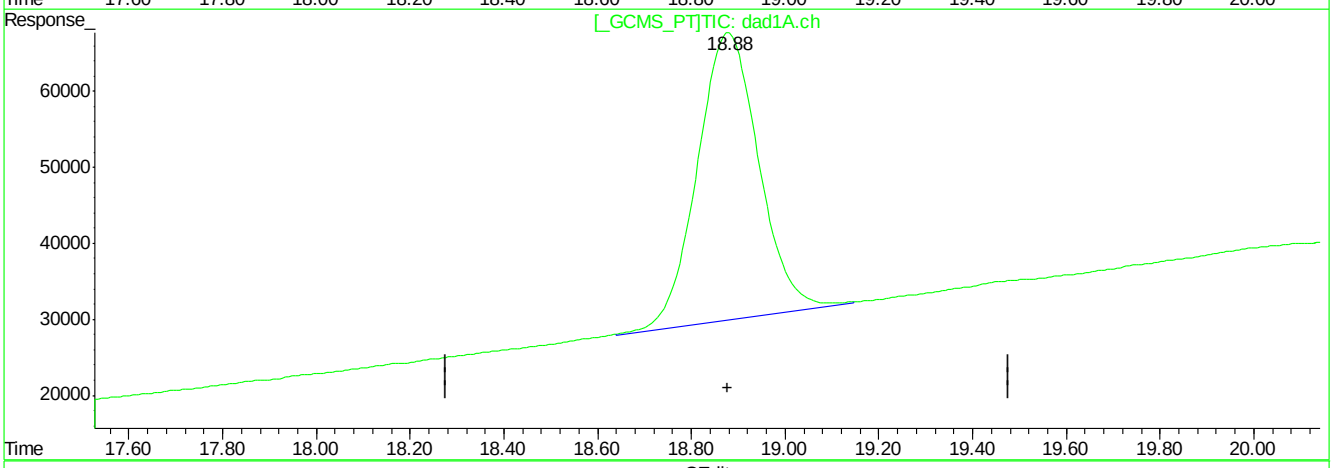
(+) = Expected Retention Time
BB053673.D 8330B_0316PLUS.M Fri Mar 17 10:25:28 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053673.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053673.D\dad1A.ch
Acq On : 16-Mar-2017, 13:25:01 Operator: evitam
Sample : ICC1558-500 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:21 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.88min 2266.626ppb m

response 3440030

(+) = Expected Retention Time
BB053673.D 8330B_0316PLUS.M Fri Mar 17 10:25:34 2017

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger 03/20/17 10:31

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053674.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053674.D\dad1A.ch
Acq On : 16-Mar-2017, 13:55:00 Operator: evitam
Sample : IC1558-1000 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:21:12 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.25	11.25	2230984	3940289	889.158	930.886
	Spiked Amount 500.000	Range 70 - 136		Recovery =		177.83%#	186.18%#
	Target Compounds						
1)	TNX	1.45	1.45	3359385	5245624	924.402	953.931
2)	HMX	1.59	1.59	1716261	4744059	888.758	859.567
3)	DNX	1.86	1.86	2861535	4572953	899.274	912.921
4)	MNX	2.49	2.49	2327595	3660936	921.013	920.281
5)	RDX	3.13	3.13	1914799	3092360	876.060	890.161
6)	1,3,5-Trinitrobe	4.92	4.92	4336859	8445931	914.105	917.483
7)	1,3-Dinitrobenze	6.18	6.18	5540515	3839203	905.773	885.910m
8)	3,5-Dinitroanili	6.63	6.63	4145964	7012898	937.642	940.101m
9)	Nitrobenzene	7.71	7.71	3293428	3172953	923.929	943.238m
10)	Nitroglycerin	0.00	9.26	0	6243746	N.D. d	4689.002
11)	Tetryl	9.60	9.60	1985502	3347043	882.096	1065.916
12)	2,4,6-Trinitroto	10.02	10.02	3209225	4368119	870.375	968.298
13)	2-Amino-4,6-Dini	10.52	10.52	3416690	5212340	826.543	909.918
14)	4-Amino-2,6-Dini	11.00	11.00	2492462	5173364	844.091	918.076
16)	2,4-Dinitrotolue	11.90	11.90	4954248	3264320	901.156	969.736
17)	2,6-Dinitrotolue	12.36	12.36	2809882	3665922	881.712	954.515
18)	o-Nitrotoluene	15.34	15.34	2328352	3091762	910.674	951.437
19)	p-Nitrotoluene	15.95	15.95	3554396	2883507	913.534	875.829
20)	m-Nitrotoluene	16.84	16.84	3536469	4062368	910.988	925.656
21)	PETN	0.00	18.89	0	6996607	N.D. d	4610.045m

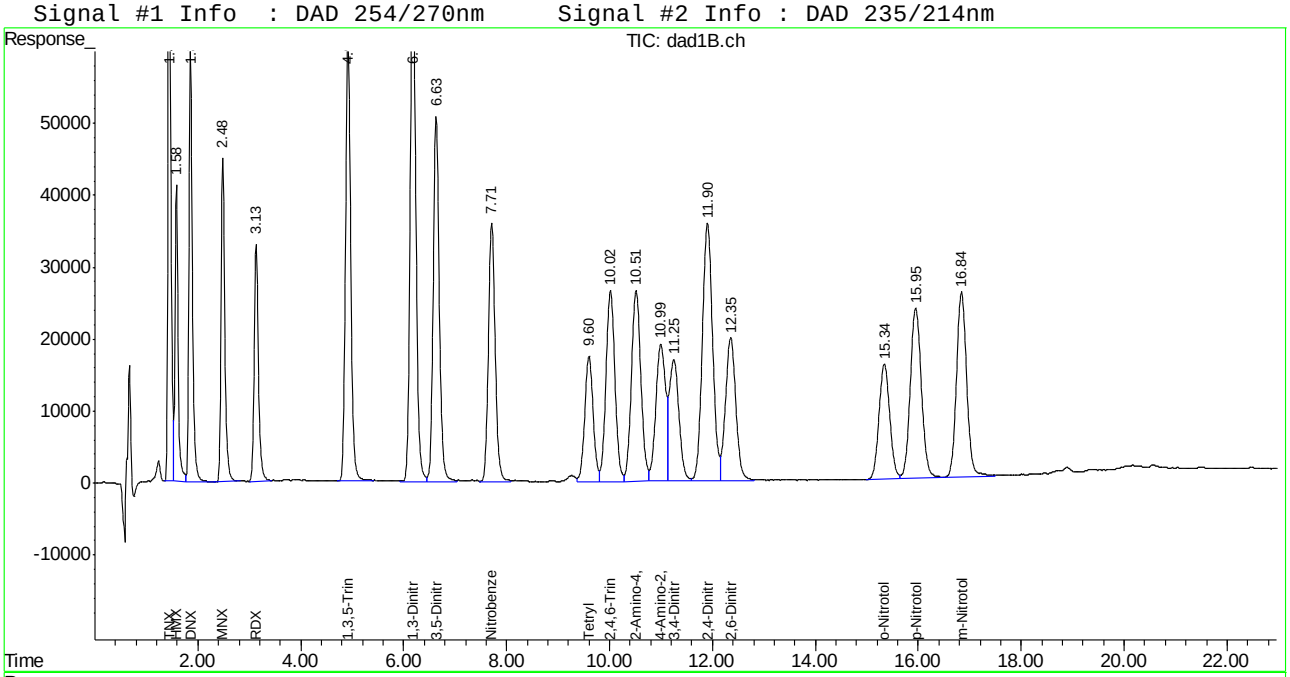
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB053674.D 8330B_0316PLUS.M Fri Mar 17 11:42:14 2017 Page 1

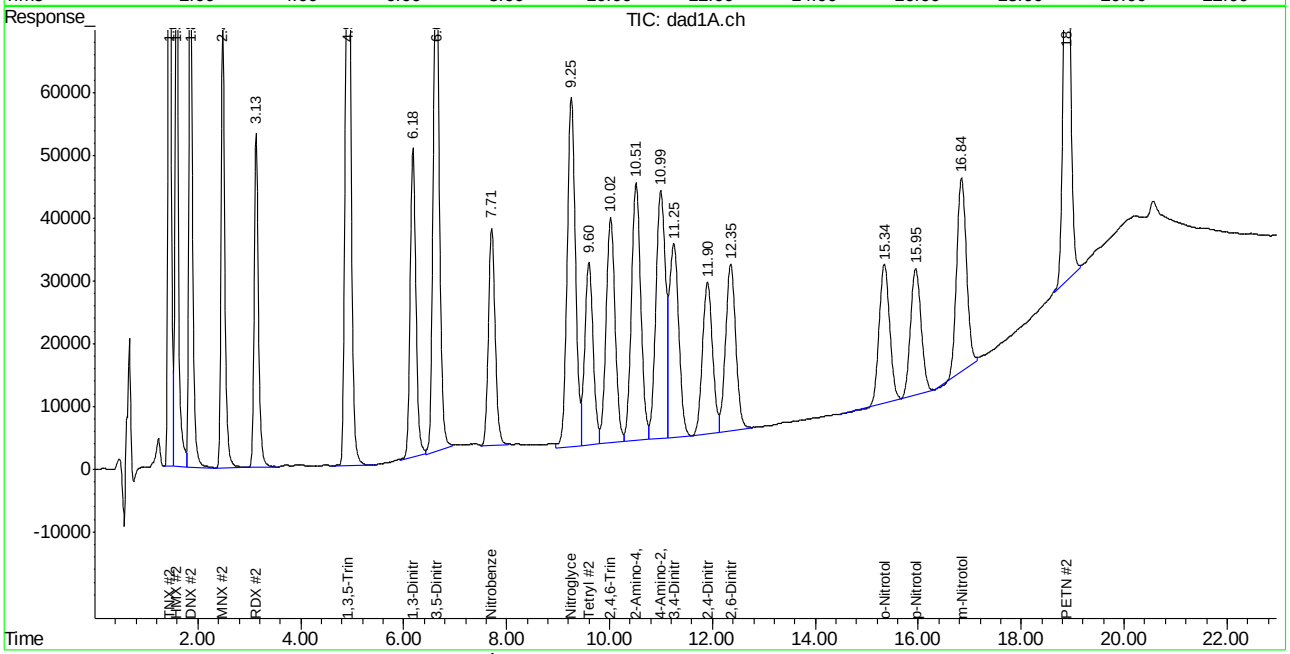
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053674.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053674.D\dad1A.ch
Acq On : 16-Mar-2017, 13:55:00 Operator: evitam
Sample : IC1558-1000 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:26 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

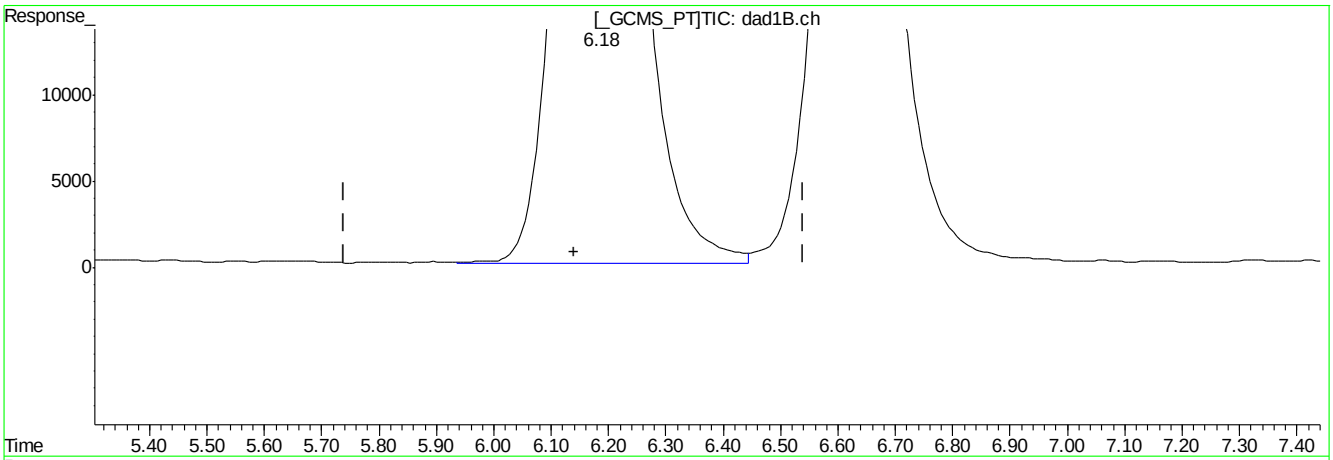
Sample Number:	GBB1558-IC1558	**Method:**	SW846 8330A
Lab FileID:	BB053674.D	**Analyst approved:**	03/20/17 10:30 Mike Eger
Injection Time:	03/16/17 13:55	**Supervisor approved:**	03/20/17 10:31 Mike Eger

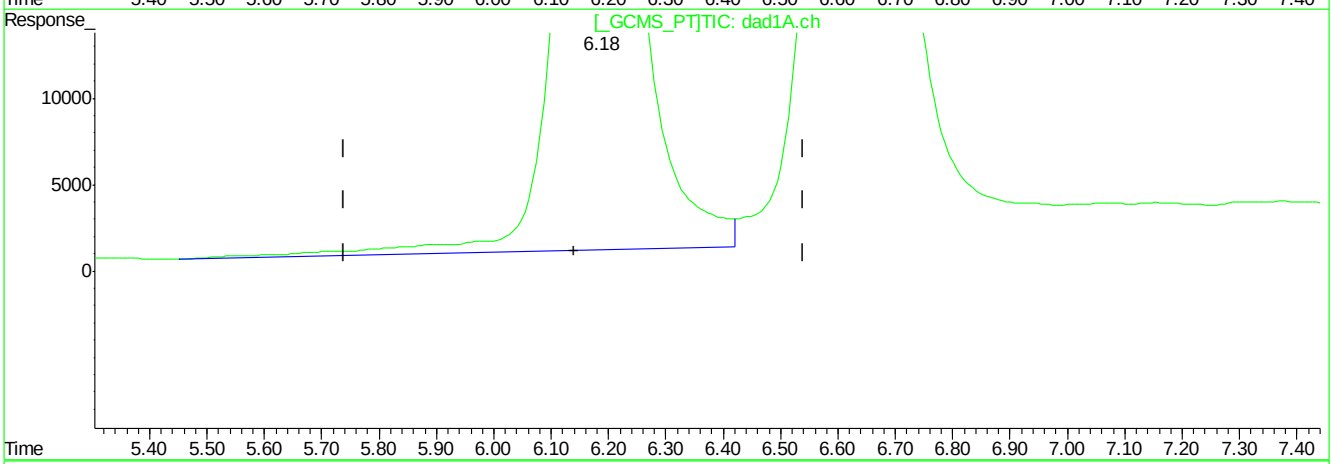
Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3-Dinitrobenzene	99-65-0	2	6.18	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	6.63	Poor instrument integration
Nitrobenzene	98-95-3	2	7.71	Poor instrument integration
PETN	78-11-5	2	18.89	Poor instrument integration

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053674.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053674.D\dad1A.ch
Acq On : 16-Mar-2017, 13:55:00 Operator: evitam
Sample : IC1558-1000 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:21 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

6.18min 905.773ppb

response 5540515

(7) 1,3-Dinitrobenzene #2

6.18min 945.857ppb

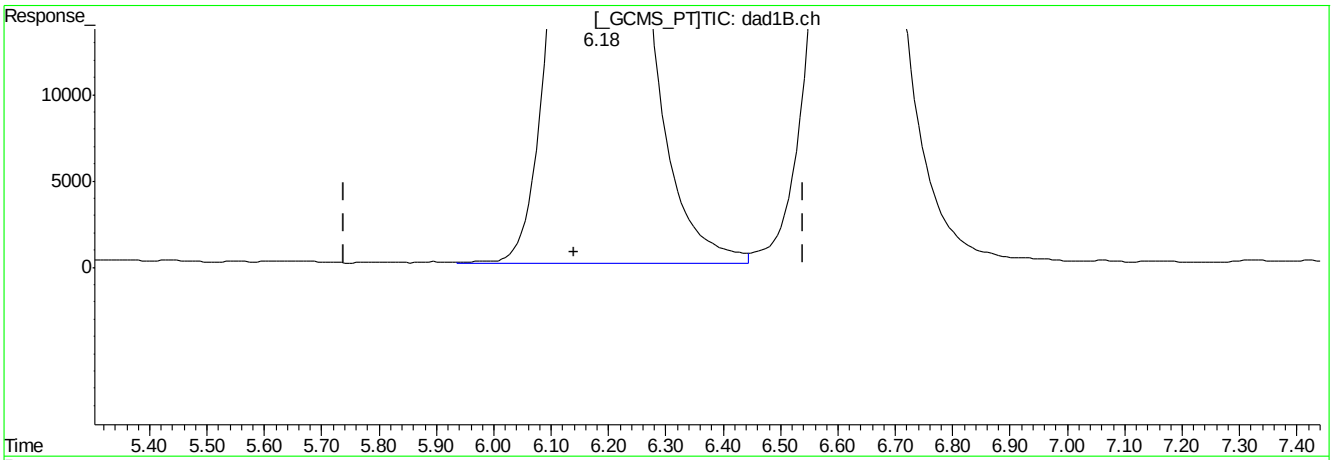
response 4098994

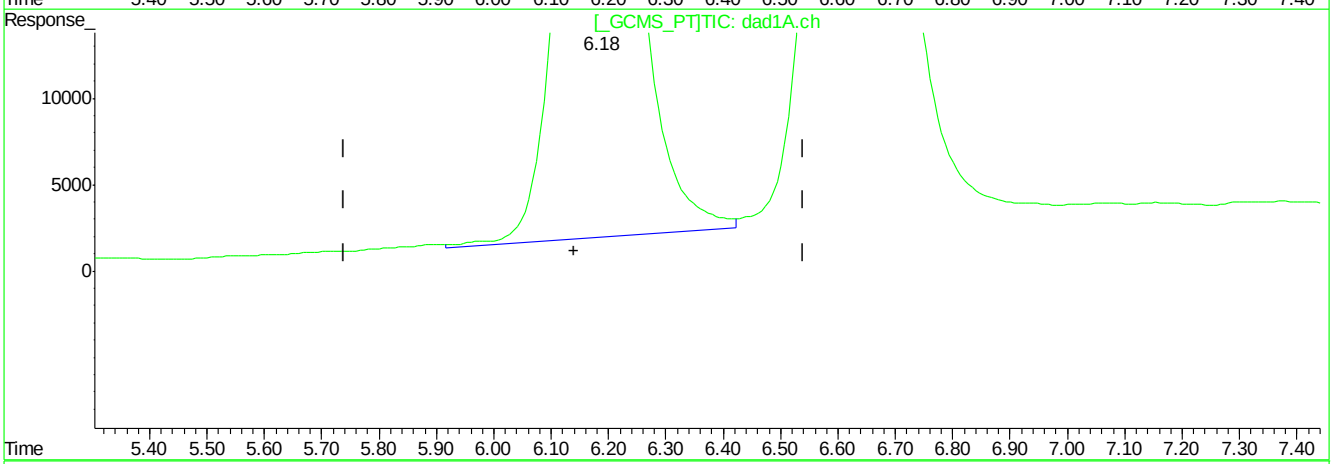
(+) = Expected Retention Time
BB053674.D 8330B_0316PLUS.M Fri Mar 17 10:25:53 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053674.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053674.D\dad1A.ch
Acq On : 16-Mar-2017, 13:55:00 Operator: evitam
Sample : IC1558-1000 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:21 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

6.18min 905.773ppb

response 5540515

(7) 1,3-Dinitrobenzene #2

6.18min 885.910ppb m

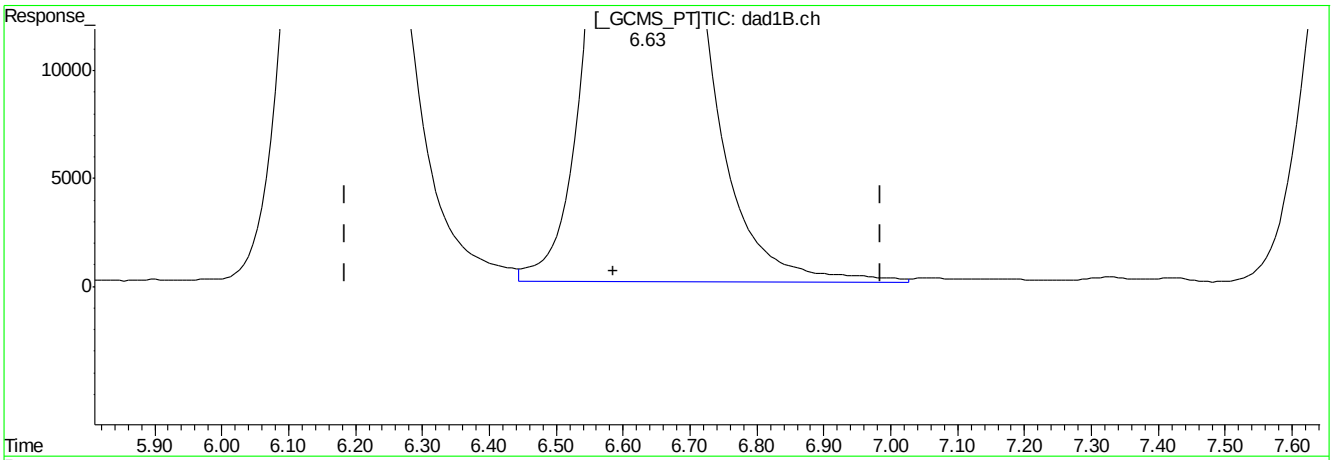
response 3839203

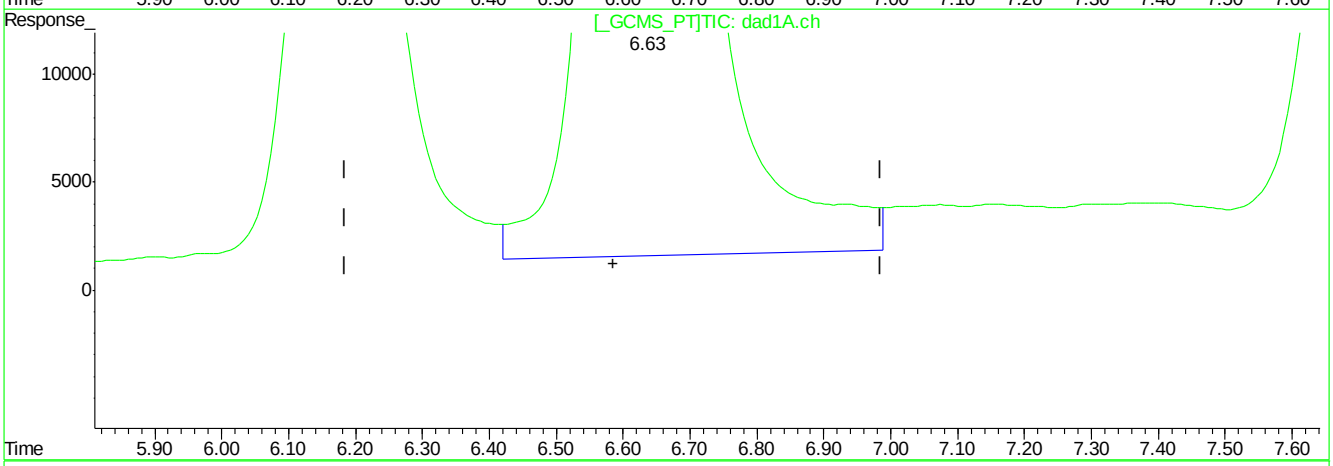
(+) = Expected Retention Time
BB053674.D 8330B_0316PLUS.M Fri Mar 17 10:25:57 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053674.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053674.D\dad1A.ch
Acq On : 16-Mar-2017, 13:55:00 Operator: evitam
Sample : IC1558-1000 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:21 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(8) 3,5-Dinitroaniline

6.63min 937.642ppb

response 4145964

(8) 3,5-Dinitroaniline #2

6.63min 1005.110ppb

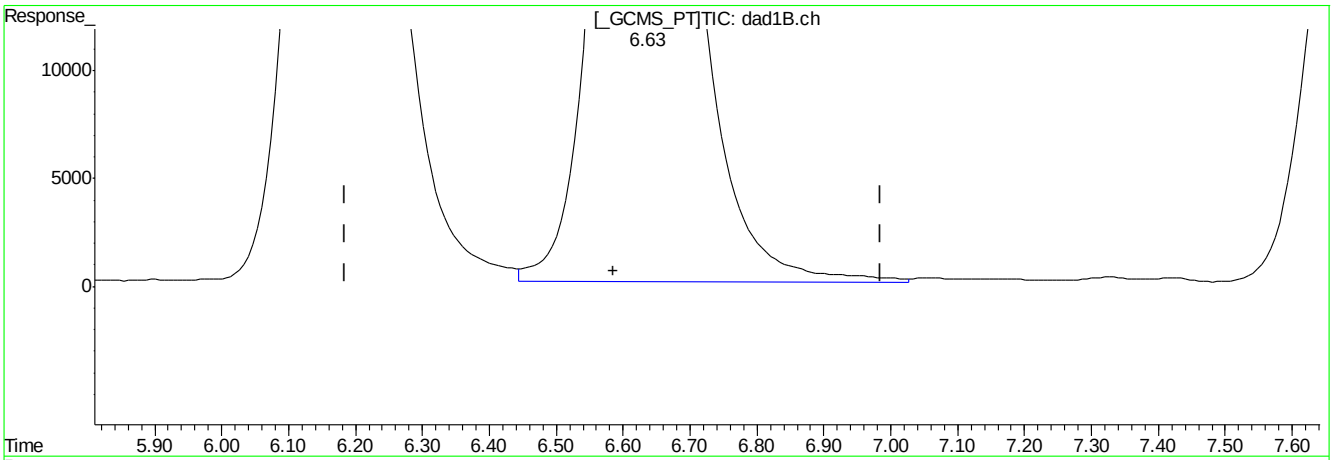
response 7511000

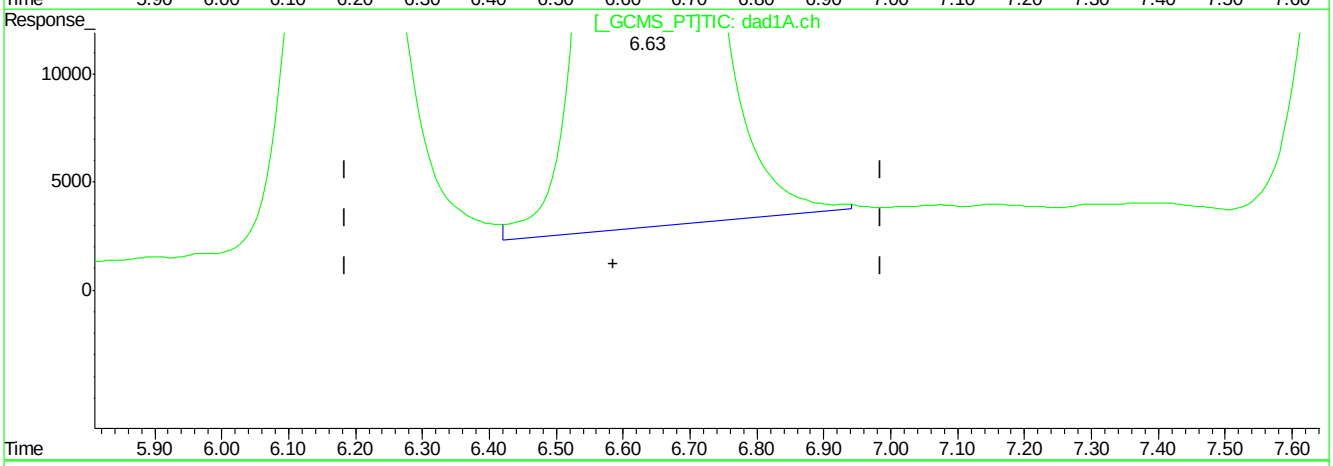
(+) = Expected Retention Time
BB053674.D 8330B_0316PLUS.M Fri Mar 17 10:26:01 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053674.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053674.D\dad1A.ch
Acq On : 16-Mar-2017, 13:55:00 Operator: evitam
Sample : IC1558-1000 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:21 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(8) 3,5-Dinitroaniline

6.63min 937.642ppb

response 4145964

(8) 3,5-Dinitroaniline #2

6.63min 940.101ppb m

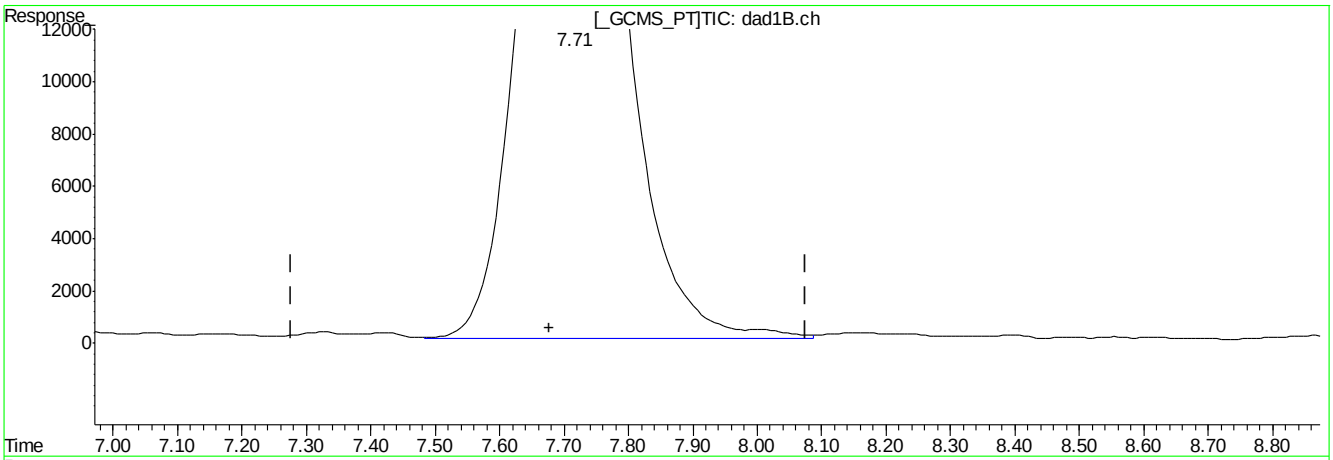
response 7012898

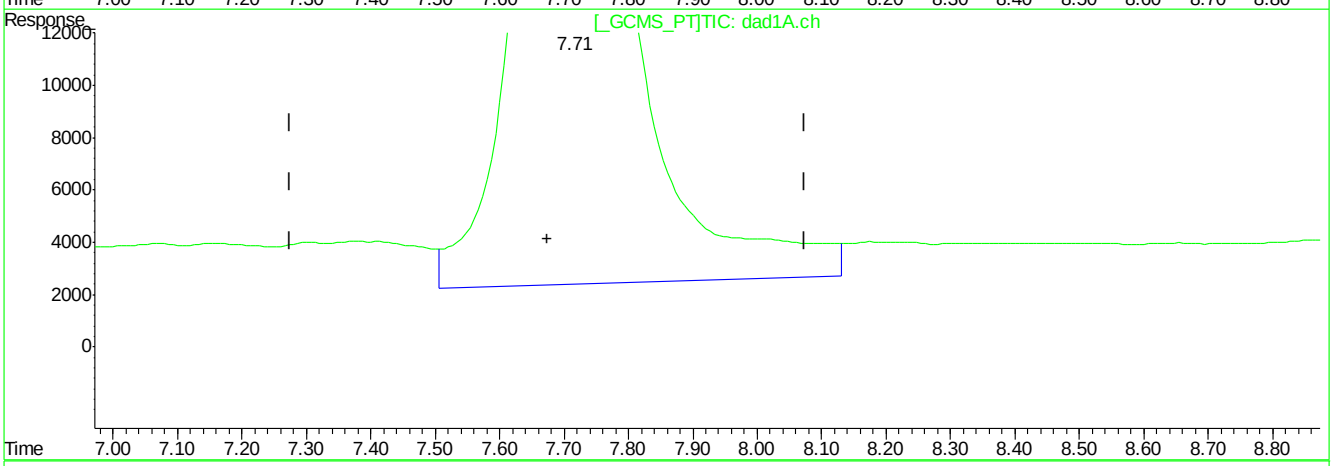
(+) = Expected Retention Time
BB053674.D 8330B_0316PLUS.M Fri Mar 17 10:26:05 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053674.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053674.D\dad1A.ch
Acq On : 16-Mar-2017, 13:55:00 Operator: evitam
Sample : IC1558-1000 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:21 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(9) Nitrobenzene

7.71min 923.929ppb

response 3293428

(9) Nitrobenzene #2

7.71min 1090.163ppb

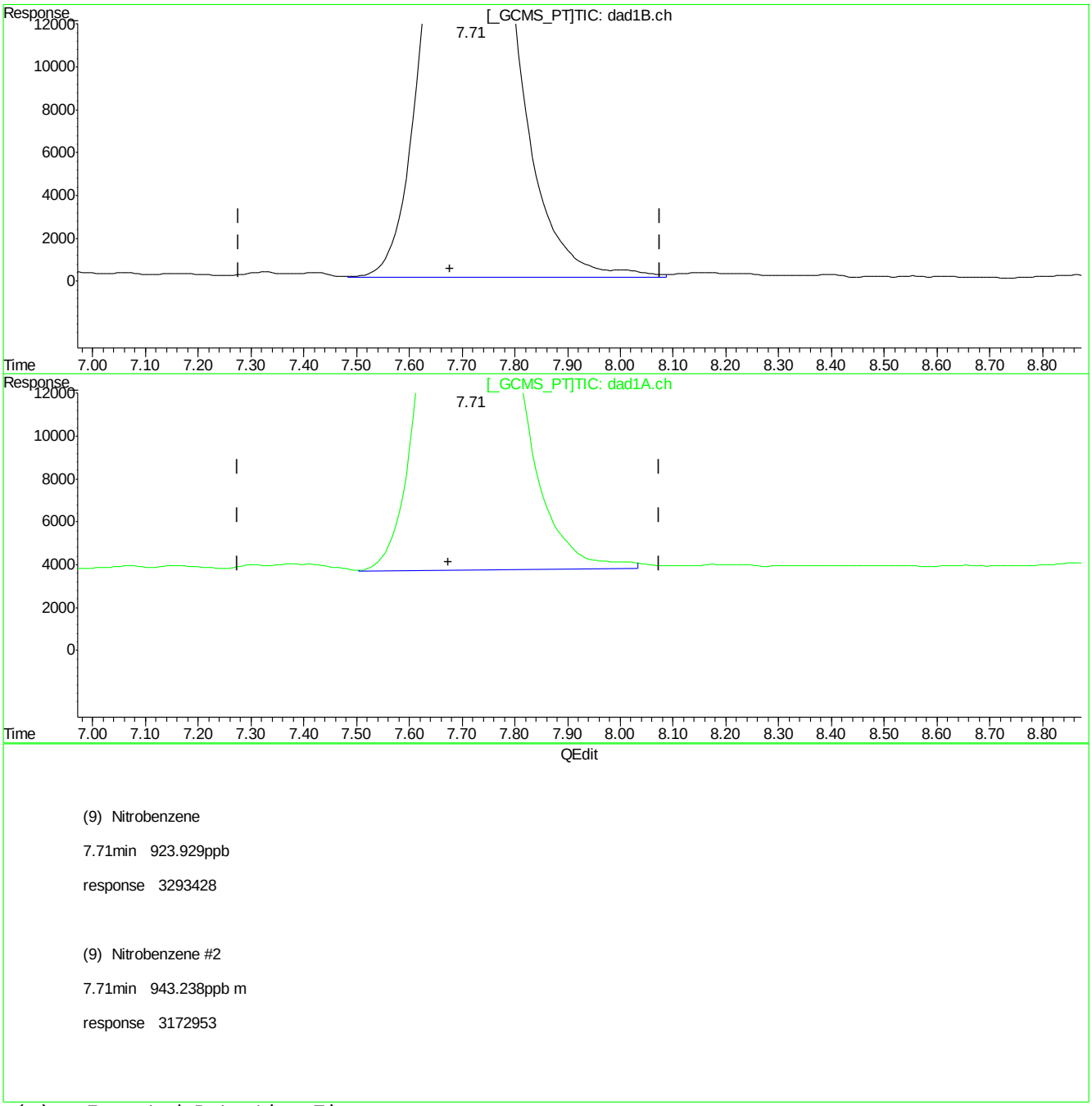
response 3667192

(+) = Expected Retention Time
BB053674.D 8330B_0316PLUS.M Fri Mar 17 10:26:09 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053674.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053674.D\dad1A.ch
Acq On : 16-Mar-2017, 13:55:00 Operator: evitam
Sample : IC1558-1000 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:21 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.71min 923.929ppb

response 3293428

(9) Nitrobenzene #2

7.71min 943.238ppb m

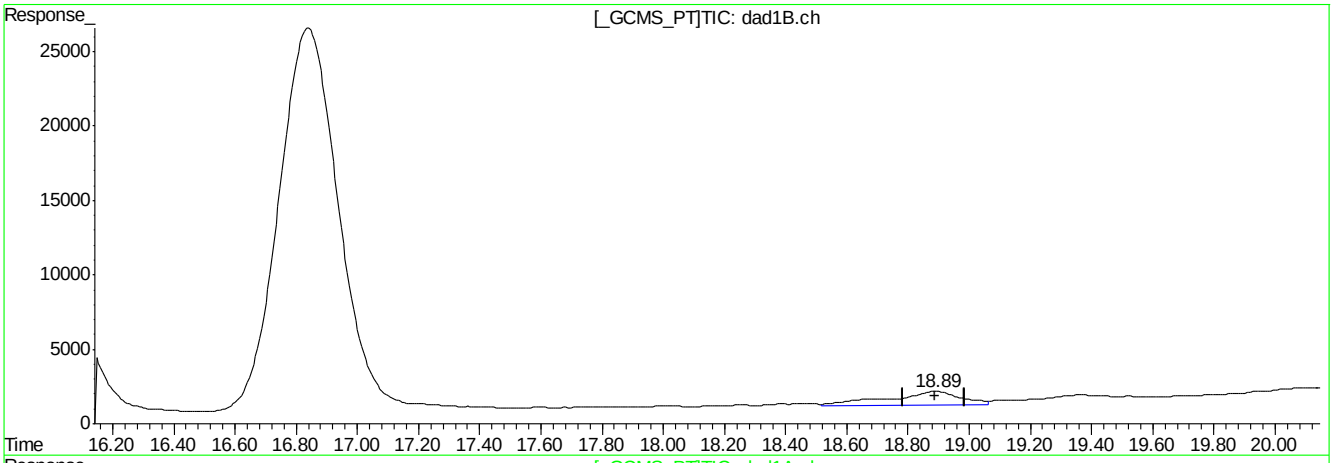
response 3172953

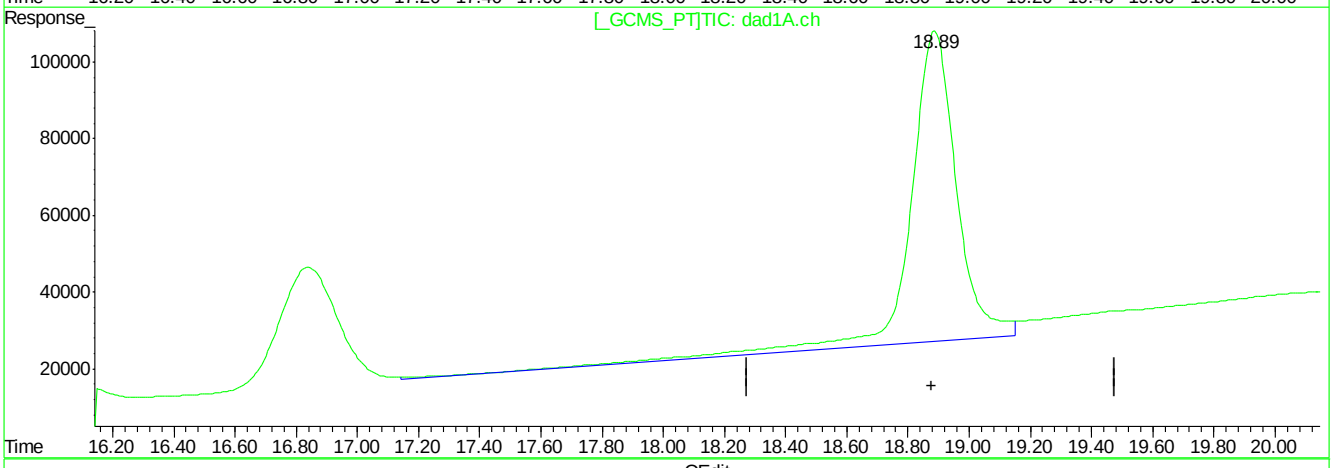
(+) = Expected Retention Time
BB053674.D 8330B_0316PLUS.M Fri Mar 17 10:26:13 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053674.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053674.D\dad1A.ch
Acq On : 16-Mar-2017, 13:55:00 Operator: evitam
Sample : IC1558-1000 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:21 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(21) PETN

18.89min 0.000ppb

response 157831

(21) PETN #2

18.89min 5611.919ppb

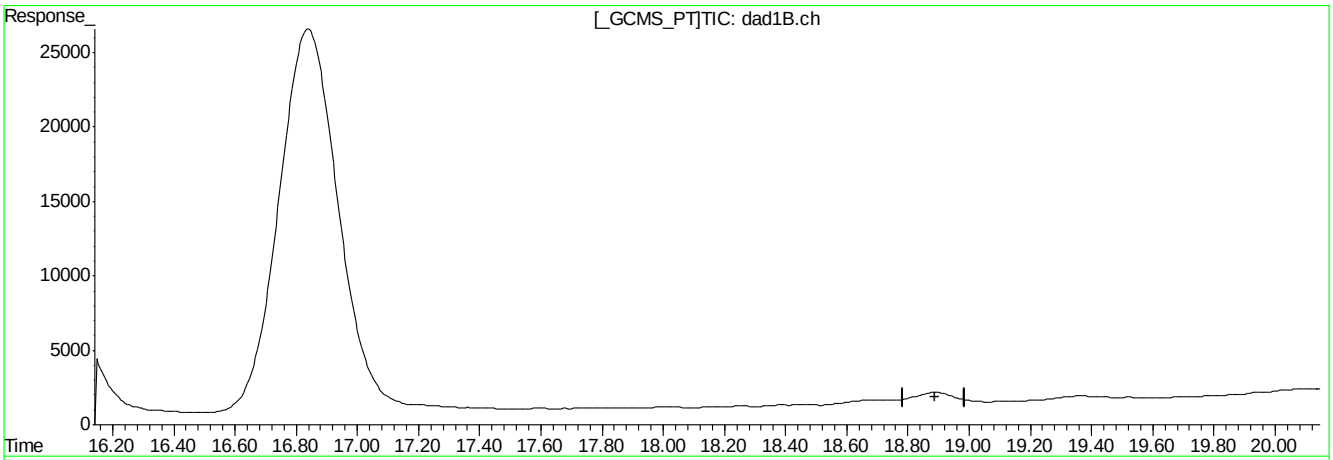
response 8517138

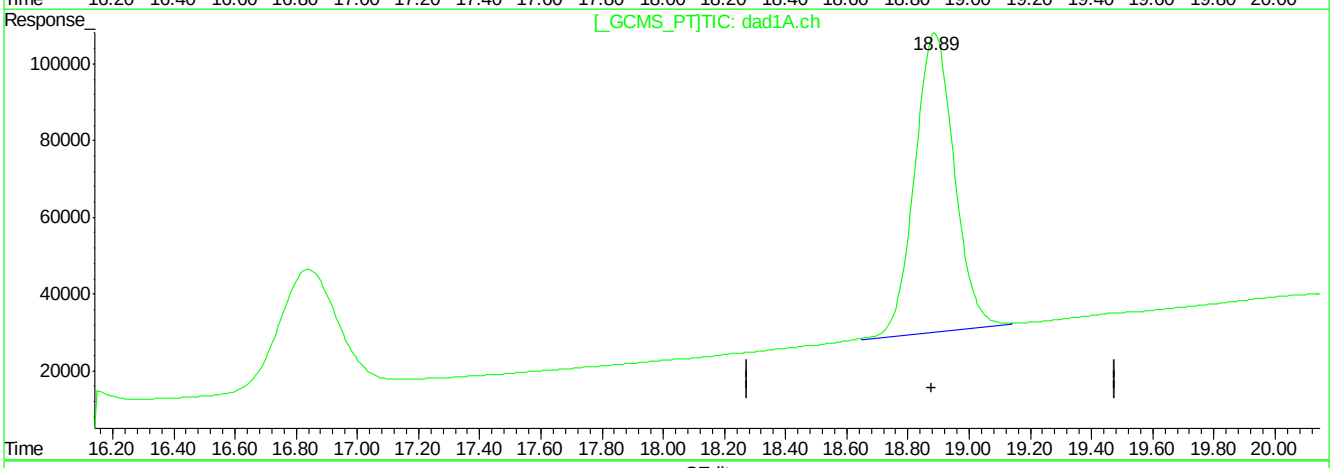
(+) = Expected Retention Time
BB053674.D 8330B_0316PLUS.M Fri Mar 17 10:26:24 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053674.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053674.D\dad1A.ch
Acq On : 16-Mar-2017, 13:55:00 Operator: evitam
Sample : IC1558-1000 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:21 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.89min 4610.045ppb m

response 6996607

(+) = Expected Retention Time
BB053674.D 8330B_0316PLUS.M Fri Mar 17 10:26:29 2017

BB053675.D

Manual Integrations APPROVED (compounds with "m" flag)

Mike Eger
03/20/17 10:31

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053675.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053675.D\dad1A.ch
Acq On : 16-Mar-2017, 14:24:58 Operator: evitam
Sample : IC1558-2000 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:21:13 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.29	11.29	4796872	8586895	1911.791	2028.639
	Spiked Amount 500.000	Range 70 - 136		Recovery =		382.36%#	405.73%#
	Target Compounds						
1)	TNX	1.45	1.45	7201926	11331191	1854.444	2060.609
2)	HMX	1.59	1.59	3502585	9714935	1813.798	1760.230
3)	DNX	1.86	1.86	6028171	9582558	1894.431	1913.013
4)	MNX	2.49	2.49	5005857	7823274	1980.783	1966.604
5)	RDX	3.14	3.14	4111188	6681373	1880.952	1923.288
6)	1,3,5-Trinitrobe	4.94	4.94	9233364	18036249	1946.170	1959.281
7)	1,3-Dinitrobenze	6.20	6.20	11763700	8255900	1923.151	1905.078
8)	3,5-Dinitroanili	6.65	6.65	8798485	14888515	1977.290	1943.246m
9)	Nitrobenzene	7.72	7.72	6831935	6783686	1916.613	2016.618
10)	Nitroglycerin	0.00	9.30	0	12988284	N.D.	9754.094 #
11)	Tetryl	9.64	9.64	4249066	7005669	1887.726	2231.061
12)	2,4,6-Trinitroto	10.06	10.06	6846913	9184848	1856.953	2036.040
13)	2-Amino-4,6-Dini	10.55	10.55	7329032	11156866	1772.991	1947.654
14)	4-Amino-2,6-Dini	11.03	11.03	5321070	11036772	1802.021	1958.609
16)	2,4-Dinitrotolue	11.94	11.94	10575542	7043770	1923.644	2092.502
17)	2,6-Dinitrotolue	12.39	12.39	5992836	7914312	1880.489	2060.691
18)	o-Nitrotoluene	15.36	15.36	4862251	6545128	1901.743	2014.153
19)	p-Nitrotoluene	15.97	15.97	7512211	6240703	1930.752	1895.536
20)	m-Nitrotoluene	16.85	16.85	7367791	8546783	1897.929	1947.480
21)	PETN	0.00	18.88	0	15285785	N.D. d	10071.761m

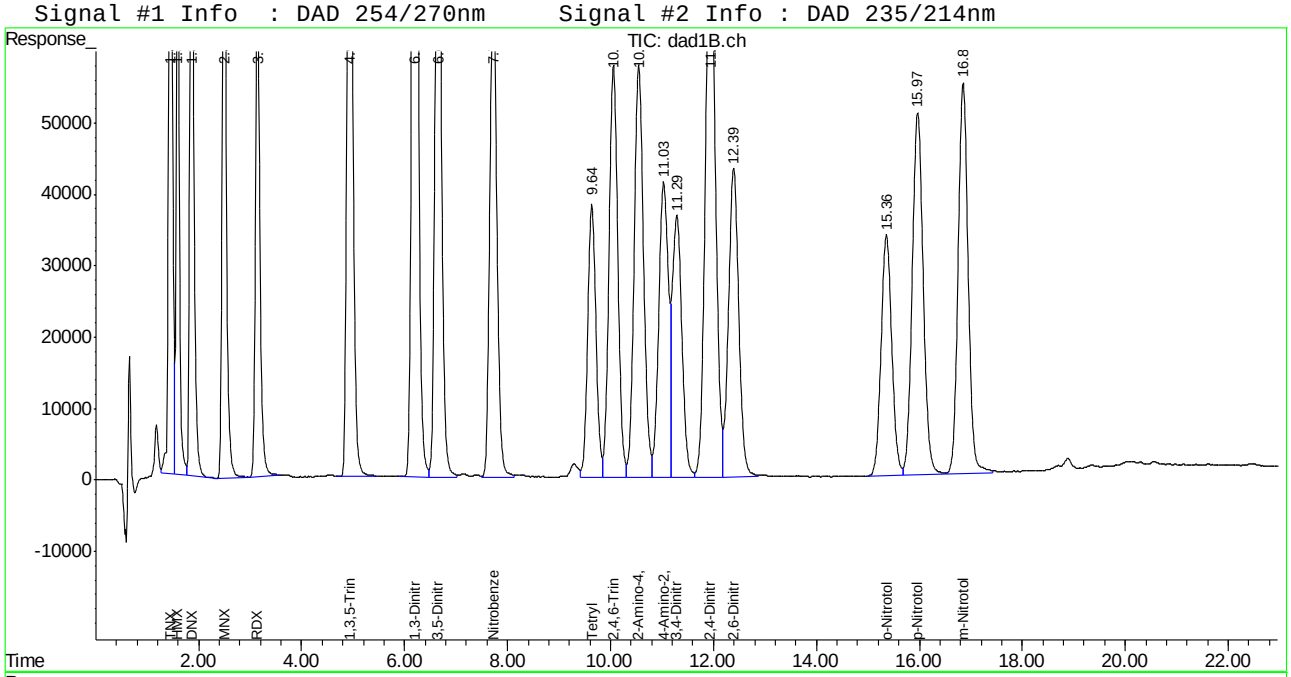
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB053675.D 8330B_0316PLUS.M Fri Mar 17 11:42:15 2017 Page 1

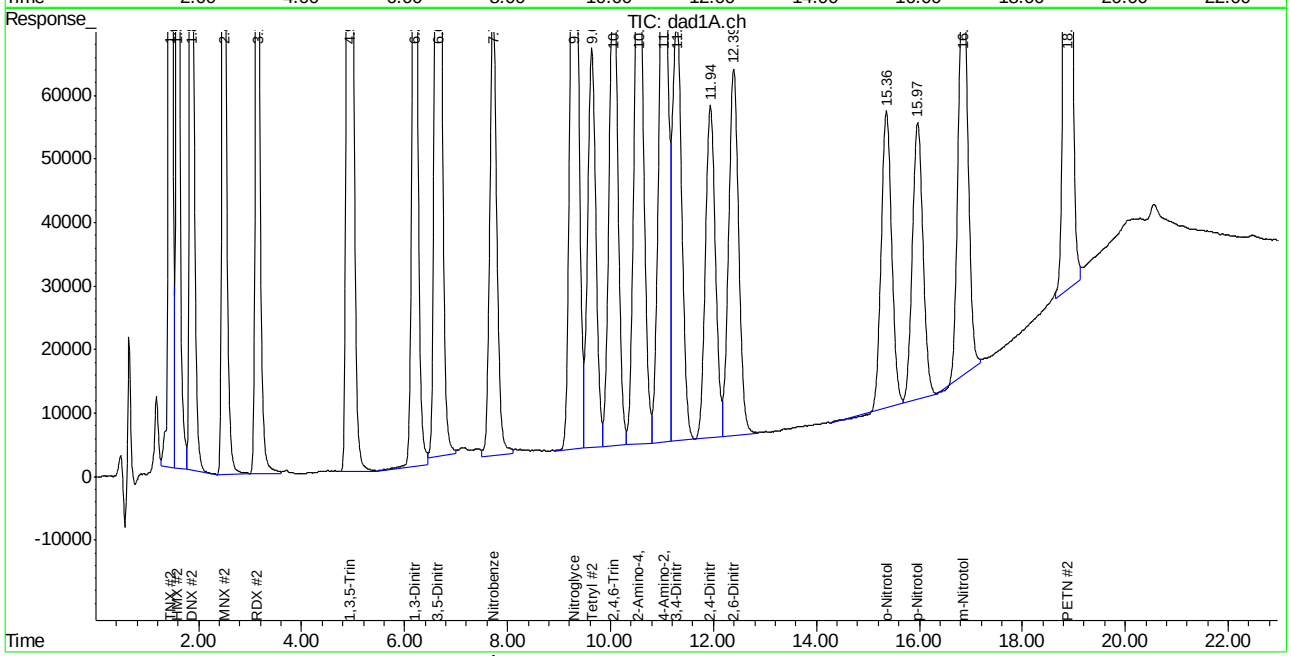
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053675.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053675.D\dad1A.ch
Acq On : 16-Mar-2017, 14:24:58 Operator: evitam
Sample : IC1558-2000 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:27 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

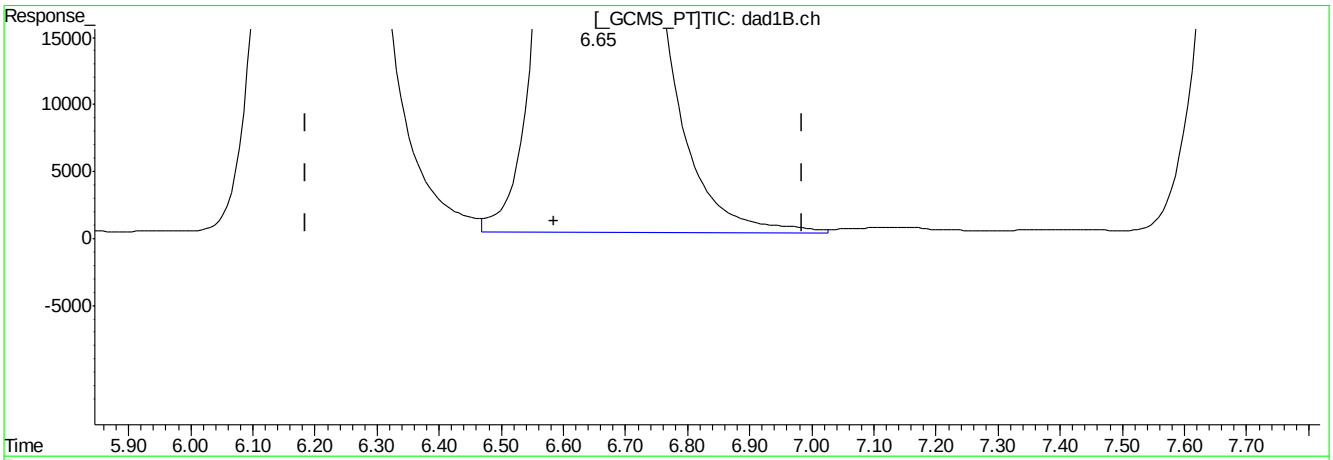
Sample Number:	GBB1558-IC1558	**Method:**	SW846 8330A
Lab FileID:	BB053675.D	**Analyst approved:**	03/20/17 10:30 Mike Eger
Injection Time:	03/16/17 14:24	**Supervisor approved:**	03/20/17 10:31 Mike Eger

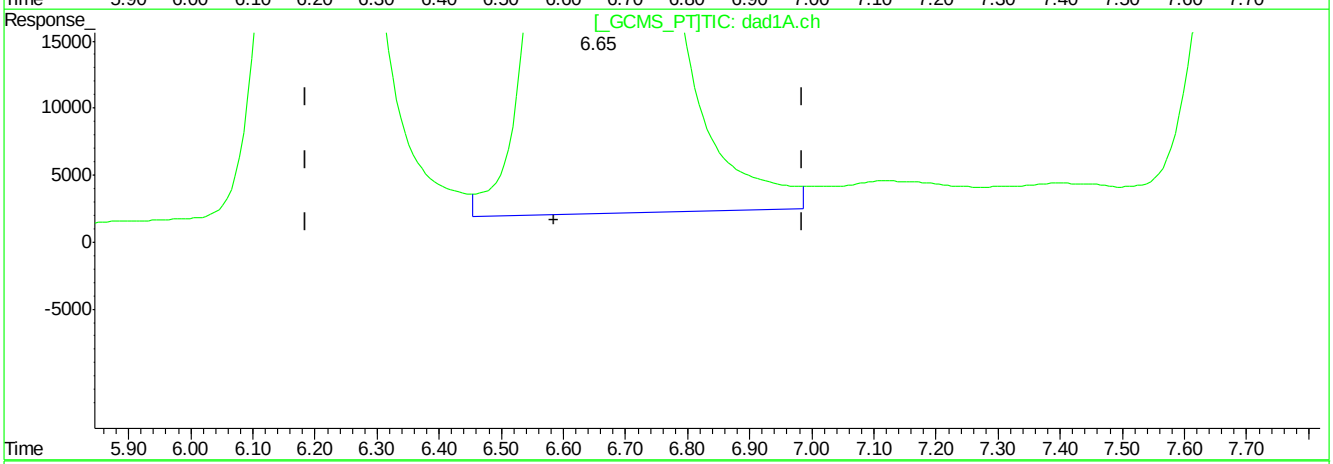
Parameter	CAS	Sig#	R.T. (min.)	Reason
3,5-Dinitroaniline	618-87-1	2	6.65	Poor instrument integration
PETN	78-11-5	2	18.88	Poor instrument integration

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053675.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053675.D\dad1A.ch
Acq On : 16-Mar-2017, 14:24:58 Operator: evitam
Sample : IC1558-2000 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:21 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(8) 3,5-Dinitroaniline

6.65min 1977.290ppb

response 8798485

(8) 3,5-Dinitroaniline #2

6.65min 1985.289ppb

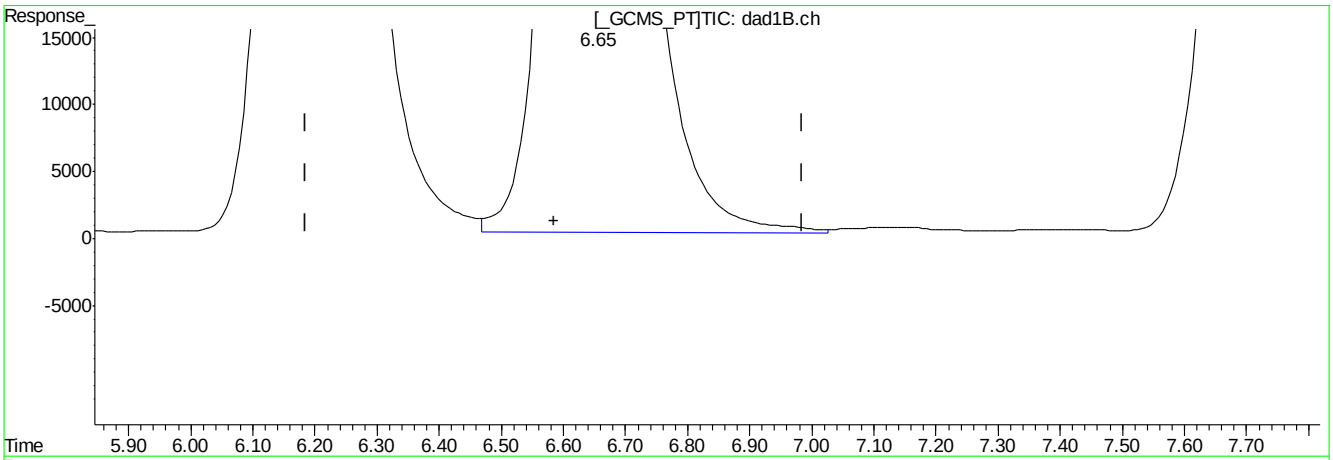
response 15227439

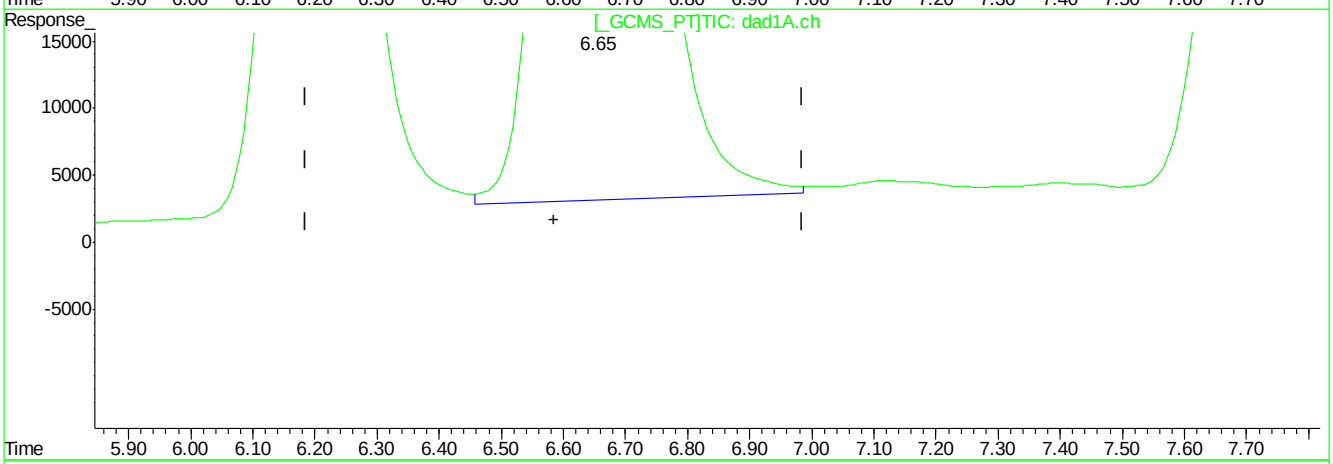
(+) = Expected Retention Time
BB053675.D 8330B_0316PLUS.M Fri Mar 17 10:26:51 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053675.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053675.D\dad1A.ch
Acq On : 16-Mar-2017, 14:24:58 Operator: evitam
Sample : IC1558-2000 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:21 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(8) 3,5-Dinitroaniline

6.65min 1977.290ppb

response 8798485

(8) 3,5-Dinitroaniline #2

6.65min 1943.246ppb m

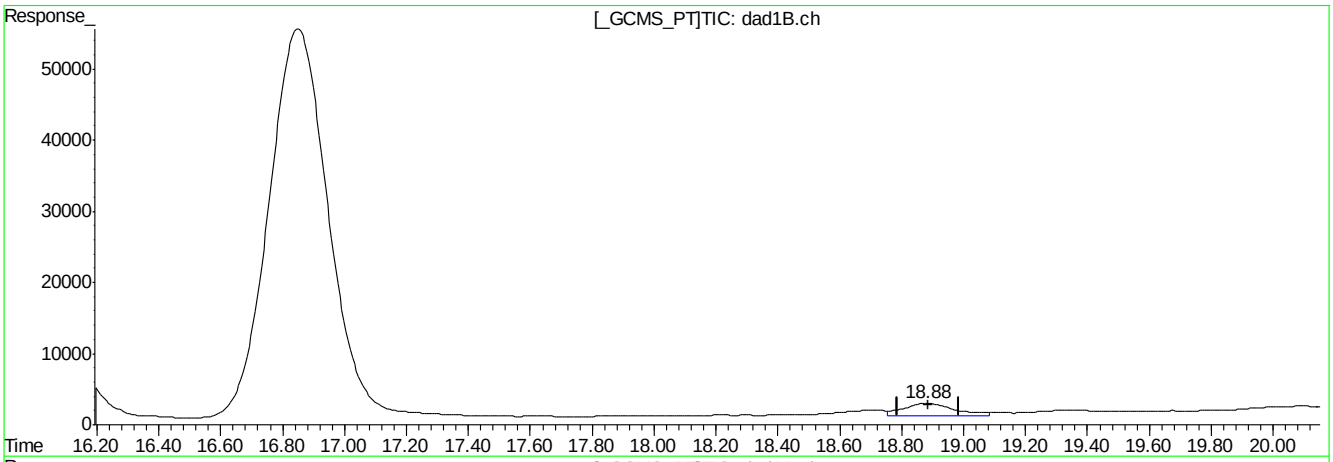
response 14888515

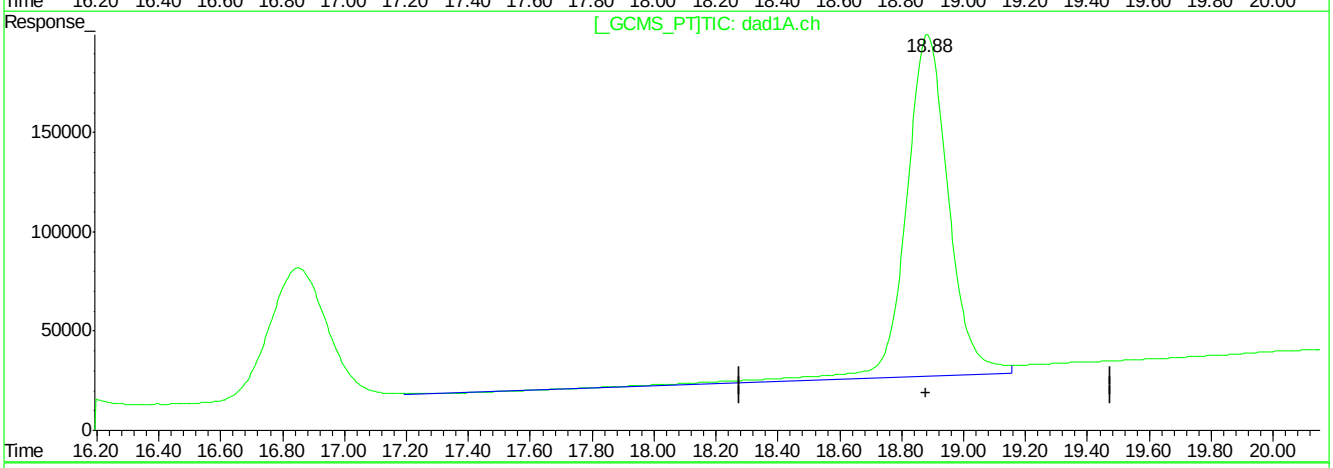
(+) = Expected Retention Time
BB053675.D 8330B_0316PLUS.M Fri Mar 17 10:26:56 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053675.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053675.D\dad1A.ch
Acq On : 16-Mar-2017, 14:24:58 Operator: evitam
Sample : IC1558-2000 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:21 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(21) PETN

18.88min 0.000ppb

response 203670

(21) PETN #2

18.88min 10887.959ppb

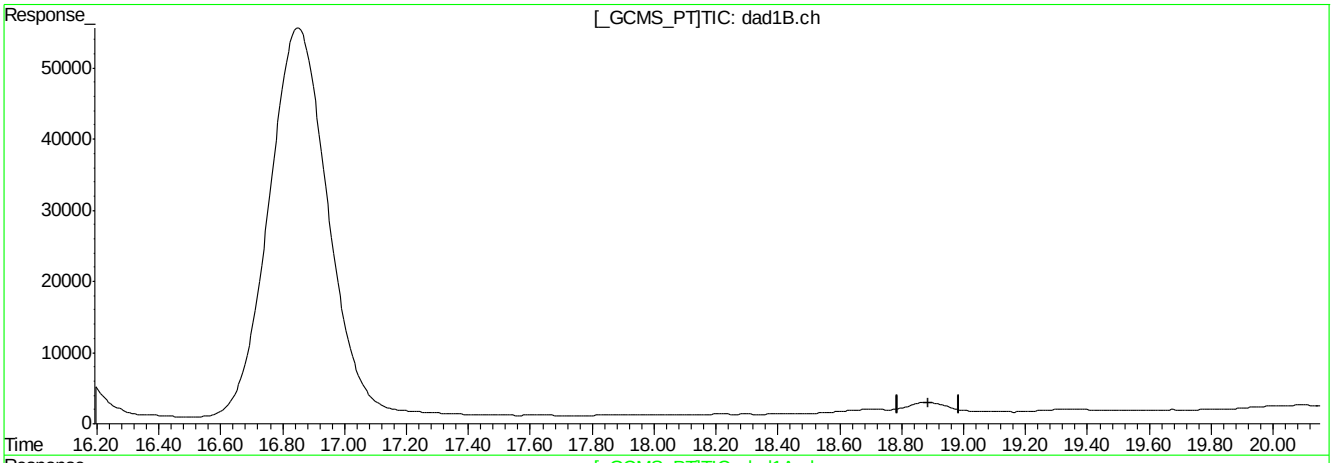
response 16524519

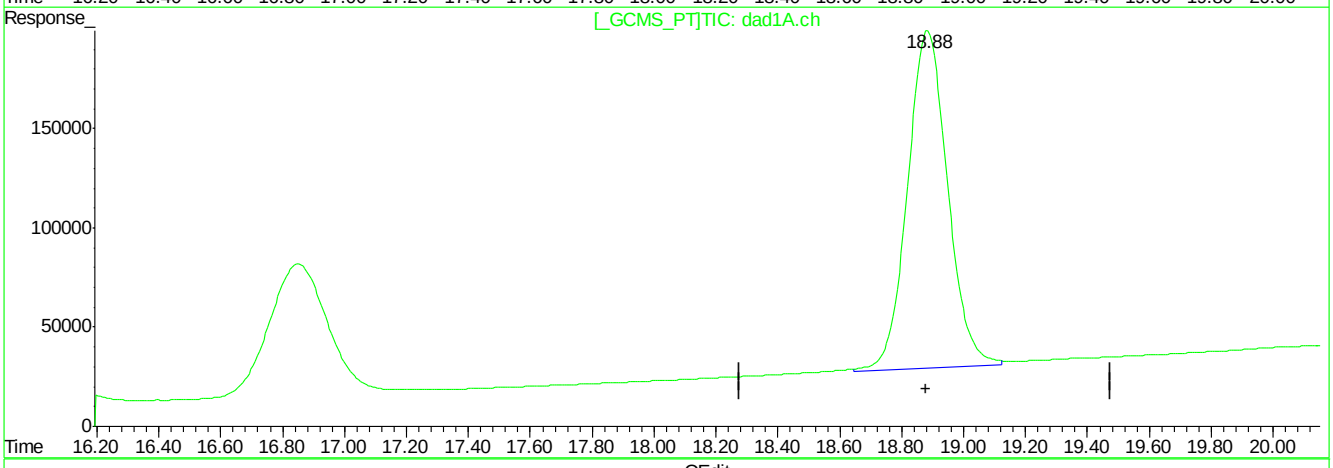
(+) = Expected Retention Time
BB053675.D 8330B_0316PLUS.M Fri Mar 17 10:27:16 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053675.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053675.D\dad1A.ch
Acq On : 16-Mar-2017, 14:24:58 Operator: evitam
Sample : IC1558-2000 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 10:21 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 09:25:08 2017
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.88min 10071.761ppb m

response 15285785

(+) = Expected Retention Time
BB053675.D 8330B_0316PLUS.M Fri Mar 17 10:27:21 2017

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
03/20/17 10:31

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053676.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053676.D\dad1A.ch
Acq On : 16-Mar-2017, 14:54:56 Operator: evitam
Sample : ICV1558-500 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 11:01:52 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
Spiked Amount	500.000	Range	70 - 136	Recovery	=	0.00%#	0.00%#
	Target Compounds						
1)	TNX	1.45	1.45	1672716	2605256	540.397	515.848
2)	HMX	1.58	1.58	834644	2335094	518.919	493.046
3)	DNX	1.86	1.86	1401292	2243642	506.447	449.260
4)	MNX	2.48	2.48	1154653	1798797	508.831	506.909
5)	RDX	3.13	3.13	896632	1425917	480.165	482.718
6)	1,3,5-Trinitrobe	4.91	4.91	1906680	3663433	477.803	446.437
7)	1,3-Dinitrobenze	6.18	6.17	2421636	1660188	467.742	429.114m
8)	3,5-Dinitroanili	6.62	6.62	2267126	3760079	576.199	567.728m
9)	Nitrobenzene	7.71	7.71	1522635	1447729	468.055	472.231m
10)	Nitroglycerin	0.00	9.24	0	3235734	N.D. d	2668.912
11)	Tetryl	9.58	9.58	1281211	2103401	622.399	686.794
12)	2,4,6-Trinitroto	10.00	10.00	1544721	1917824	498.227	492.318
13)	2-Amino-4,6-Dini	10.50	10.50	1581043	2415220	485.034	483.540
14)	4-Amino-2,6-Dini	10.98	10.98	1183308	2351865	522.021	477.299
16)	2,4-Dinitrotolue	11.89	11.89	2251505	1488243	464.975	489.803
17)	2,6-Dinitrotolue	12.34	12.34	1308655	1754731	473.601	504.439
18)	o-Nitrotoluene	15.34	15.34	1092445	1429232	477.888	474.257
19)	p-Nitrotoluene	15.95	15.95	1619441	1258524	469.965	462.732
20)	m-Nitrotoluene	16.84	16.84	1601512	1731629	477.542	441.843
21)	PETN	0.00	18.89	0	3692804	N.D. d	2712.814m

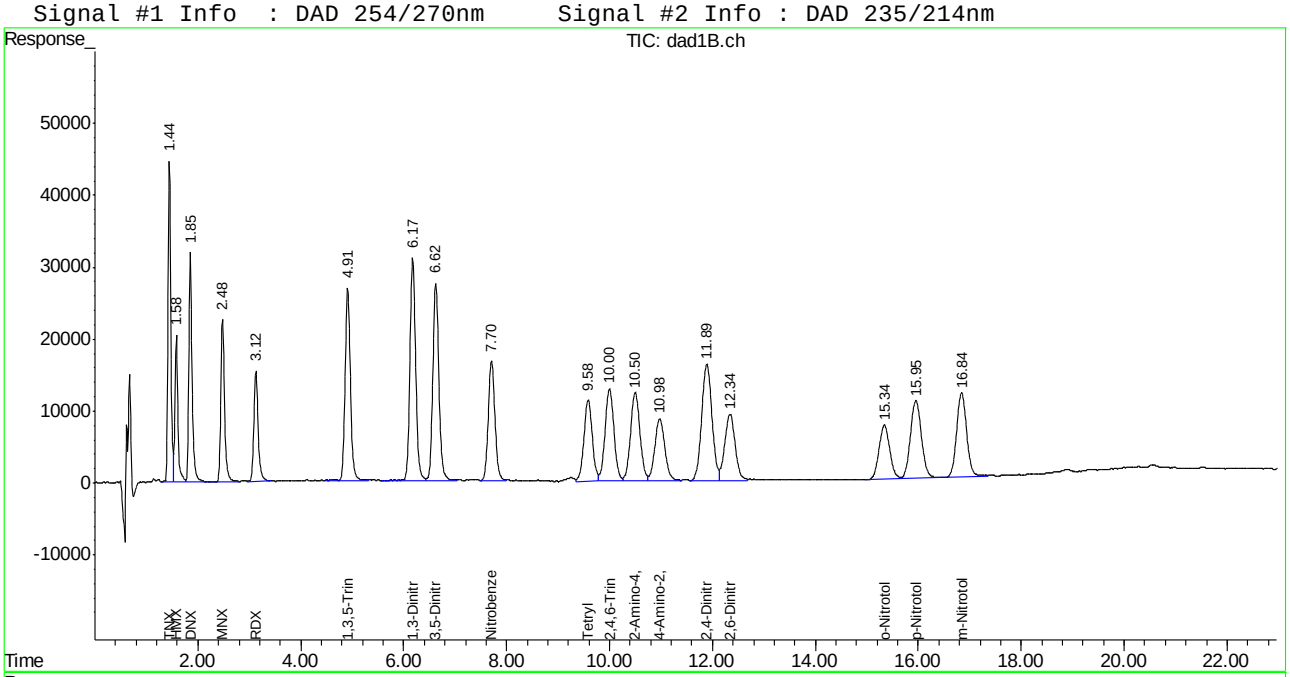
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB053676.D 8330B_0316PLUS.M Fri Mar 17 11:42:16 2017 Page 1

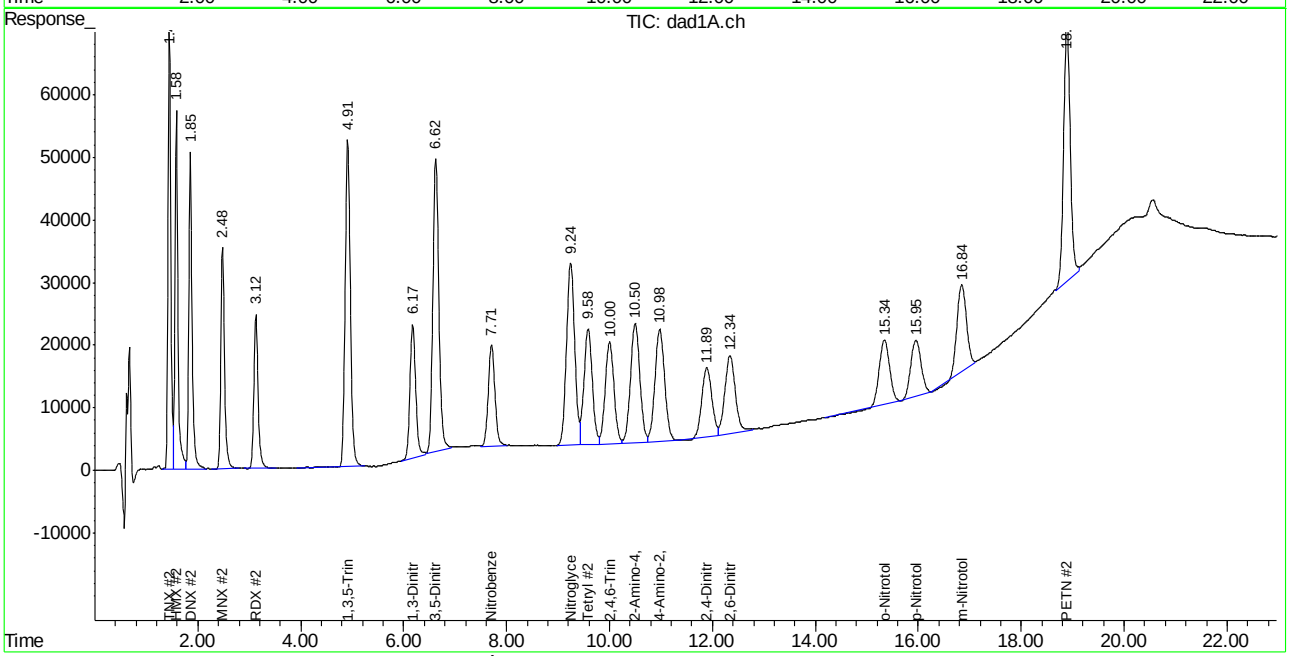
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053676.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053676.D\dad1A.ch
Acq On : 16-Mar-2017, 14:54:56 Operator: evitam
Sample : ICV1558-500 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 11:03 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

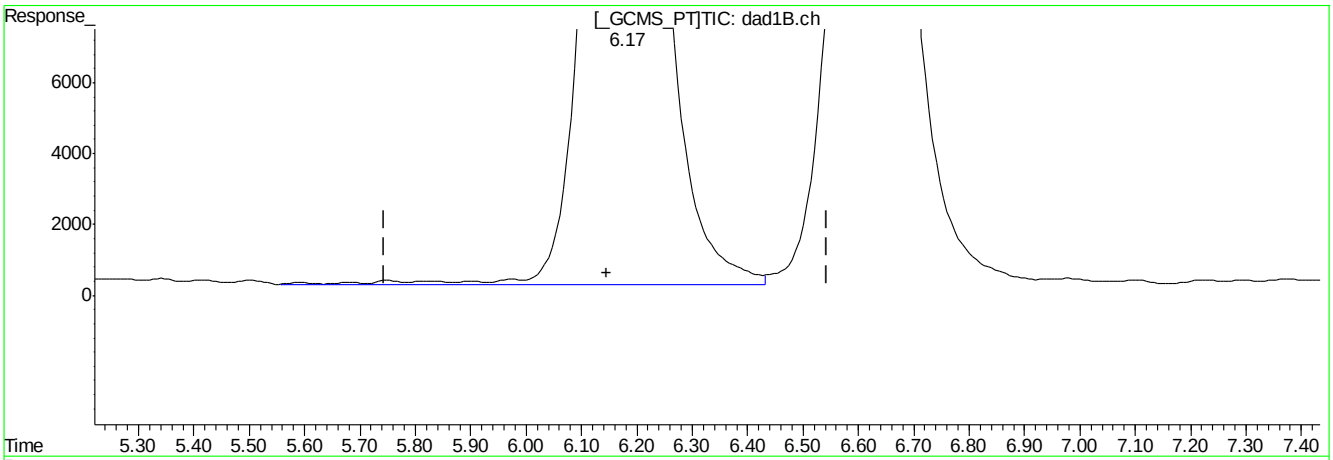
Sample Number: GBB1558-ICV1558 **Method:** SW846 8330A
Lab FileID: BB053676.D **Analyst approved:** 03/20/17 10:30 Mike Eger
Injection Time: 03/16/17 14:54 **Supervisor approved:** 03/20/17 10:31 Mike Eger

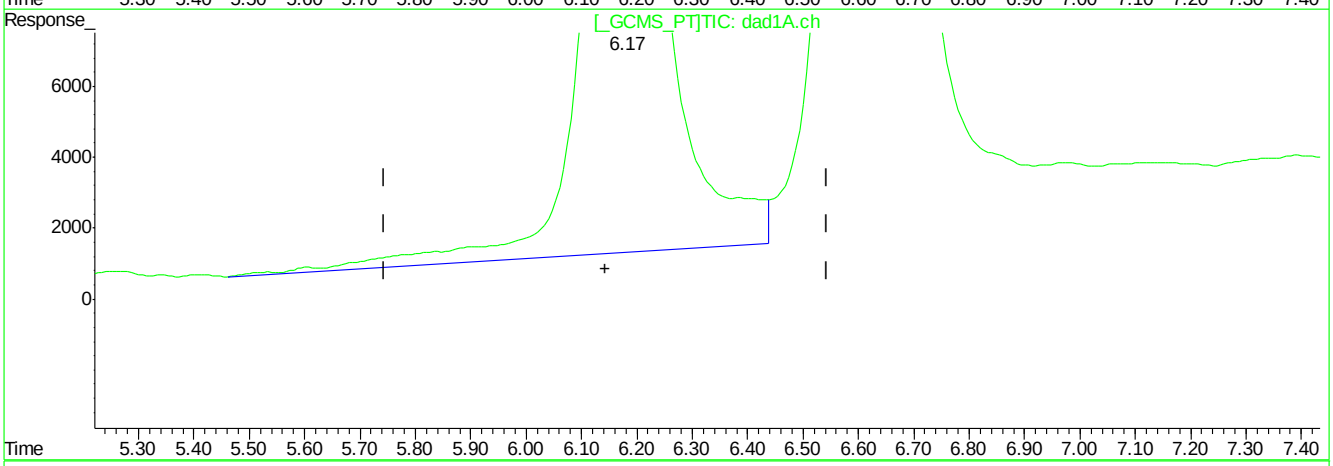
Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3-Dinitrobenzene	99-65-0	2	6.17	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	6.62	Poor instrument integration
Nitrobenzene	98-95-3	2	7.71	Poor instrument integration
PETN	78-11-5	2	18.89	Poor instrument integration

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053676.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053676.D\dad1A.ch
Acq On : 16-Mar-2017, 14:54:56 Operator: evitam
Sample : ICV1558-500 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 11:01 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

6.18min 467.742ppb

response 2421636

(7) 1,3-Dinitrobenzene #2

6.18min 500.912ppb

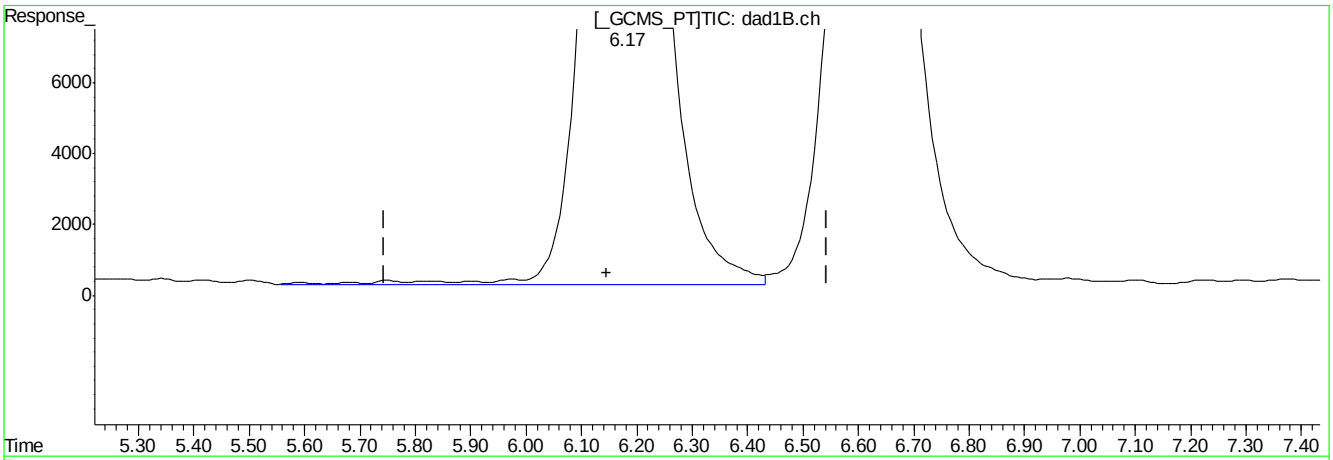
response 1937963

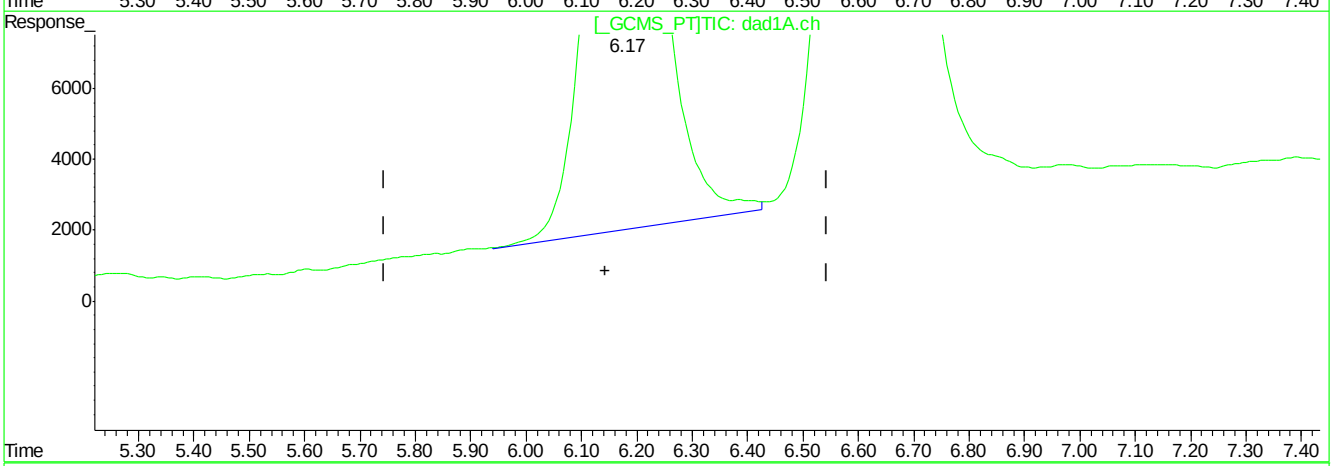
(+) = Expected Retention Time
BB053676.D 8330B_0316PLUS.M Fri Mar 17 11:02:24 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053676.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053676.D\dad1A.ch
Acq On : 16-Mar-2017, 14:54:56 Operator: evitam
Sample : ICV1558-500 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 11:01 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

6.18min 467.742ppb

response 2421636

(7) 1,3-Dinitrobenzene #2

6.17min 429.114ppb m

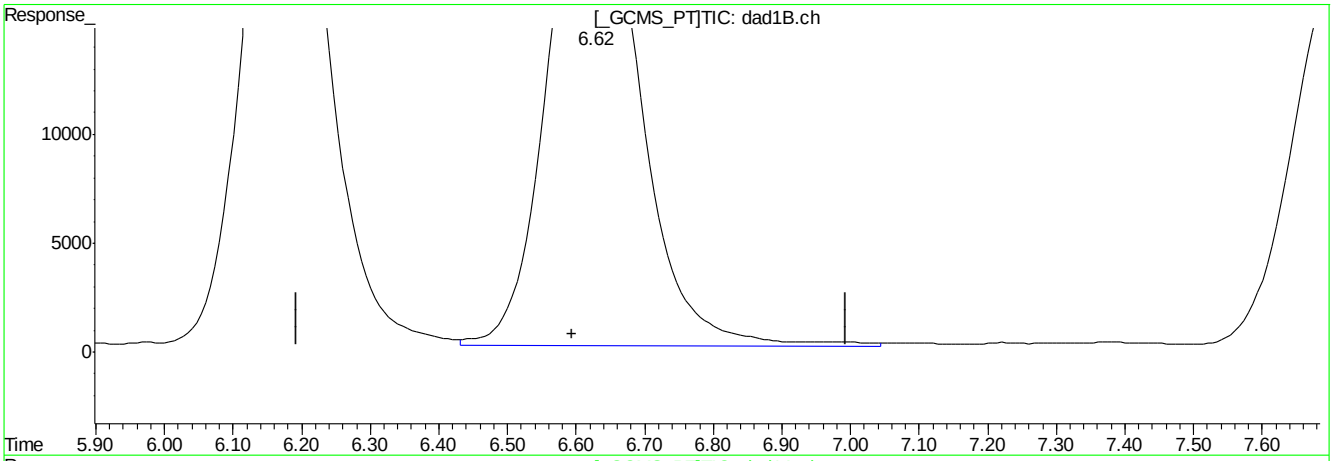
response 1660188

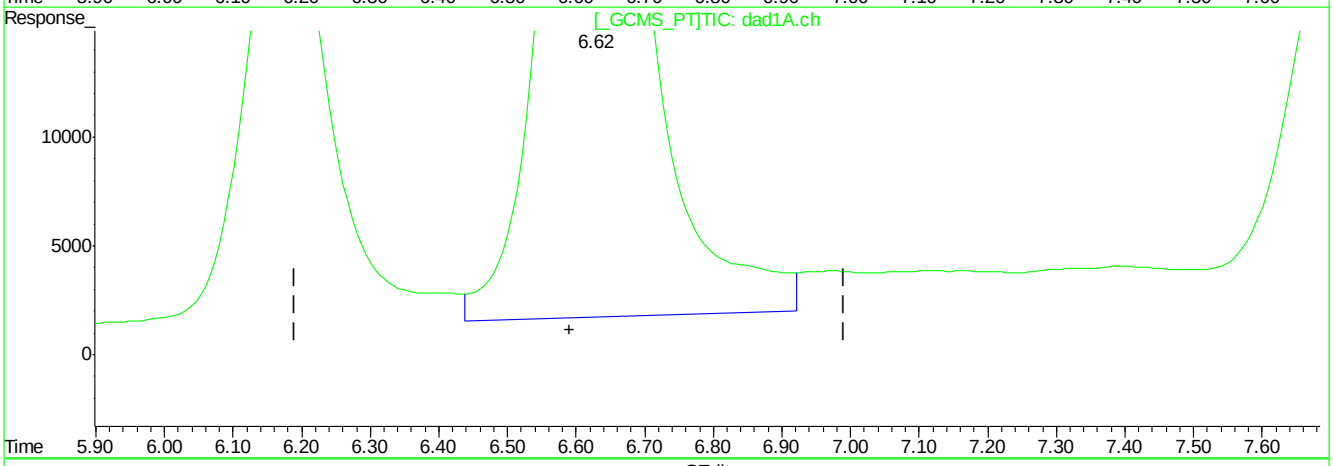
(+) = Expected Retention Time
BB053676.D 8330B_0316PLUS.M Fri Mar 17 11:02:33 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053676.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053676.D\dad1A.ch
Acq On : 16-Mar-2017, 14:54:56 Operator: evitam
Sample : ICV1558-500 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 11:01 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Multiple Level Calibration





QEdit

(8) 3,5-Dinitroaniline

6.62min 576.199ppb

response 2267126

(8) 3,5-Dinitroaniline #2

6.62min 629.770ppb

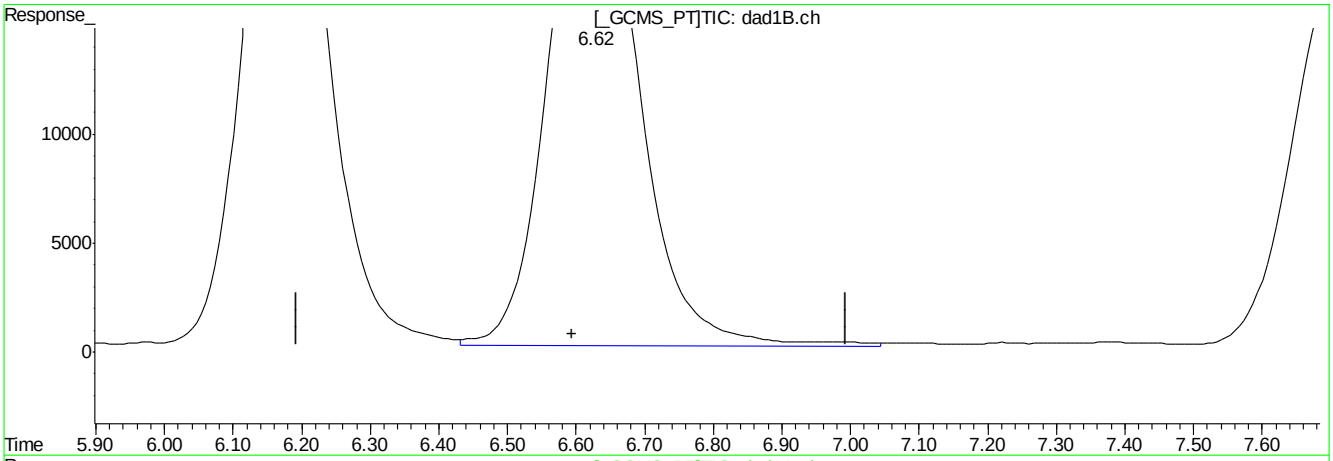
response 4170982

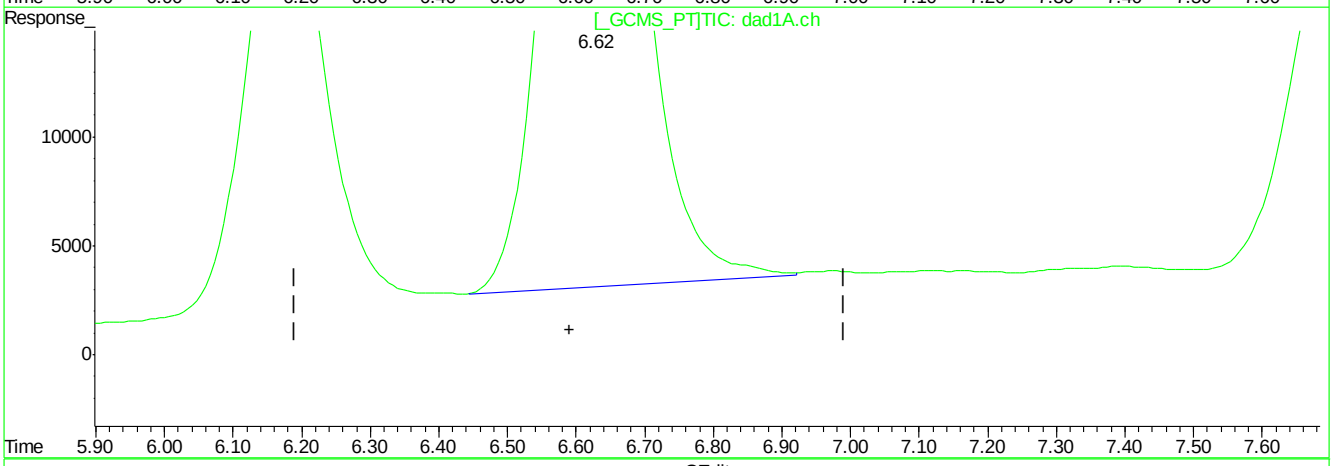
(+) = Expected Retention Time
BB053676.D 8330B_0316PLUS.M Fri Mar 17 11:02:38 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053676.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053676.D\dad1A.ch
Acq On : 16-Mar-2017, 14:54:56 Operator: evitam
Sample : ICV1558-500 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 11:01 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Multiple Level Calibration





QEdit

(8) 3,5-Dinitroaniline

6.62min 576.199ppb

response 2267126

(8) 3,5-Dinitroaniline #2

6.62min 567.728ppb m

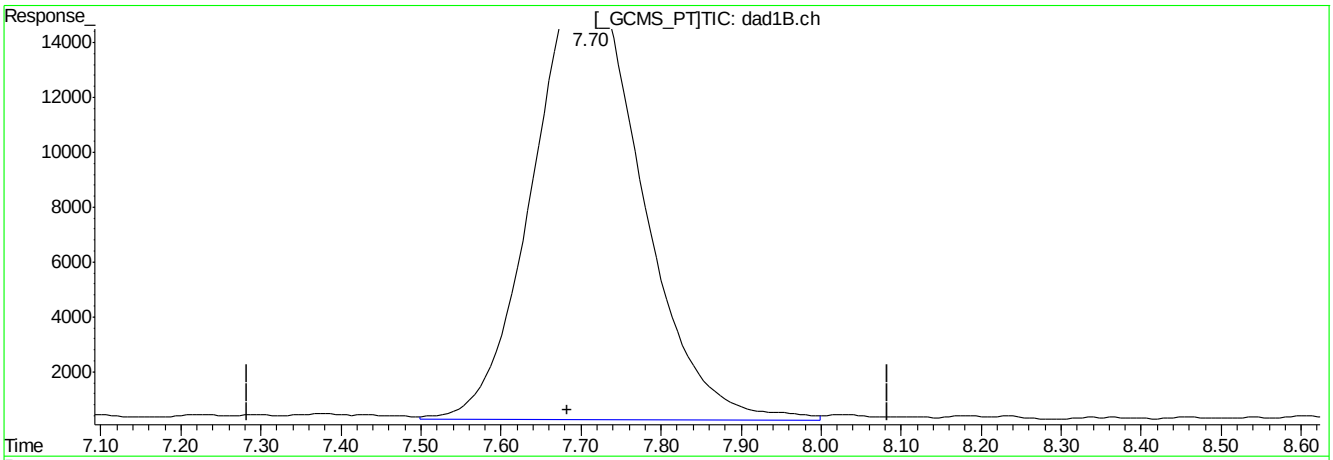
response 3760079

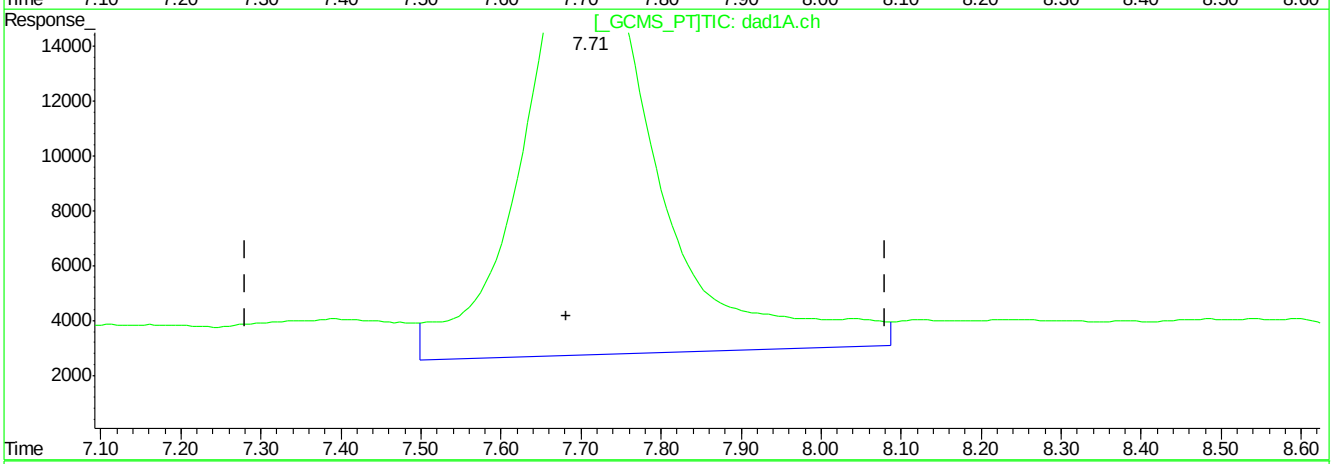
(+) = Expected Retention Time
BB053676.D 8330B_0316PLUS.M Fri Mar 17 11:02:43 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053676.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053676.D\dad1A.ch
Acq On : 16-Mar-2017, 14:54:56 Operator: evitam
Sample : ICV1558-500 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 11:01 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Multiple Level Calibration





QEdit

(9) Nitrobenzene

7.71min 468.055ppb

response 1522635

(9) Nitrobenzene #2

7.71min 594.120ppb

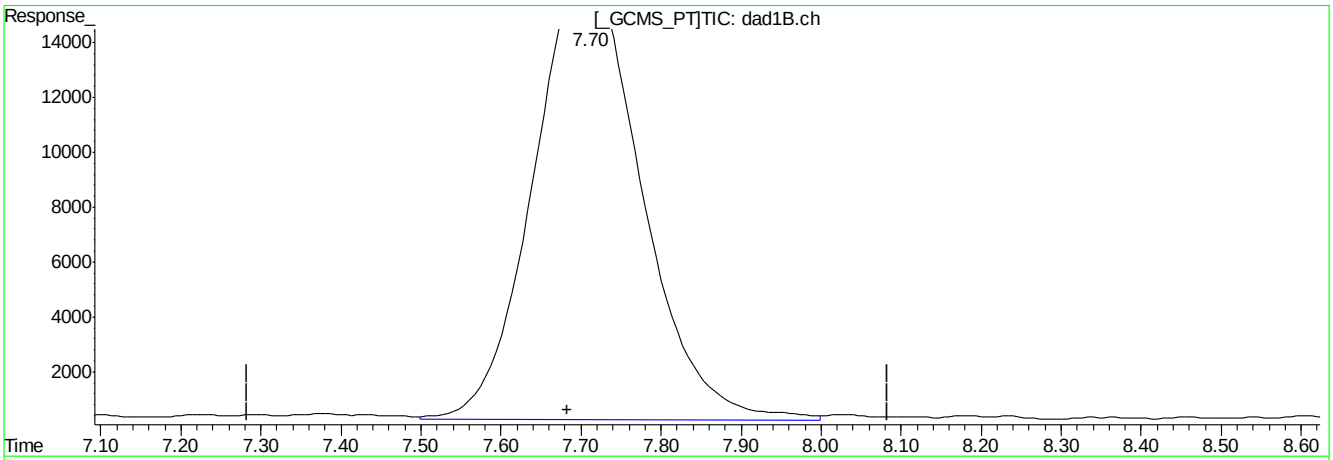
response 1836837

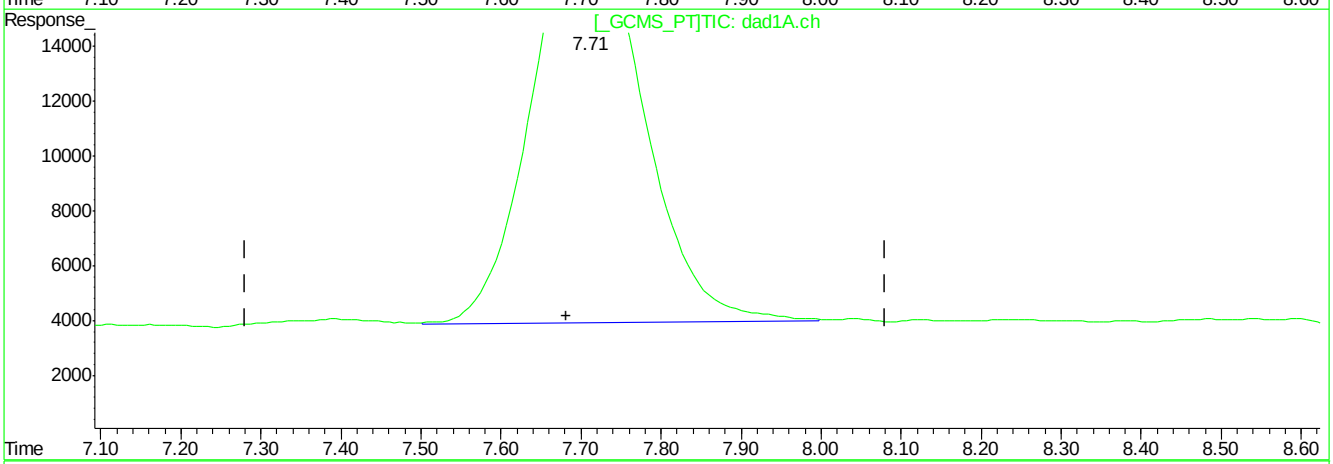
(+) = Expected Retention Time
BB053676.D 8330B_0316PLUS.M Fri Mar 17 11:02:48 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053676.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053676.D\dad1A.ch
Acq On : 16-Mar-2017, 14:54:56 Operator: evitam
Sample : ICV1558-500 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 11:01 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Multiple Level Calibration





QEdit

(9) Nitrobenzene

7.71min 468.055ppb

response 1522635

(9) Nitrobenzene #2

7.71min 472.231ppb m

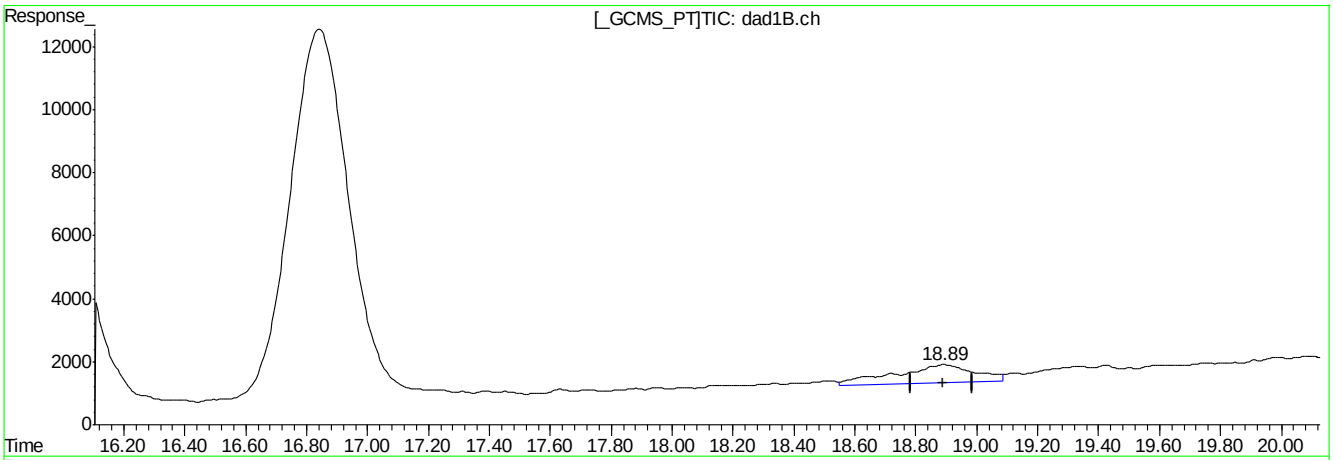
response 1447729

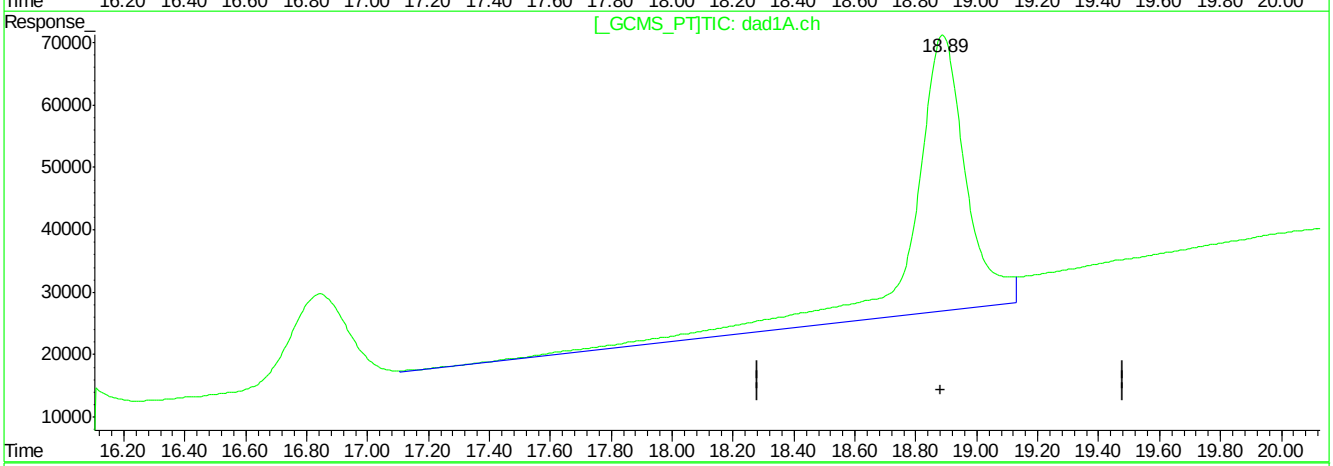
(+) = Expected Retention Time
BB053676.D 8330B_0316PLUS.M Fri Mar 17 11:02:52 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053676.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053676.D\dad1A.ch
Acq On : 16-Mar-2017, 14:54:56 Operator: evitam
Sample : ICV1558-500 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 11:01 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Multiple Level Calibration





QEdit

(21) PETN

18.90min 0.000ppb

response 106953

(21) PETN #2

18.89min 3945.915ppb

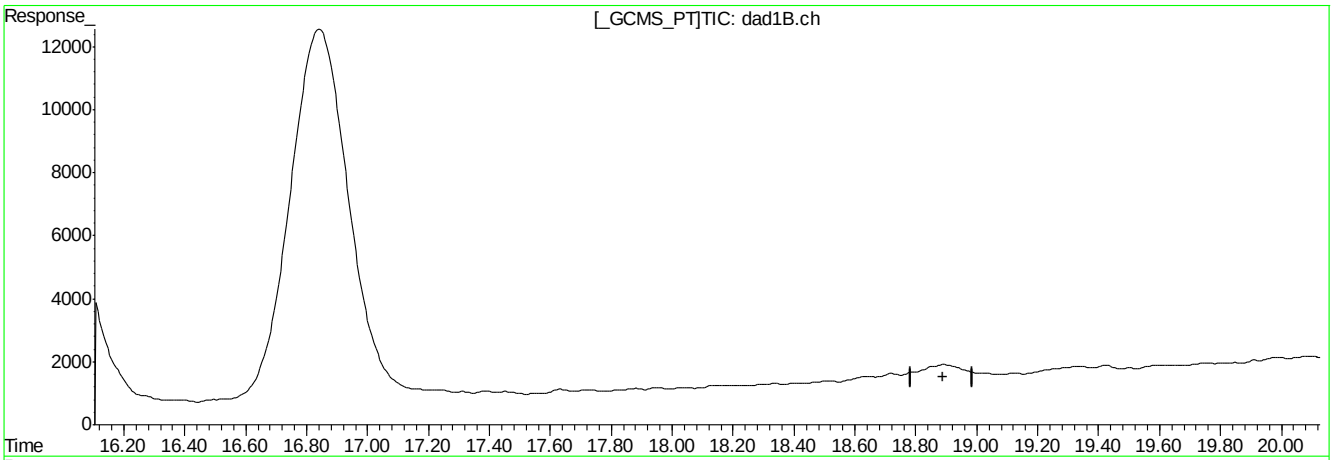
response 5482201

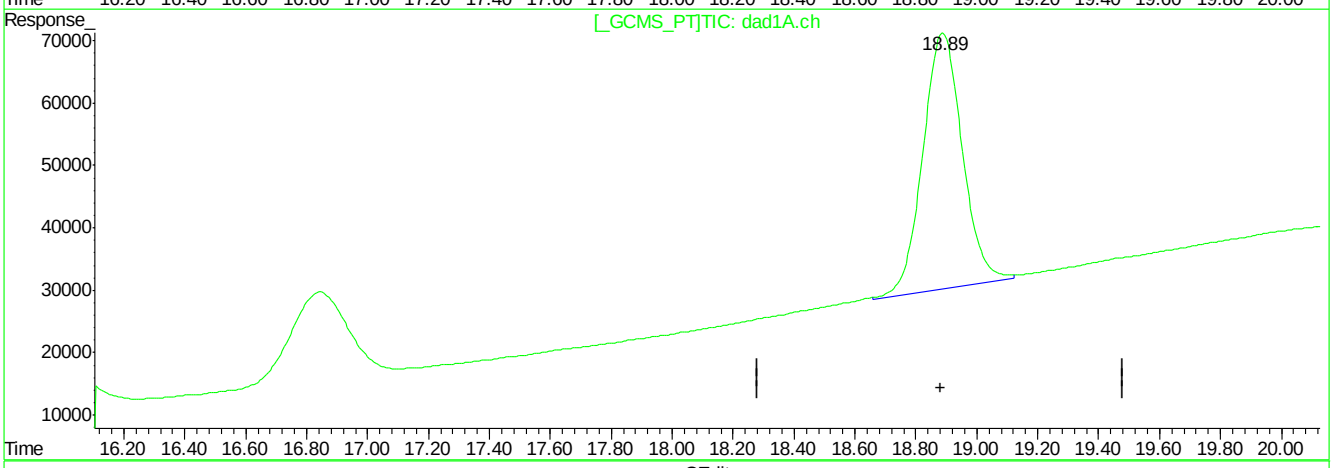
(+) = Expected Retention Time
BB053676.D 8330B_0316PLUS.M Fri Mar 17 11:03:11 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0316BPL\BB053676.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0316BPL\BB053676.D\dad1A.ch
Acq On : 16-Mar-2017, 14:54:56 Operator: evitam
Sample : ICV1558-500 Inst : G1315B
Misc : op64083,gbb1558,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 17 11:01 2017 Quant Results File: 8330B_0316PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.89min 2712.814ppb m

response 3692804

(+) = Expected Retention Time
BB053676.D 8330B_0316PLUS.M Fri Mar 17 11:03:16 2017

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
03/20/17 15:37

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0317BPL\BB053702.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0317BPL\BB053702.D\dad1A.ch
Acq On : 17-Mar-2017, 11:22:01 Operator: evitam
Sample : CC1558-500 Inst : G1315B
Misc : op64083,gbb1559,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 20 11:31:50 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.21	11.21	1125588	1939257	510.463	508.354
Spiked Amount	500.000	Range	70 - 136	Recovery	=	102.09%	101.67%
	Target Compounds						
1)	TNX	1.45	1.45	1574271	2462312	508.593	488.635
2)	HMX	1.59	1.59	845109	2332932	525.426	492.593
3)	DNX	1.86	1.86	1409696	2254275	509.484	451.389
4)	MNX	2.49	2.49	1139036	1748098	502.178	493.088
5)	RDX	3.14	3.14	936852	1493828	501.704	505.709
6)	1,3,5-Trinitrobe	4.92	4.92	2074703	4097240	519.909	497.686
7)	1,3-Dinitrobenze	6.18	6.18	2667498	2069632	515.231	534.945
8)	3,5-Dinitroanili	6.63	6.63	2007645	3678856	510.251	555.465
9)	Nitrobenzene	7.70	7.70	1568990	1786493	482.086	578.460
10)	Nitroglycerin	0.00	9.25	0	2947439	N.D. d	2436.674
11)	Tetryl	9.58	9.58	958825	1575635	465.787	514.470
12)	2,4,6-Trinitroto	10.00	10.00	1539032	2028903	496.393	520.833
13)	2-Amino-4,6-Dini	10.49	10.49	1637884	2458045	502.471	491.800
14)	4-Amino-2,6-Dini	10.97	10.97	1146958	2393635	505.985	485.461
16)	2,4-Dinitrotolue	11.88	11.88	2385434	1572352	491.848	517.485
17)	2,6-Dinitrotolue	12.32	12.33	1372132	1800222	495.967	517.516
18)	o-Nitrotoluene	15.30	15.30	1094686	1514962	478.849	501.926m
19)	p-Nitrotoluene	15.90	15.90	1666563	1314423	483.262	482.371
20)	m-Nitrotoluene	16.79	16.79	1690175	2010368	503.980	512.966m
21)	PETN	0.00	18.83	0	3561760	N.D. d	2620.591m

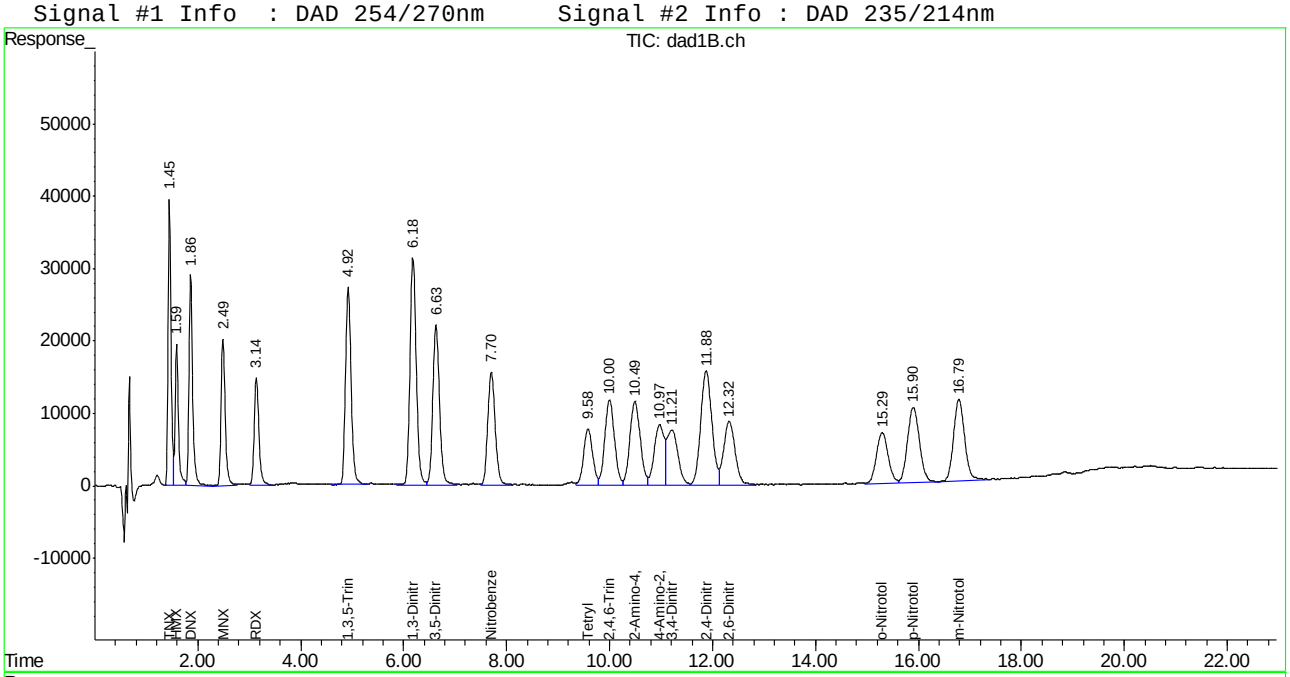
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB053702.D 8330B_0316PLUS.M Mon Mar 20 11:58:39 2017 Page 1

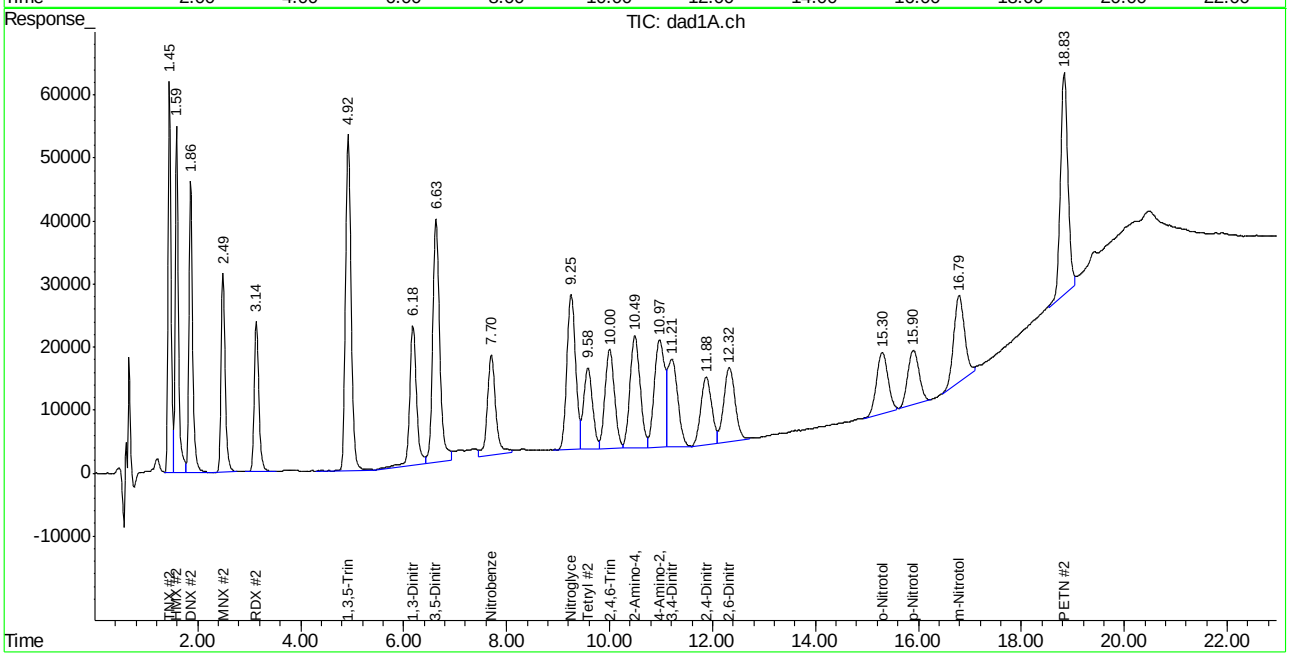
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0317BPL\BB053702.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0317BPL\BB053702.D\dad1A.ch
Acq On : 17-Mar-2017, 11:22:01 Operator: evitam
Sample : CC1558-500 Inst : G1315B
Misc : op64083,gbb1559,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 20 11:34 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

Sample Number: GBB1559-CC1558 **Method:** SW846 8330A
Lab FileID: BB053702.D **Analyst approved:** 03/20/17 12:03 Evita Martinez
Injection Time: 03/17/17 11:22 **Supervisor approved:** 03/20/17 15:37 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
o-Nitrotoluene	88-72-2	2	15.30	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	16.79	Poorly defined baseline
PETN	78-11-5	2	18.83	Poorly defined baseline

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
03/20/17 15:37

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0317BPL\BB053713.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0317BPL\BB053713.D\dad1A.ch
Acq On : 17-Mar-2017, 16:51:32 Operator: evitam
Sample : CC1558-500 Inst : G1315B
Misc : op64158,gbb1559,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 20 11:32:01 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
15) S 3,4-Dinitrotolue	11.23	11.22	1165174	1980818	527.883	518.795
Spiked Amount 500.000	Range 69 - 134		Recovery =		105.58%	103.76%
Target Compounds						
1) TNX	1.45	1.45	1603494	2511336	518.034	497.981
2) HMX	1.59	1.59	843747	2365769	524.579	499.469
3) DNX	1.87	1.87	1391053	2245682	502.746	449.668
4) MNX	2.49	2.49	1121078	1766500	494.521	498.107
5) RDX	3.14	3.14	960220	1545567	514.218	523.224
6) 1,3,5-Trinitrobe	4.93	4.93	2077293	4055972	520.557	492.824
7) 1,3-Dinitrobenze	6.19	6.19	2675062	2043485	516.692	528.186
8) 3,5-Dinitroanili	6.63	6.63	2011575	3733435	511.250	563.705
9) Nitrobenzene	7.71	7.71	1507737	1419242	463.544	463.229m
10) Nitroglycerin	0.00	9.27	0	2912828	N.D. d	2408.724
11) Tetryl	9.60	9.60	949780	1559022	461.393	509.046
12) 2,4,6-Trinitroto	10.02	10.02	1525472	1989645	492.019	510.755
13) 2-Amino-4,6-Dini	10.51	10.51	1625958	2409066	498.813	482.352
14) 4-Amino-2,6-Dini	10.99	10.99	1100145	2281821	485.333	463.588
16) 2,4-Dinitrotolue	11.90	11.90	2369706	1543610	488.696	508.025
17) 2,6-Dinitrotolue	12.36	12.36	1370600	1757184	495.428	505.144
18) o-Nitrotoluene	15.33	15.33	1032010	1399548	451.938	464.657m
19) p-Nitrotoluene	15.94	15.94	1602226	1188634	465.103	438.076
20) m-Nitrotoluene	16.83	16.83	1587917	1790199	473.488	456.788m
21) PETN	0.00	18.86	0	3352908	N.D. d	2473.042m

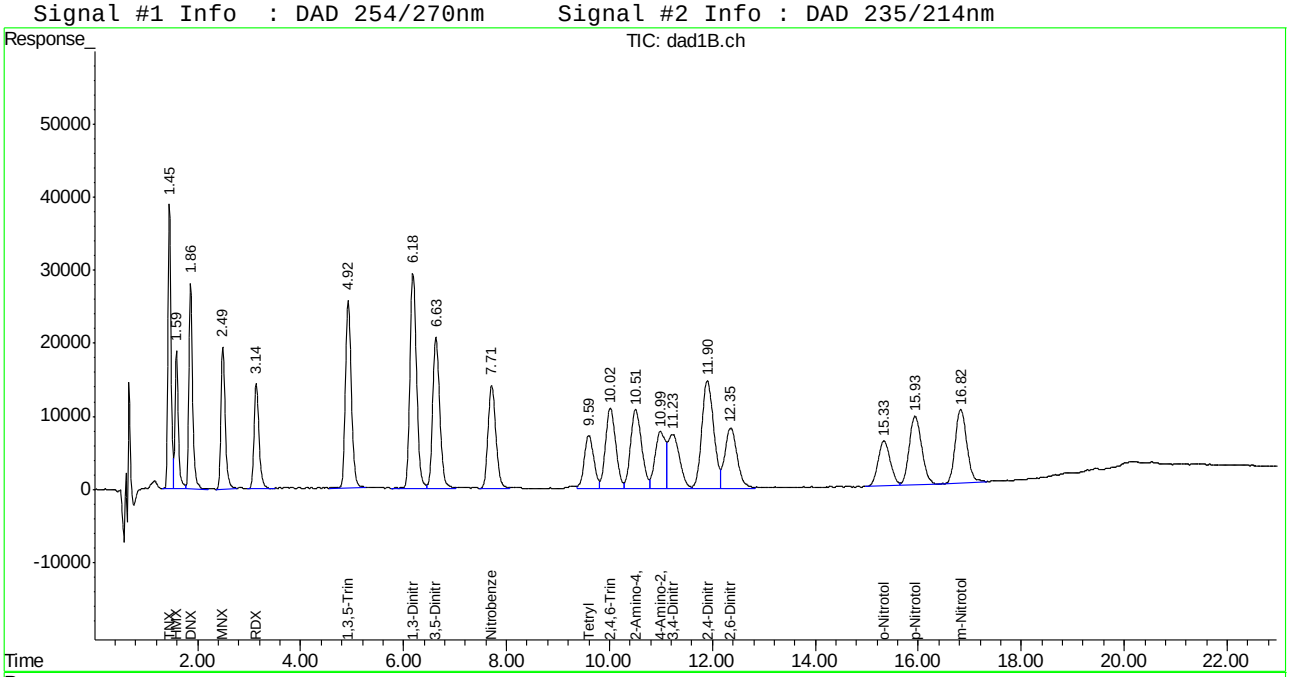
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.

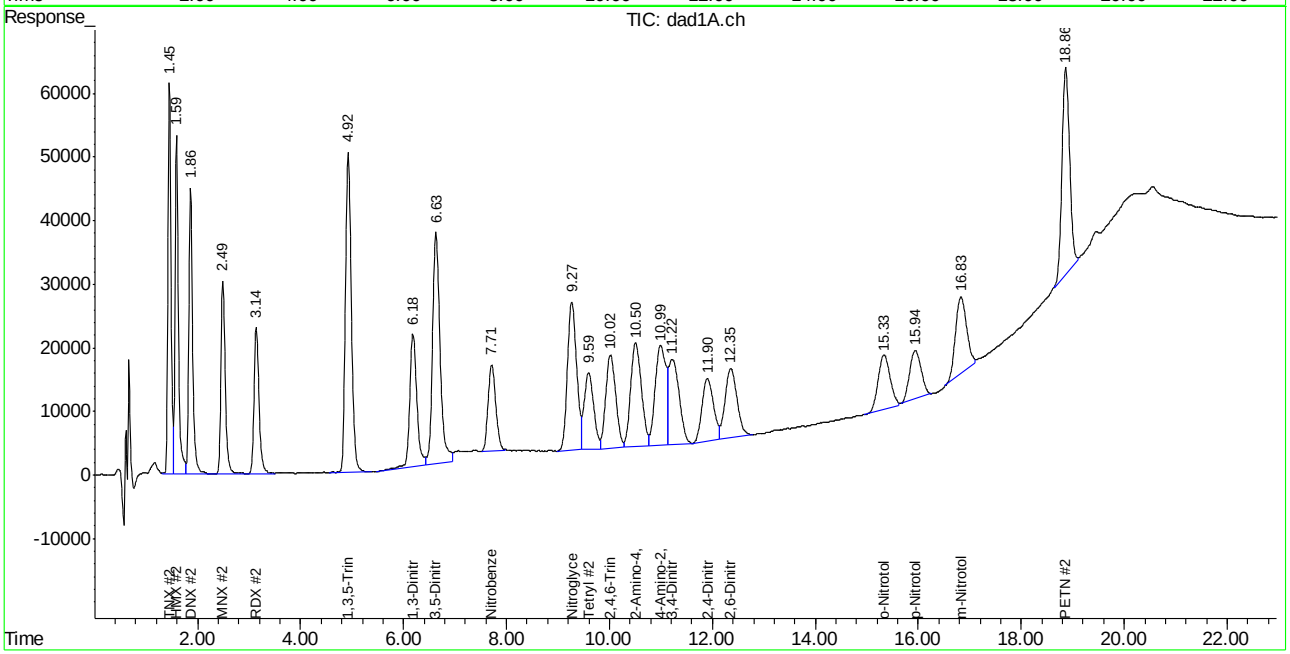
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0317BPL\BB053713.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0317BPL\BB053713.D\dad1A.ch
Acq On : 17-Mar-2017, 16:51:32 Operator: evitam
Sample : CC1558-500 Inst : G1315B
Misc : op64158,gbb1559,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 20 12:24 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

Sample Number: GBB1559-CC1558 **Method:** SW846 8330B
Lab FileID: BB053713.D **Analyst approved:** 03/20/17 12:25 Evita Martinez
Injection Time: 03/17/17 16:51 **Supervisor approved:** 03/20/17 15:37 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitrobenzene	98-95-3	2	7.71	Poorly defined baseline
o-Nitrotoluene	88-72-2	2	15.33	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	16.83	Poorly defined baseline
PETN	78-11-5	2	18.86	Poorly defined baseline

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
03/20/17 15:37

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0317BPL\BB053723.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0317BPL\BB053723.D\dad1A.ch
Acq On : 17-Mar-2017, 21:51:10 Operator: evitam
Sample : CC1558-500 Inst : G1315B
Misc : op64158,gbb1559,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 20 11:32:11 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
15) S 3,4-Dinitrotolue	11.21	11.21	1246567	2097859	563.594	548.105
Spiked Amount 500.000	Range 69 - 134		Recovery =		112.72%	109.62%
Target Compounds						
1) TNX	1.46	1.46	1588641	2503572	513.236	496.501
2) HMX	1.59	1.60	813744	2277170	505.925	480.913
3) DNX	1.87	1.87	1368895	2216066	494.738	443.738
4) MNX	2.49	2.49	1123199	1758107	495.426	495.818
5) RDX	3.14	3.14	958572	1512631	513.335	512.074
6) 1,3,5-Trinitrobe	4.92	4.92	2075921	4025681	520.214	489.254
7) 1,3-Dinitrobenze	6.19	6.19	2644475	2004388	510.784	518.081
8) 3,5-Dinitroanili	6.63	6.63	1983258	3691651	504.053	557.396
9) Nitrobenzene	7.71	7.71	1353753	1496090	416.833	487.489
10) Nitroglycerin	0.00	9.26	0	2898189	N.D. d	2396.897
11) Tetryl	9.59	9.59	961468	1555680	467.071	507.955
12) 2,4,6-Trinitroto	10.01	10.01	1541103	1978926	497.061	508.004
13) 2-Amino-4,6-Dini	10.50	10.50	1628248	2370202	499.515	474.846
14) 4-Amino-2,6-Dini	10.99	10.99	1027327	2082864	453.209	424.485
16) 2,4-Dinitrotolue	11.89	11.90	2355512	1499225	485.851	493.417
17) 2,6-Dinitrotolue	12.34	12.34	1385227	1725346	500.575	495.992
18) o-Nitrotoluene	15.32	15.33	930832	1237324	408.369	412.013m
19) p-Nitrotoluene	15.93	15.93	1488657	1104812	432.955	408.356
20) m-Nitrotoluene	16.81	16.82	1461716	1662783	435.857	424.276m
21) PETN	0.00	18.85	0	3365886	N.D. d	2482.232m

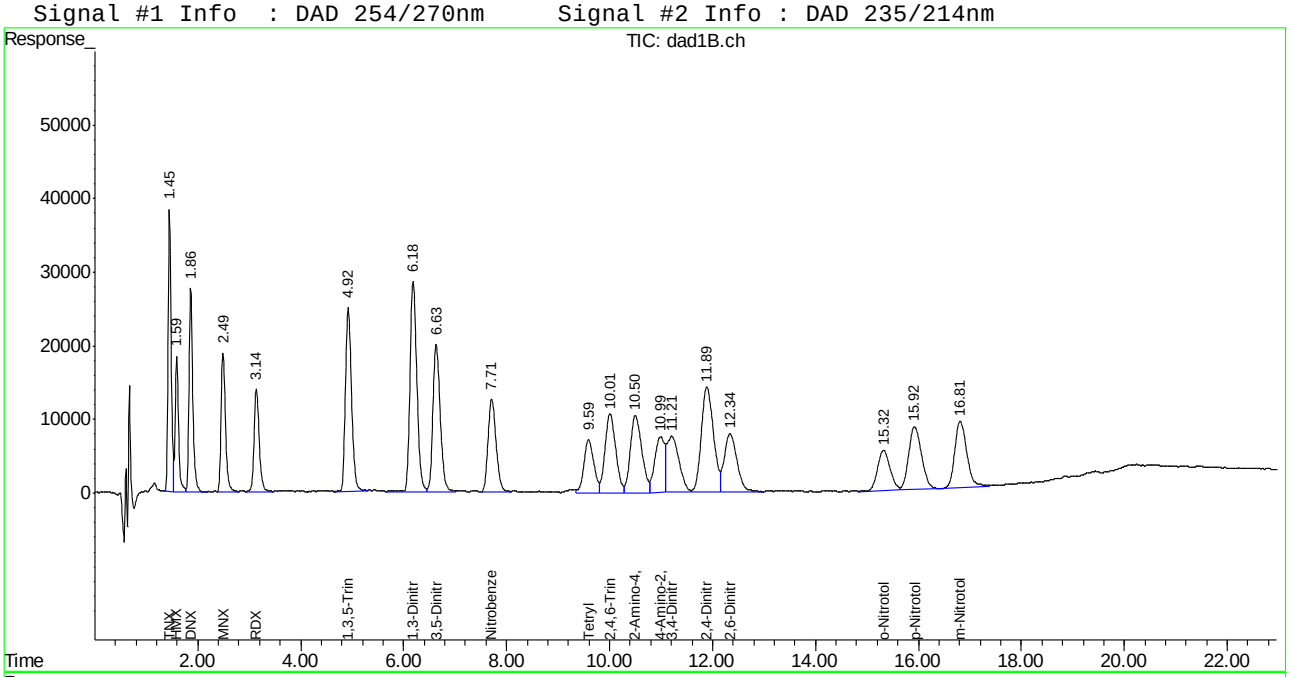
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB053723.D 8330B_0316PLUS.M Mon Mar 20 11:58:59 2017 Page 1

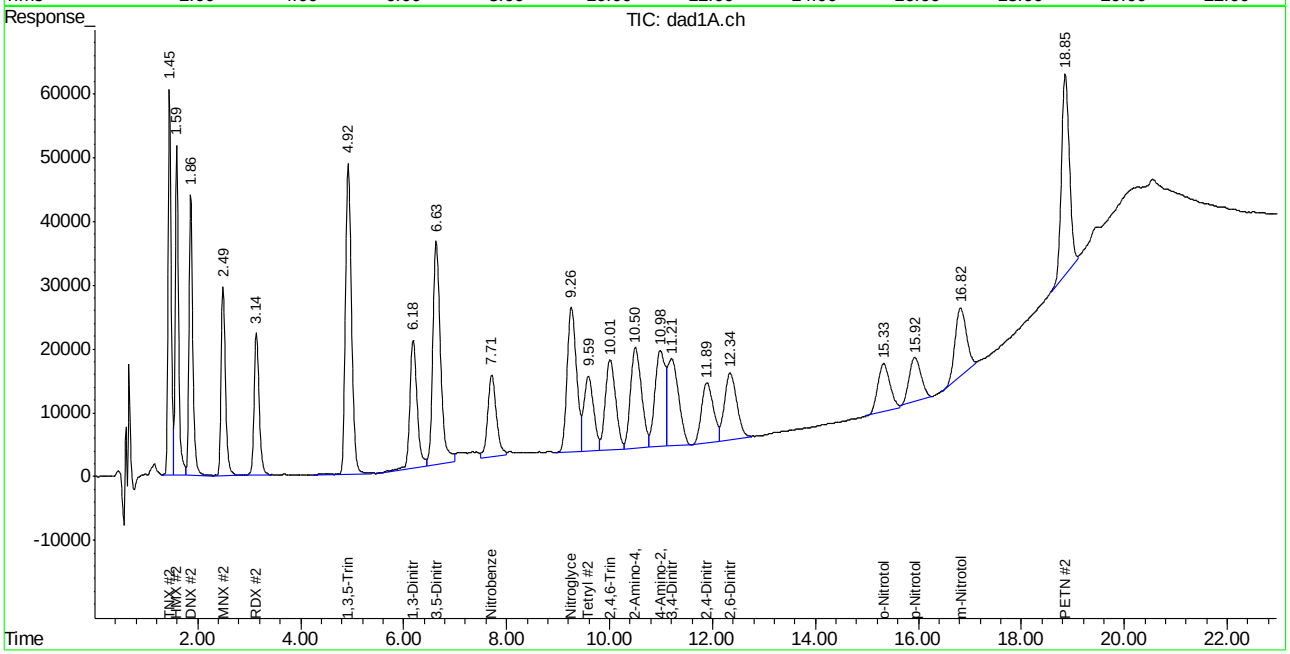
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0317BPL\BB053723.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0317BPL\BB053723.D\dad1A.ch
Acq On : 17-Mar-2017, 21:51:10 Operator: evitam
Sample : CC1558-500 Inst : G1315B
Misc : op64158,gbb1559,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 20 11:55 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

Sample Number:	GBB1559-CC1558	**Method:**	SW846 8330B
Lab FileID:	BB053723.D	**Analyst approved:**	03/20/17 12:03 Evita Martinez
Injection Time:	03/17/17 21:51	**Supervisor approved:**	03/20/17 15:37 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
o-Nitrotoluene	88-72-2	2	15.33	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	16.82	Poorly defined baseline
PETN	78-11-5	2	18.85	Poorly defined baseline

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
03/21/17 17:41

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0320BPL\BB053730.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0320BPL\BB053730.D\dad1A.ch
Acq On : 20-Mar-2017, 15:54:09 Operator: evitam
Sample : CC1558-500 Inst : G1315B
Misc : op64158,gbb1560,10.1,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 21 09:59:38 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.15	11.15	1292592	2275414	583.725m	592.310
	Spiked Amount 500.000	Range 69 - 134		Recovery =		116.75%	118.46%
	Target Compounds						
1)	TNX	1.45	1.45	1538614	2398164	497.074	476.384
2)	HMX	1.59	1.59	794401	2232520	493.899	471.556
3)	DNX	1.86	1.86	1358986	2170244	491.157	434.563
4)	MNX	2.48	2.48	1109849	1721673	489.729	485.874
5)	RDX	3.13	3.13	955068	1526646	511.459	516.819
6)	1,3,5-Trinitrobe	4.90	4.90	2105576	4063646	527.645	493.728
7)	1,3-Dinitrobenze	6.16	6.16	2668739	1910639	515.470	493.849m
8)	3,5-Dinitroanili	6.60	6.60	2020165	3456119	513.433	521.834m
9)	Nitrobenzene	7.69	7.69	1583638	1538919	486.517	500.975m
10)	Nitroglycerin	0.00	9.21	0	2841828	N.D. d	2351.340m
11)	Tetryl	9.54	9.53	957225	1727635	465.010	564.101
12)	2,4,6-Trinitroto	9.96	9.96	1561662	2152917	503.692	552.668
13)	2-Amino-4,6-Dini	10.44	10.44	1643803	2467160	504.287	493.556
14)	4-Amino-2,6-Dini	10.92	10.92	950818	1991571	419.457	406.463
16)	2,4-Dinitrotolue	11.83	11.84	2389066	1463564	492.576	481.681
17)	2,6-Dinitrotolue	12.28	12.28	1403548	1765726	507.017	507.600
18)	o-Nitrotoluene	15.28	15.28	1089083	1454046	476.446	482.274m
19)	p-Nitrotoluene	15.89	15.89	1677878	1260276	486.452	463.348
20)	m-Nitrotoluene	16.78	16.79	1664196	1992302	496.233	508.356m
21)	PETN	0.00	18.83	0	3293961	N.D. d	2431.271m

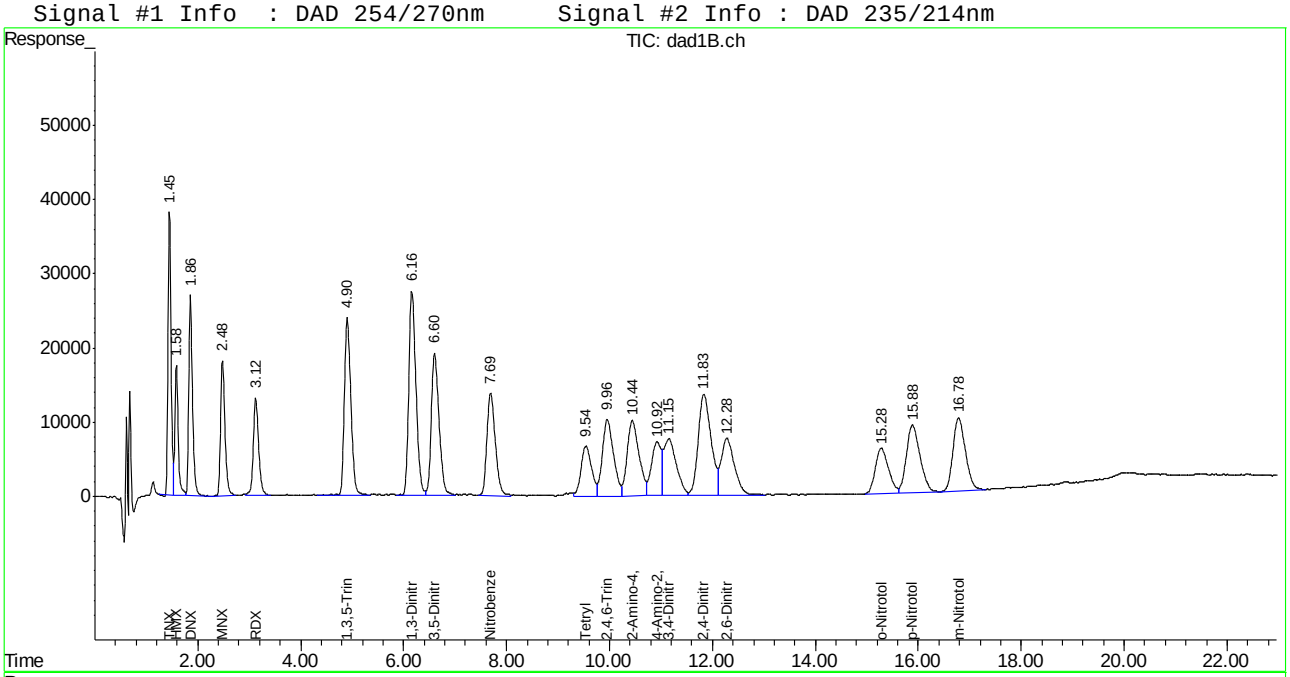
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.

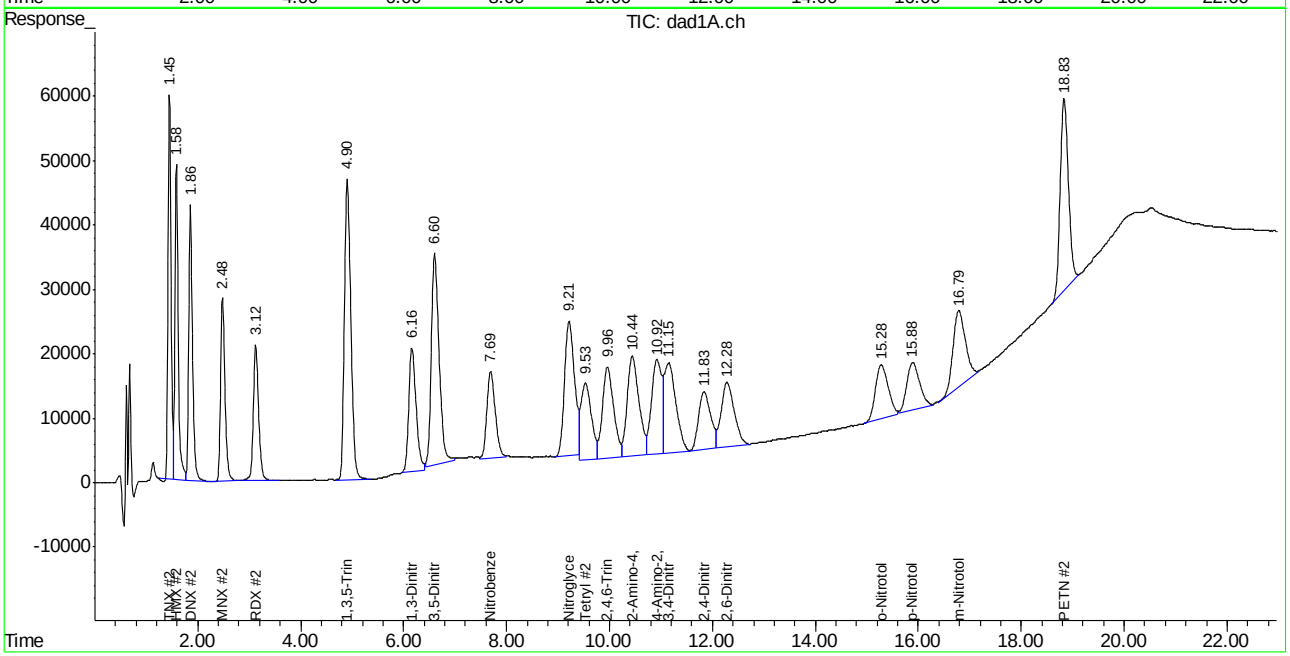
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0320BPL\BB053730.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0320BPL\BB053730.D\dad1A.ch
Acq On : 20-Mar-2017, 15:54:09 Operator: evitam
Sample : CC1558-500 Inst : G1315B
Misc : op64158,gbb1560,10.1,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 21 10:02 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

Sample Number: GBB1560-CC1558 **Method:** SW846 8330B
Lab FileID: BB053730.D **Analyst approved:** 03/21/17 11:29 Evita Martinez
Injection Time: 03/20/17 15:54 **Supervisor approved:** 03/21/17 17:41 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3-Dinitrobenzene	99-65-0	2	6.16	Poorly defined baseline
3,5-Dinitroaniline	618-87-1	2	6.60	Poorly defined baseline
Nitrobenzene	98-95-3	2	7.69	Poorly defined baseline
Nitroglycerine	55-63-0	2	9.21	Poorly defined baseline
3,4-Dinitrotoluene	610-39-9	1	11.15	Poorly defined baseline
o-Nitrotoluene	88-72-2	2	15.28	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	16.79	Poorly defined baseline
PETN	78-11-5	2	18.83	Poorly defined baseline

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
03/21/17 17:41

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0320BPL\BB053740.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0320BPL\BB053740.D\dad1A.ch
Acq On : 20-Mar-2017, 20:53:39 Operator: evitam
Sample : CC1558-500 Inst : G1315B
Misc : op64214,gbb1560,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 21 10:06:03 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.22	11.22	1319268	2242723	595.371	584.195
Spiked Amount	500.000	Range	69 - 134	Recovery	=	119.07%	116.84%
	Target Compounds						
1)	TNX	1.46	1.46	1533555	2386351	495.439	474.126
2)	HMX	1.59	1.59	790593	2263063	491.532	477.957
3)	DNX	1.86	1.86	1353124	2170686	489.038	434.651
4)	MNX	2.49	2.49	1129848	1713738	498.261	483.706
5)	RDX	3.14	3.14	998421	1534339	534.676	519.423
6)	1,3,5-Trinitrobe	4.92	4.92	2064483	4017035	517.347	488.235
7)	1,3-Dinitrobenze	6.18	6.18	2637777	1991294	509.490	514.696
8)	3,5-Dinitroanili	6.62	6.62	1969510	3649861	500.559	551.087
9)	Nitrobenzene	7.71	7.71	1469899	1549251	452.079	504.225
10)	Nitroglycerin	0.00	9.25	0	2748959	N.D. d	2276.184
11)	Tetryl	9.58	9.58	925388	1548917	449.544	505.747
12)	2,4,6-Trinitroto	10.01	10.01	1530974	1923434	493.794	493.759
13)	2-Amino-4,6-Dini	10.49	10.49	1593915	2274541	488.982	456.335
14)	4-Amino-2,6-Dini	10.98	10.98	943395	1839917	416.182	376.414
16)	2,4-Dinitrotolue	11.89	11.89	2306433	1395024	476.006	459.123
17)	2,6-Dinitrotolue	12.34	12.35	1416775	1781135	511.666	512.029
18)	o-Nitrotoluene	15.34	15.34	1003700	1296321	439.762	431.194m
19)	p-Nitrotoluene	15.94	15.94	1589066	1052329	461.384	389.663
20)	m-Nitrotoluene	16.83	16.83	1551200	1838472	462.540	469.105m
21)	PETN	0.00	18.86	0	3350369	N.D. d	2471.245m

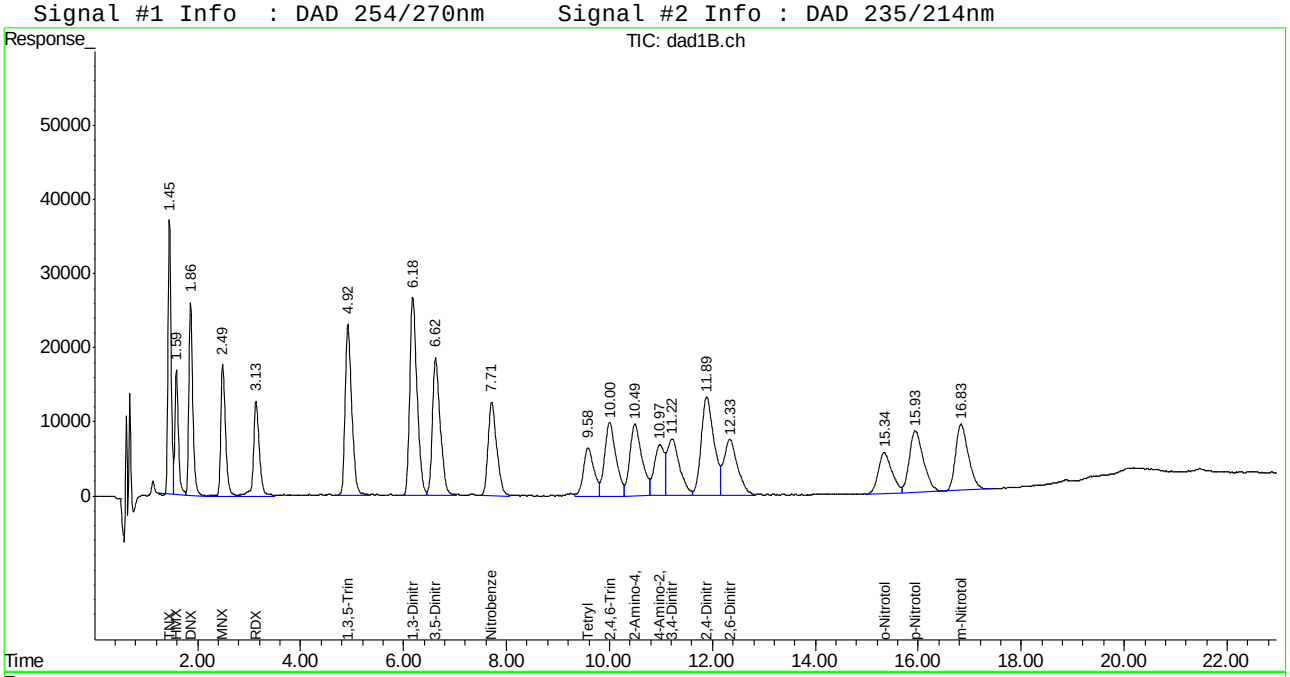
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB053740.D 8330B_0316PLUS.M Tue Mar 21 11:11:00 2017 Page 1

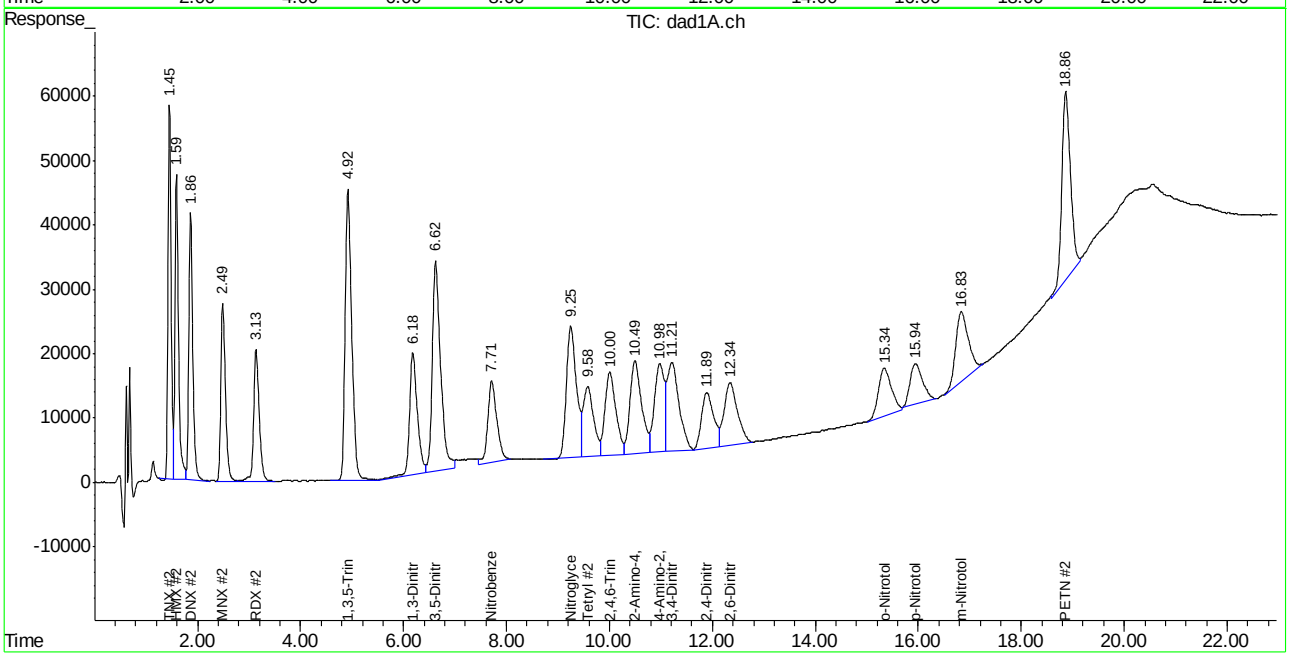
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0320BPL\BB053740.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0320BPL\BB053740.D\dad1A.ch
Acq On : 20-Mar-2017, 20:53:39 Operator: evitam
Sample : CC1558-500 Inst : G1315B
Misc : op64214,gbb1560,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Mar 21 10:21 2017 Quant Results File: 8330B_0316PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0316PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Mar 17 11:01:37 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

Sample Number: GBB1560-CC1558 **Method:** SW846 8330B
Lab FileID: BB053740.D **Analyst approved:** 03/21/17 11:29 Evita Martinez
Injection Time: 03/20/17 20:53 **Supervisor approved:** 03/21/17 17:41 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
o-Nitrotoluene	88-72-2	2	15.34	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	16.83	Poorly defined baseline
PETN	78-11-5	2	18.86	Poorly defined baseline

SGS ACCUTEST-ORLANDO

DATE:	3/16/17
COLUMN TYPE:	EXP C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 B
PROC. METHOD:	8330 B 0316 PW
CALIB. DATE:	3/16/17
RUN BATCH: GBB	1558

ANALYST:	EM
ACETONITRILE LOT #:	0853
MEOH LOT #:	167265
HEAD PRESSURE:	250

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB 053067	1	STD	8330	—	—		—
BB 068	2	CCB		—	—		ND
BB 06C	3	ICV 1558-20		LC829	1:100	PII	POOR
BB 70	4	-50			1:40		
BB 71	5	-100			1:20		
BB 72	6	-200			~~1:20~~ 1:10		
BB 73	7	ICC -500			~~1:10~~ 1:4	EM 3/22/17	
BB 74	8	IC -1000			~~1:4~~ 1:1		
BB 75	9	-2000		↓	~~1:1~~ 1x		
BB 76	10	ICV 1558-500		LC824 LC827	20:10 25:10 1mL		
BB 77	3	CCV 1 -20		LC824	1:100		PASS
BB 78	11	OP64083-MB		OP64083	1x		ND
BB 79	12	FA41848-1				PII	—
BB 80	13	-2					—
BB 81	14	-3					—
BB 82	15	FA41748-1					—
BB 83	16	-1			1:100	4x	—
BB 84	17	-1			1:400	10x	—
BB 85	18	OP64083-MS				10x	—
BB 86	19	-MSD	↓	↓	↓	10x	—

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature: [signature]

SGS ACCUTEST-ORLANDO

DATE:	3/16/17
COLUMN TYPE:	EXACT8
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 B
PROC. METHOD:	8330 B 03/16 ALS
CALIB. DATE:	3/14/17
RUN BATCH:	GBB 1558

ANALYST:	EAL
ACETONITRILE LOT #:	3323
MEOH LOT #:	167163
HEAD PRESSURE:	250

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB 053684	20	FA41749-2	8330	OP64883	1X	pII	
BB	21	-2			20X	20X	
BB	22	ccc 155-5.0		LCS24	1.4		
BB							
BB							
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Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature:

SGS ACCUTEST-ORLANDO

DATE:	3/17/16
COLUMN TYPE:	Ext C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS:	8330 A B
ACQ. METHOD:	8330 B
PROC. METHOD:	8330 B16 FILES
CALIB. DATE:	3/16/17
RUN BATCH: GBB	155894 3/21/17

ANALYST:	EM
ACETONITRILE LOT #:	333
MEOH LOT #:	167263
HEAD PRESSURE:	251

3/20/17 EM

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB 053019	2	CCB	8330	—	—		ND
BB 02	1	CC1558500		LC829	1:4	pii	220
BB 03	22	op64158-BS		op64158	1X	pii	✓
BB 04	23	↓ -BSD MS					ND
BB 05	24	↓ -MS BSD				pii	* QH 3/20/17 ND ✓
BB 06	25	Fa41687-1					* ND
BB 07	26	op64158-MS					✓
BB 08	27	↓ -MSD					✓
BB 09	28	Fa41687-2					ND
BB 10	29	↓ -3					ND
BB 11	30	op64158-dup					ND
BB 12	31	↓ -dup2		↓	↓		ND
BB 13	7	CC1552-500		LC829	1:4	pii	220
BB 14	2	CCB		—	—		ND
BB 15	32	Fa41687-4		op64158	1X		ND
BB 16	33	↓ -5					ND
BB 17	34	-6					✓
BB 18	35	-7					✓
BB 19	36	-8					✓
BB 20	37	↓ -9	↓	↓	↓		ND

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc5_bb_log.xls NF rev. 06/16

Analyst's Signature: DMaines

SGS ACCUTEST-ORLANDO

DATE:	3/17/16
COLUMN TYPE:	Exp CB
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS:	8330 A1B
ACQ. METHOD:	8330B
PROC. METHOD:	8330 0316 PLS
CALIB. DATE:	3/16/17
RUN BATCH: GBB	1554

ANALYST:	EH
ACETONITRILE LOT #:	233
MEOH LOT #:	167263
HEAD PRESSURE:	251

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB 053721	38	Fa4166A-10	8330	OP64158	∝		ND
BB 22	39	-12		↓	↓		ND
BB 23	1	CC1538-500		LC829	1:4	PII	0.020
BB 24	2	CCB		—	—		ND
BB 25	40	OP64158-GBA		OP64158	1X		ND
BB 26	41	-GBB		↓	↓		ND
BB 27	42	-GBC		↓	↓		ND
BB 28	7	CCC1538-500		LC829	1:4	PII	0.020 but not used
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							

N/A end

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature: EHarris

SGS ACCUTEST-ORLANDO

DATE:	3/26/17
COLUMN TYPE:	Ext C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 B
PROC. METHOD:	8330 03/16 plus
CALIB. DATE:	3/16/17
RUN BATCH: GBB	1560

ANALYST:	EK
ACETONITRILE LOT #:	335
MEOH LOT #:	
HEAD PRESSURE:	~~287 264~~

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB 053729	1	CCB	8330	—	—		ND
BB 30	2	CC1558-500	↓	LCB29	1:4		ND
BB 31	3	OP64214-BS		OP64214	1X	pii	✓
BB 32	4	↓ -PTI				↓	✓ low 4 Amino & tetryl
BB 33	5	-MB					ND
BB 34	6	FA41164-11					ND
BB 35	7	OP64214-MS				pii	✓
BB 36	8	↓ -MSD				↓	✓
BB 37	9	~~CCB~~ Blank			↓	OP64214-dup	ND
BB 38	10	~~TPL~~		↓		Blank	ND
BB 39	11	~~CC 1558-500~~		~~LCB29~~	~~1:4~~	TPL-dup2 EK 3/26/17	ND
BB 40	2	~~CCB~~		LCB29	1:4	CC 1558-500 pii	✓
BB 41	1	~~OP64143-BS~~		OP64214	1X	CCB	ND
BB 42	12	~~↓ MB~~				OP64143-BS pii	✓ low 4 Amino
BB 43	13	~~FA41830-1~~				MB	ND
BB 44	14	~~-2~~				FA41830-1 pii	~~RR EK 3/24/17 RDX, HMX~~ ND
BB 45	15	~~-4~~				-2	RR EK 3/24/17
BB 46	16	~~OP64143-MS~~				↓ -4	✓
BB 47	17	~~↓ -MSD~~				OP64143-MS	✓
BB ✓ 48	18	~~FA41830-5~~	↓	↓	↓	↓ -MSD ↓	~~RR EK~~ ✓ DH 3/24/17

EK 3/28/17

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc5_bb_log.xls NF rev. 06/16

Analyst's Signature:

SGS ACCUTEST-ORLANDO

DATE:	3/20/A
COLUMN TYPE:	5XV C18
AMOUNT INJECTED:	100
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330B
PROC. METHOD:	8330 03/16dlw
CALIB. DATE:	3/16/A
RUN BATCH: GBB	1560

ANALYST:	EH
ACETONITRILE LOT #:	335J
MEOH LOT #:	164767
HEAD PRESSURE:	750

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB 053049	19	~~FQ4118305~~	8330	op64143	1X	pii	LL e 10X
BB J0	20	↓ 10		↓	↓	↓	LL e 4X
BB J7	21	FQ4119321					LL e 20X
BB J2	31	oc 15J8-S20		LC 1:4	1:4		pass
BB J3	1	CCB		—	—		no
BB J4	22	OP64143-MS		op64143	1X	pii	✓ LL e 20X
BB J5	23	↓ -MSD2		↓	↓	↓	— ↓
BB J6	31	oCC 15J8-S20		LC 824	1:4		pass surrogate persistence
BB J7							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature: [signature]

SGS ACCUTEST - ORLANDO **EXP/PFC SAMPLE PREP REPORT**

Prep Method: 8330A, 8332, 8330B, 537MOD (PFC) or Other ___ (circle)

Date/Time: 03/14/17 1800 Started {mm/dd/yy 24:00}

Therm. ID: ___ Corr. Factor (±°C): ___

Bath Temp. (High) °C: ___ {obs/corr}

Date/Time: 03/15/17 1200 Finished {mm/dd/yy 24:00}

Ultrasonic Bath ID (8330A or 8332): ___

Shaker Table ID (8330B): ES ST 1

Batch#: OP64158 Ext. By: MB Vialed By: MB MB 03/14/17 Balance ID: METTLER 1

Sample ID	Bottle Number	Amount Extracted (g)	Surrogate Amount	Spike Amount	Final Volume (ml)	Comments
OP64158 MB	X	10.0	1.25ml		50ml	
OP64158 BS	X	10.0	↓	125+125ul 1.25ml	↓	
FA41687-1	1	10.1				
-2	1	10.0				
-3	1	10.0				
-4	1	10.1				
-5	1	10.0				
-6	1	10.1				
-7	1	10.0				
-8	1	10.0				
-9	1	10.1				
-10	1	10.1				
-12	1	10.0	↓		↓	
GRINDING BLANK	A	10.0	—			
↓	B	10.0	—			
	C	10.0	—		↓	
			MB	03/15/17		
OP64158 PT-1	X	10.0	1.25ml		50ml	
FA41687-1 MS	1	10.1	↓	125+125ul 1.25ml	↓	
-1 MSD	1	10.1		↓		
FA41687-3 DUP	1	10.0				
-3 TRP	1	10.0	↓		↓	

Comments:

Surr. ID: ES745I Conc: 20 ppm Exp. Date: 04/30/17 Inj. By: MB Ver. By MB

Spk.1 ID: ES813 Conc: 20 ppm Exp. Date: 07/27/17 03/14/18 Inj. By: MB Ver. By MB

Spk.2 ID: 8349B Conc: 1000 ug/ml Exp. Date: 03/14/18 Inj. By: MB Ver. By MB

Acetonitrile Lot # 154525 Methanol Lot # ___ Water Lot# 166415 HPLC

Syringe Filter Lot# 130925007 Reagent # CS1 Reagent # ___

Relinquished By: [signature] Date: 03/15/17

Accepted By: [signature] Date: 03-15-17

SGS ACCUTEST - ORLANDO

EXP/PFC SAMPLE PREP REPORT

Prep Method: 8330A, 8332, (8330B circled), 537MOD (PFC) or Other______ (circle)

Date/Time Started: 03/17/17 1300 (mm/dd/yy 24:00)

Therm. ID: — Corr. Factor (±°C): —

Bath Temp. (High) °C: — / — {obs/corr}

Date/Time Finished: 03/18/17 1300 (mm/dd/yy 24:00)

Ultrasonic Bath ID (8330A or 8332): —

Shaker Table ID (8330B): ST1

Batch#: OP64214 Ext. By: MB Vialed By: MB Balance ID: METTLER1

Sample ID	Bottle Number	Amount Extracted (g)	Surrogate Amount	Spike Amount	Final Volume (ml)	Comments
OP 64214 MB	X	10.0	1.25ml		50ml	
OP 64214 BS	X	10.0		125 ul / 1.25ml		
FA41687-11	1	10.0	↓		↓	
GRINDING BLANK	X	10.0	(crossed out)		↓	NO SURR.
OP 64214-TT-1	X	10.0	1.25ml		50ml	
FA41687-11 MS	1	10.1	↓	125 ul / 1.25ml	↓	
-11 MSD	1	10.1	↓	↓	↓	
FA41687-11 DUP	1	10.0	↓		↓	
-11 TRP	1	10.0	↓		↓	

MB 03/18/17

Comments:

Surr. ID: ES745K	Conc: 20 ppm	Exp. Date: 04/30/17	Inj. By: MB	Ver. By MB
Spk.1 ID: ES813	Conc: 20 ppm	Exp. Date: 07/27/17	Inj. By: MB	Ver. By MB
Spk.2 ID: 8403A / 8349B	Conc: 1000 / 1000 ug/ml	Exp. Date: 03/14/17 / 03/14/17	Inj. By: MB	Ver. By MB

Acetonitrile Lot # 154525	Methanol Lot # —	Water Lot# 164415 HPLC
Syringe Filter Lot# 130925007	Reagent # CS1	Reagent # —

Relinquished By: [signature] Date: 03/18/17

Accepted By: [signature] Date: 3/20/17

NF 05/16 extsolid_exp 051616.xls

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Instrument Runlogs
- Initial and Continuing Calibration Blanks
- Initial and Continuing Calibration Checks
- High and Low Check Standards
- Interfering Element Check Standards
- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries
- IDL and Linear Range Summaries

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: FA41687
Account: URSNEOM - AECOM, INC
Project: Hammond BGR; Hammond, LA

File ID: H50317S2.CSV Date Analyzed: 03/17/17 Methods: SW846 7471B
Analyst: JL Run ID: MA13902
Parameters: Hg

Time	Sample Description	Dilution Factor	PS Recov	Comments
10:48	MA13902-STD1	1		STD1
10:50	MA13902-STD2	1		STD2
10:51	MA13902-STD3	1		STD3
10:52	MA13902-STD4	1		STD4
10:54	MA13902-STD5	1		STD5
10:56	MA13902-STD6	1		STD6
10:58	MA13902-HSTD1	1		
11:00	MA13902-ICV1	1		
11:02	MA13902-ICB1	1		
11:04	MA13902-CRI1	1		
11:05	MA13902-CCV1	1		
11:06	MA13902-CCB1	1		
11:08	MP31801-MB1	1		
11:10	MP31801-B1	1		
11:11	FA41687-5	1		
11:13	MP31801-D1	1		
11:14	MP31801-SD1	5		
11:16	MP31801-S1	1		
11:17	MP31801-S2	1		
11:19	FA41687-1	1		
11:21	FA41687-2	1		
11:22	FA41687-3	1		
11:24	MA13902-CCV2	1		
11:25	MA13902-CCB2	1		
11:27	FA41687-4	1		
11:28	FA41687-6	1		
11:30	FA41687-7	1		
11:32	FA41687-8	1		
11:33	FA41687-9	1		
11:35	FA41687-10	1		
11:36	FA41687-11	1		
11:38	FA41687-12	1		
---------->	Last reportable sample/prep for job FA41687			
11:39	ZZZZZZ	1		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: FA41687
Account: URSNEOM - AECOM, INC
Project: Hammond BGR; Hammond, LA

File ID: H50317S2.CSV Date Analyzed: 03/17/17 Methods: SW846 7471B
Analyst: JL Run ID: MA13902
Parameters: Hg

Time	Sample Description	Dilution Factor	PS Recov	Comments
11:41	ZZZZZZ	1		
11:42	MA13902-CCV3	1		
11:43	MA13902-CCB3	1		
11:45	ZZZZZZ	1		
11:47	ZZZZZZ	1		
11:48	ZZZZZZ	1		
11:50	ZZZZZZ	1		
11:51	ZZZZZZ	1		
11:52	ZZZZZZ	1		
11:54	MP31803-MB1	1		
11:56	MP31803-B1	1		
11:57	FA41730-2	1		(sample used for QC only; not part of login FA41687)
11:59	MP31803-D1	1		
12:00	MA13902-CCV4	1		
12:01	MA13902-CCB4	1		
12:03	MP31803-D2	1		
12:05	MP31803-SD1	5		
12:06	MP31803-S1	1		
12:07	MP31803-S2	1		
12:09	ZZZZZZ	1		
12:11	ZZZZZZ	1		
12:12	ZZZZZZ	1		
12:14	ZZZZZZ	1		
12:15	ZZZZZZ	1		
12:17	ZZZZZZ	1		
12:18	MA13902-CCV5	1		
12:19	MA13902-CCB5	1		
12:21	ZZZZZZ	1		
12:22	ZZZZZZ	1		
12:24	ZZZZZZ	1		
12:25	MP31805-MB1	1		
12:27	MP31805-B1	1		
12:28	FA41733-4R	1		(sample used for QC only; not part of login FA41687)

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: FA41687
Account: URSNEOM - AECOM, INC
Project: Hammond BGR; Hammond, LA

File ID: H50317S2.CSV Date Analyzed: 03/17/17 Methods: SW846 7471B
Analyst: JL Run ID: MA13902
Parameters: Hg

Time	Sample Description	Dilution Factor	PS Recov	Comments
12:30	MP31805-D1	1		
12:31	MP31805-SD1	5		
12:33	MP31805-S1	1		
12:35	MP31805-S2	1		
12:36	MA13902-CCV6	1		
12:38	MA13902-CCB6	1		
12:40	ZZZZZZ	1		
12:41	ZZZZZZ	1		
12:43	ZZZZZZ	1		
12:45	ZZZZZZ	1		
12:46	ZZZZZZ	1		
12:48	ZZZZZZ	1		
12:49	ZZZZZZ	1		
12:51	ZZZZZZ	1		
12:52	ZZZZZZ	1		
12:56	MA13902-CCV7	1		
12:58	MA13902-CCB7	1		
13:00	ZZZZZZ	1		
13:15	ZZZZZZ	5		
13:17	ZZZZZZ	10		
13:19	MA13902-CRI2	1		
13:20	MA13902-CCV8	1		
13:22	MA13902-CCB8	1		

----------> Last reportable CCB for job FA41687
Refer to raw data for calibration curve and standards.

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: FA41687
Account: URSNEOM - AECOM, INC
Project: Hammond BGR; Hammond, LA

File ID: H50317S2.CSV Date Analyzed: 03/17/17 Methods: SW846 7471B
QC Limits: result < RL Run ID: MA13902 Units: ug/l

Time: / Sample ID:			11:02 ICB1		11:06 CCB1		11:25 CCB2		11:43 CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Mercury	0.50	.03	0.018	<0.50	0.022	<0.50	0.027	<0.50	0.024	<0.50

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: FA41687
Account: URSNEOM - AECOM, INC
Project: Hammond BGR; Hammond, LA

File ID: H50317S2.CSV Date Analyzed: 03/17/17 Methods: SW846 7471B
QC Limits: result < RL Run ID: MA13902 Units: ug/l

Time: / Sample ID:			12:01 CCB4		12:19 CCB5		12:38 CCB6		12:58 CCB7	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Mercury	0.50	.03	0.028	<0.50	0.031	<0.50	0.029	<0.50	0.026	<0.50

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: FA41687
Account: URSNEOM - AECOM, INC
Project: Hammond BGR; Hammond, LA

File ID: H50317S2.CSV Date Analyzed: 03/17/17 Methods: SW846 7471B
QC Limits: result < RL Run ID: MA13902 Units: ug/l

Time:			13:22	
Sample ID:			CCB8	
Metal	RL	IDL	raw	final
Mercury	0.50	.03	0.023	<0.50

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: FA41687
Account: URSNEOM - AECOM, INC
Project: Hammond BGR; Hammond, LA

File ID: H50317S2.CSV Date Analyzed: 03/17/17 Methods: SW846 7471B
QC Limits: 90 to 110 % Recovery Run ID: MA13902 Units: ug/l

Time:		11:00			11:05			11:24	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Mercury	3.0	3.0	100.0	3.0	3.0	100.0	3.0	3.0	100.0

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: FA41687
Account: URSNEOM - AECOM, INC
Project: Hammond BGR; Hammond, LA

File ID: H50317S2.CSV Date Analyzed: 03/17/17 Methods: SW846 7471B
QC Limits: 90 to 110 % Recovery Run ID: MA13902 Units: ug/l

Time:		11:42			12:00			12:18	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Mercury	3	2.9	96.7	3	2.9	96.7	3	2.9	96.7

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: FA41687
Account: URSNEOM - AECOM, INC
Project: Hammond BGR; Hammond, LA

File ID: H50317S2.CSV Date Analyzed: 03/17/17 Methods: SW846 7471B
QC Limits: 90 to 110 % Recovery Run ID: MA13902 Units: ug/l

Time:		12:36			12:56			13:20	
Sample ID:	CCV	CCV6		CCV	CCV7		CCV	CCV8	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Mercury	3	2.9	96.7	3	2.9	96.7	3.0	3.0	100.0

(*) Outside of QC limits
(anr) Analyte not requested

HIGH STANDARD CHECK SUMMARY

Login Number: FA41687
Account: URSNEOM - AECOM, INC
Project: Hammond BGR; Hammond, LA

File ID: H50317S2.CSV Date Analyzed: 03/17/17 Methods: SW846 7471B
QC Limits: 95 to 105 % Recovery Run ID: MA13902 Units: ug/l

Time:		10:58	
Sample ID:	HSTD	HSTD1	
Metal	True	Results	% Rec
Mercury	6	6.1	101.7

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: FA41687
Account: URSNEOM - AECOM, INC
Project: Hammond BGR; Hammond, LA

File ID: H50317S2.CSV Date Analyzed: 03/17/17 Methods: SW846 7471B
QC Limits: 80 to 120 % Recovery Run ID: MA13902 Units: ug/l

Time:			11:04		13:19	
Sample ID:	CRI	CRIA	CRI1		CRI2	
Metal	True	True	Results	% Rec	Results	% Rec
Mercury	0.20		0.23	115.0	0.19	95.0

(*) Outside of QC limits
(anr) Analyte not requested

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: FA41687
Account: URSNEOM - AECOM, INC
Project: Hammond BGR; Hammond, LA

File ID: SA031717M1.ICP Date Analyzed: 03/17/17 Methods: SW846 6010C
Analyst: DM Run ID: MA13903
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

Time	Sample Description	Dilution Factor	PS Recov	Comments
09:34	MA13903-STD1	1		STDA
09:37	MA13903-STD2	1		STDB
09:41	MA13903-STD3	1		STDC
09:45	MA13903-STD4	1		STDD
09:49	MA13903-HSTD1	1		
09:53	MA13903-ICV1	1		
09:59	MA13903-ICB1	1		
10:03	MA13903-CRIA1	1		
10:06	MA13903-ICSA1	1		
10:13	MA13903-ICSAB1	1		
10:17	MA13903-CCV1	1		
10:22	MA13903-CCB1	1		
10:26	MP31802-MB1	1		
10:30	MP31802-B1	1		
10:34	FA41989-8	1		(sample used for QC only; not part of login FA41687)
10:39	MP31802-D1	1		
10:43	MP31802-SD1	5		
10:48	MP31802-PS1	1		
10:52	MP31802-S1	1		
10:56	MP31802-S2	1		
11:00	ZZZZZZ	1		
11:05	ZZZZZZ	1		
11:09	MA13903-CCV2	1		
11:13	MA13903-CCB2	1		
11:18	ZZZZZZ	1		
11:22	ZZZZZZ	1		
11:27	ZZZZZZ	1		
11:31	ZZZZZZ	1		
11:36	ZZZZZZ	1		
11:40	ZZZZZZ	1		
11:45	ZZZZZZ	1		
11:49	ZZZZZZ	1		
11:54	ZZZZZZ	1		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: FA41687
Account: URSNEOM - AECOM, INC
Project: Hammond BGR; Hammond, LA

File ID: SA031717M1.ICP Date Analyzed: 03/17/17 Methods: SW846 6010C
Analyst: DM Run ID: MA13903
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

Time	Sample Description	Dilution Factor	PS Recov	Comments
11:58	ZZZZZZ	1		
12:02	MA13903-CCV3	1		
12:07	MA13903-CCB3	1		
12:11	ZZZZZZ	1		
12:16	ZZZZZZ	1		
12:20	ZZZZZZ	1		
12:25	ZZZZZZ	1		
12:29	ZZZZZZ	1		
12:33	ZZZZZZ	1		
12:38	ZZZZZZ	1		
12:43	MP31804-MB1	1		
12:47	MP31804-B1	1		
12:51	FA41989-33	1		(sample used for QC only; not part of login FA41687)
12:56	MA13903-CCV4	1		
13:00	MA13903-CCB4	1		
13:04	MP31804-D1	1		
13:09	MP31804-SD1	5		
13:14	MP31804-PS1	1		
13:18	MP31804-S1	1		
13:22	MP31804-S2	1		
13:26	ZZZZZZ	1		
13:31	ZZZZZZ	1		
13:35	ZZZZZZ	1		
13:40	ZZZZZZ	1		
13:44	ZZZZZZ	1		
13:49	MA13903-CCV5	1		
13:53	MA13903-CCB5	1		
13:57	ZZZZZZ	1		
14:02	ZZZZZZ	1		
14:06	ZZZZZZ	1		
14:11	ZZZZZZ	1		
14:15	ZZZZZZ	1		
14:20	ZZZZZZ	1		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: FA41687
Account: URSNEOM - AECOM, INC
Project: Hammond BGR; Hammond, LA

File ID: SA031717M1.ICP Date Analyzed: 03/17/17 Methods: SW846 6010C
Analyst: DM Run ID: MA13903
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

Time	Sample Description	Dilution Factor	PS Recov	Comments
14:24	ZZZZZZ	1		
14:29	ZZZZZZ	1		
14:33	ZZZZZZ	1		
14:38	ZZZZZZ	1		
14:42	MA13903-CCV6	1		
14:46	MA13903-CCB6	1		
15:05	MA13903-CCV7	1		
15:10	MA13903-CCB7	1		
15:14	ZZZZZZ	1		
15:18	ZZZZZZ	1		
15:23	ZZZZZZ	1		
15:27	ZZZZZZ	1		
15:32	ZZZZZZ	5		
15:36	ZZZZZZ	5		
15:41	ZZZZZZ	5		
15:46	ZZZZZZ	5		
15:50	ZZZZZZ	5		
15:55	MP31799-D1	1		
15:59	MA13903-CCV8	1		
16:04	MA13903-CCB8	1		
16:08	MP31799-SD1	5		
16:13	MP31799-PS1	1		
16:17	MP31799-S1	1		
16:21	MP31799-S2	1		
16:25	ZZZZZZ	5		
16:30	ZZZZZZ	5		
16:35	ZZZZZZ	5		
16:39	ZZZZZZ	1		
16:44	ZZZZZZ	1		
16:48	ZZZZZZ	1		
16:53	MA13903-CCV9	1		
16:57	MA13903-CCB9	1		
17:01	ZZZZZZ	1		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: FA41687
Account: URSNEOM - AECOM, INC
Project: Hammond BGR; Hammond, LA

File ID: SA031717M1.ICP Date Analyzed: 03/17/17 Methods: SW846 6010C
Analyst: DM Run ID: MA13903
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

Time	Sample Description	Dilution Factor	PS Recov	Comments
17:06	ZZZZZZ	2		
17:10	ZZZZZZ	2		
17:15	MP31806-MB1	1		
17:19	MP31806-B1	1		
17:23	FA41687-5	1		
17:28	MP31806-D1	1		
17:32	MP31806-SD1	5		
17:37	MP31806-PS1	1		
17:41	MP31806-S1	1		
17:45	MA13903-CCV10	1		
17:49	MA13903-CCB10	1		
17:54	MP31806-S2	1		
17:58	FA41687-1	1		
18:02	FA41687-2	1		
18:07	FA41687-3	1		
18:11	FA41687-4	1		
18:15	FA41687-6	1		
18:20	FA41687-7	1		
18:24	FA41687-8	1		
18:28	FA41687-9	1		
18:33	FA41687-10	1		
18:37	MA13903-CCV11	1		
18:41	MA13903-CCB11	1		
18:46	FA41687-11	1		
18:50	FA41687-12	1		
---------->	Last reportable sample/prep for job FA41687			
18:55	MP31808-MB1	1		
18:59	MP31808-B1	1		
19:03	FA42048-1L	1		(sample used for QC only; not part of login FA41687)
19:08	MP31808-D1	1		
19:13	MP31808-SD1	5		
19:17	MP31808-S1	1		
19:22	MP31808-S2	1		
19:26	ZZZZZZ	1		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: FA41687
Account: URSNEOM - AECOM, INC
Project: Hammond BGR; Hammond, LA

File ID: SA031717M1.ICP Date Analyzed: 03/17/17 Methods: SW846 6010C
Analyst: DM Run ID: MA13903
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

Time	Sample Description	Dilution Factor	PS Recov	Comments
19:30	MA13903-CCV12	1		
19:34	MA13903-CCB12	1		
19:39	ZZZZZZ	1		
19:44	ZZZZZZ	1		
19:48	ZZZZZZ	1		
19:53	ZZZZZZ	1		
19:57	ZZZZZZ	1		
20:02	FA42002-2	1		(sample used for QC only; not part of login FA41687)
20:07	ZZZZZZ	1		
20:11	MP31808-D2	1		
20:16	MP31808-MB2	1		
20:20	MP31808-B2	1		
20:25	MA13903-CCV13	1		
20:29	MA13903-CCB13	1		
20:33	MP31808-MB3	1		
20:38	MP31808-B3	1		
20:42	MP31808-MB4	1		
20:47	MP31808-B4	1		
20:51	MA13903-CRIA2	1		
20:55	MA13903-ICSA2	1		
21:00	MA13903-ICSAB2	1		
21:05	MA13903-CCV14	1		
21:09	MA13903-CCB14	1		

----------> Last reportable CCB for job FA41687
Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: FA41687
Account: URSNEOM - AECOM, INC
Project: Hammond BGR; Hammond, LA

File ID: SA031717M1.ICP Date Analyzed: 03/17/17 Methods: SW846 6010C
Analyst: DM Run ID: MA13903
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
09:34	MA13903-STD1	4903	34796	7020	2172
09:37	MA13903-STD2	4837	34818	7034	2136
09:41	MA13903-STD3	4671	34115	6935	2028
09:45	MA13903-STD4	4488	33368	6944	1904
09:49	MA13903-HSTD1	4471	33140	6917	1904
09:53	MA13903-ICV1	4594	33613	6944	2017
09:59	MA13903-ICB1	4752 R	33924 R	7008 R	2152 R
10:03	MA13903-CRIA1	4729	33964	7056	2143
10:06	MA13903-ICSA1	4323	32073	6748	1864
10:13	MA13903-ICSAB1	4311	32589	6624	1836
10:17	MA13903-CCV1	4559	33268	6742	2021
10:22	MA13903-CCB1	4695	33848	6912	2154
10:26	MP31802-MB1	4681	34040	7055	2145
10:30	MP31802-B1	4592	34005	6975	2079
10:34	FA41989-8	4669	34166	7069	2152
10:39	MP31802-D1	4649	34260	7058	2154
10:43	MP31802-SD1	4676	34160	7050	2172
10:48	MP31802-PS1	4619	34016	6996	2129
10:52	MP31802-S1	4553	33411	6898	2057
10:56	MP31802-S2	4560	33671	6952	2066
11:00	ZZZZZZ	4626	33911	7050	2157
11:05	ZZZZZZ	4602	33813	7077	2142
11:09	MA13903-CCV2	4489	33213	6934	2021
11:13	MA13903-CCB2	4651	33646	6891	2158
11:18	ZZZZZZ	4622	33938	7078	2140
11:22	ZZZZZZ	4648	34482	7113	2101
11:27	ZZZZZZ	4646	35380	7092	2134
11:31	ZZZZZZ	4616	33968	7059	2151
11:36	ZZZZZZ	4656	34143	6945	2135
11:40	ZZZZZZ	4620	33874	7093	2144
11:45	ZZZZZZ	4725	34486	7239	2149
11:49	ZZZZZZ	4474	33491	6883	2018
11:54	ZZZZZZ	4655	34097	7139	2158

INTERNAL STANDARD SUMMARY

Login Number: FA41687
Account: URSNEOM - AECOM, INC
Project: Hammond BGR; Hammond, LA

File ID: SA031717M1.ICP Date Analyzed: 03/17/17 Methods: SW846 6010C
Analyst: DM Run ID: MA13903
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
11:58	ZZZZZZ	4643	33612	7024	2160
12:02	MA13903-CCV3	4483	33120	6865	2014
12:07	MA13903-CCB3	4638	33796	7044	2152
12:11	ZZZZZZ	4536	33884	6985	2103
12:16	ZZZZZZ	4639	33734	7040	2153
12:20	ZZZZZZ	4920	37048	7579	1975
12:25	ZZZZZZ	4569	33939	6959	2088
12:29	ZZZZZZ	4656	34111	7110	2166
12:33	ZZZZZZ	4847	35946	7418	2099
12:38	ZZZZZZ	4635	33705	6973	2154
12:43	MP31804-MB1	4632	33524	7038	2140
12:47	MP31804-B1	4576	33940	6970	2087
12:51	FA41989-33	4671	34185	7166	2167
12:56	MA13903-CCV4	4489	33180	6789	2010
13:00	MA13903-CCB4	4666	33662	6931	2159
13:04	MP31804-D1	4673	33908	7141	2163
13:09	MP31804-SD1	4709	34106	7064	2169
13:14	MP31804-PS1	4660	33870	6961	2149
13:18	MP31804-S1	4581	33673	6913	2088
13:22	MP31804-S2	4613	34187	7010	2100
13:26	ZZZZZZ	4721	34317	7155	2165
13:31	ZZZZZZ	4716	33955	6987	2174
13:35	ZZZZZZ	4666	33810	6993	2159
13:40	ZZZZZZ	4667	34104	7117	2161
13:44	ZZZZZZ	4718	34239	7108	2170
13:49	MA13903-CCV5	4539	33337	6787	2025
13:53	MA13903-CCB5	4692	33829	6927	2154
13:57	ZZZZZZ	4717	34236	7111	2162
14:02	ZZZZZZ	4722	34305	7045	2174
14:06	ZZZZZZ	4716	34120	6991	2159
14:11	ZZZZZZ	4727	34503	7026	2156
14:15	ZZZZZZ	4743	35106	7188	2120
14:20	ZZZZZZ	4757	34721	7025	2145

INTERNAL STANDARD SUMMARY

Login Number: FA41687
Account: URSNEOM - AECOM, INC
Project: Hammond BGR; Hammond, LA

File ID: SA031717M1.ICP Date Analyzed: 03/17/17 Methods: SW846 6010C
Analyst: DM Run ID: MA13903
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
14:24	ZZZZZZ	4754	34739	6968	2140
14:29	ZZZZZZ	4767	34301	7119	2163
14:33	ZZZZZZ	4791	34676	7127	2175
14:38	ZZZZZZ	4603	34011	6811	2034
14:42	MA13903-CCV6	4604	33589	6773	2026
14:46	MA13903-CCB6	4771	34247	7017	2164
15:05	MA13903-CCV7	4615	33986	6808	2027
15:10	MA13903-CCB7	4799	34351	7007	2174
15:14	ZZZZZZ	4782	34902	6970	2180
15:18	ZZZZZZ	4789	34581	6886	2167
15:23	ZZZZZZ	4811	34494	7060	2179
15:27	ZZZZZZ	4696	34649	7044	2122
15:32	ZZZZZZ	4193	31824	6426	1795
15:36	ZZZZZZ	4237	31836	6392	1817
15:41	ZZZZZZ	4175	31636	6330	1786
15:46	ZZZZZZ	4157	31749	6444	1777
15:50	ZZZZZZ	4202	31939	6469	1797
15:55	MP31799-D1	4670	34432	6831	2108
15:59	MA13903-CCV8	4648	33956	6705	2028
16:04	MA13903-CCB8	4794	34277	6901	2164
16:08	MP31799-SD1	4796	35008	6945	2173
16:13	MP31799-PS1	4685	34435	6855	2100
16:17	MP31799-S1	4672	34222	6818	2055
16:21	MP31799-S2	4657	34377	6804	2052
16:25	ZZZZZZ	4238	32146	6479	1814
16:30	ZZZZZZ	4215	31954	6419	1793
16:35	ZZZZZZ	4210	32028	6399	1793
16:39	ZZZZZZ	4677	34682	6872	2108
16:44	ZZZZZZ	4652	34615	6864	2093
16:48	ZZZZZZ	4838	35167	7031	2176
16:53	MA13903-CCV9	4669	34115	6744	2030
16:57	MA13903-CCB9	4827	34253	6798	2162
17:01	ZZZZZZ	4846	35453	7097	2151

INTERNAL STANDARD SUMMARY

Login Number: FA41687
Account: URSNEOM - AECOM, INC
Project: Hammond BGR; Hammond, LA

File ID: SA031717M1.ICP Date Analyzed: 03/17/17 Methods: SW846 6010C
Analyst: DM Run ID: MA13903
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
17:06	ZZZZZZ	5882	42648 !	8499	2098
17:10	ZZZZZZ	5730	41212	8141	2113
17:15	MP31806-MB1	4880	34583	6930	2177
17:19	MP31806-B1	4788	34626	6847	2110
17:23	FA41687-5	5327	38266	7710	2184
17:28	MP31806-D1	5338	38165	7632	2176
17:32	MP31806-SD1	4996	35319	7010	2191
17:37	MP31806-PS1	5290	37845	7565	2145
17:41	MP31806-S1	5218	37536	7521	2100
17:45	MA13903-CCV10	4702	34110	6687	2036
17:49	MA13903-CCB10	4873	34395	6810	2169
17:54	MP31806-S2	5263	37969	7509	2089
17:58	FA41687-1	5308	37621	7557	2167
18:02	FA41687-2	5499	39213	7784	2164
18:07	FA41687-3	5413	38525	7689	2137
18:11	FA41687-4	5409	38477	7727	2172
18:15	FA41687-6	5583	39878	7917	2166
18:20	FA41687-7	5316	37773	7495	2152
18:24	FA41687-8	5203	36761	7346	2137
18:28	FA41687-9	5310	37986	7584	2086
18:33	FA41687-10	5508	39347	7820	2108
18:37	MA13903-CCV11	4723	34022	6584	2026
18:41	MA13903-CCB11	4912	34738	6883	2185
18:46	FA41687-11	5929	42230	8458	2115
18:50	FA41687-12	5441	38486	7623	2100
18:55	MP31808-MB1	4747	33717	6700	2116
18:59	MP31808-B1	4655	33917	6676	2043
19:03	FA42048-1L	4619	33760	6570	2037
19:08	MP31808-D1	4614	33544	6499	2030
19:13	MP31808-SD1	4832	34758	6760	2143
19:17	MP31808-S1	4578	33730	6606	1977
19:22	MP31808-S2	4582	33467	6556	1970
19:26	ZZZZZZ	4706	33626	6650	2095

INTERNAL STANDARD SUMMARY

Login Number: FA41687
Account: URSNEOM - AECOM, INC
Project: Hammond BGR; Hammond, LA

File ID: SA031717M1.ICP Date Analyzed: 03/17/17 Methods: SW846 6010C
Analyst: DM Run ID: MA13903
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
19:30	MA13903-CCV12	4717	34090	6632	2028
19:34	MA13903-CCB12	4921	34758	6835	2181
19:39	ZZZZZZ	4627	34080	6649	2038
19:44	ZZZZZZ	4599	33596	6520	2027
19:48	ZZZZZZ	4593	33489	6508	2033
19:53	ZZZZZZ	4598	33535	6606	2031
19:57	ZZZZZZ	4545	33576	6548	2028
20:02	FA42002-2	4554	33438	6581	2015
20:07	ZZZZZZ	4556	33287	6514	2012
20:11	MP31808-D2	4520	33260	6559	2003
20:16	MP31808-MB2	4742	33960	6718	2117
20:20	MP31808-B2	4665	33899	6596	2044
20:25	MA13903-CCV13	4720	34077	6698	2033
20:29	MA13903-CCB13	4905	34541	6764	2179
20:33	MP31808-MB3	4658	33940	6630	2072
20:38	MP31808-B3	4638	33947	6746	2012
20:42	MP31808-MB4	4737	34114	6857	2125
20:47	MP31808-B4	4630	33468	6554	2037
20:51	MA13903-CRIA2	4855	34662	6751	2166
20:55	MA13903-ICSA2	4474	33121	6535	1879
21:00	MA13903-ICSAB2	4476	33149	6530	1859
21:05	MA13903-CCV14	4728	34227	6657	2039
21:09	MA13903-CCB14	4886	34438	6717	2174

R = Reference for ISTD limits. ! = Outside limits.

LEGEND:

Istd#	Parameter	Limits
Istd#1	Yttrium (2243)	60-125 %
Istd#2	Yttrium (3600)	60-125 %
Istd#3	Yttrium (3710)	60-125 %
Istd#4	Indium	60-125 %

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: FA41687
Account: URSNEOM - AECOM, INC
Project: Hammond BGR; Hammond, LA

File ID: SA031717M1.ICP Date Analyzed: 03/17/17 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA13903 Units: ug/l

Time: / Sample ID:			09:59 ICB1		10:22 CCB1		11:13 CCB2		12:07 CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	14	-5.4	<200	-5.1	<200	-5.6	<200	-1.6	<200
Antimony	6.0	1	0.60	<6.0	-0.40	<6.0	-0.80	<6.0	-0.40	<6.0
Arsenic	10	1.3	0.60	<10	-0.10	<10	0.70	<10	0.80	<10
Barium	200	1	0.0	<200	0.10	<200	-0.10	<200	0.10	<200
Beryllium	4.0	.2	0.10	<4.0	0.20	<4.0	0.0	<4.0	0.30	<4.0
Cadmium	5.0	.2	0.10	<5.0	-0.10	<5.0	0.10	<5.0	0.30	<5.0
Calcium	1000	50	3.0	<1000	9.3	<1000	0.80	<1000	9.0	<1000
Chromium	10	1	0.0	<10	0.30	<10	0.10	<10	0.30	<10
Cobalt	50	.2	0.20	<50	-0.10	<50	0.0	<50	0.40	<50
Copper	25	1	0.90	<25	1.2	<25	1.2	<25	1.6	<25
Iron	300	17	1.5	<300	5.4	<300	0.50	<300	3.5	<300
Lead	5.0	1	0.10	<5.0	0.20	<5.0	0.0	<5.0	0.30	<5.0
Magnesium	5000	35	13.2	<5000	15.7	<5000	3.0	<5000	18.9	<5000
Manganese	15	.5	0.20	<15	0.30	<15	0.10	<15	0.50	<15
Molybdenum	50	.3	anr							
Nickel	40	.4	0.10	<40	0.10	<40	0.10	<40	0.20	<40
Potassium	10000	200	13.3	<10000	16.1	<10000	30.4	<10000	23.0	<10000
Selenium	10	2.4	1.2	<10	0.0	<10	1.9	<10	2.5	<10
Silver	10	.7	-0.20	<10	0.40	<10	-0.10	<10	0.50	<10
Sodium	10000	500	17.0	<10000	17.4	<10000	9.7	<10000	42.4	<10000
Strontium	10	.5								
Thallium	10	1.1	1.8	<10	1.1	<10	2.3	<10	1.0	<10
Tin	50	.9								
Titanium	10	.5								
Vanadium	50	.5	0.20	<50	0.30	<50	0.30	<50	0.50	<50
Zinc	20	3	0.20	<20	0.0	<20	0.10	<20	0.30	<20

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: FA41687
Account: URSNEOM - AECOM, INC
Project: Hammond BGR; Hammond, LA

File ID: SA031717M1.ICP Date Analyzed: 03/17/17 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA13903 Units: ug/l

Time:			13:00		13:53		14:46		15:10	
Sample ID:			CCB4		CCB5		CCB6		CCB7	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	14	-5.4	<200	-2.9	<200	-15	<200	4.8	<200
Antimony	6.0	1	0.10	<6.0	0.10	<6.0	0.90	<6.0	-0.40	<6.0
Arsenic	10	1.3	0.10	<10	0.40	<10	0.10	<10	1.3	<10
Barium	200	1	-0.10	<200	0.0	<200	-0.20	<200	0.20	<200
Beryllium	4.0	.2	0.10	<4.0	0.20	<4.0	0.0	<4.0	0.20	<4.0
Cadmium	5.0	.2	0.10	<5.0	0.10	<5.0	-0.20	<5.0	0.30	<5.0
Calcium	1000	50	2.8	<1000	5.9	<1000	0.50	<1000	1.9	<1000
Chromium	10	1	0.20	<10	0.0	<10	-0.20	<10	0.10	<10
Cobalt	50	.2	0.20	<50	0.10	<50	-0.10	<50	0.20	<50
Copper	25	1	1.5	<25	1.2	<25	0.60	<25	0.0	<25
Iron	300	17	1.2	<300	0.0	<300	-3.1	<300	8.4	<300
Lead	5.0	1	0.40	<5.0	0.60	<5.0	0.10	<5.0	0.90	<5.0
Magnesium	5000	35	3.7	<5000	21.0	<5000	18.4	<5000	1.0	<5000
Manganese	15	.5	0.40	<15	0.30	<15	0.0	<15	0.20	<15
Molybdenum	50	.3	anr							
Nickel	40	.4	0.10	<40	0.0	<40	-0.10	<40	0.50	<40
Potassium	10000	200	36.3	<10000	23.1	<10000	49.5	<10000	-0.40	<10000
Selenium	10	2.4	1.8	<10	2.1	<10	0.40	<10	0.20	<10
Silver	10	.7	0.40	<10	0.30	<10	0.0	<10	-0.30	<10
Sodium	10000	500	34.3	<10000	27.6	<10000	74.0	<10000	-13	<10000
Strontium	10	.5								
Thallium	10	1.1	1.2	<10	1.9	<10	0.50	<10	2.9	<10
Tin	50	.9								
Titanium	10	.5								
Vanadium	50	.5	0.30	<50	0.0	<50	0.10	<50	0.40	<50
Zinc	20	3	0.10	<20	0.10	<20	-0.30	<20	0.40	<20

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: FA41687
Account: URSNEOM - AECOM, INC
Project: Hammond BGR; Hammond, LA

File ID: SA031717M1.ICP Date Analyzed: 03/17/17 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA13903 Units: ug/l

Time:			16:04		16:57		17:49		18:41	
Sample ID:			CCB8		CCB9		CCB10		CCB11	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	14	12.6	<200	12.0	<200	4.7	<200	-2.0	<200
Antimony	6.0	1	-0.40	<6.0	0.50	<6.0	1.0	<6.0	-0.40	<6.0
Arsenic	10	1.3	1.1	<10	1.7	<10	2.2	<10	1.2	<10
Barium	200	1	0.30	<200	0.50	<200	0.40	<200	0.40	<200
Beryllium	4.0	.2	0.30	<4.0	0.40	<4.0	0.30	<4.0	0.30	<4.0
Cadmium	5.0	.2	0.80	<5.0	0.60	<5.0	0.90	<5.0	0.50	<5.0
Calcium	1000	50	8.1	<1000	6.9	<1000	4.5	<1000	6.4	<1000
Chromium	10	1	0.70	<10	1.0	<10	0.50	<10	1.0	<10
Cobalt	50	.2	0.70	<50	0.60	<50	0.90	<50	0.50	<50
Copper	25	1	0.30	<25	0.70	<25	0.50	<25	0.10	<25
Iron	300	17	13.9	<300	14.0	<300	14.5	<300	16.7	<300
Lead	5.0	1	1.3	<5.0	1.4	<5.0	1.3	<5.0	0.60	<5.0
Magnesium	5000	35	4.9	<5000	-9.3	<5000	6.9	<5000	10.5	<5000
Manganese	15	.5	0.60	<15	1.1	<15	0.70	<15	0.80	<15
Molybdenum	50	.3	anr							
Nickel	40	.4	0.80	<40	0.60	<40	0.90	<40	0.50	<40
Potassium	10000	200	54.9	<10000	34.6	<10000	-19	<10000	-12	<10000
Selenium	10	2.4	2.2	<10	1.0	<10	1.5	<10	2.0	<10
Silver	10	.7	-0.20	<10	0.30	<10	0.0	<10	0.10	<10
Sodium	10000	500	266	<10000	179	<10000	30.5	<10000	7.2	<10000
Strontium	10	.5								
Thallium	10	1.1	1.8	<10	1.4	<10	2.3	<10 (a)	0.80	<10
Tin	50	.9								
Titanium	10	.5								
Vanadium	50	.5	0.70	<50	1.1	<50	0.70	<50	1.0	<50
Zinc	20	3	0.80	<20	0.70	<20	1.0	<20	0.60	<20

(*) Outside of QC limits
(anr) Analyte not requested
(a) Positive bias, but all sample results <MDL.

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: FA41687
Account: URSNEOM - AECOM, INC
Project: Hammond BGR; Hammond, LA

File ID: SA031717M1.ICP Date Analyzed: 03/17/17 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA13903 Units: ug/l

Time:			19:34		20:29		21:09	
Sample ID:			CCB12		CCB13		CCB14	
Metal	RL	IDL	raw	final	raw	final	raw	final
Aluminum	200	14	9.4	<200	1.1	<200	15.1	<200
Antimony	6.0	1	0.50	<6.0	-0.40	<6.0	0.10	<6.0
Arsenic	10	1.3	1.5	<10	0.20	<10	1.4	<10
Barium	200	1	0.30	<200	0.20	<200	0.50	<200
Beryllium	4.0	.2	0.30	<4.0	0.0	<4.0	0.30	<4.0
Cadmium	5.0	.2	0.30	<5.0	0.10	<5.0	0.60	<5.0
Calcium	1000	50	5.4	<1000	-1.5	<1000	10.3	<1000
Chromium	10	1	0.80	<10	0.20	<10	0.70	<10
Cobalt	50	.2	0.30	<50	0.0	<50	0.60	<50
Copper	25	1	-0.20	<25	-0.30	<25	0.30	<25
Iron	300	17	13.4	<300	8.9	<300	24.5	<300
Lead	5.0	1	0.60	<5.0	0.0	<5.0	0.90	<5.0
Magnesium	5000	35	3.3	<5000	-13	<5000	13.6	<5000
Manganese	15	.5	0.40	<15	0.10	<15	0.70	<15
Molybdenum	50	.3	anr					
Nickel	40	.4	0.20	<40	-0.10	<40	0.60	<40
Potassium	10000	200	26.4	<10000	36.7	<10000	-0.30	<10000
Selenium	10	2.4	0.70	<10	0.70	<10	1.7	<10
Silver	10	.7	-0.30	<10	-0.20	<10	-0.20	<10
Sodium	10000	500	42.3	<10000	44.3	<10000	34.1	<10000
Strontium	10	.5						
Thallium	10	1.1	0.50	<10	1.7	<10	0.90	<10
Tin	50	.9						
Titanium	10	.5						
Vanadium	50	.5	0.40	<50	0.30	<50	0.90	<50
Zinc	20	3	0.40	<20	0.10	<20	0.60	<20

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: FA41687
Account: URSNEOM - AECOM, INC
Project: Hammond BGR; Hammond, LA

File ID: SA031717M1.ICP Date Analyzed: 03/17/17 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA13903 Units: ug/l

Time:		09:53			10:17			11:09	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	40000	41400	103.5	40000	39400	98.5	40000	38600	96.5
Antimony	2000	2000	100.0	2000	2060	103.0	2000	2100	105.0
Arsenic	2000	2010	100.5	2000	2060	103.0	2000	2100	105.0
Barium	2000	1990	99.5	2000	2070	103.5	2000	2120	106.0
Beryllium	2000	2000	100.0	2000	2070	103.5	2000	2060	103.0
Cadmium	2000	2000	100.0	2000	2070	103.5	2000	2100	105.0
Calcium	40000	43000	107.5	40000	40500	101.3	40000	40600	101.5
Chromium	2000	1980	99.0	2000	2060	103.0	2000	2040	102.0
Cobalt	2000	1980	99.0	2000	2030	101.5	2000	2050	102.5
Copper	2000	1990	99.5	2000	2100	105.0	2000	2130	106.5
Iron	40000	40900	102.3	40000	41000	102.5	40000	40400	101.0
Lead	2000	1960	98.0	2000	2010	100.5	2000	2010	100.5
Magnesium	40000	43100	107.8	40000	41100	102.8	40000	40500	101.3
Manganese	2000	2030	101.5	2000	2110	105.5	2000	2140	107.0
Molybdenum	anr								
Nickel	2000	2000	100.0	2000	2090	104.5	2000	2130	106.5
Potassium	40000	42000	105.0	40000	40400	101.0	40000	40500	101.3
Selenium	2000	2000	100.0	2000	2020	101.0	2000	2060	103.0
Silver	250	246	98.4	250	252	100.8	250	253	101.2
Sodium	40000	41400	103.5	40000	40300	100.8	40000	40200	100.5
Strontium									
Thallium	2000	2030	101.5	2000	2020	101.0	2000	2030	101.5
Tin									
Titanium									
Vanadium	2000	1990	99.5	2000	2120	106.0	2000	2140	107.0
Zinc	2000	2020	101.0	2000	2110	105.5	2000	2160	108.0

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: FA41687
Account: URSNEOM - AECOM, INC
Project: Hammond BGR; Hammond, LA

File ID: SA031717M1.ICP Date Analyzed: 03/17/17 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA13903 Units: ug/l

Time:		12:02			12:56			13:49	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	40000	40600	101.5	40000	41100	102.8	40000	41200	103.0
Antimony	2000	2070	103.5	2000	2060	103.0	2000	2040	102.0
Arsenic	2000	2060	103.0	2000	2060	103.0	2000	2030	101.5
Barium	2000	2050	102.5	2000	2040	102.0	2000	2020	101.0
Beryllium	2000	2020	101.0	2000	2030	101.5	2000	2030	101.5
Cadmium	2000	2040	102.0	2000	2040	102.0	2000	2020	101.0
Calcium	40000	43600	109.0	40000	43600	109.0	40000	43500	108.8
Chromium	2000	1980	99.0	2000	1990	99.5	2000	1980	99.0
Cobalt	2000	2000	100.0	2000	2000	100.0	2000	1990	99.5
Copper	2000	2080	104.0	2000	2080	104.0	2000	2050	102.5
Iron	40000	40400	101.0	40000	40900	102.3	40000	40800	102.0
Lead	2000	1970	98.5	2000	1970	98.5	2000	1960	98.0
Magnesium	40000	43700	109.3	40000	43900	109.8	40000	43900	109.8
Manganese	2000	2080	104.0	2000	2060	103.0	2000	2050	102.5
Molybdenum	anr								
Nickel	2000	2070	103.5	2000	2060	103.0	2000	2040	102.0
Potassium	40000	42700	106.8	40000	42900	107.3	40000	42600	106.5
Selenium	2000	2030	101.5	2000	2020	101.0	2000	2000	100.0
Silver	250	245	98.0	250	245	98.0	250	246	98.4
Sodium	40000	41500	103.8	40000	41700	104.3	40000	41700	104.3
Strontium									
Thallium	2000	2060	103.0	2000	2060	103.0	2000	2050	102.5
Tin									
Titanium									
Vanadium	2000	2050	102.5	2000	2050	102.5	2000	2020	101.0
Zinc	2000	2090	104.5	2000	2080	104.0	2000	2060	103.0

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: FA41687
Account: URSNEOM - AECOM, INC
Project: Hammond BGR; Hammond, LA

File ID: SA031717M1.ICP Date Analyzed: 03/17/17 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA13903 Units: ug/l

Time:		14:42			15:05			15:59	
Sample ID:	CCV	CCV6		CCV	CCV7		CCV	CCV8	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	40000	41600	104.0	40000	39800	99.5	40000	40400	101.0
Antimony	2000	2010	100.5	2000	2020	101.0	2000	2000	100.0
Arsenic	2000	2000	100.0	2000	2020	101.0	2000	2010	100.5
Barium	2000	2000	100.0	2000	2040	102.0	2000	2040	102.0
Beryllium	2000	2030	101.5	2000	2040	102.0	2000	2060	103.0
Cadmium	2000	2000	100.0	2000	2040	102.0	2000	2030	101.5
Calcium	40000	43300	108.3	40000	40000	100.0	40000	40100	100.3
Chromium	2000	1980	99.0	2000	2030	101.5	2000	2050	102.5
Cobalt	2000	1980	99.0	2000	2030	101.5	2000	2030	101.5
Copper	2000	2010	100.5	2000	1990	99.5	2000	1990	99.5
Iron	40000	41000	102.5	40000	41100	102.8	40000	41600	104.0
Lead	2000	1960	98.0	2000	1990	99.5	2000	2000	100.0
Magnesium	40000	43600	109.0	40000	39700	99.3	40000	40100	100.3
Manganese	2000	2020	101.0	2000	2050	102.5	2000	2050	102.5
Molybdenum	anr								
Nickel	2000	2010	100.5	2000	2030	101.5	2000	2010	100.5
Potassium	40000	42400	106.0	40000	39600	99.0	40000	39800	99.5
Selenium	2000	1990	99.5	2000	2030	101.5	2000	2010	100.5
Silver	250	246	98.4	250	254	101.6	250	256	102.4
Sodium	40000	40400	101.0	40000	39900	99.8	40000	36600	91.5
Strontium									
Thallium	2000	2040	102.0	2000	2000	100.0	2000	2000	100.0
Tin									
Titanium									
Vanadium	2000	2000	100.0	2000	2050	102.5	2000	2060	103.0
Zinc	2000	2020	101.0	2000	2020	101.0	2000	2020	101.0

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: FA41687
Account: URSNEOM - AECOM, INC
Project: Hammond BGR; Hammond, LA

File ID: SA031717M1.ICP Date Analyzed: 03/17/17 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA13903 Units: ug/l

Time:		16:53			17:45			18:37	
Sample ID:	CCV	CCV9		CCV	CCV10		CCV	CCV11	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	40000	40400	101.0	40000	40800	102.0	40000	41100	102.8
Antimony	2000	2000	100.0	2000	1990	99.5	2000	1960	98.0
Arsenic	2000	2010	100.5	2000	2000	100.0	2000	1970	98.5
Barium	2000	2040	102.0	2000	2030	101.5	2000	2010	100.5
Beryllium	2000	2060	103.0	2000	2060	103.0	2000	2050	102.5
Cadmium	2000	2030	101.5	2000	2020	101.0	2000	2000	100.0
Calcium	40000	40000	100.0	40000	40000	100.0	40000	39900	99.8
Chromium	2000	2040	102.0	2000	2050	102.5	2000	2050	102.5
Cobalt	2000	2030	101.5	2000	2030	101.5	2000	2020	101.0
Copper	2000	1980	99.0	2000	1960	98.0	2000	1940	97.0
Iron	40000	41600	104.0	40000	41700	104.3	40000	41900	104.8
Lead	2000	2010	100.5	2000	2000	100.0	2000	2000	100.0
Magnesium	40000	39700	99.3	40000	39700	99.3	40000	39700	99.3
Manganese	2000	2050	102.5	2000	2040	102.0	2000	2010	100.5
Molybdenum	anr								
Nickel	2000	2010	100.5	2000	2000	100.0	2000	1970	98.5
Potassium	40000	39800	99.5	40000	39800	99.5	40000	39600	99.0
Selenium	2000	2020	101.0	2000	2010	100.5	2000	1990	99.5
Silver	250	256	102.4	250	258	103.2	250	257	102.8
Sodium	40000	37700	94.3	40000	39800	99.5	40000	40000	100.0
Strontium									
Thallium	2000	2000	100.0	2000	2000	100.0	2000	1990	99.5
Tin									
Titanium									
Vanadium	2000	2050	102.5	2000	2040	102.0	2000	2020	101.0
Zinc	2000	2010	100.5	2000	2000	100.0	2000	1970	98.5

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: FA41687
Account: URSNEOM - AECOM, INC
Project: Hammond BGR; Hammond, LA

File ID: SA031717M1.ICP Date Analyzed: 03/17/17 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA13903 Units: ug/l

Time:		19:30			20:25			21:05	
Sample ID:	CCV	CCV12		CCV	CCV13		CCV	CCV14	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	40000	40800	102.0	40000	40800	102.0	40000	41000	102.5
Antimony	2000	1970	98.5	2000	1970	98.5	2000	1980	99.0
Arsenic	2000	1970	98.5	2000	1970	98.5	2000	1980	99.0
Barium	2000	2010	100.5	2000	2020	101.0	2000	2030	101.5
Beryllium	2000	2040	102.0	2000	2040	102.0	2000	2050	102.5
Cadmium	2000	2000	100.0	2000	2010	100.5	2000	2020	101.0
Calcium	40000	39800	99.5	40000	39600	99.0	40000	39900	99.8
Chromium	2000	2040	102.0	2000	2050	102.5	2000	2050	102.5
Cobalt	2000	2020	101.0	2000	2020	101.0	2000	2020	101.0
Copper	2000	1950	97.5	2000	1950	97.5	2000	1960	98.0
Iron	40000	41500	103.8	40000	41400	103.5	40000	41800	104.5
Lead	2000	1990	99.5	2000	2000	100.0	2000	2000	100.0
Magnesium	40000	39300	98.3	40000	39200	98.0	40000	39600	99.0
Manganese	2000	2020	101.0	2000	2030	101.5	2000	2030	101.5
Molybdenum	anr								
Nickel	2000	1970	98.5	2000	1980	99.0	2000	1990	99.5
Potassium	40000	39500	98.8	40000	39600	99.0	40000	39700	99.3
Selenium	2000	2000	100.0	2000	2000	100.0	2000	2000	100.0
Silver	250	257	102.8	250	258	103.2	250	258	103.2
Sodium	40000	39200	98.0	40000	39100	97.8	40000	39500	98.8
Strontium									
Thallium	2000	1990	99.5	2000	2000	100.0	2000	2000	100.0
Tin									
Titanium									
Vanadium	2000	2020	101.0	2000	2030	101.5	2000	2030	101.5
Zinc	2000	1970	98.5	2000	1980	99.0	2000	1990	99.5

(*) Outside of QC limits
(anr) Analyte not requested

HIGH STANDARD CHECK SUMMARY

Login Number: FA41687
Account: URSNEOM - AECOM, INC
Project: Hammond BGR; Hammond, LA

File ID: SA031717M1.ICP Date Analyzed: 03/17/17 Methods: SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA13903 Units: ug/l

Time:		09:49	
Sample ID:	HSTD	HSTD1	
Metal	True	Results	% Rec
Aluminum	80000	79500	99.4
Antimony	4000	4030	100.8
Arsenic	4000	4020	100.5
Barium	4000	3990	99.8
Beryllium	4000	3950	98.8
Cadmium	4000	3980	99.5
Calcium	80000	79700	99.6
Chromium	4000	3960	99.0
Cobalt	4000	3980	99.5
Copper	4000	4080	102.0
Iron	80000	77700	97.1
Lead	4000	4020	100.5
Magnesium	80000	80300	100.4
Manganese	4000	3970	99.3
Molybdenum	anr		
Nickel	4000	4000	100.0
Potassium	80000	80500	100.6
Selenium	4000	4000	100.0
Silver	500	500	100.0
Sodium	80000	79700	99.6
Strontium			
Thallium	4000	4040	101.0
Tin			
Titanium			
Vanadium	4000	3990	99.8
Zinc	4000	3990	99.8

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: FA41687
Account: URSNEOM - AECOM, INC
Project: Hammond BGR; Hammond, LA

File ID: SA031717M1.ICP Date Analyzed: 03/17/17 Methods: SW846 6010C
QC Limits: CRI 70-130% CRIA 70-130% Run ID: MA13903 Units: ug/l

Time:			10:03		20:51	
Sample ID:	CRI	CRIA	CRIA1		CRIA2	
Metal	True	True	Results	% Rec	Results	% Rec
Aluminum	400	200	195	97.5	214	107.0
Antimony	10	5.0	5.1	102.0	9.4	188.0*(a
Arsenic	20	10	10.5	105.0	19.6	196.0*(a
Barium	400	200	207	103.5	202	101.0
Beryllium	10	5.0	5.0	100.0	5.1	102.0
Cadmium	10	5.0	4.9	98.0	5.0	100.0
Calcium	2000	1000	1060	106.0	1030	103.0
Chromium	20	10	9.9	99.0	10.3	103.0
Cobalt	100	50	50.8	101.6	50.2	100.4
Copper	50	25	26.2	104.8	23.6	94.4
Iron	600	300	302	100.7	424	141.3*(a
Lead	10	5.0	4.6	92.0	5.3	106.0
Magnesium	10000	5000	5290	105.8	5090	101.8
Manganese	30	15	16.1	107.3	15.4	102.7
Molybdenum	100	50	anr			
Nickel	80	40	41.8	104.5	39.8	99.5
Potassium	20000	10000	10100	101.0	9980	99.8
Selenium	20	10	11.9	119.0	17.3	173.0*(a
Silver	20	10	8.3	83.0	7.8	78.0
Sodium	20000	10000	10200	102.0	10000	100.0
Strontium	20	10				
Thallium	20	10	9.3	93.0	9.9	99.0
Tin	100	50				
Titanium	20	10				
Vanadium	100	50	48.9	97.8	50.5	101.0
Zinc	40	20	21.5	107.5	20.2	101.0

(*) Outside of QC limits
(anr) Analyte not requested
(a) Possible instrument baseline drift.

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: FA41687
Account: URSNEOM - AECOM, INC
Project: Hammond BGR; Hammond, LA

File ID: SA031717M1.ICP Date Analyzed: 03/17/17 Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA13903 Units: ug/l

Time:			10:06		10:13		20:55		21:00	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1		ICSA2		ICSAB2	
Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	500000	500000	480000	96.0	478000	95.6	494000	98.8	490000	98.0
Antimony		1000	0.0		997	99.7	5.0		947	94.7
Arsenic		1000	0.0		1040	104.0	6.2		994	99.4
Barium		500	-0.20		502	100.4	0.0		483	96.6
Beryllium		500	-0.20		478	95.6	-0.10		466	93.2
Cadmium		1000	0.0		925	92.5	-0.90		883	88.3
Calcium	500000	500000	472000	94.4	470000	94.0	454000	90.8	449000	89.8
Chromium		500	-0.20		472	94.4	0.0		466	93.2
Cobalt		500	0.30		465	93.0	0.60		456	91.2
Copper		500	0.50		530	106.0	0.90		491	98.2
Iron	200000	200000	176000	88.0	173000	86.5	176000	88.0	173000	86.5
Lead		1000	-0.30		940	94.0	-7.2		911	91.1
Magnesium	500000	500000	507000	101.4	508000	101.6	481000	96.2	478000	95.6
Manganese		500	0.50		482	96.4	0.30		459	91.8
Molybdenum		1000	0.0		919	91.9	3.2		901	90.1
Nickel		1000	0.40		956	95.6	0.90		895	89.5
Potassium			56.3		41.3		93.1		82.0	
Selenium		1000	0.30		957	95.7	4.7		935	93.5
Silver		1000	-0.50		919	91.9	-0.90		931	93.1
Sodium			220		204		395		393	
Strontium		1000	-0.10		975	97.5	0.30		945	94.5
Thallium		1000	0.0		945	94.5	-2.5		910	91.0
Tin		1000	3.2		953	95.3	2.8		866	86.6
Titanium		1000	-1.1		950	95.0	0.50		900	90.0
Vanadium		500	-0.50		458	91.6	1.6		434	86.8
Zinc		1000	3.0		932	93.2	0.50		861	86.1

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: FA41687
Account: URSNEOM - AECOM, INC
Project: Hammond BGR; Hammond, LA

QC Batch ID: MP31801 Methods: SW846 7471B
Matrix Type: SOLID Units: mg/kg

Prep Date: 03/17/17

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.042	.0025	.0042	0.0041	<0.042

Associated samples MP31801: FA41687-1, FA41687-2, FA41687-3, FA41687-4, FA41687-5, FA41687-6, FA41687-7, FA41687-8, FA41687-9, FA41687-10, FA41687-11, FA41687-12

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: FA41687
Account: URSNEOM - AECOM, INC
Project: Hammond BGR; Hammond, LA

QC Batch ID: MP31801
Matrix Type: SOLID

Methods: SW846 7471B
Units: mg/kg

Prep Date:			03/17/17				03/17/17		
Metal	FA41687-5 Original	DUP	RPD	QC Limits	FA41687-5 Original	MS	Spikelot HGFLWS1	% Rec	QC Limits
Mercury	0.030	0.018	50.0 (a)	0-20	0.030	0.30	0.304	88.9	80-120

Associated samples MP31801: FA41687-1, FA41687-2, FA41687-3, FA41687-4, FA41687-5, FA41687-6, FA41687-7, FA41687-8, FA41687-9, FA41687-10, FA41687-11, FA41687-12

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) RPD acceptable due to low duplicate and sample concentrations.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: FA41687
Account: URSNEOM - AECOM, INC
Project: Hammond BGR; Hammond, LA

QC Batch ID: MP31801 Methods: SW846 7471B
Matrix Type: SOLID Units: mg/kg

Prep Date: 03/17/17

Metal	FA41687-5 Original	MSD	Spikelot HGFLWS1	% Rec	MSD RPD	QC Limit
Mercury	0.030	0.32	0.299	97.0	6.5	20

Associated samples MP31801: FA41687-1, FA41687-2, FA41687-3, FA41687-4, FA41687-5, FA41687-6, FA41687-7, FA41687-8, FA41687-9, FA41687-10, FA41687-11, FA41687-12

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: FA41687
Account: URSNEOM - AECOM, INC
Project: Hammond BGR; Hammond, LA

QC Batch ID: MP31801
Matrix Type: SOLID

Methods: SW846 7471B
Units: mg/kg

Prep Date: 03/17/17

Metal	BSP Result	Spikelot HGFLWS1	% Rec	QC Limits
Mercury	0.26	0.25	104.0	80-120

Associated samples MP31801: FA41687-1, FA41687-2, FA41687-3, FA41687-4, FA41687-5, FA41687-6, FA41687-7, FA41687-8, FA41687-9, FA41687-10, FA41687-11, FA41687-12

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: FA41687
Account: URSNEOM - AECOM, INC
Project: Hammond BGR; Hammond, LA

QC Batch ID: MP31801
Matrix Type: SOLID

Methods: SW846 7471B
Units: ug/l

Prep Date: 03/17/17

Metal	FA41687-5 Original	SDL 1:5	%DIF	QC Limits
Mercury	0.294	0.294	0.0	0-10

Associated samples MP31801: FA41687-1, FA41687-2, FA41687-3, FA41687-4, FA41687-5, FA41687-6, FA41687-7, FA41687-8, FA41687-9, FA41687-10, FA41687-11, FA41687-12

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: FA41687
Account: URSNEOM - AECOM, INC
Project: Hammond BGR; Hammond, LA

QC Batch ID: MP31806 Methods: SW846 6010C
Matrix Type: SOLID Units: mg/kg

Prep Date: 03/17/17

Metal	RL	IDL	MDL	MB raw	final
Aluminum	10	.7	1.8	0.83	<10
Antimony	1.0	.05	.065	0.015	<1.0
Arsenic	0.50	.065	.1	0.0050	<0.50
Barium	10	.05	.05	0.0050	<10
Beryllium	0.25	.01	.025	0.0	<0.25
Cadmium	0.20	.01	.025	0.0	<0.20
Calcium	250	2.5	2.5	0.77	<250
Chromium	0.50	.05	.05	0.025	<0.50
Cobalt	2.5	.01	.025	-0.0050	<2.5
Copper	1.3	.05	.05	-0.020	<1.3
Iron	15	.85	.85	2.1	<15
Lead	1.0	.05	.05	0.040	<1.0
Magnesium	250	1.8	1.8	0.55	<250
Manganese	0.75	.025	.025	0.025	<0.75
Molybdenum	2.5	.015	.025		
Nickel	2.0	.02	.025	0.010	<2.0
Potassium	500	10	10	2.4	<500
Selenium	1.0	.12	.12	0.055	<1.0
Silver	0.50	.035	.041	-0.010	<0.50
Sodium	500	25	25	5.0	<500
Strontium	0.50	.025	.025		
Thallium	0.50	.055	.055	-0.030	<0.50
Tin	2.5	.045	.045		
Titanium	0.50	.025	.025		
Vanadium	2.5	.025	.025	-0.0050	<2.5
Zinc	1.0	.15	.15	0.085	<1.0

Associated samples MP31806: FA41687-1, FA41687-2, FA41687-3, FA41687-4, FA41687-5, FA41687-6, FA41687-7, FA41687-8, FA41687-9, FA41687-10, FA41687-11, FA41687-12

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: FA41687
Account: URSNEOM - AECOM, INC
Project: Hammond BGR; Hammond, LA

QC Batch ID: MP31806
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date:			03/17/17					03/17/17	
Metal	FA41687-5 Original	DUP	RPD	QC Limits	FA41687-5 Original	MS	Spikelot MPFLICP2	% Rec	QC Limits
Aluminum	3400	3520	3.5	0-20	3400	5400	1720	116.0	80-120
Antimony	0.0	0.0	NC	0-20	0.0	11.7	31.9	36.6N(a)	80-120
Arsenic	1.2	1.1	8.7	0-20	1.2	107	128	82.8	80-120
Barium	24.0	23.5	2.1	0-20	24.0	136	128	87.7	80-120
Beryllium	0.12	0.12	0.0	0-20	0.12	3.0	3.19	90.2	80-120
Cadmium	0.0	0.0	NC	0-20	0.0	2.7	3.19	84.5	80-120
Calcium	26.9	29.5	9.2	0-20	26.9	1470	1600	90.4	80-120
Chromium	4.4	4.7	6.6	0-20	4.4	15.8	12.8	89.2	80-120
Cobalt	0.47	0.51	8.2	0-20	0.47	28.0	31.9	86.2	80-120
Copper	0.76	0.76	0.0	0-20	0.76	14.6	16	86.7	80-120
Iron	2980	2760	7.7	0-20	2980	4210	1660	74.1N(a)	80-120
Lead	4.5	4.4	2.2	0-20	4.5	33.5	31.9	90.8	80-120
Magnesium	113	119	5.2	0-20	113	1510	1600	87.5	80-120
Manganese	14.2	14.6	2.8	0-20	14.2	39.3	31.9	78.6N(a)	80-120
Molybdenum									
Nickel	0.97	1.0	3.0	0-20	0.97	28.6	31.9	86.5	80-120
Potassium	64.3	66.6	3.5	0-20	64.3	1490	1600	89.3	80-120
Selenium	0.0	0.0	NC	0-20	0.0	106	128	83.0	80-120
Silver	0.0	0.0	NC	0-20	0.0	2.5	3.19	78.3N(a)	80-120
Sodium	0.00	0.00	NC	0-20	0.00	1430	1600	89.6	80-120
Strontium									
Thallium	0.0	0.0	NC	0-20	0.0	116	128	90.8	80-120
Tin									
Titanium									
Vanadium	8.9	9.0	1.1	0-20	8.9	35.4	31.9	83.0	80-120
Zinc	2.5	2.6	3.9	0-20	2.5	29.8	31.9	85.5	80-120

Associated samples MP31806: FA41687-1, FA41687-2, FA41687-3, FA41687-4, FA41687-5, FA41687-6, FA41687-7, FA41687-8, FA41687-9, FA41687-10, FA41687-11, FA41687-12

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike recovery indicates possible matrix interference and/or sample non-homogeneity.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: FA41687
Account: URSNEOM - AECOM, INC
Project: Hammond BGR; Hammond, LA

QC Batch ID: MP31806
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 03/17/17

Metal	FA41687-5 Original	MSD	Spikelot MPFLICP2	% Rec	MSD RPD	QC Limit
Aluminum	3400	5190	1630	109.8	4.0	20
Antimony	0.0	10.5	30.2	34.8N(a)	10.8	20
Arsenic	1.2	99.9	121	81.8	6.9	20
Barium	24.0	128	121	86.2	6.1	20
Beryllium	0.12	2.8	3.02	88.8	6.9	20
Cadmium	0.0	2.5	3.02	82.8	7.7	20
Calcium	26.9	1370	1510	89.0	7.0	20
Chromium	4.4	14.8	12.1	86.2	6.5	20
Cobalt	0.47	26.1	30.2	84.9	7.0	20
Copper	0.76	13.6	15.1	85.1	7.1	20
Iron	2980	4220	1570	79.0N(a)	0.2	20
Lead	4.5	31.9	30.2	90.8	4.9	20
Magnesium	113	1420	1510	86.6	6.1	20
Manganese	14.2	37.3	30.2	76.5N(a)	5.2	20
Molybdenum						
Nickel	0.97	26.7	30.2	85.3	6.9	20
Potassium	64.3	1390	1510	87.9	6.9	20
Selenium	0.0	98.7	121	81.8	7.1	20
Silver	0.0	2.4	3.02	79.5N(a)	4.1	20
Sodium	0.00	1330	1510	88.1	7.2	20
Strontium						
Thallium	0.0	110	121	91.1	5.3	20
Tin						
Titanium						
Vanadium	8.9	32.8	30.2	79.2N(a)	7.6	20
Zinc	2.5	27.7	30.2	83.5	7.3	20

Associated samples MP31806: FA41687-1, FA41687-2, FA41687-3, FA41687-4, FA41687-5, FA41687-6, FA41687-7, FA41687-8, FA41687-9, FA41687-10, FA41687-11, FA41687-12

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike recovery indicates possible matrix interference and/or sample non-homogeneity.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: FA41687
Account: URSNEOM - AECOM, INC
Project: Hammond BGR; Hammond, LA

QC Batch ID: MP31806
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 03/17/17

Metal	BSP Result	Spikelot MPFLICP2	% Rec	QC Limits
Aluminum	1360	1350	100.7	80-120
Antimony	23.8	25	95.2	80-120
Arsenic	95.6	100	95.6	80-120
Barium	98.8	100	98.8	80-120
Beryllium	2.5	2.5	100.0	80-120
Cadmium	2.4	2.5	96.0	80-120
Calcium	1250	1250	100.0	80-120
Chromium	9.9	10	99.0	80-120
Cobalt	24.1	25	96.4	80-120
Copper	11.9	12.5	95.2	80-120
Iron	1310	1300	100.8	80-120
Lead	23.5	25	94.0	80-120
Magnesium	1220	1250	97.6	80-120
Manganese	24.6	25	98.4	80-120
Molybdenum				
Nickel	24.2	25	96.8	80-120
Potassium	1240	1250	99.2	80-120
Selenium	95.2	100	95.2	80-120
Silver	2.2	2.5	88.0	80-120
Sodium	1210	1250	96.8	80-120
Strontium				
Thallium	94.0	100	94.0	80-120
Tin				
Titanium				
Vanadium	23.1	25	92.4	80-120
Zinc	23.8	25	95.2	80-120

Associated samples MP31806: FA41687-1, FA41687-2, FA41687-3, FA41687-4, FA41687-5, FA41687-6, FA41687-7, FA41687-8, FA41687-9, FA41687-10, FA41687-11, FA41687-12

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: FA41687
Account: URSNEOM - AECOM, INC
Project: Hammond BGR; Hammond, LA

QC Batch ID: MP31806
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date: 03/17/17

Metal	FA41687-5 Original	SDL 1:5	%DIF	QC Limits
Aluminum	53800	55600	3.4	0-10
Antimony	0.00	5.00	NC	0-10
Arsenic	18.4	15.5	15.8 (a)	0-10
Barium	380	388	2.0	0-10
Beryllium	1.90	1.60	15.8 (a)	0-10
Cadmium	0.00	0.00	NC	0-10
Calcium	425	461	8.5	0-10
Chromium	69.3	71.8	3.6	0-10
Cobalt	7.50	7.60	1.3	0-10
Copper	12.0	11.1	7.5	0-10
Iron	47100	49300	4.5	0-10
Lead	71.2	72.5	1.8	0-10
Magnesium	1790	1860	3.4	0-10
Manganese	225	234	3.8	0-10
Molybdenum				
Nickel	15.3	16.1	5.2	0-10
Potassium	1020	1240	21.8 (a)	0-10
Selenium	0.00	0.00	NC	0-10
Silver	0.00	0.00	NC	0-10
Sodium	0.00	0.00	NC	0-10
Strontium				
Thallium	0.00	0.00	NC	0-10
Tin				
Titanium				
Vanadium	140	146	3.7	0-10
Zinc	39.2	55.6	41.8 (a)	0-10

Associated samples MP31806: FA41687-1, FA41687-2, FA41687-3, FA41687-4, FA41687-5, FA41687-6, FA41687-7, FA41687-8, FA41687-9, FA41687-10, FA41687-11, FA41687-12

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

POST DIGESTATE SPIKE SUMMARY

Login Number: FA41687
Account: URSNEOM - AECOM, INC
Project: Hammond BGR; Hammond, LA

QC Batch ID: MP31806
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date: 03/17/17

Metal	Sample ml	Final ml	FA41687-5 Raw	Corr.**	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits
Aluminum	9.8	10	53790	52714.2	55110	0.2	125	2500	95.8	80-120
Antimony	9.8	10			88.2	0.2	5	100	88.2	80-120
Arsenic	9.8	10	18.4	18.032	103.4	0.2	5	100	85.4	80-120
Barium	9.8	10	379.9	372.302	589.2	0.2	12.5	250	86.8	80-120
Beryllium	9.8	10	1.9	1.862	45.4	0.2	2.5	50	87.1	80-120
Cadmium	9.8	10			41.4	0.2	2.5	50	82.8	80-120
Calcium	9.8	10	425	416.5	4837	0.2	250	5000	88.4	80-120
Chromium	9.8	10	69.3	67.914	111.9	0.2	2.5	50	88.0	80-120
Cobalt	9.8	10	7.5	7.35	49.5	0.2	2.5	50	84.3	80-120
Copper	9.8	10	12	11.76	95.1	0.2	5	100	83.3	80-120
Iron	9.8	10	47130	46187.4	48870	0.2	150	3000	89.4	80-120
Lead	9.8	10	71.2	69.776	113.8	0.2	2.5	50	88.0	80-120
Magnesium	9.8	10	1794	1758.12	6041	0.2	250	5000	85.7	80-120
Manganese	9.8	10	225.2	220.696	261.8	0.2	2.5	50	82.2	80-120
Molybdenum										
Nickel	9.8	10	15.3	14.994	97.8	0.2	5	100	82.8	80-120
Potassium	9.8	10	1016	995.68	9381	0.2	500	10000	83.9	80-120
Selenium	9.8	10			82.4	0.2	5	100	82.4	80-120
Silver	9.8	10			38.8	0.2	2.5	50	77.6*(a)	80-120
Sodium	9.8	10			8678	0.2	500	10000	86.8	80-120
Strontium										
Thallium	9.8	10			84.3	0.2	5	100	84.3	80-120
Tin										
Titanium										
Vanadium	9.8	10	140.3	137.494	178.7	0.2	2.5	50	82.4	80-120
Zinc	9.8	10	39.2	38.416	247	0.2	12.5	250	83.4	80-120

Associated samples MP31806: FA41687-1, FA41687-2, FA41687-3, FA41687-4, FA41687-5, FA41687-6, FA41687-7, FA41687-8, FA41687-9, FA41687-10, FA41687-11, FA41687-12

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested
(a) Spike recovery indicates matrix interference and/or outside control limits due to high level in sample relative to spike amount.

Instrument Detection Limits

Job Number: FA41687
Account: URSNEOM AECOM, INC
Project: Hammond BGR; Hammond, LA

Instrument ID: LEEMANHG5 **Effective Date:** 10/01/12

Analyte	IDL ug/l
Mercury	.03

The above applies to the following instrument runs:
MA13902

Instrument Detection Limits

Job Number: FA41687
Account: URSNEOM AECOM, INC
Project: Hammond BGR; Hammond, LA

Instrument ID: SSTRACE1 **Effective Date:** 01/27/15

Analyte	IDL ug/l
Aluminum	14
Antimony	1
Arsenic	1.3
Barium	1
Beryllium	.2
Cadmium	.2
Calcium	50
Chromium	1
Cobalt	.2
Copper	1
Iron	17
Lead	1
Magnesium	35
Manganese	.5
Molybdenum	.3
Nickel	.4
Potassium	200
Selenium	2.4
Silicon	5
Silver	.7
Sodium	500
Strontium	.5
Sulfur	5
Thallium	1.1
Tin	.9
Titanium	.5
Vanadium	.5
Zinc	3

The above applies to the following instrument runs:
MA13903

Instrument Linear Ranges

Job Number: FA41687
Account: URSNEOM AECOM, INC
Project: Hammond BGR; Hammond, LA

Instrument ID: SSTRACE1 **Effective Date:** 08/13/13

Analyte	Linear Range ug/l
Aluminum	500000
Antimony	10000
Arsenic	10000
Barium	10000
Beryllium	10000
Cadmium	10000
Calcium	500000
Chromium	10000
Cobalt	10000
Copper	10000
Iron	500000
Lead	10000
Magnesium	500000
Manganese	10000
Molybdenum	10000
Nickel	10000
Potassium	80000
Selenium	10000
Silver	1000
Sodium	80000
Strontium	10000
Sulfur	10000
Thallium	10000
Tin	10000
Titanium	10000
Vanadium	10000
Zinc	10000

The above applies to the following instrument runs:
MA13903

Metals Analysis

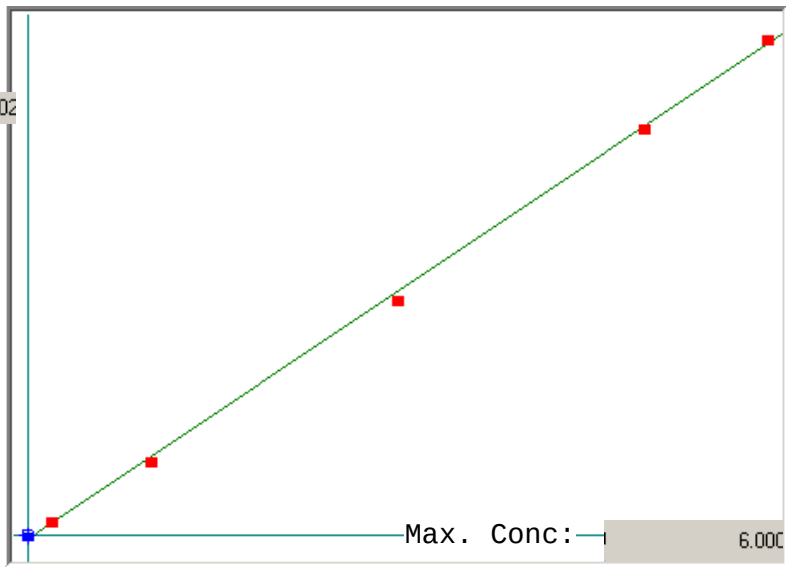
Raw Data

Hg7470/EPA245.1 HG5

Linear

μ Abs.:

49202



A= 0.0000e+000

B= 1.2207e-004

C= 5.3130e-002

Rho= 0.9997426

Accept= Accepted

Accepted Date=

03/17/17 10:58

9.1

9

Std ID	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
blank	0.000	0.060	0.060	56	0.000	56				
0.2ppb	0.200	0.222	0.022	1386	0.0 %	1386				
1.0ppb	1.000	0.960	-0.040	7429	0.0 %	7429				
3.0ppb	3.000	2.915	-0.085	23441	0.0 %	23441				
5.0ppb	5.000	4.984	-0.016	40396	0.0 %	40396				
6.0ppb	6.000	6.059	0.059	49202	0.0 %	49202				

Method: Hg7470/EPA245.1 HG5 Operator: Admin Date of Analysis: 17 Mar 2017 10:04:34

Sample ID	Date	Type	Units	Conc.	µ Abs.	Wt.	Vol.
blank - 1	17 Mar 2017 10:48:56	S		-	56	1.000	1.000
0.2ppb - 1	17 Mar 2017 10:50:12	S		-	1386	1.000	1.000
1.0ppb - 1	17 Mar 2017 10:51:30	S		-	7429	1.000	1.000
3.0ppb - 1	17 Mar 2017 10:52:57	S		-	23441	1.000	1.000
5.0ppb - 1	17 Mar 2017 10:54:36	S		-	40396	1.000	1.000
6.0ppb - 1	17 Mar 2017 10:56:28	S		-	49202	1.000	1.000
HSTD - 1	17 Mar 2017 10:58:22	C		101.4% 6.0818	49388	1.000	1.000
ICV - 1	17 Mar 2017 11:00:21	C		100.0% 3.0011	24150	1.000	1.000
ICB - 1	17 Mar 2017 11:02:19	C		0.0182	-286	1.000	1.000
CRI - 1	17 Mar 2017 11:04:11	C		114.1% 0.2283	1435	1.000	1.000
CCV - 1	17 Mar 2017 11:05:28	C		100.0% 3.0000	24141	1.000	1.000
CCB - 1	17 Mar 2017 11:06:53	C		0.0220	-255	1.000	1.000
MP31801-MB1 - 1	17 Mar 2017 11:08:45	U		0.0497	-28	1.000	1.000
MP31801-B1 - 1	17 Mar 2017 11:10:01	U		3.0762	24766	1.000	1.000
FA41687-5 - 1	17 Mar 2017 11:11:16	U		0.2943	1976	1.000	1.000
MP31801-D1 - 1	17 Mar 2017 11:13:08	U		0.1784	1026	1.000	1.000
MP31801-SD1 - 1	17 Mar 2017 11:14:40	U		0.2943	47	1.000	5.000
MP31801-S1 - 1	17 Mar 2017 11:16:08	U		2.9934	24087	1.000	1.000
MP31801-S2 - 1	17 Mar 2017 11:17:24	U		3.2093	25856	1.000	1.000
FA41687-1 - 1	17 Mar 2017 11:19:16	U		0.1928	1144	1.000	1.000
FA41687-2 - 1	17 Mar 2017 11:21:08	U		0.3749	2636	1.000	1.000
FA41687-3 - 1	17 Mar 2017 11:22:37	U		0.6469	4864	1.000	1.000
CCV - 1	17 Mar 2017 11:24:12	C		98.4% 2.9506	23737	1.000	1.000
CCB - 1	17 Mar 2017 11:25:49	C		0.0266	-217	1.000	1.000
FA41687-4 - 1	17 Mar 2017 11:27:42	U		0.2838	1890	1.000	1.000
FA41687-6 - 1	17 Mar 2017 11:28:59	U		0.3419	2366	1.000	1.000
FA41687-7 - 1	17 Mar 2017 11:30:29	U		0.3119	2120	1.000	1.000
FA41687-8 - 1	17 Mar 2017 11:32:00	U		0.2334	1477	1.000	1.000
FA41687-9 - 1	17 Mar 2017 11:33:33	U		0.3635	2543	1.000	1.000
FA41687-10 - 1	17 Mar 2017 11:35:03	U		0.3737	2626	1.000	1.000
FA41687-11 - 1	17 Mar 2017 11:36:36	U		0.3451	2392	1.000	1.000
FA41687-12 - 1	17 Mar 2017 11:38:10	U		0.2851	1900	1.000	1.000
FA42051-1 - 1	17 Mar 2017 11:39:43	U		0.0712	148	1.000	1.000
FA42052-1 - 1	17 Mar 2017 11:41:15	U		0.1044	420	1.000	1.000
CCV - 1	17 Mar 2017 11:42:33	C		96.1% 2.8817	23172	1.000	1.000
CCB - 1	17 Mar 2017 11:43:54	C		0.0241	-238	1.000	1.000
FA42052-2 - 1	17 Mar 2017 11:45:45	U		0.4097	2921	1.000	1.000
FA42052-3 - 1	17 Mar 2017 11:47:01	U		0.2121	1302	1.000	1.000
FA42052-4 - 1	17 Mar 2017 11:48:34	U		0.1350	671	1.000	1.000
FA42052-5 - 1	17 Mar 2017 11:50:02	U		0.1026	405	1.000	1.000
FA41733-2R - 1	17 Mar 2017 11:51:23	U		0.7366	5599	1.000	1.000
FA41733-3R - 1	17 Mar 2017 11:52:41	U		0.7523	5728	1.000	1.000
MP31803-MB1 - 1	17 Mar 2017 11:54:21	U		0.0196	-275	1.000	1.000
MP31803-B1 - 1	17 Mar 2017 11:56:02	U		2.9476	23712	1.000	1.000
FA41730-2 - 1	17 Mar 2017 11:57:18	U		0.1232	574	1.000	1.000
MP31803-D1 - 1	17 Mar 2017 11:59:09	U		0.1067	439	1.000	1.000
CCV - 1	17 Mar 2017 12:00:31	C		95.3% 2.8579	22977	1.000	1.000
CCB - 1	17 Mar 2017 12:01:54	C		0.0281	-205	1.000	1.000
MP31803-D2 - 1	17 Mar 2017 12:03:45	U		0.1603	878	1.000	1.000
MP31803-SD1 - 1	17 Mar 2017 12:05:01	U		0.1002	-271	1.000	5.000
MP31803-S1 - 1	17 Mar 2017 12:06:25	U		3.0334	24415	1.000	1.000
MP31803-S2 - 1	17 Mar 2017 12:07:41	U		3.1269	25181	1.000	1.000
FA41730-3 - 1	17 Mar 2017 12:09:31	U		0.1603	878	1.000	1.000
FA41730-4 - 1	17 Mar 2017 12:11:24	U		0.1230	572	1.000	1.000
FA41730-5 - 1	17 Mar 2017 12:12:50	U		0.1510	802	1.000	1.000
FA41762-2 - 1	17 Mar 2017 12:14:16	U		0.1315	642	1.000	1.000
FA41762-3 - 1	17 Mar 2017 12:15:42	U		0.1251	590	1.000	1.000
FA41762-4 - 1	17 Mar 2017 12:17:07	U		0.0959	350	1.000	1.000
CCV - 1	17 Mar 2017 12:18:30	C		95.8% 2.8736	23106	1.000	1.000
CCB - 1	17 Mar 2017 12:19:48	C		0.0314	-178	1.000	1.000
FA41762-5 - 1	17 Mar 2017 12:21:41	U		0.1803	1042	1.000	1.000
FA41762-6 - 1	17 Mar 2017 12:22:57	U		0.1284	617	1.000	1.000
FA41762-7 - 1	17 Mar 2017 12:24:23	U		0.1232	574	1.000	1.000
MP31805-MB1 - 1	17 Mar 2017 12:25:46	U		0.0193	-277	1.000	1.000
MP31805-B1 - 1	17 Mar 2017 12:27:09	U		2.9948	24099	1.000	1.000
FA41733-4R - 1	17 Mar 2017 12:28:26	U		0.7669	5847	1.000	1.000
MP31805-D1 - 1	17 Mar 2017 12:30:16	U		0.7007	5305	1.000	1.000
MP31805-SD1 - 1	17 Mar 2017 12:31:58	U		0.6923	699	1.000	5.000
MP31805-S1 - 1	17 Mar 2017 12:33:37	U		3.5484	28634	1.000	1.000

Method: Hg7470/EPA245.1 HG5 Operator: Admin Date of Analysis: 17 Mar 2017 10:04:34

Sample ID	Date	Type	Units	Conc.	µ Abs.	Wt.	Vol.
MP31805-S2 - 1	17 Mar 2017 12:35:02	U		3.7243	30075	1.000	1.000
CCV - 1	17 Mar 2017 12:36:55	C		97.7% 2.9300	23568	1.000	1.000
CCB - 1	17 Mar 2017 12:38:47	C		0.0294	-194	1.000	1.000
FA42090-1 - 1	17 Mar 2017 12:40:41	U		0.2166	1339	1.000	1.000
FA42090-2 - 1	17 Mar 2017 12:41:57	U		0.4232	3032	1.000	1.000
FA42090-3 - 1	17 Mar 2017 12:43:28	U		0.3701	2597	1.000	1.000
FA42090-4 - 1	17 Mar 2017 12:45:07	U		0.4080	2907	1.000	1.000
FA42090-5 - 1	17 Mar 2017 12:46:43	U		0.1780	1023	1.000	1.000
FA42090-6 - 1	17 Mar 2017 12:48:21	U		0.2023	1222	1.000	1.000
FA42090-7 - 1	17 Mar 2017 12:49:51	U		0.3450	2391	1.000	1.000
FA42090-8 - 1	17 Mar 2017 12:51:22	U		0.4174	2984	1.000	1.000
FA42090-9 - 1	17 Mar 2017 12:52:58	U		0.4335	3116	1.000	1.000
FA42063-1 - 1	17 Mar 2017 12:54:34	U		12.7011	103615	1.000	1.000
CCV - 1	17 Mar 2017 12:56:13	C		97.9% 2.9372	23627	1.000	1.000
CCB - 1	17 Mar 2017 12:58:15	C		0.0264	-219	1.000	1.000
FA42063-2 - 1	17 Mar 2017 13:00:07	U		0.7880	6020	1.000	1.000
FA42064-1 - 1	17 Mar 2017 13:01:23	U		28.4202	232389	1.000	1.000
FA42063-1 - 1	17 Mar 2017 13:15:51	U		11.2053	17924	1.000	5.000
FA42064-1 - 1	17 Mar 2017 13:17:07	U		25.6808	20603	1.000	10.000
CRI - 1	17 Mar 2017 13:19:01	U		0.1870	1097	1.000	1.000
CCV - 1	17 Mar 2017 13:20:54	C		99.5% 2.9852	24020	1.000	1.000
CCB - 1	17 Mar 2017 13:22:20	C		0.0233	-244	1.000	1.000

Zoom In ▶ Zoom Out

Sample Name: Blank Acquired: 3/17/2017 9:34:04 Type: Cal
Method: 60102007_042011(v473) Mode: IR Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.0005**	**.0038**	**-.0010**	**.0038**	**.0005**	**.0047**	**.0001**	**-.0003**	**-.0001**
Stddev	.0002	.0007	.0001	.0012	.0002	.0001	.0004	.0006	.0001
%RSD	41.00	19.64	10.85	31.17	37.58	2.721	399.7	193.4	55.32
#1	.0006	.0042	-.0009	.0025	.0007	.0047	-.0003	-.0010	-.0002
#2	.0003	.0041	-.0011	.0048	.0004	.0045	.0000	.0000	-.0001
#3	.0007	.0029	-.0009	.0040	.0004	.0048	.0005	.0001	-.0001

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.0036**	**.0018**	**-.0037**	**-.0004**	**.0008**	**.0029**	**.0043**	**.0004**	**-.0014**
Stddev	.0002	.0003	.0009	.0004	.0000	.0001	.0016	.0005	.0001
%RSD	6.654	15.83	23.92	84.94	5.366	2.350	36.09	114.8	8.238
#1	.0035	.0021	-.0027	-.0006	.0009	.0029	.0037	-.0001	-.0015
#2	.0034	.0016	-.0039	-.0007	.0009	.0029	.0061	.0005	-.0013
#3	.0039	.0017	-.0044	.0000	.0008	.0028	.0032	.0008	-.0015

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.0001**	**-.0011**	**.0059**	**.0004**	**-.0007**	**.0019**	**-.0018**	**-.0013**	**.0026**
Stddev	.0001	.0000	.0001	.0001	.0004	.0002	.0002	.0001	.0002
%RSD	119.9	3.824	2.519	14.66	60.86	11.73	9.498	11.31	8.142
#1	.0000	-.0011	.0058	.0004	-.0008	.0019	-.0020	-.0012	.0024
#2	.0002	-.0012	.0061	.0005	-.0011	.0017	-.0017	-.0014	.0026
#3	.0002	-.0011	.0058	.0004	-.0002	.0021	-.0017	-.0012	.0029

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2171.8**	**4902.6**	**34796.**	**7020.0**
Stddev	5.5	13.2	138.	46.5
%RSD	.25288	.26873	.39673	.66201
#1	2173.1	4906.7	34894.	7017.5
#2	2176.6	4913.1	34855.	6974.8
#3	2165.8	4887.8	34638.	7067.6

◀ Zoom In ▶ Zoom Out

Sample Name: LowStd Acquired: 3/17/2017 9:37:33 Type: Cal
Method: 60102007_042011(v473) Mode: IR Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.0363**	**1.409**	**.1031**	**3.626**	**4.677**	**2.710**	**2.679**	**1.336**	**.2538**
Stddev	.0005	.006	.0003	.007	.012	.010	.003	.002	.0004
%RSD	1.433	.4169	.3259	.1857	.2473	.3678	.0999	.1508	.1670
#1	.0369	1.412	.1034	3.623	4.690	2.720	2.679	1.337	.2537
#2	.0360	1.413	.1032	3.634	4.674	2.700	2.681	1.338	.2543
#3	.0361	1.402	.1028	3.622	4.667	2.709	2.676	1.334	.2534

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.4047**	**1.731**	**.7804**	**.2519**	**1.499**	**.4438**	**3.007**	**.8969**	**.5008**
Stddev	.0020	.001	.0012	.0017	.004	.0002	.004	.0010	.0014
%RSD	.4903	.0444	.1564	.6746	.2390	.0454	.1284	.1107	.2818
#1	.4070	1.732	.7797	.2515	1.503	.4441	3.009	.8966	.4997
#2	.4032	1.730	.7818	.2504	1.497	.4437	3.010	.8980	.5024
#3	.4039	1.731	.7796	.2538	1.497	.4437	3.003	.8960	.5004

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.1246**	**.0748**	**.2221**	**.2138**	**6.363**	**.8441**	**.1553**	**.3779**	**1.446**
Stddev	.0006	.0006	.0001	.0006	.017	.0005	.0004	.0017	.003
%RSD	.4840	.7950	.0572	.2632	.2602	.0553	.2735	.4434	.2348
#1	.1244	.0741	.2220	.2139	6.362	.8438	.1554	.3796	1.447
#2	.1253	.0753	.2222	.2143	6.380	.8447	.1549	.3762	1.449
#3	.1242	.0749	.2222	.2132	6.347	.8439	.1557	.3778	1.442

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2136.3**	**4836.6**	**34818.**	**7033.6**
Stddev	6.1	8.4	64.	16.5
%RSD	.28334	.17322	.18508	.23471
#1	2143.1	4842.1	34888.	7015.3
#2	2134.4	4840.8	34803.	7047.3
#3	2131.4	4827.0	34762.	7038.3

◀ Zoom In ▶ Zoom Out

Sample Name: MidStd Acquired: 3/17/2017 9:41:01 Type: Cal
Method: 60102007_042011(v473) Mode: IR Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.1535**	**5.296**	**.4274**	**14.58**	**18.59**	**10.15**	**10.74**	**5.399**	**1.012**
Stddev	.0008	.025	.0008	.04	.10	.06	.01	.003	.002
%RSD	.5369	.4772	.1987	.3034	.5296	.5804	.0593	.0574	.1823
#1	.1529	5.297	.4278	14.57	18.63	10.18	10.75	5.398	1.013
#2	.1532	5.321	.4264	14.63	18.66	10.18	10.75	5.402	1.013
#3	.1545	5.270	.4280	14.54	18.48	10.08	10.74	5.396	1.010

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**1.676**	**6.368**	**3.007**	**.9521**	**6.019**	**1.867**	**11.42**	**3.615**	**2.062**
Stddev	.004	.037	.012	.0094	.006	.003	.04	.005	.002
%RSD	.2091	.5749	.4008	.9912	.1067	.1725	.3125	.1404	.0706
#1	1.674	6.386	3.015	.9589	6.023	1.863	11.43	3.609	2.062
#2	1.674	6.391	3.013	.9562	6.011	1.869	11.45	3.619	2.064
#3	1.680	6.326	2.993	.9413	6.022	1.869	11.38	3.617	2.061

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.5138**	**.3095**	**1.364**	**.9084**	**26.62**	**3.596**	**.6535**	**1.602**	**5.786**
Stddev	.0006	.0010	.001	.0019	.11	.004	.0035	.003	.007
%RSD	.1178	.3313	.0427	.2047	.4077	.1199	.5331	.2082	.1246
#1	.5143	.3090	1.364	.9064	26.63	3.601	.6565	1.604	5.780
#2	.5131	.3088	1.363	.9101	26.72	3.594	.6544	1.599	5.794
#3	.5140	.3107	1.364	.9085	26.50	3.593	.6497	1.604	5.783

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2028.4**	**4671.0**	**34115.**	**6935.3**
Stddev	3.7	5.5	77.	75.6
%RSD	.18281	.11880	.22697	1.0907
#1	2024.3	4669.4	34165.	6878.3
#2	2031.5	4677.2	34154.	6906.4
#3	2029.3	4666.5	34026.	7021.1

◀ Zoom In ▶ Zoom Out

Sample Name: HighStd Acquired: 3/17/2017 9:45:28 Type: Cal
Method: 60102007_042011(v473) Mode: IR Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.2991**	**10.54**	**.8498**	**28.47**	**35.78**	**20.12**	**20.89**	**10.58**	**1.956**
Stddev	.0010	.03	.0023	.04	.11	.09	.04	.02	.001
%RSD	.3344	.3260	.2685	.1403	.3087	.4348	.1977	.2285	.0610
#1	.3003	10.52	.8489	28.44	35.73	20.10	20.88	10.58	1.957
#2	.2986	10.58	.8480	28.52	35.91	20.21	20.85	10.55	1.957
#3	.2985	10.52	.8524	28.46	35.71	20.04	20.93	10.60	1.955

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3.354**	**12.00**	**6.079**	**1.898**	**11.45**	**3.647**	**22.82**	**7.081**	**4.135**
Stddev	.010	.04	.021	.012	.03	.006	.05	.016	.008
%RSD	.2968	.3341	.3463	.6519	.2473	.1723	.2319	.2189	.1833
#1	3.358	11.99	6.062	1.902	11.43	3.647	22.78	7.074	4.129
#2	3.343	12.05	6.102	1.909	11.45	3.640	22.88	7.070	4.132
#3	3.362	11.97	6.072	1.885	11.48	3.653	22.80	7.098	4.143

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**1.022**	**.6134**	**1.732**	**1.750**	**49.69**	**6.914**	**1.317**	**3.069**	**11.22**
Stddev	.002	.0014	.005	.004	.45	.008	.006	.008	.02
%RSD	.2276	.2353	.2993	.2472	.9137	.1156	.4475	.2467	.1668
#1	1.021	.6123	1.728	1.748	49.33	6.913	1.310	3.073	11.22
#2	1.021	.6129	1.729	1.747	50.20	6.907	1.319	3.061	11.20
#3	1.025	.6151	1.737	1.755	49.53	6.923	1.322	3.074	11.24

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**1903.6**	**4487.9**	**33368.**	**6943.6**
Stddev	6.9	13.2	28.	49.8
%RSD	.36371	.29467	.08337	.71682
#1	1910.0	4494.3	33400.	6962.6
#2	1904.6	4496.8	33355.	6887.1
#3	1896.2	4472.7	33349.	6981.0

Zoom In Zoom Out

Sample Name: HSTD Acquired: 3/17/2017 9:49:28 Type: QC
Method: 60102007_042011(v473) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4997	79.45	4.015	3.987	3.950	79.67	3.976	3.980	3.964
Stddev	.0034	.30	.006	.013	.016	.40	.003	.002	.001
%RSD	.6825	.3715	.1499	.3267	.4114	.4994	.0720	.0378	.0340
#1	.5002	79.69	4.014	3.997	3.965	80.08	3.975	3.980	3.965
#2	.4960	79.12	4.010	3.972	3.933	79.29	3.975	3.981	3.962
#3	.5028	79.53	4.022	3.991	3.952	79.65	3.980	3.978	3.964
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.076	77.73	80.46	80.26	3.969	3.992	79.71	4.001	4.022
Stddev	.006	.40	.31	.35	.025	.002	.39	.003	.010
%RSD	.1513	.5129	.3857	.4325	.6311	.0415	.4871	.0794	.2440
#1	4.080	78.11	80.74	80.50	3.993	3.993	80.09	4.003	4.026
#2	4.080	77.31	80.13	79.86	3.943	3.991	79.31	3.997	4.028
#3	4.069	77.78	80.51	80.41	3.971	3.994	79.73	4.002	4.010
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.026	4.001	3.412	4.006	3.917	3.995	4.036	3.992	3.989
Stddev	.007	.008	.004	.007	.005	.004	.008	.008	.006
%RSD	.1814	.1929	.1252	.1829	.1259	.1083	.1928	.1942	.1583
#1	4.034	4.008	3.412	4.009	3.921	3.999	4.036	3.984	3.989
#2	4.023	3.993	3.407	3.998	3.919	3.997	4.044	4.000	3.982
#3	4.020	4.003	3.416	4.012	3.912	3.990	4.028	3.993	3.994
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: HSTD Acquired: 3/17/2017 9:49:28 Type: QC
Method: 60102007_042011(v473) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1904.3	4471.3	33140.	6917.3
Stddev	1.2	12.2	103.	52.6
%RSD	.06531	.27360	.31009	.76009
#1	1904.5	4472.3	33161.	6865.9
#2	1905.5	4483.0	33231.	6971.0
#3	1903.0	4458.6	33029.	6914.9

Zoom In Zoom Out

Sample Name: ICV Acquired: 3/17/2017 9:53:38 Type: QC
Method: 60102007_042011(v473) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2457	41.39	2.014	1.992	2.002	43.01	2.000	1.983	1.977
Stddev	.0006	.11	.002	.003	.003	.12	.002	.001	.005
%RSD	.2380	.2680	.0799	.1349	.1608	.2688	.0797	.0515	.2745
#1	.2456	41.50	2.013	1.994	2.005	43.14	2.000	1.983	1.984
#2	.2463	41.27	2.012	1.994	2.001	42.91	1.999	1.981	1.975
#3	.2451	41.39	2.015	1.989	1.999	42.99	2.002	1.983	1.973
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.994	40.85	41.99	43.10	2.026	1.925	41.37	2.004	1.959
Stddev	.005	.12	.01	.28	.003	.003	.07	.001	.004
%RSD	.2427	.2897	.0304	.6535	.1369	.1397	.1602	.0632	.2284
#1	1.999	40.98	41.98	43.41	2.022	1.922	41.45	2.003	1.963
#2	1.989	40.74	41.98	42.86	2.027	1.928	41.34	2.004	1.960
#3	1.993	40.85	42.00	43.01	2.027	1.925	41.33	2.005	1.954
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.998	2.002	.2452	2.001	1.973	1.987	2.031	1.994	2.016
Stddev	.004	.007	.0006	.003	.002	.004	.002	.003	.002
%RSD	.1728	.3754	.2475	.1338	.1233	.2055	.0809	.1718	.1001
#1	1.994	1.996	.2451	2.001	1.973	1.990	2.031	1.994	2.014
#2	2.001	2.000	.2458	1.998	1.975	1.982	2.033	1.990	2.015
#3	1.999	2.011	.2446	2.003	1.970	1.989	2.030	1.997	2.018
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ICV Acquired: 3/17/2017 9:53:38 Type: QC
Method: 60102007_042011(v473) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2017.0	4593.7	33613.	6944.4
Stddev	2.7	2.7	152.	73.8
%RSD	.13604	.05894	.45126	1.0623
#1	2015.3	4593.1	33535.	6869.0
#2	2015.5	4596.7	33788.	7016.4
#3	2020.2	4591.3	33516.	6947.9

Zoom In Zoom Out

Sample Name: ICB Acquired: 3/17/2017 9:59:25 Type: QC
Method: 60102007_042011(v473) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**-.0054**	**.0006**	**.0000**	**.0001**	**.0030**	**.0001**	**.0002**	**.0000**
Stddev	.0004	.0024	.0009	.000	.0000	.0041	.0001	.0001	.0003
%RSD	188.1	45.04	149.7	154.9	27.92	138.4	40.48	61.51	4886.
#1	-.0006	-.0026	.0008	.0000	.0001	.0018	.0001	.0001	.0002
#2	.0001	-.0070	.0014	-.0001	.0001	-.0005	.0002	.0003	.0001
#3	-.0001	-.0064	-.0004	.0000	.0001	.0075	.0002	.0002	-.0003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0009**	**.0015**	**.0133**	**.0132**	**.0002**	F **.0017**	**.0170**	**.0001**	**.0001**
Stddev	.0002	.0006	.0128	.0060	.0001	.0004	.0043	.0002	.0007
%RSD	17.02	41.82	96.01	45.49	37.84	22.71	25.05	107.5	479.5
#1	.0008	.0023	.0234	.0095	.0001	.0021	.0122	.0000	-.0006
#2	.0011	.0012	.0175	.0100	.0001	.0018	.0185	.0003	.0007
#3	.0008	.0011	-.0010	.0201	.0002	.0013	.0204	.0001	.0003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit						.0010			
Low Limit						-.0010			

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0006**	**.0012**	**.0007**	**.0002**	**.0002**	**.0003**	**.0018**	**.0002**	**.0002**
Stddev	.0008	.0010	.0003	.0001	.0001	.0000	.0011	.0002	.0001
%RSD	125.0	78.89	38.04	28.97	45.87	10.47	58.69	115.3	67.58
#1	.0010	.0012	.0004	.0003	.0001	.0003	.0031	.0003	.0000
#2	.0011	.0022	.0007	.0002	.0003	.0003	.0014	-.0001	.0003
#3	-.0003	.0003	.0009	.0002	.0003	.0003	.0011	.0003	.0002
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ICB Acquired: 3/17/2017 9:59:25 Type: QC
Method: 60102007_042011(v473) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2152.3**	**4752.0**	**33924.**	**7007.5**
Stddev	4.3	2.8	62.	25.3
%RSD	.19920	.05888	.18332	.36100
#1	2157.1	4754.5	33857.	7032.5
#2	2148.9	4749.0	33980.	6981.9
#3	2151.0	4752.6	33935.	7008.1

Zoom In Zoom Out

Sample Name: CRIA Acquired: 3/17/2017 10:03:05 Type: QC
Method: 60102007_042011(v473) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0083**	**.1949**	**.0105**	**.2069**	**.0050**	**1.055**	**.0049**	**.0508**	**.0099**
Stddev	.0001	.0096	.0005	.0002	.0000	.005	.0000	.0001	.0002
%RSD	1.652	4.922	4.654	.1189	.8190	.4452	.9608	.1199	2.393
#1	.0082	.1905	.0106	.2072	.0050	1.058	.0049	.0508	.0097
#2	.0083	.2059	.0109	.2069	.0050	1.057	.0050	.0507	.0098
#3	.0085	.1884	.0099	.2067	.0050	1.049	.0049	.0508	.0101
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0262**	**.3019**	**10.13**	**5.292**	**.0161**	**.0487**	**10.16**	**.0418**	**.0046**
Stddev	.0004	.0021	.02	.037	.0001	.0000	.02	.0001	.0003
%RSD	1.624	.7074	.2355	.7048	.5252	.0432	.2195	.3532	5.442
#1	.0257	.3043	10.13	5.271	.0162	.0487	10.14	.0418	.0049
#2	.0264	.3002	10.16	5.335	.0160	.0487	10.19	.0416	.0044
#3	.0265	.3013	10.11	5.271	.0162	.0486	10.16	.0419	.0046
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0051**	**.0119**	**.0348**	**.0536**	**.0101**	**.0103**	**.0093**	**.0489**	**.0215**
Stddev	.0016	.0022	.0002	.0001	.0001	.0002	.0008	.0003	.0001
%RSD	31.34	18.23	.4960	.2181	1.092	2.060	8.879	.7020	.5183
#1	.0062	.0130	.0347	.0536	.0101	.0101	.0091	.0493	.0216
#2	.0033	.0094	.0348	.0535	.0102	.0102	.0101	.0490	.0214
#3	.0059	.0132	.0350	.0537	.0100	.0105	.0085	.0486	.0215
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: CRIA Acquired: 3/17/2017 10:03:05 Type: QC
Method: 60102007_042011(v473) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2142.9**	**4728.7**	**33964.**	**7056.2**
Stddev	1.9	4.6	31.	26.9
%RSD	.08933	.09757	.08985	.38056
#1	2143.1	4734.1	33940.	7085.4
#2	2140.8	4726.2	33998.	7050.9
#3	2144.6	4725.9	33954.	7032.5

Zoom In Zoom Out

Sample Name: ICSA Acquired: 3/17/2017 10:06:42 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0005**	**479.6**	**.0000**	**-.0002**	**-.0002**	**471.8**	**.0000**	**.0003**	**-.0002**
Stddev	.0003	1.3	.001	.0002	.0000	.7	.0001	.0002	.0004
%RSD	73.15	.2768	2994.	108.2	18.53	.1432	504.2	58.23	240.5
#1	-.0007	480.4	.0009	-.0003	-.0002	472.6	-.0001	.0004	.0003
#2	-.0006	478.1	-.0007	-.0004	-.0002	471.5	.0000	.0001	-.0002
#3	-.0001	480.4	-.0003	.0000	-.0002	471.4	.0001	.0004	-.0006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0005**	**176.0**	**.0563**	**506.5**	**.0005**	**.0000**	**.2195**	**.0004**	**-.0003**
Stddev	.0000	.3	.0118	1.5	.0000	.0002	.0096	.0001	.0011
%RSD	7.207	.1526	20.92	.2966	2.090	1676.	4.394	32.34	411.4
#1	.0005	175.8	.0438	504.8	.0006	-.0002	.2086	.0003	-.0010
#2	.0005	176.0	.0671	506.8	.0005	.0001	.2269	.0006	.0010
#3	.0005	176.3	.0579	507.7	.0005	.0001	.2230	.0005	-.0008
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**.0003**	**.0117**	F **.0032**	**-.0001**	**-.0011**	**.0000**	**-.0005**	**.0030**
Stddev	.0012	.0030	.0006	.0008	.0002	.0001	.0033	.0002	.0002
%RSD	2744.	930.7	5.093	25.91	167.5	9.769	7418.	41.69	5.488
#1	.0007	.0014	.0118	.0040	-.0003	-.0012	.0027	-.0006	.0031
#2	-.0013	-.0031	.0123	.0032	-.0002	-.0010	-.0037	-.0006	.0031
#3	.0007	.0026	.0111	.0024	.0001	-.0011	.0011	-.0003	.0028
Check ?	Chk Pass	Chk Pass	None	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit				.0010					
Low Limit				-.0010					

Zoom In Zoom Out

Sample Name: ICSA Acquired: 3/17/2017 10:06:42 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**1864.1**	**4322.6**	**32073.**	**6747.6**
Stddev	1.7	4.7	75.	18.7
%RSD	.09105	.10840	.23339	.27764
#1	1865.7	4325.1	32033.	6726.4
#2	1864.3	4325.5	32026.	6754.4
#3	1862.3	4317.2	32159.	6761.9

Zoom In Zoom Out

Sample Name: ICSAB Acquired: 3/17/2017 10:13:09 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.9193**	**477.5**	**1.044**	**.5015**	**.4779**	**469.6**	**.9246**	**.4651**	**.4723**
Stddev	.0039	3.9	.003	.0016	.0016	3.4	.0008	.0009	.0012
%RSD	.4243	.8212	.3171	.3117	.3259	.7268	.0858	.2031	.2439
#1	.9227	473.7	1.041	.5031	.4793	472.3	.9238	.4641	.4732
#2	.9200	481.6	1.043	.5000	.4762	465.8	.9254	.4659	.4726
#3	.9150	477.1	1.048	.5013	.4782	470.8	.9245	.4655	.4710
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5299**	**172.7**	**.0413**	**507.6**	**.4822**	**.9185**	**.2042**	**.9555**	**.9397**
Stddev	.0007	.4	.0326	.3	.0013	.0014	.0057	.0027	.0021
%RSD	.1239	.2046	78.85	.0682	.2650	.1501	2.769	.2835	.2186
#1	.5303	173.0	.0779	507.9	.4825	.9171	.2009	.9525	.9418
#2	.5291	172.3	.0156	507.2	.4833	.9198	.2009	.9577	.9377
#3	.5302	172.8	.0303	507.6	.4808	.9186	.2107	.9563	.9397
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass
Value									
Range									

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.9969**	**.9566**	**.0585**	**.9533**	**.9750**	**.9499**	**.9453**	**.4575**	**.9324**
Stddev	.0082	.0043	.0016	.0020	.0020	.0018	.0028	.0014	.0013
%RSD	.8227	.4444	2.761	.2090	.2101	.1902	.2967	.2998	.1369
#1	.9876	.9528	.0592	.9511	.9752	.9518	.9485	.4575	.9327
#2	1.003	.9557	.0566	.9549	.9728	.9497	.9434	.4590	.9334
#3	1.000	.9612	.0596	.9538	.9769	.9482	.9441	.4562	.9309
Check ?	Chk Pass	Chk Pass	None	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ICSAB Acquired: 3/17/2017 10:13:09 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**1835.8**	**4311.0**	**32589.**	**6623.5**
Stddev	4.1	14.7	70.	18.6
%RSD	.22177	.33986	.21522	.28022
#1	1839.5	4327.9	32515.	6620.6
#2	1836.6	4301.5	32596.	6643.4
#3	1831.4	4303.5	32655.	6606.6

Zoom In Zoom Out

Sample Name: CCV Acquired: 3/17/2017 10:17:27 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2522	39.44	2.057	2.070	2.065	40.54	2.069	2.029	2.061
Stddev	.0022	.18	.008	.009	.006	.09	.006	.005	.007
%RSD	.8563	.4629	.3854	.4128	.2959	.2127	.2806	.2595	.3457
#1	.2546	39.40	2.049	2.067	2.068	40.56	2.063	2.023	2.067
#2	.2515	39.28	2.064	2.063	2.058	40.45	2.074	2.033	2.054
#3	.2504	39.63	2.059	2.080	2.068	40.62	2.071	2.031	2.063
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.101	41.01	40.40	41.13	2.107	2.045	40.26	2.086	2.010
Stddev	.005	.13	.13	.14	.003	.007	.13	.006	.003
%RSD	.2399	.3234	.3200	.3473	.1203	.3590	.3272	.2866	.1605
#1	2.107	41.05	40.37	41.17	2.109	2.036	40.21	2.079	2.010
#2	2.098	40.86	40.28	40.97	2.104	2.048	40.15	2.090	2.014
#3	2.098	41.12	40.53	41.25	2.107	2.050	40.41	2.088	2.007
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.056	2.022	2.718	2.161	2.131	2.129	2.024	2.120	2.111
Stddev	.002	.009	.007	.011	.008	.008	.003	.004	.009
%RSD	.1118	.4651	.2771	.5170	.3662	.3860	.1238	.1750	.4419
#1	2.053	2.011	2.709	2.149	2.133	2.139	2.023	2.123	2.101
#2	2.057	2.028	2.720	2.172	2.123	2.123	2.026	2.116	2.119
#3	2.057	2.028	2.723	2.163	2.138	2.127	2.022	2.121	2.113
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: CCV Acquired: 3/17/2017 10:17:27 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2020.6	4558.6	33268.	6742.1
Stddev	1.7	8.9	72.	35.8
%RSD	.08651	.19571	.21587	.53097
#1	2019.0	4568.9	33220.	6783.3
#2	2022.5	4552.9	33350.	6723.5
#3	2020.4	4554.1	33233.	6719.4

Zoom In Zoom Out

Sample Name: CCB Acquired: 3/17/2017 10:22:18 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004	-.0051	-.0001	.0001	.0002	.0093	-.0001	-.0001	.0003
Stddev	.0006	.0003	.0007	.0001	.0001	.0039	.0001	.0001	.0003
%RSD	149.2	6.043	542.1	52.04	28.65	41.80	239.2	115.3	100.4
#1	.0006	-.0048	.0002	.0002	.0002	.0126	.0001	.0000	-.0001
#2	-.0003	-.0053	.0003	.0001	.0003	.0102	-.0001	-.0001	.0005
#3	.0008	-.0053	-.0009	.0001	.0002	.0050	-.0002	-.0002	.0005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0012	.0054	.0161	.0157	.0003	.0006	.0174	.0001	.0002
Stddev	.0000	.0029	.0262	.0099	.0001	.0004	.0027	.0001	.0002
%RSD	3.675	52.30	162.7	62.70	39.29	68.41	15.28	94.97	104.1
#1	.0012	.0087	-.0056	.0054	.0003	.0011	.0145	.0001	.0000
#2	.0011	.0034	.0452	.0166	.0002	.0006	.0183	.0001	.0003
#3	.0011	.0042	.0088	.0251	.0005	.0002	.0196	.0000	.0003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0004	.0000	-.0004	-.0002	.0004	.0004	.0011	.0003	.0000
Stddev	.0001	.0011	.0010	.0002	.0001	.0001	.0007	.0002	.000
%RSD	30.92	2268.	244.9	102.9	30.80	33.21	63.43	85.23	377.2
#1	-.0005	-.0012	.0005	-.0003	.0003	.0003	.0004	.0002	.0001
#2	-.0004	.0004	-.0003	-.0002	.0005	.0003	.0018	.0001	.0000
#3	-.0003	.0009	-.0015	.0000	.0003	.0005	.0010	.0005	-.0002
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: CCB Acquired: 3/17/2017 10:22:18 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2154.3	4695.0	33848.	6912.4
Stddev	4.1	7.1	36.	35.0
%RSD	.19095	.15102	.10655	.50668
#1	2158.8	4692.9	33855.	6899.4
#2	2153.5	4702.9	33808.	6952.0
#3	2150.7	4689.1	33880.	6885.7

Zoom In Zoom Out

Sample Name: MP31802-MB1 Acquired: 3/17/2017 10:26:10 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0004**	**-.0069**	**-.0007**	**-.0002**	**-.0001**	**.0040**	**-.0003**	**-.0002**	**-.0002**
Stddev	.0002	.0046	.0006	.0000	.0000	.0007	.0000	.0001	.0001
%RSD	58.67	67.35	80.89	21.79	3.422	17.36	5.223	21.44	62.28
#1	.0006	-.0107	-.0002	-.0001	-.0001	.0036	-.0003	-.0002	-.0003
#2	.0002	-.0083	-.0006	-.0002	-.0001	.0035	-.0003	-.0003	-.0002
#3	.0003	-.0017	-.0013	-.0002	-.0001	.0047	-.0003	-.0003	-.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0007**	**-.0060**	**.0183**	**.0144**	**-.0001**	**-.0002**	**.0088**	**-.0003**	**-.0006**
Stddev	.0003	.0015	.0122	.0065	.0000	.0001	.0040	.0002	.0002
%RSD	43.73	24.41	66.70	45.42	34.31	52.73	44.80	47.73	33.14
#1	.0003	-.0049	.0144	.0076	-.0001	-.0002	.0054	-.0002	-.0007
#2	.0008	-.0054	.0085	.0206	-.0001	-.0001	.0079	-.0005	-.0004
#3	.0009	-.0076	.0320	.0150	-.0001	-.0003	.0132	-.0003	-.0008
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**.0003**	**-.0011**	**-.0004**	**-.0001**	**.0000**	**.0006**	**-.0001**	**-.0005**
Stddev	.0004	.0022	.0005	.0002	.0001	.000	.0008	.0005	.0001
%RSD	2981.	851.6	48.89	41.89	126.9	461.1	120.2	376.3	9.916
#1	.0005	-.0005	-.0005	-.0004	-.0001	.0000	.0015	.0004	-.0005
#2	-.0003	-.0014	-.0012	-.0005	.0000	.0001	.0003	-.0002	-.0006
#3	-.0002	.0028	-.0016	-.0002	-.0001	-.0002	.0001	-.0007	-.0006
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: MP31802-MB1 Acquired: 3/17/2017 10:26:10 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2144.9**	**4680.8**	**34040.**	**7054.7**
Stddev	1.0	3.9	72.	14.2
%RSD	.04662	.08252	.21196	.20186
#1	2144.0	4684.6	34120.	7064.7
#2	2146.0	4676.9	33980.	7061.1
#3	2144.9	4681.0	34020.	7038.4

Zoom In Zoom Out

Sample Name: MP31802-B1 Acquired: 3/17/2017 10:30:39 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0453**	**27.02**	**2.069**	**2.107**	**.0520**	**26.13**	**.0512**	**.5020**	**.2012**
Stddev	.0008	.06	.008	.003	.0001	.11	.0001	.0009	.0005
%RSD	1.797	.2268	.3850	.1282	.2716	.4041	.2676	.1727	.2679
#1	.0460	26.99	2.065	2.108	.0519	26.09	.0511	.5013	.2010
#2	.0454	26.98	2.063	2.104	.0519	26.05	.0513	.5018	.2008
#3	.0444	27.09	2.078	2.109	.0521	26.25	.0513	.5030	.2019
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2599**	**26.39**	**25.88**	**25.55**	**.5242**	**.5181**	**25.60**	**.5248**	**.4902**
Stddev	.0010	.11	.03	.22	.0022	.0010	.02	.0013	.0019
%RSD	.4030	.4179	.1038	.8774	.4201	.1991	.0796	.2406	.3794
#1	.2594	26.37	25.87	25.33	.5226	.5172	25.58	.5235	.4901
#2	.2592	26.29	25.86	25.53	.5233	.5179	25.61	.5249	.4885
#3	.2611	26.51	25.91	25.78	.5267	.5193	25.62	.5260	.4922
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5220**	**2.021**	**.0099**	**.5476**	**.5341**	**.5208**	**1.974**	**.4913**	**.5211**
Stddev	.0028	.007	.0003	.0014	.0010	.0013	.004	.0029	.0013
%RSD	.5307	.3455	3.182	.2533	.1929	.2558	.2147	.5834	.2497
#1	.5192	2.015	.0100	.5460	.5351	.5201	1.972	.4898	.5211
#2	.5247	2.019	.0102	.5480	.5331	.5199	1.971	.4895	.5198
#3	.5222	2.029	.0096	.5487	.5340	.5223	1.979	.4946	.5224
Check ?	Chk Pass	Chk Pass	None	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: MP31802-B1 Acquired: 3/17/2017 10:30:39 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2079.2**	**4592.2**	**34005.**	**6974.6**
Stddev	6.1	13.6	62.	13.8
%RSD	.29319	.29577	.18370	.19790
#1	2081.5	4607.0	34016.	6990.2
#2	2083.8	4589.5	34062.	6963.9
#3	2072.3	4580.3	33938.	6969.7

Zoom In Zoom Out

Sample Name: FA41989-8 Acquired: 3/17/2017 10:34:51 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0001**	**.0032**	**-.0003**	**.1174**	**-.0001**	**6.957**	**-.0002**	**-.0002**	**.0012**
Stddev	.0001	.0052	.0010	.0002	.0001	.029	.0000	.0000	.0001
%RSD	234.5	165.4	330.0	.1921	56.89	.4123	13.96	20.48	11.93
#1	.0001	-.0011	.0004	.1172	-.0002	6.928	-.0002	-.0002	.0013
#2	-.0001	.0090	-.0014	.1174	-.0002	6.986	-.0003	-.0002	.0010
#3	-.0001	.0016	.0002	.1177	.0000	6.957	-.0003	-.0002	.0012

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0009**	**.0119**	**4.152**	**7.579**	**.0043**	**-.0008**	**23.04**	**.0011**	**-.0002**
Stddev	.0001	.0006	.042	.069	.0000	.0003	.05	.0000	.0005
%RSD	10.21	5.181	1.003	.9163	1.132	42.03	.2333	2.850	226.7
#1	.0009	.0112	4.112	7.535	.0043	-.0007	22.98	.0011	.0001
#2	.0008	.0124	4.195	7.659	.0044	-.0006	23.07	.0011	-.0008
#3	.0010	.0121	4.149	7.542	.0043	-.0012	23.07	.0011	.0001

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.0005**	**.0020**	**3.202**	**-.0004**	**.0801**	**.0008**	**.0012**	**.0001**	**.0100**
Stddev	.0009	.0010	.009	.0004	.0001	.0004	.0003	.0002	.0000
%RSD	203.9	51.71	.2950	87.36	.0663	57.70	21.74	195.0	.2657
#1	-.0004	.0022	3.195	.0000	.0800	.0006	.0010	.0003	.0100
#2	.0014	.0009	3.198	-.0007	.0801	.0013	.0014	.0000	.0100
#3	.0004	.0029	3.213	-.0006	.0801	.0004	.0010	.0000	.0100

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2152.2**	**4668.6**	**34166.**	**7069.1**
Stddev	4.5	7.3	60.	65.2
%RSD	.20685	.15731	.17701	.92205
#1	2157.3	4675.8	34130.	7122.5
#2	2150.0	4661.2	34132.	6996.4
#3	2149.3	4668.9	34236.	7088.3

Zoom In Zoom Out

Sample Name: MP31802-D1 Acquired: 3/17/2017 10:39:19 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0003**	**.0006**	**-.0009**	**.1182**	**-.0001**	**7.040**	**-.0003**	**-.0003**	**.0010**
Stddev	.0001	.0043	.0005	.0004	.0000	.029	.0000	.0001	.0001
%RSD	50.57	667.3	61.36	.3768	30.96	.4148	15.75	16.76	6.508
#1	.0004	.0034	-.0015	.1184	-.0001	7.073	-.0003	-.0003	.0009
#2	.0002	-.0043	-.0007	.1177	-.0002	7.016	-.0002	-.0003	.0011
#3	.0002	.0029	-.0005	.1185	-.0001	7.033	-.0003	-.0004	.0010

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0009**	**-.0031**	**4.192**	**7.657**	**.0043**	**-.0016**	**23.34**	**.0010**	**.0000**
Stddev	.0001	.0015	.048	.054	.0000	.0001	.08	.0002	.0009
%RSD	14.01	48.41	1.139	.7097	1.104	7.006	.3491	17.55	22090.
#1	.0008	-.0045	4.247	7.716	.0043	-.0016	23.42	.0008	-.0010
#2	.0010	-.0015	4.165	7.646	.0043	-.0017	23.26	.0012	.0006
#3	.0010	-.0031	4.165	7.609	.0042	-.0015	23.35	.0010	.0004

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0001**	**.0037**	**3.251**	**-.0002**	**.0808**	**.0002**	**.0003**	**.0000**	**.0099**
Stddev	.0008	.0020	.006	.0003	.0002	.0001	.0006	.0001	.0001
%RSD	1230.	52.12	.1857	137.6	.2337	42.17	168.2	337.6	1.432
#1	.0009	.0025	3.251	.0001	.0810	.0001	.0006	-.0001	.0099
#2	-.0005	.0028	3.245	-.0005	.0806	.0002	.0007	.0001	.0100
#3	-.0006	.0060	3.258	-.0002	.0809	.0003	-.0003	.0000	.0097

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2154.1**	**4648.7**	**34260.**	**7057.9**
Stddev	3.9	12.1	147.	54.6
%RSD	.17897	.26007	.42908	.77375
#1	2153.1	4655.6	34319.	6995.1
#2	2158.4	4655.8	34369.	7094.1
#3	2150.9	4634.8	34093.	7084.5

Zoom In Zoom Out

Sample Name: MP31802-SD1 Acquired: 3/17/2017 10:43:46 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0024**	**-.0372**	**-.0025**	**.1165**	**-.0010**	**7.103**	**-.0017**	**-.0014**	**.0001**
Stddev	.0011	.0242	.0033	.0016	.0002	.021	.0002	.0008	.0018
%RSD	46.73	65.08	133.1	1.365	19.45	.2992	13.25	59.90	1439.
#1	.0029	-.0295	-.0063	.1183	-.0008	7.126	-.0016	-.0018	-.0014
#2	.0011	-.0178	-.0001	.1154	-.0009	7.084	-.0019	-.0020	.0020
#3	.0032	-.0644	-.0011	.1158	-.0012	7.097	-.0015	-.0004	-.0002

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0047**	**-.0570**	**4.255**	**7.823**	**.0038**	**-.0100**	**23.70**	**-.0008**	**-.0026**
Stddev	.0010	.0072	.101	.025	.0000	.0007	.08	.0013	.0013
%RSD	20.29	12.60	2.373	.3158	.3432	6.861	.3462	163.6	48.66
#1	.0040	-.0640	4.370	7.821	.0038	-.0106	23.77	-.0007	-.0024
#2	.0058	-.0572	4.182	7.799	.0038	-.0103	23.61	-.0021	-.0015
#3	.0043	-.0497	4.213	7.849	.0038	-.0093	23.72	.0004	-.0040

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0011**	**.0042**	**3.211**	**-.0003**	**.0809**	**-.0012**	**-.0012**	**.0001**	**.0180**
Stddev	.0049	.0058	.001	.0009	.0005	.0006	.0016	.0002	.0002
%RSD	467.2	138.5	.0350	260.2	.6056	50.50	130.5	123.5	1.113
#1	-.0005	.0097	3.212	-.0010	.0815	-.0018	-.0028	.0002	.0179
#2	-.0062	-.0018	3.210	-.0006	.0806	-.0012	-.0011	-.0001	.0182
#3	.0036	.0046	3.212	.0006	.0806	-.0006	.0003	.0003	.0178

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2171.5**	**4675.6**	**34160.**	**7050.1**
Stddev	3.1	6.5	203.	44.7
%RSD	.14316	.13888	.59534	.63427
#1	2168.0	4682.5	34074.	7053.2
#2	2173.8	4674.9	34393.	7093.2
#3	2172.8	4669.5	34015.	7004.0

Zoom In Zoom Out

Sample Name: MP31802-PS1 Acquired: 3/17/2017 10:48:14 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0456**	**2.521**	**.1078**	**.3878**	**.0524**	**12.19**	**.0523**	**.0510**	**.0528**
Stddev	.0005	.024	.0008	.0016	.0001	.06	.0001	.0001	.0002
%RSD	1.127	.9321	.7044	.4083	.1539	.5213	.1796	.1341	.3556
#1	.0453	2.535	.1074	.3893	.0524	12.13	.0523	.0510	.0526
#2	.0453	2.534	.1087	.3879	.0524	12.25	.0523	.0510	.0530
#3	.0462	2.494	.1074	.3862	.0523	12.18	.0524	.0511	.0528

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.1065**	**3.095**	**14.29**	**12.78**	**.0581**	**.1005**	**32.83**	**.1066**	**.0480**
Stddev	.0004	.008	.01	.08	.0001	.0004	.08	.0003	.0003
%RSD	.3752	.2730	.0401	.6372	.1829	.3885	.2504	.2923	.6221
#1	.1065	3.091	14.29	12.70	.0581	.1006	32.85	.1066	.0481
#2	.1069	3.105	14.28	12.86	.0579	.1001	32.90	.1063	.0477
#3	.1061	3.089	14.29	12.78	.0582	.1009	32.74	.1070	.0483

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.1100**	**.1015**	**3.180**	**.0514**	**.1302**	**.1045**	**.0975**	**.0508**	**.2825**
Stddev	.0001	.0019	.002	.0004	.0004	.0004	.0017	.0002	.0012
%RSD	.0981	1.872	.0650	.8220	.3301	.3764	1.750	.4285	.4191
#1	.1099	.0996	3.179	.0515	.1306	.1043	.0955	.0506	.2814
#2	.1101	.1015	3.180	.0517	.1303	.1050	.0988	.0508	.2822
#3	.1100	.1034	3.183	.0509	.1297	.1044	.0981	.0510	.2837

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2129.3**	**4619.0**	**34016.**	**6995.8**
Stddev	2.7	4.3	9.	18.2
%RSD	.12811	.09261	.02605	.26045
#1	2132.4	4622.7	34010.	7016.3
#2	2127.4	4614.3	34011.	6989.8
#3	2128.0	4620.1	34026.	6981.4

Zoom In Zoom Out

Sample Name: MP31802-S1 Acquired: 3/17/2017 10:52:31 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0452**	**26.65**	**2.090**	**2.211**	**.0523**	**32.78**	**.0514**	**.4992**	**.2033**
Stddev	.0002	.09	.005	.001	.0002	.11	.0002	.0007	.0007
%RSD	.3705	.3311	.2425	.0513	.3824	.3207	.3349	.1428	.3450
#1	.0450	26.72	2.084	2.210	.0524	32.75	.0512	.4990	.2025
#2	.0453	26.55	2.091	2.212	.0521	32.70	.0514	.4985	.2037
#3	.0453	26.68	2.094	2.212	.0525	32.90	.0515	.5000	.2038

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.2655**	**26.08**	**29.86**	**33.29**	**.5352**	**.5209**	**47.73**	**.5271**	**.4924**
Stddev	.0003	.01	.13	.14	.0026	.0015	.09	.0004	.0004
%RSD	.1193	.0561	.4298	.4287	.4769	.2938	.1781	.0777	.0797
#1	.2652	26.09	29.80	33.28	.5325	.5204	47.68	.5266	.4929
#2	.2658	26.06	29.77	33.15	.5376	.5197	47.68	.5273	.4923
#3	.2655	26.08	30.00	33.44	.5356	.5226	47.83	.5274	.4921

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.5289**	**2.029**	**3.227**	**.5607**	**.6144**	**.5333**	**1.997**	**.4991**	**.5356**
Stddev	.0007	.009	.009	.0012	.0003	.0011	.002	.0015	.0002
%RSD	.1365	.4418	.2801	.2074	.0475	.2137	.1156	.2972	.0293
#1	.5288	2.024	3.219	.5612	.6147	.5321	1.995	.4974	.5357
#2	.5282	2.024	3.226	.5593	.6141	.5334	2.000	.5002	.5357
#3	.5296	2.040	3.237	.5615	.6143	.5344	1.997	.4997	.5354

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2057.4**	**4553.3**	**33411.**	**6897.9**
Stddev	5.2	13.2	110.	55.6
%RSD	.25169	.29002	.32974	.80617
#1	2062.9	4561.6	33515.	6871.4
#2	2056.7	4560.2	33296.	6961.8
#3	2052.6	4538.0	33423.	6860.5

Zoom In Zoom Out

Sample Name: MP31802-S2 Acquired: 3/17/2017 10:56:42 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0444**	**27.06**	**2.090**	**2.232**	**.0525**	**33.10**	**.0514**	**.5008**	**.2029**
Stddev	.0005	.10	.009	.003	.0002	.09	.0002	.0018	.0015
%RSD	1.187	.3586	.4055	.1427	.4619	.2815	.4612	.3549	.7598
#1	.0443	27.05	2.080	2.230	.0523	33.07	.0512	.4994	.2036
#2	.0440	26.96	2.093	2.230	.0524	33.04	.0513	.5003	.2039
#3	.0450	27.16	2.096	2.236	.0527	33.21	.0516	.5028	.2011

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.2662**	**26.48**	**30.19**	**33.45**	**.5357**	**.5215**	**48.03**	**.5272**	**.4914**
Stddev	.0005	.11	.10	.13	.0002	.0023	.15	.0018	.0014
%RSD	.1785	.4073	.3360	.3800	.0380	.4387	.3167	.3455	.2856
#1	.2659	26.45	30.15	33.57	.5355	.5193	47.95	.5258	.4902
#2	.2668	26.39	30.12	33.32	.5358	.5214	47.94	.5265	.4911
#3	.2660	26.60	30.31	33.48	.5359	.5238	48.21	.5292	.4930

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.5276**	**2.020**	**3.227**	**.5563**	**.6176**	**.5301**	**1.987**	**.4990**	**.5333**
Stddev	.0015	.004	.014	.0029	.0016	.0019	.004	.0009	.0036
%RSD	.2844	.1805	.4319	.5217	.2612	.3595	.1914	.1783	.6768
#1	.5269	2.017	3.214	.5539	.6163	.5296	1.983	.5000	.5308
#2	.5266	2.020	3.226	.5556	.6171	.5322	1.987	.4986	.5318
#3	.5293	2.024	3.242	.5595	.6194	.5285	1.990	.4983	.5375

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2065.9**	**4560.1**	**33671.**	**6952.2**
Stddev	4.0	13.9	52.	33.0
%RSD	.19430	.30448	.15388	.47454
#1	2067.7	4572.5	33627.	6953.1
#2	2068.8	4562.6	33728.	6984.7
#3	2061.4	4545.1	33658.	6918.7

Zoom In Zoom Out

Sample Name: FA41989-4 Acquired: 3/17/2017 11:00:53 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0000**	**.0108**	**.0004**	**.0027**	**-.0001**	**16.68**	**-.0004**	**-.0003**	**-.0005**
Stddev	.000	.0096	.0006	.0002	.0000	.07	.0001	.0001	.0001
%RSD	614.2	88.90	127.0	6.466	16.80	.4084	14.86	36.52	24.07
#1	.0000	-.0002	.0011	.0029	-.0001	16.66	-.0003	-.0004	-.0005
#2	.0001	.0151	.0002	.0027	-.0001	16.75	-.0004	-.0004	-.0004
#3	-.0001	.0174	.0001	.0025	-.0001	16.62	-.0004	-.0002	-.0006

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0014**	**7.534**	**1.425**	**1.351**	**.0571**	**-.0010**	**6.001**	**.0002**	**-.0020**
Stddev	.0002	.036	.031	.010	.0000	.0004	.017	.0001	.0002
%RSD	16.44	.4795	2.184	.7496	.0493	40.98	.2882	62.20	12.27
#1	.0016	7.503	1.456	1.350	.0571	-.0006	5.985	.0003	-.0019
#2	.0011	7.574	1.426	1.361	.0571	-.0011	6.019	.0003	-.0018
#3	.0015	7.525	1.393	1.341	.0571	-.0014	5.998	.0001	-.0023

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.0001**	**.0010**	**6.665**	**-.0001**	**.1621**	**.0009**	**.0012**	**.0001**	**.0001**
Stddev	.0009	.0014	.003	.0003	.0003	.0001	.0008	.0003	.0001
%RSD	795.1	136.9	.0421	482.5	.1970	8.459	67.03	338.5	38.78
#1	-.0009	.0000	6.668	.0002	.1619	.0008	.0017	-.0001	.0002
#2	.0004	.0004	6.663	.0000	.1625	.0009	.0003	-.0001	.0001
#3	.0009	.0026	6.664	-.0003	.1620	.0009	.0017	.0004	.0001

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2156.5**	**4625.9**	**33911.**	**7050.2**
Stddev	5.9	11.5	114.	19.3
%RSD	.27508	.24951	.33700	.27389
#1	2150.7	4616.4	34018.	7060.2
#2	2162.6	4638.7	33925.	7027.9
#3	2156.2	4622.4	33790.	7062.4

Zoom In Zoom Out

Sample Name: FA41989-5 Acquired: 3/17/2017 11:05:18 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0000**	**-.0087**	**-.0009**	**.0002**	**-.0002**	**8.374**	**-.0003**	**-.0004**	**-.0003**
Stddev	.0001	.0036	.0001	.0003	.0000	.019	.0001	.0000	.0002
%RSD	1441.	40.74	15.55	145.0	18.82	.2316	22.63	13.12	68.24
#1	.0000	-.0076	-.0008	.0005	-.0002	8.396	-.0003	-.0003	-.0005
#2	.0001	-.0127	-.0011	.0001	-.0003	8.360	-.0004	-.0004	-.0001
#3	-.0001	-.0059	-.0009	.0000	-.0002	8.366	-.0003	-.0004	-.0004

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0011**	**.9699**	**1.824**	**2.094**	**.0155**	**.0003**	**4.859**	**.0000**	**-.0005**
Stddev	.0002	.0018	.053	.005	.0001	.0002	.010	.0001	.0003
%RSD	17.65	.1867	2.884	.2577	.7021	59.68	.2066	522.9	67.72
#1	.0010	.9678	1.844	2.088	.0156	.0001	4.854	.0000	-.0001
#2	.0014	.9705	1.764	2.099	.0156	.0004	4.852	-.0001	-.0006
#3	.0010	.9712	1.863	2.095	.0154	.0004	4.870	.0001	-.0007

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0002**	**.0008**	**.1068**	**-.0001**	**.0544**	**.0002**	**.0004**	**-.0001**	**-.0008**
Stddev	.0003	.0017	.0031	.0001	.0002	.0001	.0008	.0001	.0000
%RSD	140.4	226.1	2.941	37.40	.3040	27.45	190.2	187.2	4.453
#1	.0001	.0014	.1102	-.0001	.0544	.0002	-.0001	.0001	-.0008
#2	-.0006	-.0012	.1060	-.0002	.0542	.0002	.0000	-.0001	-.0008
#3	-.0002	.0021	.1041	-.0002	.0545	.0003	.0014	-.0001	-.0008

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2141.5**	**4602.0**	**33813.**	**7076.8**
Stddev	2.8	8.1	41.	21.4
%RSD	.13170	.17679	.12060	.30187
#1	2138.8	4594.9	33770.	7066.3
#2	2141.3	4600.4	33816.	7101.4
#3	2144.4	4610.9	33852.	7062.8

Zoom In Zoom Out

Sample Name: CCV Acquired: 3/17/2017 11:09:45 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2534**	**38.62**	**2.098**	**2.115**	**2.059**	**40.55**	**2.097**	**2.050**	**2.039**
Stddev	.0004	.04	.006	.008	.003	.08	.002	.003	.006
%RSD	.1600	.0918	.2869	.3607	.1647	.2041	.1009	.1422	.2746
#1	.2538	38.66	2.104	2.124	2.062	40.53	2.099	2.054	2.043
#2	.2530	38.62	2.098	2.113	2.060	40.65	2.097	2.049	2.033
#3	.2535	38.59	2.092	2.109	2.055	40.48	2.095	2.048	2.042
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.127**	**40.36**	**40.47**	**40.54**	**2.141**	**2.070**	**40.22**	**2.128**	**2.013**
Stddev	.008	.09	.06	.15	.006	.003	.04	.003	.007
%RSD	.3785	.2163	.1500	.3742	.2945	.1231	.1109	.1489	.3364
#1	2.136	40.36	40.53	40.38	2.147	2.073	40.27	2.130	2.016
#2	2.120	40.45	40.46	40.68	2.141	2.070	40.21	2.129	2.005
#3	2.125	40.27	40.41	40.56	2.134	2.068	40.18	2.124	2.018
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.101**	**2.056**	**2.776**	F **2.210**	**2.139**	**2.125**	**2.032**	**2.142**	**2.156**
Stddev	.005	.002	.009	.004	.005	.008	.004	.008	.003
%RSD	.2532	.0941	.3148	.1594	.2551	.3720	.2168	.3675	.1175
#1	2.107	2.055	2.785	2.210	2.145	2.130	2.037	2.151	2.155
#2	2.101	2.058	2.775	2.213	2.139	2.116	2.029	2.138	2.159
#3	2.096	2.055	2.768	2.206	2.134	2.129	2.030	2.138	2.154
Check ?	Chk Pass	Chk Pass	None	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value				2.000					
Range				10.00%					

Zoom In Zoom Out

Sample Name: CCV Acquired: 3/17/2017 11:09:45 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2020.6**	**4488.7**	**33213.**	**6933.5**
Stddev	3.7	5.2	94.	30.5
%RSD	.18417	.11514	.28424	.44052
#1	2016.7	4488.5	33105.	6961.1
#2	2024.2	4483.7	33261.	6938.7
#3	2021.0	4494.0	33274.	6900.7

Zoom In Zoom Out

Sample Name: CCB Acquired: 3/17/2017 11:13:56 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**-.0056**	**.0007**	**-.0001**	**.0000**	**.0008**	**.0001**	**.0000**	**.0001**
Stddev	.0003	.0041	.0005	.0001	.0000	.0009	.0001	.0002	.0001
%RSD	367.9	73.74	66.21	87.54	546.5	120.4	168.5	618.8	69.15
#1	.0002	-.0069	.0004	-.0001	.0001	.0000	.0002	.0002	.0002
#2	-.0005	-.0089	.0012	.0000	.0000	.0018	.0001	.0001	.0002
#3	.0000	-.0010	.0005	-.0001	.0000	.0005	.0000	-.0002	.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0012**	**.0005**	**.0304**	**.0030**	**.0001**	**.0006**	**.0097**	**.0001**	**.0000**
Stddev	.0001	.0020	.0316	.0065	.0001	.0005	.0085	.0002	.0004
%RSD	6.120	366.0	104.0	216.8	52.11	73.39	87.09	257.6	835.9
#1	.0013	.0025	.0605	-.0001	.0001	.0011	.0118	.0003	-.0004
#2	.0013	.0006	-.0025	.0105	.0002	.0005	.0169	-.0002	.0002
#3	.0011	-.0015	.0332	-.0014	.0002	.0002	.0004	.0002	.0003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0008**	**.0019**	**.0001**	**-.0001**	**.0000**	**.0002**	F **.0023**	**.0003**	**.0001**
Stddev	.0007	.0025	.0005	.0002	.0000	.0002	.0002	.0002	.0001
%RSD	93.27	130.3	600.0	232.0	59.47	71.13	8.132	68.69	224.2
#1	-.0016	.0048	.0005	.0001	.0000	.0001	.0023	.0004	.0002
#2	-.0003	.0003	.0001	-.0002	.0000	.0002	.0021	.0001	.0000
#3	-.0004	.0006	-.0004	-.0002	.0001	.0004	.0025	.0005	.0000
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass
High Limit							.0020		
Low Limit							-.0020		

Zoom In Zoom Out

Sample Name: CCB Acquired: 3/17/2017 11:13:56 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2157.5**	**4650.8**	**33646.**	**6891.2**
Stddev	4.7	8.6	115.	32.9
%RSD	.21756	.18419	.34161	.47703
#1	2162.9	4658.2	33608.	6854.2
#2	2154.3	4652.8	33555.	6902.2
#3	2155.2	4641.4	33775.	6917.1

Zoom In Zoom Out

Sample Name: FA41989-6 Acquired: 3/17/2017 11:18:26 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0002**	**.0052**	**-.0006**	**.2739**	**-.0001**	**28.60**	**-.0003**	**-.0003**	**.0017**
Stddev	.0003	.0082	.0008	.0084	.0000	.99	.0000	.0000	.0000
%RSD	127.4	158.8	126.6	3.084	17.00	3.447	7.798	12.87	2.773
#1	.0001	.0057	.0002	.2778	-.0002	29.22	-.0003	-.0004	.0017
#2	-.0005	.0132	-.0014	.2642	-.0001	27.46	-.0003	-.0003	.0017
#3	-.0003	-.0033	-.0007	.2796	-.0001	29.11	-.0003	-.0003	.0018

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0011**	**.0441**	**5.007**	**17.27**	**.0014**	**-.0012**	**14.03**	**.0005**	**-.0008**
Stddev	.0001	.0022	.147	.59	.0000	.0003	.45	.0001	.0004
%RSD	12.75	5.022	2.946	3.389	.4260	25.22	3.183	30.30	45.59
#1	.0012	.0462	5.076	17.71	.0014	-.0008	14.28	.0003	-.0005
#2	.0012	.0418	4.838	16.60	.0014	-.0012	13.52	.0005	-.0008
#3	.0009	.0444	5.108	17.49	.0014	-.0014	14.30	.0006	-.0013

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.0000**	**.0006**	**4.278**	**-.0004**	**.2902**	**.0011**	**-.0001**	**-.0001**	**.0039**
Stddev	.0005	.0003	.006	.0001	.0090	.0001	.0010	.0001	.0001
%RSD	24050.	50.95	.1339	32.80	3.089	7.282	856.5	76.56	3.165
#1	.0006	.0005	4.278	-.0005	.2955	.0010	.0005	-.0001	.0038
#2	-.0004	.0004	4.271	-.0003	.2798	.0011	-.0012	-.0002	.0040
#3	-.0002	.0010	4.283	-.0005	.2952	.0012	.0004	.0000	.0038

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2139.8**	**4621.9**	**33938.**	**7077.7**
Stddev	3.8	6.7	130.	238.9
%RSD	.17850	.14517	.38204	3.3755
#1	2137.9	4615.4	33842.	6931.5
#2	2144.2	4628.8	33887.	7353.4
#3	2137.3	4621.4	34086.	6948.2

Zoom In Zoom Out

Sample Name: FA41989-7 Acquired: 3/17/2017 11:22:53 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0002**	**-.0009**	**-.0003**	**.0549**	**-.0001**	**66.26**	**-.0003**	**-.0003**	**.0152**
Stddev	.0002	.0048	.0003	.0002	.0000	.06	.0001	.0001	.0002
%RSD	132.4	561.7	108.0	.2808	22.49	.0886	18.28	18.69	1.346
#1	.0000	-.0024	.0000	.0548	-.0002	66.20	-.0003	-.0002	.0150
#2	.0001	-.0048	-.0007	.0550	-.0001	66.30	-.0004	-.0003	.0154
#3	.0004	.0045	-.0003	.0550	-.0001	66.30	-.0002	-.0003	.0151

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0006**	**.0152**	**6.006**	**31.14**	**.0001**	**-.0019**	**45.06**	**-.0001**	**-.0006**
Stddev	.0004	.0015	.036	.08	.0000	.0002	.03	.0001	.0008
%RSD	63.77	9.796	.5921	.2728	44.57	9.017	.0761	76.12	140.0
#1	.0004	.0135	5.982	31.14	.0001	-.0018	45.03	-.0001	-.0014
#2	.0003	.0161	6.047	31.06	.0001	-.0021	45.07	-.0002	-.0006
#3	.0010	.0159	5.989	31.23	.0001	-.0017	45.09	.0000	.0003

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0002**	**.0029**	**4.830**	**-.0003**	**.5776**	**.0008**	**.0013**	**-.0003**	**.0006**
Stddev	.0008	.0006	.010	.0002	.0002	.0001	.0014	.0001	.0000
%RSD	353.3	20.50	.2087	48.93	.0294	10.05	114.4	38.12	3.446
#1	-.0011	.0030	4.818	-.0005	.5778	.0009	.0029	-.0004	.0006
#2	-.0002	.0033	4.833	-.0003	.5776	.0007	.0002	-.0003	.0006
#3	.0006	.0022	4.838	-.0002	.5775	.0008	.0006	-.0002	.0006

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2101.3**	**4647.7**	**34482.**	**7112.6**
Stddev	1.5	2.3	118.	20.2
%RSD	.07252	.04993	.34301	.28335
#1	2102.9	4649.7	34603.	7097.5
#2	2100.9	4648.2	34477.	7104.8
#3	2100.0	4645.1	34366.	7135.5

Zoom In Zoom Out

Sample Name: FA41989-9 Acquired: 3/17/2017 11:27:20 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0000**	**.0757**	**-.0003**	**.0431**	**.0000**	**3.369**	**-.0001**	**.0000**	**.0041**
Stddev	.000	.0065	.0005	.0003	.000	.004	.0000	.000	.0005
%RSD	625.8	8.639	156.2	.6882	221.4	.1336	25.43	499.4	11.97
#1	.0001	.0828	.0001	.0430	.0000	3.369	-.0001	-.0001	.0044
#2	.0000	.0746	-.0008	.0434	-.0001	3.373	-.0001	.0001	.0035
#3	-.0002	.0698	-.0002	.0428	.0000	3.364	-.0001	.0000	.0043

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0011**	**.0043**	**4.631**	**6.190**	**.0065**	**-.0022**	F **86.70**	**.0020**	**-.0002**
Stddev	.0001	.0004	.015	.038	.0003	.0000	.15	.0002	.0006
%RSD	12.46	10.32	.3133	.6100	4.449	1.660	.1712	10.55	336.0
#1	.0012	.0044	4.629	6.156	.0067	-.0021	86.86	.0019	.0004
#2	.0009	.0038	4.646	6.231	.0061	-.0022	86.57	.0019	-.0008
#3	.0011	.0047	4.617	6.183	.0066	-.0022	86.67	.0022	-.0002

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0005**	**.0075**	**3.344**	**-.0004**	**.0289**	**.0002**	**-.0009**	**.0000**	**.0305**
Stddev	.0010	.0011	.004	.0004	.0001	.0001	.0004	.0003	.0002
%RSD	201.2	14.12	.1049	81.46	.4419	61.20	47.41	2234.	.5081
#1	-.0014	.0080	3.340	-.0002	.0288	.0003	-.0011	-.0003	.0304
#2	-.0006	.0062	3.346	-.0009	.0290	.0001	-.0004	.0003	.0306
#3	.0006	.0082	3.346	-.0002	.0288	.0001	-.0012	.0001	.0307

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2134.2**	**4645.7**	**35380.**	**7092.1**
Stddev	3.9	7.5	1385.	16.2
%RSD	.18113	.16037	3.9144	.22822
#1	2136.4	4653.6	34463.	7086.8
#2	2136.5	4644.9	36973.	7079.3
#3	2129.8	4638.7	34703.	7110.3

Zoom In Zoom Out

Sample Name: FA41989-10 Acquired: 3/17/2017 11:31:46 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0000**	**.0491**	**-.0010**	**.0900**	**-.0001**	**3.713**	**-.0003**	**.0008**	**.0030**
Stddev	.0002	.0079	.0008	.0003	.0000	.017	.0000	.0000	.0003
%RSD	523.8	16.03	78.38	.3479	36.60	.4600	8.656	6.051	11.65
#1	.0000	.0578	-.0006	.0901	-.0001	3.695	-.0003	.0009	.0027
#2	-.0001	.0427	-.0019	.0896	-.0001	3.713	-.0003	.0008	.0034
#3	.0002	.0467	-.0005	.0902	-.0002	3.729	-.0002	.0008	.0028

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0011**	**.0142**	**2.812**	**4.343**	**.0142**	**-.0022**	**34.62**	**.0015**	**-.0003**
Stddev	.0002	.0009	.022	.040	.0000	.0002	.07	.0001	.0001
%RSD	16.92	6.441	.7991	.9189	.0333	9.294	.2070	6.035	39.26
#1	.0010	.0145	2.811	4.298	.0142	-.0021	34.54	.0015	-.0002
#2	.0010	.0132	2.790	4.359	.0142	-.0024	34.65	.0015	-.0004
#3	.0013	.0149	2.835	4.373	.0142	-.0020	34.67	.0017	-.0003

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0002**	**.0046**	**2.714**	**-.0003**	**.0435**	**.0003**	**.0002**	**-.0002**	**.0124**
Stddev	.0007	.0015	.003	.0003	.0001	.0001	.0008	.0003	.0001
%RSD	345.9	33.51	.0965	93.55	.2421	26.54	379.3	139.1	.6807
#1	.0006	.0047	2.714	-.0007	.0434	.0004	.0005	-.0005	.0123
#2	-.0005	.0060	2.717	-.0001	.0436	.0004	-.0007	.0001	.0124
#3	-.0007	.0030	2.712	-.0002	.0434	.0002	.0009	-.0003	.0123

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2150.6**	**4615.7**	**33968.**	**7058.7**
Stddev	7.2	7.5	106.	29.4
%RSD	.33399	.16235	.31198	.41679
#1	2143.1	4608.8	33877.	7092.6
#2	2151.3	4614.7	34084.	7044.0
#3	2157.4	4623.7	33942.	7039.6

Zoom In Zoom Out

Sample Name: FA41989-11 Acquired: 3/17/2017 11:36:13 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0005**	**.0641**	**-.0003**	**.0429**	**.0000**	**3.323**	**-.0001**	**-.0001**	**.0041**
Stddev	.0004	.0078	.0004	.0002	.000	.015	.0000	.0001	.0003
%RSD	81.83	12.20	154.6	.5586	164.7	.4495	28.48	146.7	6.570
#1	.0009	.0729	-.0004	.0429	-.0001	3.307	-.0001	.0000	.0038
#2	.0001	.0616	-.0006	.0430	.0000	3.325	-.0001	-.0001	.0042
#3	.0004	.0578	.0002	.0426	.0000	3.337	-.0001	-.0001	.0042

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0014**	**-.0063**	**4.633**	**6.166**	**.0060**	**-.0022**	**F 85.44**	**.0021**	**-.0003**
Stddev	.0001	.0012	.018	.041	.0000	.0001	.08	.0001	.0008
%RSD	6.938	18.65	.3832	.6628	.2205	2.948	.0982	7.112	272.9
#1	.0015	-.0051	4.644	6.118	.0060	-.0021	85.35	.0021	-.0011
#2	.0013	-.0065	4.643	6.189	.0060	-.0022	85.49	.0021	.0004
#3	.0014	-.0074	4.613	6.189	.0060	-.0023	85.49	.0019	-.0002

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0011**	**.0066**	**3.267**	**-.0003**	**.0286**	**.0001**	**.0002**	**-.0003**	**.0295**
Stddev	.0002	.0003	.005	.0002	.0001	.0001	.0001	.0002	.0000
%RSD	15.83	4.762	.1635	62.95	.1992	35.82	31.72	64.39	.1462
#1	-.0013	.0062	3.262	-.0004	.0286	.0002	.0001	-.0001	.0295
#2	-.0009	.0066	3.267	-.0004	.0286	.0001	.0002	-.0004	.0295
#3	-.0011	.0069	3.272	-.0001	.0287	.0001	.0001	-.0002	.0296

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2134.6**	**4656.1**	**34143.**	**6944.8**
Stddev	5.2	17.3	106.	17.0
%RSD	.24337	.37172	.31064	.24515
#1	2139.7	4672.2	34228.	6962.0
#2	2134.9	4658.3	34177.	6928.0
#3	2129.3	4637.8	34024.	6944.5

Zoom In Zoom Out

Sample Name: FA41989-12 Acquired: 3/17/2017 11:40:40 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0006**	**.0450**	**-.0012**	**.0862**	**-.0001**	**.5135**	**-.0003**	**-.0004**	**.0004**
Stddev	.0001	.0066	.0010	.0004	.0000	.0027	.0000	.0001	.0001
%RSD	8.432	14.61	81.99	.4715	51.47	.5220	8.046	28.70	35.09
#1	.0006	.0374	-.0021	.0858	-.0001	.5166	-.0004	-.0004	.0002
#2	.0006	.0489	-.0011	.0864	-.0001	.5118	-.0003	-.0003	.0005
#3	.0007	.0486	-.0002	.0865	.0000	.5121	-.0003	-.0005	.0005

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0012**	**-.0082**	**1.849**	**2.984**	**.0212**	**-.0023**	**2.369**	**.0009**	**-.0003**
Stddev	.0001	.0005	.037	.041	.0001	.0002	.008	.0001	.0005
%RSD	10.78	6.154	2.010	1.378	.3873	7.360	.3437	9.944	162.3
#1	.0011	-.0087	1.892	3.030	.0212	-.0025	2.370	.0010	.0001
#2	.0013	-.0081	1.831	2.968	.0212	-.0023	2.360	.0010	-.0009
#3	.0011	-.0077	1.824	2.952	.0211	-.0022	2.377	.0008	-.0002

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0002**	**.0010**	**1.901**	**-.0005**	**.0159**	**-.0002**	**-.0014**	**-.0001**	**.0158**
Stddev	.0001	.0013	.001	.0001	.0000	.0001	.0006	.0003	.0001
%RSD	52.42	137.4	.0761	16.57	.1165	89.71	41.27	213.2	.5786
#1	-.0001	-.0005	1.899	-.0004	.0159	.0000	-.0012	-.0004	.0157
#2	-.0003	.0014	1.902	-.0006	.0159	-.0002	-.0021	-.0001	.0158
#3	-.0002	.0020	1.900	-.0005	.0159	-.0003	-.0010	.0001	.0159

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2144.3**	**4620.2**	**33874.**	**7092.5**
Stddev	3.7	3.7	186.	67.5
%RSD	.17305	.07924	.54766	.95114
#1	2143.3	4620.5	33708.	7018.3
#2	2148.4	4616.4	33841.	7150.1
#3	2141.2	4623.8	34074.	7109.2

Zoom In Zoom Out

Sample Name: FA41989-13 Acquired: 3/17/2017 11:45:07 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0003**	**3.307**	**-.0007**	**.1101**	**.0000**	**1.183**	**-.0003**	**.0013**	**.0052**
Stddev	.0003	.049	.0001	.0007	.0000	.010	.0000	.0001	.0001
%RSD	99.12	1.495	14.03	.6789	525.2	.8426	6.140	10.21	2.599
#1	.0000	3.252	-.0007	.1092	.0000	1.177	-.0003	.0014	.0051
#2	.0006	3.321	-.0008	.1106	.0000	1.177	-.0003	.0014	.0053
#3	.0002	3.348	-.0006	.1103	.0000	1.194	-.0003	.0012	.0050

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0026**	**2.233**	**2.824**	**5.231**	**.2726**	**-.0020**	**4.669**	**.0060**	**.0004**
Stddev	.0003	.038	.022	.044	.0007	.0001	.042	.0002	.0005
%RSD	10.02	1.699	.7823	.8422	.2627	4.648	.9002	3.198	116.8
#1	.0024	2.190	2.817	5.196	.2726	-.0019	4.623	.0059	.0005
#2	.0029	2.250	2.848	5.217	.2734	-.0021	4.681	.0062	.0009
#3	.0025	2.260	2.806	5.281	.2720	-.0021	4.704	.0058	-.0001

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.0007**	**.0009**	**4.162**	**-.0002**	**.0270**	**.1728**	**-.0008**	**.0050**	**.0334**
Stddev	.0005	.0010	.027	.0003	.0002	.0082	.0006	.0001	.0000
%RSD	68.11	106.7	.6419	138.4	.7363	4.745	72.46	1.670	.1180
#1	.0011	.0020	4.191	.0000	.0268	.1818	-.0013	.0051	.0333
#2	.0007	.0001	4.155	-.0001	.0270	.1658	-.0001	.0050	.0334
#3	.0002	.0007	4.139	-.0005	.0272	.1709	-.0010	.0049	.0334

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2149.3**	**4724.9**	**34486.**	**7239.4**
Stddev	.8	15.9	35.	89.0
%RSD	.03812	.33652	.10285	1.2293
#1	2148.4	4728.3	34468.	7319.6
#2	2149.3	4738.8	34464.	7255.0
#3	2150.1	4707.5	34527.	7143.7

Zoom In Zoom Out

Sample Name: FA41989-14 Acquired: 3/17/2017 11:49:31 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0002**	**26.74**	**.0030**	**.0001**	**-.0004**	**.0706**	**-.0004**	**-.0001**	**.6738**
Stddev	.0004	.08	.0003	.0002	.0000	.0034	.0000	.0001	.0007
%RSD	161.8	.2864	9.523	371.2	10.49	4.852	9.094	158.7	.1024
#1	.0002	26.71	.0033	-.0002	-.0004	.0744	-.0003	-.0002	.6730
#2	-.0005	26.82	.0030	.0002	-.0005	.0697	-.0004	.0000	.6740
#3	-.0004	26.68	.0027	.0002	-.0004	.0677	-.0004	.0000	.6743

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0010**	**.0272**	**1.055**	**.0434**	**.0512**	**.0032**	**F 548.4**	**.0012**	**.0016**
Stddev	.0003	.0013	.029	.0120	.0002	.0002	7.2	.0002	.0002
%RSD	28.09	4.699	2.744	27.56	.4353	7.794	1.320	12.40	10.19
#1	.0007	.0267	1.025	.0562	.0509	.0033	556.5	.0012	.0017
#2	.0009	.0287	1.056	.0325	.0512	.0033	546.3	.0011	.0015
#3	.0013	.0263	1.083	.0414	.0514	.0029	542.5	.0014	.0018

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0011**	**.0066**	**4.202**	**-.0004**	**.0006**	**.0014**	**-.0005**	**.4127**	**-.0005**
Stddev	.0010	.0012	.008	.0003	.0000	.0010	.0004	.0015	.0001
%RSD	86.09	18.04	.1951	78.00	7.260	68.20	81.31	.3731	24.13
#1	-.0004	.0052	4.199	-.0003	.0006	.0011	-.0008	.4115	-.0006
#2	-.0008	.0074	4.196	-.0007	.0007	.0007	-.0006	.4121	-.0004
#3	-.0022	.0071	4.211	-.0001	.0006	.0025	.0000	.4144	-.0006

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2018.2**	**4473.5**	**33491.**	**6883.2**
Stddev	5.3	12.1	57.	55.0
%RSD	.26232	.27110	.16947	.79866
#1	2023.0	4479.8	33555.	6853.2
#2	2018.9	4481.1	33472.	6849.8
#3	2012.5	4459.5	33446.	6946.7

Zoom In Zoom Out

Sample Name: FA41989-20 Acquired: 3/17/2017 11:54:07 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0001**	**8.376**	**-.0007**	**.0271**	**-.0001**	**1.009**	**-.0004**	**.0000**	**.0056**
Stddev	.0002	.031	.0006	.0003	.0001	.003	.0000	.0000	.0002
%RSD	253.9	.3692	88.95	.9331	104.1	.2770	11.14	8.083	3.568
#1	.0004	8.381	-.0005	.0268	-.0002	1.009	-.0004	.0000	.0056
#2	.0000	8.343	-.0014	.0271	.0000	1.006	-.0003	.0000	.0057
#3	-.0001	8.404	-.0002	.0273	-.0001	1.012	-.0004	.0000	.0054

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0062**	**1.963**	**1.558**	**.7858**	**.0170**	**-.0020**	**26.74**	**.0046**	**.0013**
Stddev	.0002	.006	.008	.0214	.0002	.0001	.02	.0003	.0004
%RSD	3.897	.2883	.4882	2.724	1.169	5.487	.0890	5.854	32.70
#1	.0059	1.957	1.550	.7856	.0172	-.0019	26.75	.0045	.0009
#2	.0064	1.963	1.565	.8074	.0169	-.0019	26.72	.0049	.0014
#3	.0062	1.969	1.559	.7646	.0170	-.0021	26.76	.0045	.0017

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.0004**	**.0007**	**6.828**	**-.0001**	**.0103**	**.2799**	**-.0010**	**.0114**	**.0082**
Stddev	.0001	.0006	.031	.0002	.0002	.0049	.0011	.0002	.0001
%RSD	21.27	92.11	.4557	227.8	1.662	1.748	105.7	1.506	1.139
#1	.0003	.0014	6.835	-.0004	.0103	.2787	-.0011	.0114	.0082
#2	.0005	.0004	6.855	.0000	.0104	.2853	.0001	.0116	.0083
#3	.0003	.0003	6.794	.0001	.0101	.2757	-.0021	.0113	.0081

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2158.1**	**4655.4**	**34097.**	**7139.4**
Stddev	3.3	14.0	61.	25.5
%RSD	.15170	.30076	.17864	.35673
#1	2159.2	4650.8	34058.	7110.2
#2	2160.6	4644.3	34167.	7151.6
#3	2154.4	4671.1	34066.	7156.6

Zoom In Zoom Out

Sample Name: FA41989-21 Acquired: 3/17/2017 11:58:29 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0002**	**.0092**	**-.0013**	**.0250**	**-.0002**	**3.010**	**-.0003**	**-.0004**	**.0001**
Stddev	.0003	.0028	.0003	.0001	.0000	.010	.0000	.0001	.0001
%RSD	136.8	30.04	22.30	.2181	25.76	.3391	12.93	25.85	54.55
#1	.0005	.0124	-.0016	.0250	-.0002	3.015	-.0003	-.0004	.0002
#2	-.0001	.0077	-.0011	.0251	-.0001	3.016	-.0003	-.0004	.0002
#3	.0004	.0075	-.0012	.0250	-.0002	2.998	-.0003	-.0003	.0001

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0016**	**.0139**	**1.590**	**1.658**	**.0039**	**-.0022**	**1.661**	**.0000**	**-.0004**
Stddev	.0002	.0032	.014	.017	.0001	.0001	.010	.0002	.0004
%RSD	13.76	23.34	.8909	1.051	1.846	3.224	.6174	581.9	103.0
#1	.0019	.0107	1.600	1.676	.0039	-.0022	1.663	.0000	-.0003
#2	.0014	.0172	1.574	1.657	.0039	-.0021	1.669	-.0001	.0000
#3	.0015	.0139	1.596	1.642	.0038	-.0022	1.649	.0002	-.0008

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0002**	**-.0006**	**2.832**	**-.0004**	**.0254**	**.0014**	**-.0015**	**.0001**	**.0021**
Stddev	.0004	.0022	.002	.0001	.0001	.0002	.0006	.0001	.0000
%RSD	181.6	351.8	.0659	26.70	.5866	12.47	42.89	177.4	.8500
#1	.0001	.0002	2.834	-.0003	.0254	.0013	-.0020	.0002	.0021
#2	.0000	.0010	2.830	-.0004	.0255	.0014	-.0017	.0000	.0021
#3	-.0006	-.0031	2.833	-.0005	.0252	.0016	-.0008	.0000	.0021

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2160.3**	**4643.2**	**33612.**	**7024.1**
Stddev	2.4	3.8	47.	45.8
%RSD	.11235	.08184	.13934	.65270
#1	2158.3	4639.5	33589.	6991.6
#2	2159.6	4643.2	33666.	7004.1
#3	2163.0	4647.1	33581.	7076.5

Zoom In Zoom Out

Sample Name: CCV Acquired: 3/17/2017 12:02:57 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2451**	**40.62**	**2.059**	**2.049**	**2.019**	**43.57**	**2.038**	**2.000**	**1.980**
Stddev	.0009	.09	.005	.003	.005	.11	.000	.001	.004
%RSD	.3655	.2214	.2279	.1266	.2688	.2584	.0047	.0412	.2147
#1	.2440	40.67	2.063	2.050	2.024	43.68	2.038	2.001	1.979
#2	.2456	40.68	2.060	2.052	2.021	43.58	2.038	1.999	1.984
#3	.2456	40.51	2.054	2.047	2.013	43.46	2.038	2.000	1.976
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.080**	**40.39**	**42.70**	**43.65**	**2.080**	**1.951**	**41.52**	**2.068**	**1.971**
Stddev	.007	.10	.08	.16	.009	.001	.08	.004	.001
%RSD	.3481	.2494	.1826	.3579	.4213	.0577	.2030	.1771	.0599
#1	2.088	40.48	42.75	43.82	2.078	1.950	41.58	2.071	1.972
#2	2.077	40.40	42.74	43.62	2.089	1.951	41.55	2.069	1.971
#3	2.074	40.28	42.61	43.51	2.072	1.952	41.42	2.064	1.970
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.067**	**2.028**	**.2489**	**2.100**	**2.006**	**2.032**	**2.059**	**2.051**	**2.087**
Stddev	.004	.002	.0012	.004	.004	.007	.006	.009	.004
%RSD	.1784	.0784	.4742	.1799	.1957	.3449	.2903	.4367	.1659
#1	2.070	2.026	.2503	2.104	2.006	2.039	2.059	2.052	2.088
#2	2.063	2.029	.2480	2.099	2.010	2.030	2.053	2.059	2.091
#3	2.068	2.028	.2485	2.097	2.002	2.026	2.065	2.041	2.084
Check ?	Chk Pass	Chk Pass		None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: CCV Acquired: 3/17/2017 12:02:57 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2013.8**	**4482.5**	**33120.**	**6865.2**
Stddev	1.6	11.2	105.	39.4
%RSD	.07710	.24981	.31556	.57408
#1	2012.1	4474.7	33107.	6821.8
#2	2014.2	4477.5	33023.	6898.8
#3	2015.1	4495.3	33231.	6875.0

Zoom In Zoom Out

Sample Name: CCB Acquired: 3/17/2017 12:07:08 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0005**	**-.0016**	**.0008**	**.0001**	**.0003**	**.0090**	**.0003**	**.0004**	**.0003**
Stddev	.0001	.0083	.0004	.0004	.0002	.0034	.0001	.0001	.0002
%RSD	32.16	516.9	55.88	319.2	73.16	37.79	48.23	31.30	67.26
#1	.0005	-.0077	.0009	-.0003	.0001	.0062	.0004	.0005	.0004
#2	.0006	-.0049	.0012	.0002	.0003	.0079	.0002	.0003	.0004
#3	.0003	.0078	.0003	.0006	.0006	.0127	.0003	.0004	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0016**	**.0035**	**.0230**	**.0189**	**.0005**	**.0008**	**.0424**	**.0002**	**.0003**
Stddev	.0003	.0012	.0246	.0022	.0001	.0005	.0118	.0002	.0004
%RSD	16.08	33.76	106.9	11.89	10.52	67.51	27.93	88.28	118.6
#1	.0014	.0023	.0508	.0189	.0006	.0013	.0294	.0003	.0008
#2	.0015	.0035	.0038	.0166	.0005	.0007	.0525	.0000	.0000
#3	.0019	.0046	.0146	.0211	.0005	.0003	.0452	.0003	.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	F **.0025**	**-.0002**	**.0003**	**.0004**	**.0004**	**.0010**	**.0005**	**.0003**
Stddev	.0005	.0022	.0003	.0004	.0002	.0001	.0014	.0001	.0001
%RSD	128.4	90.17	115.6	158.8	38.01	25.18	146.5	19.06	19.81
#1	-.0008	.0016	-.0005	.0007	.0003	.0005	.0021	.0006	.0004
#2	.0002	.0008	-.0002	-.0002	.0004	.0003	.0014	.0005	.0002
#3	-.0005	.0050	.0000	.0004	.0006	.0003	-.0006	.0005	.0003
Check ?	Chk Pass	Chk Fail	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		.0020							
Low Limit		-.0020							

Zoom In Zoom Out

Sample Name: CCB Acquired: 3/17/2017 12:07:08 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2151.8**	**4637.7**	**33796.**	**7044.4**
Stddev	7.0	10.9	127.	95.0
%RSD	.32701	.23522	.37561	1.3491
#1	2150.9	4642.2	33652.	7023.6
#2	2145.2	4625.2	33844.	6961.5
#3	2159.2	4645.5	33891.	7148.1

Zoom In Zoom Out

Sample Name: FA41989-22 Acquired: 3/17/2017 12:11:38 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0002**	**.0072**	**-.0003**	**.0182**	**-.0001**	**22.78**	**-.0003**	**-.0003**	**.0002**
Stddev	.0002	.0156	.0005	.0002	.0000	.09	.0000	.0001	.0003
%RSD	89.70	215.9	160.2	1.367	36.55	.3785	10.86	43.82	126.1
#1	.0004	.0214	-.0005	.0184	-.0001	22.82	-.0004	-.0003	.0005
#2	.0002	-.0095	.0003	.0181	-.0001	22.68	-.0004	-.0004	.0001
#3	.0000	.0097	-.0007	.0180	-.0001	22.83	-.0003	-.0002	.0000

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0010**	**2.422**	**4.398**	**9.280**	**.0615**	**.0086**	F **167.2**	**-.0001**	**-.0005**
Stddev	.0003	.011	.031	.063	.0004	.0000	.5	.0002	.0003
%RSD	34.52	.4568	.7020	.6799	.6441	.4188	.2751	111.4	55.29
#1	.0014	2.429	4.387	9.326	.0619	.0087	167.7	-.0002	-.0006
#2	.0009	2.410	4.433	9.208	.0614	.0086	166.9	.0000	-.0002
#3	.0007	2.428	4.374	9.306	.0612	.0086	167.0	-.0003	-.0006

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0006**	**.0013**	**4.489**	**.0001**	**.2184**	**.0024**	**-.0006**	**.0000**	**.0021**
Stddev	.0013	.0008	.004	.0002	.0010	.0020	.0008	.0001	.0000
%RSD	221.3	64.61	.0811	287.4	.4633	83.95	123.3	695.9	1.743
#1	-.0004	.0012	4.487	-.0001	.2196	.0046	-.0014	.0002	.0021
#2	.0006	.0021	4.486	.0003	.2178	.0013	.0002	-.0001	.0021
#3	-.0020	.0005	4.493	.0000	.2178	.0011	-.0008	.0000	.0021

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2102.5**	**4536.0**	**33884.**	**6984.6**
Stddev	4.8	5.2	75.	45.3
%RSD	.22868	.11521	.22052	.64836
#1	2097.3	4531.4	33817.	6976.0
#2	2106.7	4541.7	33965.	7033.6
#3	2103.5	4535.0	33871.	6944.3

Zoom In Zoom Out

Sample Name: FA41989-23 Acquired: 3/17/2017 12:16:04 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0002**	**.0336**	**-.0011**	**.0016**	**-.0001**	**10.90**	**-.0003**	**-.0001**	**-.0003**
Stddev	.0002	.0089	.0004	.0000	.0000	.03	.0000	.0000	.0001
%RSD	118.1	26.39	40.92	2.427	19.30	.3003	12.67	35.19	29.30
#1	.0000	.0408	-.0006	.0017	-.0001	10.87	-.0004	-.0001	-.0004
#2	.0004	.0364	-.0011	.0016	-.0002	10.89	-.0003	-.0001	-.0003
#3	.0001	.0237	-.0014	.0016	-.0002	10.93	-.0004	-.0001	-.0002

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0010**	**4.307**	**2.045**	**5.530**	**.0484**	**-.0013**	**4.363**	**.0001**	**-.0014**
Stddev	.0001	.007	.020	.017	.0001	.0001	.012	.0001	.0003
%RSD	14.33	.1576	.9780	.3008	.1613	4.440	.2767	41.60	24.01
#1	.0009	4.312	2.023	5.516	.0483	-.0013	4.353	.0002	-.0013
#2	.0009	4.299	2.050	5.548	.0484	-.0014	4.360	.0001	-.0011
#3	.0011	4.311	2.062	5.526	.0485	-.0013	4.376	.0001	-.0017

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0002**	**.0014**	**4.271**	**-.0002**	**.0917**	**.0014**	**-.0001**	**.0000**	**.0042**
Stddev	.0010	.0004	.004	.0004	.0003	.0002	.0016	.0002	.0001
%RSD	583.3	31.80	.1020	143.3	.2969	12.19	2079.	406.8	1.502
#1	.0009	.0019	4.275	-.0004	.0916	.0015	-.0001	-.0001	.0042
#2	-.0004	.0014	4.267	-.0005	.0916	.0015	-.0017	.0000	.0042
#3	-.0010	.0010	4.271	.0002	.0920	.0012	.0015	.0002	.0041

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2153.3**	**4638.7**	**33734.**	**7040.4**
Stddev	3.5	7.8	111.	63.2
%RSD	.16440	.16887	.32967	.89771
#1	2152.9	4639.7	33862.	7072.3
#2	2157.1	4645.9	33682.	7081.2
#3	2150.1	4630.4	33658.	6967.6

Zoom In Zoom Out

Sample Name: FA41989-24 Acquired: 3/17/2017 12:20:31 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0004**	**.0793**	**.0001**	**.0171**	**-.0002**	**145.9**	**-.0002**	**-.0003**	**.0304**
Stddev	.0003	.0009	.0007	.0000	.0000	.5	.0000	.0001	.0003
%RSD	64.42	1.167	624.6	.2396	25.18	.3618	13.05	26.02	1.007
#1	.0005	.0786	-.0004	.0171	-.0002	145.3	-.0002	-.0003	.0300
#2	.0006	.0789	-.0002	.0171	-.0001	146.2	-.0003	-.0003	.0305
#3	.0001	.0803	.0009	.0171	-.0002	146.2	-.0002	-.0002	.0306

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0025**	**.0451**	**14.22**	**162.1**	**.0049**	**-.0021**	**F 239.7**	**.0012**	**.0000**
Stddev	.0001	.0006	.06	.5	.0000	.0002	1.4	.0000	.001
%RSD	3.372	1.424	.4357	.3226	.7759	10.99	.5667	.3066	1830.
#1	.0026	.0450	14.16	161.6	.0048	-.0020	240.3	.0012	.0009
#2	.0024	.0444	14.21	162.6	.0049	-.0021	240.6	.0012	-.0007
#3	.0025	.0457	14.28	162.1	.0049	-.0024	238.1	.0012	-.0003

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0005**	**.0075**	**6.111**	**-.0004**	**.6502**	**.0034**	**.0005**	**-.0001**	**.0120**
Stddev	.0002	.0014	.017	.0002	.0005	.0000	.0011	.0001	.0001
%RSD	50.63	18.56	.2808	42.25	.0816	.5987	233.1	52.97	.5757
#1	-.0002	.0075	6.097	-.0002	.6497	.0034	-.0006	-.0001	.0121
#2	-.0007	.0090	6.107	-.0004	.6501	.0034	.0005	-.0002	.0120
#3	-.0005	.0062	6.130	-.0005	.6508	.0033	.0015	-.0001	.0120

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**1974.6**	**4920.4**	**37048.**	**7579.4**
Stddev	1.8	7.2	153.	43.6
%RSD	.09045	.14732	.41279	.57479
#1	1973.5	4926.2	37097.	7606.1
#2	1973.7	4922.6	36876.	7529.1
#3	1976.7	4912.2	37170.	7603.0

Zoom In Zoom Out

Sample Name: FA41989-25 Acquired: 3/17/2017 12:25:06 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0003**	**.1152**	**.0000**	**.0157**	**-.0002**	**25.69**	**-.0002**	**-.0003**	**.0097**
Stddev	.0001	.0091	.0001	.0004	.0000	.06	.0000	.0000	.0001
%RSD	27.34	7.916	438.5	2.497	32.16	.2477	16.27	15.17	1.185
#1	.0002	.1071	.0002	.0153	-.0001	25.65	-.0003	-.0002	.0096
#2	.0004	.1251	-.0001	.0159	-.0002	25.76	-.0002	-.0003	.0098
#3	.0003	.1135	.0000	.0160	-.0002	25.65	-.0002	-.0003	.0098

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0011**	**.1411**	**8.240**	**20.43**	**.0174**	**-.0022**	**F 145.5**	**.0004**	**-.0011**
Stddev	.0001	.0008	.003	.10	.0000	.0002	.4	.0001	.0001
%RSD	8.876	.5979	.0405	.4962	.0916	7.394	.2649	23.72	7.915
#1	.0011	.1415	8.236	20.46	.0174	-.0020	145.6	.0005	-.0010
#2	.0010	.1401	8.243	20.51	.0174	-.0023	145.9	.0003	-.0012
#3	.0011	.1416	8.241	20.31	.0174	-.0022	145.1	.0005	-.0011

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0003**	**.0033**	**4.751**	**-.0005**	**.1064**	**.0111**	**-.0006**	**.0001**	**.0077**
Stddev	.0008	.0022	.003	.0004	.0002	.0004	.0017	.0002	.0000
%RSD	298.7	68.19	.0584	82.50	.1593	3.577	260.1	324.3	.1829
#1	-.0007	.0007	4.753	-.0006	.1063	.0108	-.0025	-.0002	.0078
#2	-.0008	.0047	4.748	-.0008	.1066	.0115	-.0001	.0003	.0077
#3	.0007	.0043	4.752	.0000	.1063	.0108	.0007	.0001	.0077

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2087.8**	**4568.6**	**33939.**	**6958.7**
Stddev	1.2	3.0	134.	52.0
%RSD	.05688	.06588	.39340	.74685
#1	2088.6	4565.4	33809.	6998.5
#2	2088.4	4571.4	33930.	6899.9
#3	2086.4	4568.9	34076.	6977.8

Zoom In Zoom Out

Sample Name: FA41989-26 Acquired: 3/17/2017 12:29:32 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0002**	**1.378**	**-.0011**	**.0070**	**-.0001**	**.4803**	**-.0004**	**.0000**	**.0048**
Stddev	.0002	.019	.0004	.0001	.0001	.0031	.0001	.0000	.0007
%RSD	115.0	1.391	31.39	1.016	49.84	.6557	15.31	46.69	14.86
#1	.0004	1.375	-.0008	.0070	-.0002	.4834	-.0003	.0001	.0041
#2	.0003	1.398	-.0015	.0069	-.0001	.4771	-.0004	.0000	.0055
#3	-.0001	1.360	-.0011	.0069	-.0002	.4803	-.0004	.0000	.0047

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0021**	**.8016**	**.7991**	**.1696**	**.0680**	**-.0020**	**16.69**	**.0011**	**.0003**
Stddev	.0002	.0048	.0065	.0114	.0000	.0001	.03	.0002	.0002
%RSD	11.66	.6020	.8108	6.704	.0530	4.633	.1675	19.43	81.84
#1	.0020	.8055	.8037	.1588	.0680	-.0021	16.71	.0010	.0000
#2	.0024	.8032	.8020	.1686	.0679	-.0020	16.71	.0014	.0005
#3	.0020	.7962	.7917	.1815	.0680	-.0019	16.66	.0010	.0004

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.0004**	**-.0003**	**2.451**	**-.0003**	**.0024**	**.0495**	**-.0015**	**.0037**	**.0505**
Stddev	.0008	.0015	.010	.0002	.0000	.0001	.0007	.0003	.0001
%RSD	220.1	510.1	.4227	75.33	2.114	.1267	47.60	7.543	.2653
#1	.0009	-.0019	2.442	-.0001	.0023	.0494	-.0022	.0034	.0505
#2	-.0005	.0010	2.448	-.0005	.0024	.0495	-.0016	.0040	.0506
#3	.0007	.0001	2.462	-.0002	.0024	.0495	-.0008	.0036	.0503

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2165.8**	**4655.7**	**34111.**	**7109.7**
Stddev	.7	7.1	121.	34.5
%RSD	.03376	.15221	.35463	.48493
#1	2166.0	4662.6	33972.	7078.6
#2	2165.0	4656.0	34182.	7103.6
#3	2166.4	4648.5	34181.	7146.8

Zoom In Zoom Out

Sample Name: FA41989-27 Acquired: 3/17/2017 12:33:59 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0001**	**.0791**	**.0005**	**.0862**	**-.0002**	**10.31**	**-.0002**	**-.0002**	**.0101**
Stddev	.0003	.0055	.0007	.0003	.0000	.03	.0000	.0000	.0002
%RSD	372.8	6.938	140.0	.3146	11.09	.2601	14.63	20.62	2.239
#1	.0005	.0847	.0008	.0865	-.0001	10.31	-.0002	-.0002	.0101
#2	-.0001	.0738	-.0003	.0860	-.0001	10.28	-.0003	-.0001	.0102
#3	-.0001	.0789	.0009	.0861	-.0002	10.34	-.0002	-.0002	.0098

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0011**	**.0390**	**6.707**	**8.696**	**.0598**	**-.0023**	**F 168.2**	**.0011**	**-.0001**
Stddev	.0002	.0018	.030	.072	.0001	.0000	1.5	.0001	.0006
%RSD	18.33	4.496	.4522	.8274	.1647	1.775	.9191	9.133	876.6
#1	.0014	.0373	6.701	8.704	.0598	-.0023	167.3	.0011	.0001
#2	.0011	.0390	6.681	8.620	.0596	-.0023	167.2	.0010	.0004
#3	.0009	.0408	6.740	8.763	.0598	-.0022	169.9	.0012	-.0008

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0006**	**.0034**	**4.018**	**-.0003**	**.0776**	**.0014**	**-.0009**	**-.0002**	**.0141**
Stddev	.0012	.0008	.011	.0004	.0002	.0007	.0008	.0001	.0001
%RSD	215.2	24.12	.2604	123.7	.2471	52.43	96.09	78.60	.5029
#1	.0001	.0031	4.023	-.0008	.0776	.0011	.0000	.0000	.0142
#2	.0002	.0044	4.006	-.0001	.0774	.0009	-.0017	-.0003	.0141
#3	-.0020	.0028	4.024	-.0001	.0778	.0022	-.0009	-.0002	.0140

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2099.4**	**4846.6**	**35946.**	**7418.1**
Stddev	4.2	5.6	171.	35.5
%RSD	.19979	.11569	.47667	.47858
#1	2095.3	4846.7	35920.	7400.7
#2	2103.7	4852.2	35789.	7458.9
#3	2099.2	4841.0	36128.	7394.6

Zoom In Zoom Out

Sample Name: FA41989-28 Acquired: 3/17/2017 12:38:35 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	.0000	.0038	-.0011	.0083	-.0002	7.480	-.0003	.0021	.0000
Stddev	.000	.0084	.0008	.0001	.0000	.027	.0000	.0001	.000
%RSD	621.1	220.9	71.29	1.222	1.001	.3631	8.068	3.956	524.2
#1	-.0002	-.0016	-.0002	.0083	-.0002	7.464	-.0003	.0020	-.0003
#2	.0000	-.0005	-.0015	.0083	-.0002	7.464	-.0003	.0022	.0001
#3	.0001	.0134	-.0016	.0085	-.0002	7.511	-.0003	.0021	.0001

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	.0010	.1946	2.100	3.205	.0252	-.0018	4.203	.0002	-.0005
Stddev	.0003	.0030	.003	.038	.0001	.0000	.013	.0001	.0002
%RSD	29.96	1.535	.1461	1.195	.5635	.9922	.3170	39.85	30.22
#1	.0008	.1966	2.100	3.161	.0253	-.0018	4.213	.0002	-.0006
#2	.0014	.1911	2.102	3.233	.0250	-.0018	4.188	.0003	-.0006
#3	.0009	.1959	2.096	3.219	.0252	-.0018	4.209	.0002	-.0003

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	-.0003	.0009	6.501	-.0006	.0702	.0005	-.0003	.0000	.1301
Stddev	.0007	.0006	.015	.0002	.0003	.0001	.0008	.0001	.0003
%RSD	265.8	70.63	.2307	35.54	.4584	15.63	235.1	517.2	.2059
#1	.0005	.0002	6.500	-.0004	.0706	.0006	.0005	.0000	.1301
#2	-.0005	.0011	6.487	-.0005	.0699	.0005	-.0005	-.0001	.1299
#3	-.0008	.0013	6.517	-.0008	.0701	.0005	-.0010	.0002	.1304

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2153.8	4635.4	33705.	6973.3
Stddev	2.6	9.7	63.	36.8
%RSD	.12220	.20912	.18571	.52798
#1	2152.6	4640.5	33735.	6979.6
#2	2156.8	4641.4	33748.	7006.5
#3	2151.9	4624.2	33634.	6933.7

Zoom In Zoom Out

Sample Name: MP31804-MB1 Acquired: 3/17/2017 12:43:01 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	-.0034	-.0007	-.0003	-.0001	.0067	-.0004	-.0002	-.0004
Stddev	.0004	.0053	.0005	.0002	.0000	.0015	.0000	.0001	.0001
%RSD	1658.	155.5	72.06	78.13	28.52	22.68	9.163	49.53	23.82
#1	-.0002	.0022	-.0001	-.0001	-.0002	.0067	-.0003	-.0003	-.0003
#2	-.0002	-.0084	-.0011	-.0002	-.0001	.0083	-.0003	-.0002	-.0004
#3	.0005	-.0041	-.0010	-.0005	-.0001	.0052	-.0004	-.0001	-.0005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0011	-.0104	.0407	.0110	-.0001	-.0022	.0747	-.0003	-.0002
Stddev	.0002	.0024	.0253	.0059	.0000	.0002	.0008	.0000	.0010
%RSD	21.17	22.88	62.17	53.34	12.52	8.151	1.010	14.20	502.5
#1	.0010	-.0103	.0698	.0042	-.0001	-.0024	.0748	-.0004	.0001
#2	.0009	-.0080	.0242	.0143	-.0001	-.0022	.0739	-.0003	.0006
#3	.0014	-.0128	.0281	.0145	-.0001	-.0020	.0754	-.0003	-.0013
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0005	.0012	.0007	-.0003	-.0001	-.0004	-.0004	-.0002	-.0004
Stddev	.0005	.0014	.0008	.0004	.0000	.0001	.0008	.0003	.0001
%RSD	102.1	122.0	127.5	135.0	29.17	24.32	198.5	160.9	13.44
#1	.0008	.0019	.0012	.0001	-.0001	-.0005	-.0006	-.0001	-.0004
#2	-.0001	.0021	.0011	-.0008	-.0001	-.0005	.0005	-.0005	-.0003
#3	.0007	-.0005	-.0003	-.0003	-.0001	-.0003	-.0011	.0000	-.0004
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: MP31804-MB1 Acquired: 3/17/2017 12:43:01 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2140.1	4631.6	33524.	7038.4
Stddev	2.8	8.1	57.	50.4
%RSD	.13016	.17565	.17092	.71574
#1	2137.0	4640.5	33498.	6988.5
#2	2140.8	4624.6	33485.	7089.3
#3	2142.5	4629.7	33590.	7037.4

Zoom In Zoom Out

Sample Name: MP31804-B1 Acquired: 3/17/2017 12:47:33 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0450	26.85	2.087	2.135	.0526	26.13	.0515	.5037	.2014
Stddev	.0005	.02	.009	.008	.0003	.10	.0002	.0012	.0004
%RSD	1.132	.0656	.4101	.3566	.5968	.3797	.2941	.2335	.1858
#1	.0455	26.87	2.077	2.143	.0530	26.24	.0513	.5024	.2015
#2	.0445	26.83	2.091	2.133	.0526	26.09	.0515	.5045	.2018
#3	.0451	26.85	2.093	2.128	.0524	26.06	.0516	.5042	.2010
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2659	26.24	25.84	25.67	.5297	.5206	25.27	.5290	.4888
Stddev	.0012	.06	.05	.09	.0012	.0015	.09	.0010	.0013
%RSD	.4515	.2304	.2080	.3525	.2294	.2816	.3453	.1913	.2583
#1	.2646	26.30	25.89	25.74	.5300	.5191	25.37	.5279	.4893
#2	.2669	26.18	25.78	25.56	.5308	.5209	25.21	.5291	.4873
#3	.2662	26.22	25.84	25.70	.5284	.5220	25.23	.5299	.4897
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5277	2.029	.0118	.5542	.5406	.5269	1.984	.4974	.5248
Stddev	.0024	.002	.0006	.0014	.0012	.0013	.001	.0013	.0016
%RSD	.4565	.0782	5.503	.2497	.2278	.2390	.0253	.2646	.3013
#1	.5269	2.027	.0111	.5529	.5420	.5254	1.984	.4958	.5230
#2	.5259	2.029	.0119	.5556	.5401	.5276	1.984	.4981	.5256
#3	.5305	2.030	.0124	.5540	.5397	.5277	1.984	.4982	.5259
Check ?	Chk Pass	Chk Pass	None	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: MP31804-B1 Acquired: 3/17/2017 12:47:33 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2087.3**	**4575.7**	**33940.**	**6970.3**
Stddev	3.7	5.1	56.	10.6
%RSD	.17578	.11052	.16356	.15158
#1	2084.2	4579.9	33983.	6968.1
#2	2091.3	4577.2	33878.	6981.8
#3	2086.3	4570.1	33960.	6961.0

Zoom In Zoom Out

Sample Name: FA41989-33 Acquired: 3/17/2017 12:51:47 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0003**	**.0379**	**-.0007**	**.0134**	**-.0002**	**.8278**	**-.0003**	**-.0001**	**-.0001**
Stddev	.0001	.0016	.0008	.0002	.0000	.0066	.0000	.0001	.0003
%RSD	23.43	4.268	114.8	1.757	6.983	.8014	11.05	64.83	537.4
#1	.0003	.0368	-.0013	.0135	-.0002	.8302	-.0003	-.0001	-.0003
#2	.0002	.0398	.0002	.0132	-.0002	.8203	-.0004	-.0001	-.0002
#3	.0003	.0373	-.0011	.0136	-.0002	.8330	-.0003	.0000	.0003

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0012**	**.1013**	**1.112**	**.9659**	**.0047**	**-.0017**	**.9323**	**.0002**	**-.0003**
Stddev	.0001	.0066	.013	.0161	.0000	.0002	.0075	.0001	.0004
%RSD	9.681	6.498	1.200	1.666	.2044	9.805	.8068	71.54	133.2
#1	.0012	.1088	1.104	.9499	.0047	-.0017	.9397	.0004	-.0007
#2	.0013	.0986	1.127	.9821	.0047	-.0018	.9247	.0001	-.0002
#3	.0011	.0965	1.104	.9659	.0047	-.0015	.9325	.0001	.0000

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0003**	**.0026**	**2.066**	**-.0002**	**.0090**	**.0011**	**.0006**	**.0001**	**.0027**
Stddev	.0009	.0011	.004	.0004	.0001	.0003	.0011	.0002	.0001
%RSD	309.2	40.82	.1692	145.8	.7456	23.28	176.5	312.7	2.961
#1	-.0011	.0039	2.070	-.0005	.0089	.0009	.0001	.0003	.0028
#2	-.0005	.0022	2.064	.0001	.0090	.0014	-.0002	.0001	.0028
#3	.0007	.0018	2.064	-.0003	.0090	.0010	.0019	-.0001	.0026

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2167.1**	**4671.0**	**34185.**	**7166.1**
Stddev	3.0	3.1	187.	59.3
%RSD	.13672	.06735	.54594	.82780
#1	2168.7	4669.5	33969.	7099.5
#2	2168.9	4674.6	34289.	7213.2
#3	2163.7	4668.9	34295.	7185.6

Zoom In Zoom Out

Sample Name: CCV Acquired: 3/17/2017 12:56:16 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2446**	**41.12**	**2.057**	**2.040**	**2.032**	**43.64**	**2.035**	**1.996**	**1.991**
Stddev	.0010	.10	.005	.006	.004	.06	.002	.001	.009
%RSD	.3977	.2400	.2397	.3175	.1868	.1337	.1185	.0445	.4665
#1	.2436	41.02	2.059	2.047	2.030	43.64	2.036	1.996	1.988
#2	.2456	41.15	2.059	2.037	2.030	43.58	2.037	1.997	1.984
#3	.2445	41.21	2.051	2.035	2.037	43.70	2.032	1.995	2.002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.080**	**40.89**	**42.86**	**43.94**	**2.064**	**1.942**	**41.65**	**2.062**	**1.974**
Stddev	.003	.08	.03	.06	.005	.001	.06	.005	.003
%RSD	.1507	.1911	.0689	.1463	.2634	.0457	.1485	.2266	.1643
#1	2.082	40.81	42.86	43.94	2.060	1.941	41.71	2.063	1.977
#2	2.076	40.89	42.83	43.88	2.061	1.943	41.59	2.067	1.974
#3	2.081	40.97	42.89	44.01	2.070	1.942	41.65	2.057	1.970
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.059**	**2.019**	**.2476**	**2.094**	**2.016**	**2.045**	**2.061**	**2.045**	**2.082**
Stddev	.003	.008	.0008	.006	.003	.009	.004	.007	.006
%RSD	.1411	.3759	.3173	.2914	.1251	.4616	.1829	.3600	.2879
#1	2.062	2.013	.2475	2.099	2.019	2.045	2.059	2.043	2.083
#2	2.058	2.016	.2484	2.097	2.014	2.035	2.059	2.040	2.087
#3	2.056	2.027	.2469	2.088	2.015	2.054	2.065	2.054	2.076
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: CCV Acquired: 3/17/2017 12:56:16 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2010.4**	**4489.0**	**33180.**	**6788.6**
Stddev	2.8	3.8	98.	9.8
%RSD	.13759	.08560	.29535	.14409
#1	2012.2	4493.5	33103.	6799.9
#2	2011.7	4486.6	33290.	6782.4
#3	2007.2	4487.0	33147.	6783.5

Zoom In Zoom Out

Sample Name: CCB Acquired: 3/17/2017 13:00:27 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0004**	**-.0054**	**.0001**	**-.0001**	**.0001**	**.0028**	**.0001**	**.0002**	**.0002**
Stddev	.0002	.0084	.0004	.0001	.0001	.0014	.0000	.0001	.0003
%RSD	47.50	155.1	257.3	66.55	94.16	50.44	7.456	43.71	127.2
#1	.0006	-.0141	-.0003	-.0001	.0001	.0041	.0001	.0003	.0001
#2	.0003	-.0048	.0003	-.0002	.0000	.0028	.0001	.0001	.0006
#3	.0003	.0026	.0004	-.0001	.0000	.0013	.0002	.0003	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0015**	**.0012**	**.0363**	**.0037**	**.0004**	**.0006**	**.0343**	**.0001**	**.0004**
Stddev	.0002	.0010	.0506	.0090	.0001	.0006	.0025	.0001	.0009
%RSD	15.71	88.28	139.2	240.9	27.41	89.72	7.382	73.78	199.7
#1	.0012	.0018	.0339	.0066	.0003	.0012	.0370	.0000	.0003
#2	.0017	.0000	-.0130	-.0063	.0005	.0006	.0337	.0001	-.0004
#3	.0015	.0018	.0881	.0109	.0003	.0001	.0321	.0002	.0013
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0018**	**-.0004**	**.0004**	**.0002**	**.0003**	**.0012**	**.0003**	**.0001**
Stddev	.0011	.0007	.0002	.0003	.0001	.0001	.0005	.0000	.0001
%RSD	1320.	41.73	55.82	86.06	28.81	46.97	40.81	11.45	43.94
#1	.0012	.0010	-.0001	.0003	.0002	.0001	.0017	.0003	.0001
#2	-.0002	.0018	-.0005	.0001	.0001	.0004	.0010	.0003	.0001
#3	-.0008	.0025	-.0005	.0008	.0002	.0004	.0008	.0004	.0002
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: CCB Acquired: 3/17/2017 13:00:27 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2159.4**	**4665.6**	**33662.**	**6930.7**
Stddev	6.4	6.4	75.	9.3
%RSD	.29428	.13735	.22333	.13388
#1	2166.7	4671.4	33659.	6940.4
#2	2155.1	4658.7	33588.	6929.9
#3	2156.5	4666.5	33739.	6921.9

Zoom In Zoom Out

Sample Name: MP31804-D1 Acquired: 3/17/2017 13:04:59 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0000**	**.0360**	**-.0007**	**.0133**	**-.0001**	**.8214**	**-.0003**	**-.0002**	**.0002**
Stddev	.000	.0012	.0010	.0002	.0000	.0024	.0000	.0000	.0001
%RSD	712.0	3.366	132.9	1.134	21.44	.2934	8.427	5.634	81.27
#1	.0002	.0367	.0002	.0131	-.0001	.8186	-.0003	-.0002	.0001
#2	-.0002	.0366	-.0017	.0134	-.0001	.8228	-.0003	-.0002	.0003
#3	-.0002	.0346	-.0007	.0134	-.0001	.8227	-.0003	-.0002	.0001

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0011**	**.0869**	**1.069**	**.9548**	**.0047**	**-.0013**	**.8996**	**.0000**	**-.0004**
Stddev	.0002	.0031	.023	.0212	.0000	.0001	.0099	.000	.0004
%RSD	15.14	3.559	2.137	2.222	.5867	11.61	1.095	539.2	116.1
#1	.0012	.0874	1.060	.9771	.0047	-.0013	.9076	.0000	-.0002
#2	.0009	.0836	1.053	.9523	.0046	-.0011	.9026	-.0002	-.0001
#3	.0010	.0897	1.095	.9349	.0047	-.0014	.8886	.0001	-.0009

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.0000**	**.0016**	**2.037**	**-.0001**	**.0088**	**.0009**	**.0005**	**.0000**	**.0031**
Stddev	.0006	.0017	.003	.0001	.0000	.0001	.0010	.0001	.0001
%RSD	3308.	109.3	.1529	62.81	.2629	13.45	189.9	1297.	3.188
#1	.0005	.0007	2.035	.0000	.0088	.0008	.0010	.0001	.0032
#2	.0002	.0035	2.036	-.0002	.0088	.0009	.0012	.0001	.0030
#3	-.0007	.0004	2.041	-.0002	.0088	.0010	-.0006	-.0001	.0030

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2162.8**	**4672.5**	**33908.**	**7140.5**
Stddev	5.0	6.4	32.	44.4
%RSD	.22981	.13631	.09455	.62205
#1	2161.3	4679.8	33912.	7108.4
#2	2158.7	4668.3	33937.	7121.9
#3	2168.3	4669.3	33874.	7191.2

Zoom In Zoom Out

Sample Name: MP31804-SD1 Acquired: 3/17/2017 13:09:31 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0002**	**-.0185**	**-.0049**	**.0101**	**-.0007**	**.7400**	**-.0016**	**-.0010**	**.0000**
Stddev	.0015	.0715	.0022	.0005	.0001	.0076	.0001	.0002	.001
%RSD	900.6	386.0	44.57	4.707	19.17	1.026	7.895	21.39	3489.
#1	-.0015	-.0124	-.0073	.0098	-.0006	.7477	-.0015	-.0012	-.0006
#2	.0012	-.0929	-.0032	.0106	-.0007	.7396	-.0018	-.0008	-.0005
#3	.0007	.0497	-.0041	.0098	-.0009	.7326	-.0016	-.0009	.0011

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0034**	**.0399**	**.9991**	**.9547**	**.0036**	**-.0100**	**.9126**	**-.0013**	**-.0039**
Stddev	.0006	.0041	.0417	.0940	.0001	.0005	.0108	.0001	.0025
%RSD	17.19	10.36	4.177	9.841	3.917	4.560	1.182	4.338	63.18
#1	.0027	.0389	.9574	.8716	.0036	-.0104	.9076	-.0012	-.0011
#2	.0038	.0364	1.041	.9359	.0034	-.0102	.9053	-.0014	-.0059
#3	.0036	.0445	.9991	1.057	.0037	-.0095	.9250	-.0013	-.0046

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.0007**	**.0024**	**1.840**	**-.0009**	**.0075**	**-.0002**	**-.0048**	**-.0013**	**.0186**
Stddev	.0057	.0060	.009	.0009	.0001	.0004	.0045	.0002	.0004
%RSD	848.0	252.9	.4962	99.49	1.087	182.3	93.76	11.99	1.933
#1	.0007	.0072	1.843	-.0015	.0075	-.0007	-.0028	-.0011	.0189
#2	-.0050	-.0044	1.846	-.0012	.0076	.0001	-.0016	-.0012	.0186
#3	.0063	.0043	1.829	.0001	.0075	.0000	-.0099	-.0014	.0182

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2168.9**	**4708.9**	**34106.**	**7063.5**
Stddev	2.1	4.4	107.	15.0
%RSD	.09491	.09421	.31282	.21202
#1	2168.8	4705.1	34186.	7049.0
#2	2166.8	4707.7	33985.	7062.7
#3	2170.9	4713.8	34147.	7078.9

Zoom In Zoom Out

Sample Name: MP31804-PS1 Acquired: 3/17/2017 13:14:02 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0460**	**2.613**	**.1079**	**.2871**	**.0528**	**6.252**	**.0530**	**.0515**	**.0529**
Stddev	.0007	.020	.0007	.0006	.0002	.011	.0002	.0002	.0002
%RSD	1.608	.7601	.6306	.2136	.2888	.1820	.3979	.3116	.3249
#1	.0465	2.616	.1087	.2878	.0529	6.262	.0529	.0516	.0530
#2	.0463	2.592	.1074	.2867	.0529	6.255	.0529	.0514	.0527
#3	.0451	2.631	.1076	.2868	.0526	6.240	.0532	.0517	.0530

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.1075**	**3.231**	**11.33**	**6.273**	**.0592**	**.1015**	**11.09**	**.1073**	**.0490**
Stddev	.0008	.008	.03	.027	.0002	.0005	.02	.0003	.0002
%RSD	.7306	.2606	.2883	.4312	.3266	.4762	.1518	.2404	.3604
#1	.1084	3.222	11.36	6.263	.0591	.1013	11.11	.1073	.0491
#2	.1071	3.235	11.30	6.303	.0592	.1011	11.08	.1070	.0491
#3	.1070	3.238	11.33	6.252	.0594	.1020	11.09	.1076	.0488

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.1102**	**.1006**	**2.056**	**.0522**	**.0613**	**.1076**	**.0966**	**.0515**	**.2788**
Stddev	.0010	.0015	.004	.0003	.0003	.0003	.0010	.0004	.0003
%RSD	.8790	1.526	.1765	.5257	.4477	.2508	1.033	.8551	.0907
#1	.1113	.1010	2.055	.0519	.0612	.1079	.0956	.0511	.2791
#2	.1100	.0989	2.053	.0522	.0611	.1075	.0976	.0516	.2786
#3	.1094	.1019	2.060	.0524	.0616	.1073	.0965	.0520	.2787

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2148.6**	**4660.3**	**33870.**	**6961.1**
Stddev	6.6	15.3	112.	28.5
%RSD	.30782	.32781	.33003	.40993
#1	2144.2	4658.5	33922.	6983.3
#2	2156.2	4676.4	33947.	6971.1
#3	2145.4	4646.0	33742.	6928.9

Zoom In Zoom Out

Sample Name: MP31804-S1 Acquired: 3/17/2017 13:18:20 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0449**	**26.89**	**2.068**	**2.120**	**.0522**	**26.90**	**.0512**	**.4996**	**.2014**
Stddev	.0011	.16	.008	.004	.0002	.08	.0001	.0012	.0007
%RSD	2.424	.6060	.4074	.2107	.4407	.2976	.2428	.2445	.3589
#1	.0460	27.07	2.063	2.119	.0524	26.97	.0512	.4988	.2019
#2	.0439	26.85	2.064	2.125	.0523	26.92	.0510	.4990	.2018
#3	.0447	26.75	2.078	2.116	.0520	26.82	.0513	.5010	.2006

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.2625**	**26.33**	**26.91**	**26.71**	**.5299**	**.5212**	**26.22**	**.5253**	**.4853**
Stddev	.0003	.12	.07	.16	.0005	.0008	.06	.0014	.0004
%RSD	.1277	.4711	.2555	.5898	.0946	.1488	.2294	.2625	.0862
#1	.2626	26.46	26.99	26.88	.5304	.5206	26.27	.5252	.4857
#2	.2628	26.31	26.89	26.70	.5299	.5210	26.23	.5239	.4849
#3	.2621	26.22	26.85	26.56	.5294	.5221	26.15	.5267	.4854

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.5228**	**2.014**	**2.085**	**.5569**	**.5489**	**.5304**	**1.972**	**.4948**	**.5276**
Stddev	.0020	.005	.007	.0011	.0016	.0016	.003	.0003	.0018
%RSD	.3900	.2753	.3446	.1951	.2896	.2933	.1683	.0702	.3356
#1	.5208	2.015	2.082	.5577	.5504	.5306	1.969	.4946	.5269
#2	.5227	2.008	2.080	.5557	.5490	.5318	1.975	.4952	.5264
#3	.5249	2.019	2.093	.5574	.5472	.5287	1.971	.4946	.5297

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2087.5**	**4581.4**	**33673.**	**6913.3**
Stddev	1.0	13.6	65.	36.0
%RSD	.05024	.29745	.19363	.52082
#1	2086.9	4584.7	33600.	6871.9
#2	2088.7	4593.0	33724.	6936.4
#3	2086.9	4566.4	33696.	6931.8

Zoom In Zoom Out

Sample Name: MP31804-S2 Acquired: 3/17/2017 13:22:32 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0443**	**26.79**	**2.056**	**2.128**	**.0520**	**26.84**	**.0510**	**.4977**	**.2001**
Stddev	.0009	.11	.005	.009	.0003	.11	.0003	.0016	.0005
%RSD	2.069	.4103	.2362	.4426	.5497	.4043	.5417	.3312	.2470
#1	.0453	26.89	2.055	2.139	.0523	26.95	.0507	.4965	.2005
#2	.0439	26.67	2.052	2.121	.0517	26.74	.0510	.4970	.2001
#3	.0437	26.81	2.062	2.124	.0520	26.83	.0512	.4996	.1996

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.2602**	**26.31**	**26.87**	**26.43**	**.5262**	**.5184**	**26.17**	**.5234**	**.4839**
Stddev	.0015	.12	.09	.14	.0003	.0020	.13	.0020	.0024
%RSD	.5729	.4524	.3355	.5404	.0598	.3822	.5123	.3890	.5035
#1	.2617	26.41	26.98	26.55	.5266	.5177	26.31	.5218	.4812
#2	.2587	26.17	26.81	26.27	.5262	.5168	26.05	.5227	.4845
#3	.2603	26.34	26.84	26.47	.5259	.5206	26.13	.5257	.4859

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.5180**	**1.996**	**2.074**	**.5474**	**.5449**	**.5215**	**1.965**	**.4903**	**.5215**
Stddev	.0025	.005	.004	.0019	.0021	.0032	.014	.0003	.0019
%RSD	.4916	.2493	.2145	.3469	.3901	.6065	.6958	.0612	.3631
#1	.5168	1.994	2.072	.5456	.5474	.5243	1.950	.4906	.5199
#2	.5163	1.993	2.072	.5471	.5434	.5181	1.971	.4903	.5210
#3	.5210	2.002	2.080	.5494	.5440	.5221	1.975	.4900	.5236

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2099.7**	**4613.0**	**34187.**	**7010.0**
Stddev	4.1	8.3	141.	48.6
%RSD	.19648	.18004	.41160	.69364
#1	2104.3	4613.5	34041.	6980.9
#2	2098.2	4621.0	34322.	7066.1
#3	2096.5	4604.4	34199.	6983.0

Zoom In Zoom Out

Sample Name: FA41989-29 Acquired: 3/17/2017 13:26:45 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0004**	**.6023**	**-.0003**	**.0661**	**-.0001**	**.7095**	**-.0002**	**.0036**	**.0107**
Stddev	.0002	.0083	.0008	.0003	.0000	.0017	.0000	.0001	.0003
%RSD	56.39	1.376	229.6	.4171	19.80	.2442	10.73	2.616	2.875
#1	.0003	.5998	.0001	.0662	-.0001	.7108	-.0002	.0037	.0104
#2	.0002	.6115	.0001	.0658	-.0001	.7075	-.0002	.0036	.0109
#3	.0006	.5955	-.0012	.0663	-.0001	.7102	-.0002	.0035	.0109

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0039**	**4.517**	**1.241**	**.9015**	**2.116**	**-.0012**	**1.342**	**.0048**	**.0016**
Stddev	.0002	.013	.032	.0165	.005	.0003	.009	.0001	.0002
%RSD	5.348	.2801	2.537	1.834	.2281	24.94	.6637	1.101	9.844
#1	.0038	4.508	1.218	.8876	2.121	-.0009	1.332	.0048	.0017
#2	.0041	4.532	1.277	.9198	2.112	-.0011	1.346	.0048	.0014
#3	.0037	4.512	1.229	.8973	2.114	-.0015	1.349	.0047	.0015

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.0002**	**.0019**	**1.760**	**.0001**	**.0091**	**.0258**	**.0017**	**.0034**	**.1077**
Stddev	.0006	.0013	.005	.0006	.0001	.0003	.0006	.0002	.0003
%RSD	339.8	69.31	.2923	398.8	.6684	.9771	32.48	7.037	.2516
#1	.0009	.0006	1.765	-.0003	.0091	.0258	.0017	.0032	.1075
#2	-.0003	.0019	1.760	.0008	.0091	.0260	.0023	.0034	.1080
#3	-.0001	.0033	1.755	-.0001	.0092	.0255	.0012	.0036	.1076

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2165.3**	**4721.2**	**34317.**	**7154.9**
Stddev	2.7	11.3	128.	36.8
%RSD	.12381	.24035	.37341	.51410
#1	2164.4	4720.8	34170.	7172.1
#2	2163.3	4710.0	34403.	7112.6
#3	2168.4	4732.7	34378.	7179.9

Zoom In Zoom Out

Sample Name: FA41989-30 Acquired: 3/17/2017 13:31:11 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0002**	**.1633**	**-.0005**	**.0221**	**-.0002**	**1.227**	**-.0003**	**-.0002**	**.0004**
Stddev	.0003	.0053	.0006	.0001	.0000	.002	.0000	.0001	.0000
%RSD	150.6	3.222	118.2	.5650	19.61	.1573	15.18	33.80	8.361
#1	.0001	.1665	-.0005	.0219	-.0002	1.225	-.0003	-.0001	.0003
#2	.0005	.1663	.0001	.0221	-.0001	1.227	-.0003	-.0002	.0004
#3	-.0001	.1573	-.0011	.0222	-.0002	1.228	-.0002	-.0003	.0004

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0009**	**.1668**	**1.550**	**1.100**	**.0568**	**-.0020**	**1.023**	**.0005**	**-.0004**
Stddev	.0001	.0028	.021	.021	.0001	.0000	.007	.0001	.0007
%RSD	6.578	1.664	1.372	1.889	.2434	2.049	.7057	15.73	161.5
#1	.0009	.1638	1.530	1.082	.0567	-.0020	1.025	.0004	-.0001
#2	.0010	.1692	1.572	1.122	.0569	-.0020	1.015	.0006	-.0013
#3	.0009	.1674	1.549	1.094	.0567	-.0020	1.029	.0005	.0000

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0008**	**.0007**	**2.469**	**-.0002**	**.0127**	**.0082**	**.0002**	**.0001**	**.0018**
Stddev	.0006	.0017	.002	.0004	.0001	.0001	.0010	.0001	.0000
%RSD	73.50	220.3	.0753	177.3	1.027	1.561	601.4	83.71	2.612
#1	-.0006	-.0011	2.468	-.0006	.0126	.0083	.0013	.0002	.0018
#2	-.0014	.0011	2.469	.0000	.0127	.0081	-.0005	.0000	.0018
#3	-.0003	.0022	2.471	.0000	.0128	.0082	-.0003	.0002	.0018

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2173.6**	**4716.3**	**33955.**	**6987.3**
Stddev	6.8	7.2	114.	21.3
%RSD	.31161	.15280	.33429	.30483
#1	2177.5	4721.7	33825.	7011.8
#2	2177.5	4719.1	34009.	6976.7
#3	2165.8	4708.1	34032.	6973.4

Zoom In Zoom Out

Sample Name: FA41989-31 Acquired: 3/17/2017 13:35:39 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0000**	**.0072**	**-.0007**	**.0083**	**-.0002**	**5.914**	**-.0003**	**.0009**	**.0002**
Stddev	.0001	.0054	.0003	.0003	.0000	.014	.0001	.0001	.0002
%RSD	132.0	74.22	46.93	3.780	9.545	.2288	22.59	8.057	79.22
#1	.0000	.0112	-.0011	.0087	-.0002	5.903	-.0002	.0008	.0004
#2	.0001	.0011	-.0007	.0081	-.0002	5.909	-.0004	.0009	.0004
#3	.0000	.0093	-.0004	.0082	-.0002	5.929	-.0003	.0010	.0000

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0010**	**.2941**	**1.859**	**2.226**	**.0225**	**-.0019**	**3.672**	**.0012**	**-.0005**
Stddev	.0002	.0023	.035	.025	.0001	.0001	.002	.0002	.0006
%RSD	20.26	.7841	1.899	1.142	.6443	6.369	.0523	17.69	124.0
#1	.0007	.2920	1.897	2.255	.0225	-.0018	3.669	.0010	-.0006
#2	.0011	.2966	1.851	2.208	.0224	-.0020	3.673	.0012	-.0010
#3	.0010	.2938	1.828	2.215	.0227	-.0019	3.672	.0014	.0002

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0004**	**.0005**	**6.084**	**-.0002**	**.0473**	**.0015**	**-.0006**	**.0000**	**.0040**
Stddev	.0004	.0010	.008	.0001	.0001	.0004	.0010	.0002	.0000
%RSD	100.7	218.5	.1314	38.55	.2025	23.67	164.6	2168.	.9690
#1	-.0007	-.0002	6.075	-.0001	.0473	.0015	-.0001	.0000	.0040
#2	.0000	.0016	6.090	-.0002	.0473	.0012	-.0018	.0002	.0040
#3	-.0005	.0000	6.087	-.0001	.0471	.0019	.0001	-.0002	.0039

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2159.1**	**4665.6**	**33810.**	**6993.3**
Stddev	5.1	2.5	229.	16.3
%RSD	.23725	.05462	.67785	.23329
#1	2159.6	4663.6	33551.	6986.9
#2	2153.8	4664.7	33895.	6981.2
#3	2164.0	4668.5	33985.	7011.9

Zoom In Zoom Out

Sample Name: FA41989-32 Acquired: 3/17/2017 13:40:07 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0001**	**.0770**	**-.0005**	**.0082**	**-.0001**	**5.831**	**-.0003**	**.0010**	**-.0001**
Stddev	.0001	.0025	.0008	.0002	.0001	.024	.0000	.0000	.0003
%RSD	100.1	3.282	160.1	2.258	34.48	.4182	12.60	2.358	288.4
#1	-.0002	.0741	-.0013	.0084	-.0002	5.859	-.0003	.0010	.0000
#2	.0000	.0787	-.0004	.0082	-.0001	5.819	-.0003	.0010	.0001
#3	-.0002	.0783	.0003	.0080	-.0002	5.814	-.0003	.0010	-.0005

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0009**	**.2967**	**1.821**	**2.174**	**.0230**	**-.0021**	**3.609**	**.0012**	**-.0010**
Stddev	.0001	.0007	.005	.024	.0001	.0001	.003	.0001	.0003
%RSD	9.096	.2422	.2554	1.097	.5163	4.417	.0858	9.546	34.64
#1	.0009	.2967	1.822	2.199	.0232	-.0020	3.612	.0013	-.0009
#2	.0008	.2975	1.816	2.152	.0229	-.0021	3.606	.0012	-.0007
#3	.0010	.2960	1.825	2.171	.0230	-.0021	3.608	.0011	-.0014

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.0000**	**.0019**	**6.036**	**-.0002**	**.0467**	**.0012**	**.0000**	**.0003**	**.0045**
Stddev	.001	.0007	.008	.0003	.0001	.0003	.001	.0002	.0000
%RSD	5723.	38.96	.1251	159.9	.1671	21.48	23470.	63.51	.8603
#1	.0010	.0013	6.033	-.0003	.0468	.0015	.0008	.0002	.0045
#2	-.0009	.0027	6.029	-.0005	.0466	.0011	-.0014	.0002	.0046
#3	-.0001	.0017	6.044	.0002	.0467	.0011	.0006	.0005	.0045

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2160.9**	**4666.5**	**34104.**	**7116.9**
Stddev	3.1	8.5	156.	50.2
%RSD	.14538	.18201	.45841	.70477
#1	2157.3	4662.3	33946.	7065.4
#2	2163.2	4676.2	34259.	7119.9
#3	2162.1	4660.8	34107.	7165.6

Zoom In Zoom Out

Sample Name: FA41989-2F Acquired: 3/17/2017 13:44:37 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0001**	**-.0063**	**.0002**	**.0267**	**-.0001**	**.2215**	**-.0003**	**-.0001**	**-.0002**
Stddev	.0003	.0026	.0009	.0002	.0000	.0001	.0000	.0001	.0004
%RSD	577.8	40.37	387.9	.6798	24.08	.0339	13.60	252.6	200.0
#1	.0003	-.0034	-.0006	.0265	-.0001	.2215	-.0003	-.0002	-.0007
#2	-.0003	-.0075	.0012	.0269	-.0001	.2214	-.0003	-.0001	.0002
#3	.0003	-.0081	.0001	.0267	-.0001	.2215	-.0004	.0001	-.0001

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0010**	**-.0095**	**1.822**	**.4129**	**.0035**	**-.0021**	**.7535**	**.0001**	**-.0001**
Stddev	.0002	.0016	.018	.0066	.0001	.0001	.0049	.0001	.0005
%RSD	18.03	17.12	1.013	1.603	2.080	6.290	.6523	123.2	906.7
#1	.0009	-.0111	1.833	.4182	.0035	-.0023	.7495	.0002	-.0007
#2	.0012	-.0079	1.800	.4150	.0035	-.0021	.7520	.0000	.0003
#3	.0010	-.0096	1.831	.4055	.0036	-.0020	.7590	.0000	.0002

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0002**	**.0014**	**1.664**	**-.0005**	**.0039**	**-.0005**	**-.0008**	**-.0002**	**.0032**
Stddev	.0006	.0010	.001	.0002	.0001	.0000	.0014	.0001	.0000
%RSD	368.2	74.05	.0713	44.44	1.778	4.783	183.7	34.81	.6203
#1	.0003	.0025	1.663	-.0007	.0039	-.0005	.0007	-.0002	.0032
#2	-.0009	.0004	1.663	-.0003	.0038	-.0005	-.0021	-.0002	.0032
#3	.0001	.0012	1.665	-.0006	.0039	-.0005	-.0009	-.0001	.0032

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2170.4**	**4717.5**	**34239.**	**7107.6**
Stddev	4.9	13.0	90.	53.2
%RSD	.22671	.27510	.26396	.74908
#1	2175.5	4729.3	34287.	7056.4
#2	2169.9	4719.5	34295.	7162.7
#3	2165.7	4703.6	34134.	7103.8

Zoom In Zoom Out

Sample Name: CCV Acquired: 3/17/2017 13:49:05 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2459**	**41.19**	**2.032**	**2.021**	**2.025**	**43.47**	**2.020**	**1.987**	**1.982**
Stddev	.0007	.13	.004	.003	.001	.05	.001	.000	.002
%RSD	.2770	.3212	.1970	.1307	.0702	.1196	.0548	.0093	.0900
#1	.2463	41.09	2.033	2.021	2.023	43.42	2.020	1.987	1.981
#2	.2451	41.13	2.035	2.023	2.026	43.52	2.020	1.987	1.984
#3	.2462	41.34	2.028	2.018	2.025	43.46	2.018	1.987	1.981
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.045**	**40.77**	**42.55**	**43.86**	**2.045**	**1.936**	**41.73**	**2.043**	**1.964**
Stddev	.005	.07	.04	.08	.002	.004	.04	.002	.002
%RSD	.2693	.1767	.1033	.1913	.1087	.2044	.0979	.0800	.1236
#1	2.040	40.70	42.52	43.85	2.047	1.932	41.69	2.043	1.961
#2	2.051	40.76	42.60	43.78	2.046	1.936	41.74	2.044	1.964
#3	2.046	40.84	42.53	43.95	2.043	1.940	41.77	2.041	1.966
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.036**	**1.996**	**.2454**	**2.064**	**2.002**	**2.023**	**2.046**	**2.022**	**2.059**
Stddev	.004	.003	.0006	.003	.003	.003	.004	.002	.003
%RSD	.1900	.1627	.2411	.1483	.1489	.1314	.2096	.0915	.1364
#1	2.037	1.993	.2460	2.066	1.998	2.020	2.045	2.020	2.059
#2	2.031	1.994	.2448	2.065	2.003	2.025	2.051	2.023	2.061
#3	2.039	1.999	.2452	2.060	2.004	2.024	2.042	2.022	2.056
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: CCV Acquired: 3/17/2017 13:49:05 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2024.8**	**4539.1**	**33337.**	**6786.6**
Stddev	2.9	6.5	50.	45.2
%RSD	.14502	.14327	.14973	.66581
#1	2024.9	4534.3	33373.	6800.8
#2	2027.7	4546.5	33280.	6823.0
#3	2021.8	4536.4	33358.	6736.0

Zoom In Zoom Out

Sample Name: CCB Acquired: 3/17/2017 13:53:16 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**-.0029**	**.0004**	**.0000**	**.0002**	**.0059**	**.0001**	**.0001**	**.0000**
Stddev	.0006	.0085	.0003	.000	.0001	.0004	.0000	.0001	.0003
%RSD	208.8	290.3	85.06	1008.	36.75	6.919	20.88	86.15	928.3
#1	.0003	.0042	.0005	-.0001	.0002	.0064	.0001	.0001	-.0003
#2	-.0003	-.0123	.0000	.0002	.0003	.0057	.0001	.0002	.0002
#3	.0008	-.0006	.0006	-.0002	.0001	.0057	.0000	.0000	.0003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0012**	**.0000**	**.0231**	**.0210**	**.0003**	**.0006**	**.0276**	**.0000**	**.0006**
Stddev	.0001	.001	.0127	.0121	.0000	.0004	.0059	.000	.0003
%RSD	5.677	2766.	55.13	57.58	13.77	70.47	21.47	1438.	55.99
#1	.0012	-.0001	.0260	.0130	.0003	.0011	.0218	.0003	.0009
#2	.0011	-.0010	.0091	.0150	.0003	.0006	.0274	-.0002	.0002
#3	.0012	.0010	.0340	.0349	.0002	.0002	.0337	-.0001	.0007
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	F **.0021**	**-.0012**	**.0001**	**.0003**	**.0001**	**.0019**	**.0000**	**.0001**
Stddev	.0005	.0009	.0002	.0001	.0000	.0001	.0010	.000	.0000
%RSD	347.4	42.65	13.49	142.4	16.82	50.05	51.80	568.0	48.00
#1	.0002	.0030	-.0010	.0002	.0002	.0002	.0013	.0002	.0001
#2	.0006	.0014	-.0014	.0002	.0003	.0001	.0015	-.0002	.0001
#3	-.0004	.0018	-.0012	-.0001	.0003	.0002	.0031	-.0002	.0002
Check ?	Chk Pass	Chk Fail	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		.0020							
Low Limit		-.0020							

Zoom In Zoom Out

Sample Name: CCB Acquired: 3/17/2017 13:53:16 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2154.4**	**4691.6**	**33829.**	**6926.8**
Stddev	4.6	12.5	28.	95.0
%RSD	.21200	.26727	.08340	1.3715
#1	2149.3	4686.3	33801.	6819.2
#2	2155.8	4682.5	33857.	6962.1
#3	2158.1	4705.9	33828.	6999.1

Zoom In Zoom Out

Sample Name: FA41989-3F Acquired: 3/17/2017 13:57:47 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0001**	**-.0112**	**-.0004**	**.0204**	**-.0002**	**1.382**	**-.0004**	**-.0001**	**-.0004**
Stddev	.0003	.0088	.0005	.0001	.0000	.005	.0000	.0002	.0003
%RSD	244.9	78.66	113.8	.6483	19.50	.3394	5.368	138.1	56.39
#1	.0002	-.0213	.0000	.0205	-.0001	1.384	-.0004	.0001	-.0002
#2	-.0003	-.0057	-.0010	.0203	-.0002	1.377	-.0005	-.0002	-.0004
#3	-.0002	-.0065	-.0004	.0203	-.0002	1.386	-.0004	-.0002	-.0007

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0033**	**10.43**	**1.887**	**.9313**	**.2607**	**-.0013**	**1.179**	**-.0002**	**-.0014**
Stddev	.0001	.03	.026	.0072	.0009	.0004	.009	.0001	.0008
%RSD	3.015	.2874	1.374	.7720	.3417	30.64	.7630	68.85	58.48
#1	.0033	10.40	1.916	.9230	.2604	-.0009	1.182	-.0003	-.0012
#2	.0032	10.46	1.881	.9356	.2600	-.0013	1.169	.0000	-.0023
#3	.0034	10.42	1.865	.9353	.2617	-.0017	1.186	-.0002	-.0007

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.0000**	**.0010**	**1.184**	**-.0001**	**.0128**	**-.0002**	**-.0012**	**.0001**	**.0008**
Stddev	.001	.0003	.005	.0003	.0001	.0002	.0018	.0002	.0001
%RSD	1786.	33.70	.4574	326.0	.9329	117.3	155.0	294.4	7.450
#1	.0006	.0013	1.179	-.0005	.0128	-.0001	-.0022	.0002	.0008
#2	-.0003	.0010	1.183	.0001	.0129	-.0001	-.0022	-.0001	.0008
#3	-.0004	.0006	1.190	.0001	.0126	-.0005	.0009	.0001	.0009

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2161.6**	**4717.3**	**34236.**	**7111.0**
Stddev	3.6	11.5	68.	3.5
%RSD	.16712	.24279	.19769	.04913
#1	2157.7	4727.7	34304.	7106.9
#2	2164.8	4719.2	34235.	7112.7
#3	2162.5	4705.1	34169.	7113.2

Zoom In Zoom Out

Sample Name: FA41989-4F Acquired: 3/17/2017 14:02:16 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0002**	**-.0061**	**-.0007**	**.0026**	**-.0001**	**16.05**	**-.0003**	**-.0003**	**-.0002**
Stddev	.0002	.0033	.0006	.0002	.0000	.05	.0000	.0001	.0001
%RSD	76.69	53.90	90.18	8.762	12.96	.2945	11.46	28.52	52.16
#1	.0000	-.0042	-.0006	.0029	-.0001	16.05	-.0003	-.0002	-.0003
#2	-.0003	-.0100	-.0001	.0025	-.0001	16.10	-.0004	-.0004	-.0001
#3	-.0004	-.0043	-.0013	.0025	-.0001	16.00	-.0003	-.0003	-.0002

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0007**	**.0397**	**1.388**	**1.280**	**.0128**	**-.0014**	**5.869**	**-.0004**	**-.0014**
Stddev	.0001	.0018	.011	.021	.0001	.0002	.013	.0001	.0004
%RSD	20.14	4.643	.7615	1.606	.7684	14.10	.2229	16.97	25.29
#1	.0008	.0414	1.392	1.275	.0127	-.0013	5.867	-.0003	-.0012
#2	.0005	.0377	1.397	1.302	.0129	-.0016	5.883	-.0004	-.0013
#3	.0007	.0400	1.377	1.262	.0129	-.0012	5.857	-.0004	-.0018

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0005**	**.0002**	**5.912**	**.0000**	**.1554**	**.0004**	**.0002**	**-.0001**	**.0007**
Stddev	.0004	.0021	.010	.000	.0002	.0000	.0005	.0004	.0000
%RSD	64.32	1331.	.1742	375.9	.1018	7.546	272.2	338.5	3.194
#1	-.0007	-.0012	5.924	.0001	.1553	.0004	.0007	.0003	.0007
#2	-.0001	-.0009	5.905	-.0002	.1555	.0004	-.0002	-.0004	.0006
#3	-.0008	.0026	5.908	-.0001	.1553	.0004	.0001	-.0003	.0007

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2174.1**	**4721.7**	**34305.**	**7045.2**
Stddev	5.3	10.5	150.	87.5
%RSD	.24254	.22175	.43625	1.2419
#1	2170.1	4713.4	34387.	7101.1
#2	2180.1	4733.5	34396.	6944.3
#3	2172.1	4718.3	34132.	7090.0

Zoom In Zoom Out

Sample Name: FA41989-5F Acquired: 3/17/2017 14:06:45 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0001**	**-.0077**	**-.0007**	**.0021**	**-.0002**	**8.127**	**-.0003**	**-.0002**	**-.0003**
Stddev	.0006	.0025	.0004	.0001	.0000	.032	.0000	.0001	.0001
%RSD	899.4	32.88	52.41	6.848	19.49	.3981	11.45	37.93	24.34
#1	.0001	-.0057	-.0004	.0021	-.0001	8.148	-.0004	-.0003	-.0003
#2	.0004	-.0106	-.0011	.0023	-.0002	8.143	-.0003	-.0001	-.0002
#3	-.0007	-.0068	-.0007	.0020	-.0002	8.090	-.0003	-.0002	-.0002

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0007**	**.1563**	**1.765**	**2.077**	**.0110**	**.0010**	**4.791**	**-.0003**	**-.0002**
Stddev	.0001	.0028	.018	.020	.0000	.0003	.009	.0002	.0001
%RSD	13.14	1.765	1.029	.9603	.2540	31.69	.1767	67.80	52.57
#1	.0006	.1591	1.752	2.080	.0111	.0009	4.787	-.0002	-.0001
#2	.0008	.1560	1.786	2.095	.0110	.0013	4.801	-.0005	-.0003
#3	.0006	.1536	1.758	2.056	.0110	.0007	4.785	-.0001	-.0003

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0002**	**.0013**	**.0551**	**-.0005**	**.0528**	**.0001**	**-.0017**	**-.0002**	**.0005**
Stddev	.0004	.0011	.0008	.0001	.0002	.0000	.0011	.0002	.0000
%RSD	193.8	89.51	1.451	19.20	.3730	34.93	62.25	90.85	3.584
#1	-.0005	.0024	.0560	-.0004	.0528	.0001	-.0021	.0000	.0005
#2	-.0003	.0001	.0548	-.0006	.0530	.0002	-.0005	-.0002	.0004
#3	.0002	.0014	.0546	-.0004	.0526	.0001	-.0026	-.0004	.0005

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2159.1**	**4715.8**	**34120.**	**6990.5**
Stddev	2.8	9.1	75.	26.8
%RSD	.13165	.19259	.21949	.38375
#1	2162.3	4724.3	34206.	7021.4
#2	2157.2	4706.2	34088.	6976.7
#3	2157.6	4717.0	34067.	6973.3

Zoom In Zoom Out

Sample Name: FA41989-6F Acquired: 3/17/2017 14:11:15 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0000**	**-.0070**	**-.0005**	**.2719**	**-.0002**	**28.39**	**-.0003**	**-.0004**	**.0016**
Stddev	.0002	.0047	.0005	.0007	.0001	.08	.0000	.0000	.0000
%RSD	489.8	67.24	97.84	.2598	31.21	.2714	12.31	2.494	2.526
#1	-.0002	-.0070	.0000	.2719	-.0002	28.46	-.0003	-.0004	.0016
#2	.0001	-.0118	-.0010	.2712	-.0002	28.31	-.0003	-.0004	.0015
#3	.0002	-.0023	-.0006	.2726	-.0001	28.40	-.0003	-.0004	.0016

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0006**	**-.0062**	**5.041**	**17.10**	**.0001**	**-.0022**	**14.06**	**.0004**	**-.0008**
Stddev	.0003	.0009	.009	.12	.0001	.0002	.03	.0003	.0002
%RSD	43.11	14.77	.1678	.6757	47.77	10.04	.1782	61.18	22.71
#1	.0003	-.0061	5.045	17.17	.0001	-.0024	14.07	.0005	-.0007
#2	.0006	-.0071	5.031	16.97	.0001	-.0022	14.03	.0006	-.0007
#3	.0009	-.0053	5.046	17.16	.0002	-.0019	14.08	.0001	-.0010

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.0004**	**.0011**	**4.171**	**-.0002**	**.2889**	**.0006**	**.0004**	**-.0003**	**.0052**
Stddev	.0005	.0005	.009	.0002	.0008	.0000	.0025	.0002	.0000
%RSD	125.2	40.99	.2037	86.14	.2823	8.469	641.6	55.80	.4556
#1	.0002	.0010	4.174	-.0002	.2882	.0006	-.0013	-.0006	.0051
#2	.0010	.0016	4.161	-.0004	.2887	.0005	-.0008	-.0003	.0052
#3	.0000	.0008	4.178	.0000	.2898	.0006	.0033	-.0002	.0052

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2155.6**	**4726.6**	**34503.**	**7025.8**
Stddev	6.0	13.6	63.	47.3
%RSD	.27972	.28832	.18402	.67387
#1	2148.8	4710.9	34447.	6993.1
#2	2157.5	4735.3	34572.	7080.1
#3	2160.4	4733.6	34490.	7004.2

Zoom In Zoom Out

Sample Name: FA41989-7F Acquired: 3/17/2017 14:15:44 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0000**	**-.0063**	**-.0010**	**.0546**	**-.0002**	**65.15**	**-.0003**	**-.0003**	**.0151**
Stddev	.000	.0043	.0004	.0002	.0000	.08	.0000	.0002	.0003
%RSD	765.9	68.53	35.36	.3652	16.65	.1177	3.069	65.98	1.951
#1	-.0002	-.0104	-.0013	.0544	-.0001	65.24	-.0003	-.0006	.0149
#2	.0003	-.0018	-.0011	.0548	-.0002	65.13	-.0003	-.0001	.0149
#3	-.0002	-.0066	-.0006	.0546	-.0002	65.09	-.0004	-.0003	.0154

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0006**	**-.0037**	**5.896**	**30.56**	**.0001**	**-.0023**	**44.45**	**-.0002**	**.0002**
Stddev	.0002	.0028	.028	.11	.0001	.0001	.03	.0001	.0004
%RSD	29.45	74.72	.4690	.3594	98.94	2.808	.0772	58.52	168.6
#1	.0005	-.0008	5.879	30.68	.0000	-.0022	44.41	-.0002	.0000
#2	.0008	-.0063	5.927	30.46	.0001	-.0023	44.47	-.0002	.0000
#3	.0006	-.0041	5.881	30.53	.0001	-.0024	44.47	-.0001	.0007

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.0006**	**.0018**	**4.704**	**-.0005**	**.5709**	**.0006**	**-.0014**	**-.0003**	**.0019**
Stddev	.0002	.0004	.009	.0001	.0011	.0002	.0011	.0001	.0001
%RSD	35.14	23.38	.2018	22.37	.1956	27.64	76.72	38.85	2.644
#1	.0003	.0014	4.696	-.0004	.5698	.0004	-.0025	-.0002	.0020
#2	.0007	.0018	4.714	-.0007	.5720	.0007	-.0013	-.0005	.0019
#3	.0007	.0023	4.700	-.0005	.5709	.0007	-.0004	-.0003	.0020

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2120.0**	**4743.1**	**35106.**	**7187.7**
Stddev	.4	13.3	83.	42.0
%RSD	.02007	.27966	.23540	.58481
#1	2120.4	4755.1	35103.	7148.9
#2	2119.6	4728.8	35025.	7181.7
#3	2119.9	4745.3	35191.	7232.3

Zoom In Zoom Out

Sample Name: FA41989-9F Acquired: 3/17/2017 14:20:12 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0003**	**.0646**	**-.0009**	**.0439**	**.0000**	**3.379**	**-.0001**	**-.0001**	**.0038**
Stddev	.0004	.0090	.0008	.0001	.000	.004	.0000	.0000	.0003
%RSD	164.1	13.95	85.04	.2884	115.6	.1243	33.18	48.98	8.922
#1	-.0006	.0544	-.0014	.0438	.0000	3.375	-.0001	-.0001	.0041
#2	.0002	.0713	.0000	.0441	.0000	3.377	-.0001	.0000	.0036
#3	-.0003	.0681	-.0012	.0439	-.0001	3.383	-.0001	-.0001	.0036

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0008**	**-.0068**	**4.701**	**6.179**	**.0059**	**-.0021**	F **86.95**	**.0021**	**-.0005**
Stddev	.0002	.0014	.019	.027	.0000	.0003	.27	.0000	.0004
%RSD	28.10	20.34	.4045	.4436	.6381	12.89	.3084	2.167	74.79
#1	.0005	-.0060	4.700	6.173	.0059	-.0024	86.98	.0021	-.0003
#2	.0008	-.0084	4.721	6.209	.0059	-.0021	87.20	.0020	-.0010
#3	.0010	-.0061	4.683	6.155	.0058	-.0019	86.67	.0021	-.0004

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0005**	**.0018**	**3.273**	**-.0002**	**.0291**	**-.0002**	**-.0006**	**-.0001**	**.0299**
Stddev	.0005	.0091	.008	.0004	.0002	.0001	.0004	.0003	.0001
%RSD	99.66	504.8	.2384	157.2	.5462	67.74	64.50	345.0	.3256
#1	.0001	.0073	3.264	-.0006	.0290	-.0001	-.0007	.0002	.0298
#2	-.0008	.0068	3.275	-.0003	.0293	-.0001	-.0010	-.0002	.0300
#3	-.0008	-.0087	3.279	.0002	.0290	-.0003	-.0002	-.0003	.0300

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2145.0**	**4757.1**	**34721.**	**7024.9**
Stddev	3.5	9.0	74.	45.3
%RSD	.16246	.19019	.21406	.64518
#1	2142.2	4767.1	34650.	7062.3
#2	2148.9	4754.9	34713.	7038.0
#3	2144.0	4749.4	34798.	6974.5

Zoom In Zoom Out

Sample Name: FA41989-11F Acquired: 3/17/2017 14:24:41 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0001**	**.0735**	**-.0009**	**.0449**	**.0000**	**3.324**	**-.0001**	**-.0001**	**.0041**
Stddev	.0002	.0070	.0011	.0002	.000	.017	.0001	.0001	.0001
%RSD	288.3	9.507	116.1	.5423	189.8	.5118	53.48	62.77	1.983
#1	.0000	.0747	-.0010	.0452	.0000	3.326	-.0002	-.0001	.0041
#2	-.0003	.0660	-.0019	.0449	-.0001	3.341	-.0001	-.0001	.0041
#3	.0001	.0798	.0002	.0447	.0000	3.307	.0000	-.0002	.0042

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0012**	**-.0032**	**4.652**	**6.097**	**.0058**	**-.0022**	F **84.62**	**.0020**	**.0000**
Stddev	.0002	.0006	.020	.034	.0001	.0001	.23	.0000	.0005
%RSD	14.64	17.80	.4349	.5620	1.044	5.777	.2720	1.647	5439.
#1	.0010	-.0038	4.662	6.086	.0058	-.0020	84.56	.0020	.0005
#2	.0014	-.0032	4.629	6.136	.0058	-.0021	84.87	.0020	-.0001
#3	.0013	-.0026	4.666	6.070	.0059	-.0023	84.43	.0020	-.0004

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.0009**	**.0071**	**3.233**	**-.0002**	**.0289**	**.0001**	**-.0003**	**-.0002**	**.0299**
Stddev	.0014	.0006	.011	.0003	.0002	.0001	.0008	.0000	.0001
%RSD	152.4	9.131	.3517	171.7	.6916	65.83	238.8	20.68	.3257
#1	.0007	.0067	3.223	-.0001	.0288	.0001	-.0013	-.0001	.0298
#2	.0024	.0078	3.229	-.0005	.0291	.0000	.0002	-.0002	.0298
#3	-.0004	.0066	3.245	.0001	.0287	.0001	.0001	-.0002	.0300

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2139.6**	**4753.8**	**34739.**	**6967.6**
Stddev	1.7	5.0	55.	20.1
%RSD	.07840	.10569	.15790	.28776
#1	2140.2	4756.7	34754.	6987.8
#2	2140.9	4756.8	34678.	6947.7
#3	2137.7	4748.0	34785.	6967.3

Zoom In Zoom Out

Sample Name: FA41989-12F Acquired: 3/17/2017 14:29:09 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0001**	**.0426**	**-.0009**	**.0860**	**.0000**	**.5211**	**-.0003**	**-.0003**	**.0004**
Stddev	.0004	.0054	.0010	.0002	.000	.0019	.0000	.0000	.0001
%RSD	328.9	12.77	104.2	.1842	137.3	.3689	14.80	8.208	25.86
#1	-.0003	.0461	.0000	.0859	-.0001	.5190	-.0003	-.0003	.0004
#2	.0002	.0453	-.0008	.0862	.0000	.5227	-.0003	-.0003	.0003
#3	.0005	.0363	-.0019	.0859	.0000	.5217	-.0002	-.0003	.0005

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0009**	**-.0076**	**1.839**	**2.934**	**.0197**	**-.0022**	**2.350**	**.0010**	**-.0002**
Stddev	.0002	.0008	.022	.011	.0001	.0000	.013	.0001	.0004
%RSD	24.96	10.01	1.199	.3637	.4321	1.912	.5329	13.09	266.5
#1	.0007	-.0071	1.864	2.943	.0198	-.0022	2.354	.0010	-.0006
#2	.0011	-.0073	1.833	2.922	.0197	-.0022	2.336	.0011	.0000
#3	.0011	-.0085	1.821	2.936	.0196	-.0022	2.360	.0008	.0002

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0001**	**.0017**	**1.838**	**-.0006**	**.0157**	**-.0003**	**-.0012**	**-.0002**	**.0176**
Stddev	.0005	.0018	.004	.0002	.0001	.0001	.0007	.0000	.0001
%RSD	417.7	109.1	.2288	28.63	.6123	25.37	54.09	17.22	.3498
#1	-.0001	-.0002	1.835	-.0007	.0158	-.0003	-.0013	-.0002	.0176
#2	-.0007	.0034	1.837	-.0004	.0156	-.0003	-.0005	-.0002	.0177
#3	.0004	.0017	1.843	-.0006	.0158	-.0004	-.0018	-.0003	.0176

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2163.0**	**4767.3**	**34301.**	**7119.4**
Stddev	2.7	3.0	103.	37.4
%RSD	.12503	.06238	.30024	.52503
#1	2166.1	4770.6	34184.	7078.6
#2	2162.2	4764.7	34377.	7152.1
#3	2160.9	4766.5	34341.	7127.6

Zoom In Zoom Out

Sample Name: FA41989-13F Acquired: 3/17/2017 14:33:39 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0000**	**.0316**	**-.0008**	**.0942**	**.0000**	**1.341**	**-.0002**	**-.0001**	**.0004**
Stddev	.000	.0025	.0003	.0001	.000	.007	.0000	.0001	.0003
%RSD	261.4	7.987	34.14	.1409	588.8	.5096	2.103	59.24	75.02
#1	.0000	.0293	-.0009	.0940	.0001	1.347	-.0002	-.0001	.0008
#2	-.0002	.0343	-.0005	.0943	.0000	1.342	-.0003	-.0001	.0003
#3	.0000	.0311	-.0010	.0941	.0000	1.333	-.0003	.0000	.0002

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0008**	**-.0063**	**2.264**	**4.789**	**.0656**	**-.0024**	**4.879**	**.0028**	**-.0003**
Stddev	.0003	.0022	.026	.021	.0002	.0002	.003	.0001	.0003
%RSD	40.38	34.19	1.152	.4332	.3261	7.146	.0648	2.345	101.8
#1	.0004	-.0070	2.289	4.813	.0658	-.0024	4.881	.0028	-.0004
#2	.0009	-.0039	2.237	4.776	.0654	-.0025	4.875	.0028	.0000
#3	.0010	-.0081	2.267	4.777	.0656	-.0022	4.880	.0029	-.0005

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0007**	**.0022**	**1.843**	**-.0005**	**.0273**	**-.0003**	**-.0016**	**-.0002**	**.0260**
Stddev	.0012	.0011	.003	.0002	.0002	.0000	.0011	.0001	.0002
%RSD	173.8	51.04	.1437	52.14	.7333	4.403	69.96	35.70	.6844
#1	-.0007	.0031	1.846	-.0003	.0274	-.0003	-.0028	-.0002	.0260
#2	.0005	.0009	1.842	-.0007	.0273	-.0003	-.0005	-.0003	.0262
#3	-.0018	.0026	1.842	-.0003	.0270	-.0003	-.0016	-.0001	.0258

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2175.1**	**4790.5**	**34676.**	**7126.5**
Stddev	2.3	3.0	26.	23.0
%RSD	.10588	.06198	.07586	.32277
#1	2177.2	4789.6	34691.	7113.2
#2	2172.7	4788.1	34691.	7153.0
#3	2175.5	4793.8	34646.	7113.2

Zoom In Zoom Out

Sample Name: FA41989-14F Acquired: 3/17/2017 14:38:06 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0002**	**27.48**	**.0034**	**-.0002**	**-.0003**	**.0460**	**-.0003**	**-.0002**	**.6788**
Stddev	.0002	.10	.0004	.0001	.0001	.0023	.0001	.0001	.0018
%RSD	145.6	.3651	12.78	39.92	16.38	5.087	16.55	35.92	.2597
#1	.0001	27.55	.0031	-.0002	-.0003	.0464	-.0003	-.0001	.6798
#2	-.0003	27.36	.0039	-.0002	-.0004	.0481	-.0004	-.0002	.6767
#3	-.0003	27.52	.0033	-.0001	-.0003	.0434	-.0003	-.0002	.6798

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0002**	**-.0060**	**1.133**	**.0079**	**.0090**	**.0031**	**F 539.3**	**-.0005**	**.0006**
Stddev	.0003	.0014	.017	.0142	.0000	.0002	10.3	.0002	.0002
%RSD	139.4	23.37	1.519	180.9	.2279	6.522	1.905	44.13	26.88
#1	.0004	-.0058	1.129	.0223	.0090	.0030	543.1	-.0002	.0007
#2	.0003	-.0074	1.118	.0075	.0090	.0033	547.2	-.0006	.0005
#3	-.0001	-.0046	1.152	-.0062	.0090	.0029	527.7	-.0005	.0004

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0007**	**.0074**	**4.099**	**-.0001**	**.0004**	**-.0002**	**.0005**	**.4056**	**-.0002**
Stddev	.0019	.0014	.006	.0002	.0001	.0000	.0017	.0013	.0001
%RSD	254.2	18.65	.1560	225.8	20.28	17.75	360.5	.3138	40.80
#1	-.0029	.0076	4.104	-.0001	.0004	-.0002	.0017	.4071	-.0001
#2	.0001	.0086	4.092	-.0003	.0005	-.0002	.0012	.4048	-.0002
#3	.0005	.0059	4.100	.0001	.0003	-.0001	-.0014	.4050	-.0003

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2034.0**	**4602.8**	**34011.**	**6811.2**
Stddev	8.7	9.9	30.	21.4
%RSD	.42927	.21439	.08866	.31453
#1	2035.4	4603.3	33982.	6821.8
#2	2042.0	4612.4	34008.	6786.6
#3	2024.7	4592.7	34042.	6825.3

Zoom In Zoom Out

Sample Name: CCV Acquired: 3/17/2017 14:42:42 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2455**	**41.61**	**2.002**	**1.999**	**2.025**	**43.32**	**1.996**	**1.978**	**1.978**
Stddev	.0004	.12	.004	.006	.003	.09	.004	.005	.005
%RSD	.1624	.2799	.2218	.2777	.1701	.2046	.1833	.2611	.2508
#1	.2453	41.56	1.998	2.006	2.022	43.32	1.992	1.972	1.984
#2	.2460	41.74	2.006	1.996	2.023	43.23	1.998	1.978	1.977
#3	.2453	41.53	2.000	1.996	2.029	43.40	1.999	1.983	1.974
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.013**	**41.02**	**42.35**	**43.56**	**2.024**	**1.929**	**40.39**	**2.006**	**1.955**
Stddev	.004	.04	.08	.19	.001	.007	.07	.006	.005
%RSD	.1803	.1067	.1835	.4278	.0271	.3889	.1622	.2926	.2685
#1	2.017	41.06	42.41	43.41	2.023	1.921	40.39	1.999	1.955
#2	2.010	40.98	42.38	43.50	2.024	1.930	40.33	2.007	1.950
#3	2.012	41.03	42.27	43.77	2.023	1.936	40.46	2.010	1.961
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.005**	**1.985**	**.2425**	**2.013**	**1.989**	**2.005**	**2.039**	**2.001**	**2.015**
Stddev	.003	.005	.0002	.004	.006	.005	.004	.003	.004
%RSD	.1533	.2698	.0894	.1780	.2944	.2388	.1864	.1455	.2069
#1	2.002	1.979	.2427	2.010	1.993	2.010	2.035	2.004	2.011
#2	2.004	1.985	.2422	2.017	1.992	2.004	2.039	2.001	2.019
#3	2.008	1.990	.2425	2.013	1.982	2.001	2.043	1.998	2.015
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: CCV Acquired: 3/17/2017 14:42:42 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2026.2**	**4604.2**	**33589.**	**6772.7**
Stddev	5.8	7.6	61.	18.2
%RSD	.28510	.16540	.18128	.26873
#1	2026.3	4609.6	33519.	6783.2
#2	2031.9	4607.5	33617.	6783.2
#3	2020.4	4595.5	33631.	6751.7

Zoom In Zoom Out

Sample Name: CCB Acquired: 3/17/2017 14:46:53 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**-.0145**	**.0001**	**-.0002**	**.0000**	**.0005**	**-.0002**	**-.0001**	**-.0002**
Stddev	.0003	.0011	.0006	.0002	.000	.0011	.0001	.0001	.0002
%RSD	792.6	7.366	1053.	123.0	1299.	246.8	46.78	135.1	117.5
#1	.0003	-.0140	.0006	.0000	.0000	.0016	-.0001	-.0001	-.0001
#2	-.0003	-.0138	-.0005	-.0004	.0000	-.0007	-.0002	-.0002	-.0004
#3	.0001	-.0158	.0000	-.0001	-.0001	.0005	-.0002	.0000	.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0006**	**-.0031**	**.0495**	**.0184**	**.0000**	**.0003**	**.0740**	**-.0001**	**.0001**
Stddev	.0001	.0028	.0413	.0041	.000	.0005	.0058	.0000	.0003
%RSD	10.90	88.88	83.37	22.03	131.8	173.9	7.905	24.19	421.2
#1	.0005	-.0023	.0462	.0159	-.0001	.0007	.0706	-.0001	.0005
#2	.0005	-.0009	.0924	.0163	.0000	.0002	.0807	-.0001	.0000
#3	.0006	-.0063	.0100	.0231	-.0001	-.0002	.0706	-.0001	-.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0009**	**.0004**	**-.0012**	**-.0002**	**.0001**	**.0000**	**.0005**	**.0001**	**-.0003**
Stddev	.0008	.0006	.0002	.0001	.0001	.000	.0005	.0001	.0000
%RSD	91.82	150.1	18.60	50.50	77.59	296.0	106.1	195.1	17.98
#1	.0010	-.0003	-.0014	-.0002	.0001	-.0002	.0003	.0002	-.0003
#2	.0017	.0008	-.0010	-.0002	.0000	.0000	.0010	.0000	-.0003
#3	.0000	.0007	-.0013	-.0001	.0002	.0000	.0001	.0000	-.0002
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: CCB Acquired: 3/17/2017 14:46:53 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2164.2**	**4771.0**	**34247.**	**7016.9**
Stddev	4.2	5.2	234.	21.3
%RSD	.19602	.10801	.68273	.30368
#1	2165.9	4770.7	34490.	7007.6
#2	2159.4	4766.0	34228.	7001.8
#3	2167.4	4776.3	34023.	7041.3

Zoom In Zoom Out

Sample Name: CCV Acquired: 3/17/2017 15:05:55 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2540**	**39.84**	**2.022**	**2.042**	**2.044**	**40.03**	**2.035**	**2.031**	**2.031**
Stddev	.0002	.20	.006	.011	.009	.23	.004	.003	.004
%RSD	.0695	.5068	.2995	.5145	.4454	.5859	.2235	.1485	.1780
#1	.2541	39.93	2.017	2.053	2.053	40.30	2.030	2.029	2.026
#2	.2538	39.98	2.029	2.040	2.045	39.93	2.039	2.035	2.033
#3	.2541	39.61	2.020	2.032	2.035	39.86	2.034	2.030	2.033
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.988**	**41.11**	**39.64**	**39.73**	**2.049**	**2.053**	**39.93**	**2.025**	**1.994**
Stddev	.003	.16	.22	.22	.001	.001	.18	.004	.001
%RSD	.1321	.4001	.5489	.5527	.0584	.0672	.4626	.2186	.0683
#1	1.989	41.21	39.83	39.97	2.050	2.052	40.12	2.021	1.995
#2	1.985	41.20	39.70	39.55	2.047	2.054	39.92	2.030	1.995
#3	1.991	40.92	39.40	39.66	2.048	2.052	39.75	2.025	1.993
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.020**	**2.028**	**2.665**	**2.048**	**2.085**	**2.042**	**2.000**	**2.051**	**2.022**
Stddev	.004	.002	.001	.009	.010	.002	.003	.001	.007
%RSD	.1892	.1035	.0411	.4318	.5000	.0850	.1664	.0436	.3634
#1	2.019	2.027	2.665	2.040	2.092	2.041	2.004	2.051	2.016
#2	2.017	2.026	2.666	2.057	2.089	2.042	1.997	2.050	2.030
#3	2.024	2.030	2.664	2.045	2.073	2.044	2.000	2.051	2.021
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: CCV Acquired: 3/17/2017 15:05:55 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2027.4**	**4615.3**	**33986.**	**6808.1**
Stddev	3.4	6.1	92.	32.3
%RSD	.16948	.13312	.27167	.47399
#1	2025.4	4622.0	33897.	6771.7
#2	2031.4	4613.8	33979.	6819.6
#3	2025.5	4610.0	34082.	6833.1

Zoom In Zoom Out

Sample Name: CCB Acquired: 3/17/2017 15:10:35 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**.0048**	**.0013**	**.0002**	**.0002**	**.0019**	**.0003**	**.0002**	**.0001**
Stddev	.0003	.0054	.0005	.0001	.0001	.0025	.0000	.0000	.0000
%RSD	120.5	114.0	35.03	41.78	28.81	132.0	14.60	17.48	28.13
#1	-.0002	.0104	.0010	.0002	.0002	.0005	.0003	.0002	.0001
#2	.0000	-.0004	.0011	.0003	.0002	.0048	.0003	.0002	.0001
#3	-.0006	.0042	.0019	.0001	.0001	.0004	.0004	.0002	.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**.0084**	**-.0004**	**.0010**	**.0002**	F **.0035**	**-.0125**	**.0005**	**.0009**
Stddev	.0001	.0029	.0235	.0205	.0001	.0008	.0046	.0001	.0006
%RSD	310.0	35.19	5496.	2015.	29.56	21.46	36.52	19.52	65.22
#1	-.0001	.0113	.0242	.0116	.0001	.0043	-.0150	.0004	.0017
#2	.0002	.0085	-.0029	.0140	.0002	.0035	-.0072	.0004	.0007
#3	.0000	.0054	-.0226	-.0226	.0002	.0028	-.0152	.0006	.0005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit						.0010			
Low Limit						-.0010			

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**.0002**	**-.0004**	**.0002**	**.0002**	**.0007**	F **.0029**	**.0004**	**.0004**
Stddev	.0008	.0012	.0006	.0000	.0000	.0001	.0011	.0000	.0001
%RSD	197.7	496.0	142.5	18.84	25.28	9.620	36.47	7.179	38.05
#1	-.0011	-.0008	-.0010	.0003	.0001	.0007	.0039	.0004	.0003
#2	.0005	.0015	-.0003	.0003	.0001	.0008	.0029	.0003	.0003
#3	-.0007	.0000	.0001	.0002	.0002	.0006	.0018	.0004	.0005
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass
High Limit							.0020		
Low Limit							-.0020		

Zoom In Zoom Out

Sample Name: CCB Acquired: 3/17/2017 15:10:35 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2174.3**	**4798.9**	**34351.**	**7007.2**
Stddev	5.5	10.7	182.	46.5
%RSD	.25310	.22348	.52948	.66344
#1	2179.3	4794.0	34238.	6955.4
#2	2175.2	4811.2	34561.	7045.3
#3	2168.4	4791.4	34255.	7020.9

Zoom In Zoom Out

Sample Name: FA41989-20F Acquired: 3/17/2017 15:14:11 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0001**	**.0201**	**.0010**	**.0114**	**.0000**	**.9642**	**.0000**	**.0000**	**.0005**
Stddev	.0003	.0111	.0013	.0001	.0000	.0124	.0000	.000	.0003
%RSD	291.9	55.14	130.4	.7111	75.99	1.288	96.54	146.4	63.94
#1	.0000	.0263	.0015	.0113	.0000	.9628	.0000	-.0001	.0004
#2	-.0004	.0073	.0019	.0114	.0000	.9525	.0000	.0000	.0008
#3	.0001	.0267	-.0005	.0113	.0000	.9772	.0000	-.0001	.0002

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0028**	**.0297**	**1.080**	**.5801**	**.0013**	**.0009**	**30.21**	**.0001**	**.0004**
Stddev	.0001	.0007	.009	.0145	.0000	.0002	.10	.0001	.0003
%RSD	3.290	2.322	.8569	2.493	3.730	18.38	.3366	124.3	81.25
#1	.0030	.0291	1.070	.5721	.0013	.0011	30.18	.0002	.0000
#2	.0028	.0296	1.088	.5715	.0012	.0009	30.12	.0000	.0006
#3	.0028	.0305	1.082	.5968	.0013	.0008	30.32	.0001	.0005

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0001**	**.0012**	**2.206**	**.0002**	**.0087**	**.0023**	**.0007**	**.0011**	**.0028**
Stddev	.0009	.0003	.004	.0003	.0001	.0001	.0008	.0002	.0000
%RSD	1225.	26.39	.1639	176.9	1.113	4.190	121.7	13.58	1.155
#1	.0009	.0015	2.209	.0003	.0087	.0023	.0015	.0010	.0029
#2	-.0007	.0009	2.202	-.0002	.0086	.0022	.0007	.0011	.0028
#3	-.0004	.0013	2.208	.0003	.0087	.0024	-.0002	.0013	.0028

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2180.2**	**4781.8**	**34902.**	**6969.9**
Stddev	2.7	4.6	86.	58.9
%RSD	.12488	.09643	.24543	.84472
#1	2178.3	4779.7	35000.	7026.8
#2	2179.0	4778.6	34843.	6973.7
#3	2183.3	4787.1	34862.	6909.3

Zoom In Zoom Out

Sample Name: FA41989-10F Acquired: 3/17/2017 15:18:40 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0001**	**.0462**	**.0009**	**.0610**	**.0000**	**3.666**	**.0001**	**.0011**	**.0032**
Stddev	.0005	.0051	.0010	.0005	.0000	.006	.0000	.0001	.0001
%RSD	483.6	11.08	118.8	.7753	219.9	.1541	16.33	6.109	3.388
#1	-.0007	.0479	.0018	.0613	.0000	3.672	.0001	.0011	.0033
#2	.0004	.0404	.0010	.0611	.0001	3.660	.0001	.0011	.0031
#3	.0000	.0502	-.0002	.0604	.0000	3.666	.0001	.0012	.0033

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0034**	**.0017**	**2.709**	**4.208**	**.0134**	**.0001**	**34.44**	**.0017**	**.0001**
Stddev	.0001	.0012	.018	.018	.0001	.0001	.09	.0001	.0011
%RSD	2.950	72.28	.6721	.4407	.5302	41.45	.2557	3.407	787.0
#1	.0035	.0030	2.689	4.196	.0135	.0001	34.54	.0017	.0010
#2	.0034	.0013	2.715	4.198	.0133	.0001	34.39	.0018	.0004
#3	.0033	.0007	2.724	4.229	.0134	.0002	34.38	.0018	-.0010

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0006**	**.0038**	**2.589**	**.0001**	**.0419**	**.0003**	**-.0004**	**-.0001**	**.0141**
Stddev	.0006	.0003	.002	.0001	.0001	.0001	.0010	.0001	.0001
%RSD	100.9	8.506	.0711	118.8	.2358	46.63	280.9	245.4	.4239
#1	-.0010	.0036	2.591	.0001	.0420	.0002	.0006	.0001	.0141
#2	.0001	.0036	2.587	.0002	.0418	.0003	-.0003	-.0002	.0141
#3	-.0010	.0041	2.590	.0000	.0420	.0005	-.0013	-.0001	.0140

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2167.2**	**4789.0**	**34581.**	**6885.5**
Stddev	2.6	3.1	88.	23.5
%RSD	.12061	.06565	.25455	.34147
#1	2169.0	4787.0	34481.	6872.0
#2	2168.3	4792.7	34621.	6912.7
#3	2164.2	4787.5	34643.	6872.0

Zoom In Zoom Out

Sample Name: FA41989-21F Acquired: 3/17/2017 15:23:09 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0005**	**.0072**	**.0001**	**.0254**	**-.0001**	**2.974**	**.0000**	**-.0001**	**.0004**
Stddev	.0004	.0066	.0003	.0001	.0000	.021	.000	.0000	.0002
%RSD	77.85	91.17	453.2	.3476	62.16	.7107	81.57	36.26	39.77
#1	-.0007	.0066	.0001	.0255	.0000	2.953	.0000	-.0001	.0003
#2	.0000	.0142	.0004	.0253	.0000	2.975	.0000	-.0001	.0006
#3	-.0007	.0010	-.0003	.0253	-.0001	2.995	.0000	-.0001	.0003

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**-.0002**	**-.0003**	**1.537**	**1.604**	**.0007**	**-.0001**	**1.622**	**.0003**	**.0007**
Stddev	.0001	.0009	.040	.022	.0001	.0002	.007	.0002	.0001
%RSD	29.88	253.4	2.626	1.395	11.28	217.5	.4191	68.05	11.10
#1	-.0003	.0002	1.491	1.578	.0007	.0001	1.618	.0003	.0008
#2	-.0002	.0001	1.563	1.613	.0008	-.0002	1.630	.0001	.0006
#3	-.0002	-.0013	1.558	1.620	.0006	-.0001	1.619	.0005	.0007

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.0001**	**.0003**	**2.779**	**-.0002**	**.0253**	**.0003**	**-.0010**	**.0001**	**.0020**
Stddev	.0003	.0003	.007	.0003	.0001	.0000	.0013	.0003	.0000
%RSD	311.0	81.51	.2652	147.6	.3657	13.96	136.6	205.7	.9554
#1	.0004	.0002	2.787	.0001	.0253	.0003	-.0005	.0003	.0020
#2	-.0002	.0001	2.773	-.0005	.0253	.0003	.0001	-.0002	.0020
#3	.0000	.0006	2.777	-.0002	.0254	.0003	-.0024	.0003	.0020

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2178.6**	**4811.3**	**34494.**	**7060.2**
Stddev	2.7	1.0	84.	45.1
%RSD	.12175	.02166	.24341	.63812
#1	2181.5	4812.5	34472.	7101.5
#2	2177.7	4810.5	34423.	7067.0
#3	2176.5	4810.9	34586.	7012.2

Zoom In Zoom Out

Sample Name: FA41989-22F Acquired: 3/17/2017 15:27:39 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0004**	**.0046**	**.0006**	**.0140**	**-.0001**	**22.63**	**-.0001**	**-.0001**	**.0002**
Stddev	.0003	.0069	.0007	.0002	.0000	.04	.0000	.0000	.0003
%RSD	63.27	147.6	123.8	1.262	34.37	.1971	55.57	26.57	154.6
#1	-.0002	.0109	-.0002	.0142	-.0001	22.63	-.0001	-.0001	-.0002
#2	-.0007	.0057	.0013	.0141	-.0001	22.59	.0000	-.0001	.0003
#3	-.0004	-.0027	.0007	.0139	-.0002	22.68	-.0001	-.0002	.0005

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0000**	**2.404**	**4.399**	**9.113**	**.0599**	**.0098**	**F 169.0**	**.0001**	**.0001**
Stddev	.0001	.009	.025	.030	.0000	.0002	2.2	.0002	.0004
%RSD	392.4	.3852	.5561	.3330	.0744	2.129	1.280	196.8	415.3
#1	.0001	2.394	4.377	9.095	.0598	.0097	166.5	.0003	.0003
#2	.0001	2.407	4.395	9.095	.0598	.0096	170.5	-.0001	.0003
#3	-.0001	2.411	4.426	9.148	.0599	.0100	170.0	.0001	-.0003

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0009**	**.0003**	**4.416**	**-.0002**	**.2172**	**.0009**	**.0016**	**.0000**	**.0019**
Stddev	.0003	.0014	.006	.0002	.0005	.0001	.0002	.000	.0000
%RSD	29.16	406.1	.1275	122.3	.2183	15.11	12.24	475.4	1.238
#1	-.0008	.0019	4.409	-.0004	.2169	.0010	.0014	-.0002	.0019
#2	-.0007	-.0008	4.420	.0000	.2178	.0008	.0015	.0001	.0019
#3	-.0012	-.0001	4.417	-.0001	.2171	.0009	.0018	.0000	.0019

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2122.0**	**4695.7**	**34649.**	**7044.0**
Stddev	1.6	4.5	127.	37.1
%RSD	.07626	.09686	.36685	.52608
#1	2120.6	4700.9	34528.	7019.4
#2	2123.8	4693.9	34637.	7086.6
#3	2121.7	4692.3	34781.	7025.9

Zoom In Zoom Out

Sample Name: FA41939-2 Acquired: 3/17/2017 15:32:13 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0005**	**.0411**	**.0056**	**.0091**	**-.0004**	**428.8**	**-.0002**	**.0005**	**.0006**
Stddev	.0028	.0407	.0041	.0001	.0001	.7	.0001	.0000	.0009
%RSD	530.3	99.04	72.73	.7043	26.78	.1652	73.58	2.081	147.2
#1	.0004	.0082	.0099	.0092	-.0005	429.6	-.0001	.0005	.0016
#2	.0017	.0284	.0018	.0091	-.0003	428.3	-.0001	.0005	.0003
#3	-.0037	.0865	.0050	.0090	-.0004	428.5	-.0004	.0005	-.0001

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**-.0049**	**-.0046**	**F 446.5**	**1293.**	**.0079**	**.0023**	**F 5493.**	**.0014**	**.0049**
Stddev	.0013	.0128	.8	2.	.0002	.0008	221.	.0011	.0010
%RSD	26.02	279.3	.1856	.1609	2.111	33.52	4.029	79.92	19.59
#1	-.0036	-.0049	447.2	1295.	.0081	.0030	5746.	.0013	.0049
#2	-.0061	.0083	446.6	1291.	.0079	.0015	5391.	.0004	.0059
#3	-.0051	-.0172	445.6	1293.	.0077	.0026	5340.	.0026	.0040

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.0019**	**.0029**	**.1691**	**-.0006**	**7.805**	**.0054**	**.0073**	**-.0013**	**.0181**
Stddev	.0026	.0026	.0032	.0014	.010	.0003	.0007	.0009	.0001
%RSD	137.5	89.45	1.904	252.3	.1299	6.142	10.25	69.27	.6370
#1	.0004	.0051	.1676	-.0022	7.813	.0055	.0065	-.0008	.0181
#2	.0004	.0001	.1669	.0003	7.809	.0050	.0080	-.0023	.0182
#3	.0049	.0035	.1728	.0002	7.794	.0057	.0074	-.0007	.0180

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**1795.3**	**4193.1**	**31824.**	**6425.5**
Stddev	3.9	6.2	26.	21.5
%RSD	.21449	.14806	.08029	.33537
#1	1793.5	4193.7	31831.	6404.1
#2	1799.7	4199.0	31796.	6447.2
#3	1792.7	4186.7	31845.	6425.1

Zoom In Zoom Out

Sample Name: FA41939-3 Acquired: 3/17/2017 15:36:51 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0024**	**.1090**	**.0047**	**.0076**	**.0000**	**362.3**	**-.0002**	**.0013**	**.0006**
Stddev	.0008	.1032	.0052	.0005	.000	1.0	.0002	.0005	.0002
%RSD	34.66	94.74	110.9	7.144	691.2	.2747	114.7	40.52	32.15
#1	-.0015	-.0002	.0107	.0071	.0000	363.2	-.0001	.0012	.0004
#2	-.0024	.2050	.0009	.0076	.0002	362.4	.0000	.0008	.0008
#3	-.0031	.1221	.0026	.0082	-.0003	361.3	-.0005	.0018	.0006

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0003**	**.0455**	**379.8**	**1126.**	**.0008**	**.0074**	**F 4249.**	**.0005**	**.0053**
Stddev	.0012	.0038	.4	5.	.0002	.0007	88.	.0003	.0016
%RSD	361.8	8.354	.1005	.4392	30.75	9.593	2.082	58.65	31.23
#1	.0001	.0414	380.2	1132.	.0008	.0082	4328.	.0003	.0041
#2	-.0007	.0488	379.5	1125.	.0010	.0071	4265.	.0004	.0046
#3	.0016	.0463	379.6	1122.	.0006	.0069	4153.	.0009	.0071

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.0015**	**.0092**	**.2480**	**-.0004**	**7.023**	**.0057**	**.0044**	**-.0012**	**.0221**
Stddev	.0024	.0102	.0035	.0011	.013	.0003	.0081	.0018	.0003
%RSD	154.3	110.8	1.404	288.1	.1821	4.666	181.9	145.6	1.203
#1	.0019	.0061	.2508	-.0002	7.015	.0060	.0103	-.0031	.0218
#2	-.0010	.0205	.2441	.0006	7.015	.0056	-.0048	.0004	.0223
#3	.0037	.0009	.2491	-.0016	7.037	.0055	.0078	-.0010	.0222

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**1817.2**	**4236.7**	**31836.**	**6391.7**
Stddev	2.7	2.3	31.	43.8
%RSD	.14867	.05520	.09892	.68547
#1	1817.2	4237.8	31866.	6341.4
#2	1814.5	4234.1	31803.	6421.5
#3	1819.9	4238.3	31838.	6412.3

Zoom In Zoom Out

Sample Name: FA41939-4 Acquired: 3/17/2017 15:41:29 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0016**	**.0086**	**.0078**	**.0091**	**-.0004**	**417.4**	**-.0001**	**.0012**	**.0010**
Stddev	.0026	.0863	.0048	.0003	.0002	1.2	.0001	.0003	.0005
%RSD	164.4	999.6	61.44	3.782	42.69	.2792	132.5	23.96	53.79
#1	-.0006	-.0489	.0128	.0093	-.0006	417.4	-.0001	.0015	.0016
#2	-.0045	.1079	.0073	.0087	-.0004	416.2	-.0002	.0009	.0009
#3	.0004	-.0331	.0033	.0092	-.0002	418.6	.0000	.0013	.0005

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**-.0045**	**.0266**	F **447.1**	**1328.**	**.0009**	**.0082**	F **4279.**	**.0004**	**-.0005**
Stddev	.0003	.0223	.9	2.	.0000	.0006	70.	.0005	.0043
%RSD	6.203	83.83	.2065	.1570	1.925	7.488	1.645	108.3	824.8
#1	-.0043	.0403	448.1	1329.	.0009	.0089	4306.	.0005	-.0001
#2	-.0048	.0009	446.2	1326.	.0009	.0078	4332.	.0009	.0036
#3	-.0044	.0388	447.1	1330.	.0009	.0079	4199.	-.0001	-.0051

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0004**	**.0100**	**.2393**	**.0012**	**8.184**	**.0050**	**.0058**	**-.0026**	**.0177**
Stddev	.0020	.0035	.0010	.0019	.013	.0006	.0064	.0016	.0003
%RSD	515.2	34.89	.4337	162.4	.1579	11.01	110.6	62.29	1.841
#1	.0003	.0140	.2394	.0033	8.199	.0057	.0131	-.0011	.0175
#2	.0011	.0081	.2382	.0002	8.176	.0048	.0033	-.0024	.0175
#3	-.0026	.0078	.2402	.0000	8.177	.0046	.0010	-.0043	.0181

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**1785.7**	**4175.3**	**31636.**	**6330.3**
Stddev	2.2	5.5	117.	17.6
%RSD	.12572	.13142	.36841	.27728
#1	1783.2	4179.2	31604.	6310.7
#2	1786.6	4177.8	31539.	6335.5
#3	1787.4	4169.0	31765.	6344.7

Zoom In Zoom Out

Sample Name: FA41939-5 Acquired: 3/17/2017 15:46:07 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0004**	**.0527**	**.0029**	**.0171**	**-.0003**	**544.1**	**-.0002**	**.0009**	**.0004**
Stddev	.0009	.0621	.0013	.0005	.0000	.3	.0001	.0001	.0009
%RSD	241.3	117.9	43.72	2.731	8.965	.0560	87.58	12.45	231.5
#1	.0013	.0025	.0038	.0169	-.0003	544.5	-.0003	.0010	.0013
#2	-.0005	.1222	.0036	.0167	-.0003	544.0	-.0002	.0010	-.0006
#3	.0003	.0334	.0015	.0176	-.0003	543.9	.0000	.0008	.0005

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**-.0038**	**-.0038**	F **438.7**	**1224.**	**.1299**	**-.0009**	F **3972.**	**.0012**	**.0051**
Stddev	.0008	.0029	1.1	2.	.0007	.0009	66.	.0012	.0061
%RSD	21.95	76.74	.2405	.1325	.5375	94.63	1.654	103.8	120.5
#1	-.0044	-.0010	439.9	1222.	.1292	-.0007	4032.	-.0002	.0043
#2	-.0029	-.0036	438.3	1225.	.1306	-.0002	3902.	.0018	.0115
#3	-.0043	-.0067	437.9	1225.	.1300	-.0019	3981.	.0020	-.0007

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.0022**	**.0139**	**.3026**	**.0000**	**8.646**	**.0039**	**.0117**	**-.0014**	**.0184**
Stddev	.0026	.0066	.0013	.0005	.007	.0002	.0098	.0006	.0002
%RSD	114.9	47.58	.4341	1976.	.0812	5.765	83.66	38.14	1.052
#1	-.0006	.0191	.3026	.0004	8.640	.0038	.0035	-.0017	.0186
#2	.0044	.0064	.3013	-.0006	8.654	.0042	.0091	-.0008	.0184
#3	.0029	.0163	.3039	.0003	8.645	.0038	.0225	-.0018	.0183

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**1777.3**	**4157.2**	**31749.**	**6443.9**
Stddev	7.1	7.3	84.	34.8
%RSD	.40059	.17509	.26380	.54015
#1	1769.9	4148.8	31838.	6409.2
#2	1784.2	4161.0	31736.	6443.9
#3	1777.8	4161.7	31672.	6478.8

Zoom In Zoom Out

Sample Name: FA41939-6 Acquired: 3/17/2017 15:50:44 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0018**	**.0228**	**.0026**	**.0073**	**-.0003**	**399.7**	**-.0003**	**.0008**	**-.0009**
Stddev	.0016	.0304	.0017	.0008	.0003	2.3	.0001	.0001	.0012
%RSD	89.95	133.4	63.08	11.33	93.88	.5675	47.50	16.79	130.1
#1	.0000	-.0106	.0007	.0064	.0000	402.2	-.0004	.0007	.0004
#2	-.0033	.0301	.0038	.0079	-.0006	397.9	-.0003	.0010	-.0014
#3	-.0021	.0488	.0033	.0077	-.0002	398.8	-.0001	.0008	-.0019

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**-.0038**	**.0014**	F **431.0**	**1268.**	**.0035**	**.0077**	F **3850.**	**.0022**	**.0003**
Stddev	.0010	.0017	1.7	9.	.0002	.0013	94.	.0006	.0024
%RSD	27.34	115.8	.3986	.7284	6.358	17.60	2.429	27.19	858.3
#1	-.0040	.0021	432.9	1278.	.0033	.0080	3958.	.0019	.0018
#2	-.0027	.0027	430.4	1260.	.0037	.0088	3795.	.0028	-.0025
#3	-.0048	-.0004	429.6	1265.	.0036	.0062	3797.	.0017	.0016

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0039**	**.0093**	**.0919**	**.0017**	**7.557**	**.0048**	**.0149**	**-.0020**	**.0180**
Stddev	.0054	.0054	.0008	.0006	.013	.0007	.0034	.0009	.0003
%RSD	137.3	58.58	.9051	36.69	.1747	14.51	23.08	44.87	1.398
#1	-.0101	.0035	.0927	.0011	7.572	.0050	.0111	-.0030	.0183
#2	-.0014	.0142	.0911	.0019	7.555	.0040	.0157	-.0017	.0178
#3	-.0002	.0101	.0920	.0023	7.546	.0053	.0179	-.0013	.0181

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**1796.5**	**4201.8**	**31939.**	**6468.8**
Stddev	4.4	6.6	86.	60.3
%RSD	.24649	.15766	.26999	.93250
#1	1795.8	4194.2	31878.	6399.5
#2	1801.2	4205.9	32038.	6508.9
#3	1792.4	4205.4	31902.	6498.2

Zoom In Zoom Out

Sample Name: MP31799-D1 Acquired: 3/17/2017 15:55:24 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0003**	**.0086**	**-.0007**	**.0034**	**-.0001**	**73.75**	**.0000**	**-.0001**	**.0004**
Stddev	.0001	.0043	.0002	.0003	.0000	.28	.000	.0000	.0003
%RSD	16.28	49.87	37.19	7.554	23.59	.3853	164.7	17.62	70.43
#1	-.0004	.0087	-.0008	.0031	-.0001	74.07	-.0001	-.0001	.0003
#2	-.0003	.0128	-.0007	.0035	-.0001	73.52	-.0001	-.0002	.0008
#3	-.0003	.0042	-.0004	.0035	.0000	73.67	.0000	-.0001	.0002

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0027**	**.0277**	**3.210**	**30.65**	**.0027**	**.0001**	**50.84**	**.0004**	**.0010**
Stddev	.0003	.0009	.016	.13	.0000	.0002	.27	.0001	.0005
%RSD	12.93	3.372	.4968	.4214	1.712	234.6	.5404	29.95	53.08
#1	.0023	.0271	3.222	30.79	.0027	-.0001	50.71	.0005	.0007
#2	.0030	.0272	3.192	30.53	.0028	.0001	50.65	.0005	.0006
#3	.0028	.0288	3.217	30.65	.0027	.0002	51.15	.0003	.0015

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.0001**	**.0001**	**.5925**	**.0000**	**.0969**	**.0011**	**-.0010**	**.0006**	**.0077**
Stddev	.0010	.0019	.0010	.0004	.0001	.0000	.0018	.0001	.0001
%RSD	916.0	1610.	.1614	1626.	.1352	2.830	184.1	17.23	1.153
#1	.0012	.0013	.5916	.0003	.0971	.0010	-.0029	.0007	.0078
#2	-.0009	-.0021	.5924	-.0004	.0969	.0011	-.0007	.0006	.0076
#3	.0001	.0012	.5935	.0002	.0968	.0011	.0007	.0005	.0077

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2107.6**	**4669.5**	**34432.**	**6831.4**
Stddev	1.5	4.6	18.	25.8
%RSD	.07226	.09828	.05139	.37746
#1	2109.1	4673.9	34423.	6808.9
#2	2106.1	4669.9	34452.	6859.5
#3	2107.5	4664.8	34419.	6825.8

Zoom In Zoom Out

Sample Name: CCV Acquired: 3/17/2017 15:59:52 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2555**	**40.38**	**2.007**	**2.037**	**2.062**	**40.11**	**2.028**	**2.025**	**2.048**
Stddev	.0007	.07	.004	.004	.003	.08	.000	.002	.006
%RSD	.2869	.1640	.1854	.1886	.1520	.1960	.0136	.1057	.3031
#1	.2547	40.42	2.003	2.041	2.065	40.19	2.028	2.024	2.054
#2	.2556	40.41	2.006	2.038	2.061	40.11	2.027	2.024	2.049
#3	.2561	40.30	2.011	2.033	2.059	40.04	2.028	2.028	2.041
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.992**	**41.60**	**39.76**	**40.11**	**2.049**	**2.038**	**36.61**	**2.012**	**2.000**
Stddev	.009	.02	.10	.08	.006	.004	.07	.001	.002
%RSD	.4778	.0550	.2554	.2054	.2853	.2190	.1960	.0519	.0753
#1	1.994	41.62	39.80	40.13	2.053	2.033	36.52	2.013	2.001
#2	2.001	41.59	39.83	40.01	2.052	2.039	36.64	2.011	2.001
#3	1.982	41.58	39.64	40.17	2.042	2.041	36.66	2.011	1.998
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.004**	**2.012**	**2.662**	**2.036**	**2.099**	**2.056**	**1.997**	**2.056**	**2.015**
Stddev	.006	.003	.002	.002	.005	.006	.002	.005	.002
%RSD	.2874	.1387	.0808	.0983	.2223	.3178	.0978	.2336	.1031
#1	1.999	2.010	2.663	2.038	2.101	2.061	1.995	2.058	2.017
#2	2.002	2.010	2.660	2.034	2.102	2.057	1.998	2.059	2.014
#3	2.010	2.015	2.664	2.034	2.093	2.048	1.997	2.050	2.013
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: CCV Acquired: 3/17/2017 15:59:52 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2028.4**	**4647.7**	**33956.**	**6705.0**
Stddev	1.3	6.6	197.	25.6
%RSD	.06207	.14144	.58150	.38224
#1	2027.4	4649.6	33831.	6679.9
#2	2027.9	4653.1	33854.	6731.2
#3	2029.8	4640.4	34184.	6703.9

Zoom In Zoom Out

Sample Name: CCB Acquired: 3/17/2017 16:04:05 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0126**	**.0011**	**.0003**	**.0003**	**.0081**	**.0008**	**.0007**	**.0007**
Stddev	.0002	.0032	.0004	.0003	.0001	.0030	.0002	.0002	.0002
%RSD	92.70	25.52	37.15	107.0	27.80	36.89	26.71	23.79	26.51
#1	-.0001	.0163	.0015	-.0001	.0002	.0051	.0009	.0008	.0005
#2	-.0001	.0109	.0007	.0004	.0003	.0081	.0009	.0007	.0008
#3	-.0004	.0106	.0013	.0005	.0004	.0111	.0005	.0005	.0009
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**.0139**	**.0549**	**.0049**	**.0006**	F **.0028**	**.2660**	**.0008**	F **.0013**
Stddev	.0003	.0028	.0214	.0107	.0003	.0008	.0026	.0002	.0006
%RSD	121.7	20.13	38.92	216.8	50.52	28.71	.9849	19.70	42.88
#1	.0003	.0108	.0410	.0101	.0004	.0036	.2682	.0009	.0012
#2	-.0001	.0146	.0795	-.0073	.0005	.0029	.2631	.0010	.0019
#3	.0005	.0163	.0442	.0119	.0010	.0020	.2666	.0007	.0008
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Fail
High Limit						.0010			.0010
Low Limit						-.0010			-.0010

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	F **.0022**	**.0004**	**.0007**	**.0004**	**.0009**	**.0018**	**.0007**	**.0008**
Stddev	.0004	.0003	.0009	.0002	.0002	.0003	.0010	.0001	.0002
%RSD	95.22	13.88	237.8	32.45	46.11	30.85	56.28	15.18	27.95
#1	-.0009	.0023	.0012	.0010	.0002	.0008	.0011	.0005	.0010
#2	-.0001	.0024	.0004	.0005	.0004	.0007	.0029	.0007	.0009
#3	-.0003	.0018	-.0005	.0006	.0005	.0012	.0013	.0007	.0005
Check ?	Chk Pass	Chk Fail	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		.0020							
Low Limit		-.0020							

Zoom In Zoom Out

Sample Name: CCB Acquired: 3/17/2017 16:04:05 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2163.7**	**4793.8**	**34277.**	**6900.9**
Stddev	4.8	1.9	105.	34.0
%RSD	.22160	.03903	.30602	.49300
#1	2162.5	4791.7	34391.	6872.6
#2	2159.6	4794.2	34256.	6891.5
#3	2169.0	4795.4	34185.	6938.7

Zoom In Zoom Out

Sample Name: MP31799-SD1 Acquired: 3/17/2017 16:08:37 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0032**	**.0069**	**.0013**	**.0038**	**-.0002**	**71.02**	**.0000**	**.0001**	**.0016**
Stddev	.0013	.0197	.0035	.0005	.0003	.08	.0002	.0004	.0007
%RSD	41.59	285.0	273.1	12.93	128.2	.1089	409.4	487.0	42.19
#1	-.0029	-.0012	.0009	.0042	-.0001	71.09	-.0001	.0002	.0014
#2	-.0021	-.0074	-.0020	.0032	.0000	71.05	.0002	.0004	.0024
#3	-.0047	.0294	.0050	.0039	-.0005	70.94	.0001	-.0004	.0011

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0027**	**.0309**	**3.029**	**29.22**	**.0025**	**.0011**	**57.06**	**.0010**	**.0028**
Stddev	.0008	.0069	.063	.24	.0002	.0009	.07	.0004	.0018
%RSD	28.28	22.41	2.091	.8050	6.839	81.35	.1158	41.76	62.22
#1	.0035	.0376	3.003	29.49	.0023	.0013	56.99	.0006	.0042
#2	.0019	.0312	3.101	29.07	.0025	.0018	57.11	.0014	.0009
#3	.0028	.0238	2.983	29.10	.0027	.0001	57.10	.0009	.0034

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0073**	**.0009**	**.5501**	**.0018**	**.0918**	**.0034**	**-.0054**	**.0011**	**.0213**
Stddev	.0019	.0066	.0034	.0012	.0005	.0005	.0023	.0009	.0001
%RSD	26.20	701.1	.6215	65.47	.5653	15.22	43.43	80.77	.4031
#1	-.0094	.0021	.5485	.0032	.0914	.0033	-.0041	.0017	.0214
#2	-.0056	.0068	.5478	.0009	.0916	.0040	-.0081	.0001	.0214
#3	-.0070	-.0062	.5540	.0014	.0924	.0030	-.0040	.0016	.0212

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2172.9**	**4796.3**	**35008.**	**6944.5**
Stddev	1.3	.7	169.	37.7
%RSD	.06112	.01554	.48177	.54264
#1	2171.6	4796.4	35070.	6905.1
#2	2172.9	4796.9	34817.	6980.2
#3	2174.3	4795.5	35137.	6948.3

Zoom In Zoom Out

Sample Name: MP31799-PS1 Acquired: 3/17/2017 16:13:06 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0451**	**2.537**	**.1001**	**.2595**	**.0502**	**75.96**	**.0486**	**.0484**	**.0498**
Stddev	.0005	.016	.0012	.0004	.0002	.08	.0001	.0001	.0002
%RSD	1.030	.6241	1.179	.1464	.4485	.1100	.1169	.1438	.4274
#1	.0456	2.527	.1007	.2598	.0500	76.05	.0486	.0485	.0495
#2	.0448	2.555	.1007	.2596	.0502	75.93	.0487	.0484	.0499
#3	.0447	2.527	.0987	.2591	.0504	75.89	.0486	.0484	.0499

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.1001**	**3.057**	**12.83**	**34.34**	**.0523**	**.0996**	**66.10**	**.0966**	**.0476**
Stddev	.0003	.011	.04	.12	.0003	.0003	.10	.0002	.0006
%RSD	.3467	.3577	.2845	.3504	.5050	.2796	.1565	.2375	1.325
#1	.0998	3.062	12.87	34.35	.0520	.0998	66.12	.0969	.0479
#2	.1004	3.045	12.79	34.21	.0525	.0998	66.20	.0964	.0480
#3	.1001	3.065	12.83	34.45	.0524	.0993	65.99	.0967	.0469

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.1023**	**.0948**	**.5873**	**.0465**	**.1422**	**.0979**	**.0912**	**.0477**	**.2507**
Stddev	.0013	.0010	.0009	.0003	.0002	.0004	.0005	.0003	.0005
%RSD	1.291	1.052	.1525	.6855	.1132	.4167	.5500	.6171	.1897
#1	.1038	.0959	.5865	.0461	.1421	.0977	.0910	.0476	.2511
#2	.1014	.0946	.5882	.0465	.1424	.0976	.0908	.0474	.2502
#3	.1017	.0939	.5874	.0468	.1421	.0984	.0918	.0480	.2507

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2099.6**	**4685.0**	**34435.**	**6854.6**
Stddev	2.8	7.8	90.	21.8
%RSD	.13386	.16660	.26170	.31743
#1	2102.8	4693.5	34435.	6835.4
#2	2097.9	4683.2	34525.	6878.2
#3	2098.0	4678.2	34345.	6850.1

Zoom In Zoom Out

Sample Name: MP31799-S1 Acquired: 3/17/2017 16:17:24 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0437**	**26.90**	**1.919**	**1.971**	**.0504**	**94.15**	**.0475**	**.4734**	**.1941**
Stddev	.0004	.04	.007	.006	.0001	.28	.0001	.0008	.0006
%RSD	.9795	.1543	.3564	.3157	.2954	.2993	.2209	.1596	.2910
#1	.0441	26.85	1.926	1.970	.0505	94.05	.0476	.4734	.1946
#2	.0432	26.92	1.913	1.977	.0503	94.47	.0474	.4726	.1935
#3	.0438	26.92	1.918	1.965	.0504	93.93	.0475	.4741	.1942

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.2458**	**25.75**	**27.85**	**53.24**	**.4877**	**.4992**	**79.25**	**.4768**	**.4652**
Stddev	.0003	.04	.10	.14	.0007	.0006	.20	.0006	.0005
%RSD	.1077	.1509	.3423	.2686	.1517	.1204	.2569	.1325	.0973
#1	.2458	25.71	27.77	53.08	.4884	.4998	79.16	.4773	.4652
#2	.2456	25.77	27.95	53.35	.4878	.4989	79.49	.4771	.4648
#3	.2461	25.78	27.83	53.29	.4869	.4988	79.11	.4761	.4657

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.4826**	**1.872**	**.5811**	**.4954**	**.6020**	**.4990**	**1.862**	**.4606**	**.4746**
Stddev	.0016	.001	.0007	.0006	.0008	.0008	.007	.0012	.0013
%RSD	.3271	.0629	.1248	.1257	.1264	.1614	.3992	.2616	.2742
#1	.4832	1.870	.5819	.4947	.6023	.4982	1.855	.4617	.4757
#2	.4808	1.873	.5804	.4959	.6026	.4990	1.861	.4607	.4750
#3	.4837	1.872	.5810	.4955	.6012	.4998	1.870	.4593	.4732

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2055.1**	**4672.2**	**34222.**	**6818.1**
Stddev	4.6	5.2	77.	23.2
%RSD	.22533	.11071	.22486	.33998
#1	2059.0	4669.3	34246.	6834.1
#2	2056.2	4678.1	34136.	6791.5
#3	2050.0	4669.0	34284.	6828.6

Zoom In Zoom Out

Sample Name: MP31799-S2 Acquired: 3/17/2017 16:21:37 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0448**	**27.30**	**1.940**	**1.986**	**.0507**	**94.79**	**.0477**	**.4780**	**.1943**
Stddev	.0002	.04	.004	.006	.0001	.18	.0001	.0007	.0005
%RSD	.4169	.1344	.1833	.3049	.1955	.1852	.2492	.1523	.2740
#1	.0446	27.26	1.936	1.979	.0508	94.62	.0476	.4772	.1949
#2	.0450	27.30	1.941	1.991	.0507	94.97	.0478	.4782	.1939
#3	.0449	27.34	1.943	1.988	.0507	94.76	.0477	.4786	.1940

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.2473**	**26.10**	**28.17**	**53.59**	**.4888**	**.5061**	**F 80.01**	**.4809**	**.4679**
Stddev	.0004	.04	.07	.08	.0005	.0004	.31	.0016	.0015
%RSD	.1780	.1568	.2467	.1503	.0977	.0706	.3854	.3420	.3302
#1	.2478	26.07	28.09	53.52	.4890	.5059	79.74	.4790	.4664
#2	.2470	26.14	28.20	53.68	.4891	.5065	80.34	.4820	.4678
#3	.2471	26.08	28.22	53.58	.4882	.5060	79.93	.4817	.4694

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.4860**	**1.899**	**.5854**	**.4979**	**.6077**	**.5008**	**1.878**	**.4637**	**.4756**
Stddev	.0016	.009	.0007	.0020	.0018	.0007	.009	.0012	.0022
%RSD	.3306	.4568	.1265	.3938	.2910	.1366	.4877	.2501	.4574
#1	.4842	1.890	.5847	.4957	.6057	.5003	1.871	.4631	.4732
#2	.4874	1.901	.5852	.4991	.6092	.5005	1.873	.4630	.4763
#3	.4863	1.907	.5862	.4990	.6081	.5016	1.888	.4650	.4774

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2052.0**	**4657.2**	**34377.**	**6803.9**
Stddev	3.1	5.5	69.	22.8
%RSD	.15215	.11774	.20103	.33555
#1	2053.1	4663.3	34371.	6812.8
#2	2054.4	4652.7	34311.	6778.0
#3	2048.4	4655.6	34448.	6820.9

Zoom In Zoom Out

Sample Name: FA41939-7 Acquired: 3/17/2017 16:25:50 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0012**	**.1976**	**.0054**	**.0068**	**-.0004**	**357.3**	**-.0003**	**-.0001**	**.0010**
Stddev	.0014	.0206	.0039	.0007	.0002	1.2	.0003	.0009	.0010
%RSD	121.0	10.43	71.56	10.64	51.67	.3408	98.12	1152.	99.94
#1	-.0027	.2085	.0073	.0073	-.0002	357.1	-.0004	.0008	.0022
#2	.0001	.2105	.0010	.0070	-.0003	356.2	.0000	-.0001	.0002
#3	-.0008	.1739	.0080	.0060	-.0005	358.6	-.0006	-.0009	.0007

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**-.0042**	**.0426**	**389.5**	**1138.**	**.0026**	**.0121**	**F 4708.**	**.0016**	**.0038**
Stddev	.0014	.0034	.3	4.	.0000	.0013	139.	.0003	.0035
%RSD	33.09	7.876	.0794	.3944	1.511	10.74	2.948	22.02	93.42
#1	-.0026	.0398	389.4	1139.	.0027	.0127	4865.	.0012	.0078
#2	-.0047	.0417	389.2	1133.	.0026	.0129	4603.	.0017	.0013
#3	-.0053	.0464	389.8	1142.	.0027	.0106	4657.	.0018	.0022

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0015**	**.0147**	**.0682**	**.0012**	**6.768**	**.0053**	**.0135**	**.0002**	**.0653**
Stddev	.0013	.0126	.0022	.0008	.014	.0002	.0045	.0013	.0004
%RSD	86.91	85.85	3.229	67.48	.2028	4.094	33.70	561.7	.6659
#1	-.0014	.0192	.0658	.0018	6.757	.0051	.0108	.0016	.0652
#2	-.0029	.0244	.0686	.0016	6.763	.0052	.0109	-.0009	.0658
#3	-.0002	.0004	.0701	.0003	6.783	.0055	.0187	.0000	.0650

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**1813.7**	**4238.1**	**32146.**	**6479.4**
Stddev	3.5	13.5	26.	19.6
%RSD	.19026	.31738	.08167	.30214
#1	1817.6	4253.5	32139.	6458.5
#2	1811.1	4231.5	32175.	6497.3
#3	1812.5	4229.2	32123.	6482.3

Zoom In Zoom Out

Sample Name: FA41939-8 Acquired: 3/17/2017 16:30:28 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0005**	**.0044**	**.0027**	**.0073**	**-.0002**	**409.3**	**-.0004**	**.0010**	**.0003**
Stddev	.0022	.0375	.0017	.0002	.0001	1.2	.0004	.0003	.0014
%RSD	408.8	856.5	63.60	2.408	43.55	.3022	84.24	32.88	419.7
#1	.0017	.0437	.0046	.0071	-.0001	408.2	-.0001	.0006	.0015
#2	-.0007	-.0311	.0012	.0073	-.0002	410.6	-.0004	.0010	.0008
#3	-.0026	.0005	.0023	.0074	-.0002	409.1	-.0009	.0013	-.0013

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**-.0048**	**.0943**	**F 438.0**	**1294.**	**.0049**	**.0083**	**F 4000.**	**.0000**	**.0031**
Stddev	.0013	.0026	1.2	3.	.0000	.0008	35.	.001	.0010
%RSD	27.70	2.808	.2692	.2338	.3083	10.19	.8667	2190.	33.68
#1	-.0057	.0940	437.2	1290.	.0049	.0091	4012.	.0007	.0035
#2	-.0055	.0971	439.4	1296.	.0049	.0074	4028.	-.0005	.0038
#3	-.0033	.0918	437.6	1294.	.0049	.0083	3961.	-.0003	.0019

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0005**	**.0038**	**.1039**	**.0014**	**7.684**	**.0050**	**.0026**	**-.0012**	**.0144**
Stddev	.0042	.0108	.0010	.0027	.009	.0004	.0057	.0016	.0003
%RSD	809.1	285.5	.9735	186.3	.1132	7.828	218.8	124.7	2.005
#1	-.0045	.0136	.1030	.0027	7.677	.0047	-.0035	-.0030	.0142
#2	.0039	-.0079	.1050	-.0016	7.694	.0055	.0078	-.0006	.0148
#3	-.0009	.0057	.1039	.0033	7.683	.0048	.0035	-.0001	.0143

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**1793.3**	**4214.7**	**31954.**	**6418.7**
Stddev	2.2	1.8	50.	24.8
%RSD	.12069	.04350	.15510	.38559
#1	1795.7	4213.8	31914.	6442.5
#2	1791.6	4216.8	31939.	6393.1
#3	1792.5	4213.4	32010.	6420.5

Zoom In Zoom Out

Sample Name: FA41939-9 Acquired: 3/17/2017 16:35:05 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0004**	**.0347**	**.0060**	**.0079**	**-.0005**	**421.2**	**-.0001**	**.0010**	**-.0001**
Stddev	.0013	.0476	.0047	.0006	.0001	1.3	.0003	.0005	.0003
%RSD	358.8	136.9	78.64	7.574	16.76	.3109	363.5	48.58	264.0
#1	-.0011	-.0166	.0106	.0084	-.0006	422.3	.0001	.0016	.0002
#2	-.0012	.0773	.0063	.0081	-.0005	419.7	-.0004	.0010	-.0004
#3	.0011	.0435	.0011	.0073	-.0004	421.6	.0000	.0005	-.0002

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**-.0054**	**-.0071**	**F 441.1**	**1305.**	**.0075**	**.0019**	**F 3864.**	**.0007**	**.0020**
Stddev	.0006	.0054	1.3	4.	.0001	.0009	103.	.0013	.0026
%RSD	10.16	76.37	.2845	.3326	.9748	48.50	2.676	192.3	128.5
#1	-.0061	-.0123	442.5	1308.	.0075	.0023	3978.	.0021	.0038
#2	-.0052	-.0074	440.1	1300.	.0075	.0009	3776.	-.0003	.0032
#3	-.0050	-.0015	440.8	1307.	.0074	.0026	3838.	.0001	-.0010

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0001**	**.0146**	**.1575**	**.0007**	**7.908**	**.0043**	**.0055**	**-.0021**	**.0216**
Stddev	.0014	.0063	.0036	.0009	.031	.0003	.0064	.0012	.0004
%RSD	1923.	43.28	2.261	142.2	.3919	7.987	114.7	56.37	2.087
#1	.0009	.0217	.1559	-.0004	7.944	.0039	.0008	-.0009	.0219
#2	.0006	.0123	.1551	.0013	7.893	.0043	.0030	-.0032	.0218
#3	-.0017	.0097	.1616	.0011	7.888	.0045	.0128	-.0023	.0210

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**1793.1**	**4209.5**	**32028.**	**6398.5**
Stddev	4.0	5.6	94.	5.9
%RSD	.22152	.13192	.29276	.09270
#1	1789.2	4203.2	32121.	6396.5
#2	1797.2	4213.6	32029.	6405.2
#3	1792.8	4211.7	31933.	6393.9

Zoom In Zoom Out

Sample Name: FA41872-6 Acquired: 3/17/2017 16:39:42 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0004**	**.1727**	**.0011**	**.0174**	**.0000**	**116.3**	**-.0001**	**.0007**	**.0025**
Stddev	.0003	.0032	.0004	.0001	.0000	.3	.0000	.0000	.0002
%RSD	62.99	1.880	36.63	.6541	477.5	.2870	19.93	2.775	6.857
#1	-.0005	.1727	.0007	.0173	.0000	116.5	-.0001	.0007	.0025
#2	-.0007	.1694	.0016	.0175	.0001	115.9	-.0001	.0007	.0027
#3	-.0001	.1759	.0011	.0174	.0000	116.5	.0000	.0007	.0024

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**-.0004**	**.0775**	**2.976**	**5.556**	**.0420**	**.0002**	**26.70**	**.0010**	**.0011**
Stddev	.0003	.0019	.013	.018	.0002	.0001	.17	.0001	.0003
%RSD	91.04	2.396	.4205	.3267	.3840	47.19	.6450	11.37	23.78
#1	-.0007	.0759	2.977	5.542	.0421	.0001	26.54	.0009	.0013
#2	-.0001	.0772	2.989	5.576	.0421	.0003	26.68	.0010	.0008
#3	-.0002	.0795	2.964	5.549	.0418	.0003	26.88	.0011	.0012

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0009**	**.0014**	**2.137**	**.0000**	**.2721**	**.0021**	**-.0005**	**.0024**	**-.0001**
Stddev	.0006	.0002	.005	.000	.0005	.0001	.0004	.0002	.0000
%RSD	59.58	12.07	.2436	242.5	.1936	5.299	64.10	8.444	11.23
#1	-.0004	.0012	2.138	.0000	.2725	.0021	-.0009	.0026	-.0001
#2	-.0015	.0014	2.132	.0000	.2715	.0020	-.0002	.0022	-.0001
#3	-.0010	.0015	2.142	.0000	.2722	.0023	-.0005	.0024	-.0001

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2108.0**	**4677.1**	**34682.**	**6871.8**
Stddev	3.6	11.6	173.	26.1
%RSD	.16963	.24736	.49791	.37953
#1	2107.1	4664.7	34565.	6863.3
#2	2104.9	4687.7	34600.	6901.0
#3	2111.9	4678.8	34880.	6851.0

Zoom In Zoom Out

Sample Name: FA41872-7 Acquired: 3/17/2017 16:44:10 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0002**	**.1698**	**.0022**	**.0362**	**-.0001**	**132.0**	**.0000**	**.0001**	**.0010**
Stddev	.0005	.0029	.0001	.0001	.0000	.3	.000	.0000	.0002
%RSD	210.6	1.693	3.171	.3169	39.44	.2087	31.40	54.88	17.00
#1	-.0008	.1727	.0022	.0361	-.0001	132.3	.0000	.0000	.0008
#2	.0002	.1669	.0023	.0362	-.0001	131.9	.0000	.0001	.0012
#3	-.0002	.1697	.0021	.0363	.0000	131.8	.0000	.0001	.0011

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**-.0005**	**.0091**	**4.609**	**6.339**	**.0422**	**.0001**	**69.18**	**.0005**	**.0010**
Stddev	.0001	.0016	.018	.048	.0001	.0000	.17	.0002	.0002
%RSD	9.933	17.79	.3966	.7509	.1839	37.81	.2506	36.48	24.66
#1	-.0006	.0097	4.615	6.385	.0421	.0001	69.37	.0006	.0011
#2	-.0005	.0102	4.588	6.290	.0423	.0001	69.03	.0003	.0007
#3	-.0005	.0072	4.623	6.341	.0422	.0000	69.14	.0006	.0011

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0007**	**.0021**	**2.921**	**-.0002**	**.2798**	**.0015**	**.0007**	**.0011**	**.0253**
Stddev	.0004	.0003	.004	.0003	.0017	.0001	.0022	.0004	.0000
%RSD	48.89	16.10	.1225	176.6	.5998	5.947	311.8	37.11	.1132
#1	-.0006	.0018	2.917	.0001	.2817	.0015	.0008	.0015	.0253
#2	-.0011	.0020	2.924	-.0005	.2793	.0015	-.0015	.0013	.0253
#3	-.0004	.0024	2.921	-.0001	.2785	.0016	.0028	.0007	.0253

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2093.1**	**4651.5**	**34615.**	**6863.9**
Stddev	3.0	2.8	55.	36.4
%RSD	.14535	.06015	.15877	.52972
#1	2095.5	4653.7	34567.	6826.6
#2	2094.2	4652.4	34603.	6899.3
#3	2089.7	4648.3	34675.	6865.7

Zoom In Zoom Out

Sample Name: FA41872-9 Acquired: 3/17/2017 16:48:36 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0004**	**.1925**	**-.0002**	**.0055**	**.0000**	**45.67**	**-.0001**	**.0000**	**.0016**
Stddev	.0001	.0023	.0006	.0001	.0000	.10	.0000	.000	.0003
%RSD	33.61	1.213	354.1	1.307	198.2	.2265	38.09	664.6	15.78
#1	-.0005	.1898	-.0004	.0056	.0000	45.61	-.0001	-.0002	.0015
#2	-.0005	.1940	-.0006	.0054	.0001	45.61	-.0001	.0001	.0014
#3	-.0003	.1936	.0005	.0054	.0000	45.79	-.0001	.0000	.0019

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**-.0002**	**.1488**	**1.487**	**1.658**	**.0229**	**-.0002**	**4.043**	**.0000**	**.0004**
Stddev	.0001	.0004	.022	.008	.0001	.0002	.024	.0000	.0001
%RSD	41.05	.2810	1.491	.4714	.3781	70.75	.5833	60.32	29.85
#1	-.0003	.1493	1.473	1.651	.0230	.0000	4.017	.0001	.0003
#2	-.0001	.1487	1.513	1.666	.0228	-.0003	4.063	.0000	.0005
#3	-.0003	.1485	1.475	1.657	.0230	-.0004	4.050	.0000	.0004

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0004**	**.0009**	**1.718**	**.0002**	**.0750**	**.0030**	**-.0005**	**.0020**	**.0168**
Stddev	.0006	.0012	.006	.0001	.0003	.0002	.0010	.0001	.0001
%RSD	155.5	126.6	.3325	69.00	.4288	6.363	208.2	5.798	.3821
#1	-.0010	.0011	1.719	.0002	.0746	.0029	.0005	.0019	.0167
#2	.0001	-.0003	1.712	.0001	.0752	.0033	-.0005	.0021	.0168
#3	-.0002	.0020	1.723	.0003	.0751	.0029	-.0014	.0020	.0168

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2175.6**	**4837.8**	**35167.**	**7031.3**
Stddev	.7	1.8	130.	44.7
%RSD	.03337	.03710	.36989	.63511
#1	2175.5	4836.1	35301.	7043.7
#2	2174.9	4839.7	35158.	7068.4
#3	2176.4	4837.7	35041.	6981.7

Zoom In Zoom Out

Sample Name: CCV Acquired: 3/17/2017 16:53:03 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2557**	**40.44**	**2.006**	**2.036**	**2.057**	**40.02**	**2.027**	**2.029**	**2.043**
Stddev	.0011	.30	.004	.006	.011	.15	.001	.001	.008
%RSD	.4144	.7516	.1870	.3208	.5160	.3735	.0516	.0517	.3782
#1	.2545	40.56	2.006	2.042	2.063	40.12	2.028	2.030	2.038
#2	.2559	40.67	2.010	2.038	2.064	40.09	2.028	2.028	2.038
#3	.2566	40.10	2.003	2.029	2.045	39.85	2.026	2.028	2.052
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.981**	**41.56**	**39.81**	**39.71**	**2.045**	**2.041**	**37.70**	**2.011**	**2.008**
Stddev	.002	.29	.18	.22	.004	.002	.19	.002	.003
%RSD	.1123	.6912	.4619	.5470	.2204	.0767	.4922	.1101	.1290
#1	1.979	41.69	39.93	39.82	2.045	2.043	37.76	2.010	2.005
#2	1.983	41.76	39.89	39.85	2.041	2.041	37.86	2.014	2.008
#3	1.983	41.23	39.60	39.46	2.050	2.039	37.50	2.010	2.010
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.002**	**2.017**	**2.668**	**2.024**	**2.096**	**2.045**	**1.998**	**2.049**	**2.011**
Stddev	.008	.002	.004	.004	.014	.005	.005	.006	.004
%RSD	.4125	.1164	.1490	.1804	.6457	.2700	.2451	.3177	.1885
#1	2.006	2.015	2.671	2.021	2.102	2.046	1.996	2.051	2.007
#2	2.008	2.019	2.670	2.028	2.106	2.039	1.994	2.041	2.015
#3	1.993	2.017	2.664	2.024	2.081	2.050	2.004	2.054	2.011
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: CCV Acquired: 3/17/2017 16:53:03 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2030.1**	**4669.4**	**34115.**	**6743.5**
Stddev	1.7	4.4	139.	34.6
%RSD	.08523	.09529	.40707	.51285
#1	2028.9	4665.0	34142.	6754.6
#2	2032.1	4673.9	34238.	6704.8
#3	2029.3	4669.2	33965.	6771.2

Zoom In Zoom Out

Sample Name: CCB Acquired: 3/17/2017 16:57:15 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**.0120**	**.0017**	**.0005**	**.0004**	**.0069**	**.0006**	**.0006**	F **.0010**
Stddev	.0002	.0014	.0011	.0002	.0001	.0019	.0002	.0002	.0003
%RSD	65.80	11.54	63.04	33.70	18.03	27.68	24.56	29.85	32.47
#1	.0006	.0131	.0024	.0003	.0003	.0047	.0008	.0007	.0009
#2	.0003	.0125	.0021	.0006	.0003	.0084	.0006	.0008	.0008
#3	.0001	.0105	.0005	.0005	.0004	.0075	.0005	.0004	.0014
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
High Limit									.0010
Low Limit									-.0010

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0007**	**.0140**	**.0346**	**-.0093**	F **.0011**	F **.0027**	**.1792**	**.0006**	F **.0014**
Stddev	.0004	.0011	.0155	.0082	.0001	.0007	.0038	.0004	.0013
%RSD	63.32	8.164	44.72	88.27	13.42	25.56	2.118	59.26	91.93
#1	.0010	.0131	.0307	-.0138	.0011	.0035	.1835	.0010	.0027
#2	.0009	.0136	.0516	.0002	.0012	.0026	.1762	.0006	.0013
#3	.0002	.0153	.0214	-.0144	.0009	.0021	.1780	.0003	.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Fail	Chk Pass	Chk Pass	Chk Fail
High Limit					.0010	.0010			.0010
Low Limit					-.0010	-.0010			-.0010

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0005**	**.0010**	**.0007**	**.0006**	**.0004**	**.0013**	**.0014**	F **.0011**	**.0007**
Stddev	.0003	.0007	.0003	.0002	.0001	.0001	.0004	.0002	.0001
%RSD	55.64	64.64	42.76	43.16	32.03	4.721	29.75	18.70	13.99
#1	.0008	.0008	.0011	.0006	.0003	.0013	.0018	.0011	.0008
#2	.0004	.0005	.0005	.0008	.0003	.0014	.0010	.0013	.0007
#3	.0003	.0017	.0005	.0003	.0006	.0013	.0013	.0009	.0006
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit								.0010	
Low Limit								-.0010	

Zoom In Zoom Out

Sample Name: CCB Acquired: 3/17/2017 16:57:15 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2162.2**	**4826.5**	**34253.**	**6797.5**
Stddev	4.0	6.5	123.	37.6
%RSD	.18323	.13451	.35938	.55364
#1	2161.7	4824.6	34393.	6757.6
#2	2166.4	4833.8	34204.	6832.4
#3	2158.5	4821.2	34161.	6802.5

Zoom In Zoom Out

Sample Name: FA41872-10 Acquired: 3/17/2017 17:01:46 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0004**	**.3352**	**.0014**	**.0208**	**.0002**	**46.17**	**-.0001**	**.0006**	**.0042**
Stddev	.0003	.0150	.0013	.0003	.0000	.07	.0000	.0001	.0002
%RSD	78.19	4.485	92.88	1.333	15.64	.1513	60.96	11.79	5.481
#1	-.0003	.3179	.0028	.0206	.0002	46.09	.0000	.0005	.0039
#2	-.0008	.3425	.0009	.0211	.0001	46.23	-.0001	.0005	.0043
#3	-.0002	.3451	.0004	.0207	.0002	46.19	-.0001	.0006	.0043

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**-.0002**	**.3612**	**7.048**	**3.651**	**.0038**	**.0006**	**10.83**	**.0001**	**.0003**
Stddev	.0005	.0014	.041	.016	.0000	.0001	.03	.0001	.0005
%RSD	278.5	.3959	.5863	.4237	.9818	15.23	.3221	254.3	153.7
#1	-.0005	.3608	7.015	3.633	.0038	.0007	10.82	.0002	-.0002
#2	-.0003	.3628	7.034	3.661	.0037	.0007	10.87	.0001	.0007
#3	.0003	.3600	7.094	3.658	.0038	.0005	10.81	-.0001	.0005

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0006**	**.0015**	**1.831**	**.0001**	**.1408**	**.0039**	**-.0013**	**.0062**	**.0025**
Stddev	.0006	.0020	.006	.0003	.0005	.0000	.0002	.0001	.0000
%RSD	109.7	136.6	.3432	182.5	.3512	1.037	15.23	2.310	1.515
#1	.0001	.0006	1.824	.0005	.1412	.0038	-.0011	.0064	.0025
#2	-.0006	.0038	1.837	-.0001	.1403	.0039	-.0015	.0061	.0025
#3	-.0012	.0001	1.832	.0001	.1409	.0039	-.0013	.0062	.0025

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2151.4**	**4846.2**	**35453.**	**7097.0**
Stddev	3.1	9.1	24.	20.6
%RSD	.14330	.18680	.06834	.29040
#1	2151.0	4855.1	35427.	7120.3
#2	2154.7	4837.0	35475.	7089.1
#3	2148.5	4846.7	35456.	7081.4

Zoom In Zoom Out

Sample Name: FA41844-5 Acquired: 3/17/2017 17:06:15 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 2.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0038**	**145.7**	**.1158**	**1.460**	**.0103**	**46.54**	**.0028**	**.1727**	**.4161**
Stddev	.0012	.1	.0006	.001	.0001	.03	.0001	.0006	.0009
%RSD	30.88	.0457	.5244	.0906	.4912	.0586	2.606	.3596	.2073
#1	-.0051	145.6	.1164	1.459	.0103	46.56	.0029	.1734	.4166
#2	-.0028	145.6	.1158	1.461	.0102	46.51	.0028	.1725	.4166
#3	-.0036	145.8	.1152	1.461	.0102	46.54	.0028	.1722	.4151

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.3930**	**363.6**	**7.955**	**35.39**	F **9.698**	**.0140**	**.5408**	**.4292**	**.3609**
Stddev	.0023	.3	.056	.06	.053	.0002	.0111	.0014	.0015
%RSD	.5742	.0745	.7000	.1603	.5448	1.166	2.057	.3342	.4151
#1	.3930	363.9	7.916	35.42	9.643	.0138	.5527	.4309	.3626
#2	.3952	363.4	7.929	35.33	9.704	.0139	.5306	.4285	.3601
#3	.3907	363.6	8.018	35.43	9.748	.0142	.5391	.4283	.3600

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.0096**	**-.0024**	**7.555**	**.0038**	**.1249**	**1.014**	**-.0082**	**.3236**	**.9193**
Stddev	.0014	.0028	.011	.0009	.0000	.002	.0028	.0002	.0011
%RSD	14.29	117.5	.1391	22.88	.0373	.1982	33.68	.0715	.1203
#1	.0102	-.0047	7.561	.0047	.1249	1.012	-.0109	.3238	.9202
#2	.0107	-.0032	7.561	.0035	.1250	1.015	-.0084	.3235	.9181
#3	.0081	.0007	7.543	.0031	.1249	1.016	-.0054	.3233	.9197

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2097.5**	**5881.9**	**42648.**	**8498.5**
Stddev	12.3	19.3	96.	37.0
%RSD	.58746	.32830	.22549	.43589
#1	2084.5	5865.5	42707.	8541.3
#2	2099.0	5876.9	42537.	8476.8
#3	2109.0	5903.2	42701.	8477.4

Zoom In Zoom Out

Sample Name: FA41844-8 Acquired: 3/17/2017 17:10:44 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 2.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0040**	**185.4**	**.0634**	**1.678**	**.0105**	**42.33**	**-.0032**	**.1438**	**.2175**
Stddev	.0008	1.2	.0011	.001	.0001	.14	.0002	.0000	.0009
%RSD	20.64	.6220	1.696	.0374	.9921	.3263	6.474	.0140	.3920
#1	-.0046	186.2	.0636	1.678	.0105	42.27	-.0032	.1437	.2173
#2	-.0044	184.1	.0622	1.678	.0104	42.23	-.0030	.1438	.2168
#3	-.0031	185.9	.0643	1.677	.0106	42.49	-.0034	.1438	.2184

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.2400**	**286.0**	**8.673**	**38.05**	**2.976**	**.0018**	**.7548**	**.2423**	**.2331**
Stddev	.0004	1.4	.016	.26	.003	.0002	.0120	.0009	.0023
%RSD	.1733	.5060	.1818	.6701	.0828	13.47	1.588	.3608	1.006
#1	.2403	287.0	8.665	37.95	2.976	.0018	.7464	.2421	.2352
#2	.2402	284.3	8.691	37.85	2.973	.0020	.7495	.2433	.2306
#3	.2395	286.7	8.662	38.33	2.978	.0015	.7685	.2416	.2335

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.0053**	**-.0037**	**13.39**	**.0029**	**.1885**	**.9805**	**-.0110**	**.3340**	**.7542**
Stddev	.0012	.0013	.03	.0006	.0008	.0015	.0012	.0001	.0019
%RSD	22.97	35.98	.1889	20.18	.3996	.1491	10.66	.0391	.2526
#1	.0059	-.0052	13.37	.0022	.1893	.9815	-.0100	.3342	.7556
#2	.0060	-.0029	13.42	.0033	.1878	.9813	-.0123	.3339	.7550
#3	.0039	-.0030	13.38	.0031	.1883	.9789	-.0106	.3341	.7520

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2112.7**	**5730.0**	**41212.**	**8140.7**
Stddev	1.8	8.1	233.	88.4
%RSD	.08404	.14190	.56513	1.0864
#1	2111.7	5725.8	41078.	8104.4
#2	2114.7	5724.8	41076.	8241.5
#3	2111.6	5739.3	41481.	8076.1

Zoom In Zoom Out

Sample Name: MP31806-MB1 Acquired: 3/17/2017 17:15:04 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0166**	**.0001**	**.0001**	**.0000**	**.0154**	**.0000**	**-.0001**	**.0005**
Stddev	.0002	.0094	.0003	.0001	.000	.0012	.000	.0000	.0004
%RSD	93.85	56.62	532.6	41.21	136.4	7.609	142.2	70.06	79.36
#1	.0000	.0080	-.0001	.0001	-.0001	.0151	.0000	-.0001	.0006
#2	-.0003	.0152	.0004	.0001	.0000	.0144	.0000	.0000	.0001
#3	-.0004	.0266	-.0001	.0002	.0000	.0167	-.0001	-.0001	.0009
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**.0426**	**.0475**	**.0109**	**.0005**	**-.0004**	**.1002**	**.0002**	**.0008**
Stddev	.0003	.0031	.0411	.0052	.0000	.0002	.0031	.0001	.0002
%RSD	65.94	7.330	86.53	47.41	3.049	35.51	3.087	40.01	23.97
#1	-.0008	.0462	.0767	.0050	.0005	-.0006	.1023	.0002	.0010
#2	-.0003	.0413	.0654	.0135	.0005	-.0003	.0966	.0001	.0009
#3	-.0003	.0404	.0005	.0143	.0005	-.0004	.1016	.0001	.0006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**.0011**	**.0103**	**.0207**	**.0000**	**.0005**	**-.0006**	**-.0001**	**.0017**
Stddev	.0011	.0014	.0009	.0001	.000	.0001	.0007	.0001	.0000
%RSD	451.2	120.2	9.071	.3451	449.6	29.69	113.6	118.0	.6811
#1	-.0009	.0027	.0114	.0207	.0001	.0004	-.0006	.0000	.0017
#2	.0014	.0005	.0099	.0207	.0000	.0004	.0001	-.0001	.0017
#3	.0002	.0002	.0096	.0206	-.0001	.0006	-.0012	-.0003	.0017
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: MP31806-MB1 Acquired: 3/17/2017 17:15:04 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2177.3**	**4880.1**	**34583.**	**6929.8**
Stddev	3.8	15.3	53.	35.8
%RSD	.17457	.31416	.15448	.51691
#1	2172.9	4862.4	34569.	6908.1
#2	2179.3	4888.1	34641.	6910.1
#3	2179.6	4889.7	34537.	6971.1

Zoom In Zoom Out

Sample Name: MP31806-B1 Acquired: 3/17/2017 17:19:37 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0440**	**27.13**	**1.911**	**1.975**	**.0507**	**25.01**	**.0482**	**.4816**	**.1971**
Stddev	.0006	.12	.003	.011	.0001	.04	.0001	.0005	.0007
%RSD	1.292	.4383	.1711	.5710	.2323	.1441	.1929	.1080	.3365
#1	.0443	27.23	1.910	1.988	.0507	25.05	.0481	.4811	.1974
#2	.0443	27.00	1.908	1.972	.0505	25.01	.0481	.4815	.1975
#3	.0433	27.17	1.914	1.966	.0508	24.97	.0482	.4821	.1963
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2382**	**26.17**	**24.72**	**24.33**	**.4923**	**.5060**	**24.26**	**.4835**	**.4701**
Stddev	.0008	.08	.11	.03	.0008	.0015	.08	.0006	.0018
%RSD	.3561	.2881	.4540	.1213	.1706	.2911	.3458	.1290	.3865
#1	.2390	26.26	24.83	24.32	.4914	.5044	24.36	.4835	.4710
#2	.2382	26.12	24.70	24.37	.4930	.5064	24.20	.4829	.4680
#3	.2374	26.14	24.61	24.32	.4925	.5073	24.23	.4841	.4712
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4769**	**1.903**	**.0154**	**.5202**	**.5172**	**.4993**	**1.879**	**.4615**	**.4765**
Stddev	.0056	.002	.0002	.0010	.0026	.0016	.004	.0011	.0013
%RSD	1.166	.1018	1.434	.1901	.5047	.3170	.2065	.2374	.2748
#1	.4705	1.901	.0157	.5202	.5202	.5006	1.883	.4612	.4777
#2	.4791	1.904	.0154	.5192	.5153	.4996	1.875	.4606	.4751
#3	.4810	1.905	.0152	.5211	.5162	.4975	1.879	.4627	.4767
Check ?	Chk Pass	Chk Pass	None	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: MP31806-B1 Acquired: 3/17/2017 17:19:37 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2109.6**	**4787.7**	**34626.**	**6846.5**
Stddev	3.7	4.3	109.	29.0
%RSD	.17455	.08980	.31484	.42381
#1	2105.4	4782.9	34639.	6813.9
#2	2111.3	4788.9	34511.	6855.8
#3	2112.1	4791.3	34727.	6869.6

Zoom In Zoom Out

Sample Name: FA41687-5 Acquired: 3/17/2017 17:23:51 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0010**	**53.79**	**.0184**	**.3799**	**.0019**	**.4250**	**-.0008**	**.0075**	**.0693**
Stddev	.0004	.07	.0006	.0005	.0001	.0037	.0000	.0001	.0006
%RSD	41.81	.1382	3.125	.1424	2.677	.8660	.7662	1.269	.9260
#1	-.0005	53.74	.0183	.3804	.0019	.4208	-.0008	.0074	.0694
#2	-.0012	53.88	.0190	.3801	.0018	.4274	-.0008	.0076	.0686
#3	-.0012	53.76	.0179	.3793	.0019	.4269	-.0008	.0076	.0699

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0120**	**47.13**	**1.016**	**1.794**	**.2252**	**.0014**	**.2518**	**.0153**	**.0712**
Stddev	.0000	.11	.013	.014	.0006	.0001	.0037	.0002	.0010
%RSD	.2236	.2263	1.252	.7734	.2671	10.18	1.458	1.214	1.434
#1	.0120	47.04	1.030	1.778	.2259	.0016	.2511	.0154	.0704
#2	.0120	47.25	1.012	1.803	.2251	.0013	.2558	.0151	.0724
#3	.0120	47.09	1.006	1.801	.2247	.0013	.2485	.0155	.0708

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.0007**	**.0013**	**.6127**	**.0177**	**.0148**	**.2873**	**-.0025**	**.1403**	**.0392**
Stddev	.0002	.0005	.0007	.0001	.0001	.0010	.0009	.0008	.0001
%RSD	30.67	38.73	.1129	.4752	.6424	.3612	35.00	.6031	.2752
#1	.0008	.0019	.6119	.0177	.0147	.2880	-.0034	.1412	.0390
#2	.0005	.0010	.6132	.0176	.0149	.2862	-.0024	.1396	.0392
#3	.0009	.0010	.6130	.0178	.0148	.2878	-.0017	.1400	.0393

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2183.5**	**5327.4**	**38266.**	**7709.8**
Stddev	5.6	7.8	270.	79.8
%RSD	.25769	.14599	.70444	1.0349
#1	2181.4	5333.6	38025.	7754.8
#2	2179.2	5318.7	38557.	7617.7
#3	2189.9	5330.0	38217.	7757.0

Zoom In Zoom Out

Sample Name: MP31806-D1 Acquired: 3/17/2017 17:28:11 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0008**	**53.43**	**.0170**	**.3570**	**.0018**	**.4486**	**-.0007**	**.0078**	**.0709**
Stddev	.0002	.15	.0001	.0001	.0000	.0006	.0000	.0001	.0004
%RSD	26.58	.2878	.6379	.0260	1.811	.1444	2.041	.6709	.5846
#1	-.0010	53.55	.0169	.3569	.0018	.4483	-.0007	.0078	.0714
#2	-.0007	53.26	.0169	.3569	.0018	.4493	-.0007	.0078	.0707
#3	-.0006	53.50	.0171	.3571	.0017	.4481	-.0007	.0077	.0706

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0116**	**41.96**	**1.012**	**1.808**	**.2214**	**.0009**	**.2927**	**.0152**	**.0673**
Stddev	.0001	.05	.018	.013	.0008	.0001	.0043	.0001	.0005
%RSD	.9208	.1277	1.743	.7342	.3437	7.384	1.478	.6226	.6785
#1	.0115	42.00	1.016	1.821	.2220	.0008	.2972	.0153	.0668
#2	.0116	41.90	.9928	1.795	.2205	.0009	.2885	.0151	.0676
#3	.0117	41.99	1.028	1.807	.2216	.0009	.2923	.0152	.0674

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.0002**	**.0020**	**.5508**	**.0169**	**.0143**	**.2824**	**-.0020**	**.1363**	**.0399**
Stddev	.0006	.0015	.0021	.0003	.0001	.0011	.0006	.0008	.0001
%RSD	298.8	74.30	.3828	1.903	.7927	.3848	27.89	.5536	.1711
#1	.0003	.0024	.5518	.0169	.0144	.2836	-.0019	.1372	.0399
#2	-.0004	.0003	.5484	.0166	.0142	.2815	-.0015	.1359	.0398
#3	.0008	.0031	.5522	.0172	.0143	.2823	-.0026	.1359	.0399

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2175.5**	**5338.0**	**38165.**	**7632.0**
Stddev	2.2	12.2	130.	13.3
%RSD	.09940	.22803	.34093	.17461
#1	2177.3	5331.9	38022.	7621.6
#2	2173.1	5352.1	38276.	7647.0
#3	2176.0	5330.1	38198.	7627.3

Zoom In Zoom Out

Sample Name: MP31806-SD1 Acquired: 3/17/2017 17:32:31 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0012**	**55.62**	**.0155**	**.3875**	**.0016**	**.4613**	**-.0011**	**.0076**	**.0718**
Stddev	.0013	.26	.0028	.0014	.0001	.0143	.0003	.0001	.0016
%RSD	111.3	.4617	17.80	.3572	9.571	3.108	23.56	.7265	2.226
#1	-.0018	55.78	.0129	.3859	.0016	.4667	-.0008	.0077	.0737
#2	-.0021	55.76	.0185	.3883	.0017	.4721	-.0014	.0076	.0711
#3	.0003	55.32	.0152	.3882	.0014	.4450	-.0012	.0076	.0707

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0111**	**49.27**	**1.237**	**1.855**	**.2338**	**-.0018**	**.4399**	**.0161**	**.0725**
Stddev	.0005	.21	.073	.019	.0002	.0002	.0319	.0010	.0016
%RSD	4.067	.4192	5.880	1.005	.0919	12.11	7.261	6.452	2.209
#1	.0106	49.27	1.197	1.836	.2341	-.0020	.4767	.0155	.0707
#2	.0113	49.48	1.321	1.856	.2338	-.0017	.4207	.0154	.0733
#3	.0115	49.07	1.192	1.873	.2336	-.0016	.4222	.0173	.0736

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.0050**	**.0030**	**.6356**	**.0181**	**.0151**	**.2981**	**.0009**	**.1455**	**.0556**
Stddev	.0038	.0040	.0058	.0013	.0004	.0008	.0102	.0003	.0002
%RSD	76.46	132.8	.9079	7.121	2.399	.2781	1128.	.1823	.2823
#1	.0086	.0076	.6303	.0167	.0154	.2976	.0022	.1458	.0557
#2	.0052	.0000	.6418	.0184	.0147	.2991	-.0099	.1453	.0554
#3	.0010	.0015	.6347	.0192	.0152	.2977	.0104	.1454	.0557

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2191.0**	**4995.7**	**35319.**	**7010.3**
Stddev	5.2	5.6	153.	48.1
%RSD	.23788	.11271	.43185	.68627
#1	2189.5	4996.0	35255.	6984.3
#2	2196.8	4989.9	35209.	6980.8
#3	2186.7	5001.2	35493.	7065.8

Zoom In Zoom Out

Sample Name: MP31806-PS1 Acquired: 3/17/2017 17:37:00 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0388**	**55.11**	**.1034**	**.5892**	**.0454**	**4.837**	**.0414**	**.0495**	**.1119**
Stddev	.0002	.13	.0004	.0007	.0003	.011	.0000	.0001	.0001
%RSD	.4350	.2326	.3575	.1121	.6282	.2178	.0850	.1891	.0653
#1	.0387	55.21	.1032	.5885	.0452	4.825	.0415	.0495	.1120
#2	.0389	55.16	.1038	.5895	.0457	4.845	.0414	.0494	.1119
#3	.0386	54.97	.1032	.5897	.0453	4.842	.0414	.0496	.1119

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0951**	**48.87**	**9.381**	**6.041**	**.2618**	**.0851**	**8.678**	**.0978**	**.1138**
Stddev	.0003	.15	.034	.043	.0000	.0002	.019	.0001	.0013
%RSD	.3379	.3012	.3576	.7193	.0107	.1907	.2173	.1384	1.104
#1	.0951	48.83	9.345	5.994	.2618	.0849	8.662	.0978	.1152
#2	.0948	49.04	9.387	6.080	.2618	.0852	8.699	.0977	.1132
#3	.0955	48.75	9.411	6.048	.2618	.0852	8.673	.0979	.1130

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.0882**	**.0824**	**.6222**	**.0562**	**.0574**	**.3695**	**.0843**	**.1787**	**.2470**
Stddev	.0007	.0016	.0003	.0004	.0002	.0003	.0004	.0003	.0004
%RSD	.7765	1.951	.0459	.7044	.3166	.0815	.4597	.1419	.1742
#1	.0881	.0841	.6223	.0565	.0572	.3692	.0839	.1788	.2474
#2	.0875	.0823	.6219	.0558	.0576	.3698	.0846	.1784	.2466
#3	.0889	.0809	.6224	.0565	.0573	.3696	.0845	.1789	.2469

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2145.3**	**5289.5**	**37845.**	**7564.8**
Stddev	1.3	1.3	48.	75.9
%RSD	.06187	.02369	.12628	1.0037
#1	2146.6	5289.0	37894.	7498.2
#2	2145.3	5290.9	37842.	7548.7
#3	2143.9	5288.6	37798.	7647.5

Zoom In Zoom Out

Sample Name: MP31806-S1 Acquired: 3/17/2017 17:41:18 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0396**	**84.59**	**1.676**	**2.130**	**.0472**	**22.95**	**.0423**	**.4379**	**.2466**
Stddev	.0004	.28	.002	.006	.0002	.07	.0001	.0008	.0012
%RSD	.9367	.3267	.1297	.2979	.3626	.3009	.2362	.1749	.4679
#1	.0397	84.59	1.677	2.134	.0471	22.91	.0423	.4388	.2465
#2	.0399	84.31	1.677	2.123	.0473	22.92	.0424	.4376	.2478
#3	.0392	84.86	1.673	2.133	.0470	23.03	.0422	.4373	.2455

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.2286**	**65.84**	**23.38**	**23.69**	**.6149**	**.4348**	**22.41**	**.4483**	**.5242**
Stddev	.0008	.17	.04	.06	.0010	.0011	.07	.0010	.0007
%RSD	.3663	.2547	.1847	.2356	.1618	.2599	.3219	.2340	.1370
#1	.2284	65.81	23.38	23.64	.6137	.4360	22.43	.4495	.5239
#2	.2295	65.69	23.33	23.68	.6153	.4348	22.33	.4478	.5250
#3	.2278	66.02	23.41	23.75	.6156	.4337	22.48	.4476	.5237

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.1824**	**1.653**	**.8609**	**.4539**	**.4831**	**.4647**	**1.819**	**.5539**	**.4660**
Stddev	.0011	.007	.0026	.0008	.0013	.0015	.004	.0010	.0007
%RSD	.6033	.4421	.3019	.1860	.2788	.3156	.2074	.1870	.1536
#1	.1836	1.661	.8638	.4549	.4838	.4642	1.816	.5533	.4659
#2	.1815	1.649	.8588	.4535	.4816	.4663	1.823	.5551	.4668
#3	.1821	1.648	.8601	.4533	.4840	.4635	1.817	.5532	.4653

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2100.3**	**5218.4**	**37536.**	**7521.3**
Stddev	2.0	14.1	111.	44.4
%RSD	.09412	.26957	.29667	.59071
#1	2098.0	5202.6	37470.	7504.3
#2	2101.8	5229.6	37474.	7571.7
#3	2101.0	5223.0	37665.	7487.9

Zoom In Zoom Out

Sample Name: CCV Acquired: 3/17/2017 17:45:31 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2584**	**40.78**	**2.000**	**2.027**	**2.056**	**40.02**	**2.023**	**2.029**	**2.050**
Stddev	.0006	.11	.001	.010	.011	.27	.003	.003	.008
%RSD	.2193	.2590	.0363	.4973	.5384	.6621	.1692	.1365	.3884
#1	.2591	40.87	1.999	2.028	2.066	40.25	2.019	2.027	2.059
#2	.2580	40.82	2.001	2.037	2.057	40.08	2.022	2.029	2.044
#3	.2583	40.67	2.000	2.017	2.044	39.73	2.026	2.032	2.046
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.963**	**41.71**	**39.82**	**39.66**	**2.036**	**2.041**	**39.75**	**1.998**	**2.003**
Stddev	.008	.20	.08	.33	.009	.004	.15	.003	.002
%RSD	.4002	.4759	.1974	.8235	.4438	.2029	.3690	.1387	.0911
#1	1.973	41.92	39.83	40.01	2.045	2.037	39.79	1.996	2.001
#2	1.959	41.67	39.89	39.59	2.034	2.040	39.87	1.997	2.002
#3	1.959	41.53	39.74	39.37	2.027	2.045	39.58	2.001	2.005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.991**	**2.013**	**2.657**	**2.004**	**2.090**	**2.036**	**1.997**	**2.038**	**2.001**
Stddev	.004	.003	.003	.003	.005	.010	.005	.008	.005
%RSD	.1740	.1485	.1103	.1654	.2641	.4987	.2621	.4038	.2276
#1	1.988	2.013	2.654	2.001	2.091	2.048	1.992	2.047	1.996
#2	1.990	2.015	2.660	2.004	2.095	2.032	1.996	2.036	2.002
#3	1.995	2.010	2.656	2.007	2.084	2.030	2.002	2.031	2.005
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: CCV Acquired: 3/17/2017 17:45:31 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2036.2**	**4702.0**	**34110.**	**6686.8**
Stddev	1.1	3.2	181.	38.4
%RSD	.05351	.06809	.53042	.57352
#1	2037.0	4701.8	33983.	6643.2
#2	2036.6	4698.9	34029.	6701.9
#3	2035.0	4705.3	34317.	6715.3

Zoom In Zoom Out

Sample Name: CCB Acquired: 3/17/2017 17:49:44 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**.0047**	F **.0022**	**.0004**	**.0003**	**.0045**	**.0009**	**.0009**	**.0005**
Stddev	.000	.0058	.0007	.0001	.0000	.0025	.0003	.0003	.0002
%RSD	2579.	122.4	34.12	24.75	2.041	55.24	33.30	32.74	33.28
#1	-.0002	.0082	.0027	.0005	.0003	.0050	.0012	.0012	.0003
#2	.0004	-.0020	.0013	.0003	.0003	.0066	.0008	.0006	.0007
#3	-.0002	.0079	.0025	.0004	.0003	.0018	.0007	.0009	.0006
Check ?	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit			.0020						
Low Limit			-.0020						

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0005**	**.0145**	**-.0186**	**.0069**	**.0007**	F **.0030**	**.0305**	**.0009**	F **.0013**
Stddev	.0001	.0019	.0223	.0030	.0001	.0009	.0052	.0001	.0005
%RSD	14.59	13.20	119.6	43.04	18.40	28.50	16.94	15.06	37.96
#1	.0004	.0161	.0013	.0097	.0006	.0039	.0363	.0011	.0014
#2	.0004	.0150	-.0145	.0038	.0008	.0030	.0265	.0008	.0017
#3	.0005	.0124	-.0427	.0072	.0008	.0022	.0287	.0008	.0008
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Fail
High Limit						.0010			.0010
Low Limit						-.0010			-.0010

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0010**	**.0015**	**.0030**	F **.0011**	**.0003**	**.0010**	F **.0023**	**.0007**	**.0010**
Stddev	.0006	.0005	.0015	.0002	.0000	.0002	.0010	.0001	.0002
%RSD	55.15	33.74	50.22	17.15	12.80	22.42	43.82	19.49	26.18
#1	.0010	.0014	.0048	.0008	.0003	.0008	.0032	.0009	.0012
#2	.0005	.0010	.0024	.0011	.0003	.0012	.0012	.0006	.0009
#3	.0016	.0020	.0019	.0012	.0003	.0011	.0024	.0007	.0008
Check ?	Chk Pass	Chk Pass	None	Chk Fail	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass
High Limit				.0010			.0020		
Low Limit				-.0010			-.0020		

Zoom In Zoom Out

Sample Name: CCB Acquired: 3/17/2017 17:49:44 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2169.4**	**4872.6**	**34395.**	**6810.1**
Stddev	.6	7.1	229.	50.5
%RSD	.02597	.14486	.66635	.74125
#1	2168.7	4879.0	34660.	6767.7
#2	2169.5	4865.0	34259.	6866.0
#3	2169.8	4873.8	34267.	6796.7

Zoom In Zoom Out

Sample Name: MP31806-S2 Acquired: 3/17/2017 17:54:14 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0390**	**85.94**	**1.655**	**2.124**	**.0468**	**22.65**	**.0417**	**.4330**	**.2458**
Stddev	.0003	.18	.004	.009	.0002	.03	.0000	.0001	.0006
%RSD	.7224	.2135	.2294	.3998	.5288	.1483	.0352	.0122	.2595
#1	.0388	85.78	1.653	2.118	.0469	22.62	.0417	.4329	.2455
#2	.0389	86.14	1.659	2.134	.0465	22.64	.0417	.4330	.2453
#3	.0393	85.92	1.653	2.122	.0470	22.68	.0417	.4330	.2465

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.2261**	**69.88**	**23.02**	**23.56**	**.6187**	**.4292**	**22.11**	**.4419**	**.5280**
Stddev	.0005	.17	.04	.09	.0004	.0004	.03	.0007	.0011
%RSD	.2192	.2403	.1538	.3977	.0632	.0938	.1429	.1485	.2161
#1	.2267	69.71	23.01	23.50	.6186	.4292	22.08	.4412	.5270
#2	.2258	70.05	23.00	23.51	.6191	.4288	22.13	.4425	.5292
#3	.2258	69.88	23.07	23.67	.6183	.4296	22.14	.4418	.5276

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.1736**	**1.635**	**.6132**	**.4479**	**.4767**	**.4187**	**1.826**	**.5430**	**.4589**
Stddev	.0008	.006	.0004	.0014	.0014	.0015	.007	.0009	.0015
%RSD	.4434	.3670	.0593	.3227	.3037	.3542	.4002	.1642	.3195
#1	.1734	1.631	.6128	.4469	.4755	.4184	1.823	.5425	.4574
#2	.1745	1.641	.6132	.4496	.4783	.4175	1.834	.5424	.4603
#3	.1730	1.632	.6135	.4473	.4763	.4204	1.821	.5440	.4591

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2089.2**	**5262.6**	**37969.**	**7509.4**
Stddev	.8	6.1	51.	27.7
%RSD	.04042	.11678	.13311	.36881
#1	2088.7	5255.8	37963.	7491.1
#2	2088.7	5264.1	38022.	7541.3
#3	2090.1	5267.8	37921.	7495.9

Zoom In Zoom Out

Sample Name: FA41687-1 Acquired: 3/17/2017 17:58:27 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0011**	**64.11**	**.0276**	**.3100**	**.0017**	**.5504**	**-.0013**	**.0084**	**.0866**
Stddev	.0002	.35	.0007	.0006	.0001	.0017	.0000	.0002	.0003
%RSD	14.04	.5477	2.627	.1923	3.539	.3129	3.957	2.350	.3542
#1	-.0012	64.50	.0284	.3100	.0017	.5520	-.0012	.0086	.0870
#2	-.0009	63.83	.0269	.3106	.0017	.5506	-.0013	.0083	.0864
#3	-.0010	63.98	.0275	.3094	.0016	.5485	-.0012	.0083	.0865

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0171**	**68.45**	**1.125**	**2.279**	**.2798**	**.0031**	**.2884**	**.0160**	**.0824**
Stddev	.0002	.29	.029	.009	.0010	.0002	.0123	.0003	.0012
%RSD	1.272	.4287	2.588	.3785	.3500	6.770	4.260	1.628	1.465
#1	.0173	68.78	1.125	2.289	.2802	.0033	.2743	.0163	.0810
#2	.0169	68.22	1.155	2.271	.2804	.0033	.2939	.0160	.0834
#3	.0173	68.34	1.096	2.279	.2786	.0029	.2970	.0158	.0827

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.0030**	**.0036**	**.8922**	**.0174**	**.0158**	**.3252**	**-.0014**	**.1839**	**.0506**
Stddev	.0002	.0013	.0038	.0003	.0002	.0006	.0011	.0004	.0001
%RSD	7.314	34.39	.4273	1.640	1.249	.1842	77.28	.2339	.2511
#1	.0031	.0051	.8966	.0175	.0160	.3258	-.0013	.1843	.0505
#2	.0032	.0027	.8897	.0171	.0156	.3253	-.0004	.1840	.0506
#3	.0027	.0032	.8903	.0176	.0158	.3246	-.0024	.1835	.0507

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2166.6**	**5307.6**	**37621.**	**7557.4**
Stddev	3.4	12.2	116.	53.6
%RSD	.15473	.23004	.30905	.70934
#1	2166.2	5298.3	37568.	7498.9
#2	2170.1	5321.4	37541.	7604.2
#3	2163.5	5303.0	37755.	7569.1

Zoom In Zoom Out

Sample Name: FA41687-2 Acquired: 3/17/2017 18:02:47 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0010**	**75.34**	**.0259**	**.4488**	**.0032**	**.8181**	**-.0010**	**.0171**	**.0991**
Stddev	.0002	.19	.0007	.0004	.0000	.0037	.0000	.0002	.0006
%RSD	15.13	.2502	2.870	.0782	1.542	.4483	2.304	1.010	.6128
#1	-.0012	75.55	.0260	.4485	.0031	.8208	-.0010	.0170	.0993
#2	-.0009	75.20	.0251	.4487	.0032	.8195	-.0010	.0173	.0984
#3	-.0009	75.26	.0266	.4492	.0032	.8139	-.0010	.0172	.0995

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0219**	**67.85**	**1.405**	**2.566**	**1.593**	**.0026**	**.2456**	**.0229**	**.1198**
Stddev	.0002	.18	.022	.024	.004	.0002	.0026	.0003	.0008
%RSD	1.117	.2677	1.597	.9427	.2226	7.542	1.073	1.178	.6860
#1	.0217	68.01	1.429	2.585	1.596	.0028	.2472	.0226	.1194
#2	.0222	67.87	1.400	2.574	1.589	.0024	.2471	.0232	.1207
#3	.0218	67.65	1.385	2.539	1.594	.0026	.2426	.0230	.1192

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.0017**	**.0035**	**.6673**	**.0174**	**.0204**	**.3354**	**-.0022**	**.1792**	**.0624**
Stddev	.0012	.0004	.0017	.0000	.0000	.0006	.0005	.0004	.0001
%RSD	72.98	11.14	.2606	.2817	.0690	.1878	21.58	.2137	.2315
#1	.0006	.0030	.6689	.0174	.0204	.3349	-.0026	.1790	.0626
#2	.0015	.0037	.6654	.0175	.0204	.3351	-.0023	.1790	.0624
#3	.0030	.0037	.6676	.0174	.0204	.3361	-.0016	.1797	.0623

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2163.6**	**5499.2**	**39213.**	**7784.0**
Stddev	3.6	7.6	83.	67.8
%RSD	.16515	.13825	.21081	.87054
#1	2167.7	5505.4	39197.	7708.3
#2	2161.5	5501.5	39140.	7804.6
#3	2161.5	5490.7	39303.	7839.0

Zoom In Zoom Out

Sample Name: FA41687-3 Acquired: 3/17/2017 18:07:08 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0004**	**168.9**	**.0175**	**.7071**	**.0029**	**.8317**	**-.0008**	**.0102**	**.1295**
Stddev	.0001	.8	.0008	.0026	.0000	.0037	.0000	.0001	.0007
%RSD	26.73	.4448	4.715	.3722	1.590	.4395	6.289	.7299	.5050
#1	.0005	169.4	.0176	.7078	.0029	.8278	-.0008	.0101	.1302
#2	.0003	169.2	.0167	.7093	.0029	.8350	-.0007	.0103	.1291
#3	.0003	168.0	.0183	.7042	.0029	.8323	-.0008	.0103	.1290

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0432**	**52.14**	**2.273**	**4.912**	**.1857**	**.0016**	**.3517**	**.0327**	**.1723**
Stddev	.0002	.10	.031	.015	.0002	.0000	.0088	.0001	.0001
%RSD	.5148	.1865	1.347	.3063	.0908	.9970	2.489	.4357	.0313
#1	.0429	52.19	2.308	4.919	.1855	.0016	.3540	.0326	.1723
#2	.0433	52.20	2.251	4.923	.1859	.0016	.3420	.0326	.1723
#3	.0432	52.03	2.260	4.895	.1857	.0016	.3590	.0328	.1722

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0014**	**.0057**	**.7029**	**.0193**	**.0333**	**.3347**	**-.0010**	**.1603**	**.1033**
Stddev	.0009	.0007	.0021	.0001	.0004	.0011	.0005	.0002	.0007
%RSD	63.10	11.83	.3003	.4969	1.063	.3331	51.22	.1316	.6485
#1	-.0013	.0057	.7007	.0193	.0336	.3348	-.0004	.1601	.1033
#2	-.0023	.0050	.7031	.0194	.0335	.3358	-.0010	.1604	.1026
#3	-.0006	.0064	.7049	.0192	.0330	.3336	-.0014	.1605	.1039

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2137.2**	**5413.4**	**38525.**	**7688.5**
Stddev	5.1	5.1	129.	14.6
%RSD	.23885	.09399	.33406	.19020
#1	2133.6	5419.2	38395.	7677.3
#2	2135.0	5409.6	38528.	7683.2
#3	2143.0	5411.3	38652.	7705.1

Zoom In Zoom Out

Sample Name: FA41687-4 Acquired: 3/17/2017 18:11:28 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0011**	**84.84**	**.0227**	**.3448**	**.0017**	**.4742**	**-.0012**	**.0100**	**.1025**
Stddev	.0002	.22	.0007	.0007	.0000	.0041	.0000	.0001	.0002
%RSD	17.25	.2593	2.913	.1907	1.513	.8669	4.107	.6043	.1628
#1	-.0009	84.58	.0220	.3455	.0017	.4696	-.0011	.0100	.1024
#2	-.0013	84.97	.0228	.3442	.0016	.4754	-.0012	.0100	.1027
#3	-.0010	84.96	.0233	.3446	.0017	.4775	-.0012	.0101	.1023

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0153**	**61.04**	**1.545**	**2.876**	**.5466**	**.0011**	**.3041**	**.0239**	**.0837**
Stddev	.0002	.14	.016	.021	.0007	.0001	.0025	.0002	.0006
%RSD	1.129	.2340	1.043	.7209	.1233	4.892	.8305	.7067	.7318
#1	.0151	60.89	1.531	2.886	.5466	.0012	.3012	.0238	.0844
#2	.0154	61.06	1.541	2.852	.5473	.0011	.3055	.0239	.0834
#3	.0153	61.17	1.562	2.890	.5459	.0011	.3057	.0241	.0832

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.0004**	**.0016**	**.5062**	**.0176**	**.0169**	**.2866**	**-.0043**	**.1980**	**.0647**
Stddev	.0013	.0006	.0007	.0005	.0001	.0011	.0004	.0002	.0002
%RSD	297.6	36.14	.1355	3.128	.3709	.3672	8.389	.0959	.3830
#1	-.0010	.0021	.5067	.0172	.0169	.2870	-.0047	.1980	.0646
#2	.0016	.0017	.5054	.0174	.0168	.2875	-.0040	.1982	.0645
#3	.0007	.0010	.5065	.0182	.0170	.2854	-.0042	.1978	.0650

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2171.9**	**5409.2**	**38477.**	**7727.4**
Stddev	7.6	21.5	77.	56.3
%RSD	.34796	.39707	.19923	.72816
#1	2164.4	5385.8	38562.	7774.1
#2	2171.8	5413.8	38412.	7664.9
#3	2179.5	5428.1	38457.	7743.1

Zoom In Zoom Out

Sample Name: FA41687-6 Acquired: 3/17/2017 18:15:48 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0008**	**71.48**	**.0197**	**.5350**	**.0035**	**2.766**	**-.0008**	**.0087**	**.0680**
Stddev	.0003	.16	.0008	.0017	.0001	.010	.0000	.0000	.0001
%RSD	33.48	.2194	4.220	.3261	2.001	.3562	3.370	.2697	.1223
#1	-.0011	71.60	.0206	.5341	.0035	2.773	-.0009	.0087	.0681
#2	-.0006	71.30	.0190	.5370	.0034	2.755	-.0009	.0087	.0679
#3	-.0006	71.53	.0195	.5340	.0035	2.770	-.0008	.0087	.0679

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0180**	**51.35**	**1.266**	**2.204**	**.2867**	**.0006**	**.2738**	**.0206**	**.1359**
Stddev	.0003	.13	.020	.007	.0011	.0001	.0025	.0002	.0011
%RSD	1.723	.2436	1.590	.3326	.3970	9.224	.9046	.8035	.8168
#1	.0177	51.47	1.254	2.210	.2863	.0006	.2709	.0206	.1353
#2	.0183	51.22	1.289	2.207	.2858	.0006	.2754	.0204	.1372
#3	.0179	51.36	1.255	2.196	.2879	.0007	.2750	.0207	.1353

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0009**	**.0011**	**.5651**	**.0174**	**.0396**	**.2832**	**-.0041**	**.1455**	**.0579**
Stddev	.0009	.0008	.0003	.0005	.0002	.0004	.0015	.0009	.0002
%RSD	94.89	71.71	.0475	2.627	.5165	.1325	35.91	.5848	.3458
#1	-.0003	.0021	.5651	.0179	.0396	.2827	-.0038	.1453	.0576
#2	-.0019	.0008	.5654	.0171	.0397	.2834	-.0029	.1447	.0580
#3	-.0005	.0006	.5649	.0171	.0393	.2834	-.0058	.1464	.0579

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2165.8**	**5582.6**	**39878.**	**7916.6**
Stddev	3.3	7.2	17.	89.9
%RSD	.15066	.12898	.04235	1.1356
#1	2167.9	5587.9	39861.	7868.6
#2	2167.4	5585.4	39895.	8020.3
#3	2162.0	5574.4	39878.	7860.9

Zoom In Zoom Out

Sample Name: FA41687-7 Acquired: 3/17/2017 18:20:09 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0003**	**75.17**	**.0218**	**.4923**	**.0022**	**1.888**	**-.0007**	**.0119**	**.0864**
Stddev	.0001	.25	.0010	.0013	.0000	.004	.0001	.0000	.0002
%RSD	36.90	.3356	4.466	.2577	1.256	.2311	7.740	.0926	.2746
#1	-.0002	75.45	.0214	.4937	.0022	1.892	-.0006	.0119	.0864
#2	-.0005	74.97	.0230	.4918	.0022	1.884	-.0007	.0119	.0862
#3	-.0003	75.08	.0211	.4913	.0021	1.886	-.0007	.0119	.0867

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0185**	**45.32**	**1.637**	**2.610**	**.8564**	**.0013**	**.2885**	**.0206**	**.1126**
Stddev	.0002	.13	.008	.020	.0018	.0001	.0058	.0000	.0006
%RSD	.8566	.2762	.4692	.7619	.2071	5.741	1.999	.1114	.4923
#1	.0184	45.45	1.631	2.628	.8575	.0014	.2933	.0206	.1128
#2	.0184	45.21	1.634	2.612	.8543	.0013	.2821	.0206	.1120
#3	.0187	45.30	1.646	2.589	.8573	.0012	.2901	.0206	.1131

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0008**	**.0026**	**.8190**	**.0181**	**.0304**	**.3572**	**-.0045**	**.1379**	**.0659**
Stddev	.0014	.0011	.0015	.0001	.0002	.0004	.0005	.0002	.0003
%RSD	166.6	42.87	.1772	.8265	.5597	.1175	11.60	.1184	.4241
#1	.0007	.0017	.8201	.0183	.0306	.3567	-.0051	.1381	.0660
#2	-.0017	.0038	.8174	.0180	.0304	.3574	-.0041	.1379	.0661
#3	-.0015	.0022	.8196	.0180	.0303	.3575	-.0044	.1378	.0656

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2151.9**	**5316.2**	**37773.**	**7494.5**
Stddev	1.2	7.4	144.	25.6
%RSD	.05408	.13922	.38233	.34165
#1	2150.6	5323.4	37730.	7505.6
#2	2152.2	5308.6	37934.	7512.6
#3	2152.9	5316.7	37655.	7465.2

Zoom In Zoom Out

Sample Name: FA41687-8 Acquired: 3/17/2017 18:24:29 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0009**	**58.12**	**.0211**	**.2968**	**.0014**	**.5184**	**-.0009**	**.0070**	**.0734**
Stddev	.0004	.13	.0008	.0010	.0000	.0019	.0001	.0001	.0003
%RSD	42.91	.2174	3.897	.3383	1.465	.3680	7.176	1.902	.3865
#1	-.0011	58.10	.0203	.2973	.0014	.5189	-.0009	.0072	.0731
#2	-.0012	58.25	.0219	.2974	.0015	.5163	-.0009	.0069	.0736
#3	-.0005	58.00	.0210	.2956	.0015	.5201	-.0010	.0071	.0736

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0163**	**53.87**	**.9858**	**2.043**	**.1885**	**.0016**	**.2725**	**.0146**	**.0786**
Stddev	.0002	.07	.0032	.018	.0006	.0001	.0037	.0000	.0006
%RSD	.9736	.1271	.3289	.8714	.3334	6.698	1.342	.1682	.7143
#1	.0162	53.82	.9832	2.025	.1880	.0017	.2710	.0146	.0791
#2	.0163	53.95	.9847	2.061	.1883	.0016	.2698	.0146	.0788
#3	.0165	53.86	.9894	2.043	.1892	.0015	.2767	.0146	.0780

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.0000**	**.0004**	**.5608**	**.0172**	**.0146**	**.2788**	**-.0022**	**.1521**	**.0462**
Stddev	.0007	.0005	.0002	.0003	.0000	.0003	.0004	.0005	.0002
%RSD	1713.	115.0	.0343	1.808	.1351	.1066	19.23	.3524	.3354
#1	.0003	.0001	.5609	.0175	.0146	.2785	-.0018	.1518	.0464
#2	.0006	.0003	.5609	.0171	.0146	.2787	-.0027	.1527	.0463
#3	-.0008	.0010	.5605	.0169	.0146	.2791	-.0022	.1519	.0461

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2136.9**	**5203.0**	**36761.**	**7345.8**
Stddev	6.8	7.1	187.	13.6
%RSD	.31600	.13570	.50800	.18460
#1	2134.8	5195.3	36958.	7357.8
#2	2144.4	5204.5	36587.	7348.6
#3	2131.4	5209.1	36737.	7331.1

Zoom In Zoom Out

Sample Name: FA41687-9 Acquired: 3/17/2017 18:28:51 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0023**	**71.08**	**.1001**	**.3219**	**.0032**	**.3529**	**-.0036**	**.0144**	**.1156**
Stddev	.0002	.14	.0014	.0009	.0000	.0015	.0001	.0001	.0006
%RSD	10.72	.1911	1.369	.2888	1.171	.4152	1.946	.8138	.5114
#1	-.0025	70.94	.0986	.3230	.0031	.3540	-.0036	.0144	.1150
#2	-.0020	71.21	.1004	.3214	.0032	.3512	-.0037	.0143	.1162
#3	-.0022	71.09	.1012	.3214	.0032	.3533	-.0036	.0145	.1157

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0229**	**243.4**	**1.010**	**2.010**	**.4905**	**.0086**	**.2482**	**.0270**	**.0995**
Stddev	.0004	.4	.037	.018	.0008	.0002	.0054	.0002	.0006
%RSD	1.700	.1505	3.669	.8852	.1648	1.839	2.171	.6646	.5733
#1	.0234	243.3	.9823	1.996	.4903	.0088	.2517	.0268	.0996
#2	.0227	243.8	.9966	2.030	.4898	.0086	.2509	.0272	.0988
#3	.0227	243.1	1.052	2.003	.4914	.0085	.2420	.0270	.1000

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.0107**	**.0013**	**.7042**	**.0178**	**.0138**	**.2869**	**-.0047**	**.3765**	**.0565**
Stddev	.0004	.0007	.0014	.0000	.0000	.0003	.0008	.0007	.0001
%RSD	4.091	52.34	.2050	.1876	.1081	.0882	17.71	.1849	.1892
#1	.0112	.0015	.7051	.0178	.0138	.2866	-.0057	.3758	.0565
#2	.0103	.0005	.7025	.0178	.0138	.2870	-.0045	.3765	.0564
#3	.0106	.0018	.7049	.0177	.0138	.2871	-.0040	.3772	.0566

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2086.2**	**5309.8**	**37986.**	**7584.1**
Stddev	7.5	9.7	165.	22.7
%RSD	.35827	.18233	.43312	.29974
#1	2085.4	5302.2	38172.	7610.3
#2	2094.0	5320.7	37926.	7569.9
#3	2079.1	5306.6	37860.	7572.1

Zoom In Zoom Out

Sample Name: FA41687-10 Acquired: 3/17/2017 18:33:12 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0011**	**96.51**	**.0269**	**.6398**	**.0032**	**4.979**	**-.0009**	**.0143**	**.0955**
Stddev	.0003	.20	.0002	.0021	.0000	.004	.0000	.0001	.0005
%RSD	30.55	.2089	.8437	.3207	1.509	.0749	3.597	.6364	.5353
#1	-.0014	96.29	.0268	.6384	.0032	4.975	-.0009	.0142	.0950
#2	-.0007	96.57	.0272	.6388	.0032	4.980	-.0009	.0144	.0959
#3	-.0011	96.69	.0268	.6421	.0031	4.982	-.0009	.0142	.0958

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0287**	**70.05**	**2.154**	**3.419**	**1.109**	**.0020**	**.2442**	**.0301**	**.1242**
Stddev	.0001	.08	.025	.019	.002	.0001	.0048	.0001	.0019
%RSD	.2342	.1080	1.156	.5488	.1618	3.013	1.955	.3836	1.504
#1	.0286	69.96	2.182	3.423	1.110	.0020	.2389	.0301	.1244
#2	.0287	70.10	2.135	3.436	1.110	.0019	.2456	.0303	.1260
#3	.0288	70.08	2.146	3.399	1.107	.0020	.2481	.0300	.1223

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.0000**	**.0015**	**.5436**	**.0181**	**.0536**	**.2796**	**-.0027**	**.2049**	**.0955**
Stddev	.001	.0015	.0005	.0002	.0001	.0010	.0023	.0005	.0001
%RSD	17030.	99.04	.0903	.8906	.2031	.3724	86.98	.2478	.1536
#1	-.0003	.0023	.5441	.0181	.0535	.2796	-.0017	.2054	.0954
#2	-.0009	.0024	.5434	.0183	.0536	.2807	-.0054	.2049	.0956
#3	.0011	-.0002	.5432	.0180	.0537	.2786	-.0010	.2044	.0955

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2107.8**	**5508.4**	**39347.**	**7819.5**
Stddev	1.4	4.2	138.	17.4
%RSD	.06638	.07557	.35128	.22301
#1	2106.3	5505.0	39192.	7836.7
#2	2108.1	5513.1	39395.	7801.8
#3	2109.1	5507.2	39455.	7820.1

Zoom In Zoom Out

Sample Name: CCV Acquired: 3/17/2017 18:37:32 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2567	41.09	1.967	2.006	2.051	39.89	2.001	2.015	2.052
Stddev	.0009	.09	.007	.006	.000	.04	.003	.003	.003
%RSD	.3664	.2158	.3650	.2827	.0212	.1054	.1247	.1505	.1535
#1	.2562	41.04	1.969	2.012	2.050	39.84	2.003	2.016	2.049
#2	.2578	41.04	1.960	2.003	2.051	39.89	1.998	2.012	2.056
#3	.2560	41.19	1.974	2.001	2.051	39.93	2.002	2.018	2.052
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.937	41.85	39.57	39.70	2.014	2.027	40.00	1.969	1.996
Stddev	.009	.01	.03	.16	.005	.005	.06	.004	.001
%RSD	.4641	.0172	.0754	.4084	.2660	.2463	.1403	.2021	.0295
#1	1.938	41.86	39.57	39.57	2.012	2.025	40.06	1.971	1.996
#2	1.945	41.85	39.54	39.66	2.021	2.024	39.95	1.964	1.995
#3	1.927	41.86	39.60	39.88	2.011	2.033	40.01	1.971	1.996
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.962	1.992	2.622	1.974	2.084	2.024	1.986	2.018	1.971
Stddev	.009	.005	.005	.005	.005	.005	.002	.008	.004
%RSD	.4739	.2654	.1915	.2574	.2637	.2601	.0905	.3951	.1892
#1	1.962	1.994	2.620	1.975	2.088	2.025	1.984	2.016	1.975
#2	1.953	1.986	2.617	1.968	2.078	2.029	1.987	2.027	1.967
#3	1.971	1.996	2.627	1.978	2.085	2.018	1.987	2.012	1.970
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: CCV Acquired: 3/17/2017 18:37:32 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2026.4	4722.7	34022.	6584.3
Stddev	4.0	10.8	179.	43.2
%RSD	.19805	.22816	.52663	.65643
#1	2026.2	4721.8	34142.	6601.7
#2	2030.5	4733.8	33816.	6616.1
#3	2022.5	4712.3	34108.	6535.1

Zoom In Zoom Out

Sample Name: CCB Acquired: 3/17/2017 18:41:45 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	-.0020	.0012	.0004	.0003	.0064	.0005	.0005	.0010
Stddev	.0005	.0041	.0004	.0003	.0001	.0008	.0001	.0001	.0002
%RSD	410.0	203.6	34.71	66.92	47.24	11.71	17.67	17.51	26.06
#1	-.0003	-.0028	.0010	.0003	.0002	.0056	.0006	.0006	.0012
#2	.0007	-.0056	.0009	.0002	.0002	.0070	.0005	.0004	.0010
#3	.0000	.0024	.0017	.0007	.0004	.0067	.0004	.0005	.0007
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	.0167	-.0124	.0105	.0008	F .0027	.0072	.0005	.0006
Stddev	.0002	.0023	.0358	.0054	.0002	.0007	.0038	.0002	.0006
%RSD	184.2	13.95	289.1	51.71	21.07	26.76	52.20	42.94	106.7
#1	.0000	.0171	.0277	.0122	.0006	.0035	.0084	.0006	.0008
#2	.0004	.0187	-.0237	.0149	.0010	.0022	.0103	.0005	.0011
#3	.0000	.0141	-.0412	.0044	.0009	.0022	.0030	.0002	-.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit						.0010			
Low Limit						-.0010			

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0004	F .0020	.0014	.0006	.0004	.0010	.0008	.0010	.0006
Stddev	.0003	.0007	.0004	.0004	.0002	.0000	.0009	.0001	.0002
%RSD	79.88	33.66	31.54	73.91	61.09	4.692	108.0	9.914	28.95
#1	-.0001	.0028	.0018	.0010	.0002	.0010	-.0001	.0010	.0008
#2	-.0003	.0015	.0013	.0007	.0002	.0010	.0016	.0011	.0005
#3	-.0007	.0018	.0010	.0001	.0006	.0010	.0009	.0009	.0005
Check ?	Chk Pass	Chk Fail	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		.0020							
Low Limit		-.0020							

Zoom In Zoom Out

Sample Name: CCB Acquired: 3/17/2017 18:41:45 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2184.6	4912.0	34738.	6883.2
Stddev	7.1	9.3	47.	46.5
%RSD	.32533	.18917	.13512	.67625
#1	2178.1	4901.7	34778.	6846.4
#2	2192.2	4914.7	34686.	6935.5
#3	2183.4	4919.6	34750.	6867.6

Zoom In Zoom Out

Sample Name: FA41687-11 Acquired: 3/17/2017 18:46:16 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0007**	**137.5**	**.0359**	**.9673**	**.0052**	**4.022**	**-.0011**	**.0231**	**.1229**
Stddev	.0003	.6	.0005	.0017	.0000	.025	.0001	.0001	.0002
%RSD	45.29	.4425	1.276	.1759	.8956	.6116	7.957	.3202	.1395
#1	-.0009	136.8	.0363	.9655	.0052	3.993	-.0010	.0230	.1228
#2	-.0008	137.6	.0354	.9689	.0051	4.035	-.0012	.0232	.1231
#3	-.0003	138.0	.0359	.9677	.0052	4.037	-.0012	.0231	.1227

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0376**	**84.33**	**2.940**	**4.644**	**2.888**	**.0035**	**.3048**	**.0480**	**.1270**
Stddev	.0005	.38	.037	.038	.013	.0003	.0041	.0001	.0008
%RSD	1.412	.4550	1.247	.8128	.4351	7.264	1.343	.1225	.6248
#1	.0381	83.93	2.902	4.600	2.874	.0036	.3036	.0479	.1276
#2	.0370	84.37	2.943	4.665	2.898	.0037	.3015	.0481	.1261
#3	.0377	84.69	2.975	4.666	2.892	.0032	.3094	.0480	.1274

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.0008**	**.0021**	**.5706**	**.0175**	**.0601**	**.3418**	**-.0031**	**.2341**	**.1186**
Stddev	.0015	.0006	.0018	.0003	.0003	.0008	.0010	.0003	.0003
%RSD	194.3	30.39	.3155	1.913	.4604	.2467	32.08	.1208	.2242
#1	-.0006	.0028	.5714	.0179	.0598	.3417	-.0020	.2338	.1189
#2	.0006	.0020	.5685	.0172	.0602	.3427	-.0035	.2343	.1183
#3	.0023	.0016	.5718	.0176	.0604	.3410	-.0039	.2343	.1187

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2114.7**	**5929.1**	**42230.**	**8457.5**
Stddev	8.5	19.0	150.	69.1
%RSD	.40231	.32052	.35619	.81678
#1	2116.2	5926.3	42323.	8536.6
#2	2122.3	5949.4	42056.	8427.1
#3	2105.5	5911.7	42310.	8408.8

Zoom In Zoom Out

Sample Name: FA54687-12 Acquired: 3/17/2017 18:50:44 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0010**	**95.08**	**.0264**	**.6200**	**.0032**	**5.448**	**-.0012**	**.0188**	**.1036**
Stddev	.0001	.06	.0008	.0005	.0000	.023	.0001	.0000	.0006
%RSD	9.716	.0646	2.883	.0785	1.213	.4224	4.694	.0907	.6193
#1	-.0010	95.04	.0261	.6198	.0031	5.426	-.0011	.0188	.1035
#2	-.0009	95.05	.0273	.6196	.0032	5.472	-.0012	.0189	.1043
#3	-.0011	95.15	.0259	.6205	.0032	5.447	-.0012	.0188	.1031

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0262**	**70.27**	**1.760**	**3.514**	**.9274**	**.0018**	**.3575**	**.0295**	**.0914**
Stddev	.0001	.16	.020	.003	.0019	.0002	.0025	.0002	.0014
%RSD	.4248	.2283	1.114	.0748	.2036	11.25	.7021	.8201	1.566
#1	.0260	70.09	1.782	3.511	.9271	.0016	.3547	.0297	.0899
#2	.0262	70.32	1.748	3.516	.9294	.0019	.3596	.0292	.0928
#3	.0262	70.40	1.748	3.513	.9256	.0020	.3583	.0296	.0914

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.0003**	**.0001**	**.5197**	**.0174**	**.0421**	**.2904**	**-.0032**	**.1941**	**.0812**
Stddev	.0013	.0012	.0016	.0002	.0000	.0005	.0009	.0007	.0002
%RSD	375.7	1107.	.3006	1.384	.0762	.1598	28.01	.3793	.1954
#1	-.0008	.0013	.5215	.0175	.0421	.2899	-.0023	.1941	.0811
#2	.0017	-.0010	.5185	.0175	.0422	.2905	-.0033	.1948	.0812
#3	.0000	.0000	.5192	.0171	.0421	.2908	-.0040	.1934	.0814

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2099.9**	**5441.2**	**38486.**	**7623.0**
Stddev	5.5	12.9	80.	15.9
%RSD	.26228	.23768	.20728	.20907
#1	2102.3	5440.0	38438.	7639.5
#2	2103.8	5454.8	38441.	7622.0
#3	2093.6	5429.0	38578.	7607.7

Zoom In Zoom Out

Sample Name: MP31808-MB1 Acquired: 3/17/2017 18:55:05 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**.0345**	**.0016**	**.0002**	**-.0001**	**.0006**	**.0000**	**.0000**	**-.0002**
Stddev	.0003	.0098	.0002	.0002	.0000	.0011	.0000	.0000	.0001
%RSD	4202.	28.39	14.47	79.98	29.51	191.3	1281.	154.4	32.96
#1	-.0003	.0458	.0013	.0001	-.0001	-.0007	.0000	.0000	-.0002
#2	.0003	.0298	.0017	.0001	-.0001	.0016	.0000	.0001	-.0001
#3	.0001	.0279	.0018	.0004	-.0001	.0008	.0000	.0000	-.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**.0312**	**-.0103**	**.0047**	**.0002**	**-.0007**	**-.0209**	**.0001**	**.0005**
Stddev	.0002	.0045	.0087	.0091	.0000	.0002	.0032	.0001	.0002
%RSD	49.04	14.41	84.21	194.3	26.64	30.22	15.44	147.6	42.61
#1	-.0007	.0362	-.0054	.0103	.0002	-.0007	-.0180	.0001	.0005
#2	-.0003	.0300	-.0203	-.0058	.0002	-.0009	-.0205	.0000	.0003
#3	-.0003	.0275	-.0052	.0095	.0001	-.0005	-.0244	.0002	.0007
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0005**	**-.0003**	**-.0014**	**-.0003**	**.0000**	**.0001**	**.0025**	**.0000**	**.0007**
Stddev	.0006	.0009	.0003	.0003	.000	.0001	.0012	.000	.0001
%RSD	127.5	293.6	22.69	102.7	27.45	66.16	49.40	461.8	8.497
#1	-.0010	.0003	-.0010	-.0001	.0000	.0002	.0029	.0002	.0007
#2	.0002	.0002	-.0014	-.0007	.0000	.0001	.0011	.0000	.0008
#3	-.0005	-.0013	-.0016	-.0001	.0000	.0000	.0035	-.0003	.0007
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: MP31808-MB1 Acquired: 3/17/2017 18:55:05 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2115.7**	**4747.4**	**33717.**	**6700.0**
Stddev	7.0	10.6	117.	70.6
%RSD	.33041	.22309	.34611	1.0539
#1	2113.5	4751.7	33780.	6776.9
#2	2110.1	4735.3	33789.	6638.1
#3	2123.6	4755.1	33582.	6685.0

Zoom In Zoom Out

Sample Name: MP31808-B1 Acquired: 3/17/2017 18:59:35 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0483**	**29.10**	**2.104**	**2.120**	**.0539**	**26.53**	**.0523**	**.5175**	**.2074**
Stddev	.0005	.24	.002	.009	.0005	.21	.0001	.0003	.0006
%RSD	1.027	.8187	.0787	.4006	.9128	.7834	.1313	.0504	.2800
#1	.0485	28.83	2.106	2.112	.0534	26.29	.0522	.5176	.2068
#2	.0477	29.28	2.105	2.118	.0543	26.67	.0522	.5173	.2075
#3	.0486	29.20	2.102	2.129	.0542	26.64	.0524	.5178	.2080
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2452**	**27.73**	**26.34**	**25.46**	**.5223**	**.5303**	**26.35**	**.5168**	**.5079**
Stddev	.0007	.21	.16	.35	.0007	.0027	.16	.0008	.0006
%RSD	.2891	.7560	.6145	1.377	.1258	.5118	.5992	.1604	.1217
#1	.2444	27.49	26.15	25.07	.5216	.5272	26.16	.5169	.5086
#2	.2453	27.85	26.45	25.74	.5229	.5318	26.43	.5159	.5079
#3	.2458	27.85	26.41	25.58	.5225	.5319	26.45	.5176	.5073
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5270**	**2.306**	**.0104**	**.5237**	**.5438**	**.5148**	**2.052**	**.4848**	**.5152**
Stddev	.0009	.002	.0005	.0004	.0030	.0014	.003	.0006	.0014
%RSD	.1758	.1023	4.344	.0775	.5444	.2655	.1637	.1151	.2743
#1	.5278	2.307	.0109	.5241	.5404	.5136	2.049	.4846	.5146
#2	.5260	2.303	.0104	.5233	.5459	.5163	2.051	.4844	.5141
#3	.5272	2.307	.0100	.5238	.5452	.5146	2.056	.4854	.5168
Check ?	Chk Pass	Chk Pass	None	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: MP31808-B1 Acquired: 3/17/2017 18:59:35 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2042.5**	**4654.7**	**33917.**	**6675.6**
Stddev	2.1	7.4	106.	64.0
%RSD	.10099	.15971	.31227	.95840
#1	2041.1	4648.4	34036.	6739.3
#2	2041.5	4652.8	33834.	6611.3
#3	2044.8	4662.9	33880.	6676.2

Zoom In Zoom Out

Sample Name: FA42048-1L Acquired: 3/17/2017 19:03:49 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0001**	**.0386**	**.0032**	**.0104**	**.0000**	**28.76**	**.0001**	**.0002**	**.0002**
Stddev	.0006	.0042	.0001	.0001	.000	.15	.0001	.0001	.0002
%RSD	1143.	10.77	4.527	1.314	61.85	.5261	82.46	34.20	81.50
#1	-.0001	.0353	.0034	.0104	-.0001	28.58	.0001	.0003	.0002
#2	.0007	.0432	.0032	.0104	.0000	28.84	.0001	.0002	.0000
#3	-.0004	.0372	.0031	.0102	.0000	28.85	.0000	.0002	.0004

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**-.0004**	**.0204**	**2.785**	**.8471**	**.0042**	**.0009**	F **216.2**	**.0004**	**.0018**
Stddev	.0002	.0036	.015	.0202	.0000	.0002	2.1	.0001	.0003
%RSD	37.05	17.68	.5404	2.384	1.166	21.06	.9788	32.35	14.40
#1	-.0006	.0246	2.772	.8581	.0043	.0011	214.9	.0005	.0019
#2	-.0005	.0181	2.782	.8595	.0042	.0007	215.1	.0004	.0015
#3	-.0002	.0185	2.802	.8238	.0042	.0008	218.6	.0003	.0019

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0004**	**.0031**	**.0875**	**.0001**	**.0655**	**.0018**	**.0012**	**.0009**	**.0104**
Stddev	.0003	.0018	.0007	.0003	.0006	.0001	.0003	.0002	.0001
%RSD	79.71	57.76	.7806	225.1	.8502	5.789	29.16	17.87	1.183
#1	-.0006	.0042	.0881	.0004	.0649	.0018	.0016	.0007	.0105
#2	-.0005	.0042	.0876	.0001	.0654	.0020	.0010	.0010	.0105
#3	.0000	.0010	.0868	-.0002	.0661	.0018	.0010	.0010	.0103

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2036.8**	**4618.9**	**33760.**	**6570.4**
Stddev	1.7	2.4	183.	62.2
%RSD	.08156	.05225	.54128	.94612
#1	2036.3	4616.1	33971.	6609.9
#2	2038.7	4620.4	33654.	6602.5
#3	2035.4	4620.2	33655.	6498.7

Zoom In Zoom Out

Sample Name: MP31808-D1 Acquired: 3/17/2017 19:08:29 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0001**	**.0241**	**.0028**	**.0092**	**-.0001**	**28.92**	**.0000**	**.0002**	**.0001**
Stddev	.0006	.0025	.0015	.0002	.0001	.15	.0000	.0001	.0004
%RSD	530.1	10.28	52.18	2.555	78.00	.5330	221.5	47.23	397.3
#1	-.0004	.0266	.0029	.0090	.0000	28.74	.0000	.0003	-.0002
#2	.0008	.0216	.0042	.0091	-.0002	29.02	.0001	.0001	.0005
#3	-.0001	.0241	.0013	.0095	-.0001	28.99	.0000	.0001	.0000

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**-.0003**	**.0016**	**2.802**	**.8355**	**.0041**	**-.0003**	F **211.3**	**.0004**	**.0014**
Stddev	.0001	.0011	.002	.0146	.0001	.0000	3.6	.0002	.0007
%RSD	35.53	67.33	.0770	1.752	1.405	13.12	1.708	39.08	49.88
#1	-.0003	.0024	2.801	.8186	.0040	-.0003	207.4	.0006	.0021
#2	-.0004	.0019	2.804	.8434	.0040	-.0003	214.4	.0005	.0012
#3	-.0002	.0004	2.800	.8445	.0041	-.0002	212.2	.0003	.0008

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0011**	**.0009**	**.0881**	**.0002**	**.0657**	**.0016**	**.0020**	**.0005**	**.0104**
Stddev	.0012	.0014	.0010	.0004	.0002	.0001	.0012	.0002	.0001
%RSD	112.6	150.8	1.104	185.8	.3691	4.884	62.93	33.27	.7047
#1	-.0002	.0025	.0882	.0004	.0654	.0016	.0015	.0003	.0105
#2	-.0025	.0003	.0891	.0005	.0657	.0016	.0034	.0005	.0103
#3	-.0005	-.0001	.0871	-.0003	.0659	.0017	.0010	.0007	.0104

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2029.9**	**4613.8**	**33544.**	**6499.2**
Stddev	7.4	8.0	100.	34.0
%RSD	.36516	.17413	.29795	.52247
#1	2034.8	4620.4	33615.	6536.1
#2	2021.4	4604.8	33588.	6469.2
#3	2033.5	4616.2	33430.	6492.2

Zoom In Zoom Out

Sample Name: MP31808-SD1 Acquired: 3/17/2017 19:13:08 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0013**	**.0168**	**.0071**	**.0102**	**-.0002**	**28.37**	**-.0002**	**-.0001**	**.0008**
Stddev	.0031	.0562	.0036	.0007	.0002	.12	.0001	.0003	.0008
%RSD	245.3	334.9	50.82	7.002	90.84	.4258	83.58	396.3	97.53
#1	-.0026	-.0371	.0088	.0098	-.0003	28.23	-.0003	-.0004	.0016
#2	.0023	.0750	.0096	.0110	-.0002	28.46	-.0002	.0001	.0005
#3	-.0035	.0125	.0030	.0098	.0000	28.41	.0000	.0001	.0002

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**-.0022**	**.0106**	**2.642**	**.8291**	**.0038**	**-.0019**	**212.6**	**-.0002**	**.0042**
Stddev	.0009	.0116	.046	.1080	.0002	.0005	.2	.0009	.0054
%RSD	38.74	110.0	1.753	13.02	5.198	28.82	.1100	517.6	128.9
#1	-.0032	.0059	2.616	.8336	.0040	-.0018	212.3	-.0002	.0057
#2	-.0016	.0020	2.614	.7190	.0036	-.0024	212.6	.0007	.0086
#3	-.0019	.0238	2.696	.9348	.0039	-.0014	212.8	-.0011	-.0018

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0010**	**.0022**	**.0894**	**.0001**	**.0635**	**.0023**	**-.0022**	**.0003**	**.0311**
Stddev	.0060	.0073	.0021	.0003	.0005	.0003	.0036	.0001	.0004
%RSD	578.7	329.3	2.292	362.4	.7498	13.57	165.1	16.75	1.315
#1	-.0077	-.0060	.0912	-.0002	.0631	.0027	.0008	.0003	.0311
#2	.0040	.0049	.0872	.0000	.0634	.0022	-.0063	.0002	.0307
#3	.0005	.0078	.0900	.0004	.0640	.0021	-.0011	.0003	.0315

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2142.9**	**4832.0**	**34758.**	**6759.8**
Stddev	5.9	12.6	62.	65.6
%RSD	.27643	.26006	.17750	.97001
#1	2141.0	4823.9	34731.	6793.7
#2	2149.5	4846.5	34713.	6684.2
#3	2138.2	4825.6	34828.	6801.4

Zoom In Zoom Out

Sample Name: MP31808-S1 Acquired: 3/17/2017 19:17:39 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0491**	**28.94**	**2.117**	**2.106**	**.0535**	**54.77**	**.0511**	**.5098**	**.2034**
Stddev	.0006	.19	.005	.009	.0003	.18	.0000	.0002	.0009
%RSD	1.176	.6735	.2617	.4432	.4934	.3366	.0881	.0472	.4381
#1	.0485	28.72	2.124	2.096	.0532	54.56	.0512	.5096	.2026
#2	.0497	29.10	2.114	2.110	.0537	54.91	.0511	.5097	.2032
#3	.0491	29.00	2.114	2.113	.0537	54.84	.0511	.5101	.2044

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.2486**	**27.53**	**29.75**	**25.84**	**.5148**	**.5274**	F **234.8**	**.5065**	**.5081**
Stddev	.0006	.14	.21	.08	.0012	.0016	1.7	.0007	.0022
%RSD	.2601	.5195	.6994	.3221	.2270	.2960	.7259	.1350	.4415
#1	.2491	27.36	29.52	25.74	.5156	.5256	233.5	.5073	.5094
#2	.2488	27.62	29.83	25.89	.5134	.5279	234.3	.5060	.5093
#3	.2478	27.59	29.91	25.87	.5153	.5286	236.8	.5063	.5055

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.5262**	**2.289**	**.1013**	**.5172**	**.6035**	**.5125**	**2.054**	**.4828**	**.5130**
Stddev	.0017	.004	.0022	.0008	.0035	.0014	.009	.0009	.0009
%RSD	.3269	.1978	2.139	.1455	.5841	.2746	.4233	.1959	.1690
#1	.5261	2.295	.1023	.5176	.5995	.5115	2.063	.4838	.5139
#2	.5279	2.288	.0989	.5164	.6060	.5141	2.046	.4826	.5129
#3	.5245	2.286	.1029	.5177	.6050	.5118	2.053	.4819	.5122

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**1977.4**	**4577.5**	**33730.**	**6605.9**
Stddev	3.6	3.4	57.	50.7
%RSD	.18211	.07526	.17044	.76677
#1	1974.6	4579.6	33739.	6664.2
#2	1976.0	4573.6	33668.	6572.6
#3	1981.5	4579.5	33782.	6581.0

Zoom In Zoom Out

Sample Name: MP31808-S2 Acquired: 3/17/2017 19:22:00 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0492**	**29.15**	**2.101**	**2.094**	**.0535**	**54.73**	**.0509**	**.5068**	**.2050**
Stddev	.0005	.05	.008	.003	.0001	.11	.0002	.0011	.0011
%RSD	1.031	.1681	.3992	.1191	.1000	.2060	.3117	.2185	.5538
#1	.0490	29.11	2.110	2.093	.0536	54.63	.0511	.5081	.2051
#2	.0498	29.21	2.097	2.091	.0535	54.85	.0508	.5065	.2038
#3	.0488	29.14	2.094	2.096	.0535	54.72	.0509	.5059	.2060

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.2494**	**27.63**	**29.82**	**25.92**	**.5145**	**.5261**	F **229.8**	**.5035**	**.5083**
Stddev	.0022	.09	.04	.08	.0016	.0012	2.1	.0014	.0009
%RSD	.8902	.3164	.1315	.2910	.3048	.2199	.8971	.2817	.1841
#1	.2471	27.58	29.81	25.90	.5157	.5252	227.9	.5051	.5073
#2	.2495	27.73	29.80	26.00	.5127	.5257	229.5	.5026	.5090
#3	.2515	27.58	29.87	25.86	.5152	.5274	232.0	.5027	.5087

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.5190**	**2.276**	**.1009**	**.5161**	**.6051**	**.5172**	**2.053**	**.4834**	**.5112**
Stddev	.0009	.004	.0009	.0007	.0006	.0025	.002	.0005	.0015
%RSD	.1754	.1634	.8771	.1416	.0942	.4909	.1074	.1129	.2895
#1	.5190	2.280	.1008	.5169	.6056	.5147	2.053	.4833	.5129
#2	.5199	2.273	.1000	.5154	.6052	.5172	2.055	.4830	.5104
#3	.5181	2.275	.1018	.5162	.6045	.5197	2.051	.4840	.5103

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**1970.1**	**4582.4**	**33467.**	**6556.1**
Stddev	2.0	7.3	49.	45.2
%RSD	.09925	.15976	.14684	.68899
#1	1971.0	4574.6	33446.	6608.0
#2	1971.4	4589.2	33523.	6525.1
#3	1967.8	4583.5	33432.	6535.3

Zoom In Zoom Out

Sample Name: FA41778-3 Acquired: 3/17/2017 19:26:21 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0001**	**.5069**	**.0027**	**.0288**	**-.0001**	**18.31**	**.0093**	**.0099**	**.0003**
Stddev	.0002	.0085	.0006	.0001	.0000	.10	.0000	.0001	.0002
%RSD	202.3	1.678	21.91	.4421	27.15	.5541	.1675	.6725	57.38
#1	-.0004	.5161	.0030	.0286	-.0001	18.23	.0093	.0099	.0003
#2	.0001	.4994	.0020	.0288	-.0001	18.28	.0093	.0098	.0004
#3	-.0001	.5052	.0031	.0289	-.0001	18.43	.0093	.0100	.0001

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0034**	**3.826**	**12.04**	**2.065**	**.0935**	**.0045**	**8.161**	**.1323**	**.0002**
Stddev	.0001	.009	.10	.008	.0002	.0003	.045	.0005	.0004
%RSD	4.266	.2471	.8002	.3768	.2494	5.897	.5539	.3700	165.6
#1	.0035	3.815	11.95	2.072	.0932	.0048	8.113	.1326	.0003
#2	.0032	3.832	12.02	2.057	.0935	.0043	8.165	.1317	.0006
#3	.0034	3.831	12.14	2.067	.0937	.0044	8.203	.1326	-.0002

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.0001**	**.0024**	**.7420**	**.0001**	**.1551**	**.0009**	**.0026**	**.0003**	**.1758**
Stddev	.0001	.0009	.0012	.0003	.0003	.0001	.0005	.0001	.0003
%RSD	110.6	36.97	.1618	420.7	.2045	12.40	17.55	40.72	.1592
#1	.0003	.0027	.7428	-.0001	.1548	.0009	.0029	.0003	.1757
#2	.0000	.0031	.7425	-.0002	.1550	.0011	.0021	.0004	.1761
#3	.0001	.0014	.7406	.0004	.1554	.0009	.0028	.0002	.1755

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2095.1**	**4705.5**	**33626.**	**6650.1**
Stddev	7.6	7.1	116.	50.1
%RSD	.36074	.15135	.34524	.75352
#1	2101.2	4713.6	33749.	6680.0
#2	2086.6	4700.5	33610.	6678.1
#3	2097.5	4702.3	33518.	6592.3

Zoom In Zoom Out

Sample Name: CCV Acquired: 3/17/2017 19:30:45 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2572**	**40.83**	**1.971**	**2.013**	**2.042**	**39.79**	**2.002**	**2.017**	**2.040**
Stddev	.0005	.12	.006	.003	.007	.11	.004	.004	.001
%RSD	.1988	.2923	.3208	.1394	.3418	.2849	.1815	.2166	.0388
#1	.2577	40.89	1.964	2.010	2.046	39.87	1.998	2.013	2.040
#2	.2573	40.91	1.973	2.016	2.046	39.85	2.003	2.018	2.041
#3	.2567	40.70	1.976	2.012	2.034	39.66	2.005	2.021	2.039
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.951**	**41.52**	**39.52**	**39.32**	**2.018**	**2.036**	**39.21**	**1.972**	**1.993**
Stddev	.001	.17	.05	.05	.004	.005	.01	.004	.001
%RSD	.0697	.4149	.1143	.1193	.1741	.2561	.0333	.2035	.0549
#1	1.950	41.67	39.47	39.36	2.014	2.030	39.20	1.967	1.993
#2	1.952	41.56	39.55	39.33	2.019	2.037	39.22	1.973	1.992
#3	1.950	41.33	39.53	39.26	2.020	2.040	39.20	1.975	1.994
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.973**	**1.999**	**2.631**	**1.980**	**2.077**	**2.021**	**1.989**	**2.022**	**1.971**
Stddev	.004	.006	.004	.002	.004	.001	.004	.004	.004
%RSD	.2004	.3011	.1645	.1148	.2107	.0296	.2274	.2159	.2000
#1	1.969	1.993	2.626	1.978	2.078	2.021	1.990	2.017	1.967
#2	1.973	2.001	2.632	1.982	2.081	2.021	1.984	2.026	1.972
#3	1.977	2.005	2.635	1.981	2.072	2.020	1.993	2.023	1.975
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: CCV Acquired: 3/17/2017 19:30:45 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2027.8**	**4716.7**	**34090.**	**6631.7**
Stddev	5.7	6.5	42.	43.2
%RSD	.28025	.13813	.12350	.65145
#1	2024.7	4717.2	34107.	6584.4
#2	2034.4	4722.9	34121.	6641.4
#3	2024.4	4709.9	34042.	6669.2

Zoom In Zoom Out

Sample Name: CCB Acquired: 3/17/2017 19:34:56 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**.0094**	**.0015**	**.0003**	**.0003**	**.0054**	**.0003**	**.0003**	**.0008**
Stddev	.0003	.0058	.0003	.0001	.0001	.0028	.0001	.0001	.0001
%RSD	115.8	61.56	19.14	49.66	17.70	51.73	22.18	31.39	18.49
#1	.0000	.0036	.0018	.0001	.0003	.0061	.0004	.0004	.0008
#2	-.0003	.0093	.0015	.0003	.0002	.0078	.0002	.0002	.0009
#3	-.0006	.0152	.0012	.0003	.0003	.0023	.0003	.0003	.0006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0134**	**.0264**	**.0033**	**.0004**	F **.0030**	**.0423**	**.0002**	**.0006**
Stddev	.0001	.0033	.0336	.0182	.0000	.0005	.0037	.0001	.0007
%RSD	53.96	24.61	127.0	549.7	9.030	16.56	8.695	38.69	117.4
#1	-.0003	.0125	.0515	-.0098	.0004	.0034	.0466	.0001	-.0002
#2	-.0003	.0171	-.0117	.0241	.0004	.0031	.0405	.0003	.0008
#3	-.0001	.0107	.0395	-.0044	.0004	.0025	.0399	.0003	.0013
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit						.0010			
Low Limit						-.0010			

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0005**	**.0007**	**.0008**	**.0004**	**.0003**	**.0007**	**.0005**	**.0004**	**.0004**
Stddev	.0007	.0012	.0003	.0002	.0001	.0000	.0010	.0001	.0001
%RSD	145.1	165.4	40.23	49.75	31.65	4.718	192.1	35.94	15.86
#1	.0003	.0021	.0012	.0006	.0003	.0007	.0015	.0002	.0004
#2	.0012	.0002	.0007	.0002	.0002	.0007	-.0005	.0004	.0003
#3	-.0001	-.0001	.0006	.0003	.0004	.0007	.0005	.0005	.0004
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: CCB Acquired: 3/17/2017 19:34:56 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2180.9**	**4921.2**	**34758.**	**6834.8**
Stddev	6.8	11.3	222.	70.1
%RSD	.31316	.22989	.63914	1.0251
#1	2174.3	4908.8	34810.	6888.5
#2	2180.4	4923.9	34514.	6860.5
#3	2187.9	4930.9	34949.	6755.6

Zoom In Zoom Out

Sample Name: FA42071-1 Acquired: 3/17/2017 19:39:27 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0003**	**.0027**	**.0021**	**.0147**	**-.0001**	**44.35**	**.0000**	**.0001**	**-.0002**
Stddev	.0003	.0099	.0007	.0001	.0001	.17	.0000	.0001	.0001
%RSD	84.71	370.5	33.56	.4741	74.88	.3908	32.88	79.38	37.12
#1	-.0006	-.0060	.0020	.0147	.0000	44.18	.0001	.0000	-.0001
#2	-.0004	.0135	.0015	.0147	-.0001	44.34	.0000	.0001	-.0003
#3	.0000	.0005	.0029	.0148	-.0001	44.53	.0001	.0001	-.0002

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**-.0005**	**-.0008**	**.1462**	**.1995**	**.0041**	**.0002**	**F 215.8**	**.0001**	**.0009**
Stddev	.0002	.0008	.0067	.0149	.0000	.0001	2.1	.0001	.0009
%RSD	45.39	94.75	4.566	7.478	.5052	39.76	.9847	50.56	96.19
#1	-.0003	-.0017	.1385	.2053	.0042	.0001	216.7	.0001	.0017
#2	-.0007	-.0006	.1494	.2106	.0041	.0003	213.4	.0001	.0009
#3	-.0004	-.0002	.1506	.1825	.0041	.0002	217.3	.0002	.0000

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0009**	**.0015**	**.0424**	**.0001**	**.3516**	**.0010**	**.0011**	**.0003**	**.0047**
Stddev	.0012	.0009	.0009	.0001	.0007	.0001	.0011	.0001	.0000
%RSD	133.0	59.10	2.019	124.9	.2033	6.597	98.79	37.73	.4237
#1	-.0023	.0012	.0420	.0001	.3510	.0011	.0000	.0002	.0047
#2	-.0001	.0026	.0433	.0001	.3524	.0010	.0012	.0004	.0047
#3	-.0003	.0008	.0418	.0000	.3514	.0010	.0023	.0004	.0047

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2037.9**	**4627.1**	**34080.**	**6648.5**
Stddev	6.9	7.3	36.	48.6
%RSD	.33649	.15826	.10428	.73073
#1	2032.3	4625.1	34113.	6691.7
#2	2035.8	4621.0	34042.	6657.9
#3	2045.5	4635.2	34085.	6595.9

Zoom In Zoom Out

Sample Name: FA42071-2 Acquired: 3/17/2017 19:44:06 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0001**	**.0131**	**.0022**	**.0166**	**-.0001**	**43.25**	**.0000**	**.0001**	**-.0001**
Stddev	.0001	.0043	.0007	.0001	.0000	.04	.0000	.0001	.0004
%RSD	136.7	32.74	31.25	.6106	30.92	.0984	231.9	91.19	366.2
#1	-.0001	.0082	.0017	.0165	.0000	43.23	.0000	.0001	-.0006
#2	-.0002	.0149	.0018	.0166	.0000	43.21	.0000	.0000	.0002
#3	.0000	.0161	.0030	.0167	-.0001	43.29	.0001	.0002	.0000

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**-.0003**	**-.0009**	**.2041**	**.3172**	**.0055**	**-.0003**	**F 211.2**	**.0002**	**.0017**
Stddev	.0000	.0016	.0090	.0059	.0000	.0001	1.1	.0001	.0002
%RSD	12.57	175.0	4.430	1.868	.8138	24.98	.5024	48.08	13.05
#1	-.0004	.0010	.2017	.3240	.0055	-.0004	212.3	.0001	.0019
#2	-.0004	-.0019	.2141	.3137	.0055	-.0004	210.1	.0003	.0016
#3	-.0003	-.0018	.1965	.3139	.0056	-.0002	211.2	.0001	.0015

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0015**	**.0019**	**.0666**	**-.0001**	**.2899**	**.0011**	**.0024**	**.0002**	**.0028**
Stddev	.0009	.0013	.0025	.0002	.0016	.0000	.0014	.0003	.0000
%RSD	62.32	68.45	3.752	256.4	.5580	2.747	56.09	169.7	.8737
#1	-.0020	.0028	.0685	.0000	.2885	.0011	.0010	.0004	.0028
#2	-.0004	.0004	.0638	-.0003	.2895	.0011	.0025	.0004	.0027
#3	-.0020	.0026	.0674	.0001	.2917	.0011	.0037	-.0002	.0028

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2027.3**	**4599.0**	**33596.**	**6519.7**
Stddev	5.6	7.1	160.	17.8
%RSD	.27656	.15387	.47756	.27315
#1	2026.1	4595.4	33762.	6501.4
#2	2022.4	4607.2	33442.	6520.9
#3	2033.4	4594.5	33583.	6536.9

Zoom In Zoom Out

Sample Name: FA42071-3 Acquired: 3/17/2017 19:48:45 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0001**	**.0148**	**.0021**	**.0154**	**-.0001**	**66.56**	**.0001**	**.0001**	**-.0001**
Stddev	.0002	.0081	.0003	.0001	.0001	.18	.0000	.0001	.0001
%RSD	350.5	54.82	15.23	.6385	98.96	.2698	15.83	59.27	217.6
#1	-.0002	.0171	.0019	.0153	.0000	66.53	.0001	.0001	.0000
#2	.0002	.0215	.0019	.0155	-.0001	66.39	.0001	.0002	-.0002
#3	.0002	.0058	.0024	.0155	-.0001	66.75	.0001	.0001	.0000

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**-.0005**	**-.0009**	**.1710**	**.2858**	**.0116**	**-.0006**	**F 158.2**	**.0002**	**.0009**
Stddev	.0002	.0008	.0208	.0251	.0001	.0001	.2	.0002	.0002
%RSD	41.38	90.04	12.17	8.789	1.176	21.87	.1327	96.43	24.62
#1	-.0005	-.0017	.1900	.3141	.0118	-.0005	158.0	.0003	.0012
#2	-.0003	-.0001	.1742	.2664	.0116	-.0005	158.3	.0000	.0007
#3	-.0006	-.0008	.1488	.2768	.0115	-.0007	158.3	.0003	.0009

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0023**	**.0005**	**.0578**	**.0001**	**.5509**	**.0011**	**.0001**	**.0004**	**.0084**
Stddev	.0012	.0006	.0013	.0001	.0017	.0001	.0006	.0002	.0001
%RSD	53.25	111.6	2.171	84.02	.3164	4.809	485.5	51.49	.7755
#1	-.0014	.0001	.0590	.0000	.5490	.0011	-.0001	.0004	.0085
#2	-.0037	.0002	.0581	.0001	.5514	.0010	.0008	.0002	.0084
#3	-.0018	.0012	.0565	.0001	.5524	.0011	-.0004	.0006	.0083

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2033.1**	**4592.6**	**33489.**	**6508.1**
Stddev	6.8	8.9	45.	9.8
%RSD	.33280	.19439	.13542	.15043
#1	2040.9	4602.8	33472.	6499.1
#2	2029.4	4588.4	33541.	6518.5
#3	2028.9	4586.5	33456.	6506.7

Zoom In Zoom Out

Sample Name: TD245-1A Acquired: 3/17/2017 19:53:14 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0001**	**.0033**	**.0017**	**.0272**	**.0000**	**24.03**	**.0001**	**.0005**	**.0010**
Stddev	.0001	.0070	.0006	.0003	.000	.14	.0001	.0001	.0002
%RSD	174.1	213.4	33.22	.9969	140.3	.5731	91.07	22.37	18.59
#1	.0000	.0094	.0013	.0275	.0000	24.02	.0000	.0005	.0009
#2	.0000	.0048	.0023	.0270	-.0001	24.17	.0001	.0004	.0008
#3	.0002	-.0043	.0014	.0271	.0000	23.89	.0001	.0006	.0012

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**-.0003**	**.0408**	**1.684**	**.4489**	**.0296**	**-.0003**	**F 208.9**	**.0001**	**.0021**
Stddev	.0001	.0014	.012	.0124	.0001	.0002	2.7	.0001	.0004
%RSD	20.74	3.526	.7209	2.763	.2253	76.56	1.289	139.2	17.10
#1	-.0003	.0423	1.675	.4543	.0295	-.0005	208.4	.0002	.0021
#2	-.0003	.0406	1.679	.4578	.0296	.0000	211.8	.0000	.0024
#3	-.0004	.0395	1.698	.4348	.0296	-.0003	206.4	.0001	.0017

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0011**	**.0007**	**.2861**	**.0003**	**.0765**	**.0015**	**.0012**	**.0002**	**.8725**
Stddev	.0012	.0011	.0017	.0004	.0003	.0001	.0007	.0001	.0014
%RSD	109.8	160.3	.5807	129.1	.3827	9.528	60.99	43.77	.1609
#1	.0003	.0016	.2849	-.0001	.0762	.0015	.0006	.0004	.8715
#2	-.0018	.0009	.2880	.0003	.0766	.0013	.0011	.0002	.8718
#3	-.0018	-.0005	.2853	.0007	.0768	.0016	.0020	.0002	.8741

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2031.0**	**4598.0**	**33535.**	**6606.1**
Stddev	1.5	6.3	80.	71.2
%RSD	.07222	.13641	.23973	1.0774
#1	2032.2	4604.8	33611.	6574.1
#2	2029.4	4596.4	33451.	6556.5
#3	2031.6	4592.6	33543.	6687.6

Zoom In Zoom Out

Sample Name: FA42002-1 Acquired: 3/17/2017 19:57:50 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0001**	**.8302**	**.0014**	**.0782**	**-.0001**	**219.7**	**.0000**	**.0002**	**.0237**
Stddev	.0003	.0059	.0006	.0003	.0001	1.8	.0000	.0001	.0002
%RSD	638.0	.7125	41.74	.3811	99.73	.8084	47.14	46.19	.7632
#1	-.0001	.8359	.0020	.0783	.0000	217.6	.0000	.0002	.0237
#2	-.0001	.8241	.0008	.0784	-.0001	220.8	.0001	.0001	.0238
#3	.0004	.8307	.0015	.0778	-.0001	220.6	.0000	.0003	.0235

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0048**	**-.0036**	**5.210**	**.0153**	**.0000**	**.0262**	**41.65**	**.0000**	**.0008**
Stddev	.0003	.0006	.015	.0173	.000	.0002	.08	.000	.0005
%RSD	5.244	16.88	.2929	112.7	44.88	.8121	.1835	2290.	68.66
#1	.0048	-.0043	5.209	-.0030	.0000	.0261	41.56	-.0003	.0002
#2	.0051	-.0036	5.196	.0178	.0000	.0261	41.67	.0002	.0009
#3	.0046	-.0031	5.226	.0313	.0000	.0265	41.71	.0001	.0012

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.0093**	**.0010**	**.1020**	**.0002**	**.4544**	**.0004**	**.0017**	**.0009**	**-.0006**
Stddev	.0006	.0006	.0005	.0003	.0008	.0000	.0005	.0002	.0001
%RSD	6.286	59.05	.4475	166.9	.1676	6.356	31.70	22.25	10.03
#1	.0096	.0005	.1015	.0002	.4538	.0003	.0016	.0011	-.0006
#2	.0086	.0008	.1024	.0005	.4553	.0004	.0012	.0007	-.0005
#3	.0096	.0016	.1021	-.0001	.4541	.0004	.0023	.0009	-.0006

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2028.4**	**4545.0**	**33576.**	**6548.4**
Stddev	3.3	4.4	65.	23.3
%RSD	.16155	.09667	.19429	.35637
#1	2024.8	4545.2	33638.	6562.7
#2	2029.1	4540.5	33582.	6521.5
#3	2031.2	4549.3	33508.	6561.1

Zoom In Zoom Out

Sample Name: FA42002-2 Acquired: 3/17/2017 20:02:27 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0001**	**.1933**	**.0019**	**.0164**	**.0000**	**38.08**	**.0001**	**.0004**	**.0117**
Stddev	.0005	.0075	.0006	.0004	.000	.13	.0001	.0001	.0002
%RSD	363.4	3.877	31.48	2.380	35.62	.3449	49.54	12.55	1.628
#1	.0003	.1857	.0013	.0159	.0000	38.02	.0002	.0005	.0116
#2	-.0001	.1935	.0020	.0167	.0000	38.23	.0001	.0005	.0120
#3	-.0006	.2007	.0025	.0165	.0000	37.98	.0001	.0004	.0116

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0100**	**.1416**	**42.47**	**4.368**	**.0689**	**.0012**	**F 214.5**	**.0066**	**.0023**
Stddev	.0001	.0024	.19	.028	.0003	.0001	.4	.0001	.0006
%RSD	1.038	1.692	.4559	.6507	.4277	10.80	.1737	.8252	24.73
#1	.0100	.1395	42.28	4.359	.0685	.0014	214.9	.0066	.0017
#2	.0102	.1412	42.67	4.400	.0691	.0011	214.5	.0066	.0025
#3	.0100	.1442	42.47	4.345	.0690	.0012	214.1	.0067	.0028

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0012**	**.0019**	**.2246**	**.0014**	**.0527**	**.0013**	**-.0003**	**.0002**	**.1250**
Stddev	.0006	.0012	.0004	.0003	.0002	.0000	.0012	.0005	.0003
%RSD	51.45	63.42	.1783	22.36	.4402	1.771	409.2	333.2	.2419
#1	-.0019	.0010	.2244	.0017	.0525	.0013	-.0016	.0007	.1247
#2	-.0008	.0014	.2243	.0013	.0528	.0013	.0003	.0000	.1250
#3	-.0008	.0033	.2250	.0011	.0529	.0013	.0004	-.0003	.1253

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2014.6**	**4553.6**	**33438.**	**6580.9**
Stddev	5.5	4.6	92.	33.6
%RSD	.27175	.10099	.27569	.51017
#1	2014.2	4557.5	33540.	6595.3
#2	2009.3	4548.5	33416.	6542.6
#3	2020.2	4554.7	33359.	6604.9

Zoom In Zoom Out

Sample Name: FA42002-3 Acquired: 3/17/2017 20:07:03 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0001**	**.1801**	**.0025**	**.0235**	**-.0001**	**36.73**	**.0001**	**.0004**	**.0110**
Stddev	.0004	.0050	.0011	.0003	.0000	.13	.0000	.0001	.0001
%RSD	339.0	2.755	45.16	1.454	44.41	.3410	3.562	12.28	1.121
#1	-.0004	.1833	.0025	.0237	-.0001	36.70	.0001	.0004	.0111
#2	.0003	.1743	.0014	.0231	-.0001	36.63	.0001	.0005	.0109
#3	-.0002	.1826	.0036	.0237	-.0001	36.87	.0001	.0004	.0109

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0096**	**.1352**	**41.04**	**4.258**	**.0658**	**.0010**	**F 209.0**	**.0063**	**.0028**
Stddev	.0004	.0030	.20	.029	.0000	.0001	3.5	.0001	.0007
%RSD	3.705	2.197	.4983	.6922	.0524	13.23	1.663	1.795	24.00
#1	.0100	.1367	40.82	4.239	.0658	.0009	206.7	.0063	.0024
#2	.0093	.1372	41.09	4.242	.0658	.0011	213.0	.0064	.0036
#3	.0094	.1318	41.22	4.292	.0657	.0010	207.4	.0062	.0024

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0011**	**.0023**	**.2303**	**.0012**	**.0502**	**.0013**	**-.0008**	**-.0002**	**.1233**
Stddev	.0006	.0013	.0011	.0005	.0003	.0002	.0015	.0001	.0001
%RSD	58.76	56.95	.4594	43.21	.5828	12.64	190.3	48.05	.0954
#1	-.0017	.0008	.2312	.0008	.0499	.0011	.0007	-.0002	.1234
#2	-.0009	.0031	.2305	.0018	.0503	.0012	-.0008	-.0001	.1233
#3	-.0005	.0030	.2291	.0010	.0504	.0014	-.0022	-.0003	.1232

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2012.1**	**4555.9**	**33287.**	**6514.1**
Stddev	2.8	4.3	67.	46.5
%RSD	.13962	.09338	.20046	.71314
#1	2015.0	4560.2	33245.	6547.3
#2	2009.4	4555.8	33364.	6534.1
#3	2011.9	4551.7	33252.	6461.0

Zoom In Zoom Out

Sample Name: MP31808-D2 Acquired: 3/17/2017 20:11:39 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0001**	**.1916**	**.0013**	**.0165**	**-.0001**	**38.36**	**.0001**	**.0004**	**.0120**
Stddev	.0001	.0041	.0004	.0001	.0001	.12	.0001	.0001	.0001
%RSD	58.99	2.164	29.78	.4727	62.38	.3055	79.24	16.93	.5404
#1	.0001	.1891	.0015	.0166	-.0001	38.29	.0001	.0004	.0119
#2	.0002	.1964	.0008	.0165	-.0001	38.49	.0001	.0004	.0120
#3	.0001	.1892	.0014	.0166	.0000	38.29	.0000	.0003	.0120

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0100**	**.1401**	**42.88**	**4.420**	**.0694**	**.0013**	**F 210.1**	**.0068**	**.0030**
Stddev	.0001	.0036	.20	.005	.0002	.0002	1.4	.0000	.0003
%RSD	1.171	2.596	.4781	.1246	.3101	18.26	.6826	.4378	8.978
#1	.0099	.1388	42.88	4.419	.0693	.0016	210.0	.0067	.0029
#2	.0101	.1373	43.08	4.415	.0697	.0012	211.5	.0068	.0029
#3	.0100	.1442	42.67	4.426	.0693	.0011	208.6	.0068	.0033

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0007**	**.0014**	**.2282**	**.0011**	**.0532**	**.0014**	**-.0012**	**-.0001**	**.1279**
Stddev	.0008	.0006	.0004	.0004	.0003	.0001	.0011	.0002	.0002
%RSD	116.6	44.14	.1938	32.00	.6198	6.916	92.64	201.0	.1183
#1	-.0014	.0016	.2285	.0008	.0531	.0013	-.0004	.0001	.1281
#2	.0002	.0019	.2277	.0012	.0535	.0015	-.0024	-.0003	.1278
#3	-.0008	.0007	.2284	.0015	.0529	.0014	-.0007	-.0002	.1279

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2003.0**	**4519.5**	**33260.**	**6559.2**
Stddev	4.4	8.7	35.	9.3
%RSD	.22041	.19224	.10432	.14205
#1	2007.0	4527.0	33287.	6563.9
#2	1998.3	4521.5	33220.	6548.5
#3	2003.7	4510.0	33272.	6565.3

Zoom In Zoom Out

Sample Name: MP31808-MB2 Acquired: 3/17/2017 20:16:14 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**-.0003**	**-.0006**	**.0019**	**.0001**	**.0000**	**.0119**	**.0000**	**.0000**	**-.0002**
Stddev	.0002	.0041	.0006	.0001	.000	.0012	.0000	.0001	.0000
%RSD	70.40	719.5	33.32	142.7	175.4	10.11	301.6	492.7	10.14
#1	-.0005	-.0049	.0012	.0002	.0000	.0131	.0000	-.0001	-.0002
#2	-.0003	.0033	.0021	.0000	.0000	.0118	.0000	.0001	-.0002
#3	-.0001	-.0001	.0024	.0000	-.0001	.0107	.0001	.0000	-.0002

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**-.0005**	**.0006**	**.0606**	**-.0014**	**-.0001**	**-.0009**	**.2382**	**.0000**	**.0010**
Stddev	.0002	.0010	.0111	.0172	.0000	.0001	.0195	.000	.0005
%RSD	39.28	157.3	18.33	1270.	30.81	11.95	8.183	1836.	47.67
#1	-.0007	.0015	.0660	-.0075	-.0001	-.0009	.2557	-.0001	.0006
#2	-.0003	-.0005	.0478	.0181	-.0001	-.0009	.2416	.0003	.0015
#3	-.0006	.0008	.0679	-.0146	-.0001	-.0008	.2172	-.0002	.0008

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0007**	**.0009**	**-.0010**	**-.0003**	**.0000**	**.0001**	**.0013**	**.0001**	**.0003**
Stddev	.0002	.0019	.0008	.0002	.000	.0001	.0010	.0001	.0000
%RSD	21.42	207.7	72.42	63.91	95.61	105.5	77.82	140.5	8.887
#1	-.0006	.0013	-.0002	-.0004	-.0001	.0000	.0018	.0000	.0004
#2	-.0009	-.0012	-.0012	-.0001	.0000	.0001	.0001	.0000	.0003
#3	-.0007	.0026	-.0017	-.0004	.0000	.0001	.0020	.0001	.0003

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2117.0**	**4742.0**	**33960.**	**6717.8**
Stddev	.8	9.2	183.	55.3
%RSD	.03802	.19337	.53800	.82341
#1	2117.0	4752.2	34157.	6780.0
#2	2116.2	4739.3	33925.	6674.3
#3	2117.8	4734.5	33797.	6699.0

Zoom In Zoom Out

Sample Name: MP31808-B2 Acquired: 3/17/2017 20:20:48 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0479**	**29.02**	**2.077**	**2.098**	**.0535**	**26.54**	**.0517**	**.5112**	**.2068**
Stddev	.0009	.11	.006	.004	.0003	.07	.0001	.0003	.0008
%RSD	1.894	.3950	.2990	.1735	.6015	.2531	.2597	.0564	.3843
#1	.0482	28.91	2.075	2.101	.0533	26.46	.0517	.5109	.2072
#2	.0487	29.14	2.084	2.099	.0535	26.59	.0519	.5115	.2074
#3	.0469	29.00	2.072	2.094	.0539	26.57	.0516	.5112	.2059

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.2431**	**27.69**	**26.25**	**25.56**	**.5180**	**.5260**	**25.55**	**.5112**	**.5051**
Stddev	.0009	.11	.06	.12	.0012	.0018	.05	.0005	.0022
%RSD	.3748	.4143	.2348	.4721	.2295	.3371	.1919	.0998	.4300
#1	.2430	27.57	26.18	25.42	.5174	.5240	25.50	.5107	.5048
#2	.2441	27.80	26.28	25.61	.5173	.5266	25.58	.5117	.5075
#3	.2422	27.71	26.29	25.64	.5194	.5274	25.58	.5111	.5032

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.5172**	**2.280**	**.0102**	**.5238**	**.5427**	**.5157**	**2.028**	**.4830**	**.5132**
Stddev	.0014	.001	.0003	.0016	.0017	.0016	.001	.0009	.0015
%RSD	.2709	.0472	2.661	.3052	.3057	.3177	.0512	.1855	.2864
#1	.5156	2.279	.0104	.5223	.5417	.5154	2.027	.4820	.5118
#2	.5183	2.281	.0099	.5255	.5446	.5175	2.027	.4832	.5147
#3	.5175	2.280	.0103	.5235	.5418	.5143	2.029	.4838	.5131

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2044.3**	**4665.0**	**33899.**	**6595.6**
Stddev	3.5	7.4	155.	42.8
%RSD	.17356	.15781	.45683	.64928
#1	2047.5	4673.4	33876.	6641.5
#2	2040.5	4659.6	34064.	6556.7
#3	2045.0	4662.1	33757.	6588.5

Zoom In Zoom Out

Sample Name: CCV Acquired: 3/17/2017 20:25:02 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2579**	**40.75**	**1.972**	**2.019**	**2.040**	**39.63**	**2.010**	**2.021**	**2.053**
Stddev	.0007	.10	.003	.002	.006	.09	.001	.001	.007
%RSD	.2895	.2483	.1270	.0955	.3036	.2270	.0571	.0445	.3438
#1	.2587	40.77	1.974	2.021	2.041	39.72	2.009	2.021	2.045
#2	.2573	40.84	1.973	2.020	2.045	39.64	2.009	2.020	2.058
#3	.2578	40.64	1.969	2.017	2.033	39.54	2.011	2.022	2.057
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.950**	**41.42**	**39.56**	**39.20**	**2.031**	**2.035**	**39.10**	**1.981**	**2.000**
Stddev	.001	.09	.13	.21	.007	.003	.06	.002	.003
%RSD	.0632	.2291	.3283	.5260	.3466	.1508	.1479	.0946	.1304
#1	1.951	41.38	39.58	39.30	2.023	2.031	39.12	1.979	1.999
#2	1.949	41.52	39.68	39.34	2.033	2.036	39.15	1.981	2.002
#3	1.949	41.34	39.42	38.96	2.037	2.037	39.03	1.983	1.997
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.973**	**2.001**	**2.635**	**1.991**	**2.085**	**2.029**	**1.996**	**2.032**	**1.983**
Stddev	.004	.002	.001	.004	.004	.005	.003	.004	.005
%RSD	.1864	.0811	.0241	.2225	.2073	.2328	.1726	.2133	.2511
#1	1.974	2.003	2.635	1.986	2.082	2.024	1.992	2.027	1.977
#2	1.968	2.000	2.635	1.994	2.090	2.033	1.999	2.035	1.984
#3	1.975	2.001	2.636	1.992	2.083	2.031	1.998	2.034	1.987
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: CCV Acquired: 3/17/2017 20:25:02 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2032.8**	**4719.9**	**34077.**	**6697.7**
Stddev	6.0	11.7	127.	34.4
%RSD	.29487	.24780	.37233	.51370
#1	2025.9	4706.7	34222.	6678.9
#2	2036.6	4729.0	33987.	6676.7
#3	2036.0	4724.1	34021.	6737.4

Zoom In Zoom Out

Sample Name: CCB Acquired: 3/17/2017 20:29:16 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0011**	**.0002**	**.0002**	**.0000**	**-.0015**	**.0001**	**.0000**	**.0002**
Stddev	.0004	.0029	.0005	.0002	.0000	.0027	.0001	.0000	.0002
%RSD	170.7	266.7	236.0	156.0	50.71	186.5	67.55	71.39	111.4
#1	-.0006	.0001	.0007	-.0001	.0000	-.0029	.0000	.0000	.0004
#2	.0001	.0044	-.0004	.0003	.0000	-.0032	.0001	.0000	.0000
#3	-.0002	-.0012	.0004	.0003	.0001	.0017	.0002	.0000	.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**.0089**	**.0367**	**-.0128**	**.0001**	F **.0028**	**.0443**	**-.0001**	**.0000**
Stddev	.0003	.0017	.0216	.0028	.0001	.0006	.0023	.0002	.0008
%RSD	95.01	19.11	58.71	21.69	51.87	20.67	5.165	391.8	2200.
#1	-.0001	.0071	.0614	-.0130	.0001	.0034	.0457	-.0002	.0002
#2	-.0002	.0091	.0272	-.0100	.0001	.0027	.0454	.0002	-.0009
#3	-.0006	.0105	.0216	-.0155	.0000	.0022	.0416	-.0002	.0008
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit						.0010			
Low Limit						-.0010			

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**.0007**	**-.0002**	**.0001**	**.0000**	**.0005**	**.0017**	**.0003**	**.0001**
Stddev	.0016	.0020	.0004	.0002	.0001	.0001	.0004	.0001	.0000
%RSD	410.0	297.0	179.3	186.5	1219.	29.60	23.54	47.89	33.08
#1	-.0002	.0021	.0003	.0003	-.0001	.0004	.0020	.0002	.0001
#2	.0011	.0015	-.0004	.0002	.0000	.0006	.0012	.0002	.0001
#3	-.0021	-.0016	-.0006	-.0001	.0001	.0003	.0018	.0004	.0002
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: CCB Acquired: 3/17/2017 20:29:16 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2179.2**	**4904.9**	**34541.**	**6763.5**
Stddev	2.6	9.8	142.	54.3
%RSD	.11756	.20005	.40967	.80254
#1	2177.3	4905.5	34692.	6771.6
#2	2178.2	4914.4	34411.	6705.7
#3	2182.1	4894.8	34522.	6813.4

Zoom In Zoom Out

Sample Name: MP31808-MB3 Acquired: 3/17/2017 20:33:49 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0003**	**.0096**	**.0019**	**.0002**	**.0000**	**.0022**	**.0000**	**.0001**	**.0000**
Stddev	.0004	.0052	.0003	.0002	.000	.0029	.0000	.0001	.000
%RSD	125.6	54.65	17.72	93.08	478.2	127.2	414.0	111.8	3275.
#1	.0006	.0122	.0016	.0002	.0000	-.0010	.0000	.0001	-.0001
#2	-.0001	.0036	.0022	.0004	.0000	.0041	.0000	.0000	-.0001
#3	.0003	.0131	.0019	.0000	.0000	.0037	.0000	.0001	.0002

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**-.0002**	**-.0015**	**.0737**	**-.0027**	**-.0001**	**.0001**	F **155.1**	**.0001**	**.0006**
Stddev	.0002	.0040	.0139	.0103	.0000	.0003	.4	.0001	.0006
%RSD	81.15	259.8	18.80	381.7	35.10	230.9	.2448	112.5	90.37
#1	-.0003	.0014	.0779	-.0093	-.0001	.0001	154.9	.0001	.0006
#2	.0000	-.0061	.0851	-.0080	-.0001	.0004	155.5	.0001	.0012
#3	-.0003	.0001	.0583	.0092	.0000	-.0001	154.9	.0000	.0001

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0009**	**.0010**	**-.0011**	**-.0002**	**-.0001**	**.0001**	**.0023**	**.0000**	**.0003**
Stddev	.0004	.0010	.0007	.0003	.0001	.0001	.0002	.0002	.0000
%RSD	46.43	103.1	57.91	220.6	140.9	125.5	7.054	1451.	17.13
#1	-.0004	.0008	-.0005	-.0004	.0000	.0000	.0023	.0002	.0002
#2	-.0011	.0021	-.0010	.0002	-.0001	.0001	.0025	.0001	.0003
#3	-.0012	.0001	-.0019	-.0003	.0000	.0001	.0021	-.0002	.0003

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2071.8**	**4657.5**	**33940.**	**6629.6**
Stddev	1.6	4.6	67.	26.1
%RSD	.07518	.09893	.19865	.39405
#1	2072.4	4662.7	34005.	6600.2
#2	2073.0	4654.1	33946.	6649.9
#3	2070.0	4655.7	33870.	6638.9

Zoom In Zoom Out

Sample Name: MP31808-B3 Acquired: 3/17/2017 20:38:22 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0497**	**29.06**	**2.087**	**2.109**	**.0535**	**26.39**	**.0518**	**.5149**	**.2064**
Stddev	.0002	.12	.012	.007	.0001	.09	.0000	.0005	.0018
%RSD	.3676	.4141	.5661	.3533	.2721	.3428	.0313	.0878	.8490
#1	.0499	28.92	2.076	2.101	.0533	26.28	.0518	.5150	.2056
#2	.0496	29.13	2.085	2.115	.0536	26.45	.0518	.5144	.2052
#3	.0495	29.13	2.100	2.110	.0535	26.42	.0518	.5153	.2084

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.2508**	**26.96**	**26.98**	**25.20**	**.5168**	**.5204**	F **175.8**	**.5129**	**.5126**
Stddev	.0015	.13	.11	.14	.0015	.0034	2.1	.0004	.0009
%RSD	.5864	.4885	.3953	.5508	.2929	.6488	1.190	.0733	.1729
#1	.2494	26.81	26.86	25.06	.5153	.5170	173.7	.5130	.5116
#2	.2506	27.02	27.07	25.19	.5170	.5203	176.0	.5125	.5133
#3	.2524	27.06	27.01	25.34	.5183	.5238	177.8	.5132	.5129

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.5207**	**2.270**	**.0087**	**.5191**	**.5439**	**.5119**	**2.075**	**.4775**	**.5102**
Stddev	.0039	.010	.0002	.0010	.0018	.0035	.004	.0032	.0013
%RSD	.7416	.4506	1.958	.2019	.3320	.6875	.1964	.6693	.2547
#1	.5186	2.260	.0085	.5192	.5418	.5086	2.080	.4740	.5113
#2	.5184	2.269	.0089	.5179	.5447	.5114	2.076	.4783	.5088
#3	.5252	2.281	.0087	.5200	.5452	.5156	2.071	.4803	.5106

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2012.2**	**4638.2**	**33947.**	**6746.3**
Stddev	2.0	10.8	71.	45.2
%RSD	.10176	.23366	.20973	.66952
#1	2014.2	4636.7	34029.	6782.3
#2	2012.3	4649.8	33905.	6761.1
#3	2010.1	4628.3	33907.	6695.6

Zoom In Zoom Out

Sample Name: MP31808-MB4 Acquired: 3/17/2017 20:42:42 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0000**	**.0047**	**.0062**	**.0008**	**-.0001**	**.0794**	**.0001**	**.0001**	**-.0001**
Stddev	.000	.0031	.0006	.0002	.0000	.0038	.0000	.0001	.0001
%RSD	81.13	65.91	9.432	28.17	61.84	4.743	69.54	145.4	78.26
#1	.0000	.0058	.0068	.0005	.0000	.0831	.0000	.0002	-.0001
#2	-.0001	.0072	.0061	.0009	-.0001	.0795	.0001	.0001	-.0002
#3	.0000	.0012	.0056	.0009	-.0001	.0756	.0001	.0000	-.0001

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**-.0006**	**.0166**	**.0698**	**.0085**	**.0000**	**.0000**	**.2239**	**.0000**	**.0008**
Stddev	.0001	.0014	.0059	.0125	.0000	.000	.0144	.0002	.0004
%RSD	22.85	8.449	8.484	146.3	65.03	452.6	6.443	538.6	56.16
#1	-.0007	.0178	.0657	.0103	.0000	.0002	.2405	.0002	.0003
#2	-.0004	.0151	.0766	.0200	.0000	-.0001	.2159	.0001	.0009
#3	-.0006	.0168	.0670	-.0047	.0000	-.0002	.2152	-.0002	.0011

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0008**	**.0056**	**-.0005**	**.0011**	**.0002**	**.0006**	**.0012**	**.0006**	**.0006**
Stddev	.0007	.0026	.0002	.0002	.0001	.0001	.0005	.0003	.0001
%RSD	79.09	45.92	46.05	23.60	35.04	15.47	41.35	59.84	8.455
#1	-.0010	.0069	-.0002	.0012	.0003	.0006	.0007	.0010	.0007
#2	-.0001	.0072	-.0005	.0012	.0002	.0006	.0017	.0005	.0006
#3	-.0014	.0026	-.0007	.0008	.0001	.0007	.0012	.0003	.0006

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2125.3**	**4737.1**	**34114.**	**6857.4**
Stddev	6.0	9.8	92.	56.6
%RSD	.28224	.20639	.26954	.82600
#1	2128.8	4747.1	34171.	6919.7
#2	2128.8	4736.8	34008.	6843.3
#3	2118.4	4727.6	34163.	6809.1

Zoom In Zoom Out

Sample Name: MP31808-B4 Acquired: 3/17/2017 20:47:17 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0479**	**28.97**	**2.114**	**2.106**	**.0539**	**26.61**	**.0518**	**.5104**	**.2082**
Stddev	.0004	.13	.007	.011	.0004	.14	.0001	.0009	.0013
%RSD	.7499	.4529	.3313	.5202	.6557	.5111	.1062	.1707	.6437
#1	.0478	28.86	2.119	2.097	.0535	26.52	.0518	.5104	.2090
#2	.0482	29.11	2.118	2.119	.0542	26.76	.0517	.5113	.2066
#3	.0475	28.92	2.106	2.103	.0539	26.54	.0518	.5095	.2088

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.2482**	**27.80**	**26.36**	**25.79**	**.5202**	**.5296**	**25.72**	**.5120**	**.5028**
Stddev	.0014	.16	.11	.16	.0010	.0015	.08	.0012	.0018
%RSD	.5839	.5728	.4148	.6371	.1848	.2804	.3301	.2410	.3506
#1	.2499	27.65	26.28	25.69	.5203	.5280	25.62	.5121	.5032
#2	.2472	27.96	26.49	25.98	.5211	.5309	25.79	.5131	.5044
#3	.2475	27.80	26.32	25.71	.5192	.5298	25.73	.5107	.5009

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.5251**	**2.326**	**.0119**	**.5339**	**.5479**	**.5293**	**2.027**	**.4902**	**.5143**
Stddev	.0023	.006	.0001	.0031	.0030	.0015	.003	.0007	.0025
%RSD	.4397	.2543	1.083	.5775	.5484	.2786	.1446	.1436	.4875
#1	.5248	2.331	.0119	.5342	.5453	.5309	2.029	.4909	.5137
#2	.5275	2.327	.0120	.5369	.5512	.5280	2.029	.4902	.5171
#3	.5229	2.320	.0118	.5307	.5474	.5291	2.024	.4895	.5122

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2036.6**	**4629.8**	**33468.**	**6554.3**
Stddev	1.0	8.3	116.	20.2
%RSD	.05040	.17920	.34514	.30849
#1	2035.5	4629.3	33346.	6543.0
#2	2036.8	4621.7	33575.	6542.3
#3	2037.5	4638.3	33483.	6577.7

Zoom In Zoom Out

Sample Name: CRIA Acquired: 3/17/2017 20:51:31 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	**.0078**	**.2136**	**.0196**	**.2021**	**.0051**	**1.031**	**.0050**	**.0502**	**.0103**
Stddev	.0002	.0056	.0022	.0003	.0000	.001	.0000	.0000	.0003
%RSD	2.801	2.626	11.17	.1643	.4150	.0760	.1657	.0946	2.723
#1	.0076	.2198	.0220	.2023	.0051	1.031	.0051	.0503	.0106
#2	.0080	.2121	.0191	.2017	.0051	1.031	.0050	.0502	.0104
#3	.0079	.2089	.0177	.2022	.0051	1.030	.0050	.0502	.0100

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.0236**	**.4241**	**9.981**	**5.088**	**.0154**	**.0536**	**10.04**	**.0398**	**.0053**
Stddev	.0001	.0063	.057	.004	.0001	.0006	.04	.0003	.0003
%RSD	.5334	1.482	.5686	.0869	.3583	1.200	.4245	.6894	6.067
#1	.0238	.4311	10.00	5.093	.0154	.0543	10.09	.0399	.0050
#2	.0236	.4220	10.02	5.086	.0153	.0534	10.03	.0395	.0052
#3	.0235	.4191	9.917	5.084	.0154	.0531	10.00	.0400	.0056

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.0094**	**.0173**	**.0345**	**.0527**	**.0101**	**.0130**	**.0099**	**.0505**	**.0202**
Stddev	.0013	.0020	.0005	.0008	.0001	.0002	.0013	.0005	.0001
%RSD	13.98	11.47	1.440	1.439	.5425	1.359	13.14	.9252	.5617
#1	.0110	.0183	.0351	.0536	.0100	.0131	.0085	.0509	.0201
#2	.0087	.0185	.0343	.0521	.0101	.0132	.0100	.0500	.0202
#3	.0087	.0150	.0342	.0524	.0101	.0128	.0111	.0506	.0203

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**2165.6**	**4854.5**	**34662.**	**6751.4**
Stddev	.7	4.2	58.	54.7
%RSD	.03192	.08666	.16635	.80982
#1	2165.4	4853.1	34660.	6738.2
#2	2166.4	4859.3	34721.	6704.5
#3	2165.0	4851.3	34606.	6811.4

Zoom In Zoom Out

Sample Name: ICSA Acquired: 3/17/2017 20:55:56 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)
Avg	**-.0009**	**494.1**	**.0062**	**.0000**	**-.0001**	**454.1**	**-.0009**	**.0006**
Stddev	.0006	2.6	.0002	.000	.0001	4.8	.0001	.0001
%RSD	65.94	.5259	3.690	248.7	86.05	1.059	7.403	14.36
#1	-.0016	496.1	.0061	.0000	.0000	448.8	-.0010	.0006
#2	-.0008	495.0	.0060	-.0002	-.0001	458.2	-.0009	.0006
#3	-.0004	491.2	.0064	.0000	-.0001	455.3	-.0009	.0005

Elem	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895
IS Ref	(Y_3600)	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Avg	**.0000**	**.0009**	**176.3**	**.0931**	**480.9**	**.0003**	**.0032**	**.3952**
Stddev	.000	.0003	.3	.0176	1.3	.0000	.0001	.0036
%RSD	1479.	37.17	.1668	18.88	.2774	14.07	4.623	.9045
#1	.0000	.0012	176.7	.1098	482.3	.0003	.0033	.3925
#2	.0002	.0010	176.3	.0948	480.7	.0004	.0031	.3993
#3	-.0002	.0005	176.1	.0748	479.6	.0003	.0031	.3939

Elem	Ni2316	Pb2203	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349
IS Ref	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)
Avg	**.0009**	F **-.0072**	**.0050**	**.0047**	**.0113**	**.0028**	**.0003**	**.0005**
Stddev	.0002	.0014	.0018	.0024	.0008	.0008	.0006	.0001
%RSD	17.35	20.06	36.09	50.77	7.413	28.47	209.9	19.03
#1	.0010	-.0083	.0040	.0025	.0119	.0037	.0009	.0004
#2	.0008	-.0078	.0038	.0044	.0117	.0022	-.0001	.0004
#3	.0011	-.0056	.0070	.0073	.0103	.0025	.0000	.0005

Elem	Tl1908	V_2924	Zn2062
IS Ref	(In2306)	(Y_3600)	(Y_2243)
Avg	**-.0025**	**.0016**	**.0005**
Stddev	.0029	.0001	.0001
%RSD	114.7	4.848	11.43
#1	-.0010	.0015	.0005
#2	-.0058	.0016	.0006
#3	-.0007	.0016	.0006

Zoom In Zoom Out

Sample Name: ICSA Acquired: 3/17/2017 20:55:56 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**1879.3**	**4474.3**	**33121.**	**6535.4**
Stddev	4.3	9.2	131.	4.2
%RSD	.23131	.20481	.39429	.06406
#1	1874.2	4469.0	33050.	6535.0
#2	1881.6	4484.9	33042.	6531.5
#3	1881.9	4469.1	33272.	6539.8

Zoom In Zoom Out

Sample Name: ICSAB Acquired: 3/17/2017 21:00:35 Type: Unk
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	F **.9305**	**490.0**	**.9943**	**.4833**	**.4662**	**448.6**	**.8829**	**.4558**	**.4663**
Stddev	.0018	2.7	.0035	.0007	.0014	2.9	.0008	.0008	.0024
%RSD	.1937	.5583	.3569	.1533	.2985	.6515	.0863	.1723	.5058
#1	.9308	486.9	.9973	.4828	.4651	451.2	.8836	.4567	.4648
#2	.9285	492.1	.9904	.4841	.4677	449.3	.8821	.4555	.4691
#3	.9321	491.0	.9952	.4829	.4656	445.4	.8831	.4553	.4652

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	**.4912**	**172.9**	**.0820**	**478.3**	**.4589**	**.9006**	**.3929**	**.8953**	**.9113**
Stddev	.0018	.1	.0319	.7	.0011	.0011	.0008	.0007	.0023
%RSD	.3685	.0788	38.88	.1449	.2350	.1256	.2124	.0749	.2518
#1	.4896	172.9	.0473	477.7	.4591	.9019	.3938	.8948	.9139
#2	.4908	173.1	.1099	479.1	.4598	.9000	.3925	.8950	.9105
#3	.4932	172.8	.0888	478.1	.4577	.8999	.3923	.8960	.9095

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	**.9471**	**.9354**	**.0562**	**.8663**	**.9448**	**.8996**	**.9102**	**.4341**	**.8608**
Stddev	.0020	.0012	.0003	.0003	.0008	.0035	.0044	.0022	.0009
%RSD	.2075	.1294	.5672	.0355	.0848	.3845	.4842	.4973	.1093
#1	.9472	.9368	.0563	.8661	.9439	.8978	.9054	.4357	.8608
#2	.9490	.9352	.0559	.8661	.9455	.9036	.9141	.4350	.8599
#3	.9450	.9344	.0565	.8667	.9451	.8975	.9109	.4317	.8618

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	**1858.6**	**4476.1**	**33149.**	**6529.9**
Stddev	2.3	7.1	147.	3.4
%RSD	.12484	.15798	.44295	.05209
#1	1857.3	4470.7	33317.	6526.0
#2	1861.3	4484.1	33045.	6531.2
#3	1857.2	4473.6	33086.	6532.4

Zoom In Zoom Out

Sample Name: CCV Acquired: 3/17/2017 21:05:06 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2578**	**41.03**	**1.980**	**2.025**	**2.047**	**39.88**	**2.015**	**2.022**	**2.053**
Stddev	.0002	.01	.004	.003	.005	.11	.005	.004	.004
%RSD	.0912	.0234	.2118	.1258	.2545	.2659	.2477	.1858	.1783
#1	.2581	41.02	1.978	2.028	2.051	39.96	2.013	2.020	2.051
#2	.2578	41.04	1.977	2.025	2.041	39.76	2.011	2.020	2.052
#3	.2576	41.02	1.985	2.023	2.049	39.91	2.020	2.026	2.058
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.956**	**41.76**	**39.66**	**39.58**	**2.029**	**2.036**	**39.51**	**1.987**	**2.003**
Stddev	.009	.08	.09	.17	.002	.006	.04	.004	.011
%RSD	.4663	.1888	.2143	.4197	.0956	.3102	.1033	.2280	.5428
#1	1.966	41.78	39.73	39.72	2.027	2.030	39.53	1.987	2.004
#2	1.949	41.68	39.68	39.40	2.030	2.034	39.46	1.982	1.992
#3	1.952	41.83	39.57	39.62	2.030	2.043	39.52	1.991	2.014
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.979**	**2.004**	**2.638**	**1.998**	**2.094**	**2.034**	**1.997**	**2.032**	**1.990**
Stddev	.002	.002	.003	.006	.001	.004	.009	.001	.008
%RSD	.0989	.0947	.1177	.3015	.0305	.1943	.4415	.0247	.4051
#1	1.981	2.003	2.640	1.996	2.094	2.037	2.000	2.032	1.989
#2	1.979	2.003	2.634	1.993	2.093	2.030	1.987	2.031	1.983
#3	1.978	2.007	2.639	2.004	2.095	2.034	2.004	2.032	1.999
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: CCV Acquired: 3/17/2017 21:05:06 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2038.8**	**4728.1**	**34227.**	**6656.9**
Stddev	6.1	8.2	70.	16.2
%RSD	.29697	.17275	.20558	.24309
#1	2039.8	4728.6	34181.	6669.9
#2	2044.2	4735.9	34308.	6662.0
#3	2032.3	4719.6	34192.	6638.8

Zoom In Zoom Out

Sample Name: CCB Acquired: 3/17/2017 21:09:19 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0151**	**.0014**	**.0005**	**.0003**	**.0103**	**.0006**	**.0006**	**.0007**
Stddev	.0002	.0098	.0001	.0001	.0001	.0002	.0001	.0002	.0002
%RSD	97.94	64.80	9.193	18.68	25.52	2.411	25.57	27.16	24.07
#1	-.0005	.0099	.0015	.0004	.0004	.0102	.0007	.0007	.0007
#2	-.0002	.0264	.0015	.0006	.0002	.0102	.0005	.0005	.0006
#3	.0000	.0090	.0013	.0005	.0004	.0106	.0005	.0004	.0009
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**.0245**	**-.0003**	**.0136**	**.0007**	F **.0034**	**.0341**	**.0006**	**.0009**
Stddev	.0002	.0057	.0271	.0099	.0002	.0007	.0067	.0001	.0009
%RSD	66.75	23.21	9083.	72.47	27.99	20.09	19.63	15.20	95.94
#1	.0001	.0304	.0097	.0131	.0005	.0042	.0410	.0007	-.0001
#2	.0003	.0191	-.0310	.0237	.0007	.0033	.0338	.0005	.0016
#3	.0005	.0241	.0204	.0040	.0009	.0028	.0276	.0005	.0012
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit						.0010			
Low Limit						-.0010			

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0017**	**.0004**	F **.0011**	**.0003**	**.0012**	**.0009**	**.0009**	**.0006**
Stddev	.0005	.0012	.0008	.0001	.0001	.0001	.0010	.0002	.0001
%RSD	371.1	73.21	212.1	7.736	32.97	4.451	112.5	23.94	15.48
#1	.0006	.0014	.0012	.0011	.0002	.0011	.0017	.0007	.0007
#2	.0001	.0006	.0000	.0012	.0002	.0012	.0011	.0009	.0006
#3	-.0003	.0030	-.0002	.0010	.0004	.0012	-.0002	.0011	.0006
Check ?	Chk Pass	Chk Pass	None	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit				.0010					
Low Limit				-.0010					

Zoom In Zoom Out

Sample Name: CCB Acquired: 3/17/2017 21:09:19 Type: QC
Method: 60102007_042011(v474) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2174.1**	**4886.2**	**34438.**	**6717.2**
Stddev	3.7	12.9	246.	20.7
%RSD	.17014	.26485	.71429	.30838
#1	2169.9	4875.6	34664.	6697.4
#2	2176.9	4900.6	34475.	6738.8
#3	2175.6	4882.3	34176.	6715.4

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Ag 328.068 {103}	☒	2	V	-0.005817	0.000000	No
			Fe	0.000010	0.000000	No
Al 396.152 { 85}	☒	1	Mo	0.040330	0.000000	No
As 189.042 {478}	☒	4	Fe	-0.000092	0.000000	No
			Cr	-0.000653	0.000000	No
			Mo	0.000444	0.000000	No
			Al	0.000001	0.000000	No
Ba 455.403 { 74}	☒	1	Fe	0.000023	0.000000	No
Be 313.042 {108}	☒	2	V	0.000625	0.000000	No
			Ti	-0.000289	0.000000	No
Ca 317.933 {106}	☒	None				
Cd 226.502 {449}	☒	4	Fe	0.000088	0.000000	No
			Ca	-0.000000	0.000000	No
			Al	-0.000002	0.000000	No
			Ti	0.000103	0.000000	No
Co 228.616 {447}	☒	3	Mo	-0.001220	0.000000	No
			Ti	0.002210	0.000000	No
			Fe	0.000005	0.000000	No
Cr 267.716 {126}	☒	4	Al	0.000005	0.000000	No
			Fe	0.000001	0.000000	No
			Ca	0.000002	0.000000	No
			Cd	-0.000120	0.000000	No
Cu 324.754 {104}	☒	10	Mo	0.000189	0.000000	No
			Sn	-0.000012	0.000000	No
			V	-0.000158	0.000000	No
			Al	0.000003	0.000000	No
			Mg	0.000003	0.000000	No
			Co	-0.000547	0.000000	No
			Cd	0.000190	0.000000	No
			Fe	-0.000158	0.000000	No
			Ca	0.000001	0.000000	No
			Ti	-0.000268	0.000000	No
Fe 259.940 {130}	☒	None				
In 230.606 {446}*	☒	None				
K 766.490 { 44}	☒	None				
Mg 279.079 {121}	☒	None				
Mn 257.610 {131}	☒	2	Fe	0.000018	0.000000	No
			Mg	0.000000	0.000000	No
Mo 202.030 {467}	☒	1	Fe	-0.000009	0.000000	No
Na 589.592 { 57}	☒	None				
Ni 231.604 {445}	☒	7	Fe	-0.000041	0.000000	No
			Co	0.000112	0.000000	No
			Mo	0.000980	0.000000	No
			Sb	-0.000120	0.000000	No
			Al	0.000003	0.000000	No
			Be	-0.000304	0.000000	No
			Tl	0.000172	0.000000	No
Pb 220.353 {453}	☒	8	Al	0.000178	0.000000	No
			Fe	0.000165	0.000000	No
			Mo	-0.002189	0.000000	No
			Cu	0.000467	0.000000	No
			Ti	0.000036	0.000000	No
			Si	0.000232	0.000000	No
			Ca	-0.000005	0.000000	No
			Cr	-0.000260	0.000000	No
Sb 206.833 {463}	☒	11	Fe	-0.000007	0.000000	No
			Cr	0.011486	0.000000	No

	Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
				Mo	-0.003944	0.000000	No
				V	-0.000441	0.000000	No
				Sn	-0.008695	0.000000	No
				Ti	0.000278	0.000000	No
				Ca	0.000001	0.000000	No
				Ni	-0.000818	0.000000	No
				Al	0.000010	0.000000	No
				Mn	-0.000133	0.000000	No
				Mg	-0.000002	0.000000	No
	Se 196.090 {472}	☒	12	Fe	-0.000011	0.000000	No
				Ca	-0.000003	0.000000	No
				Mn	0.000331	0.000000	No
				Mo	0.000111	0.000000	No
				Al	-0.000031	0.000000	No
				V	0.000000	0.000000	No
				Zn	0.000000	0.000000	No
				Sr	-0.000111	0.000000	No
				As	0.000125	0.000000	No
				Cd	-0.000250	0.000000	No
				Mg	-0.000004	0.000000	No
				Cr	-0.000326	0.000000	No
	Si 212.412 {459}	☒	1	Mo	0.000000	0.000000	No
	Sn 189.989 {477}	☒	None				
	Sr 407.771 { 83}	☒	1	Ca	0.000098	0.000000	No
	Ti 334.941 {101}	☒	1	Ca	-0.000011	0.000000	No
	Tl 190.856 {477}	☒	10	Co	0.004099	0.000000	No
				Fe	0.000018	0.000000	No
				Al	-0.000005	0.000000	No
				Ba	-0.000051	0.000000	No
				Ti	-0.000648	0.000000	No
				Sb	0.000167	0.000000	No
				Ca	-0.000004	0.000000	No
				Cr	0.000340	0.000000	No
				Mg	-0.000002	0.000000	No
				V	0.000015	0.000000	No
	V 292.402 {115}	☒	5	Fe	0.000006	0.000000	No
				Cr	-0.003634	0.000000	No
				Mo	-0.009536	0.000000	No
				Ti	0.000303	0.000000	No
				Mn	-0.000333	0.000000	No
	Y 224.306 {450}*	☒	None				
	Y 360.073 { 94}*	☒	None				
	Y 371.030 { 91}*	☒	None				
	Zn 206.200 {463}	☒	5	Cr	-0.001305	0.000000	No
				Al	0.000011	0.000000	No
				Ca	0.000003	0.000000	No
				Fe	0.000023	0.000000	No
				As	0.001105	0.000000	No

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)
Ag 328.068 {103}	3/17/2017 10:12:44	3/17/2017 9:48:51	Linear	1/Conc	0.000520	0.628178	0.000000	1.000000
Al 396.152 { 85}	3/17/2017 10:12:44	3/17/2017 9:48:51	Linear	1/Conc	0.003826	0.132326	0.000000	1.000000
As 189.042 {478}	3/17/2017 10:12:44	3/17/2017 9:48:51	Linear	1/Conc	-0.000999	0.213249	0.000000	1.000000
Ba 455.403 { 74}	3/17/2017 10:12:44	3/17/2017 9:48:51	Linear	1/Conc	0.003807	7.176806	0.000000	1.000000
Be 313.042 {108}	3/17/2017 10:12:44	3/17/2017 9:48:51	Linear	1/Conc	0.000652	9.081260	0.000000	1.000000
Ca 317.933 {106}	3/17/2017 10:12:44	3/17/2017 9:48:51	Linear	1/Conc	0.004820	0.253545	0.000000	1.000000
Cd 226.502 {449}	3/17/2017 10:12:44	3/17/2017 9:48:51	Linear	1/Conc	0.000156	5.268764	0.000000	1.000000
Co 228.616 {447}	3/17/2017 10:12:44	3/17/2017 9:48:51	Linear	1/Conc	-0.000307	2.660651	0.000000	1.000000
Cr 267.716 {126}	3/17/2017 10:12:44	3/17/2017 9:48:51	Linear	1/Conc	-0.000097	0.495719	0.000000	1.000000
Cu 324.754 {104}	3/17/2017 10:12:44	3/17/2017 9:48:51	Linear	1/Conc	0.003589	0.837594	0.000000	1.000000
Fe 259.940 {130}	3/17/2017 10:12:44	3/17/2017 9:48:51	Linear	1/Conc	0.001991	0.154563	0.000000	1.000000
In 230.606 {446}*	3/17/2017 10:12:44	5/5/2010 12:30:54	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
K 766.490 { 44}	3/17/2017 10:12:44	3/17/2017 9:48:51	Linear	1/Conc	-0.003675	0.075979	0.000000	1.000000
Mg 279.079 {121}	3/17/2017 10:12:44	3/17/2017 9:48:51	Linear	1/Conc	-0.000420	0.023875	0.000000	1.000000
Mn 257.610 {131}	3/17/2017 10:12:44	3/17/2017 9:48:51	Linear	1/Conc	0.000898	2.917440	0.000000	1.000000
Mo 202.030 {467}	3/17/2017 10:12:44	3/17/2017 9:48:51	Linear	1/Conc	0.002861	0.915393	0.000000	1.000000
Na 589.592 { 57}	3/17/2017 10:12:44	3/17/2017 9:48:51	Linear	1/Conc	0.004460	0.286421	0.000000	1.000000
Ni 231.604 {445}	3/17/2017 10:12:44	3/17/2017 9:48:51	Linear	1/Conc	0.000410	1.783145	0.000000	1.000000
Pb 220.353 {453}	3/17/2017 10:12:44	3/17/2017 9:48:51	Linear	1/Conc	-0.001448	1.025959	0.000000	1.000000
Sb 206.833 {463}	3/17/2017 10:12:44	3/17/2017 9:48:51	Linear	1/Conc	0.000109	0.256011	0.000000	1.000000
Se 196.090 {472}	3/17/2017 10:12:44	3/17/2017 9:48:51	Linear	1/Conc	-0.001108	0.154170	0.000000	1.000000
Si 212.412 {459}	3/17/2017 10:12:44	3/17/2017 9:48:51	Linear	1/Conc	0.005913	0.507625	0.000000	1.000000
Sn 189.989 {477}	3/17/2017 10:12:44	3/17/2017 9:48:51	Linear	1/Conc	0.000425	0.441661	0.000000	1.000000
Sr 407.771 { 83}	3/17/2017 10:12:44	3/17/2017 9:48:51	Linear	1/Conc	-0.000566	12.693193	0.000000	1.000000
Ti 334.941 {101}	3/17/2017 10:12:44	3/17/2017 9:48:51	Linear	1/Conc	0.001871	1.746296	0.000000	1.000000
Tl 190.856 {477}	3/17/2017 10:12:44	3/17/2017 9:48:51	Linear	1/Conc	-0.001785	0.326550	0.000000	1.000000
V 292.402 {115}	3/17/2017 10:12:44	3/17/2017 9:48:51	Linear	1/Conc	-0.001277	0.787773	0.000000	1.000000
Y 224.306 {450}*	<not fit>	<Never Calibrated>	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
Y 360.073 { 94}*	<not fit>	<Never Calibrated>	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
Y 371.030 { 91}*	<not fit>	<Never Calibrated>	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
Zn 206.200 {463}	3/17/2017 10:12:44	3/17/2017 9:48:51	Linear	1/Conc	0.002664	2.836369	0.000000	1.000000

	Element, Wavelength and Order	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Reslope		QC Norm	
							Slope	Y-int	Slope factor	Offset
	Ag 328.068 {103}	0.999854	0.000103	0.000435	0.001451	OK.	1.000000	0.000000	1	0
	Al 396.152 { 85}	0.999849	0.003709	0.008858	0.029527	OK.	1.000000	0.000000	1	0
	As 189.042 {478}	0.999976	0.000120	0.000785	0.002617	OK.	1.000000	0.000000	1	0
	Ba 455.403 { 74}	0.999937	0.006485	0.000202	0.000672	OK.	1.000000	0.000000	1	0
	Be 313.042 {108}	0.999812	0.014187	0.000057	0.000189	OK.	1.000000	0.000000	1	0
	Ca 317.933 {106}	0.999807	0.008023	0.002424	0.008080	OK.	1.000000	0.000000	1	0
	Cd 226.502 {449}	0.999907	0.005798	0.000049	0.000164	OK.	1.000000	0.000000	1	0
	Co 228.616 {447}	0.999956	0.002022	0.000110	0.000365	OK.	1.000000	0.000000	1	0
	Cr 267.716 {126}	0.999855	0.000679	0.000326	0.001086	OK.	1.000000	0.000000	1	0
	Cu 324.754 {104}	0.999937	0.000753	0.000288	0.000958	OK.	1.000000	0.000000	1	0
	Fe 259.940 {130}	0.999054	0.010839	0.002013	0.006711	OK.	1.000000	0.000000	1	0
	In 230.606 {446}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
	K 766.490 { 44}	0.999947	0.001256	0.025931	0.086435	OK.	1.000000	0.000000	1	0
	Mg 279.079 {121}	0.999864	0.000635	0.016482	0.054940	OK.	1.000000	0.000000	1	0
	Mn 257.610 {131}	0.999715	0.005614	0.000049	0.000165	OK.	1.000000	0.000000	1	0
	Mo 202.030 {467}	0.999890	0.001094	0.000178	0.000594	OK.	1.000000	0.000000	1	0
	Na 589.592 { 57}	0.999902	0.006452	0.006968	0.023226	OK.	1.000000	0.000000	1	0
	Ni 231.604 {445}	0.999954	0.001381	0.000166	0.000552	OK.	1.000000	0.000000	1	0
	Pb 220.353 {453}	0.999972	0.000624	0.000639	0.002130	OK.	1.000000	0.000000	1	0
	Sb 206.833 {463}	0.999971	0.000156	0.001031	0.003436	OK.	1.000000	0.000000	1	0
	Se 196.090 {472}	0.999979	0.000080	0.001605	0.005351	OK.	1.000000	0.000000	1	0
	Si 212.412 {459}	0.975616	0.009198	0.000371	0.001236	OK.	1.000000	0.000000	1	0
	Sn 189.989 {477}	0.999808	0.000698	0.000326	0.001086	OK.	1.000000	0.000000	1	0
	Sr 407.771 { 83}	0.999500	0.032388	0.000075	0.000248	OK.	1.000000	0.000000	1	0
	Ti 334.941 {101}	0.999789	0.002890	0.000134	0.000446	OK.	1.000000	0.000000	1	0
	Tl 190.856 {477}	0.999924	0.000326	0.001148	0.003828	OK.	1.000000	0.000000	1	0
	V 292.402 {115}	0.999776	0.001326	0.000275	0.000915	OK.	1.000000	0.000000	1	0
	Y 224.306 {450}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
	Y 360.073 { 94}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
	Y 371.030 { 91}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
	Zn 206.200 {463}	0.999892	0.003352	0.000067	0.000224	OK.	1.000000	0.000000	1	0

DOD

SGS Accutest - Orlando Mercury Digestion Log

Method of Digestion: SW846-7470A / 7471B / EPA 245.1 (circle one) MP # 31801

Matrix: Water / Soil / TCLPW / TCLPS / SPLP / Other (circle one)

Analyst: JamesL.

Thermometer I.D.: 213

Date/Time started (mm/dd/yy 24:00) 03.17.17 / 0900

Correction Factor(°C): -1

Date/Time ended (mm/dd/yy 24:00) 03.17.17 / 0930

Temp Observed/Corrected(°C): 96 / 95

HotBlock I.D.: 7 Balance ID ANAPRO3 Pipette # Used: 19 Pipette # Used: 37

Digestion Tube Lot #: J2399585771 Filter Lot #: 130823012 pH paper Lot#: N/A PTFE Chips Lot #: 5941-GL019

Reagents:[A]

	HNO_3	HCL	H_2SO_4	$KMnO_4$	$K_2S_2O_8$	$SnCl_2$	NaCl/NH_2OH-HCL
Lot/Met#:	0000145075	0000132880	N/A	X Met5667	N/A	MKBX9869V	Met 5669

Sample #	Wt., g	Init.Vol(ml)	pH<2	Fin.Vol.(ml)	Comments
STD1 Cal. Blank	.60		N/A	50	
STD2 0.1ml [B]			N/A		
STD3 0.5ml [B]			N/A		
STD4 1.5ml [B]			N/A		
STD5 2.5ml [B]			N/A		
STD6 3.0ml [B]			N/A		
ICV 1.5ml [F]			N/A		
ICB			N/A		
CRI 0.1ml [B]			N/A		
CCV 1.5ml [B]			N/A		
CCB			N/A		
Method Blank	.60		N/A	50	
Blank Spk. 1.5ml [F]	.60		N/A		
Matrix Spk 1.5ml [F]	.65				
Mat. Spk.Dup 1.5ml [F]	.66				
Duplicate	.67				
1QC [C] FA41687-5	D 3 .64				
2	- 1 1 .63				
3	- 2 1 .62				
4	- 3 1 .63				
5	- 4 1 .64				
6	- 6 1 .65				*FA41687-6. JC 03.17.17.
7	- 7 1 .67				
8	- 8 1 .66				
9	- 9 1 .65				
10	- 10 1 .64				
11	- 11 1 .67				
12	- 12 1 .63				
13 FA42052-	- 1 2 .67				
14 FA42052-	- 2 2 .65				
15	- 2 5 .64				
16	- 3 5 .63				
17	- 4 5 .63				
18	- 5 6 .67				
19 FA41733-2R	- 3R 1 .63				
20	- 3R 1 .65				
21 [E]	JC 03.17.17				
22 [E]					
23 [E]					
24 [E]					

Analyst/Date James James 03.17.17 QC Rev./Date 03/17/17

10ppm int. met# 5613 100ppb(curve,bs,ms,msd,cri,ccv)met# 5671

10ppm int. 2nd met# 5614 100ppb 2nd(ICV)met# 5672

A For reagent volumes used consult SOP MET 105 or MET 106, current revision
B Amount of 100 ppb standard added (100ppb standard prepared from 10ppm intermediate).
C Parent sample used to prepare MS, MSD, DUP
D Bottle number
E Additional Matrix QC
F Amount of 100 ppb 2nd source standard added (100ppb 2nd source standard prepared from 10ppm intermediate 2nd).

SGS Accutest - Orlando Metals Digestion Log Soil

MP #: 31806 Method of Digestion: SW846-3050B

Prep Date/Time (mm/dd/yy 24:00): 3.17.17 12:00
HotBlock I.D. 5
Thermometer I.D. 204
Correction Factor (°C) -1
Temperature Observed/Corrected (°C) 94 / 93
Balance I.D. ADVPRO 6

Spk. Sol. [A]	Volume Used(ml)	Pipette #
ACC 997	0.50	ou@3294
ACC 978	0.25	ou@3294
Met 5670	0.25	ou@3294

Filter Lot#: 140320014
Dig. Tube Lot# 1610138

Added [B]:	H_2O_2	HNO_3	HCL	PTFE Boiling Chips
Lot#	165728	0000145075	0000132880	5941-6I019

Sample #			Wt., g	Final Volume(ml)	Comments
Method Blank(MB)			1.00	50	
Spike Blank(SB)			1.00		
Matrix Spike(MS)			1.03		
Matrix Spike Dup(MSD)			1.09		
Duplicate(DUP)			1.00		
1 QC [C] FA41687-5		[D] 3	1.04		
2	-1	1	1.05		
3	-2		1.05		
4	-3		1.06		
5	-4		1.02		
6	-6		1.04		
7	-7		1.04		
8	-8		1.10		
9	-9		1.03		
10	-10		1.06		
11	-11		1.09		
12	-12		1.09		
13					
14					
15					
16					
17					
18					
19					
20					
21 [E]					
22 [E]					
23 [E]					
24 [E]					

6pm 3.17.17

Analyst: _____ Date: 3.17.17

QC Review: _____ Date: 3/17/17

A Used for SB, MS, MSD
B For reagent volumes used consult SOP MET 104, current revision
C Parent sample used to prepare MS, MSD, DUP
D Bottle Number
E Additional Matrix QC

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Percent Solids Raw Data Summary

Percent Solids Raw Data Summary

Job Number: FA41687
Account: URSNEOM AECOM, INC
Project: Hammond BGR; Hammond, LA

Sample: FA41687-1 **Analyzed:** 07-MAR-17 by LJ **Method:** SM19 2540G
ClientID: HBGR-BT1-SS201-0.5

Wet Weight (Total)	25.93	g
Tare Weight	2.55	g
Dry Weight (Total)	21.05	g
Solids, Percent	79.1	%

Sample: FA41687-2 **Analyzed:** 07-MAR-17 by LJ **Method:** SM19 2540G
ClientID: HBGR-BT1-SS002-0.5

Wet Weight (Total)	19.78	g
Tare Weight	2.61	g
Dry Weight (Total)	16.5	g
Solids, Percent	80.9	%

Sample: FA41687-3 **Analyzed:** 07-MAR-17 by LJ **Method:** SM19 2540G
ClientID: HBGR-BT1-SS003-0.5

Wet Weight (Total)	11.47	g
Tare Weight	2.58	g
Dry Weight (Total)	10.35	g
Solids, Percent	87.4	%

Sample: FA41687-4 **Analyzed:** 07-MAR-17 by LJ **Method:** SM19 2540G
ClientID: HBGR-BT1-SS004-0.5

Wet Weight (Total)	29.14	g
Tare Weight	2.52	g
Dry Weight (Total)	24.04	g
Solids, Percent	80.8	%

Sample: FA41687-5 **Analyzed:** 07-MAR-17 by LJ **Method:** SM19 2540G
ClientID: HBGR-BT1-SS005-0.5

Wet Weight (Total)	21.91	g
Tare Weight	2.54	g
Dry Weight (Total)	17.26	g
Solids, Percent	76	%

Sample: FA41687-6 **Analyzed:** 07-MAR-17 by LJ **Method:** SM19 2540G
ClientID: HBGR-BT1-SS007-0.5

Wet Weight (Total)	18.59	g
Tare Weight	2.56	g
Dry Weight (Total)	14.43	g
Solids, Percent	74	%

Percent Solids Raw Data Summary

Job Number: FA41687
Account: URSNEOM AECOM, INC
Project: Hammond BGR; Hammond, LA

Sample: FA41687-7 **Analyzed:** 09-MAR-17 by SB **Method:** SM19 2540G
ClientID: HBGR-BT1-SS010-0.5

Wet Weight (Total)	23.41	g
Tare Weight	2.52	g
Dry Weight (Total)	17.46	g
Solids, Percent	71.5	%

Sample: FA41687-8 **Analyzed:** 07-MAR-17 by LJ **Method:** SM19 2540G
ClientID: HBGR-BT1-SS001-0.5

Wet Weight (Total)	29.89	g
Tare Weight	2.56	g
Dry Weight (Total)	23.68	g
Solids, Percent	77.3	%

Sample: FA41687-9 **Analyzed:** 07-MAR-17 by LJ **Method:** SM19 2540G
ClientID: HBGR-BT1-SS101-0.5

Wet Weight (Total)	19.64	g
Tare Weight	2.58	g
Dry Weight (Total)	14.59	g
Solids, Percent	70.4	%

Sample: FA41687-10 **Analyzed:** 07-MAR-17 by LJ **Method:** SM19 2540G
ClientID: HBGR-BT1-SS006-0.5

Wet Weight (Total)	32.06	g
Tare Weight	2.58	g
Dry Weight (Total)	25.16	g
Solids, Percent	76.6	%

Sample: FA41687-11 **Analyzed:** 07-MAR-17 by LJ **Method:** SM19 2540G
ClientID: HBGR-BT1-SS008-0.5

Wet Weight (Total)	20.81	g
Tare Weight	2.55	g
Dry Weight (Total)	16.55	g
Solids, Percent	76.7	%

Sample: FA41687-12 **Analyzed:** 07-MAR-17 by LJ **Method:** SM19 2540G
ClientID: HBGR-BT1-SS009-0.5

Wet Weight (Total)	22.84	g
Tare Weight	2.56	g
Dry Weight (Total)	18.65	g
Solids, Percent	79.3	%

Hammond B&GR Data Verification

Laboratory and SDG#: SGS-Accutest FA41687 **AECOM Chemist: Jeff Aust**
Date Verified: 3/22/2016 **AECOM ITR:**
Guidance: DoD QSM, Version 5.0, Appendix B Tables (DoD, 2013)
Applicable QAPP: Final Work Plan RI/FS for Hammond Bombing and Gunnery Range, UFP QAPP (USACE, 2017)
Applicable Analytical Methods: 6010C, 7471B, 8330B

Sample Identification #	Date Collected	Date Received	Analysis
HGBR-BT1-SS201-0.5	2/28/2017	3/1/2017	Explosives (8330B), Metals (6010C), Mercury (7471B)
HGBR-BT1-SS002-0.5	2/28/2017	3/1/2017	Explosives (8330B), Metals (6010C), Mercury (7471B)
HGBR-BT1-SS003-0.5	2/28/2017	3/1/2017	Explosives (8330B), Metals (6010C), Mercury (7471B)
HGBR-BT1-SS004-0.5	2/28/2017	3/1/2017	Explosives (8330B), Metals (6010C), Mercury (7471B)
HGBR-BT1-SS005-0.5	2/28/2017	3/1/2017	Explosives (8330B), Metals (6010C), Mercury (7471B)
HGBR-BT1-SS007-0.5	2/28/2017	3/1/2017	Explosives (8330B), Metals (6010C), Mercury (7471B)
HGBR-BT1-SS010-0.5	2/28/2017	3/1/2017	Explosives (8330B), Metals (6010C), Mercury (7471B)
HGBR-BT1-SS001-0.5	2/28/2017	3/2/2017	Explosives (8330B), Metals (6010C), Mercury (7471B)
HGBR-BT1-SS101-0.5	2/28/2017	3/2/2017	Explosives (8330B), Metals (6010C), Mercury (7471B)
HGBR-BT1-SS006-0.5	2/28/2017	3/2/2017	Explosives (8330B), Metals (6010C), Mercury (7471B)
HGBR-BT1-SS008-0.5	2/28/2017	3/2/2017	Explosives (8330B), Metals (6010C), Mercury (7471B)
HGBR-BT1-SS009-0.5	2/28/2017	3/2/2017	Explosives (8330B), Metals (6010C), Mercury (7471B)

Note: This data verification discusses issues not verified by ADR.NET

1.0 Laboratory Case Narrative \ Cooler Receipt Form

Verification Criteria	Yes	No	N/A
Were any DoD QSM deviations noted in the laboratory case narrative?	X		
Were DoD QSM corrective actions followed if deviations were noted?	X		
Were any issues noted in the cooler receipt form?		X	

The laboratory case narrative indicated some LCS and MS/MSD recoveries for explosives were outside evaluation criteria. One explosives sample was extracted outside holding time because the sample did not air dry within 14 days of sampling. Some metals MS/MSD

recoveries were outside evaluation criteria. These issues are addressed in the ADR.net report. The post digestion spike recovery for silver was below evaluation criteria. This issue is addressed in Section 7 of this report.

2.0 Sample Documentation

Verification Criteria	Yes	No
Were all samples documented correctly on the chain-of-custody (COC) and samples labels?	X	
Were all sample identifications (IDs) documented correctly on sample labels?	X	
Did samples listed on COCs match the sample labels?	X	

3.0 Initial Calibration

Method 8330B Initial Calibration Criteria			
Instrument:	**HPLC-5-BB**		
Date of Calibration:	**3/16/2017**		
	Yes	**No**	**N/A**
Option 1: RSD for each analyte ≤ 20%? (Minimum 5 points)	X		
Option 2: If linear least squares regression was used was the $r^2 \geq 0.99$?	X		
Option 3: If non-linear regression was used was the coefficient of determination $r^2 \geq 0.99$?	X		
If non-linear regression was used were 6 points used for second order and 7 points for third order?	X		

Method 6010C Initial Calibration Criteria			
Date of Calibration:	**3/17/2017**		
	Yes	**No**	**N/A**
Was a minimum of one standard and a calibration blank used for ICAL?	X		
If more than one standard was used, was $r^2 \geq 0.99$?	X		

Method 7471B Initial Calibration Criteria			
Date of Calibration:	**3/17/2017**		
	Yes	**No**	**N/A**
Was a minimum of five standards and a calibration blank used for ICAL?	X		
Was $r^2 \geq 0.99$ for mercury?	X		

Hammond B&GR Data Verification

Laboratory and SDG#: SGS-Accutest FA41687 **AECOM Chemist: Jeff Aust**
Date Verified: 3/22/2016 **AECOM ITR:**
Guidance: DoD QSM, Version 5.0, Appendix B Tables (DoD, 2013)
Applicable QAPP: Final Work Plan RI/FS for Hammond Bombing and Gunnery Range, UFP QAPP (USACE, 2017)
Applicable Analytical Methods: 6010C, 7471B, 8330B

4.0 Initial Calibration Verification [(ICV) Second Source]

Method 8330B ICV Criteria (Filename)	ICV1558-500		
Instrument:	HPLC5-BB		
Date of Initial Calibration Verification:	3/16/2017		
	Yes	No	N/A
Was the ICV analyzed after each calibration?	X		
Were all reported analytes within ± 20% of the true value?		X	

The ICV %Ds for tetryl were -24.5/-37.4 (high bias). All associated tetryl results were nondetect and no qualification of data was required.

Method 6010C ICV Criteria (Date)	3/17/2017 09:53		
	Yes	No	N/A
Was the ICV analyzed after each ICAL, prior to the beginning of a sample analysis?	X		
Were all reported analytes within ± 10% of true value?	X		

Method 7471B ICV Criteria (Date)	3/17/2017 11:00		
	Yes	No	N/A
Was the ICV analyzed after each ICAL, prior to the beginning of a sample analysis?	X		
Were all reported analytes within ± 10% of true value?	X		

5.0 Continuing Calibration Verification (CCV)

Method 8330B CCV Criteria (Filename)	CC1558-500 (11:22)		
Instrument:	HPLC5-BB		
Date of Calibration Verification:	3/17/2017		
	Yes	No	N/A
Were the CCVs analyzed before sample analysis, after every 10 samples and at the end of the analysis sequence?	X		
Were all reported analytes within ± 20% of true value?	X		

Method 8330B CCV Criteria (Filename)	CC1558-500 (16:51)		
Instrument:	HPLC5-BB		
Date of Calibration Verification:	3/17/2017		
	Yes	No	N/A
Were the CCVs analyzed before sample analysis, after every 10 samples and at	X		

Hammond B&GR Data Verification

Laboratory and SDG#: SGS-Accutest FA41687 **AECOM Chemist: Jeff Aust**
Date Verified: 3/22/2016 **AECOM ITR:**
Guidance: DoD QSM, Version 5.0, Appendix B Tables (DoD, 2013)
Applicable QAPP: Final Work Plan RI/FS for Hammond Bombing and Gunnery Range, UFP QAPP (USACE, 2017)
Applicable Analytical Methods: 6010C, 7471B, 8330B

Method 8330B CCV Criteria (Filename)	**CC1558-500 (16:51)**		
Instrument:	**HPLC5-BB**		
Date of Calibration Verification:	**3/17/2017**		
	Yes	**No**	**N/A**
the end of the analysis sequence?			
Were all reported analytes within ± 20% of true value?	X		

Method 8330B CCV Criteria (Filename)	**CC1558-500 (21:51)**		
Instrument:	**HPLC5-BB**		
Date of Calibration Verification:	**3/17/2017**		
	Yes	**No**	**N/A**
Were the CCVs analyzed before sample analysis, after every 10 samples and at the end of the analysis sequence?	X		
Were all reported analytes within ± 20% of true value?	X		

Method 8330B CCV Criteria (Filename)	**CC1558-500 (15:54)**		
Instrument:	**HPLC5-BB**		
Date of Calibration Verification:	**3/20/2017**		
	Yes	**No**	**N/A**
Were the CCVs analyzed before sample analysis, after every 10 samples and at the end of the analysis sequence?	X		
Were all reported analytes within ± 20% of true value?	X		

Method 8330B CCV Criteria (Filename)	**CC1558-500 (20:53)**		
Instrument:	**HPLC5-BB**		
Date of Calibration Verification:	**3/20/2017**		
	Yes	**No**	**N/A**
Were the CCVs analyzed before sample analysis, after every 10 samples and at the end of the analysis sequence?	X		
Were all reported analytes within ± 20% of true value?	X		

Method 6010C CCV Criteria (Date)	**3/17/2017 10:17**		
	Yes	**No**	**N/A**
Were the CCVs analyzed after every 10 samples and at the end of the analysis sequence?	X		
Were all reported analytes within ± 10% of true value?	X		

Hammond B&GR Data Verification

Laboratory and SDG#: SGS-Accutest FA41687 **AECOM Chemist: Jeff Aust**
Date Verified: 3/22/2016 **AECOM ITR:**
Guidance: DoD QSM, Version 5.0, Appendix B Tables (DoD, 2013)
Applicable QAPP: Final Work Plan RI/FS for Hammond Bombing and Gunnery Range, UFP QAPP (USACE, 2017)
Applicable Analytical Methods: 6010C, 7471B, 8330B

Method 6010C CCV Criteria (Date)	**3/17/2017 11:09**		
	Yes	**No**	**N/A**
Were the CCVs analyzed after every 10 samples and at the end of the analysis sequence?	X		
Were all reported analytes within ± 10% of true value?	X		

Method 6010C CCV Criteria (Date)	**3/17/2017 12:02**		
	Yes	**No**	**N/A**
Were the CCVs analyzed after every 10 samples and at the end of the analysis sequence?	X		
Were all reported analytes within ± 10% of true value?	X		

Method 6010C CCV Criteria (Date)	**3/17/2017 12:56**		
	Yes	**No**	**N/A**
Were the CCVs analyzed after every 10 samples and at the end of the analysis sequence?	X		
Were all reported analytes within ± 10% of true value?	X		

Method 6010C CCV Criteria (Date)	**3/17/2017 13:49**		
	Yes	**No**	**N/A**
Were the CCVs analyzed after every 10 samples and at the end of the analysis sequence?	X		
Were all reported analytes within ± 10% of true value?	X		

Method 6010C CCV Criteria (Date)	**3/17/2017 14:42**		
	Yes	**No**	**N/A**
Were the CCVs analyzed after every 10 samples and at the end of the analysis sequence?	X		
Were all reported analytes within ± 10% of true value?	X		

Method 6010C CCV Criteria (Date)	**3/17/2017 15:05**		
	Yes	**No**	**N/A**
Were the CCVs analyzed after every 10 samples and at the end of the analysis sequence?	X		
Were all reported analytes within ± 10% of true value?	X		

Hammond B&GR Data Verification

Laboratory and SDG#: SGS-Accutest FA41687 **AECOM Chemist: Jeff Aust**
Date Verified: 3/22/2016 **AECOM ITR:**
Guidance: DoD QSM, Version 5.0, Appendix B Tables (DoD, 2013)
Applicable QAPP: Final Work Plan RI/FS for Hammond Bombing and Gunnery Range, UFP QAPP (USACE, 2017)
Applicable Analytical Methods: 6010C, 7471B, 8330B

Method 6010C CCV Criteria (Date)	**3/17/2017 15:59**		
	Yes	**No**	**N/A**
Were the CCVs analyzed after every 10 samples and at the end of the analysis sequence?	X		
Were all reported analytes within ± 10% of true value?	X		

Method 6010C CCV Criteria (Date)	**3/17/2017 16:53**		
	Yes	**No**	**N/A**
Were the CCVs analyzed after every 10 samples and at the end of the analysis sequence?	X		
Were all reported analytes within ± 10% of true value?	X		

Method 6010C CCV Criteria (Date)	**3/17/2017 17:45**		
	Yes	**No**	**N/A**
Were the CCVs analyzed after every 10 samples and at the end of the analysis sequence?	X		
Were all reported analytes within ± 10% of true value?	X		

Method 6010C CCV Criteria (Date)	**3/17/2017 18:37**		
	Yes	**No**	**N/A**
Were the CCVs analyzed after every 10 samples and at the end of the analysis sequence?	X		
Were all reported analytes within ± 10% of true value?	X		

Method 6010C CCV Criteria (Date)	**3/17/2017 19:30**		
	Yes	**No**	**N/A**
Were the CCVs analyzed after every 10 samples and at the end of the analysis sequence?	X		
Were all reported analytes within ± 10% of true value?	X		

Method 6010C CCV Criteria (Date)	**3/17/2017 20:25**		
	Yes	**No**	**N/A**
Were the CCVs analyzed after every 10 samples and at the end of the analysis sequence?	X		
Were all reported analytes within ± 10% of true value?	X		

Hammond B&GR Data Verification

Laboratory and SDG#: SGS-Accutest FA41687 **AECOM Chemist: Jeff Aust**
Date Verified: 3/22/2016 **AECOM ITR:**
Guidance: DoD QSM, Version 5.0, Appendix B Tables (DoD, 2013)
Applicable QAPP: Final Work Plan RI/FS for Hammond Bombing and Gunnery Range, UFP QAPP (USACE, 2017)
Applicable Analytical Methods: 6010C, 7471B, 8330B

Method 6010C CCV Criteria (Date)	**3/17/2017 21:05**		
	Yes	**No**	**N/A**
Were the CCVs analyzed after every 10 samples and at the end of the analysis sequence?	X		
Were all reported analytes within ± 10% of true value?	X		

Method 7471B CCV Criteria (Date)	**3/17/2017 11:05**		
	Yes	**No**	**N/A**
Were the CCVs analyzed after every 10 samples and at the end of the analysis sequence?	X		
Were all reported analytes within ± 10% of true value?	X		

Method 7471B CCV Criteria (Date)	**3/17/2017 11:24**		
	Yes	**No**	**N/A**
Were the CCVs analyzed after every 10 samples and at the end of the analysis sequence?	X		
Were all reported analytes within ± 10% of true value?	X		

Method 7471B CCV Criteria (Date)	**3/17/2017 11:42**		
	Yes	**No**	**N/A**
Were the CCVs analyzed after every 10 samples and at the end of the analysis sequence?	X		
Were all reported analytes within ± 10% of true value?	X		

Method 7471B CCV Criteria (Date)	**3/17/2017 12:00**		
	Yes	**No**	**N/A**
Were the CCVs analyzed after every 10 samples and at the end of the analysis sequence?	X		
Were all reported analytes within ± 10% of true value?	X		

Method 7471B CCV Criteria (Date)	**3/17/2017 12:18**		
	Yes	**No**	**N/A**
Were the CCVs analyzed after every 10 samples and at the end of the analysis sequence?	X		
Were all reported analytes within ± 10% of true value?	X		

Hammond B&GR Data Verification

Laboratory and SDG#: SGS-Accutest FA41687 **AECOM Chemist: Jeff Aust**
Date Verified: 3/22/2016 **AECOM ITR:**
Guidance: DoD QSM, Version 5.0, Appendix B Tables (DoD, 2013)
Applicable QAPP: Final Work Plan RI/FS for Hammond Bombing and Gunnery Range, UFP QAPP (USACE, 2017)
Applicable Analytical Methods: 6010C, 7471B, 8330B

Method 7471B CCV Criteria (Date)	3/17/2017 12:36		
	Yes	No	N/A
Were the CCVs analyzed after every 10 samples and at the end of the analysis sequence?	X		
Were all reported analytes within ± 10% of true value?	X		

Method 7471B CCV Criteria (Date)	3/17/2017 12:56		
	Yes	No	N/A
Were the CCVs analyzed after every 10 samples and at the end of the analysis sequence?	X		
Were all reported analytes within ± 10% of true value?	X		

Method 7471B CCV Criteria (Date)	3/17/2017 13:20		
	Yes	No	N/A
Were the CCVs analyzed after every 10 samples and at the end of the analysis sequence?	X		
Were all reported analytes within ± 10% of true value?	X		

6.0 Dilution Test

Method 6010B Dilution Test Criteria	Yes	No	N/A
Was a dilution test sample analyzed from this SDG	X		
Were metals concentrations > 50x the LOQ?	X		
Did the five-fold dilution agree within ± 10% of the original measurement?	X		
If the five-fold dilution did not agree within ± 10% of the original measurement, was a post digestion spike sample analyzed?			X

Sample HBGR-BT1-SS005-0.5 was diluted and analyzed for metals.

7.0 Post Digestion Spike

Method 6010B PDS Criteria	Yes	No	N/A
Was a PDS sample analyzed from this SDG	X		
Was a PDS sample analyzed if the dilution test failed or metals concentrations were < 50 x the LOQ?	X		
Were the PDS recoveries within 80-120%?		X	

Sample HBGR-BT1-SS005-0.5 was spiked and analyzed for metals. The silver recovery was

77.6%. The associated silver result was previously qualified based on MS/MSD recovery and no additional qualification was required.

8.0 Interference Check Sample

Interference Check Sample Criteria	Yes	No	N/A
Were ICS-A and ICSAB samples analyzed at the beginning of the analytical run and every 12 hours for Method 6010B?	X		
Was the ICS-A absolute value concentration for all non-spiked metals < LOD (unless they are a verified trace impurity from one of the spiked metals)	X		
Were the ICS-AB recoveries within ± 20%?	X		

9.0 Sensitivity

Sensitivity Criteria	Yes	No	N/A
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		
Did all analytes meet sensitivity requirements?	X		

10.0 Completeness

Completeness Criteria	Yes	No	N/A
Were any data rejected during the verification process?		X	
Were any samples lost, broken, or in any other manner in not verified?		X	
Were sample analyses requested performed, the correct analyte lists used and correct sample preparation and analyses methods and units utilized?	X		

Data Review Summary

Lab Reporting Batch ID: FA41687 **Laboratory: ACTO**

EDD Filename: FA41687-SEDD_2a_1_rev **eQAPP Name: Hammond B and G Range**

Validation Area	*Note*
Technical Holding Times	SR
Temperature	A
Initial Calibration	N
Continuing Calibration/Initial Calibration Verification	N
Method Blanks	SR
Surrogate/Tracer Spikes	A
Matrix Spike/Matrix Spike Duplicates	SR
Laboratory Duplicates	SR
Laboratory Replicates	N
Laboratory Control Samples	SR
Compound Quantitation	SR
Field Duplicates	N
Field Triplicates	SR
Field Blanks	N

A = Acceptable, N = Not provided/applicable, SR = See report

The contents of this report reflect findings made by ADR during Automated Data Review, manual applied qualifiers are not considered. Please refer to the Overall Qualifier Summary report for manual qualifiers.

Field Triplicate RSD Report

Lab Reporting Batch ID: FA41687 **Laboratory: ACTO**

EDD Filename: FA41687-SEDD_2a_1_rev **eQAPP Name: Hammond B and G Range**

Method: 6010C
Matrix: Soil

Analyte	Concentration (mg/Kg)			Sample RSD/RPD	eQAPP RSD/RPD	Flag
	HBGR-BT1-SS201-0.5 (Dry)	HBGR-BT1-SS001-0.5 (Dry)	HBGR-BT1-SS101-0.5 (Dry)			
ALUMINUM	3860	3420	4900	18.72		
ANTIMONY	0.18	0.29 U	0.74	121.74	*	
ARSENIC	1.7	1.2	6.9	96.63		
BARIUM	18.7	17.5	22.2	12.54		
BERYLLIUM	0.10	0.082	0.22	55.99		
CALCIUM	33.1	30.5	24.3	15.43		
COBALT	0.51	0.41	0.99	48.7		
COPPER	1.0	0.96	1.6	30.21		
LEAD	5.0	4.6	6.9	22.34		No Qualifiers Applied
MAGNESIUM	137	120	139	7.91		
NICKEL	0.96	0.86	1.9	46.27		
POTASSIUM	67.7	58.0	69.6	9.56		
SELENIUM	0.22	0.29 U	0.34 U	NC		
VANADIUM	11.1	8.9	26.0	60.67		
ZINC	3.0	2.7	3.9	19.52		
CHROMIUM	5.2	4.3	8.0	33.08		
IRON	4120	3170	16800	94.77		
MANGANESE	16.8	11.1	33.8	57.42		

Method: 7471B
Matrix: Soil

Analyte	Concentration (mg/Kg)			Sample RSD/RPD	eQAPP RSD/RPD	Flag
	HBGR-BT1-SS201-0.5 (Dry)	HBGR-BT1-SS001-0.5 (Dry)	HBGR-BT1-SS101-0.5 (Dry)			
MERCURY	0.019	0.023	0.040	40.79		No Qualifiers Applied

* - RPD was calculated and compared against library RPD because only two samples among the triplicate set had detected results.
NC - (Not Calculated) is reported if only one sample among the triplicate set has a detected result.

Project Name and Number: - USACE Project: USACE Project: Hammond BGR; Hammond, LA

Field QC Assignments and Associated Samples

EDD File Name: FA41687

eQapp Name: Hammond B and G Range

	Associated Samples	Sample Collection Date
Field QC Sample: HBGR-BT1-SS201-0.5 **QC Type:** Field_Triplicate		
	HBGR-BT1-SS101-0.5	2/28/2017 3:35:00 PM
	HBGR-BT1-SS001-0.5	2/28/2017 9:35:00 AM

QC Outlier Report: HoldingTimes

Lab Reporting Batch ID: FA41687 **Laboratory: ACTO**

EDD Filename: FA41687-SEDD_2a_1_rev **eQAPP Name: Hammond B and G Range**

Method: 8330B **Preparation Method: 8330B**

Matrix: Soil

Sample ID	Type	Actual	Criteria	Units	Flag
HBGR-BT1-SS008-0.5 (Initial)	Sampling To Extraction	17.00	14.00	DAYS	J (all detects)
HBGR-BT1-SS008-0.5DUP (Initial)		17.00	14.00	DAYS	UJ (all non-detects)
HBGR-BT1-SS008-0.5DUP (Initial)		17.00	14.00	DAYS	
HBGR-BT1-SS008-0.5MS (Initial)		17.00	14.00	DAYS	
HBGR-BT1-SS008-0.5MSD (Initial)		17.00	14.00	DAYS	

Lab Control Spike/Lab Control Spike Duplicate Outlier Report

Lab Reporting Batch ID: FA41687 **Laboratory: ACTO**

EDD Filename: FA41687-SEDD_2a_1_rev **eQAPP Name: Hammond B and G Range**

Method: 8330B
Matrix: Soil

QC Sample ID (Associated Samples)	Compound	LCS %R	LCSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
OP64158-PT1 (HBGR-BT1-SS001-0.5 HBGR-BT1-SS002-0.5 HBGR-BT1-SS003-0.5 HBGR-BT1-SS004-0.5 HBGR-BT1-SS005-0.5 HBGR-BT1-SS006-0.5 HBGR-BT1-SS007-0.5 HBGR-BT1-SS009-0.5 HBGR-BT1-SS010-0.5 HBGR-BT1-SS101-0.5 HBGR-BT1-SS201-0.5)	3,5-Dinitroaniline	133	-	86.00-118.00	-	3,5-Dinitroaniline	J (all detects)
OP64158-PT1 (HBGR-BT1-SS001-0.5 HBGR-BT1-SS002-0.5 HBGR-BT1-SS003-0.5 HBGR-BT1-SS004-0.5 HBGR-BT1-SS005-0.5 HBGR-BT1-SS006-0.5 HBGR-BT1-SS007-0.5 HBGR-BT1-SS009-0.5 HBGR-BT1-SS010-0.5 HBGR-BT1-SS101-0.5 HBGR-BT1-SS201-0.5)	4-AMINO-2,6-DINITROTOLUENE Tetryl	43 32	- -	64.00-127.00 68.00-135.00	- -	4-AMINO-2,6-DINITROTOLUEN Tetryl	J(all detects) UJ(all non-detects)
OP64214-PT1 (HBGR-BT1-SS008-0.5)	4-AMINO-2,6-DINITROTOLUENE Tetryl	37 35	- -	64.00-127.00 68.00-135.00	- -	4-AMINO-2,6-DINITROTOLUEN Tetryl	J(all detects) UJ(all non-detects)

Method Blank Outlier Report

Lab Reporting Batch ID: FA41687 **Laboratory: ACTO**

EDD Filename: FA41687-SEDD_2a_1_rev **eQAPP Name: Hammond B and G Range**

Method: **6010C**
Matrix: **Soil**

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
MP31806-MB1	3/17/2017 5:15:00 PM	IRON MANGANESE	2.1 mg/Kg 0.025 mg/Kg	HBGR-BT1-SS001-0.5 HBGR-BT1-SS002-0.5 HBGR-BT1-SS003-0.5 HBGR-BT1-SS004-0.5 HBGR-BT1-SS005-0.5 HBGR-BT1-SS006-0.5 HBGR-BT1-SS007-0.5 HBGR-BT1-SS008-0.5 HBGR-BT1-SS009-0.5 HBGR-BT1-SS010-0.5 HBGR-BT1-SS101-0.5 HBGR-BT1-SS201-0.5

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: FA41687 **Laboratory: ACTO**

EDD Filename: FA41687-SEDD_2a_1_rev **eQAPP Name: Hammond B and G Range**

Method: 8330B
Matrix: Soil

QC Sample ID (Associated Samples)	Compound	MS %R	MSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
HBGR-BT1-SS008-0.5MS HBGR-BT1-SS008-0.5MSD (HBGR-BT1-SS008-0.5)	4-AMINO-2,6-DINITROTOLUENE	73	73	74.00-125.00	-	4-AMINO-2,6-DINITROTOLUEN	J (all detects) UJ (all non-detects)

Method: 6010C
Matrix: Soil

QC Sample ID (Associated Samples)	Compound	MS %R	MSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
HBGR-BT1-SS005-0.5MS (Dry)	ANTIMONY	36.6	34.8	80.00-120.00	-	ANTIMONY	J(all detects) UJ(all non-detects)
HBGR-BT1-SS005-0.5MSD	IRON	74.1	79	80.00-120.00	-	IRON	
(Dry)	MANGANESE	78.6	76.5	80.00-120.00	-	MANGANESE	
(HBGR-BT1-SS005-0.5)	SILVER	78.3	79.5	80.00-120.00	-	SILVER	
	VANADIUM	-	79.2	80.00-120.00	-	VANADIUM	

Data Qualifier Summary

Lab Reporting Batch ID: FA41687 **Laboratory: ACTO**

EDD Filename: FA41687-SEDD_2a_1 **eQAPP Name: Hammond B and G Range**

Method Category: **METALS**

Method: **6010C** ***Matrix:*** **Soil**

Sample ID: **HBGR-BT1-SS001-0.5** ***Collected:*** **2/28/2017 9:35:00 AM** ***Analysis Type:*** **Initial** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BERYLLIUM	0.082	J	0.059	LOD	0.29	LOQ	mg/Kg	J	RI
CALCIUM	30.5	J	5.9	LOD	290	LOQ	mg/Kg	J	RI
COBALT	0.41	J	0.059	LOD	2.9	LOQ	mg/Kg	J	RI
COPPER	0.96	J	0.12	LOD	1.5	LOQ	mg/Kg	J	RI
IRON	3170		2.9	LOD	18.0	LOQ	mg/Kg	J	Ft
MAGNESIUM	120	J	5.9	LOD	290	LOQ	mg/Kg	J	RI
MANGANESE	11.1		0.059	LOD	0.88	LOQ	mg/Kg	J	Ft
NICKEL	0.86	J	0.059	LOD	2.4	LOQ	mg/Kg	J	RI
POTASSIUM	58.0	J	29.0	LOD	590	LOQ	mg/Kg	J	RI
CHROMIUM	4.3		0.12	LOD	0.59	LOQ	mg/Kg	J	Ft

Sample ID: **HBGR-BT1-SS002-0.5** ***Collected:*** **2/28/2017 9:57:00 AM** ***Analysis Type:*** **Initial** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.10	J	0.29	LOD	1.2	LOQ	mg/Kg	J	RI
BERYLLIUM	0.19	J	0.059	LOD	0.29	LOQ	mg/Kg	J	RI
CALCIUM	48.2	J	5.9	LOD	290	LOQ	mg/Kg	J	RI
COBALT	1.0	J	0.059	LOD	2.9	LOQ	mg/Kg	J	RI
COPPER	1.3	J	0.12	LOD	1.5	LOQ	mg/Kg	J	RI
MAGNESIUM	151	J	5.9	LOD	290	LOQ	mg/Kg	J	RI
NICKEL	1.3	J	0.059	LOD	2.4	LOQ	mg/Kg	J	RI
POTASSIUM	82.7	J	29.0	LOD	590	LOQ	mg/Kg	J	RI
SELENIUM	0.21	J	0.29	LOD	1.2	LOQ	mg/Kg	J	RI

Sample ID: **HBGR-BT1-SS003-0.5** ***Collected:*** **2/28/2017 9:25:00 AM** ***Analysis Type:*** **Initial** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BERYLLIUM	0.16	J	0.054	LOD	0.27	LOQ	mg/Kg	J	RI
CALCIUM	44.9	J	5.4	LOD	270	LOQ	mg/Kg	J	RI
COBALT	0.55	J	0.054	LOD	2.7	LOQ	mg/Kg	J	RI
MAGNESIUM	265	J	5.4	LOD	270	LOQ	mg/Kg	J	RI
NICKEL	1.8	J	0.054	LOD	2.2	LOQ	mg/Kg	J	RI
POTASSIUM	123	J	27.0	LOD	540	LOQ	mg/Kg	J	RI
SELENIUM	0.31	J	0.27	LOD	1.1	LOQ	mg/Kg	J	RI

* denotes a non-reportable result

Project Name and Number: - USACE Project: Hammond BGR; Hammond, LA

Data Qualifier Summary

Lab Reporting Batch ID: FA41687 **Laboratory: ACTO**

EDD Filename: FA41687-SEDD_2a_1 **eQAPP Name: Hammond B and G Range**

Method Category: **METALS**

Method: **6010C** ***Matrix:*** **Soil**

Sample ID: **HBGR-BT1-SS004-0.5** ***Collected:*** **2/28/2017 9:51:00 AM** ***Analysis Type:*** **Initial** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BERYLLIUM	0.10	J	0.061	LOD	0.30	LOQ	mg/Kg	J	RI
CALCIUM	28.8	J	6.1	LOD	300	LOQ	mg/Kg	J	RI
COBALT	0.61	J	0.061	LOD	3.0	LOQ	mg/Kg	J	RI
COPPER	0.93	J	0.12	LOD	1.5	LOQ	mg/Kg	J	RI
MAGNESIUM	174	J	6.1	LOD	300	LOQ	mg/Kg	J	RI
NICKEL	1.4	J	0.061	LOD	2.4	LOQ	mg/Kg	J	RI
POTASSIUM	93.7	J	30.0	LOD	610	LOQ	mg/Kg	J	RI

Sample ID: **HBGR-BT1-SS005-0.5** ***Collected:*** **2/28/2017 10:42:00 AM** ***Analysis Type:*** **Initial** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.32	U	0.32	LOD	1.3	LOQ	mg/Kg	UJ	Ms
BERYLLIUM	0.12	J	0.063	LOD	0.32	LOQ	mg/Kg	J	RI
CALCIUM	26.9	J	6.3	LOD	320	LOQ	mg/Kg	J	RI
COBALT	0.47	J	0.063	LOD	3.2	LOQ	mg/Kg	J	RI
COPPER	0.76	J	0.13	LOD	1.6	LOQ	mg/Kg	J	RI
IRON	2980		3.2	LOD	19.0	LOQ	mg/Kg	J	Ms
MAGNESIUM	113	J	6.3	LOD	320	LOQ	mg/Kg	J	RI
MANGANESE	14.2		0.063	LOD	0.95	LOQ	mg/Kg	J	Ms
NICKEL	0.97	J	0.063	LOD	2.5	LOQ	mg/Kg	J	RI
POTASSIUM	64.3	J	32.0	LOD	630	LOQ	mg/Kg	J	RI
SILVER	0.13	U	0.13	LOD	0.63	LOQ	mg/Kg	UJ	Ms

Sample ID: **HBGR-BT1-SS006-0.5** ***Collected:*** **2/28/2017 9:30:00 AM** ***Analysis Type:*** **Initial** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BERYLLIUM	0.20	J	0.062	LOD	0.31	LOQ	mg/Kg	J	RI
CALCIUM	307	J	6.2	LOD	310	LOQ	mg/Kg	J	RI
COBALT	0.88	J	0.062	LOD	3.1	LOQ	mg/Kg	J	RI
MAGNESIUM	211	J	6.2	LOD	310	LOQ	mg/Kg	J	RI
NICKEL	1.9	J	0.062	LOD	2.5	LOQ	mg/Kg	J	RI
POTASSIUM	133	J	31.0	LOD	620	LOQ	mg/Kg	J	RI

* denotes a non-reportable result

Project Name and Number: - USACE Project: Hammond BGR; Hammond, LA

Data Qualifier Summary

Lab Reporting Batch ID: FA41687 **Laboratory: ACTO**

EDD Filename: FA41687-SEDD_2a_1 **eQAPP Name: Hammond B and G Range**

Method Category: **METALS**

Method: **6010C** ***Matrix:*** **Soil**

Sample ID: **HBGR-BT1-SS007-0.5** ***Collected:*** **2/28/2017 10:45:00 AM** ***Analysis Type:*** **Initial** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BERYLLIUM	0.23	J	0.065	LOD	0.32	LOQ	mg/Kg	J	RI
CALCIUM	180	J	6.5	LOD	320	LOQ	mg/Kg	J	RI
COBALT	0.57	J	0.065	LOD	3.2	LOQ	mg/Kg	J	RI
COPPER	1.2	J	0.13	LOD	1.6	LOQ	mg/Kg	J	RI
MAGNESIUM	143	J	6.5	LOD	320	LOQ	mg/Kg	J	RI
NICKEL	1.3	J	0.065	LOD	2.6	LOQ	mg/Kg	J	RI
POTASSIUM	82.3	J	32.0	LOD	650	LOQ	mg/Kg	J	RI

Sample ID: **HBGR-BT1-SS008-0.5** ***Collected:*** **2/28/2017 11:15:00 AM** ***Analysis Type:*** **Initial** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CALCIUM	241	J	6.0	LOD	300	LOQ	mg/Kg	J	RI
COBALT	1.4	J	0.060	LOD	3.0	LOQ	mg/Kg	J	RI
MAGNESIUM	278	J	6.0	LOD	300	LOQ	mg/Kg	J	RI
POTASSIUM	176	J	30.0	LOD	600	LOQ	mg/Kg	J	RI

Sample ID: **HBGR-BT1-SS009-0.5** ***Collected:*** **2/28/2017 10:15:00 AM** ***Analysis Type:*** **Initial** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BERYLLIUM	0.19	J	0.058	LOD	0.29	LOQ	mg/Kg	J	RI
COBALT	1.1	J	0.058	LOD	2.9	LOQ	mg/Kg	J	RI
MAGNESIUM	203	J	5.8	LOD	290	LOQ	mg/Kg	J	RI
NICKEL	1.7	J	0.058	LOD	2.3	LOQ	mg/Kg	J	RI
POTASSIUM	102	J	29.0	LOD	580	LOQ	mg/Kg	J	RI

Sample ID: **HBGR-BT1-SS010-0.5** ***Collected:*** **2/28/2017 11:25:00 AM** ***Analysis Type:*** **Initial** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BERYLLIUM	0.15	J	0.067	LOD	0.34	LOQ	mg/Kg	J	RI
CALCIUM	127	J	6.7	LOD	340	LOQ	mg/Kg	J	RI
COBALT	0.80	J	0.067	LOD	3.4	LOQ	mg/Kg	J	RI
COPPER	1.2	J	0.13	LOD	1.7	LOQ	mg/Kg	J	RI
MAGNESIUM	175	J	6.7	LOD	340	LOQ	mg/Kg	J	RI
NICKEL	1.4	J	0.067	LOD	2.7	LOQ	mg/Kg	J	RI
POTASSIUM	110	J	34.0	LOD	670	LOQ	mg/Kg	J	RI

* denotes a non-reportable result

Project Name and Number: - USACE Project: Hammond BGR; Hammond, LA

Data Qualifier Summary

Lab Reporting Batch ID: FA41687 **Laboratory: ACTO**

EDD Filename: FA41687-SEDD_2a_1 **eQAPP Name: Hammond B and G Range**

Method Category: METALS

Method: 6010C **Matrix:** Soil

Sample ID: HBGR-BT1-SS010-0.5 **Collected:** 2/28/2017 11:25:00 AM **Analysis Type:** Initial **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SELENIUM	0.17	J	0.34	LOD	1.3	LOQ	mg/Kg	J	RI

Sample ID: HBGR-BT1-SS101-0.5 **Collected:** 2/28/2017 3:35:00 PM **Analysis Type:** Initial **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.74	J	0.34	LOD	1.4	LOQ	mg/Kg	J	RI
BERYLLIUM	0.22	J	0.069	LOD	0.34	LOQ	mg/Kg	J	RI
CALCIUM	24.3	J	6.9	LOD	340	LOQ	mg/Kg	J	RI
CHROMIUM	8.0		0.14	LOD	0.69	LOQ	mg/Kg	J	Ft
COBALT	0.99	J	0.069	LOD	3.4	LOQ	mg/Kg	J	RI
COPPER	1.6	J	0.14	LOD	1.7	LOQ	mg/Kg	J	RI
IRON	16800		3.4	LOD	21.0	LOQ	mg/Kg	J	Ft
MAGNESIUM	139	J	6.9	LOD	340	LOQ	mg/Kg	J	RI
MANGANESE	33.8		0.069	LOD	1.0	LOQ	mg/Kg	J	Ft
NICKEL	1.9	J	0.069	LOD	2.8	LOQ	mg/Kg	J	RI
POTASSIUM	69.6	J	34.0	LOD	690	LOQ	mg/Kg	J	RI

Sample ID: HBGR-BT1-SS201-0.5 **Collected:** 2/28/2017 9:35:00 AM **Analysis Type:** Initial **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.18	J	0.30	LOD	1.2	LOQ	mg/Kg	J	RI
BERYLLIUM	0.10	J	0.060	LOD	0.30	LOQ	mg/Kg	J	RI
CALCIUM	33.1	J	6.0	LOD	300	LOQ	mg/Kg	J	RI
CHROMIUM	5.2		0.12	LOD	0.60	LOQ	mg/Kg	J	Ft
COBALT	0.51	J	0.060	LOD	3.0	LOQ	mg/Kg	J	RI
COPPER	1.0	J	0.12	LOD	1.5	LOQ	mg/Kg	J	RI
IRON	4120		3.0	LOD	18.0	LOQ	mg/Kg	J	Ft
MAGNESIUM	137	J	6.0	LOD	300	LOQ	mg/Kg	J	RI
MANGANESE	16.8		0.060	LOD	0.90	LOQ	mg/Kg	J	Ft
NICKEL	0.96	J	0.060	LOD	2.4	LOQ	mg/Kg	J	RI
POTASSIUM	67.7	J	30.0	LOD	600	LOQ	mg/Kg	J	RI
SELENIUM	0.22	J	0.30	LOD	1.2	LOQ	mg/Kg	J	RI

* denotes a non-reportable result

Project Name and Number: - USACE Project: Hammond BGR; Hammond, LA

Data Qualifier Summary

Lab Reporting Batch ID: FA41687 **Laboratory: ACTO**

EDD Filename: FA41687-SEDD_2a_1 **eQAPP Name: Hammond B and G Range**

Method Category: **METALS**

Method: **7471B** ***Matrix:*** **Soil**

Sample ID: **HBGR-BT1-SS001-0.5** ***Collected:*** **2/28/2017 9:35:00 AM** ***Analysis Type:*** **Initial** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
MERCURY	0.023	J	0.020	LOD	0.049	LOQ	mg/Kg	J	RI

Sample ID: **HBGR-BT1-SS002-0.5** ***Collected:*** **2/28/2017 9:57:00 AM** ***Analysis Type:*** **Initial** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
MERCURY	0.037	J	0.020	LOD	0.050	LOQ	mg/Kg	J	RI

Sample ID: **HBGR-BT1-SS004-0.5** ***Collected:*** **2/28/2017 9:51:00 AM** ***Analysis Type:*** **Initial** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
MERCURY	0.027	J	0.019	LOD	0.048	LOQ	mg/Kg	J	RI

Sample ID: **HBGR-BT1-SS005-0.5** ***Collected:*** **2/28/2017 10:42:00 AM** ***Analysis Type:*** **Initial** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
MERCURY	0.030	J	0.021	LOD	0.051	LOQ	mg/Kg	J	RI

Sample ID: **HBGR-BT1-SS006-0.5** ***Collected:*** **2/28/2017 9:30:00 AM** ***Analysis Type:*** **Initial** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
MERCURY	0.038	J	0.020	LOD	0.051	LOQ	mg/Kg	J	RI

Sample ID: **HBGR-BT1-SS007-0.5** ***Collected:*** **2/28/2017 10:45:00 AM** ***Analysis Type:*** **Initial** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
MERCURY	0.036	J	0.021	LOD	0.052	LOQ	mg/Kg	J	RI

Sample ID: **HBGR-BT1-SS008-0.5** ***Collected:*** **2/28/2017 11:15:00 AM** ***Analysis Type:*** **Initial** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
MERCURY	0.034	J	0.019	LOD	0.049	LOQ	mg/Kg	J	RI

Sample ID: **HBGR-BT1-SS009-0.5** ***Collected:*** **2/28/2017 10:15:00 AM** ***Analysis Type:*** **Initial** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
MERCURY	0.029	J	0.020	LOD	0.051	LOQ	mg/Kg	J	RI

* denotes a non-reportable result

Project Name and Number: - USACE Project: Hammond BGR; Hammond, LA

Data Qualifier Summary

Lab Reporting Batch ID: FA41687 **Laboratory: ACTO**

EDD Filename: FA41687-SEDD_2a_1 **eQAPP Name: Hammond B and G Range**

Method Category: METALS

Method: 7471B Matrix: Soil

Sample ID: HBGR-BT1-SS010-0.5 **Collected:** 2/28/2017 11:25:00 AM **Analysis Type:** Initial **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
MERCURY	0.033	J	0.021	LOD	0.052	LOQ	mg/Kg	J	RI

Sample ID: HBGR-BT1-SS101-0.5 **Collected:** 2/28/2017 3:35:00 PM **Analysis Type:** Initial **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
MERCURY	0.040	J	0.022	LOD	0.055	LOQ	mg/Kg	J	RI

Sample ID: HBGR-BT1-SS201-0.5 **Collected:** 2/28/2017 9:35:00 AM **Analysis Type:** Initial **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
MERCURY	0.019	J	0.020	LOD	0.050	LOQ	mg/Kg	J	RI

Method Category: SVOA

Method: 8330B Matrix: Soil

Sample ID: HBGR-BT1-SS001-0.5 **Collected:** 2/28/2017 9:35:00 AM **Analysis Type:** Initial **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
4-AMINO-2,6-DINITROTOLUENE	0.074	U	0.074	LOD	0.099	LOQ	mg/Kg	UJ	Lcs
Tetryl	0.074	U	0.074	LOD	0.099	LOQ	mg/Kg	UJ	Lcs

Sample ID: HBGR-BT1-SS002-0.5 **Collected:** 2/28/2017 9:57:00 AM **Analysis Type:** Initial **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
4-AMINO-2,6-DINITROTOLUENE	0.075	U	0.075	LOD	0.10	LOQ	mg/Kg	UJ	Lcs
Tetryl	0.075	U	0.075	LOD	0.10	LOQ	mg/Kg	UJ	Lcs

Sample ID: HBGR-BT1-SS003-0.5 **Collected:** 2/28/2017 9:25:00 AM **Analysis Type:** Initial **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
4-AMINO-2,6-DINITROTOLUENE	0.075	U	0.075	LOD	0.10	LOQ	mg/Kg	UJ	Lcs
Tetryl	0.075	U	0.075	LOD	0.10	LOQ	mg/Kg	UJ	Lcs

* denotes a non-reportable result

Project Name and Number: - USACE Project: Hammond BGR; Hammond, LA

Data Qualifier Summary

Lab Reporting Batch ID: FA41687 **Laboratory: ACTO**

EDD Filename: FA41687-SEDD_2a_1 **eQAPP Name: Hammond B and G Range**

Method Category: **SVOA**

Method: **8330B** ***Matrix:*** **Soil**

Sample ID: **HBGR-BT1-SS004-0.5** ***Collected:*** **2/28/2017 9:51:00 AM** ***Analysis Type:*** **Initial** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
4-AMINO-2,6-DINITROTOLUENE	0.074	U	0.074	LOD	0.099	LOQ	mg/Kg	UJ	Lcs
Tetryl	0.074	U	0.074	LOD	0.099	LOQ	mg/Kg	UJ	Lcs

Sample ID: **HBGR-BT1-SS005-0.5** ***Collected:*** **2/28/2017 10:42:00 AM** ***Analysis Type:*** **Initial** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
4-AMINO-2,6-DINITROTOLUENE	0.075	U	0.075	LOD	0.10	LOQ	mg/Kg	UJ	Lcs
Tetryl	0.075	U	0.075	LOD	0.10	LOQ	mg/Kg	UJ	Lcs

Sample ID: **HBGR-BT1-SS006-0.5** ***Collected:*** **2/28/2017 9:30:00 AM** ***Analysis Type:*** **Initial** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
4-AMINO-2,6-DINITROTOLUENE	0.074	U	0.074	LOD	0.099	LOQ	mg/Kg	UJ	Lcs
Tetryl	0.074	U	0.074	LOD	0.099	LOQ	mg/Kg	UJ	Lcs

Sample ID: **HBGR-BT1-SS007-0.5** ***Collected:*** **2/28/2017 10:45:00 AM** ***Analysis Type:*** **Initial** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
4-AMINO-2,6-DINITROTOLUENE	0.074	U	0.074	LOD	0.099	LOQ	mg/Kg	UJ	Lcs
Tetryl	0.074	U	0.074	LOD	0.099	LOQ	mg/Kg	UJ	Lcs

Sample ID: **HBGR-BT1-SS008-0.5** ***Collected:*** **2/28/2017 11:15:00 AM** ***Analysis Type:*** **Initial** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,3,5-TRINITROBENZENE	0.075	U	0.075	LOD	0.10	LOQ	mg/Kg	UJ	StoE
1,3-DINITROBENZENE	0.075	U	0.075	LOD	0.10	LOQ	mg/Kg	UJ	StoE
2,4,6-TRINITROTOLUENE	0.075	U	0.075	LOD	0.10	LOQ	mg/Kg	UJ	StoE
2,4-DINITROTOLUENE	0.075	U	0.075	LOD	0.10	LOQ	mg/Kg	UJ	StoE
2,6-DINITROTOLUENE	0.075	U	0.075	LOD	0.10	LOQ	mg/Kg	UJ	StoE
2-AMINO-4,6-DINITROTOLUENE	0.075	U	0.075	LOD	0.10	LOQ	mg/Kg	UJ	StoE
2-NITROTOLUENE	0.075	U	0.075	LOD	0.10	LOQ	mg/Kg	UJ	StoE
3,5-Dinitroaniline	0.075	U	0.075	LOD	0.10	LOQ	mg/Kg	UJ	StoE
3-NITROTOLUENE	0.075	U	0.075	LOD	0.10	LOQ	mg/Kg	UJ	StoE
4-AMINO-2,6-DINITROTOLUENE	0.075	U	0.075	LOD	0.10	LOQ	mg/Kg	UJ	Ms, Lcs, StoE
4-NITROTOLUENE	0.075	U	0.075	LOD	0.10	LOQ	mg/Kg	UJ	StoE

* denotes a non-reportable result

Project Name and Number: - USACE Project: Hammond BGR; Hammond, LA

Data Qualifier Summary

Lab Reporting Batch ID: FA41687 **Laboratory: ACTO**

EDD Filename: FA41687-SEDD_2a_1 **eQAPP Name: Hammond B and G Range**

Method Category: SVOA

Method: 8330B **Matrix: Soil**

Sample ID: HBGR-BT1-SS008-0.5 **Collected: 2/28/2017 11:15:00 AM** **Analysis Type: Initial** **Dilution: 1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
HMX	0.075	U	0.075	LOD	0.10	LOQ	mg/Kg	UJ	StoE
NITROBENZENE	0.075	U	0.075	LOD	0.10	LOQ	mg/Kg	UJ	StoE
NITROGLYCERINE	0.50	U	0.50	LOD	1.0	LOQ	mg/Kg	UJ	StoE
PETN	0.50	U	0.50	LOD	1.0	LOQ	mg/Kg	UJ	StoE
RDX	0.075	U	0.075	LOD	0.10	LOQ	mg/Kg	UJ	StoE
Tetryl	0.075	U	0.075	LOD	0.10	LOQ	mg/Kg	UJ	Lcs, StoE

Sample ID: HBGR-BT1-SS009-0.5 **Collected: 2/28/2017 10:15:00 AM** **Analysis Type: Initial** **Dilution: 1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
4-AMINO-2,6-DINITROTOLUENE	0.075	U	0.075	LOD	0.10	LOQ	mg/Kg	UJ	Lcs
Tetryl	0.075	U	0.075	LOD	0.10	LOQ	mg/Kg	UJ	Lcs

Sample ID: HBGR-BT1-SS010-0.5 **Collected: 2/28/2017 11:25:00 AM** **Analysis Type: Initial** **Dilution: 1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
4-AMINO-2,6-DINITROTOLUENE	0.075	U	0.075	LOD	0.10	LOQ	mg/Kg	UJ	Lcs
Tetryl	0.075	U	0.075	LOD	0.10	LOQ	mg/Kg	UJ	Lcs

Sample ID: HBGR-BT1-SS101-0.5 **Collected: 2/28/2017 3:35:00 PM** **Analysis Type: Initial** **Dilution: 1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
4-AMINO-2,6-DINITROTOLUENE	0.074	U	0.074	LOD	0.099	LOQ	mg/Kg	UJ	Lcs
Tetryl	0.074	U	0.074	LOD	0.099	LOQ	mg/Kg	UJ	Lcs

Sample ID: HBGR-BT1-SS201-0.5 **Collected: 2/28/2017 9:35:00 AM** **Analysis Type: Initial** **Dilution: 1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
4-AMINO-2,6-DINITROTOLUENE	0.074	U	0.074	LOD	0.099	LOQ	mg/Kg	UJ	Lcs
Tetryl	0.074	U	0.074	LOD	0.099	LOQ	mg/Kg	UJ	Lcs

* denotes a non-reportable result

Project Name and Number: - USACE Project: Hammond BGR; Hammond, LA

Data Qualifier Summary

Lab Reporting Batch ID: FA41687 **Laboratory: ACTO**

EDD Filename: FA41687-SEDD_2a_1 **eQAPP Name: Hammond B and G Range**

Reason Code Legend

Reason Code	*Description*
Ft	Field Triplicate Precision
Lcs	Laboratory Control Spike Lower Estimation
Lcs	Laboratory Control Spike Upper Estimation
Ld	Laboratory Duplicate Precision
Mb	Method Blank Contamination
Ms	Matrix Spike Lower Estimation
Rl	Reporting Limit Trace Value
StoE	Sampling to Extraction Estimation

* denotes a non-reportable result

Project Name and Number: - USACE Project: Hammond BGR; Hammond, LA

Reporting Limit Outliers

Lab Reporting Batch ID: FA41687 **Laboratory: ACTO**

EDD Filename: FA41687-SEDD_2a_1_rev **eQAPP Name: Hammond B and G Range**

Method: 6010C

Matrix: Soil

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
HBGR-BT1-SS001-0.5	BERYLLIUM	J	0.082	0.29	LOQ	mg/Kg	
	CALCIUM	J	30.5	290	LOQ	mg/Kg	
	COBALT	J	0.41	2.9	LOQ	mg/Kg	
	COPPER	J	0.96	1.5	LOQ	mg/Kg	J (all detects)
	MAGNESIUM	J	120	290	LOQ	mg/Kg	
	NICKEL	J	0.86	2.4	LOQ	mg/Kg	
	POTASSIUM	J	58.0	590	LOQ	mg/Kg	
HBGR-BT1-SS002-0.5	ANTIMONY	J	0.10	1.2	LOQ	mg/Kg	
	BERYLLIUM	J	0.19	0.29	LOQ	mg/Kg	
	CALCIUM	J	48.2	290	LOQ	mg/Kg	
	COBALT	J	1.0	2.9	LOQ	mg/Kg	
	COPPER	J	1.3	1.5	LOQ	mg/Kg	J (all detects)
	MAGNESIUM	J	151	290	LOQ	mg/Kg	
	NICKEL	J	1.3	2.4	LOQ	mg/Kg	
	POTASSIUM	J	82.7	590	LOQ	mg/Kg	
	SELENIUM	J	0.21	1.2	LOQ	mg/Kg	
HBGR-BT1-SS003-0.5	BERYLLIUM	J	0.16	0.27	LOQ	mg/Kg	
	CALCIUM	J	44.9	270	LOQ	mg/Kg	
	COBALT	J	0.55	2.7	LOQ	mg/Kg	
	MAGNESIUM	J	265	270	LOQ	mg/Kg	J (all detects)
	NICKEL	J	1.8	2.2	LOQ	mg/Kg	
	POTASSIUM	J	123	540	LOQ	mg/Kg	
	SELENIUM	J	0.31	1.1	LOQ	mg/Kg	
HBGR-BT1-SS004-0.5	BERYLLIUM	J	0.10	0.30	LOQ	mg/Kg	
	CALCIUM	J	28.8	300	LOQ	mg/Kg	
	COBALT	J	0.61	3.0	LOQ	mg/Kg	
	COPPER	J	0.93	1.5	LOQ	mg/Kg	J (all detects)
	MAGNESIUM	J	174	300	LOQ	mg/Kg	
	NICKEL	J	1.4	2.4	LOQ	mg/Kg	
	POTASSIUM	J	93.7	610	LOQ	mg/Kg	
HBGR-BT1-SS005-0.5	BERYLLIUM	J	0.12	0.32	LOQ	mg/Kg	
	CALCIUM	J	26.9	320	LOQ	mg/Kg	
	COBALT	J	0.47	3.2	LOQ	mg/Kg	
	COPPER	J	0.76	1.6	LOQ	mg/Kg	J (all detects)
	MAGNESIUM	J	113	320	LOQ	mg/Kg	
	NICKEL	J	0.97	2.5	LOQ	mg/Kg	
	POTASSIUM	J	64.3	630	LOQ	mg/Kg	
HBGR-BT1-SS006-0.5	BERYLLIUM	J	0.20	0.31	LOQ	mg/Kg	
	CALCIUM	J	307	310	LOQ	mg/Kg	
	COBALT	J	0.88	3.1	LOQ	mg/Kg	
	MAGNESIUM	J	211	310	LOQ	mg/Kg	J (all detects)
	NICKEL	J	1.9	2.5	LOQ	mg/Kg	
	POTASSIUM	J	133	620	LOQ	mg/Kg	
HBGR-BT1-SS007-0.5	BERYLLIUM	J	0.23	0.32	LOQ	mg/Kg	
	CALCIUM	J	180	320	LOQ	mg/Kg	
	COBALT	J	0.57	3.2	LOQ	mg/Kg	
	COPPER	J	1.2	1.6	LOQ	mg/Kg	J (all detects)
	MAGNESIUM	J	143	320	LOQ	mg/Kg	
	NICKEL	J	1.3	2.6	LOQ	mg/Kg	
	POTASSIUM	J	82.3	650	LOQ	mg/Kg	
HBGR-BT1-SS008-0.5	CALCIUM	J	241	300	LOQ	mg/Kg	
	COBALT	J	1.4	3.0	LOQ	mg/Kg	
	MAGNESIUM	J	278	300	LOQ	mg/Kg	J (all detects)
	POTASSIUM	J	176	600	LOQ	mg/Kg	
HBGR-BT1-SS009-0.5	BERYLLIUM	J	0.19	0.29	LOQ	mg/Kg	
	COBALT	J	1.1	2.9	LOQ	mg/Kg	
	MAGNESIUM	J	203	290	LOQ	mg/Kg	J (all detects)
	NICKEL	J	1.7	2.3	LOQ	mg/Kg	
	POTASSIUM	J	102	580	LOQ	mg/Kg	

Project Name and Number: - USACE Project: USACE Project: Hammond BGR; Hammond, LA

Reporting Limit Outliers

Lab Reporting Batch ID: FA41687 **Laboratory: ACTO**

EDD Filename: FA41687-SEDD_2a_1_rev **eQAPP Name: Hammond B and G Range**

Method: 6010C

Matrix: Soil

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
HBGR-BT1-SS010-0.5	BERYLLIUM	J	0.15	0.34	LOQ	mg/Kg	J (all detects)
	CALCIUM	J	127	340	LOQ	mg/Kg	
	COBALT	J	0.80	3.4	LOQ	mg/Kg	
	COPPER	J	1.2	1.7	LOQ	mg/Kg	
	MAGNESIUM	J	175	340	LOQ	mg/Kg	
	NICKEL	J	1.4	2.7	LOQ	mg/Kg	
	POTASSIUM	J	110	670	LOQ	mg/Kg	
	SELENIUM	J	0.17	1.3	LOQ	mg/Kg	
HBGR-BT1-SS101-0.5	ANTIMONY	J	0.74	1.4	LOQ	mg/Kg	J (all detects)
	BERYLLIUM	J	0.22	0.34	LOQ	mg/Kg	
	CALCIUM	J	24.3	340	LOQ	mg/Kg	
	COBALT	J	0.99	3.4	LOQ	mg/Kg	
	COPPER	J	1.6	1.7	LOQ	mg/Kg	
	MAGNESIUM	J	139	340	LOQ	mg/Kg	
	NICKEL	J	1.9	2.8	LOQ	mg/Kg	
	POTASSIUM	J	69.6	690	LOQ	mg/Kg	
HBGR-BT1-SS201-0.5	ANTIMONY	J	0.18	1.2	LOQ	mg/Kg	J (all detects)
	BERYLLIUM	J	0.10	0.30	LOQ	mg/Kg	
	CALCIUM	J	33.1	300	LOQ	mg/Kg	
	COBALT	J	0.51	3.0	LOQ	mg/Kg	
	COPPER	J	1.0	1.5	LOQ	mg/Kg	
	MAGNESIUM	J	137	300	LOQ	mg/Kg	
	NICKEL	J	0.96	2.4	LOQ	mg/Kg	
	POTASSIUM	J	67.7	600	LOQ	mg/Kg	
	SELENIUM	J	0.22	1.2	LOQ	mg/Kg	

Method: 7471B

Matrix: Soil

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
HBGR-BT1-SS001-0.5	MERCURY	J	0.023	0.049	LOQ	mg/Kg	J (all detects)
HBGR-BT1-SS002-0.5	MERCURY	J	0.037	0.050	LOQ	mg/Kg	J (all detects)
HBGR-BT1-SS004-0.5	MERCURY	J	0.027	0.048	LOQ	mg/Kg	J (all detects)
HBGR-BT1-SS005-0.5	MERCURY	J	0.030	0.051	LOQ	mg/Kg	J (all detects)
HBGR-BT1-SS006-0.5	MERCURY	J	0.038	0.051	LOQ	mg/Kg	J (all detects)
HBGR-BT1-SS007-0.5	MERCURY	J	0.036	0.052	LOQ	mg/Kg	J (all detects)
HBGR-BT1-SS008-0.5	MERCURY	J	0.034	0.049	LOQ	mg/Kg	J (all detects)
HBGR-BT1-SS009-0.5	MERCURY	J	0.029	0.051	LOQ	mg/Kg	J (all detects)
HBGR-BT1-SS010-0.5	MERCURY	J	0.033	0.052	LOQ	mg/Kg	J (all detects)
HBGR-BT1-SS101-0.5	MERCURY	J	0.040	0.055	LOQ	mg/Kg	J (all detects)
HBGR-BT1-SS201-0.5	MERCURY	J	0.019	0.050	LOQ	mg/Kg	J (all detects)

Surrogate Outlier Report

Lab Reporting Batch ID: FA41687 **Laboratory: ACTO**

EDD Filename: FA41687-SEDD_2a_1_rev **eQAPP Name: Hammond B and G Range**

No Data Review Qualifiers Applied.

EDD Warning Log

Lab Reporting Batch ID: FA41687

eQAPP: Hammond B and G Range **Laboratory: ACTO**

Table	Line #	Column	Value	Warning #	Description
NA				80	This following combination of data elements are reported in multiple SamplePlusMethod nodes making it non-compliant according to SEDD specifications. ClientSampleID: 'HBGR-BT1-SS003-0.5DUP', CollectedDate: '02/28/2017 09:25', ClientMethodID: '8330B', QCType: 'Duplicate'. QC Type mis-matches between the EDD and eQAPP can cause this message to display.
NA				80	This following combination of data elements are reported in multiple SamplePlusMethod nodes making it non-compliant according to SEDD specifications. ClientSampleID: 'HBGR-BT1-SS008-0.5DUP', CollectedDate: '02/28/2017 11:15', ClientMethodID: '8330B', QCType: 'Duplicate'. QC Type mis-matches between the EDD and eQAPP can cause this message to display.
Sample Methods	47	PreparationBatch	OP64158	8	More than one record with QC Type 'Laboratory_Control_Sample' is reported in Preparation Batch 'OP64158' for Method '8330B' and Matrix 'Soil'.
Sample Methods	53	PreparationBatch	OP64158	8	More than one record with QC Type 'Laboratory_Control_Sample' is reported in Preparation Batch 'OP64158' for Method '8330B' and Matrix 'Soil'.
Sample Methods	48	MethodBatch	GBB1559	7	More than one record with QC Type 'Duplicate' is reported in Method Batch 'GBB1559' for Method '8330B' and Matrix 'Soil'.
Sample Methods	49	MethodBatch	GBB1559	7	More than one record with QC Type 'Duplicate' is reported in Method Batch 'GBB1559' for Method '8330B' and Matrix 'Soil'.
Sample Methods	54	PreparationBatch	OP64214	8	More than one record with QC Type 'Laboratory_Control_Sample' is reported in Preparation Batch 'OP64214' for Method '8330B' and Matrix 'Soil'.
Sample Methods	60	PreparationBatch	OP64214	8	More than one record with QC Type 'Laboratory_Control_Sample' is reported in Preparation Batch 'OP64214' for Method '8330B' and Matrix 'Soil'.
Sample Methods	55	MethodBatch	GBB1560	7	More than one record with QC Type 'Duplicate' is reported in Method Batch 'GBB1560' for Method '8330B' and Matrix 'Soil'.
Sample Methods	56	MethodBatch	GBB1560	7	More than one record with QC Type 'Duplicate' is reported in Method Batch 'GBB1560' for Method '8330B' and Matrix 'Soil'.

EDD Warning Log

Lab Reporting Batch ID: FA41687

eQAPP: Hammond B and G Range Rev 1 **Laboratory: ACTO**

Table	Line #	Column	Value	Warning #	Description
NA				80	This following combination of data elements are reported in multiple SamplePlusMethod nodes making it non-compliant according to SEDD specifications. ClientSampleID: 'HBGR-BT1-SS003-0.5DUP', CollectedDate: '02/28/2017 09:25', ClientMethodID: '8330B', QCType: 'Duplicate'. QC Type mis-matches between the EDD and eQAPP can cause this message to display.
Lab Comments:	Lab prepared and ran this QC sample multiple times. CMA 03/23/2017				
NA				80	This following combination of data elements are reported in multiple SamplePlusMethod nodes making it non-compliant according to SEDD specifications. ClientSampleID: 'HBGR-BT1-SS008-0.5DUP', CollectedDate: '02/28/2017 11:15', ClientMethodID: '8330B', QCType: 'Duplicate'. QC Type mis-matches between the EDD and eQAPP can cause this message to display.
Lab Comments:	Lab prepared and ran this QC sample multiple times. CMA 03/23/2017				
Sample Methods	47	PreparationBatch	OP64158	8	More than one record with QC Type 'Laboratory_Control_Sample' is reported in Preparation Batch 'OP64158' for Method '8330B' and Matrix 'Soil'.
Lab Comments:	Lab prepared and ran this QC sample multiple times. CMA 03/23/2017				
Sample Methods	53	PreparationBatch	OP64158	8	More than one record with QC Type 'Laboratory_Control_Sample' is reported in Preparation Batch 'OP64158' for Method '8330B' and Matrix 'Soil'.
Lab Comments:	Lab prepared and ran this QC sample multiple times. CMA 03/23/2017				
Sample Methods	48	MethodBatch	GBB1559	7	More than one record with QC Type 'Duplicate' is reported in Method Batch 'GBB1559' for Method '8330B' and Matrix 'Soil'.
Lab Comments:	Lab prepared and ran this QC sample multiple times. CMA 03/23/2017				
Sample Methods	49	MethodBatch	GBB1559	7	More than one record with QC Type 'Duplicate' is reported in Method Batch 'GBB1559' for Method '8330B' and Matrix 'Soil'.
Lab Comments:	Lab prepared and ran this QC sample multiple times. CMA 03/23/2017				
Sample Methods	54	PreparationBatch	OP64214	8	More than one record with QC Type 'Laboratory_Control_Sample' is reported in Preparation Batch 'OP64214' for Method '8330B' and Matrix 'Soil'.
Lab Comments:	Lab prepared and ran this QC sample multiple times. CMA 03/23/2017				
Sample Methods	60	PreparationBatch	OP64214	8	More than one record with QC Type 'Laboratory_Control_Sample' is reported in Preparation Batch 'OP64214' for Method '8330B' and Matrix 'Soil'.
Lab Comments:	Lab prepared and ran this QC sample multiple times. CMA 03/23/2017				
Sample Methods	55	MethodBatch	GBB1560	7	More than one record with QC Type 'Duplicate' is reported in Method Batch 'GBB1560' for Method '8330B' and Matrix 'Soil'.
Lab Comments:	Lab prepared and ran this QC sample multiple times. CMA 03/23/2017				
Sample Methods	56	MethodBatch	GBB1560	7	More than one record with QC Type 'Duplicate' is reported in Method Batch 'GBB1560' for Method '8330B' and Matrix 'Soil'.
Lab Comments:	Lab prepared and ran this QC sample multiple times. CMA 03/23/2017				

Baseline Conditions - NCMUA

Matrix 1. Likelihood of Encounter

Likelihood of Encounter, Matrix 1: Amount of MEC vs. Access Conditions		Access Conditions (frequency of use)			
		Regular (e.g., daily use, open access)	**Often** (e.g., less regular or periodic use, some access)	**Intermittent** (e.g., some irregular use, or access limited)	**Rare** (e.g., very limited use, access prevented)
Amount of MEC	• MEC is visible on the surface and detected in the subsurface.	**Frequent**	**Frequent**	**Likely**	**Occasional**
	• The area is identified as a Concentrated Munitions Use Area (CMUA) where MEC is known or suspected (e.g., MD indicative of MEC is identified) to be present in surface and subsurface.	**Frequent**	**Likely**	**Occasional**	**Seldom**
	• MEC presence based on physical evidence (e.g., MD indicative of MEC), although the area is not a CMUA, or • The MEC concentration is below a project-specific threshold to support this selection (e.g., less than 1.0/acre at 95% confidence).	**Likely**	**Occasional**	**Seldom**	**Unlikely**
	• MEC presence is based on isolated historical discoveries (e.g., EOD report), or • A DERP response action has been conducted to physically remove surface MEC and known or suspected hazard remains to support this selection (e.g., surface removal where subsurface not addressed, or • The MEC concentration is below a project-specific threshold to support this selection (e.g., less than 0.5/acre at 95% confidence).	**Occasional**	**Seldom**	**Unlikely**	**Unlikely**
	• MEC presence is suspected based on historical evidence of munitions use only, or • A DERP response action has been conducted to physically remove surface and subsurface MEC (evidence that some residual hazard remains to support this selection, or • The MEC concentration is below a project-specific threshold to support this selection (e.g., less than 0.25/acre at 95% confidence).	**Seldom**	**Seldom**	**Unlikely**	**Unlikely**
	• Investigation of the MRS did not identify evidence of MEC presence, or • A DERP response action has been conducted that will achieve UU/UE.	**Unlikely**	**Unlikely**	**Unlikely**	**Unlikely**

Amount of MEC Justification: Outside of the CMUA there were no MEC items discovered, only small MD items, (Fuzes, Indeterminate frag pieces, etc). Since no MEC was found in the NCMUA then "Amount of MEC" rating would be "Investigation of MRS did not identify evidence of MEC presence."

Access Conditions Justification: The former Hammond BGR is not completely fenced and visitors/trespassers could potentially access the site with relative ease. The northern portion of the BT1 MRS is accessible by the general public. A gate and fencing is located on Riverdale Heights Road that separates the residential area from the timber and hunting area within the MRS. Therefore, the "Access Condition" is scored as "Often."

The amount of MEC and access conditions within NCMUA gives a score result of "Likelihood of Encounter" rating of "Unlikely" for the under baseline conditions.

Matrix 2. Severity of Incident

Severity of Explosive Incident, Matrix 2: Severity vs. Likelihood of Encounter		**Likelihood of Encounter**				
		Frequent: Regular, or inevitable occurrences	**Likely:** Several or numerous occurrences	**Occasional:** Sporadic or intermittent occurrences	**Seldom:** Infrequent, rare occurrences	**Unlikely:** Not probable
Severity Associated with Specific Munitions items	**Catastrophic/Critical:** May result in 1 or more deaths, permanent total or partial disability, or hospitalization	A	A	B	B	D
	Modest: May result in 1 (or more) injury resulting in emergency medical treatment, without hospitalization	B	B	B	C	D
	Minor: May result in 1 or more injuries requiring first aid or medical treatment	B	C	C	C	D
	Improbable: No injury is anticipated	D	D	D	D	D

"A" indicates conditions most likely to result in determination of an unacceptable risk.
"D" indicates conditions most likely to result in determination of an acceptable risk.

Severity Justification: Outside of the CMUA there were no MEC items discovered, only small MD items (Fuzes, Indeterminate frag pieces, etc). Although these are not explosives, some Fuzes along with left over black powder may still be left in some items. Since decommissioning Hammond, there have been no incidents relating to injury from MEC/MD items at the site. So the "Severity" rank would be given an "Improbable."

The previously determined Matrix 1 result of "Unlikely" in combination with the severity score of "Minor" results in a "Severity of Incident" of "D" for the NCMUA under baseline conditions.

Matrix 3. Likelihood of Detonation

Likelihood of Detonation, Matrix 3: Munitions Sensitivity vs. Likelihood of Energy to be Imparted		**Likelihood to Impart Energy on an Item**		
		High e.g., areas planned for development, or seasonally tilled	***Modest*** e.g., undeveloped, wildlife refuge, parks	***Inconsequential*** e.g., not anticipated, prevented, mitigated
Sensitivity: Susceptibility to Detonation	***High*** (e.g., classified as sensitive)	1	1	3
	Moderate (e.g., high explosive (HE) or pyrotechnics)	1	2	3
	Low (e.g., propellant or bulk secondary explosives)	1	3	3
	Not Sensitive	2	3	3

Sensitivity Justification: Outside of the CMUA there were no MEC items discovered, only small MD items (Fuzes, Indeterminate frag pieces, etc). Although these are not explosives, some Fuzes along with left over black powder may still be left in some items. Therefore the "Sensitivity" is scored as "Low."

Likelihood to Impart Energy Justification: It is noted that most of the NCMUA is used for hunting and logging of trees. These activities have been conducted for years without incident. With a history of no incidents the rank "Likelihood to Impart Energy on an Item" is scored as "Modest."

The sensitivity and likelihood to impart energy scores result in a "Likelihood of Detonation" of "3" for the NCMUA under baseline conditions.

Matrix 4: Acceptable and Unacceptable Site Conditions

Acceptable and Unacceptable Site Conditions		Result From Matrix 2			
		A	B	C	D
Result from Matrix 3	1	**Unacceptable**	**Unacceptable**	**Unacceptable**	**Acceptable**
	2	**Unacceptable**	**Unacceptable**	**Acceptable**	**Acceptable**
	3	**Unacceptable**	**Acceptable**	**Acceptable**	**Acceptable**

The Matrix 2 “Severity of Incident” result is “C.”

The Matrix 3 “Likelihood of Detonation” result is “2.”

Based on the previously determined matrix results, the NCMUA is judged to have “Acceptable” baseline site conditions.

Baseline Conditions - CMUA

Matrix 1. Likelihood of Encounter

Likelihood of Encounter, Matrix 1: Amount of MEC vs. Access Conditions		Access Conditions (frequency of use)			
		Regular (e.g., daily use, open access)	**Often** (e.g., less regular or periodic use, some access)	**Intermittent** (e.g., some irregular use, or access limited)	**Rare** (e.g., very limited use, access prevented)
Amount of MEC	• MEC is visible on the surface and detected in the subsurface.	**Frequent**	**Frequent**	**Likely**	**Occasional**
	• The area is identified as a Concentrated Munitions Use Area (CMUA) where MEC is known or suspected (e.g., MD indicative of MEC is identified) to be present in surface and subsurface.	**Frequent**	**Likely**	**Occasional**	**Seldom**
	• MEC presence based on physical evidence (e.g., MD indicative of MEC), although the area is not a CMUA, or • The MEC concentration is below a project-specific threshold to support this selection (e.g., less than 1.0/acre at 95% confidence).	**Likely**	**Occasional**	**Seldom**	**Unlikely**
	• MEC presence is based on isolated historical discoveries (e.g., EOD report), or • A DERP response action has been conducted to physically remove surface MEC and known or suspected hazard remains to support this selection (e.g., surface removal where subsurface not addressed, or • The MEC concentration is below a project-specific threshold to support this selection (e.g., less than 0.5/acre at 95% confidence).	**Occasional**	**Seldom**	**Unlikely**	**Unlikely**
	• MEC presence is suspected based on historical evidence of munitions use only, or • A DERP response action has been conducted to physically remove surface and subsurface MEC (evidence that some residual hazard remains to support this selection, or • The MEC concentration is below a project-specific threshold to support this selection (e.g., less than 0.25/acre at 95% confidence).	**Seldom**	**Seldom**	**Unlikely**	**Unlikely**
	• Investigation of the MRS did not identify evidence of MEC presence, or • A DERP response action has been conducted that will achieve UU/UE.	**Unlikely**	**Unlikely**	**Unlikely**	**Unlikely**

Amount of MEC Justification: The recently completed RI discovered 9 MEC items (8 pieces of M50 Incendiary Bomb and 1 M30A1 100 lb GP Bomb (1 entire bomb)), Using the VSP, it was found that within the entire BT1 MRS boundary there was a smaller more concentrated area where MEC was found. This smaller zone had an anomaly density of greater than 17 anomalies per acre and MEC was recovered within the CMUA. Therefore, the "Amount of MEC" is scored as a "Concentrated Munitions Use Area (CMUA)."

Access Conditions Justification: The former Hammond BGR is not completely fenced and visitors/trespassers could potentially access the site with relative ease. The northern portion of the BT1 MRS is accessible by the general public. A gate and fencing is located on Riverdale Heights Road that separates the residential area from the timber and hunting area within the MRS. Therefore, the "Access Condition" is scored as "Often."

The amount of MEC and access conditions within BT1 MRS gives a score result of "Likelihood of Encounter" rating of "Likely" under baseline conditions.

Matrix 2. Severity of Incident

Severity of Explosive Incident, Matrix 2: Severity vs. Likelihood of Encounter		**Likelihood of Encounter**				
		Frequent: Regular, or inevitable occurrences	**Likely:** Several or numerous occurrences	**Occasional:** Sporadic or intermittent occurrences	**Seldom:** Infrequent, rare occurrences	**Unlikely:** Not probable
Severity Associated with Specific Munitions items	**Catastrophic/Critical:** May result in 1 or more deaths, permanent total or partial disability, or hospitalization	A	A	B	B	D
	Modest: May result in 1 (or more) injury resulting in emergency medical treatment, without hospitalization	B	B	B	C	D
	Minor: May result in 1 or more injuries requiring first aid or medical treatment	B	C	C	C	D
	Improbable: No injury is anticipated	D	D	D	D	D

"A" indicates conditions most likely to result in determination of an unacceptable risk.
"D" indicates conditions most likely to result in determination of an acceptable risk.

Severity Justification: MEC items identified during the RI included 8 pieces of M50 Incendiary Bomb and 1 100-lb GP Bomb. These types of MEC contain high explosives (HE). Based on the potential for HE containing MEC items, the "Severity Associated with Specific Munitions Items" is scored in the most serious condition, as "Catastrophic/Critical."

The previously determined Matrix 1 result of "Likely" in combination with the severity score of "Catastrophic/Critical" results in a "Severity of Incident" of "A" for the BT1 MRS under baseline conditions.

Matrix 3. Likelihood of Detonation

Likelihood of Detonation, Matrix 3: Munitions Sensitivity vs. Likelihood of Energy to be Imparted		**Likelihood to Impart Energy on an Item**		
		High e.g., areas planned for development, or seasonally tilled	***Modest*** e.g., undeveloped, wildlife refuge, parks	***Inconsequential*** e.g., not anticipated, prevented, mitigated
Sensitivity: Susceptibility to Detonation	***High*** (e.g., classified as sensitive)	1	1	3
	Moderate (e.g., high explosive (HE) or pyrotechnics)	1	2	3
	Low (e.g., propellant or bulk secondary explosives)	1	3	3
	Not Sensitive	2	3	3

Sensitivity Justification: The MEC items (Incendiary bombs and 100-lb bombs) that were discovered during the RI contain high explosive (HE). Therefore, the "Sensitivity" is scored as moderate.

Likelihood to Impart Energy Justification: It is noted that most of the BT1 MRS is used for hunting and logging of trees, as well as the northwest corner having residential locations. With no history of incidents, the rank "Likelihood to Impart Energy on an Item" is scored as "modest."

The sensitivity and likelihood to impart energy scores result in a "Likelihood of Detonation" of "2" for the BT1 MRS under baseline conditions.

Matrix 4: Acceptable and Unacceptable Site Conditions

Acceptable and Unacceptable Site Conditions		Result From Matrix 2			
		A	B	C	D
Result from Matrix 3	1	**Unacceptable**	**Unacceptable**	**Unacceptable**	**Acceptable**
	2	**Unacceptable**	**Unacceptable**	**Acceptable**	**Acceptable**
	3	**Unacceptable**	**Acceptable**	**Acceptable**	**Acceptable**

The Matrix 2 “Severity of Incident” result is “A.”

The Matrix 3 “Likelihood of Detonation” result is “2.”

Based on the previously determined matrix results, the BT1 MRS is judged to have “Unacceptable” baseline site conditions.

Table A
MRS Background Information

DIRECTIONS: Record the background information below for the MRS to be evaluated. Much of this information is available from Service and DoD databases. If the MRS is located on a FUDS property, the suitable FUDS property information should be substituted. In the **MRS Summary**, briefly describe the UXO, DMM, or MC that are known or suspected to be present, the exposure setting (the MRS's physical environment), any other incidental nonmunitions-related contaminants (e.g., benzene, trichloroethylene) found at the MRS, and any potentially exposed human and ecological receptors. If possible, include a map of the MRS.

Munitions Response Site Name: Bomb Target #1

Component: United States Army

Installation/Property Name: Former Hammond Bombing and Gunnery Range

Location (City, County, State): Hammond, Tangipahoa Parish, LA

Site Name (RMIS ID)/Project Name (Project No.): RMIS A06LA030901R01 / Project A06LA0309 / FFID LA69799F803900

Date Information Entered/Updated: August 10, 2017

Point of Contact (Name/Phone): Carlos Duarte, CESWF, (817) 886-1884

Project Phase (check only one):

❑ PA	❑ SI	☒ RI	❑ FS	❑ R□
❑ RA-C	❑ □IP	❑ □A□O	❑ RC	❑ LTM

Media Evaluated (check all that apply):

❑ Groundwater	❑ Sediment (human receptor)
☒ Surface soil	❑ Surface Water (ecological receptor)
❑ Sediment (ecological receptor)	❑ Surface Water (human receptor)

MRS Summary: Describe the munitions-related activities that occurred at the installation, the dates of operation, and the UXO, DMM, or MC known or suspected to be present. When possible, identify munitions, CWM, and MC by type:

Former Hammond Bombing and Gunnery Range was constructed to provide gunnery, rocket, and bombing practice for pilots deploying overseas. The specific dates of use of the range were from August 1942 to September 1945. Bomb Target #1, 1,154 acres, is a circular target located in the extreme northern portion of Former Hammond Bombing and Gunnery Range. Munitions used at this MRS include AN-M30 100-lb. general purpose bombs, AN-M50 series incendiary bombs, and MK I 100-lb. general purpose bombs. Description of Pathways for Human and Ecological Receptors:

There were No Known or Suspected Hazard (NKSH) of CHE after reviewing the historical data of operations at the BT1 MRS, with this information there was no rating or investigation done during the RI for CHE.

There was NKSH found within the groundwater after reviewing the historical data of operations at the BT1 MRS, with this information there was no rating or investigation done during the RI for groundwater.

The LDEQ lead regulators accepted and provided consultation on all proper documents including the WP, RI, and will provide feedback on the RI FS when it is constructed.

There are no complete pathways for MC on the MRS. The exposure pathways for surface and subsurface MC were determined to be incomplete during the RI. Description of Receptors (Human and Ecological):

Potential receptors at the MRS would be current and future residents, commercial or industrial workers, and site visitors or recreational users.

Table 1

EHE Module: Munitions Type Data Element Table

DIRECTIONS: Below are 11 classifications of munitions and their descriptions. Highlight the scores that correspond with **all** the munitions types known or suspected to be present at the MRS.

Note: The terms *practice munitions, small arms ammunition, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Sensitive	◆ All UXO that are considered likely to function upon any interaction with exposed persons [e.g.,submunitions, 40mm high-explosive (HE) grenades, white phosphorus (WP) munitions, high-explosive antitank (HEAT) munitions, and practice munitions with sensitive fuzes, but excluding all other practice munitions]. ◆ All hand grenades containing energetic filler. ◆ Bulk primary explosives, or mixtures of these with environmental media, such that the mixture poses an explosive hazard.	30
High explosive (used or damaged)	◆ UXO containing a high-explosive filler (e.g., RDX, Composition B), that are not considered "sensitive." ◆ DMM containing a high-explosive filler that have: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	25
Pyrotechnic (used or damaged)	◆ UXO containing a pyrotechnic filler other than white phosphorus (e.g., flares, signals, simulators, smoke grenades). ◆ DMM containing a pyrotechnic filler other than white phosphorus (e.g., flares, signals, simulators, smoke grenades) that have: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	20
High explosive (unused)	◆ DMM containing a high-explosive filler that: ▪ Have not been damaged by burning or detonation ▪ Are not deteriorated to the point of instability.	15
Propellant	◆ UXO containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor). ◆ DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor) that are: ▪ Damaged by burning or detonation ▪ Deteriorated to the point of instability.	15
Bulk secondary high explosives, pyrotechnics, or propellant	◆ DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor). ◆ DMM that are bulk secondary high explosives, pyrotechnic compositions, or propellant (not contained in a munition), or mixtures of these with environmental media such that the mixture poses an explosive hazard.	10
Pyrotechnic (not used or damaged)	◆ DMM containing a pyrotechnic filler (i.e., red phosphorus), other than white phosphorus filler, that: ▪ Have not been damaged by burning or detonation ▪ Are not deteriorated to the point of instability.	10
Practice	◆ UXO that are practice munitions that are not associated with a sensitive fuze. ◆ DMM that are practice munitions that are not associated with a sensitive fuze and that have not: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	5
Riot control	◆ UXO or DMM containing a riot control agent filler (e.g., tear gas).	3
Small arms	◆ Used munitions or DMM that are categorized as small arms ammunition. (Physical evidence or historical evidence that no other types of munitions [e.g., grenades, subcaliber training rockets, demolition charges] were used or are present on the MRS is required for selection of this category.)	2
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0
MUNITIONS TYPE	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 30).	**25**

Table 1

EHE Module: Munitions Type Data Element Table

DIRECTIONS: Below are 11 classifications of munitions and their descriptions. Highlight the scores that correspond with **all** the munitions types known or suspected to be present at the MRS.

Note: The terms *practice munitions, small arms ammunition, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score

DIRECTIONS: Document any MRS-specific data used in selecting the ***Munitions Type*** classifications in the space provided.

Munitions used at this MRS include AN-M30 100-lb. general purpose bombs, AN-M50 series incendiary bombs, and MK I 100-lb. general purpose bombs.
(Section 2.4.1, 2008 SI Report)
During the RI completed in 2017, 9 MEC items were removed from the surface and subsurface consisting of eight (8) incendiary bomb fragments and one (1) AN-M30A1 100-lb. bomb. See section 4.1.3 of the RI Report.

Table 2

EHE Module: Source of Hazard Data Element Table

DIRECTIONS: Below are 11 classifications describing sources of explosive hazards. Highlight the scores that correspond with **all** the sources of explosive hazards known or suspected to be present at the MRS.

Note: The terms *former range, practice munitions, small arms range, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Former range	◆ The MRS is a former military range where munitions (including practice munitions with sensitive fuzes) have been used. Such areas include impact or target areas and associated buffer and safety zones.	10
Former munitions treatment (i.e., OB/OD) unit	◆ The MRS is a location where UXO or DMM (e.g., munitions, bulk explosives, bulk pyrotechnic, or bulk propellants) were burned or detonated for the purpose of treatment prior to disposal.	8
Former practice munitions range	◆ The MRS is a former military range on which only practice munitions without sensitive fuzes were used.	6
Former maneuver area	◆ The MRS is a former maneuver area where no munitions other than flares, simulators, smokes, and blanks were used. There must be evidence that no other munitions were used at the location to place an MRS into this category.	5
Former burial pit or other disposal area	◆ The MRS is a location where DMM were buried or disposed of (e.g., disposed of into a water body) without prior thermal treatment.	5
Former industrial operating facilities	◆ The MRS is a location that is a former munitions maintenance, manufacturing, or demilitarization facility.	4
Former firing points	◆ The MRS is a firing point, where the firing point is delineated as an MRS separate from the rest of a former military range.	4
Former missile or air defense artillery emplacements	◆ The MRS is a former missile defense or air defense artillery (ADA) emplacement not associated with a military range.	2
Former storage or transfer points	◆ The MRS is a location where munitions were stored or handled for transfer between different modes of transportation (e.g., rail to truck, truck to weapon system).	2
Former small arms range	◆ The MRS is a former military range where only small arms ammunition was used. (There must be evidence that no other types of munitions [e.g., grenades] were used or are present to place an MRS into this category.)	1
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that no UXO or DMM are present, or there is historical evidence indicating that no UXO or DMM are present.	0
SOURCE OF HAZARD	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 10).	**10**

DIRECTIONS: Document any MRS-specific data used in selecting the ***Source of Hazard*** classifications in the space provided.

Munitions used at this MRS include AN-M30 100-lb. general purpose bombs, AN-M50 series incendiary bombs, and MK I 100-lb. general purpose bombs.
(Section 2.4.1, 2008 SI Report).

Table 3

EHE Module: Location of Munitions Data Element Table

DIRECTIONS: Below are eight classifications of munitions locations and their descriptions. Highlight the scores that correspond with **all** the locations where munitions are known or suspected to be present at the MRS.

Note: The terms *confirmed, surface, subsurface, small arms ammunition, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Confirmed surface	◆ Physical evidence indicates that there are UXO or DMM on the surface of the MRS. ◆ Historical evidence (i.e., a confirmed report such as an explosive ordnance disposal [EOD], police, or fire department report that an incident or accident that involved UXO or DMM occurred) indicates there are UXO or DMM on the surface of the MRS.	25
Confirmed subsurface, active	◆ Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS, and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost, heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM. ◆ Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM.	20
Confirmed subsurface, stable	◆ Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed. ◆ Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed.	15
Suspected (physical evidence)	◆ There is physical evidence (e.g., munitions debris such as fragments, penetrators, projectiles, shell casings, links, fins), other than the documented presence of UXO or DMM, indicating that UXO or DMM may be present at the MRS.	10
Suspected (historical evidence)	◆ There is historical evidence indicating that UXO or DMM may be present at the MRS.	5
Subsurface, physical constraint	◆ There is physical or historical evidence indicating that UXO or DMM may be present in the subsurface, but there is a physical constraint (e.g., pavement, water depth over 120 feet) preventing direct access to the UXO or DMM.	2
Small arms (regardless of location)	◆ The presence of small arms ammunition is confirmed or suspected, regardless of other factors such as geological stability. (There must be evidence that no other types of munitions [e.g., grenades] were used or are present at the MRS to place an MRS into this category.)	1
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0
LOCATION OF MUNITIONS	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 25).	**25**

DIRECTIONS: Document any MRS-specific data used in selecting the ***Location of Munitions*** classifications in the space provided.

The ASR reported numerous bomb craters surrounded by pieces of HE bomb fragments observed during the April 2002 ASR inspection. (Subchapter 4.2.1.2, 2008 SI Report)

During the RI, one HE 100 lb GP bomb and 8 pieces of M50 Incendiary bomb fragments were found.

Table 4

EHE Module: Ease of Access Data Element Table

DIRECTIONS: Below are four classifications of barrier types that can surround an MRS and their descriptions. The barrier type is directly related to the ease of public access to the MRS. Highlight the score that corresponds with the ease of access to the MRS.

Note: The term *barrier* is defined in Appendix C of the Primer.

Classification	Description	Score
No barrier	◆ There is no barrier preventing access to any part of the MRS (i.e., all parts of the MRS are accessible).	10
Barrier to MRS access is incomplete	◆ There is a barrier preventing access to parts of the MRS, but not the entire MRS.	8
Barrier to MRS access is complete but not monitored	◆ There is a barrier preventing access to all parts of the MRS, but there is no surveillance (e.g., by a guard) to ensure that the barrier is effectively preventing access to all parts of the MRS.	5
Barrier to MRS access is complete and monitored	◆ There is a barrier preventing access to all parts of the MRS, and there is active, continual surveillance (e.g., by a guard, video monitoring) to ensure that the barrier is effectively preventing access to all parts of the MRS.	0
EASE OF ACCESS	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 10).	**10**

DIRECTIONS: Document any MRS-specific data used in selecting the ***Ease of Access*** classification in the space provided.

Public access is primarily unrestricted at the site MRSs. (Section 2.2.6, 2008 SI Report)

Table 5

EHE Module: Status of Property Data Element Table

DIRECTIONS: Below are three classifications of the status of a property within the Department of Defense (DoD) and their descriptions. Highlight the score that corresponds with the status of property at the MRS.

Classification	Description	Score
Non-DoD control	◆ The MRS is at a location that is no longer owned by, leased to, or otherwise possessed or used by DoD. Examples are privately owned land or water bodies; land or water bodies owned or controlled by state, tribal, or local governments; and land or water bodies managed by other federal agencies.	5
Scheduled for transfer from DoD control	◆ The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD, and DoD plans to transfer that land or water body to the control of another entity (e.g., a state, tribal, or local government; a private party; another federal agency) within 3 years from the date the Protocol is applied.	3
DoD control	◆ The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD. With respect to property that is leased or otherwise possessed, DoD must control access to the MRS 24 hours per day, every day of the calendar year.	0
STATUS OF PROPERTY	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the ***Status of Property*** classification in the space provided.

Former Hammond Bombing and Gunnery Range was returned to the previous owners after its military use. Today, the majority of the land is managed as lumber production land and hunting clubs. The remaining land areas are used for private residences and small business properties. (Section 2.2.6, 2008 SI Report)

Table 6

EHE Module: Population Density Data Element Table

DIRECTIONS: Below are three classifications of population density and their descriptions. Determine the population density per square mile in the vicinity of the MRS and circle the score that corresponds with the associated population density.

Note: If an MRS is located in more than one county, use the largest population density value among the counties. If the MRS is within or borders a city or town, use the population density for the city or town, rather than that of the county..

Classification	Description	Score
> 500 persons per square mile	◆ There are more than 500 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	5
100–500 persons per square mile	◆ There are 100 to 500 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	3
< 100 persons per square mile	◆ There are fewer than 100 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	1
POPULATION DENSITY	**DIRECTIONS:** Record **<u>the single highest score</u>** from above in the box to the right (maximum score = 5).	**3**

DIRECTIONS: Document any MRS-specific data used in selecting the ***Population Density*** classification in the space provided.

Tangipahoa Parish has a population density of 127.3 persons per square mile. (Section 2.2.5, 2008 SI Report)

Table 7

EHE Module: Population Near Hazard Data Element Table

DIRECTIONS: Below are six classifications describing the number of inhabited structures near the MRS. The number of inhabited buildings relates to the potential population near the MRS. Determine the number of inhabited structures within two miles of the MRS boundary and highlight the score that corresponds with the number of inhabited structures.

Note: The term *inhabited structures* is defined in Appendix C of the Primer.

Classification	Description	Score
26 or more inhabited structures	◆ There are 26 or more inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	5
16 to 25 inhabited structures	◆ There are 16 to 25 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	4
11 to 15 inhabited structures	◆ There are 11 to 15 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	3
6 to 10 inhabited structures	◆ There are 6 to 10 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	2
1 to 5 inhabited structures	◆ There are 1 to 5 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	1
0 inhabited structures	◆ There are no inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	0
POPULATION NEAR HAZARD	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the ***Population Near Hazard*** classification in the space provided.

It is estimated that more than 26 residences exist within 2 miles of the MRS boundaries. (Section 2.2.5, 2008 SI Report)

Table 8

EHE Module: Types of Activities/Structures Data Element Table

DIRECTIONS: Below are five classifications of activities and/or inhabited structures near the hazard and their descriptions. Review the types of activities that occur and/or structures that are present within two miles of the MRS and circle the score(s) that correspond with all the activities/structure classifications at the MRS. 00.

Note: The term *inhabited structure* is defined in Appendix C of the Primer.

Classification	Description	Score
Residential, educational, commercial, or subsistence	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with any of the following purposes: residential, educational, child care, critical assets (e.g., hospitals, fire and rescue, police stations, dams), hotels, commercial, shopping centers, playgrounds, community gathering areas, religious sites, or sites used for subsistence hunting, fishing, and gathering.	5
Parks and recreational areas	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with parks, nature preserves, or other recreational uses.	4
Agricultural, forestry	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with agriculture or forestry.	3
Industrial or warehousing	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with industrial activities or warehousing.	2
No known or recurring activities	◆ There are no known or recurring activities occurring up to two miles from the MRS's boundary or within the MRS's boundary.	1
TYPES OF ACTIVITIES/STRUCTURES	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the ***Types of Activities/Structures*** classifications in the space provided.

Former Hammond Bombing and Gunnery Range was returned to the previous owners after its military use. Today, the majority of the land is managed as lumber production land and hunting clubs. The remaining land areas are used for private residences and small business properties. (Section 2.2.6, 2008 SI Report)

Table 9

EHE Module: Ecological and/or Cultural Resources Data Element Table

DIRECTIONS: Below are four classifications of ecological and/or cultural resources and their descriptions. Review the types of resources present and highlight the score that corresponds with the ecological and/or cultural resources present on the MRS.

Note: The terms *ecological resources* and *cultural resources* are defined in Appendix C of the Primer.

Classification	Description	Score
Ecological and cultural resources present	◆ There are both ecological and cultural resources present on the MRS.	5
Ecological resources present	◆ There are ecological resources present on the MRS.	3
Cultural resources present	◆ There are cultural resources present on the MRS.	3
No ecological or cultural resources present	◆ There are no ecological resources or cultural resources present on the MRS.	0
ECOLOGICAL AND/OR CULTURAL RESOURCES	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**3**

DIRECTIONS: Document any MRS-specific data used in selecting the ***Ecological and/or Cultural Resources*** classification in the space provided.

According to federal databases and the ASR (USACE 2003), there are no recorded cultural or archaeological resources within Former Hammond Bombing and Gunnery Range. (Section 2.2.6, 2008 SI Report) Former Hammond Bombing and Gunnery Range is an important ecological place due to the likely presence of wetlands, the potential presence of federally and state listed species at the site, and the site's inclusion in a Control Zone Management Act. (Section 5.2.5.3, 2008 SI Report)

Table 10
Determining the EHE Module Rating

DIRECTIONS:

1. From Tables 1–9, record the data element scores in the **Score** boxes to the right.
2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.
3. Add the three **Value** boxes and record this number in the **EHE Module Total** box below.
4. Circle the appropriate range for the **EHE Module Total** below.
5. Circle the **EHE Module Rating** that corresponds to the range selected and record this value in the **EHE Module Rating** box found at the bottom of the table.

Note:
An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

	Source	Score	Value
Explosive Hazard Factor Data Elements			
Munitions Type	Table 1	25	35
Source of Hazard	Table 2	10	
Accessibility Factor Data Elements			
Location of Munitions	Table 3	25	40
Ease of Access	Table 4	10	
Status of Property	Table 5	5	
Receptor Factor Data Elements			
Population Density	Table 6	3	16
Population Near Hazard	Table 7	5	
Types of Activities/Structures	Table 8	5	
Ecological and/or Cultural Resources	Table 9	3	
EHE MODULE DRAFT TOTAL			**91**

EHE Module Total	EHE Module Rating
92 to 100	A
82 to 91	B
71 to 81	C
60 to 70	D
48 to 59	E
38 to 47	F
less than 38	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected Explosive Hazard
EHE MODULE DRAFT RATING	**B**

Table 11

CHE Module: CWM Configuration Data Element Table

DIRECTIONS: Below are seven classifications of CWM configuration and their descriptions. Highlight the scores that correspond with **all** the CWM configurations known or suspected to be present at the MRS.

Note: The terms *CWM/UXO, CWM/DMM, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
CWM, that are either UXO, or explosively configured damaged DMM	The CWM known or suspected of being present at the MRS are: ◆ CWM that are UXO (i.e., CWM/UXO) ◆ Explosively configured CWM that are DMM (i.e., CWM/DMM) that have been damaged.	30
CWM mixed with UXO	◆ The CWM known or suspected of being present at the MRS are undamaged CWM/DMM or CWM not configured as a munition that are commingled with conventional munitions that are UXO.	25
CWM, explosive configuration that are undamaged DMM	◆ The CWM known or suspected of being present at the MRS are explosively configured CWM/DMM that have not been damaged.	20
CWM/DMM, not explosively configured or CWM, bulk container	The CWM known or suspected of being present at the MRS are: ◆ Nonexplosively configured CWM/DMM either damaged or undamaged ◆ Bulk CWM (e.g., ton container).	15
CAIS K941 and CAIS K942	◆ The CWM/DMM known or suspected of being present at the MRS are CAIS K941-toxic gas set M-1 or CAIS K942-toxic gas set M-2/E11.	12
CAIS (chemical agent identification sets)	◆ CAIS, other than CAIS K941 and K942, are known or suspected of being present at the MRS.	10
Evidence of no CWM	◆ Following investigation, the physical evidence indicates that CWM are not present at the MRS, or the historical evidence indicates that CWM are not present at the MRS.	0
CWM CONFIGURATION	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 30).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the ***CWM Configuration*** classifications in the space provided.

All evidence collected in historical documents and summarized in the ASR indicates that CWM is not present. No physical evidence contradicting this conclusion has been found during SI activities. No analysis for CWM has been performed for any of the media collected during the SI. Therefore, Tables 12-19 are omitted. (Application of MRSPP for the FUDS MMRP SI Program, 3/8/2007 COE Memo.)

Tables 12 – 19 are intentionally omitted according to Army Guidance.

Table 20
Determining the CHE Module Rating

DIRECTIONS:

1. From Tables 11–19, record the data element scores in the **Score** boxes to the right.
2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.
3. Add the three **Value** boxes and record this number in the **CHE Module Total** box below.
4. Circle the appropriate range for the **CHE Module Total** below.
5. Circle the **CHE Module Rating** that corresponds to the range selected and record this value in the **CHE Module Rating** box found at the bottom of the table.

Note:
An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

	Source	Score	Value
CWM Hazard Factor Data Elements			
CWM Configuration	Table 11	0	0
Sources of CWM	Table 12	0	
Accessibility Factor Data Elements			
Location of CWM	Table 13	0	0
Ease of Access	Table 14	0	
Status of Property	Table 15	0	
Receptor Factor Data Elements			
Population Density	Table 16	0	0
Population Near Hazard	Table 17	0	
Types of Activities/Structures	Table 18	0	
Ecological and/or Cultural Resources	Table 19	0	
CHE MODULE DRAFT TOTAL			**0**

CHE Module Total	CHE Module Rating
92 to 100	A
82 to 91	B
71 to 81	C
60 to 70	D
48 to 59	E
38 to 47	F
less than 38	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected CWM Hazard
CHE MODULE DRAFT RATING	**No Known or Suspected CWM Hazard**

Table 21

HHE Module: Groundwater Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's groundwater and their **comparison values** (from Appendix B of the Primer) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the contaminant **ratios** together, including any additional groundwater contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the groundwater, select the box at the bottom of the table.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
CHF Scale	**CHF Value**	**Sum The Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		**N/A**

Migratory Pathway Factor

DIRECTIONS: Highlight the value that corresponds most closely to the groundwater migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the groundwater is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in groundwater has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the groundwater to a potential point of exposure (possibly due to the presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	**N/A**

Receptor Factor

DIRECTIONS: Highlight the value that corresponds most closely to the groundwater receptors at the MRS.

Classification	Description	Value
Identified	There is a threatened water supply well downgradient of the source and the groundwater is a current source of drinking water or source of water for other beneficial uses such as irrigation/agriculture (equivalent to Class I or IIA aquifer).	H
Potential	There is no threatened water supply well downgradient of the source and the groundwater is currently or potentially usable for drinking water, irrigation, or agriculture (equivalent to Class I, IIA, or IIB aquifer).	M
Limited	There is no potentially threatened water supply well downgradient of the source and the groundwater is not considered a potential source of drinking water and is of limited beneficial use (equivalent to Class IIIA or IIIB aquifer, or where perched aquifer exists only).	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	**N/A**

No known or suspected surface water MC hazard.

Table 22

HHE Module: Surface Water – Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface water and their **comparison values** (from Appendix B of the Primer) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the contaminant **ratios** together, including any additional surface water contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard with human endpoints present in the surface water, select the box at the bottom of the table.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
CHF Scale	**CHF Value**	**Sum The Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		**N/A**

Migratory Pathway Factor

DIRECTIONS: Highlight the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to the presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	**N/A**

Receptor Factor

DIRECTIONS: Highlight the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	**N/A**

No known or suspected surface water MC hazard.

Table 23

HHE Module: Sediment – Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's sediment and their **comparison values** (from Appendix B of the Primer) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the contaminant **ratios** together, including any additional sediment contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard with human endpoints present in the sediment, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios
CHF Scale	**CHF Value**	**Sum The Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right maximum value = H).		**N/A**

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the sediment migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to the presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	**N/A**

Receptor Factor

DIRECTIONS: Highlight the value that corresponds most closely to the sediment receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	**N/A**

No known or suspected sediment MC hazard.

Table 24

HHE Module: Surface Water – Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface water and their **comparison values** (from Appendix B of the Primer) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the contaminant **ratios** together, including any additional surface water contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard with ecological endpoints present in the surface water, select the box at the bottom of the table.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
CHF Scale	**CHF Value**	**Sum the Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		**N/A**

Migratory Pathway Factor

DIRECTIONS: Highlight the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to the presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	**N/A**

Receptor Factor

DIRECTIONS: Highlight the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	**N/A**

No known or suspected surface water MC hazard.

Table 25

HHE Module: Sediment – Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's sediment and their **comparison values** (from Appendix B of the Primer) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the contaminant **ratios** together, including any additional sediment contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard with ecological endpoints present in the sediment, select the box at the bottom of the table.

.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios
CHF Scale	**CHF Value**	**Sum the Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		**N/A**

Migratory Pathway Factor

DIRECTIONS: Highlight the value that corresponds most closely to the sediment migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to the presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	**N/A**

Receptor Factor

DIRECTIONS: Highlight the value that corresponds most closely to the sediment receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	**N/A**

No known or suspected sediment MC hazard.

Table 26

HHE Module: Surface Soil Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface soil and their **comparison values** (from Appendix B of the Primer) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the contaminant **ratios** together, including any additional surface soil contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the surface soil, select the box at the bottom of the table.

.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratio
CHF Scale	**CHF Value**	**Sum the Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		**N/A**

Migratory Pathway Factor

DIRECTIONS: Highlight the value that corresponds most closely to the surface soil migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface soil is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface soil has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface soil to a potential point of exposure (possibly due to the presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	**N/A**

Receptor Factor

DIRECTIONS: Highlight the value that corresponds most closely to the surface soil receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface soil to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface soil to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface soil to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	**N/A**

All samples taken for explosives or metals were found to be below their PAL limits. (Section 4.3, 2017 RI Report)

Table 27

HHE Module: Supplemental Contaminant Hazard Factor Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Only use this table if there are more than five contaminants in any given medium present at the MRS. This is a supplemental table designed to hold information about contaminants that do not fit in the previous tables. Indicate the **media** in which these contaminants are present. Then record all **contaminants**, their **maximum concentrations** and their **comparison values** (from Appendix B of the Primer) in the table below. Calculate and record the **ratio** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** for each medium on the appropriate media-specific tables.

Note: Do not add ratios from different media.

Media	Contaminant	Maximum Concentration	Comparison Value	Ratio

Table 28

Determining the HHE Module Rating

DIRECTIONS:

1. Record the letter values (H, M, L) for the **Contaminant Hazard**, **Migration Pathway**, and **Receptor Factors** for the media (from Tables 21–26) in the corresponding boxes below.
2. Record the media's three-letter combinations in the **Three-Letter Combination** boxes below (three-letter combinations are arranged from Hs to Ms to Ls).
3. Using the **HHE Ratings** provided below, determine each media's rating (A–G) and record the letter in the corresponding **Media Rating** box below.

Media (Source)	Contaminant Hazard Factor Value	Migratory Pathway Factor Value	Receptor Factor Value		Three-Letter Combination (Hs-Ms-Ls)		Media Rating (A-G)
Groundwater (Table 21)	-	-	-		-		-
Surface Water/Human Endpoint (Table 22)	-	-	-		-		-
Sediment/Human Endpoint (Table 23)	-	-	-		-		-
Surface Water/Ecological Endpoint (Table 24)	-	-	-		-		-
Sediment/Ecological Endpoint (Table 25)	-	-	-		-		-
Surface Soil (Table 26)	-	-	-		-		-

DIRECTIONS (cont.):

4. Select the single highest Media Rating (A is highest; G is lowest) and enter the letter in the **HHE Module Rating** box.

Note:

An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more media, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

HHE MODULE DRAFT RATING	

HHE Ratings (for reference only)

Combination	Rating
HHH	A
HHM	B
HHL	C
HMM	
HML	D
MMM	
HLL	E
MML	
MLL	F
LLL	G
Alternative Module Ratings Note: No analytes exceeded the screening values during the SI or RI fieldwork. Therefore, the MRS is recommended for No Further Action for MC.	Evaluation Pending
	No Longer Required
	No Known or Suspected MC Hazard

Table 29
MRS Draft Priority

DIRECTIONS: In the chart below, highlight the letter **rating** for each module recorded in Table 10 (EHE), Table 20 (CHE), and Table 28 (HHE). Highlight the corresponding numerical **priority** for each module. If information to determine the module rating is not available, choose the appropriate alternative module rating. The MRS Priority is the single highest priority; record this relative priority in the **MRS Priority or Alternative MRS Rating** at the bottom of the table.

Note: An MRS assigned Priority 1 has the highest relative priority; an MRS assigned Priority 8 has the lowest relative priority. Only an MRS with CWM known or suspected to be present can be assigned Priority 1; an MRS that has CWM known or suspected to be present cannot be assigned Priority 8.

EHE Draft Rating	Draft Priority	CHE Draft Rating	Draft Priority	HHE Draft Rating	Draft Priority
		A	1		
A	2	B	2	A	2
B	**3**	C	3	B	3
C	4	D	4	C	4
D	5	E	5	D	5
E	6	F	6	E	6
F	7	G	7	F	7
G	8			G	8
Evaluation Pending		Evaluation Pending		Evaluation Pending	
No Longer Required		No Longer Required		No Longer Required	
No Known or Suspected Explosive Hazard		**No Known or Suspected CWM Hazard**		**No Known or Suspected MC Hazard**	
MRS or ALTERNATIVE PRIORITY				**3**	